ORIGINAL

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

In the Matter of:

DISCUSSION AND VOTE ON FULL POWER OPERATING LICENSE

FOR GRAND GULF

OPEN MEETING

Location: Washington, D.C. Pages: 1 - 114

Date: Tuesday, July 31, 1984

50-416

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

DISCUSSION ON FULL POWER OPERATING LICENSE

FOR GRAND GULF

OPEN MEETING

Nuclear Regulatory Commission
1717 H Street, N.W.
Room 1130
Washington, D.C.

July 31, 1984

The Commission met, pursuant to notice, at 11:00 a.m.

COMMISSIONERS PRESENT:

NUNZIO PALLADINO, Chairman of the Commission
THOMAS ROBERTS, Commissioner
JAMES ASSELSTINE, Commissioner
FREDERICK BERNTHAL, Commissioner
LANDO ZECH, JR., Commissioner

STAFF AND PRESENTERS SEATED AT COMMISSION TABLE:

S. Chilk, Secretary
H. Plaine, General Counsel
D. Eisenhut
H. Denton
W. Dircks
J. O'Reilly
M. Malsch
W. Cavinaw
W. Johnston
T. Novac
D. Lewis
B. Wilson
J. O'Shinski
A. Wagner
G. Hollihan
H. Thompson
Dr. Dengy
Dr. Berlinger

DISCLAIMER

This is an unofficial transcript of a meeting of the United States Nuclear Regulatory Commission held on July 31, 1984 in the Commission office at 1717 H. Street, N.W., Washington, D.C. The meeting was open to public attendance and observation. This transcript has not been reviewed, corrected, or edited, and it may contain inaccuracies.

The transcript is intended solely for general informational purposes. As provided by 10 CFR 9.103, it is not part of the formal or informal record of decision of the matters discussed. Expressions of opinion in this transcript do not necessarily reflect the final determinations or beliefs. No pleading or other paper may be filed with the Commission in any proceeding as the result of or addressed to any statement or argument contained herein, except as the Commission may authorize.

PROCEEDINGS

CHAIRMAN PALLADINO: Good morning, ladies and gentlemen. I want to apologize for the delay in beginning this meeting.

The Commission was meeting with regard to possible enforcement factions regarding Grand Gulf.

The Commission is meeting today to consider whether to authorize the staff to issue a full power operating license for the Grand Gulf nuclear power plant.

Grand Gulf Unit 1 is the first U.S. DWR-6 with a Mark 3 containment. Mississippi Power and Light and P & L received a low power 5% license on June 16, 1982, soon after going critical for a short period on August 18, 1982.

The plant entered a 13-month outage to conduct plant modifications and resolve problems which I believe the staff will highlight.

I should also note that the Commission is currently considering potential enforcement action on issues relating to Grand Gulf.

One one issue, the Commission has completed its evaluation and has determined that enforcement action is appropriate.

The utility is being advised of this situation by letter. However, at the request of the Department of

Justice, the Commission is withholding the details in the enforcement action at this time.

The Commission has not yet determined what final actions it will be taking on any remaining enforcement issues.

The NRC staff is here today to provide the status of all Grand Gulf full power operating license issues.

Before asking my fellow commissioners if they have any opening remarks, let me note my intention to poll the Commission on full power license authorization for Grand Gulf at the conclusion of today's meeting.

Do any commissioners have any other opening remarks?

COMMISSIONER ASSELSTINE: No.

CHAIRMAN PALLADINO: All right. Then let me turn the meeting over to Mr. Harold Denton.

MR. DENTON: Thank you, Mr. Chairman. We are prepared today to summarize for you the results of our review of this plant and describe how it comports with the Commission's regulations.

We have a number of consultants here that you might like to hear form in the course of the presentation.

We have consultants from Pacific Northwest Laboratories, who have assisted us in reviewing the adequacy of the diesel generator.

I understand a representative from FEMA is here, who could go into emergency planning aspects if you so desire.

And we have a number of the staff both from headquarters and the regions. Darrell Eisenhut will begin the presentation, and Mr. O'Reilly will describe the experience at the plant in recent times.

So Darrell, why don't you begin.

MR. EISENHUT: Thank you. If I could have the next slide, please. This slide is provided as way of background.

This is Mississippi Power & Light. We as know, the plant is located in Mississippi. It's two units side of BWR-6, Mark 3 containments.

It is, in that sense, it's the first operating BWR-6 in the United States. The power level is 1250 megawatts electric.

On the last part of this slide, we gave you a status outline of the overall situation with respect to emergency preparedness.

To go back to the last few years, we did have a finding prior to the low power license to support issuance of a low power license.

There have been a number of emergency exercises at this site. The last emergency exercise was in April of

this year. We very recently received and transmitted down to the Commission the FEMA interim findings on the April exercise.

That is a memorandum from Mr. Dircks to the Commission dated yesterday.

That memorandum concludes that the state of emergency preparedness is adequate for full power. As Mr. Denton has mentioned, we do have the representatives from the office of IE and a representative from FEMA here with us today, if the Commission would like to explore in any depth the memorandum that was sent out yesterday.

But the bottom line of that was, again, that the overall status of emergency preparedness is adequate, acceptable for full power, as demonstrated by the April 1984 exercise.

But again I should point out there certainly in that memorandum were follow-up actions which will be taken.

To go on to the next slide, then. This is a background chronology that we've tried to put together, hitting some of the high points since the issuance of the low power license in June of 1982.

This is a long chronology. I won't really go through it in any depth. An issued criticality was

achieved on April 18, 1982, for a short time, as Mr. Chairman mentioned.

Other high points on here that I'll mention is that in April 1984, we issued an order on tech specs which were designed to correct tech spec deficiencies in that low power license.

In May of 1984, we issued the diesel engine inspection order relating to the deficiencies in the TDI diesels.

Listed also on the bottom for reference are the Commission meetings that we've had recently, concerning the Grand Gulf project.

On the next slide, we've indicated certain plant modifications that have been performed at the facility since the issuance of the license in June of 1982.

First, I need to point out that the heading of Major Plant Modifications is somewhat of a misnomer; certainly the major modification on this list is the first item.

That is the dry well cooling system modifications that were performed in something of the order of a nine-month time frame, starting in October of 1982.

Very simply, this was a deficiency that was discovered after the plant reached its initial criticality, while it was performing its testing in the

non-nuclear heat-up phase. The situation they found was that the containment cooling system just could not handle the heat load.

This was discovered, as I said, I believe the realization of it occurred in the time frame of September, October 1982.

There was considerable modifications that were required, and that is the only one on that list that I'd characterize as major.

The other items were minor modifications, were in the mode of where items had previously--work had been identified and this was, in fact, sort of putting that into effect.

The last few items, the replacement of the agastat relays, this is an issue that we've had generically in a number of plants about upgrading relays.

You'll notice the item below that is the gas turbine generators that were installed in connection with the review effort on the diesel engines when we required the tear-down of one emergency diesel.

Those are the basic items I will just touch upon. I don't plan on going through those in any depth, but again, we do have the staff here if you want to go into any depth on those.

The next slide, we put together the key items as we

see it that we'd like to highlight in some more depth today.

These selected issues we'll now go through item by item. There are no slides provided for the 2.206 petition nor the Full Power License Amendment.

I'll come back to those in the end. We did provide the Full Power License Amendment, I believe, it was sent down to the Commission yesterday.

If I could go to the next slide. The subjects of technical specification reviews, let me try to summarize rather than go through all of these details, because we've had a number of rather lengthy discussions.

Perhaps one of the easiest ways to do this is, if I go back to the February 29 briefing of this year, when we had a briefing on technical specifications, the staff summary, I think, still is appropriate, because we now put that in place, so to speak.

At that time, we had concluded that there was something over 200 tech specs that needed to be changed.

We concluded that there was an inadequate review for various reasons by the applicant, and we concluded that in retrospect, while NRR does not do a detailed review of tech specs on any plant, we concluded that

the staff review was not adequate in ...s case. That was our conclusion in February, and that still is our conclusion today.

What we've done to--it's our conclusion today with respect...

COMMISSIONER ROBERTS: Is your review today complete?

MR. EISENHUT: Yes, it is.

COMMISSIONER ROBERTS: And adequate?

MR. EISENHUT: And adequate. It is our view of the situation at that time.

COMMISSIONER ROBERTS: I understand.

MR. EISENHUT: And that view remains unchanged today. The reviews that we have put in place is, we have evaluated the tech spec situation from a number of different angles.

We had a consultant, the Idaho Nuclear Engineering Lab, do an audit review of sample tech specs, looking at how the tech specs compared to the FSAR and SER analyses.

We had Region II do a review of the tech specs against the as-built plant. Granted that was an audit review.

We had the technical review branches in NRR, in this case, go back and verify that the tech specs were

properly derived from the analysis and evaluation of the SAR and SER.

In addition, if you look at these combination of reviews, the other missing link was look at the as-built plant versus the FSER.

This is an area that was addressed by the utility's tech spec review program. In addition, MP&L had done a unique plant features review.

They looked at the BWR-6 and looked at what is unique in BWR-6 versus a BWR-5 Mark 2, and they did a review of those features.

In addition, there was a third party review that was done by a consultant to the utility, was reviewed and monitored by the staff, looking at--which also addressed the FSAR versus the as-built, and in addition, and probably most significant, the pre-op and acceptance test that were done were done in accordance with the REG GUIDE 1.68.

REG GUIDE 1.68 has the explicit purpose stated to verify the as-built machinery, in fact, reflects the FSAR and its design.

So from a bottom line standpoint, we believe that today, now that the utility has conducted a full-blown, complete review of all tech specs, he has now applied a more rigorous, formalized approach to those tech specs.

Third, he has applied his quality assurance program to tech specs. That is something that is not normally done in the full sense of the quality assurance criteria.

And the last item that he is presently doing, is, he is going to again recertify that those tech specs adequately reflect his plant.

Recall that, in the way of a little bit of background, following the Diablo Canyon situation, we undertook to have utilities verify in writing that the FSAR, the design of the plant, and the tech specs were adequate.

We had this utility verify once prior to the low power license, he certified to us that the tech specs were correct in early 1982.

We all found that situation not to be correct. Today we are issuing the, or providing to the utility formally, by letter, all of the corrected pages to tech specs from this rather long, exhaustive process.

It's a stack of paper on the order of a couple of inches deep. It's our intention we'll send that to the utility, he will recertify all of those aspects back to us by letter, and that process will be completed prior to our issuance of those tech specs in this matter.

MR. DENTON: Let me mention two other things that I

think are significant, in addition to yours. One, I've added additional resources to this area.

We were down to a small number of people handling tech specs because we're trying to standardize tech specs and not permit many departures unless there were different systems.

But I have effectively doubled the amount of resources that Darrell now has available to work on this, plus the fact that we're now involving every technical branch that was involved in the review of Grand Gulf has participated in reviewing the tech specs in that area.

Another action that utility took that I think is very important, he had the tech specs reviewed by both vendors of this plant, both General Electric and Bechtel, and then he had G.E. look at the entire set of tech specs, since they are very familiar with a plant that's operating outside the U.S. that is the first operating G.E. Mark 6 plant.

So I think we are now confident with this set of tech specs, does reflect the application, does reflect the plant, does reflect the safety analyses that are contained in the application.

MR. EISENHUT: So in the way of summing up the tech spec issue, I'd propose not going back through all the

detailed numbers at this point. But in a way, I think, simply of summing it up, we believe the basic causes have been discussed at some length.

In any event, we believe the tech specs today, by the amendment that would be associated with the full power license, will correct the tech specs.

And we are reasonably confident that those tech specs are now in order and reflect the application.

I say that, one last comment, I doubt if we'll ever go back and be able to straighten all the details out of how the situation transpired.

The people in the utilities part and the people in the NRR's part just physically are not here today, and the reason you can't track it, we think, is the major reason why there's a problem in the tech specs, and that is, just the lack or the informality, the lack of a formal process for handling tech specs.

CHAIRMAN PALLADINO: Do you think that the situation has been corrected so that we might avoid similar circumstances in the future?

MR. DENTON: I think it's gotten everyone's attention in the industry, Mr. Chairman, and as you heard Darrell say, we're taking the actions that Darrell described on all future plants, and not just Grand Gulf.

We do have consultants who are assisting us in looking at it, and it's part of our routine readiness review with the plant to go through the tech specs.

So you can't say it will never happen again, but we're sure giving it a lot of attention today.

MR. EISENHUT: Yeah, I'd put one qualifier on that. There are some plants within the system that are not getting the full treatment because it's something we're phasing into.

But again, the industry, I think, has heard this situation and I think the industry's attention has been gotten on this.

But again, we do not do 100% review of the tech specs. In fact, we do a far cry from 100% review of the tech specs.

CHAIRMAN PALLADINO: Well, then how are you sure that this particular plant tech spec are adequate?

MR. EISENHUT: In this particular case, we've done very nearly 100%. I'm sorry. My comment was more generally, following on Harold's.

We typically do not. Where we will be trying to focus our attention are first-of-a-kind plants, which I'll term as green utilities, that is, utilities which have their first nuclear plant.

But this agency is not set up in staff to do 100%

review of tech specs. It never has been. In fact, it's a small fraction of the tech specs, historically, to be reviewed.

COMMISSIONER ASSELSTINE: Darrell, before you leave the tech spec issue, you anticipated one of my questions.

And that was the relationship between the as-built plant and the FSAR. I gather that in your review, the most comprehensive efforts have been devoted to assuring that the tech specs first matched the FSAR and second, matched the plant.

You described some efforts that have been directed towards completing that third base of the triangle, if you will. That is, assuring that the as-built plant meet the FSAR.

The sense I had was that those are somewhat less comprehensive than the other two efforts, but I take it you're satisfied that they are sufficiently comprehensive to have identified any problems or any mismatches between the FSAR and the as-built plant?

MR. EISENHUT: Yeah, I think I'm confident. And I think, again, one of the key features that go into that is the fact that this utility has now gone back and used the G.E.s and the Bechtels to do a thorough review.

They've looked at the unique features in this plant, and as a broad umbrella, they've applied quality assurance program to the process.

That gives me a lot more comfort than the previous process.

COMMISSIONER ASSELSTINE: Have you required that the licensee certify that the as-built plant matches the FSAR?

MR. EISENHUT: Yes, we have. We have asked him sort of the three-way certification of the triangle. That final certification we expect some time in the next couple of days.

I think the utility is recognizing the significance of this, is waiting until he sees final typeset of technical specifications, to again review the replacement pages, now about a two-inch thick stack of paper, and just in the retyping process, there is undoubtedly some minor glitches.

He will be going through a detailed review process of that informally certified.

COMMISSIONER ASSELSTINE: I take it those certifications all around the triangle will have to be made prior to any operation under a full power license.

MR. EISENHUT: That is correct.

MR. DENTON: It might be instructive just to look

at and focus on these numbers just for a moment, not that they are the exact nature of them is that important, but certainly the key ones to focus on are the 34, where there are changes required to reflect the as-built plant.

They are the most important out of this 220, and it's important to recognize that the 51 are things which have occurred since they were first issued in 1982, such as new reporting requirements, and the utility nor the staff could have been aware in '82 of what was going to happen in the regulatory field.

So those 51 shouldn't count as errors, so forth. The 64 to enhance the tech specs, those things are more to--many of those I wouldn't call errors, either, but they make it clear, they either give operational flexibility.

For example, I think we had one tech spec that said in order to test a given pump, you have to start it up and let it run.

Well, it turned out that pump runs continuously, so you don't want a tech spec in which you'd shut it down and then start it up to show. So you have some things like that there in the tech specs.

Then some are administrative changes which have occurred in the management of the utility since they

were issued. Others were to clarify what was ambiguous tech spec could be interpreted several ways, and then some were editorial.

So I don't think you should look upon the 220 as being totally, that many areas in which the as-built plant didn't reflect the application.

COMMISSIONER ASSELSTINE: Right.

MR. DENTON: It's more in the 30 or 40 range, and you'll notice I did issue an order earlier in April that made 22 changes.

So the total number of changes where the plant didn't reflect the application is a combination of that 22 and 34 and there's some overlap in that area.

So it's probably more like 40 areas in which in detail, such as the fuel grapple interlock where the plant did not match the application, rather than the 220 or the 416 "problem areas" that were initially examined.

COMMISSIONER ROBERTS: What size population does the 416 come out of?

MR. EISENHUT: Literally thousands. If you start counting with the way you count, you could certainly have a mistake in every line of the page.

So it's a set of technical specifications probably on the order of a 500-page document at least. So it's

a large number.

MR. DENTON: These tend to be areas not in the safety limits part of the technical specifications, but more in the limiting conditions for operation or in the surveillance requirements for operation.

CHAIRMAN PALLADINO: But I notice that of the 416, 168 were items requiring no change. Why were they included in the first place?

MR. DENTON: What we were using in the 406 is the utility's--the number that they've identified as they wanted to look into, and when they had their architect engineer and their reactor vendor supplier do the review, that was the number of problem areas that required a hard look.

Then when they looked into them in detail, they found a certain number did not require change, in fact.

COMMISSIONER BERNTHAL: I don't want to dwell much on history here, since that's maybe not the principle concern.

As a matter of curiosity, I would assume that the architect engineer and the vendor provided considerable assistance to the utility in the preparation of tech specs, or maybe they didn't.

That's part of my question. The BWR-6 Mark 3 being sort of the flagship of the new generation, next

generation, I should say, of BWRs, how did it happen that we ran into this problem of so many errors in the initial technical spec submittal to us?

Was there just insufficient cooperation or little interest on the part of others that should have been assisting the utility?

How did this happen?

MR. DENTON: I can give you my view on that, Commissioner, and you might ask the utility their views also.

But my view is the same as we transmitted back to Congressman Marquee that there was--I don't think at the time the management saw the tech specs as anything more than one more set of paper we're sending the Commission, and they did not treat it with the rigor that they should have.

And secondly, it seems to have been handled in the later stages of the review more by the home office than by the operations staff.

And the home office just was not that familiar with the details of the plant, as you would expect the plant operations to have.

So it was a new utility, new to the nuclear business, and therefore down in the detail specifications, these things occur.

Likewise, the staff failed to recognize that this was a first of a kind. We didn't assign it a lot of attention any more then we did other plants, either. And so we didn't catch these.

COMMISSIONER ASSELSTINE: Fred...

COMMISSIONER BERNTHAL: That speaks for the utility, but it doesn't answer the question on who might have also had an interest, since this was a flagship for the next generation BWR.

Was there just very, very little interaction and communication there?

MR. DENTON: You mean between the architect engineer?

COMMISSIONER BERNTHAL: Architect engineer and the vendor.

MR. DENTON: I asked that question, and I got the feeling that the utility deliberately tried to take on as much responsibility for this sort of thing as they could and not rely on G.E. and Bechtel.

And in retrospect, that was perhaps not a correct decision. The involvement was nothing like the involvement that they've had in the present review of the tech specs.

COMMISSIONER ASSELSTINE: The sense I had was that you had the same kind of informal relationship between

the utility, the architect engineer, and reactor manufacturer as you had between the utility and us, in developing the tech specs.

I have to say that both the architect engineer and the reactor manufacturer, I think, had valuable experience since they had just completed a very similar plant overseas and had been actively involved in developing the tech specs.

I think this whole process would have gone more smoothly if we'd had a set of standard technical specifications for this type of plant submitted earlier on, so that that could have been the basis from which everybody worked, developing the technical specifications for this plant.

MR. EISENHUT: I think you're right. There's one other piece you need to remember, is that through most of the 1970s, we had no standard tech specs.

The concept of standard tech specs for the very first plant, which was a BWR-4 Mark 1 first came up and was issued in 1978.

And remember again that these standard tech specs are a very detailed document. They go through a rather detailed review process, they go through the equivalent of the CRGR.

This is not a process where you just adopt it per se.

So in the 1978 time frame, the BWR-4 tech specs were being developed, the standard tech specs, on into 1979, '80, it was the BWR-5s.

And I just venture to guess, again, the people that are doing this aren't here, but I would venture to guess their attention was focusing on the lead plants.

But it's just, you look at it in retrospect, when you're looking at a plant from 1982 or '81, whatever time, the LaSalle plant was obviously getting more attention.

In retrospect, I think we all agree that there should have been more attention all the way around. Ideally, you would have this thing on the bookshelf...

COMMISSIONER ASSELSTINE: Yes.

MR. EISENHUT: ...before you ever have to start applying it to any plant down the road.

COMMISSIONER BERNTHAL: Well, that's just the point that I wanted to make, that here everyone, I think, has ended up with a little bit of a black eye in this whole process, the NRC, the utility who had the honor and then it turned out to be the misfortune of being the flagship on a next generation plant, and perhaps the architect engineer and the vendor as well.

There should be a lesson here that we all learn from for the next time around, I think, on desirability

of standardized tech specs plant design.

MR. EISENHUT: If I could go on to slide number nine, skip by the next two slides on tech specs, the next issue I'd like to address is Transamerica diesel valve, diesel generator.

It's really the diesel. In January of this year, we had a generic meeting with a number of owners, the owners of the TDI Diesels, and we reached the conclusion at that point, we really didn't have enough confidence to go forth in making licensing decisions with TDI diesels without some additional work.

Earlier this year, the owners group put together, they had even at that time started putting together a very concerted, major effort to get their hands around this problem.

The staff had developed and put together a project group. Let me give you the bottom line, and then I'd like to have the head of our staff project group on the staff here give you a short summary.

We believe the progress is developed to date with the programs and inspections and the reworks, we are now confidence that these diesels at Grand Gulf satisfy the requirements.

With that sort of an overview, I'd like to turn it over to Dr. Carl Burlinger of the staff, who is the

staff director of the project group we set up earlier this year to bring this review together in a concentrated effort.

DR. BERLINGER: Good morning. The TDI Project Group was formed, as Darrell said, in January. We have several staff members in-house, primary function is to coordinate the review effort, but the primary technical review work is being performed for the staff on the contract with Battelle, Pacific Northwest Laboratory.

Battelle has put together a program and a representative of Battelle is here. I'll give him an opportunity to describe his organization and some of the efforts that they have been performing on behalf of the staff.

What I'd like to take an opportunity to describe for you at the present time is the inspection which was ordered to be conducted in an order dated May 22nd.

The need for the inspection stems from a review conducted by our contractor at Battelle. Their review of information provided by the licensee which built upon what appeared in January and February to be a void of information with regard to reliability of these engines, was conducted in such a way that the owners group had provided some information at a point in time such as April of this year, '84.

That information was, in fact, either just recently submitted from the standpoint of eight out of a planned 16 technical reports had been received by the staff.

But the staff had not had an opportunity to get into the review of those reports to any great degree, and the particular inspections which had been conducted at the Grand Gulf nuclear plant in January and early February of '84 had, in fact, been visual examinations.

They had not been detailed, non-destructive examinations. They had not been the type of inspections which had been recommended in some of the reports that the owners group had submitted to the staff for review.

In fact, some of the owners group reports which had been submitted in March and early April had recommended inspections be performed which, in fact, were clearly not done on either particular components which we deemed critical or in fact, the methods of inspection that had been used on these inspections of parts had, in fact, been far less than what the owners group or the staff felt was adequate.

In addition, there were many parts within the engine which had been operated. They had been operated for a number of--several hundred hours, as a minimum, and to date, some of these components have amassed

1,100 to 1,300 hours of operation. Several critical components had never been non-destructively examined since they had been put into operation.

These included pistons, connecting rod bearings, connecting rods, wrist pin bushings, the engine block, turbocharger, thrust bearings.

These are components which have been identified by the owners group in the Phase I program as critical components for which the potential existed for a generic problem.

They are problems that actually have occurred in nuclear facilities, in some non-nuclear facilities, including marine applications and stationary electric power generating units.

In addition, there had been inspections which had been performed at both Shoreham and at Kataba. These inspections, if they hadn't been completed 100%, were near completed at the time which we were deliberating with regard to Grand Gulf and the need for further inspection.

The deficiencies which have been identified in December and January and specifically discussed with the owners group representatives in January, the deficiencies in the quality assurance and quality control at TDI had, in fact, made it difficult if not

impossible for us to say that the inspections performed at other facilities could, in fact, be applied to Grand Gulf.

There are just too many deficiencies for us to be able to show that they were equivalent on a design and construction basis to, say, a plant like Kataba, where they have the same V-16 type engines.

Okay. At this time, I would like to introduce Dave Dengy, who is with Battelle Northwest Laboratory, and he can give you a description of PNL's involvement since this spring.

Dr. Dengy is one of the managing personnel in charge of this contract at Battelle, and he has brought to the meeting today one of our diesel engine consultants, Adam Hendrix, who is employed by Battelle.

I'm sure if you have any specific questions during their presentation, they'd be glad to try and answer them for you.

COMMISSIONER ASSELSTINE: Just before you do that, I have more of a general question that maybe you can address and then maybe they can follow up on with specifics.

As I understood it, the staff response based upon our consultant's expert advice to the owners group report was intended to serve as the basis for interim

licensing for plants. I gather that there are still a number of open issues at least as far as our expert consultants are concerned regarding the owners group responses in various areas concerning the diesels.

I have a couple of them in particular that I'm interested in. The staff is in the position today of saying, "You can go ahead and license Grand Gulf without having reached a resolution on those open items."

And I guess what I'm trying to get a sense for is the basis for that judgment in light of the fact that in some areas, at least, the owners group information that's been submitted so far hasn't proved to fully resolve all the issues to the staff's satisfaction.

MR. DENTON: Commissioner, we're on the verge of approving the overall owners group program and the issues that are left, to the extent they apply to Grand Gulf, have been taken into account. But let me ask Carl to answer that.

DR. BERLINGER: Thank you, Harold. The owners group program plan has been under review since it was submitted early March.

The consultants at Pacific Northwest Laboratory have submitted their report, which addresses the program plan.

They have drawn certain conclusions and made specific recommendations. That report is in our hands and we are in the process of finalizing a staff safety evaluation report which will specifically address the adequacy of the overall owners group program plan to solve and address the entire issue in total.

But in addition, it also addresses the owners group proposal as a basis for interim licensing, interim meaning between now and when the entire owners group program plan has been completed and implemented, all the recommendations from both the owners group and the staff have been implemented by the utilities.

The conclusion that we have drawn at this point in our review, which is basically finished, with regard to program plan, is that although some of the technical reports, we have not completed our review, we feel confident at this stage that we can go forward on the basis of the technical analyses that have been submitted as part of their Phase I program.

However, that alone cannot stand by itself. The Phase I technical reports really must be supplemented with the tear-down and inspection of one of the engines at each of the installations, to verify the condition of those engines prior to allowing the plant to operate.

In addition, any other diesels at that site which would be depended upon by the utility in the event of off-site power or similar event, would have to be shown to be essentially equivalent in design construction and basically by reviewing the quality assurance records at TDI, the manufacturer and their own quality assurance and quality control records at the utilities, they are being asked to justify that engine B is representative by engine A at a particular site.

In addition, there is specific need for enhanced maintenance and surveillance programs. These programs are absolutely necessary to assure that the condition of the diesels is maintained at a level which we are assured of by the inspection throughout, say, the first refueling cycle, 18 months.

Basically, we're saying that we can go forward with the licensing of these plants because on the basis of our review and our inspections and maintenance and surveillance programs that have been, especially in the Grand Gulf case, been totally adopted by the utility, that we have an adequate basis that the engines do provide reliable service and satisfy GDC-17.

COMMISSIONER ASSELSTINE: So you're basically saying as far as the owners group proposal is concerned, at least you have reached a consensus and

our expert consultants have as well, on an interim approach that you believe is satisfactory for a period of time.

DR. BERLINGER: That is correct.

COMMISSIONER ASSELSTINE: In every area that the consultants have concerns about the owners group proposal.

DR. BERLINGER: That is correct.

COMMISSIONER ASSELSTINE: And involves not only the material that they've submitted, but also the kind of inspection that is required in this particular case.

DR. BERLINGER: Yes. And it's extremely important for us in the area of maintenance and surveillance requirements.

For instance, surveillance requirements that we have specified be adopted by all of the utilities is what is called a barring over or engine air roll, and this is conducted prior to planned operation of the engine, which is done periodically in accordance with tech specs, once a month or every 18 months.

The requirement for the air roll is to verify that there are no water jacket leaks into the engine, into the cylinders.

So that head cracks or cylinder liner cracks or gasket leaks could be detected and corrected prior to

running the engine and putting it in an undue stressful situation.

As a result of an air roll which was conducted within a last few days prior to some surveillance testing at Grand Gulf, there was water noted in one cylinder, and as a result of this procedure, that cylider head, which was discovered to have a crack in it, has been replaced so that this is the type of maintenance and surveillance which we're looking at, which is really a hard type maintenance and surveillance, where we monitor lube oil quality to look for problems like bearing wear or look for problems such as water leaks into the crankcase.

COMMISSIONER ASSELSTINE: There were two areas, in particular, when I read through the supporting material, that you all had supplied that I was interested in that seemed particularly relevant to Grand Gulf.

One of them was the crankshaft cracks, and the other was the cylinder head cracks that I guess you just talked about.

Was the cylinder head that you found the cracks in in the diesel that was inspected or in the diesel that was not inspected?

DR. BERLINGER: I think it was in the Division One

diesel.

COMMISSIONER ASSELSTINE: The one that was inspected.

DR. BERLINGER: That was inspected.

COMMISSIONER ASSELSTINE: Does that mean that that's a new crack that appeared after the inspection was done?

DR. BERLINGER: Not necessarily. The crack occurred in a place which has never been found to have failed in the past in any of the TDI engines in nuclear service.

And even the records for some of the non-nuclear service, there's no indication that a crack has occurred in a similar location.

The location is really not on the surface, the internal surface, within the cylinder cavity. It's back behind in the exhaust port area, behind the valve seat up into the area where the valve stem is located or passes.

It's possible, although we don't have any confirmatory information at this time, that that could have been a casting defect or problem which may have existed but which may not have been leaking in the past.

COMMISSIONER ASSELSTINE: Do we know enough about

why the inspection didn't identify this problem to still have confidence in the accuracy and adequacy of the inspection that was done on the Division One diesel?

DR. BERLINGER: For two reasons. The inspections which we requested were looking for specific problems, and most of the non-destructive examinations that were conducted not only at Grand Gulf but at other utility sites were in those areas where we knew that known problems had occurred before.

In addition, we are required to do a general inspection, which is more than just visual. The particular crack which occurred in the last few days or has been identified in the last few days, was in fact not in an obviously visible location.

In order to observe the crack, you had to use a boroscope techniques to see inside the head.

COMMISSIONER ASSELSTINE: Do we know enough about what causes these cracks in the cylinder heads and the crankshafts to be satisfied that just the inspection of Division One diesel is good enough, that having inspected the Division One diesel and not found these problems, and having been able to relate the manufacturing and QA records of Division Two to Division One, that there's not also a need to conduct

the same kind of inspection for the Division Two diesel, particularly now in light of the crack you found in the Division One head?

DR. BERLINGER: To respond to your comment and question, it would be appropriate for me to ask Dave Dengy to come up.

COMMISSIONER ASSELSTINE: Okay.

DR. BERLINGER: That was specifically one of the items in which Battelle provided the staff support.

COMMISSIONER ASSELSTINE: I have one other question. Let me ask it, and then maybe he can address both of those.

I know that another utility went ahead and took the step of replacing all of the cylinder heads on their V-16 diesel.

When I visited that plant, I was told, "Look, we're just not going to fool with it. We want to make sure that we don't have problems in this area. We're going to replace them all."

Why isn't that the preferred course? I gather it was a redesigned, modified, upgraded cylinder head.

DR. BERLINGER: TDI has developed over the years, I think, three cylinder head designs. I think they call them Model 1, 2, and 3.

COMMISSIONER ASSELSTINE: Yes. These are all ones.

DR. BERLINGER: Pardon?

COMMISSIONER ASSELSTINE: These are all ones, right? At Grand Gulf I think that's what...

DR. BERLINGER: I don't know for sure. I think they are. I think they're early models.

COMMISSIONER ASSELSTINE: Yes.

DR. BERLINGER: I think at this time, Dave, I could use some details from you.

MR. DENTON: I think it would be useful if you'd describe the composition of your review team and the expertise that you've been able to bring to bear on this issue.

DR. DENGY: I'm Dave Dengy from PNL. The PNL organization was called into this program in late February, early March. At that time we set up an organization consisting of the technical disciplines that we thought would be needed to support the program, namely, metallurgists, stress analysts, and non-destructive evaluation experts, as well as leading project engineers throughout the organization to take on various elements of the program.

The program was guided by the director's office and we have a senior review board, consisting of three members of the director's office, as well as our project manager.

I'm the deputy project manager. And our first task was to bring in the consultants or technical expertise in the diesel engines.

It's not something that PNL had, nor do I think any other laboratory has on hand.

So we went out very aggressively to find consultants both within the U.S. and as far abroad as we felt we should go to get an adequate number of diesel experts.

At this time, we have about ten individual consultants and, I believe, four organizations from England, from Norway, from Canada, and organizations here in the U.S., as well as the ten individual consultants, many of whom are retired and have the time available to devote and dedicate to this program on an extended basis.

The program was then organized to respond immediately to several tasks at once, one being the owners group plan that was given to us, and we had provided an evaluation of that plan to help NRC provide them a technical basis for establishing an interaction with the owners group regarding that plan.

That report was issued recently. It has a section that I think Carl has referred to, that deals with interim licensing.

That is, plants that we knew were coming onstream or would like to come onstream for licensing action before the owners group had completed its program, which program might take still many months for completion.

I think he's alluded to or referred to the areas where we felt we could take interim action and what sort of requirements we would need for that.

At the same time, we took on the job of looking at plants' specific requests, such as the Mississippi Power & Light request.

We entered that with the February 20th submittal from Mississippi Power & Light, where they identified their inspection program, their proposed testing program, and to some extent, a proposed maintenance program.

We responded immediately and interacted with NRC and our consultants at that time. We brought four consultants in from England, from Norway, two from the U.S. to review that program that Mississippi Power & Light had given us.

We felt is was inadequate on a number of bases. We told NRC of the inadequacies and that was subsequently communicated.

Over a period of several weeks on interactions, we

went to the meetings, attended the meetings between NRC and MP&L and participated as needed to form viewpoints on site at those meetings.

Subsequently, the order went out to tear the engine down. That was, of course, in accordance with our recommendations as well.

We attended the engine tear-down inspection, looked at the results, and formed our own view and provided NRC with our findings relevant to that tear-down inspection.

And so that's sort of the technical basis for the kind of organization we have and the technical basis for forming our judgments based on our own staff metallurgists, stress analysts, and consultants, with large emphasis on the consultants' views.

CHAIRMAN PALLADINO: Are you satisifed that the surveillance program would disclose any cracks in the head in time enough to prevent malfunctioning of the diesel?

DR. DENGY: Yes, I am, and the procedure is that after the engine is run, before the engine or just as the engine cools down until it reaches a steady state, any cracks that have been closed because of the thermal expansion would open up.

So after about four hours, the first time you can

reasonably get in there and look for cracks, we require the engine barring a roll over, to see if there's any water leaks that have developed.

We then ask that that be done within 24 hours, and then there is strong confidence beyond that time if no cracks develop, that it won't develop subsequently.

So then before every plant start, you would go through a normal barring over or roll over to make sure that that's true, so it can be--there are three time scales, four hour, 24 hour and then every time before the engine is started.

CHAIRMAN PALLADINO: Was the cracked head replaced with a Model 1, 2, or 3?

DR. DENGY: I don't know.

CHAIRMAN PALLADINO: Do you know?

DR. BERLINGER: We haven't been provided with enough information to identify specifically the model head that was put in.

CHAIRMAN PALLADINO: I understand that disassembly also disclosed some difficulties with cap screws and turbochargers.

Is that significant? I wasn't sure.

DR. DENGY: Yes, it was significant, and we had the turbochargers sent back to Elliot for a complete refurbishment.

We recommended that, and MP&L subsequently did that to return the turbochargers to essentially new condition.

MR. EISENHUT: Mr. Chairman, that wasn't something that was like this other issue which was found in the last couple of days.

CHAIRMAN PALLADINO: I understand that. That was during the disassembly.

DR. DENGY: We reviewed their report on that, and it was a stress corrosion or defect or cracking that occurred in the bolts, and we think there's adequate action taken to prevent that.

We've recommended to NRC that any licensing action for the first refueling cycle would be appropriate.

COMMISSIONER ASSELSTINE: Does the identification of this new crack in any way alter your confidence in the inspection?

DR. DENGY: No. The crack occurred in an area, as Carl said, that wasn't normally thought of as an area having any particular stress.

And it wasn't part of their original inspection, so not being part of the original inspection, it wouldn't have been found.

And it isn't one where we would have expected it. I have not seen a report on the causes or anything else

at this point in time.

It's relatively new to me.

COMMISSIONER ASSELSTINE: What's the basis for your confidence that the inspection from the Division One diesel is sufficient as far as the Division Two diesel?

I noted in particular, for example, you talked in your report about the crankshaft failures.

One of those you couldn't identify the cause of previous crankshaft failures. So to what extent can you draw confidence that having inspected Division One, that's good enough, as long as you can also trace the quality assurance records and the other records for Division two as well?

(Note: Commissioner Roberts leaves the meeting at this time.)

DR. DENGY: Well, the basis for accepting Division Two without tear-down inspection was basically it had fewer hours under comparable maintenance and surveillance procedures as engine one, so engine one would have had the most damage, if you will.

And there was nothing on engine one tear-down inspection that seemed to suggest that there was a problem, that engine two should be torn down or inspected.

So that provided we didn't get anything suspicious,

that is, something that looks like, gee, this is a problem peculiar to that particular engine or peculiar to MP&L's maintenance, surveillance procedures, and they could show the adequacy of the records to convince us that engine two and engine one were built to the same specs, had the same material, quality control, manufacturing, installation quality control, which they provide us with a report on that, we felt that that tear-down would not be necessary.

COMMISSIONER ASSELSTINE: Given the fact that most all the cracks in the heads have occurred in the group one heads, why isn't it just a prudent thing to do to replace all of the group one heads with the upgraded heads that haven't had the same kind of significant problems?

DR. DENGY: I feel that the group one heads have had a reasonable positive survival in other applications, so it's reasonable to expect that they might be acceptable in this application as well.

Other utilities have replaced them. It wasn't a requirement.

CHAIRMAN PALLADINO: Any more? Okay.

MR. EISENHUT: I'd like to go to the next slide. I put this slide in for consistency. You will recall that in May, there was a Shoreham order, and it turns

out a couple of days later than that, we informed Mississippi Power and Light of the need for an exemption in connection with the diesel inspection, that we had determined they did not meet GDC-17.

We sort of cast that upon them. We also told them at that time to address exigency and as-safe-as. They did file the exemption as we requested. They filed it on June 4, 1984.

The staff shortly after starting that review until up until last Wednesday was engaged in a very detailed review of as-safe-as, which, to give you an idea on the extreme, we had the utility back redoing those calculations.

We're to the point where we think, of course, depending on today's meeting, upon the issuance of the full power license, the need for that exemption is a moot point, and we would propose no further action be taken on that matter.

COMMISSIONER ASSELSTINE: You're conclusion, then, is the plant with these diesel generators meets GDC-17.

MR. DENTON: That's correct.

MR. EISENHUT: That is correct. If I can go to the next slide.

COMMISSIONER ASSELSTINE: I have one other related question on diesels. This came out of my visit to the

plant. That had to do with the extent of testing that we require these diesels.

One of the things I was told by the utility was that the actual load on the diesels at Grand Gulf was about 70%, but that our requirements force them to test these diesels at 110% of capacity.

I guess I wondered whether that's something that is being looked at in terms of the overall review of diesel testing requirements.

Their point to me was running a diesel engine at 110% of rated capacity puts a great deal of strain on the engine itself and may not be necessary, given the lower load for that particular plant.

Is that something that you all are looking at as a general matter?

MR. EISENHUT: Yes, it is, but as a general matter, though, we recognize that the emergency loads on a diesel may only be something on the order of 70%.

As time goes on, following an event where you need those, there are a number of house loads that normally get put on to this, or number of non-essential loads that normally get on, to bring it considerably above the 70%.

In fact, pre- the situation I'm told that in the Grand Gulf situation is actually up in the order of

90%. For this exercise, on these diesels, with the corrected situation, we are, I believe, by this tech spec amendment, dropping that testing limit to a lower level such that we don't overstress the diesel.

MR. DENTON: This has been the subject of a lot of discussion between the industry and ourselves, because obviously if you don't push it toward its nameplate's rating, the survival and the stresses are much lower than you'd get from running it high.

So I think that whole area is under examination, and in fact, we have recently concluded we should relax some of our requirements for fast start, full load test, because of that same sort of consideration that we were perhaps wearing them out rather than gaining the confidence of them.

MR. DIRCKS: I think generically we are taking a look at all of our testing requirements. We're beginning to take a look.

We do have a lot of testing requirements not only in diesels, but across the board. We do have tests required, that people are beginning to wonder whether we might not be reducing safety margins by this constant testing procedure we go through.

MR. DENTON: If you'd like, we could come back and talk further about that issue. We don't have a final

resolution of it, but it is an important issue.

We're looking at it across the board, and will probably be resolved in the course of our completing this overall diesel review.

COMMISSIONER ASSELSTINE: I think that would be useful at some point.

CHAIRMAN PALLADINO: All right. Maybe that's enough on that for the moment, unless you have more. Okay.

MR. EISENHUT: If I could go to the next slide. I'm sorry, this is on shift advisors. This flows from a previous Commission discussion and meetings on the lack of hot operating experience on shift at a number of plants.

Recall that on Diablo Canyon, we had a review there of the industry group going in, reviewing the shift advisor program, and the staff went in and also did a review.

The situation here is pretty much the same in the sense that the industry go in in April, 1984. I believe it was the same head of the team that was used at Diablo Canyon.

They reviewed all aspects of the shift areas, interfaces, between the shift and the advisors, the procedures.

They found the program was an adequate program. The NRC went in and also reviewed that training program and came up with similar findings.

We find the situation here was an inadequate situation. The next slide...

COMMISSIONER ASSELSTINE: Before you leave that one, Darrell, just a couple of questions on shift advisors.

The sense I had when I visited the plant and talked to a couple of the shift advisors was that their training had been evolving at this plant, as so many things seemed to have, and had gotten much more detailed and more targeted towards the surveillance requirements, the technical specifications, the knowledge of the plant itself fairly recently.

The earlier training had not been as in-depth as the more recent efforts. Is that the same sense that your review teams had?

And what confidence do you have in the training in the qualification exams for the earlier shift advisors that were approved, perhaps at an earlier point?

I guess I'm particularly concerned about that because I gather that the examinations that were given were oral and weren't written examinations.

So how do you base your confidence on the training

and qualifications and certification, particularly of the early shift advisors?

(Note: Commissioner Roberts returns to meeting.)

MR. THOMPSON: Hugh Thompson, of the NRC staff. Commissioner Asselstine, we did look at the training programs, in fact, looked at typical written examinations.

You might notice in our evaluation that we did evaluate the written examinations for the emergency assessment, the systems, and the accident management portions for core mitigations.

So these were evaluated by the NRC headquarters staff. The Region II audited one of the advisors on the OTEC board examinations and concluded that based on his observations, that the examination was effective, thorough, and provided a sufficient level of confidence.

I should note that these advisors in fact were on shift approximately 18 months, which is well before the role of the advisors when the issue really was defined.

And so it was reasonable to expect that an enhancement of their training programs would be needed to really ensure that they had the knowledge of the plant systems, procedures, and the tech specs as we approved the overall industry program.

So I think, based on our review of the

examinations, the fact that these advisors had actually been on shift and integrated into a crew considerably more than the Diablo Canyon individuals were, the fact that the training program was reviewed for scope and depth by a similar team that looked at Diablo Canyon, gives me more than adequate confidence that their training and the examinations portion was adequate.

CHAIRMAN PALLADINO: I gather these individuals also participated in a simulator training program.

MR. THOMPSON: Yes, I was going to note that they had.

CHAIRMAN PALLADINO: Do they have to pass tests in that area as well? Go ahead.

MR. THOMPSON: Remember one of the issues was that if they had a simulator, they were administered a simulator performance exam.

They were administered the simulator performance exam. We looked at the areas covered by that examination sheet.

We also looked at the oral examination OTEC board for each of the individuals, so they got both a simulator and an oral board examination, which in fact was more than the industry commital.

They also had more experience. Each of the operators had at least three years of commercial

licensed operator experience, whereas the industry standard is one.

So I think they're a good bit more experienced, and we, of course, have found some areas that we recommended that they enhance and improve.

The Region II inspection audit identified the reading requirement to make sure they kept current with any plant changes, and that was implemented, as well as the changes to ensure that they were trained with the crew, on a five-shift rotation. So those areas were identified.

COMMISSIONER ASSELSTINE: Was this a formal enough training program? I gather a good part of it was self-study as opposed to a more structured training program. Was it formal enough, do you think?

MR. THOMPSON: Well, I think the--I guess the formality kind of depends on the level of experience these individuals had.

We found it adequate. Whether it's better to be a more formal program, I think it obviously would be better to have a more formal training program.

But we found it adequate, particularly in light of the examination portions that gave us the assurance that they knew what they were supposed to be doing.

COMMISSIONER ASSELSTINE: I have to say that the

two I talked with certainly were very experienced, and also really seemed to be built into the functioning of the shift.

MR. THOMPSON: They're probably better integrated than many of the advisors than the other plants that we've seen.

CHAIRMAN PALLADINO: I talked to one of them in some depth, and I was similarly impressed. They do work with the shift, and they are part of a shift, and they get to know and participate in all the activities.

MR. THOMPSON: Right.

CHAIRMAN PALLADINO: With the other members.

MR. THOMPSON: In fact, I think there was a period of time where they, in fact, were acting shift supervisors before the plant was licensed.

COMMISSIONER BERNTHAL: Hugh, that was precisely the point I wanted to ask about. I'm looking at the memorandum from Bruce Wilson, where he indicates--I'm not sure I've read it all, but that each of these people has had at least one year as an SRO and a supervisory capacity?

MR. THOMPSON: That's correct.

COMMISSIONER BERNTHAL: And LWR, is that correct?

MR. THOMPSON: That's correct. Each of them have had at least one year and in fact all except one have

had more than one year.

They've had as many as six years license as an SRO with experience level totalling up to 13 years of licensed on an operating BWR.

That's excluding the time at Grand Gulf.

COMMISSIONER BERNTHAL: Thank you.

COMMISSIONER ASSELSTINE: Our inspections, I guess, had identified some concerns or weaknesses in the training, including the continuous training of the shift advisors.

Have all those problems now been taken care of? I gather one in particular was, the shift advisors were only participating in the simulator portion of the routine training program where the shift is rotated out in training.

MR. DENTON: We're going to address that in our discussions.

COMMISSIONER ASSELSTINE: Good.

CHAIRMAN PALLADINO: All right. Can we go on?

MR. O'REILLY: Yes. If I could go to the next slide, this is a summary report covering a number of subjects.

I have brought several of my staff with me today, and the speakers will be three division directors and also our senior resident inspector.

CHAIRMAN PALLADINO: Excuse me. For planning purposes, can you estimate about how long?

MR. O'REILLY: I estimate that they should complete, the whole discussion should be completed in 20 minutes.

CHAIRMAN PALLADINO: In 20 minutes. And then there are questions by the Commission.

COMMISSIONER ASSELSTINE: Yes.

CHAIRMAN PALLADINO: Let me find out from the Commission what its wishes are. I would suggest we continue going to no later than 1:00 o'clock, but I'll leave that up to...

COMMISSIONER ASSELSTINE: Fine. That's fine with me.

CHAIRMAN PALLADINO: All right. Okay. But if we can finish before that, I think that includes the voting and all the statements that people might want to make.

MR. O'REILLY: The staff has concluded that the qualifications of the operating staff at Grand Gulf and find that they're qualified to operate the plant safely.

Aggressive inspection on the part of Region II and the operator examination program identified significant deficiencies and raised substantive questions regarding

the effectiveness of MP&L's management of their nuclear-operated programs.

However, lengthly, costly, and effective actions have been taken by MP&L to address these problems. As a result of these actions, route causes have been eliminated and managerial changes have been made to minimize the likelihood of their recurrence.

I would like to go through quickly and I'd like my staff to address the major issues that have come up before the Commission for substance to the material.

MR. LEWIS: Okay. Gentlemen, my name is Dick Lewis. I'm director of projects, Region II, and since issuance of the low power license to Grand Gulf, there have been major improvements at the facility in keeping with corporate level changes that you're aware of from discussions, there have been extensive changes in management personnel at the site during this period of time.

Mr. Jim Cross is the general manager at the Grand Gulf facility. He has previous operations management experience with TVA.

We evaluate him to be a valuable asset to the MP&L organization. In addition to that, there have also been three management positions created during this period of time.

The operations manager has previous SRO BWR experience and is a degreed individual. The other two managers, the manager of maintenance and manager of support, are new individuals in this position, of whom we evaluate to be capable of bringing about improvement in both of these areas.

There is also a new training superintendent that has reported in at Grand Gulf and has experience with another facility before coming in to Grand Gulf.

With these site and corporate management changes, we have noted that there is improvement in the quality of plant performance.

There is improvement in the adherence to facility procedures. These is improvement in morale in the operating organization with accompanying positive attitudes.

We note this in the appearance of the plant and in the responsiveness to NRC's suggestions and initiatives.

Since the issuance of the low power license on June 16, 1982, Region II has conducted about 11,300 hours of inspection, which represents about 200% over that which was budgeted.

Our inspectors did witness the low power testing program at this facility and we evaluated the low power

testing activities to have been conducted in a safe, deliberate and professional manner, and we considered them to have been completed very successfully.

In a previous Commission briefing, we discussed the SELP, and at that time you asked that we update you before the full power license.

Let me reiterate that the SELP is the Systematic Assessment of Licensee Performance Program, is a snapshot of a licensee's performance for a specific period of time of their performance in the past.

In most cases, if improvement is required, this improvement has already been taken by the time that the SELP process is completed or is in the process of being completed.

To quickly go through this, a category one is a top performer. Top licensee performer means they're doing everything right.

And for category one at Grand Gulf during that evaluation period which was for the period of September '82 through September '83, which was the last formal SELP, there were considered in emergency preparedness to be a category one.

A category two is where licensee activities are considered to be fully satisfactory. In the area of category two, we considered radiological controls, fire

protection, and security to fall into this category.

Category three is defined by our program as where licensee activities are adequate to assure safe operation of the facility, but the licensee is not achieving at the level we think they're capable of achieving.

In other words, we think that corporate plant management personnel need to focus attention in this area to bring about improvement in the performance.

But it is still satisfactory to assure protection to the health and safety of the public.

Areas that we evaluated to be category three during this SELP period were plant operations. And let me add here that we believe that we are tougher raters in the area of licensee performance than any of the other regions.

(Laughter.)

COMMISSIONER ASSELSTINE: With all due respect, you might get an argument on that in some places.

MR. LEWIS: I have statistics.

(Laughter.)

MR. LEWIS: Okay. In the area of plant operations, we considered them to be a category three, but we also consider 26% of our other plants in Region II to be a category three.

The other two major regions, one has no category three, and one has 10% category three.

COMMISSIONER BERNTHAL: Are you suggesting that we've got a grade inflation within this agency?

(Laughter.)

MR. LEWIS: No, sir. We believe that if there is need to improve, that we're quick to point it out, and the licensee, we believe, is quick to respond to that improvement.

In the area of maintenance, we evaluated that to be a category three, 27% of our other plants in Region II in maintenance we considered to be category threes.

That is for this time period, the same time period that we evaluated Grand Gulf.

In the area of surveillance, we consider that to be a category three, and 20% of our other facilities are considered to be category threes.

Quality assurance we consider to be a category three at Grand Gulf. 38% of our other facilities are also considered to be a category three in this area.

In the area of licensing activities, we consider that to be a category three. 20% of our other facilities are considered to be a category three.

Since this self-evaluation program was for a time period of September '82 through September '83, I'd like

to give you a quick update on those category three items, as our inspectors and our supervisors have evaluated the performance since that time period.

CHAIRMAN PALLADINO: Can I ask a question with regard to the SELP for the period ending September 30th?

The report says that the "implementation of the QA program at Grand Gulf is inadequate to identify problems and/or ineffective in bringing about adequate corrective actions."

What is the basis for determining the problems not identified or resolved as a result of QA shortcomings during this period as subsequently has been identified and/or resolved?

MR. LEWIS: The bases for coming up with that type of categorization and when I get to QA, I would state that they have what we consider to be an above average QA program.

The problem falls in...

CHAIRMAN PALLADINO: I thought you said that...

MR. LEWIS: ...implementation.

CHAIRMAN PALLADINO: In the SELP period, you said it was three, if I heard you right.

MR. LEWIS: Yes. Overall, it is the category three, and it is considered to be a category three

because they did not properly implement the program. They did not identify the problems in the technical specifications.

They did not identify the procedure inadequacies. They did not identify the surveillance deficiencies and so forth.

Whereas, we identified them and their QA program should have, had it been a functioning organization. That's why they were considered to be a category three, sir.

CHAIRMAN PALLADINO: So have they improved? How do we know that?

MR. LEWIS: Yes, sir. If I might, I'll go through those areas that we evaluated to be a category three. In the area of reactor operations, MP&L has completed the major operator recertification program.

They have completed an extensive operational enhancement program. They have completed simulator training for all operations personnel.

They have replaced line supervisors. They have recruited extensively for experienced managers. They did complete an excellent low power test program.

And overall, we conclude since the completion of that SELP, that there has been significant improvement in this area.

In the area of maintenance, the mechanical and electrical maintenance supervisors have been changed. They have conducted specialized training in the area of maintenance.

We have observed good performance in specific maintenance-related activities.

There have been no recent violations identified in the area of maintenance, and we expect in this area that on the trend they're on, that there would be improvement in the SELP during our next formal SELP.

In the area of surveillance which was considered to be a category three, the completed review and extensive revisions to the surveillance procedures in conjunction with the management stressing, meticulous compliance with procedures is evident by the improved performance in this area.

In the area of quality assurance, as I stated earlier, we evaluate MP&L and did at that time to have a better than average QA program, but implementation was not adequate, in that they were not identifying the problems, and if the problems were identified, they were not bringing corrective, timely solution to those problems.

We have noted that their QA program does more direct observation in the field. We have also noted

that their audits are in greater depth than what they used to be.

We believe the changes will bring about the improvement that we expect from a licensee, and we will continue to place inspection and manage emphasis in this area of quality assurance.

In the area of licensing activities, upper management involvement in handling the licensing activities has been observed by our people.

An example of the improvement in licensing activities is evident in the extensive work that has gone on and submittals in the area of diesel generators and technical specifications.

In conclusion, we have completed the defined inspection program, and the open items at Grand Gulf and verified that those activities that are identified in Attachment 1 of the low power license as requiring completion prior to going above 5% power have been satisfactorily resolved.

That concludes my presentation. Thank you.

CHAIRMAN PALLADINO: Any questions?

COMMISSIONER BERNTHAL: Yes, I have one question, and I'm not quite sure to whom I should direct the question. I'd like to inquire of someone on the event report record, for the record at Grand Gulf.

I believe that the numbers that I have in front of me show that it's been a relatively large rate of reportable events during low power operation as compared to other BWR plants in similar stages of operation.

Could you comment on that?

MR. LEWIS: Yes, sir, I can. The event reports, there has been a large number of events. I don't have the number right in front of me.

The number, however, when looking at other power plants in that same phase of time, a start-up power plant within the first year of operation typically runs somewhere close to that same figure.

There is a large number of events that are associated specifically with fire protection, leaving fire doors open and so forth when they run cables through.

If those are taken out of the event report, then we find that Grand Gulf does not exceed those other plants that are in the same stage.

(Note: Chairman Palladino leaves meeting.)

MR. EISENHUT: Yeah. Real simply, we did the same thing by looking at a number of BWRs, looking at LERs per month, and there is a decline in the Grand Gulf numbers.

They were historically high but typically on other new plants, and that is coming down.

COMMISSIONER BERNTHAL: But you would attribute most of these problems, then, to personnel errors rather than anything that might be attached to the fact that it's a new plant design or special hardware problem that might be associated with the new generation plant?

MR. LEWIS: I don't think it is the special plant design. I think they stayed in the area...

COMMISSIONER BERNTHAL: New generation...

MR. LEWIS: ...longer than other power plants. Typically a power plant goes through in somewhere between three months to six months, and they are through that phase, and they have debugged the plant, whereas this plant stayed in low power operation for an extended period of time and with procedure deficiencies and so forth, they did run into a whole lot of problems.

COMMISSIONER ASSELSTINE: Is it in any way significant that for most of the time over this two-year period, the plant wasn't running, that requirements still applied but the plant was not in operation?

Does that make this large number of purported

events or reportable events any more significant or stand out in any greater way?

MR. EISENHUT: We went back and looked at this and had our operating reactors assessment unit go back and look at this and look at the LaSalle plant, the Susquehanna plant, and the Grand Gulf plant.

COMMISSIONER ASSELSTINE: Yeah.

MR. EISENHUT: And I guess a simple way to put it is, looking at the same kinds of windows at a time, and even averaging by month, you really didn't see a lot of difference between those three units.

I'd have to go back to the staff and ask them specifically to try to make more of a detailed correlation in terms of frequency of cause of errors, but the data came out, in fact, remarkably similar for those two other units when compared to this one.

(Note: Chairman Palladino returns to meeting.)

MR. DENTON: But I think our basis for confidence is not really the decline in the LERs; it's the other changes that we've described which have taken place.

MR. EISENHUT: One of cause and effect.

COMMISSIONER ASSELSTINE: You mention that there has been a decline, although I gather that if you look back over the past six months or so, there still has been a higher number of reported items for this plant

than for most other plants, I gather something like 30 or so since February.

Given the fact that that is after the period where many of the management changes have been made here, what can you tell me in particular about what those reported events show?

Do they show what kinds of problems, operator errors, maintenance problems?

What do they tell us about the understanding of the plant that these people have?

MR. DENTON: We'll have Gary Hollihan, who looks at this routinely for all plants, comment.

MR. HOLLIHAN: This is Gary Hollihan, Division of Licensing. I think what I would say is, there is a noticeable decline in the number of reports made, prop reports made under 50.72 of the regulations.

And I think the number that we're currently seeing over the last few months, although it's higher than what you would say is average plant, it's quite typical of a new plant or a plant with less than, say, two or three years of operation.

COMMISSIONER ASSELSTINE: Typical even for a plant that was shut down for most of the time?

MR. HOLLIHAN: The only real comparison we have on that basis is we did compare low power operation was

the period where plants were licensed for low power operation, for Grand Gulf and for other plants.

I think what we found is that initially the number was considerably higher, but that both hardware and management improvements have brought the number down.

One example is, I believe, over the last year or so, there were approximately 20 isolations of the shut-down cooling system.

And that was traced back to difficulties in the power supplies to the reactor protection system.

But having made improvements in that system, we now see that number is dramatically reduced, and it's had an effect on reducing the number of total reports.

So I think the plant is clearly becoming typical of a new plant.

COMMISSIONER ASSELSTINE: Do the reported events tell you anything in terms of the capabilities of the operating and maintenance crews and their understanding of the plant and their understanding of what they're doing?

MR. HOLLIHAN: That's always very difficult to determine from the reports.

COMMISSIONER ASSELSTINE: i know.

MR. HOLLIHAN: What some people call human errors are called equipment problems by other plants, so it's

very difficult to compare one plant to another. I would say this plant has a mixture of human errors and equipment problems typical of a new plant.

It doesn't appear to be overwhelmingly human problems or overwhelmingly hardware and design problems.

MR. DENTON: There have been several new plants started up in Region II. Maybe the staff could compress that.

MR. O'REILLY: Well, this operation, I think, Commissioner, you are well aware of the fact that there's been a considerable amount of instruction, there's been a large number of procedure modifications, and a set of tech specs for a large number of requirements that must be maintained.

Also one of the comments Mr. Hollihan made related to the RHR system, which has been the operating system at this unit for the last two years.

So I consider them to be, today, equivalent to or in better shape to start up than other units that have started up, because of the situation that they've been so well trained, their tech specs are at this moment better than others, and their surveillance procedures are superior.

COMMISSIONER ASSELSTINE: Jim, have you looked in

your various inspections over the past couple of years at the Plant Safety Reviews that have been conducted for various operational items at the plant?

And how would you characterize their performance there? Do you find there's a rigorous discipline, carefully managed, safety reviews?

Do you find that there's a trend in that area as well?

MR. O'REILLY: I could be corrected by my section chief or my senior resident, but I did talk personally to the safety review board for MP&L purposely, back, I don't recall, I think in November of '82, relative to their performance, which I was not particularly overjoyed with.

The Plant Safety Review group has been headed for a considerable period of time now by the current plant manager.

The information I have on that is that he has performed in an outstanding manner. Do you want to add anything to that?

MR. WAGNER: My name's Al Wagner. I'm the senior resident inspector. I'd like just to comment briefly on the change in the performance of the Plant Safety Review Committee as of about a year ago when management changed and we did extensive reviews in preparation for

operations. In the course of these reviews, it had come to our attention that there were certain events and occurrences that were happening on-site that were not being brought to the attention of the Plant Safety Review Committee.

And the result of our review in preparation for operations, we made recommendations which were implemented by the utility which puts a more thorough emphasis on all events and occurrences or even questions of events and occurrences that happen at the facility in a documented form and brings them to the full Plant Safety Review Committee rather than an appointed individual or person that looks over them and makes individual subjective judgments.

So there is considerable improvement in the amount of information that goes to the Plant Safety Review Committee.

I see an improvement in their handling of these types of occurrences and events.

COMMISSIONER ASSELSTINE: Are you fairly comfortable with their level of performance in the Plant Safety Review area and making sure that it's a discipline process now, or is this an area that they still need to devote a fair amount of attention to?

MR. WAGNER: My original concern was that the Plant

Safety Review Committee was being shielded and not give all the information, but that concern has been alleviated by the implementation of revised and new procedures which require all those types of events which affect safety to be routed to them for their review and disposition.

I have a very high level of confidence that they're doing a thorough job. While I'm here, I'll just comment briefly that it's my opinion, based on the observations that I've made in the conduct of low power testing and the recent critical operations, that I have a high degree of confidence in the operators to operate the facility in a competent, deliberate manner.

I have a high degree of confidence in the current management staff, and in their communications with the NRC, which is myself and Region II, which has been open and very candid in exchanging information concerning problems that have occurred at the facility, and it's a significant improvement.

If maintained at the current level, it should not present a problem for safe operation of that facility, in my opinion.

(Note: Commissioner Roberts leaves meeting.)

COMMISSIONER ASSELSTINE: Thanks, Al.

COMMISSIONER ZECH: My review of--my visit to the

plant about two weeks ago would certainly agree with that evaluation we've just heard.

As I reviewed the previous problems and history of the operator training, it was clear to me that previous management had not perhaps given the attention to operators and to training that one might expect.

I believe there's a direct involvement in operator improvements with the new management.

It seemed to me that the new management is more involved, is quite dedicated to operator training, and I believe that there is a definite correlation there when management devotes not only their resources but their time to the operators.

It's been my experience that the operators respond to that, and I felt that there was a rather significant change in the operator level of experience and operator formality, operator overall performance with the new management team.

I think that certainly was a rather strong impression that I had from my visit.

CHAIRMAN PALLADINO: I might add that with regard to that word formality, one of the concerns I've had in other utilities has been the failure to give and acknowledge orders in a very formal way.

I observed at least in the crew that was in the

simulator that in handling this situation, they did have very formal ways of presenting, giving information, acknowledging its receipt and giving orders and acknowledging the orders.

And I think that's very important in making sure the communications are effective in a control room.

COMMISSIONER ZECH: May I support that, Mr. Chairman, very briefly, because formality is something I'm going to look for in every visit to every plant I go.

It reflects a great deal more than just giving orders and having them repeated and so forth. It reflects paying attention to business, operating these plants in a very business-like and serious manner.

And so formality is something that I think is very important. It's indicative to me of many other indexes of performance and certainly it's something that I intend to look for in my visits to the plants.

MR. O'SHINSKI: I'm John O'Shinski, the director of the Division of Reactor Safety in Region II, and I just wanted to talk on a couple of issues very briefly, one of which you've already talked about, and that's the training of the operators.

As you know, over the last three years, we've paid an awful lot of attention and evaluated in quite some

detail the training qualifications of Grand Gulf operators. We identified problems in the training program and problems in the documentation of the training program.

It was as a result of that that the recertification program for the Grand Gulf operators came about, and we've talked about that before.

It was a very extensive program, and I'm not going to repeat those details, but I'd like to kind of bring you up to data on what's happened since then.

Twenty-six of the licensed operators at Grand Gulf went through the recertification program given by the utility.

We, NRC, decided to reexamine these previously licensed operators. Twenty-three of those 26 operators passed that reexamination.

Since that time, four more people have been licensed, so today there are a total of 27 licensed operators at Grand Gulf, 15 SROs and 12 ROs, and they've all been examined very recently.

In addition, there are three more ROs who have passed their exams and are now awaiting the issuance of their licenses.

With the minimum required shift complement of two SROs and two ROs, there are more than enough operators

to assume a five-shift rotation.

This is in addition to a shift technical advisor, a shift advisor, and a G.E. operations engineer and a G.E. design engineer that are being assigned to each shift during power engine testing. We talked a little bit about the experience.

I really want to emphasize the significant involvement we had in this program. We basically spent close to a man year in inspector and examiner time associated with the identification of the deficiencies that led to the recertification program and to our evaluation of the adequacy of that program.

I believe that that more detailed look that we have taken there in fact lends a much higher level of confidence to our conclusions that the operators are well-qualified for their licensed duties at Grand Gulf.

We believe that in the future the licensees' training pipeline should enlarge the initial cadre of qualified people.

Through an aggressive training program, the licensee hopes to evolve into a shift rotation and plans to have 49 licensed operators by January of 1987.

The plans at that time are to assign approximately 14 of these individuals to the training department which will reduce the dependency on contractor

resources and should allow for continuing improvement in the integration of operational experience into the training program.

As Dick Lewis mentioned, we've also looked at the non-licensed training, specifically in the area of maintenance.

We have concluded that this training meets regulatory requirements. I'd like to add that it's our feeling that the maintenance facility that's been added at Grand Gulf is one of the better ones we've seen in the region.

So we believe there will be continued improvement in that area.

One other area I'd like to touch on very briefly that was also of some interest, and that was the RHR pipe crack.

Two pipe cracks were discovered in a system connected to the RHR system in April of 1984, basically the three-inch line connected to the RHR system.

We conducted a special investigation, special inspection of this event.

In addition to the two resident inspectors, we dispatched a test engineer, a metallurgical engineer, and a mechanical design engineer to this site to evaluate the licensee's actions and follow with this

event. Our conclusions were that the system was build according to design, the design met regulatory requirements, and that the licensee's investigation of the matter was comprehensive, and that the corrective actions that were taken were appropriate.

In summary, I'd like to note...

CHAIRMAN PALLADINO: What corrective actions did they take on this pipe crack?

MR. O'SHINKSI: There was a change in procedures, basically that particular line, that mode of operation, the RHR, is not going to be used as far as the actual pipe section that was cracked.

That has been removed. That section is capped. They've done inspections of the remainder of the ECCS systems.

They're doing additional vibration monitoring, they did thorough walk-down of the system.

So it's quite a lengthy list, but basically operator training and operation of the system.

CHAIRMAN PALLADINO: And replacement of...

MR. O'SHINSKI: And removal of the damaged section, yes, sir.

In summary, I'd like to note that the region has paid a lot of attention to Grand Gulf. We've looked at issues earlier and we've looked in more detail than has

been the case at other plants.

We have found problems. We believe the problems have been fixed appropriately. As Dick has said, we have seen significant improvement.

As a personal observation, I'd like to note--and I think Al Wagner referred to this--that in my many interactions that I've had with the plant manager, Jim Cross, that I've always found him to react in a very conservative direction on any identified problems.

(Note: Commissioner Roberts returns to meeting.)

MR. O'REILLY: I had planned to have Phil Store, another division director, discuss radiological controls, environmental monitoring, security, but his conclusion I'll just state, that he finds them--to save you time, unless you'd like to hear them--"the program has been properly conducted and we have no problems of note in those areas."

His is of the view that they're ready to proceed. I was going to have our senior resident make a statement, but I think he has already made it. That was basically his concluding statement.

My concluding statement is that we do find that MP&L has the capability and the controls in place that if properly implemented, will result in safe operation of the facility in accordance with license, and the

rules and regulations of the Commission. However, like always, Region II will continue to implement the inspection program which is continuing.

We also plan and have planned since we originally received the low power license, to conduct a full scale, broad operational readiness inspection before they exceed 50% power.

We did it before they went critical, and we in effect did that before they went to 5% power.

Also, I had planned, and you discussed that earlier this morning, I plan to visit, like I have twice already, the chairman of the board of Middle South Utilities and with the president of MP&L, to go over all the lessons that we have learned and the problems that we have to be certain are going to continue to receive the proper attention over the next year.

That would be the end of my statement.

COMMISSIONER ASSELSTINE: I have a couple of questions in the operator training area for John. I gather that when the operators were originally licensed for this plant, the basis for their training and even for our examination was not the present design of the plant, the present FSAR, the present technical specifications.

I gather there have been literally hundreds, if not

thousands, of changes in all of those documents, procedures, tech specs, the FSAR, the design, from the original training and licensing of these operators.

What gives you confidence that these people now have a strong grounding, that is, the basic knowledge and basis for their ability to now operate the plant and to understand all of those things are they are right now, even to the many changes that Darrell and Harold have described, are being made in this license to the tech specs to the plant.

MR. O'SHINSKI: Your statement is correct. The initial licensing and training of the operators was done on the FSAR and the tech specs as it existed at that time.

In fact, when the initial operators got licensed on the plant, the tech specs were in the proof and review stage, and that's in fact what they got examined on, was the proof and review copy of the tech specs at that point in time.

The recertification program that took place basically took the tech specs as they were in existence that day in the systems in the FSAR in existence that day.

Our examinations, in fact, that we conducted in, I believe it was February of this year, were based on

that information.

We have since looked very carefully and frequently, even though we've gone in and given our exams to see that in fact all new information or any changed information is being incorporated into the training of the operators.

And we feel that's being done on a continuing basis. We're going to continue to look at that very closely, both the residents look at that as well as my examiner people and instructor people that go down there.

So we see it being incorporated.

COMMISSIONER ASSELSTINE: Is there an augmented training program for this particular program that's particularly aimed at the early operators, the ones where when you think about it now, the basis is somewhat the basis for their training and their licenses, for that matter, is somewhat different than the plant they'll be operating.

MR. O'SHINSKI: I believe that augmented training program that we're talking about was really that recertification program.

When it comes down to it, when we're talking about examination training of the operators, the operators are not expected to memorize the technical

specifications. Of the issues of the technical specifications changes that were made, there were some key significant items in there and they have been trained on those.

Our thrust and I think the thrust of the training program is to enable the operators to understand th bases of the technical specifications and to be able to use the specifications and follow them.

And so we feel comfortable that the recertification program and our reexamination program has done that, and we're monitoring very carefully to see that any significant changes that happen to the tech specs, that happen to the plant are being factored into the continuing operator training.

MR. O'REILLY: Also, Commissioner, I have been assured and will verify that there is an extensive training program of the operatives once the new technical specifications are reviewed and their procedures are updated to reflect the changes that have been made.

COMMISSIONER ASSELSTINE: Is there a problem with doing that at the same time they're going to start full power operation of the plant, or should that be done first?

MR. O'REILLY: That's going to be done first.

COMMISSIONER ASSELSTINE: Okay.

MR. O'SHINSKI: I think, in fact, the operators or the operations department, as a matter of fact, played a key role in going through the tech specs and at this point in certifying the tech specs.

I'm sure that will be factored in.

MR. O'REILLY: We had two other items, just briefly to mention, one was we had before us the 2.206 petition.

The technical aspects are being reviewed by the staff, and the staff intends to issue a denial to that 2.206 on the aspect that's before the staff.

The second matter that I'll mention is that we sent down to the Commission the proposed full power license amendment.

And we noted in that transmittal that on this plant, we will be granting exemptions to Appendix J and to general design criteria.

We plan on doing that by separate, stand-alone, formal exemption documentation similar to what we do routinely and have been doing routinely for a number of years in operating reactors.

That is, there will be a separate document with the bases in it, rather than what I'll call the abbreviated form we've been using on OL licenses in the past, since

Three Mile Island, where we just put a statement in that says exemptions to GHJ whatever they are are hereby granted, and the conclusion from 50.12, they will be issued by separate, stand-alone parts.

That's the last item.

MR. DENTON: In conclusion, Mr. Chairman, we think that they have fully satisfied all the license conditions in the low power license that restricted them to low power operation.

They fully comply with all the regulations that govern full power, and they're ready for issuance of a full power.

CHAIRMAN PALLADINO: All right. Then I guess we're open for Commission questions.

I have two, one of which is for general counsel. We have received in the last few days a letter from Mr. Gusty in the Attorney General's Office in Louisiana, asking that we not go forward with this case.

And then we have a telegram from the Governor of Louisiana, that says it's up to NRC to decide what to do.

Incidentally, also, I got a call from Governor Edwards while I was at Grand Gulf last Friday, and I circulated a note this morning highlighting that.

I asked him to put in writing whatever he had to

say. Must we take action on these either before or as part of our action?

MR. PLAINE: It now appears, Mr. Chairman, that while the Attorney General did file a letter with the Commission, it was dated several days ago and didn't arrive until late yesterday.

He has nevertheless been contacted and has given us the text of a letter indicating that he has made a decision not to file.

I have the text of the letter here, which I will, for the time being, treat as the letter itself. We will receive actually the letter from the Attorney General's Office.

His final conclusion is "Accordingly, I have decided against filing any formal decision at this time.

I do, however, request that you take all appropriate steps within your jurisdiction to ensure that the health and safety of the public is adequately protected.

Thank you for your assistance in this matter. Sincerely, William J. Gusty, Jr., Attorney General."

I think the matter is probably closed, and there is no reason to believe that this letter will not be followed up by this telephone letter, followed by the

letter itself.

CHAIRMAN PALLADINO: So you're saying we need no action.

MR. PLAINE: No action.

CHAIRMAN PALLADINO: The other question I had was, we have a statement from the EDO with regard to emergency planning and the results of the exercise.

I understand we do have a representative from FEMA here. I wonder if we might hear a brief statement from that representative with regard to FEMA's stance on the results of the exercise.

MR. WILSON: Mr. Chairman, members of the Commission, my name is Bob Wilson. I am the chief of the technological hazards division of FEMA.

Based on the results of the exercises held in April, it was the finding of FEMA that there was a satisfactory status of all cycles of preparedness as of this date.

We did identify in the exercise report what we term a Category A deficiency dealing with the operation of the emergency news center, jointly by the utility and the State of Mississippi.

Corrective action has been taken. We're continuing to monitor the corrective action and both the utility and the state have agreed to fully demonstrate that new

emergency news center capability at the planned exercise in February.

We also identified an area of concern with regard to the technical support center and the emergency operating facility.

We were assured by your staff that corrective actions have been taken and a demonstration in August will clarify that issue as well.

So based on those situations, we did report to you that we had a reasonable assurance of all site capability as of this date.

CHAIRMAN PALLADINO: All right. Thank you. Any questions? All right. Thank you.

COMMISSIONER ASSELSTINE: I have a couple. On the extent to which this plant meets the requirements of regulations, could you outline any areas in which the plant does not meet the requirement of our regulations?

I gather there are at least three.

MR. DENTON: They are the ones in which we mentioned the exemption. One is Appendix J, which we've granted on a number of plants.

COMMISSIONER ASSELSTINE: Containment.

MR. DENTON: Yes. And then the other two, I believe, are diesel-related issues. Tom Novak of the staff will try to give you a short summary of what the

substance of that is.

MR. NOVAK: Briefly, sir, the exemptions relating to the on-site power supply are not with respect to the TDI diesel itself but to auxiliary equipment.

There will be a requirement to be a hydrostatic test of auxiliary systems which support the diesel itself.

We consider this to be an exemption to general design criteria one.

Also, there is some electrical requirements that need to be added to the buses themselves and this would come under GDC-17.

We think that there is a basis to consider these exemptions at this time in terms of safe operation.

MR. DENTON: And these are schedular exemptions.

MR. NOVAK: That's correct.

COMMISSIONER ASSELSTINE: Have you examined those three exemptions not only in terms of the present standard that's applied by the Commission but also in terms of the alternate standard that I had recommended?

MR. DENTON: We've not issued the exemptions. We are looking at them that way. Let's see if anyone can comment.

MR. EISENHUT: Yes. To the extent, we are trying to address--I've asked the utility to address two

aspects. One is, particularly the as-safe-as. I really didn't ask for that so much, the as-safe-as to the fullest extent they can and in the time we've got.

The second thing I asked them to address was a related matter of don't look at these exemptions on the electrical system in isolation; look at them somehow in unison and in that area we will continue to explore with the utility for the next couple of days, finalizing our paperwork.

MR. DENTON: Once our actions are completed, we'll have an answer to the question of what difference in the criteria would be.

But I haven't acted on those exemption requests yet.

COMMISSIONER ASSELSTINE: All right. So we don't have the exemption decisions today.

MR. DENTON: That's right.

MR. EISENHUT: No we've developed them to the point where, and we've gotten the submittals from the utility and we develop them to the point where we are confident we can grant those on a technical bases.

The formal documentation has not been obtained.

COMMISSIONER ASSELSTINE: Okay. But at least at this point, you can't give me a judgment on whether you could grant them applying my standard as opposed to other standard?

MR. DENTON: No, sir.

MR. EISENHUT: Not until it's finalized.

COMMISSIONER ASSELSTINE: Could you tell me where the plant stands in comparison to Appendix R?

Are there any particular items with respect to fire protection that stand out for this plant, any license conditions that deal with fire protection?

And how would they measure up against Appendix R if we were applying Appendix R to the plant?

MR. EISENHUT: There was a license condition. Let me take the first piece. License condition 31 was in the low power license which states in effect that they shall maintain and effectively implement all provisions of the approved power protection plant, and MP&L shall maintain the fire protection program to meet the intent of Appendix R, Part 50.

COMMISSIONER ASSELSTINE: Okay.

MR. EISENHUT: That's it, except for the oil collection system. I'm sorry.

MR. NOVAK: Specifically this requires that the licensee provide a design which would permit the disabling of all the electrical systems from the control room, then to be operated from a remote shutdown panel.

By the license condition Harold talked about, they

were to provide a design to us by the first of January of this year.

They've done that. It will be an extensive change to the design of the plant and it is scheduled to be implemented at the first refueling.

That's the major area in terms of fire protection in Appendix R.

COMMISSIONER ASSELSTINE: What's the problem that's involved with that in terms of the present design? I guess I don't understand....

MR. NOVAK: Generally this is an upgrading of what we believe should be available. That is, a specific well-thought-out electrical design which permits you to in effect disable the electrical system from the control room and then pick it up in the remote shutdown panel with the confidence that you've gone through all of the circuits and broken them where you have to and then pick them up in the remote shutdown panel.

MR. DENTON: The intent so much is not to disable a control room, but to be sure that shorts and open circuits don't go back through the system.

So it's to be sure that the transfer of the control from a control room the remote shutdown panel is truly effective.

COMMISSIONER ASSELSTINE: Is there a problem in

terms of the present design? If there were a fire in the control room, in sending spurious signals?

MR. DENTON: Well, that's what you worry about when you go through the design. Let's see if any of the staff people who review that area could elaborate on it.

MR. JOHNSTON: My name is William Johnston from the Division of Engineering. That part of the review is done by another group, and I'm not there.

But the point of it is that there are two trains which they have to be able to isolate.

This particular change is to isolate in an independent way the first train, train one.

We have compensatory measures that they are putting in in the interim that take care of that. They have met our requirements and they made the submittal.

The submittal is still under review by the staff, and they do have the commitment to complete the changes by the end of the first shutdown.

MR. EISENHUT: That is correct. That is by license condition also for the isolation switches.

CHAIRMAN PALLADINO: Commissioner Bernthal?

COMMISSIONER BERNTHAL: Yes, I had a question or two and a comment or two.

First, let me just comment that there may not be

unanimity at the table here. I think that your application of the "as-safe-as criterion for evaluation" that the Commission set forth is now at least in the spirit of the Commission's intent in that respect, and at least I think that's what I'm hearing you say here.

I had asked a question or attempted to earlier in the closed meeting which I was informed by counsel was more appropriately asked in the open meeting.

So I intend to ask that at this point. And I would like you to respond to the extent that you can in an open meeting.

And those questions relate to the ongoing investigations that we heard about this morning.

First of all, I'd like to ask Harold, you or anyone else here, whether in your judgment the ongoing investigations and information that's been revealed in those should, in your judgment, or could, in your judgment, affect your confidence in the technical aspects of the operation of this plant from the plant hardware or its suitability technically for operation.

MR. DENTON: Nothing that I'm aware of would affect my recommendation to you, although I am not privvy to the information you receive from OIA.

COMMISSIONER BERNTHAL: I understand. Yes, I

understand that. I am speaking in this case now of the information from OI.

MR. DENTON: Yes.

COMMISSIONER BERNTHAL: Does anyone else want to comment on that?

MR. EISENHUT: No. I'd agree with Harold.

MR. DENTON: This is not making any prejudgment about what might have gone on in the past.

COMMISSIONER BERNTHAL: I understand.

MR. DENTON: But looking at the people here today and the activities in which they might have been associated...

COMMISSIONER BERNTHAL: I understand.

MR. DENTON: I don't have a problem with integrity with the present management there.

COMMISSIONER BERNTHAL: Well, that's a separate question. In fact, I first wanted to ask you, in your judgment, is the plant technically qualified to run, even in view of what we have heard from OI?

MR. DENTON: Yes.

COMMISSIONER BERNTHAL: Is there any reason for you to doubt the technical preparation of the plant?

MR. DENTON: I don't have any problem based on what I've heard from OI.

MR. EISENHUT: I agree with Harold.

COMMISSIONER BERNTHAL: Okay. The second question, then, does touch on the other issue, that of management integrity.

And again, without prejudging any issues here, I'd like your comments. Is Dick DeYoung here? I'm not sure that...

COMMISSIONER ASSELSTINE: It doesn't look like it.

COMMISSIONER BERNTHAL: I would hope he would be here as well, but Jim, maybe you at least should give your comments on that respect.

In your judgment, is there anything that you have heard relating to the ongoing investigations by OI that would reflect adversely on a decision with respect to plant management?

MR. O'REILLY: No. I have had extensive dealings with the corporate offices of MP&L, and my staff has had extensive dealings with the current management at the plant site.

I have heard nothing different than they are very impressed and that their communications, the exchange of data, have been at a very high level, and we have high confidence that it will continue that way.

COMMISSIONER BERNTHAL: Thank you.

CHAIRMAN PALLADINO: Any other questions?

COMMISSIONER BERNTHAL: I have one last comment,

really. I think in the interest of fairness, John had made a number of presentations a short time ago on operations personnel, having earlier called into question the attentiveness of the vendor and the architect engineer here in the initial submittal to the plant technical specifications.

Maybe I should give some credit where credit is due and that is that in this case, the vendor, I think, and this particular vendor, at least, makes the practice, and certainly in this case has designed an operations engineer during start-up.

I think that's taking appropriate responsibility for your product.

I'd like to encourage that, whatever sweaty palms the vendor may give their lawyers, I think, nevertheless, that's the appropriate procedure for vendors to take in assuming responsibility for their product.

That's all I want to say.

CHAIRMAN PALLADINO: Thank you. Any other questions?

COMMISSIONER ASSELSTINE: No.

CHAIRMAN PALLADINO: Then I suggest that we proceed to poll the Commission on whether or not the Commission ...

COMMISSIONER ASSELSTINE: I thought we were going to hear from the licensee.

CHAIRMAN PALLADINO: Only if you have some specific questions that you wanted to ask.

COMMISSIONER ASSELSTINE: Oh, gee, I thought we'd agreed that they were going to make the presentation to us.

CHAIRMAN PALLADINO: I didn't recall. I didn't recall that.

COMMISSIONER ROBERTS: In the interest of time, do we need that to make our decision?

COMMISSIONER BERNTHAL: Are they...

COMMISSIONER ASSELSTINE: They're there.

COMMISSIONER BERNTHAL: I don't think it would hurt a bit.

CHAIRMAN PALLADINO: Let's see. Who is here representing the licensee?

MR. DENTON: The corporate structure is here. Cavenaw.

COMMISSIONER BERNTHAL: We like to do these things unannounced.

(Laughter.)

CHAIRMAN PALLADINO: Mr. Cavenaw?

MR. CAVENAW: Good morning, gentlemen. I promise you that this will not take long.

My name is William Cavenaw, III. I am the president and chief operating officer of Mississippi Power & Light Company, MP&L.

I appreciate the opportunity to appear before you this morning and to present this statement of the full power licensing for the Grand Gulf nuclear station.

As you know the Grand Gulf nuclear station Units 1 and 2 is owned 90% by Middle South Energy, Inc., MSE, and 10% by South Mississippi Electric Power Association.

The facility will be operated by my company, Mississippi Power and Light Company, MP&L.

Let me spend a few moments on the nuclear experience of both our corporate headquarters management and our plant operating staff.

First of all, I came to MP&L in early April of this year. Previously I spent eight years in the Navy, seven of which were in nuclear power, and 15 years in various nuclear management capacities with the Arkansas Power & Light Company, AP&L.

AP&L has in operation Arkansas Nuclear 1, Units 1 and 2.

I was actively involved with the construction, the licensing, and the operation of both of those units.

My last position at AP&L was senior vice president

energy supply, directly responsible for those two nuclear units and the other generation facilities which the company had.

Last year, I was on loan to Louisiana Power & Light Company for five months as senior vice president of nuclear, with the direct responsibiiity for three nuclear plants.

Mr. Richard, on my left, our senior vice president in charge of nuclear production, has been with us a year and a half.

He's served 26 years in the Navy, 20 of which were in nuclear power.

Grand Gulf general manager, Jim Cross, on my right, is an alumnus of the TVA organization and has over 11 years in commerical nuclear power experience.

The three plant managers for operations, maintenance, and support report to Mr. Cross.

Each have 11 or more years of commercial nuclear power experience.

Throughout the plant management staff, we have extensive Navy and/or commercial nuclear experience. Our plant operators are well-trained, have gained valuable experience both on our plant-specific simulator as well as during low power operation.

Additionally, many have Navy nuclear operating

experience. In short, our senior nuclear managers are plant operating staff and our engineers comprised of a qualified and well-trained team to operate Grand Gulf.

We are proud of the progress we've made in this area, and now we are all ready to proceed with the power ascension and commercial operation of this unit.

I would now like the take the opportunity to say a few words about our company's philosophy regarding Grand Gulf.

First of all, I'd like to assure you that our first and our foremost priority is safe and reliable operation of this facility.

As you know, our road since the issuance of the low power license has been at times a bumpy one.

But I think we have learned valuable lessons in the past two years since receiving our low power license, and I assure you that we have profited from these experiences, and we are a much stronger organization.

You have been briefed on the specifics, so I'll not revisit these problems.

What I would like to emphasize is that while we have encountered some setbacks, we have in each instance taken the time and have devoted the resources necessary to analyze and resolve the issue and make the modifications as needed.

We have not brushed problems aside and rushed ahead, but instead, have taken a deliberate, careful approach to resolving them in an orderly manner.

The plant itself is well-designed and well-constructed. Our people have learned how to operate in a closely-regulated environment.

We have made considerable progress in being more responsive to the NRC staff.

Furthermore, we have sought to convey to our employees at all levels the importance of safety as well as responsiveness to regulatory requirements.

This has been and will continue to be our approach to the management of Grand Gulf Unit 1.

Since we have long since completed our low power test and more recently completed the technical specification review and the inspection of our diesels, Grand Gulf Unit 1 is now ready for full power licensing.

We are prepared to meet your requirements for power ascension and for operation.

Our people are ready to take on the weighty responsibilities of safely and successfully operating this nuclear power plant.

We respectfully request your approval for power ascension and full power operation. If there are any

questions, I will be pleased to respond or have one of our people provide the details.

I would also like for you to briefly hear from Jack Richard on my left and Jim Cross, the people directly responsible for the operation of Grand Gulf regarding their opinions regarding the readiness of this facility.

Jack?

MR. RICHARD: Good afternoon, gentlemen. My name is Jack Richard. As Mr. Cavenaw mentioned, I am the senior vice president of Mississippi Power & Light Company.

I've got the overall responsibility for the nuclear production which at the present time means Grand Gulf nuclear station Unit 1.

I would like to affirm what Mr. Cavenaw has said regarding our safety first and commitment to excellence philosophy and our intentions to be responsive to regulatory requirements.

If, as we hope, you will act favorably on our application for full power today, that would be in recognition of the hard work and devotion and dedication and professionalism of our people.

It will also be a vote of confidence and a charge to maintain it.

Credit is also due to the NRC staff in this matter. The staff of both the NRR staff and Region II organization seldom receive the due recognition for the long hours of hard work and review and inspection efforts, many meetings, and the dedication with which they carry out their duties entrusted to them.

In conclusion, I'd like to emphasize that we think our plant is ready, our people ready for power ascension and full power operation.

Thank you. Jim Cross?

MR. CROSS: Good afternoon. My names is James E. Cross, general plant manager of Grand Gulf nuclear station Unit 1.

It is my responsibility to assure operation and the safety of the public and our employees above all else, and we take this responsibility very seriously.

I am proud of our plant, our people. All of the principle managers of the plant organization have at least four-year degrees in engineering disciplines, so all have substantial nuclear power experience, and one was previously SRO licensed on a commercial BWR.

Every one of our licensed operators and senior operators are well-trained and well-qualified.

Many have previous Navy nuclear operator experience. As required by the NRC, we have formerly

licensed advisors with BWR experience for each shift, whose function it is to provide a resource to the licensed operators who are intimately familiar with the unique features of our plant.

It is not the function of the advisors, of course, to direct the manipulation of the plant controls. That is the function of licensed operators.

Our licensed personnel gained valuable experience both on our plant-specific simulator and during low power operations.

We have made intensified retraining efforts to assure that our operators are completely familiar with the plant systems and components important to safe and reliable operation.

We are confident they can do the job and do it well. We have made a successful transition from a construction mode to an operational readiness mode, and I am confident that the plant and my entire operating organization are equal to the challenging task of safety and reliably operating Grand Gulf nuclear station Unit 1.

Thank you.

CHAIRMAN PALLADINO: Thank you. Any questions by the commissioners? All right.

COMMISSIONER BERNTHAL: May I just make a brief

comment that if, in fact, you weren't informed that you would be expected to present statements here today, at least you should get credit, then, for being prepared for an unanticipated event.

(Laughter.)

CHAIRMAN PALLADINO: Now is the Commission prepared to consider voting? All right. I propose to poll each commissioner so that each one of you has the opportunity to make whatever statement you'd like to make with regard to your vote.

I thought I'd start off. I cast my vote to authorize the issuance of full power operating license for Grand Gulf Unit 1 nuclear power plant because after a careful examination of the issues, I am convinced that the plant can operate safely and in accordance with NRC's regulations.

Although this plant first licensed to operate up to 5% in June 1982, it has experienced a number of problems.

I believe that these problems have been resolved. The NRC staff has advised the Commission that all remaining full power issues have been satisfactorily addressed by the utility, specifically operators have completed a recertification program and have passed NRC tests.

The technical specifications is corrected, have been determined by the NRC staff to provide assurance that the plant can be operated safely.

Additionally, the NRC staff has determined that the emergency on-site diesel generators are reliable to perform their intended function if needed.

Particularly relevant to MP&L's successful resolution of identified problems have been their efforts to upgrade management capability.

Since the discovery of the problems at Grand Gulf, the utility has made a number of significant management and personnel changes and these changes have been made at levels including the plant manager, the president of MP&L, the senior vice president, the nuclear operations supervisor of training, and special corporate consultants.

Lastly, I would note my firm belief that the regulatory licensing process has worked in this case.

Many of the plant's problems were identified during the shakedown period associated with low power testing.

Such problem identification is a fundamental reason for carrying out such testing.

Now, in my view, Grand Gulf's problems have been resolved by the utility and confirmed by the NRC staff review.

My vote today underscores my studied determination that the plant can operate safely at full power.

Now let me turn to Commissioner Roberts.

COMMISSIONER ROBERTS: I would accept the recommendation of the regional administrator of the director of licensing, the director of nuclear reactor regulation, that this plant is safe and I would let it begin power ascension leading to full power and commercial operation.

And good luck in your endeavor.

CHAIRMAN PALLADINO: Comissioner Asselstine?

COMMISSIONER ASSELSTINE: I think that, as Mr. Cavenaw said, this utility has had a rough time in its low power program.

I think there are lessons that all of us can learn from that. We didn't do as well as we should, they didn't do as well as they should during the low power program.

We ought to be more careful in the future to make sure that these kinds of problems don't reoccur.

I have to say that there has been, in my view, a strong response to those problems, key to the principle weakness that was involved, weakness in management of the company.

I have been impressed both in what I've heard today

and over the past week or so in my visit to the plant, that the progress and improvements have been made in restructuring the organization, changing the attitudes and commitments to safety on the part of the utility, and generally, I'm satisfied with what I heard today and with the staff's recommendation.

There is one problem I have, and that's a problem that was not created by the utility or the staff, but by my colleagues on the Commission.

Last week, the Commission decided that it was going to change the position that it had outlined in the Shoreham decision just about a month or so ago on what would be required in terms of issuing exemptions from our regulations for new license applicants.

I disagreed with that change by the Commission. I think that the standard that's set forth in Shoreham is the right standard.

I don't see any reason for differentiating between Shoreham and this or any other new plant that's applying for a license.

Unfortunately, the staff hasn't completed its review of those exemption requests, and therefore I'm going to abstain from the vote today on this license issuance.

I want to see what the staff has to say in terms of

whether the exemption requests for this plant meet the kind of rigorous safety test that I think ought to be applied in all of these cases.

So until that work is done, I'm going to abstain, although I have to say that in the other areas that we have discussed today, I'm generally satisfied with the changes that have been made and the improvements that have been taken by the utility and in their general readiness to operate the plant.

CHAIRMAN PALLADINO: Commissioner Bernthal?

COMMISSIONER BERNTHAL: I hesitate to use the term lessons learned from an experience here, because that has come to be a rather chilling phrase since it's so often been used in other contexts.

But I think that everybody in this case has learned some valuable lessons in the case of the Grand Gulf experience.

The NRC has learned some lessons of its own. Certainly the utility has evidenced in part by the significant and important management changes they've made over the recent past, learned a number of lessons the hard way, I might add.

I think the AE itself and the vendor probably learned some lessons from the advent of this new generation plant.

Whatever the difficulties of the past, we're required to deal today with what the current situation is and in my judgment, today, Mississippi Power & Light is the utility and this plant has the first of a next generation BWR prepared for operation, and I'm prepared to cast my vote in favor of that operation today.

CHAIRMAN PALLADINO: You do so?

COMMISSIONER BERNTHAL: I do so.

CHAIRMAN PALLADINO: Commissioner Zech?

COMMISSIONER ZECH: I had had a chance to review the history and the problems of Grand Gulf. I must admit I would have liked to have had more time to do that.

But I have given it, I believe, considerable attention. I have visited the plant, and talked to the senior management, talked to the operators, looked at the plant from many different angles.

I have given considerable thought to the possibility of voting for full power operations. In my view, Grand Gulf is ready for full power operations, and I so vote.

CHAIRMAN PALLADINO: This is the result that you've all heard is four in favor, authorizing the staff to permit full power ascension up to full power, and one abstention.

I think that completes the business we have on the agenda for the morning, but let me do one piece of housekeeping.

Our next meeting is scheduled for 2:00 p.m., and I think we need a little more time than that for lunch.

I offer you two options, and you're open to give me another one. Either delay the meeting 'til 2:30 or 2:45. I would prefer the 2:45.

COMMISSIONER ASSELSTINE: Fine with me.

CHAIRMAN PALLADINO: 2:45? Fine. We stand adjourned then.

(Whereupon, the meeting adjourned at 1:20 p.m.)

CERTIFICATE OF PROCEEDINGS

This is to certify that the attached proceedings before the NRC COMMISSION

In the matter of:

DISCUSSION AND VOTE ON FULL POWER OPERATING LICENSE FOR GRAND GULF

Date of Proceeding: July 31, 1984

Place of Proceeding: Washington, D.C.

were held as herein appears, and that this is the original transcript for the file of the Commission.

MELBA REEDER

Official Reporter

Melba Reeder/ddr

Official Reporter - Signature

COMMISSION BRIEFING

GRAND GULF, UNIT 1

FULL POWER AMENDMENT

JULY 31, 1984

SLIDE 1

LICENSEE/PLANT BACKGROUND

- LICENSEES:
  - MISSISSIPPI POWER & LIGHT COMPANY (OPERATOR)
  - MIDDLE SOUTH ENERGY, INC.
  - SOUTH MISSISSIPPI ELECTRIC POWER ASSOCIATION
- PLANT:
  - LOCATION: PORT GIBSON, MISSISSIPPI
  - VENDOR/TYPE: 2 UNITS: GE BWR 6/MK III
  - AE/CONSTRUCTOR: BECHTEL
  - POWER LEVEL: 1250 MWE
- EMERGENCY PREPAREDNESS:
  - ONSITE EP ADEQUATE - MAY 1983
  - OFFSITE EP ADEQUATE (INCLUDING FEMA FINDINGS) - MAY 1983
  - 44 CFR 350 SIGNOFF FROM FEMA - JUNE 29, 1983
  - LAST EMERGENCY EXERCISE - APRIL 10-12, 1984
  - FEMA (INTERIM) FINDINGS ON APRIL EXERCISE - JULY 30, 1984

BACKGROUND/CHRONOLOGY

JUNE 16, 1982	LOW POWER LICENSE ISSUED
JULY 1, 1982	COMMENCED FUEL LOADING
AUGUST 8, 1982	COMPLETED FUEL LOADING
AUGUST 18, 1982	INITIAL CRITICALITY
SEPTEMBER 16, 1982	NON-NUCLEAR HEATUP TESTING COMMENCED
OCTOBER 25, 1982	STARTED MAINTENANCE OUTAGE - DRYWELL COOLING SYSTEM MODIFICATIONS
SEPTEMBER 25, 1983	RECRITICALITY AND COMMENCED LOW POWER TESTING
NOVEMBER 8, 1983	COMPLETED LOW POWER TESTING
APRIL 18, 1984	TECH SPEC ORDER ISSUED
APRIL 22, 1984	LOW POWER OPERATION RESUMED
MAY 2, 1984	PLANT SHUTDOWN - RHR PIPE PROBLEMS
MAY 6, 1984	PLANT RESTART
MAY 8, 1984	PLANT SHUTDOWN - RHR PROBLEM RECURRENCE
MAY 11, 1984	PLANT RESTART
MAY 22, 1984	DIESEL ENGINE INSPECTION ORDER
JUNE 1, 1984	PLANT SHUTDOWN BY MP&L PENDING RESOLUTION OF STANDBY SERVICE WATER SYSTEM DESIGN

COMMISSION MEETINGS SINCE OL ISSUANCE

DECEMBER 8, 1983	STATUS REPORT
FEBRUARY 29, 1984	STATUS REPORT
MARCH 20, 1984	TECHNICAL SPECIFICATIONS
MAY 24, 1984	TDI DIESEL ENGINE ORDER
JUNE 1, 1984	TDI DIESEL ENGINE ORDER

MAJOR PLANT MODIFICATIONS
SINCE OL ISSUANCE

MODIFICATIONS OCTOBER 1982 TO JUNE 1983

- DRYWELL COOLING SYSTEM MODIFICATIONS
- REACTOR PROTECTION SYSTEM MODIFICATIONS
- PLANT SERVICE WATER SYSTEM MODIFICATIONS
- ISOLATION VALVE STATUS BOARD INSTALLATION
- ADDITION TO PLANT AIR SYSTEM
- SOLID RADWASTE SYSTEM MODIFICATION

MODIFICATIONS JUNE 1983 TO PRESENT

- REPLACEMENT OF AGASTAT RELAYS
- GAS TURBINE GENERATORS INSTALLED (INTERIM MEASURE)
- STANDBY SERVICE WATER BASIN MODIFICATION
- PIPE SUPPORT MODIFICATIONS DUE TO SOIL STRUCTURE INTERACTION ANALYSIS

SELECTED ISSUES

- TECH SPECS
- TDI DIESEL INSPECTIONS
- TDI DIESEL (GDC 17) EXEMPTION
- SHIFT ADVISOR QUALIFICATIONS
- MANAGEMENT/OPERATING EXPERIENCE
  - MANAGEMENT
  - SALP
  - RECERTIFICATION/TRAINING
- 2.206 PETITION
- FULL POWER LICENSE AMENDMENT

SUMMARY OF GRAND GULF TECHNICAL SPECIFICATION REVIEW PROGRAM

INITIATED MARCH 1984

BY MAY 1, 1984, MP&L HAD SUBMITTED 416 TECHNICAL SPECIFICATION PROBLEM SHEETS (TSPS).

PROBLEM SHEETS DEVELOPED BASED ON COMPARISON OF TS WITH:

- FSAR
- AS-BUILT PLANT
- SER
- OTHER DOCUMENTS
- BWR/6-STS

OF THESE 416:

• ITEMS REQUIRING CHANGES TO TS	220
• ITEMS REQUIRING NO CHANGE	168
• CHANGES IMPLEMENTED BY ORDER 4/18/84	22
• CHANGES ISSUED WITH AMENDMENT 12	6
TOTAL	416

OF THE 220 REQUIRING CHANGES:

• TO REFLECT AS-BUILT PLANT	34
• TO COMPLY WITH NEW REGULATORY REQUIREMENTS	51
• TO ENHANCE THE TS	64
• THAT ARE ADMINISTRATIVE	6
• TO CLARIFY ORIGINAL INTENT OF TS	45
• THAT ARE EDITORIAL	20
TOTAL	220

GRAND GULF TECHNICAL SPECIFICATIONS

NON-REPRESENTATIVE PLANT ITEMS

- REQUIRED IN TS, NOT SPECIFICALLY DESCRIBED IN FSAR, NOT ACTUALLY IN PLANT
  - EXPLOSIVE VALVES IN THE TIP SYSTEM
  - TEMPORARY RADWASTE HOLDUP TANKS
  - OFFSITE AC POWER CIRCUIT AUTOMATIC TRANSFER FEATURE
  - VOLTAGE INSTRUMENTATION ON MCC PANELS
- REQUIRED IN TS, CONSISTENT WITH FSAR, FSAR INCORRECTLY DESCRIBED ACTUAL PLANT
  - FUEL GRAPPLE INTERLOCK
  - LOAD SHEDDING AND SEQUENCER AUTOMATIC FUNCTION
  - LOW CONDENSER VACUUM BYPASS
- ACCURATELY DESCRIBED IN FSAR, INCORRECTLY DESCRIBED IN TS
  - HYDROGEN RECOMBINER PENETRATIONS
  - DRYWELL HYDROGEN RECOMBINER
- REQUIRED IN TS, NOT SPECIFICALLY DESCRIBED IN FSAR, TS INCORRECT WITH RESPECT TO ACTUAL PLANT
  - FUEL TUBE TRANSFER SYSTEM
- REQUESTED BY MP&L AS TS CHANGE, NOT ACTUALLY IN PLANT
  - LEVER ARM ON VACUUM BREAKERS

TECH SPEC CONCLUSION

TECH SPEC DEFICIENCIES IDENTIFIED - ALL CORRECTED WITH FULL POWER LICENSE AMENDMENT

TDI DIESEL GENERATOR

GENERIC EVENTS

- MAIN CRANKSHAFT BROKE ON TDI AT SHOREHAM
- TDI OWNERS GROUP FORMED
- STAFF TDI PROJECT GROUP FORMED
- OWNERS GROUP PROGRAM PLAN SUBMITTED

GRAND GULF EVENTS

- D/G OPERATING EXPERIENCE REPORT SUBMITTED
- INTERIM AND UPDATED D/G INSPECTION REPORTS SUBMITTED
- ONSITE/OFFSITE POWER ENHANCEMENT PROGRAM AND RELIABILITY SUBMITTED
- STAFF EVALUATION OF D/G RELIABILITY
- ORDER ISSUED FOR TEARDOWN INSPECTION
- STAFF OBSERVED ENGINE INSPECTION
- INSPECTION AND SURVEILLANCE TEST REPORT SUBMITTED
- STAFF EVALUATION OF INSPECTIONS, SURVEILLANCE PROCEDURES AND ENGINE RELIABILITY

STAFF CONCLUSIONS

- GRAND GULF TDI DIESELS SHOWN TO HAVE ADEQUATE RELIABILITY; DIESELS MEET GDC-17

GDC-17 EXEMPTION
FOR LOW POWER

MAY 16, 1984	SHOREHAM ORDER
MAY 18, 1984	MP&L INFORMED OF NEED FOR EXEMPTION (INCLUDING ADDRESSING EXIGENCY AND "AS SAFE AS")
JUNE 4, 1984	MP&L FILES EXEMPTION REQUEST
MID-JUNE 1984 TO PRESENT	STAFF REQUESTED INFORMATION TO EVALUATE: ° "AS SAFE AS" ° "EXIGENCY"

REVIEWS OF
SHIFT ADVISOR (SA) PROGRAM

INDUSTRY REVIEW

- APRIL 24-26, 1984 - SIX MEMBER UTILITY ADVISOR EVALUATION TEAM
- REVIEWED ALL ASPECTS BETWEEN SHIFT AREAS AND SA'S, PROCEDURES AND EXAMINATIONS
- FINDINGS
  - EFFECTIVE PROGRAM
  - QUALIFIED INDIVIDUALS
  - APPROPRIATE TRAINING

NRC REVIEW

- REVIEWED SA TRAINING PROGRAM, JOB DESCRIPTIONS, QUALIFICATIONS
  - FINDINGS:
    - PROGRAM; EXAMINATIONS ADEQUATE
    - PROGRAM MEETS WORKING GROUP STANDARDS
    - PROGRAM MEETS INDUSTRY RECOMMENDED QUALIFICATIONS
- OBSERVED OTEC BOARD EVALUATION; INSPECTED SA TRAINING, EXPERIENCE, DOCUMENTATION

EXPERIENCE REPORT REGION II

- MP&L MANAGEMENT CAPABILITIES
  - CORPORATE REORGANIZATION
  - CORPORATE EXPERIENCE OF POWER REACTORS
- ASSESSMENT OF FACILITY PERFORMANCE
  - PLANT MANAGEMENT CHANGES
  - PLANT OPERATION DURING LOW POWER TESTS
  - SALP EVALUATION (SINCE 1/84)
    - *INSPECTION @ 200% BUDGET
    - *PLANT OPERATIONS
    - *MAINTENANCE
    - *SURVEILLANCE PROCEDURES
    - *QUALITY ASSURANCE
    - *LICENSING ACTIVITIES
  - COMPLETION OF LICENSE REQUIREMENTS FOR LOW-POWER TESTS
- LICENSED OPERATOR QUALIFICATIONS
- RHR PIPE CRACK
- EMERGENCY PREPAREDNESS
- RADIOLOGICAL AND SECURITY PREPAREDNESS
- REGION II CONCLUSIONS

12/82

TRANSMITTAL TO: ☒ Document Control Desk, 016 Phillips

ADVANCED COPY TO: ☐ The Public Document Room

DATE: 8/2/84

FROM: SECY OPS BRANCH

cc: OPS File

C&R (Natalie)

Attached are copies of a Commission meeting transcript(s) and related meeting document(s). They are being forwarded for entry on the Daily Accession List and placement in the Public Document Room. No other distribution is requested or required. Existing DCS identification numbers are listed on the individual documents wherever known.

Meeting Title: Dis/Poss Vote on Full Power Operating Licence for Grand Gulf

Meeting Date: 7/31/84 Open X Closed ____

Item Description:	Copies Advanced To PDR	*	DCS Copies (1 of each checked) Original Document	May be Dup*	Duplicate Copy*
1. TRANSCRIPT ___ When checked, DCS should send a copy of this transcript to the LPDR for: _____ w/ viewgraphs	1	*	1	___	___
2. _____	___	*	___	___	___
3. _____	___	*	___	___	___
4. _____	___	*	___	___	___

(PDR is advanced one copy of each document, two of each SECY paper.)

*Verify if in DCS, and Change to "PDR Available."