

MAR 05 1984

MEMORANDUM FOR: Files

FROM: Caudle A. Julian, Chief, Project Section 1A, PRP

SUBJECT: INFORMATION ON GRAND GULF TECHNICAL SPECIFICATION ISSUE

In mid December 1983, while researching topics on previous MP&L and NRC review of the Grand Gulf Technical Specifications for preparation of a reply memo to Commissioner Gilinsky, I became aware of the existence of Plant Quality Deficiency Reports (PQDR's) 00113-82 and 00128-82. I was attempting to answer for Commissioner Gilinsky the question when did MP&L first know there were errors in their Technical Specifications. I asked the Senior Resident Inspector, A. Wagner, to pose the same question to George Zinke, Technical Supervisor, who was in charge of the Technical Specification review at Grand Gulf during the recent COA effort. Wagner called to tell me that Zinke had said that they knew of Technical Specification errors shortly after the Technical Specification was issued. Zinke stated that some of the errors were documented on PQDR's.

I instructed Wagner to try to obtain copies of the PQDR's. He obtained copies and sent them to me. After discussion with Wagner, I concluded that these PQDR's document the fact that Grand Gulf plant management was aware, as early as August 16, 1982, that the Technical Specifications contained significant errors and that procedures had not been written for all required surveillances.

My conclusions were discussed with Region II management in late December 1983 and early January 1984. Present in these discussions were my Branch Chief, Division Director, and the Regional Administrator. We subsequently transmitted this conclusion to NRR in our draft of the response to Commissioner Gilinsky's memo.

*Caudle A. Julian*

Caudle A. Julian

cc: -D. Verrelli  
A. Wagner  
B. Uryc

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MISSISSIPPI POWER & LIGHT COMPANY

Helping Build Mississippi

P. O. BOX 1640, JACKSON, MISSISSIPPI 39205

OFFICIAL COPY

FILE

July 5, 1984

NUCLEAR LICENSING & SAFETY DEPARTMENT

Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Attention: Mr. Harold R. Denton, Director

Dear Mr. Denton:

SUBJECT: Grand Gulf Nuclear Station  
Units 1 and 2  
Docket Nos. 50-416 and 50-417  
License No. NPF-13  
File 0260/2050  
Petition Filed Pursuant to  
10 CFR 2.206  
AECH-84/0339

In a letter to Mr. J. P. McGaughy, Jr; dated May 30, 1984, Mr. Darrell G. Eisenhut, Nuclear Regulatory Commission (NRC) Director of Licensing, requested a response to a petition filed by Jacksonians United for Livable Energy Policies (JULEP) pursuant to 10 CFR 2.206. Mississippi Power and Light Company is filing the attached response, pursuant to 10 CFR 50.54(f), in its own behalf and on behalf of Middle South Energy, Inc. and South Mississippi Electric Power Association. For the reasons stated in the attachment the petition should be denied in its entirety.

If you have any questions please advise.

Yours truly,

L. F. Dale  
Director

PJR/JGC:db  
Attachment

cc: (See Next Page)

etBdb1

Member Middle South Utilities System

MP's  
RESPONSE  
TO  
JULEP

388P  
~~84-233~~

84-233

cc: Mr. J. B. Richard (w/o)  
Mr. R. B. McGehee (w/a)  
Mr. N. S. Reynolds (w/a)  
Mr. G. B. Taylor (w/o)

Mr. Richard C. DeYoung, Director (w/a)  
Office of Inspection & Enforcement  
U. S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Mr. J. P. O'Reilly, Regional Administrator (w/a)  
U. S. Nuclear Regulatory Commission  
Region II  
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Atlanta, Georgia 30323

Ms. Cynthia Stewart (w/a)  
Jacksonians United for Livable Energy Policies  
Route 3, Box 314-W  
Jackson, Mississippi 39213

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of

MISSISSIPPI POWER & LIGHT COMPANY  
MIDDLE SOUTH ENERGY, INC., AND  
SOUTH MISSISSIPPI ELECTRIC POWER  
ASSOCIATION

(Grand Gulf Nuclear Station)

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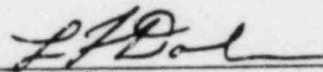
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Docket No. 50-416

License No. NPF-13

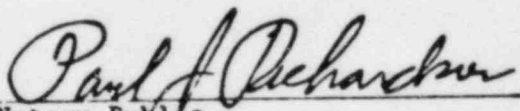
AFFIRMATION

I, L. F. Dale, being duly sworn, state that I am Director, Nuclear Licensing & Safety of Mississippi Power & Light Company; that on behalf of Mississippi Power & Light Company, Middle South Energy, Inc., and South Mississippi Electric Power Association I am authorized by Mississippi Power & Light Company to sign and file with the Nuclear Regulatory Commission, this response to the petition filed under 10 CFR 2.206 by Jacksonians United for Livable Energy Policies on April 10, 1984, that I signed this statement as Director, Nuclear Licensing & Safety of Mississippi Power & Light Company; and that the statements made and the matter set forth therein are true and correct to the best of my knowledge, information and belief.

  
\_\_\_\_\_  
L. F. Dale

STATE OF MISSISSIPPI  
COUNTY OF HINDS

SUBSCRIBED AND SWORN TO before me, a Notary Public, in and for the County and State above named, this 5th day of July, 1984.

  
\_\_\_\_\_  
Notary Public

My Commission Expires:

My Commission Expires: Dec. 27, 1992



## RESPONSE TO JULEP 2.206 PETITION

### I. Introduction

Jacksonians United for Livable Energy Policies (JULEP) filed a petition on April 10, 1984 pursuant to 10 CFR Part 2.206(a), which requested in part, that the Nuclear Regulatory Commission (NRC)

"serve upon Mississippi Power and Light Company ("Licensee" or "MP&L") an order to show cause, pursuant to 10 CFR 2.202(a), why the low power license for Grand Gulf Nuclear Station, Unit 1, should not be revoked, a stay of operation issued, the pending application for an operating license denied, and a proceeding initiated under 42 U.S.C. 2239(a)."

JULEP's allegations are focused on what it perceives to have been Licensee's shortcomings at some point in the past such as the time of issuance of the Low Power License. JULEP also makes reference to "consistently scoring poorly" on SALP reports. While Licensee does not concede JULEP's premises or allegations, this response focuses on the status of GGNS today as being relevant to the issue whether protection of the health and safety of the public requires the drastic enforcement actions they propose.

JULEP has requested the NRC to issue a show cause order based on the allegations presented and described in its petition. In fact, as part of its ongoing licensing, inspection, and enforcement programs, the NRC staff has reviewed or is currently reviewing MP&L's activities related to each of the areas of allegation. These reviews are in most instances a matter of public record and reveal thorough scrutiny and corrective action where needed. The

issuance of a show cause order related to these issues would be unwarranted since it adds nothing to the progress that has been and is being made, and would not be in the public interest.

For the reasons stated herein, the petition should be denied in its entirety. In part, the petitioner seeks relief which is not available pursuant to 10 CFR 2.206. Furthermore, the petition is premised in part upon immaterial and irrelevant statements, recitals and allegations. Finally, the factual premises of the petition with respect to diesel generators and compliance with the regulations are incorrect. The NRC staff has addressed or is addressing the diesel generator issue and the regulatory compliance issue (of which technical specification changes are a significant portion); therefore, no action pursuant to 2.206 is warranted.

## II. Technical Matters Raised

JULEP raises a number of matters which form the factual predicate for the relief sought. These are summarized below. The merits of these matters are addressed in Section V of this response, following the summary in Section III of the relief requested and the discussion in Section IV of the limitations on relief which can be granted pursuant to 10 CFR 2.206.

The two principal areas of allegations are MP&L's alleged lack of conformance with the regulations and the alleged inadequacy of the onsite emergency power sources. With respect to the first category, erroneously detailed under the heading "10 CFR Section 50, Appendix A, Criteria," a

number of subissues are raised. Included are: (1) alleged poor management performance said to be documented in the NRC's Systematic Assessment of Licensee Performance Report (SALP); (2) the alleged existence of errors in approximately 200 technical specifications and 600 surveillance procedures; (3) the alleged falsification of operator qualifications; (4) the alleged lack of prior power reactor operating experience of the operators; and (5) the alleged inadequacy of the design and construction of the drywell cooling system. [JULEP petition, para. 12, pp. 4-5.]

The second principal area of concern is presented under the heading "Inadequate Onsite Electric Distribution," which also contains a number of subissues focused upon the adequacy of Grand Gulf's Transamerica Delaval, Inc. (TDI) diesel generators. The subissues raised include: (1) allegations of problems which have been encountered with TDI diesel generators [ Id., para. 14-15, p. 5]; (2) the use of gas turbine generators allegedly in "jury-rigged" fashion as compensatory measures [ Id., para. 16, p. 6]; (3) alleged improper switching of the HPCS diesel from its dedicated function [ Id., para. 17 p. 6]; (4) alleged TDI QA problems [ Id., para. 18, p. 6]; (5) alleged inadequate crankshaft design [ Id., para. 20, pp. 6-7]; (6) alleged inadequate piston design [ Id., para. 21, p. 7]; (7) alleged inadequate cylinder head design [ Id., para. 22, p. 7]; and (8) alleged inadequate fuel line design [ Id., para. 23, p. 7].

On the basis of these allegations, JULEP requests the relief outlined in the next section.

III. Relief Requested

JULEP requests the following relief:

- (1) revocation of the low power license for Grand Gulf Unit 1  
[JULEP petition, para. 27, p. 8];
- (2) a "stay of operation" [ Id.];
- (3) denial of the pending full power license [ Id.];
- (4) appointment of an independent panel of investigators from outside the agency to investigate
  - (a) alleged possible improprieties and illegal acts by NRC inspectors and investigators,
  - (b) the handling by the OIA [Office of Inspector and Auditor] of the alleged improprieties which have been previously identified, and
  - (c) the effectiveness of NRC Region II in fulfilling the mandated responsibility to enforce the regulations of the NRC to ensure protection of the public health and safety [ Id., para. 28(1), p. 8];
- (5) modification of the operating license to include
  - (a) removal from the management organization of those allegedly responsible for past failures at Grand Gulf and
  - (b) implementation and verification of corrective actions for all identified deviations from requirements [ Id., para. 28(2), p. 8]; and,
- (6) hearings before an Atomic Safety and Licensing Board pursuant to 42 U.S.C. 2239(a). [ Id., para. 28(3), p. 8.]

IV. Relief Available under a 2.206  
Petition is Limited to Enforcement  
Actions On the Low Power License

Prior to addressing the technical issues which form the basis for any relief which can be granted, it is necessary to focus on the bounds of 10 CFR 2.206. The relief available under 2.206 is limited to the "institut[ing] of a proceeding to modify, suspend or revoke a license, or for such other action as may be proper."

The only relief available to JULEP which is within the scope of a 2.206 petition is modification, revocation or suspension of the low power license or other enforcement actions as contemplated by 10 CFR 2.201, 2.202 or 2.204. All other requested relief is beyond the scope of action which can be taken pursuant to 10 CFR 2.206. Therefore, the request for the revocation of the low power license [relief request number 1 in Section III above] is within the scope of a 2.206 petition. To the extent that JULEP's request for a "stay of operation," [relief request number 2], amounts to a request for a suspension of low power license, it would also be within the scope of 2.206. Conceptually, modification of the license as sought in request number 5 [though not necessarily all of the relief sought in request number 5] is also available pursuant to a 2.206 petition. Thus, the items we have listed in Section III above as items 1, possibly (depending on interpretation) 2, and, to some extent, 5 are the only permissible types of relief contained within the JULEP petition.



The request for denial of the pending full power license [relief request number 3] is not within the scope of relief provided by 10 CFR 2.206. There is no full power license to revoke, suspend or modify. Furthermore, under the "milestone" licensing system of the Atomic Energy Act and NRC regulations,<sup>(1)</sup> the request amounts to a request for a hearing on license issuance and for denial of the license, but it comes long after the time to request an operating license hearing, as acknowledged by JULEP. [JULEP petition, para. 6, p. 2]. To grant such relief would be tantamount to providing an operating licensing hearing. Therefore, relief request number 3 should be dismissed.

The further relief requested by JULEP, viz., the appointment of an independent panel of investigators to investigate NRC actions [relief request number 4] is also beyond the scope of a 2.206 petition. Section 2.206 is not a vehicle for bringing charges against the Staff. It is a vehicle for seeking the initiation of enforcement action against licensees. Moreover, investigation of Region II or any other NRC personnel concerns matters properly within the ambit of the agency's internal management and control function and are exercised by the Office of Inspector and Auditor (OIA) pursuant to 10 CFR 1.30. In a prior Director's denial, the Director relied upon OIA to investigate alleged staff improprieties. Washington Public Power Supply System [WPPSS Nuclear Project No. 2), DD-84-7, \_\_\_ NRC \_\_\_, slip opinion, at p. 33 (1984).] To seek an independent investigation of OIA itself is outside the bounds of initiation of enforcement action against a licensee.

The request for a discretionary hearing before an Atomic Safety and Licensing Board [relief request number 6] is not an appropriate request for relief pursuant to a 2.206 petition. The hearing scheme envisioned in the petition process is that if and only if the Director issues a show cause order, the licensee and only the licensee may demand a hearing. Thus, if the 2.206 petition is denied, there is no adjudicatory hearing. If the 2.206 petition is granted and an order to show cause is issued, there may be an adjudicatory hearing but only if a person whose interest is affected opposes the action contemplated under the order. The scope of the hearing may not be enlarged beyond the enforcement action proposed. [See Bellotti v. U.S. Nuclear Regulatory Commission, 725 F.2d 1380, D.C. Cir. 1983.] In addition, the Director does not establish a licensing board.

Licensee notes that the requests for a denial of the full power operating license and for a discretionary hearing before an Atomic Safety and Licensing Board represent a clear attempt to seek an operating license hearing long after the period to intervene has expired and is, therefore, untimely. Intervenors recognize and admit that such a direct hearing request would be untimely. [JULEP petition, para. 6, p. 2]. Section 2.206 does not afford indirectly that relief which is not available directly.

It is true that the Appeal Board has stated:

"In every case, a party that for some reason cannot gain admittance to a construction permit or operating license hearing, but wishes to raise health, safety, or environmental concerns before the agency may file a request with the Director of Nuclear Reactor Regulation under 10 CFR 2.206 asking the Director to institute a proceeding to address those concerns." Detroit Edison Company, et al., (Enrico Fermi Atomic Power Plant Unit 2) ALAB-707, 16 NRC 1760, 1767 (1982).

However, the section 2.206 petition and any hearing granted thereunder does not supplant an operating license hearing. The Commission has ruled that such a petition may not be used to seek relitigation on an issue that has already been decided or to avoid an existing forum. Consolidated Edison Co. of N.Y., Inc. (Indian Point Units 1, 2 and 3), CLI-75-8, 2 NRC 173, 127 (1975). By extension, a section 2.206 petition should not be used to litigate matters that could have been litigated and decided in an operating license proceeding. Otherwise, the basic scheme of the Act, which calls for a mandatory public hearing at the construction permit stage and an opportunity for hearing at the operating license state, would be destroyed. Instead, there would be a continuing opportunity throughout the lifetime of an operating nuclear power plant for public hearings comparable in scope to operating license hearings, a result which was never intended by Congress.

Moreover, the NRC should carefully scrutinize petitions for action under 2.206 to be sure that for each premise on which the requested enforcement action is based, there is a specific allegation of a violation of the Atomic Energy Act or of some regulation, order or the license (including technical specifications) issued thereunder. In the absence of such a specific allegation, there is grave danger that the scope of the Director's decision or of any subsequent formal proceedings will not be focused on violations and necessary corrective action, but will be diffuse and subjective.

In the case of the JULEP petition, both of the foregoing principles should be carefully applied. JULEP as much as admits that what it seeks is tantamount to an operating license hearing. Coupled with this, JULEP has,

with but one exception, failed to allege any specific violations of the Act, NRC regulations, or the outstanding low power license. The sole exception is its reference to GDC 17. That subject has, of course, been addressed by the NRC's order of May 22, 1984 and by an MP&L exemption request of June 4, 1984.

JULEP is not, of course, entitled to any formal, on the record hearing prior to the Director's decision.<sup>(2)</sup> In our view that is not because the threshold steps in the section 2.206 process are not part of a "proceeding," but rather that those steps, like many other steps in "proceedings" under 42 U.S.C. 2239 (a) do not warrant a formal hearing. Proceedings under that subsection can take many forms: a meeting with the NRC Staff in a rulemaking (Siegel v. Atomic Energy Commission, 400 F.2d 778, 785-86 (D.C. Cir. 1968)); informal notice and opportunity for comment in a rulemaking (Connecticut Light & Power Co. v. Nuclear Regulatory Commission, 673 F.2d 525 (D.C. Cir.), cert. denied, 51 U.S.L.W. 3254 (1982)); informal notice and comment for a materials license (City of West Chicago, Illinois v. U.S. Nuclear Regulatory Commission, 701 F.2d 632, 641-45 (7th Cir. 1983)); or an adjudicatory hearing on a power reactor construction permit, operating license or amendment. In proceedings pursuant to 2239(a), a threshold must be overcome before a hearing will be granted. Examples of this are the denial of a hearing for failure to raise a valid contention or for failure to overcome a summary disposition motion. This threshold applies to 2.206 petitions as well. Just as a petitioner may have a hearing request denied in a proceeding under 2239(a), so may a petitioner under 2.206 have a petition denied and thereby lose his opportunity to have a hearing. In both instances, a "necessary first step"<sup>(3)</sup> or condition precedent to a hearing would not have been satisfied and no hearing would be triggered. The threshold question in

a 2.206 proceeding is whether enforcement action is to be initiated. The consideration of the petition by the Director is itself the first step in a 2239(a) proceeding. If the petition is denied, there is no formal adjudicatory hearing.

JULEP's asserted justification for their request for a discretionary hearing, that there is no existing forum, is without merit. The Atomic Energy Act and NRC regulations do not provide a hearing at every juncture. Rather, opportunities for hearing are limited, as outlined above. The statutory and regulatory scheme envisions that the Commission's professional staff will exercise its delegated functions to protect the public health and safety. For example, the NRC, as part of the review function delegated to the Director of Nuclear Reactor Regulation, will make all the necessary findings pursuant to 10 CFR 50.57 as to reasonable assurance that the public health and safety will be protected, prior to issuing a full power license. (4)

Thus, the only relief available to JULEP within the scope of a 2.206 petition is revocation, suspension or modification of the low power license or such other action as may be proper enforcement action under NRC regulations. In addressing the merits of these technical issues, the standard for issuance of a show cause order is whether substantial health or safety issues have been raised. (5) For the reasons explained herein, this standard is not met and all such relief should be denied. Furthermore, all other requests for relief recited in the petition should be dismissed as beyond the scope of a 2.206 petition.



V. The 10 CFR Part 50, Appendix A Criteria and Other Issues Have Been Addressed and Corrected So That No Enforcement Action Is Warranted

The JULEP petition contains allegations of deficiencies in MP&L's compliance with the requirements of 10 CFR 50, Appendix A, although only referring explicitly to one (GDC-17) [Para. 12 and 13]. The purpose or relationship of these unfounded allegations as well as those made in paragraph 11 is unclear at best. These allegations misstate the extent and nature of the matters involved and overlook the exhaustive efforts which have been undertaken to correct such deficiencies as did exist.

1. Alleged Poor Management Performance. [JULEP Petition, para. 12, p. 4]

JULEP alleges that MP&L's management has consistently scored poorly in the Systematic Assessment of Licensee Performance (SALP) evaluations. While there were several areas in which the SALP evaluation reflected a need for improvement, Commission representatives, at the SALP meeting on January 19, 1984, stressed that the overall rating of "3" in any given area of evaluation did not indicate unsatisfactory performance. Furthermore in the SALP letter dated January 11, 1984, Mr. Richard C. Lewis to Mr. J. B. Richard, the SALP Board Chairman stated that

"(t)he Board recognizes that major resource commitments have been made by you in the implementation of the Operational Enhancement Program and the Operator Recertification Program. It appears that these programs will result in significant

performance improvements if they continue to receive proper management attention and the necessary resources."(6)

Further, the SALP Board report stated,

"[D]uring this assessment period, the Licensee has undertaken significant improvement programs to enhance communications and technical exchange between the plant and the corporate offices. During the previous SALP period significant problems were identified with management control systems and the timeliness of corrective actions. The overall assessment for this SALP period, therefore, reflects an implementation period during which comprehensive improvement programs were instituted. These programs, targeted to correct the root causes of the identified problems, have slowly resulted in improvements in management control and the timeliness of corrective actions. Management control, as it relates to adherence to procedures and indepth analysis of plant problems, needs improvement. The Licensee's management presence at the site has improved, and top level management now participates to a greater degree in day-to-day activities and the resolution of problems and technical concerns."(7)

In the section of the SALP report entitled "Facility Assessment," the SALP Board concluded that:

"In general, the licensee has devoted significant resources to solve the identified problem areas. These efforts have not yet been completely successful, resulting in the need for continued increased licensee attention in certain areas. NRC believes that, at the time of this report, the Licensee has proposed corrective actions sufficient to solve them."(8)

In order to improve the use of management resources, still further major organization changes were made this last spring. These changes were documented in a letter to Mr. Denton on May 24, 1984.(9) These changes primarily consisted of concentrating MP&L's management resources in the areas of operation, safety and licensing, and engineering and

construction. Support and administrative related responsibilities were moved from the operations and engineering and construction departments and consolidated under a separate Vice President. This allows MP&L management to concentrate resources on those areas which are important to safety and management effectiveness. Additionally, earlier this year, as described in an April 18, 1984<sup>(10)</sup> submittal, MP&L obtained a new president. The new president has substantial nuclear operating experience and was responsible for the recent realignment of MP&L's management.

Thus, taking the SALP report as a whole, and in light of recent management reorganizations, JULEP's allegation does not provide any basis for enforcement action and relief should be denied.

## 2. Alleged Errors in Technical Specifications and Surveillance Procedures

JULEP alleges a number of technical specification and surveillance procedure errors without any description of the nature or development of any safety significance of the alleged deficiencies. To ensure the technical adequacy of GGNS surveillance procedures, a Licensee task force was organized in late 1982 to review all surveillance procedures and, based on that review, make all changes necessary to achieve clarity and consistency with the technical specifications and with other documentation associated with these procedures. Licensee's commitment to conduct this surveillance procedure review effort was confirmed by the NRC letter dated October 20, 1982.<sup>(11)</sup> Licensee's response to the

NRC's October 20, 1982 Confirmation of Action was provided in the MP&L submittal dated August 29, 1983<sup>(12)</sup> and reported the completion of essential elements of the surveillance procedure task force effort. The NRC letter dated September 23, 1983<sup>(13)</sup> to Licensee indicated that corrective actions associated with the surveillance procedure review had been verified complete. Licensee has conducted a comprehensive review of the technical specifications to ensure that the technical specifications reflect the Final Safety Analysis Report, the Safety Evaluation Report, and the "as-built" condition of the plant. The NRC staff has recognized the satisfactory progress of the Licensee in the Safety Evaluation Report accompanying the NRC order of April 18, 1984.<sup>(14)</sup> This order required implementation of certain technical specifications changes identified as necessary by MP&L. Those changes were implemented by MP&L prior to resumption of low power operations at GGNS-1 in late April, 1984.

While the petition states that a large number of errors were found in technical specifications and surveillance procedures, it offers no evidence that any of these errors are of safety significance. In fact, none of the discrepancies identified during MP&L's review of the technical specifications has been found to present a significant safety concern. MP&L has taken prudent action to identify all discrepancies, to propose changes to the NRC staff, and to initiate technical specifications revisions where necessary. Nothing has been found that warrants the issuance of a show cause order.



3. Alleged Falsification of Operator Qualifications [ Id. ]

JULEP alleges that the "qualifications of operators were apparently falsified." MP&L did discover and document errors in operator license applications and qualification cards. These errors were discussed with the NRC during an inspection and meetings and were more fully addressed in an MP&L submittal dated November 1, 1983.<sup>(15)</sup> Additionally, MP&L conducted a comprehensive operator recertification program, as documented in a November 21, 1983 submittal<sup>(16)</sup> to correct all identified deficiencies, and proposed adequate measures to prevent their recurrence. The completion of the operator training was subsequently reported in a submittal dated April 10, 1984.<sup>(17)</sup>

JULEP's reference to "falsification" implies that there was intent on the part of the Licensee. JULEP supplies no basis for such a supposition. Moreover, Licensee has taken appropriate action to correct any deficiencies and prevent recurrence. Licensee understands that NRC is currently considering enforcement action on its own initiative with respect to these errors in qualification cards or operator license applications. In any event, there is no basis for the NRC undertaking the enforcement action sought by JULEP in its petition.

4. Alleged Lack of Prior Operating Experience [ Id. ]

JUELP alleges a lack of prior operating experience as a basis for the relief it requests. The qualifications and experience of MP&L's management and staff have been previously evaluated by the NRC Staff.



As a result of these evaluations, MP&L's operating license is presently conditioned to require certain BWR-experienced advisors. These advisors act to support both corporate management and the shift superintendents. They ensure that substantial BWR operating experience is available to decision makers. The MP&L shift advisor program has been favorably reviewed by both the NRC, in Inspection Report No. 50-416/84-12, and the Utility Advisor Evaluation team, as reported in a May 1, 1984 submittal by MP&L.<sup>(18)</sup> Additionally, MP&L's operating shift crews either meet or exceed proposed requirements recommended by the Industry Working Group on Operating Shift Experience for prior nuclear experience as presented to the NRC Commissioners. Therefore, there is no basis for granting the relief JULEP requests based upon this allegation.

5. Alleged Inadequate Drywell Cooling [ Id. ]

JULEP alleges that the inadequate drywell cooling matter should be a basis for the relief requested. For new product line prototypes, such as Grand Gulf Nuclear Station (GGNS), the identification of matters requiring analysis and possible modification during preoperational tests and during low power testing can be anticipated. The problems at GGNS were generally typical of those encountered during shakedown of new prototype designs.

During non-nuclear heatup it was discovered that GGNS-1 had insufficient drywell heat removal capability. This did not impact non-nuclear testing activities since the drywell purge system and temporary blowers were used to keep the drywell temperature within acceptable limits.

However, the experience gained during non-nuclear heatup showed that certain modifications would be necessary to assure drywell cooling capability before plant operations could begin. In October, 1982 a decision was made to enter an outage for the purpose of accomplishing the necessary design changes and physical work in the plant.

Modification of the drywell cooling capability at GGNS-1 was a critical path item for the outage from October, 1982 through June, 1983. The modifications included design and installation work including repair and rework of the existing reflective insulation, the addition of insulation in certain areas, modifications and additions to the air distribution systems and addition of 1200 tons of chiller capacity for the drywell. (19)

MP&L took prudent actions to identify the causes of this problem and to resolve it in a manner and under conditions in which there was no risk to public health and safety. The drywell cooling design matter does not form any basis for the relief JULEP requests.

JULEP also makes vague and unsubstantiated allegations regarding a "design flaw requiring modifications" [JULEP Petition, paragraph 12, page 4]. Licensee assumes that JULEP is referring to the drywell cooling issue, discussed above.

6. Conclusion on 10CFR 50, Appendix A and Other Issues

The matters discussed above, whether based on criteria in 10 CFR Part 50, Appendix A, or provided for elsewhere in the regulations have been or are being adequately addressed. There have been no substantial health or safety issues raised by JULEP, and it should be denied in these respects.

VI. The TDI Diesel Generator Issue  
Will be Resolved by Ongoing  
NRC Staff Actions So That  
Enforcement Action is Not Warranted

The JULEP petition addresses a number of issues associated with onsite emergency power. Most of JULEP's recitals have been addressed by the NRC's May 22, 1984 Order regarding the disassembly and inspection of the Division I TDI diesel generator and by MP&L's subsequent exemption request submitted June 4, 1984.

1. TDI Diesel Generator Matters

The JULEP petition provides a recital of issues which have arisen with TDI diesel generators primarily in marine, non-nuclear applications of TDI diesels. The listing of occurrences presented in paragraph 14 of the JULEP petition is Grand Gulf specific. All occurrences listed in paragraph 14 of the petition have been previously evaluated by MP&L, and the results of such evaluations have been submitted to the NRC. Effective corrective actions have been implemented in all cases. In addition, Licensee was instrumental in the formation of a TDI Diesel

Generator Owners Group to accumulate operating history on the TDI diesel product line and to address these issues in an efficient, comprehensive manner. Based on an evaluation of all available information on TDI diesel operating experience, the TDI Diesel Generator Owners Group developed a listing of critical components which must be addressed on a plant specific basis, regardless of the occurrence of a component failure at that site. Licensee has evaluated each of the critical components and its associated history and has submitted these evaluations to the NRC staff.<sup>(20)</sup> Through evaluation of Grand Gulf specific experience and through active participation in the Owners Group's program to accumulate and evaluate all available TDI operating history, Licensee is confident that all significant TDI diesel engine failures have been properly and effectively addressed. JULEP's petition presents no new information for consideration by MP&L or the NRC. The specific information provided by the Petition's Attachment 1 was made available publicly in a meeting of the TDI Diesel Generator Owners Group with the NRC staff on January 26, 1984.<sup>(21)</sup>

A simple listing of operating history without proper engineering evaluation does not support JULEP's conclusion that TDI diesel generators "cannot be depended upon to function when needed" (JULEP Petition, paragraph 15, page 5). The vast majority of issues listed would not have resulted in the diesel engines being unable to operate and perform their intended function during an actual emergency. Confirmatory inspections conducted at Grand Gulf were recently completed. The results of this inspection, to be documented in a submittal to the NRC this month, revealed no component problems which



would prevent performance of the diesel's design function, further demonstrating from a strong technical basis that the Grand Gulf TDI diesel generators are reliable sources of emergency power.

JULEP indicates that the TDI diesel generators are completely unreliable [JULEP petition, paragraph 18, page 6]. MP&L has contended in its numerous submittals to and meetings with the NRC that, based upon testing, numerous inspections, and analyses, the Grand Gulf TDI diesel generators are reliable.<sup>(22)</sup> The basis for the NRC order requiring inspection of the Division 1 TDI diesel generator was to resolve uncertainty and not to refute evidence that the GGNS TDI diesels had been shown to be unreliable.<sup>(23)</sup> During a NRC Staff meeting with the Commissioners on May 25, 1984, Mr. Darrell Eisenhut, Director of the Division of Licensing, explained the reason for the order, "... it is not that we have concluded that they (the TDI diesels) are unreliable. It is just that it has not been demonstrated that they are reliable." The required inspection results (to be submitted to the NRC) have confirmed MP&L's position that the TDI diesels are reliable and support operation at full power for GGNS. Thus the allegations concerning TDI diesel generators do not provide a basis for the relief requested.

2. Gas Turbine Generators as Compensatory Measures

JULEP mischaracterizes as "jury-rigged" the MP&L proposal to use gas turbine generators as an additional source of AC power to Unit 1.

[JULEP petition, para. 16 and 19, p. 6] Contrary to the JULEP contention, the use of the gas turbine generators represents a carefully



engineered and evaluated approach to providing an additional source of power. Further, adequate surveillance procedures were implemented by MP&L to assure their continued reliability. As discussed in a meeting with the NRC on February 21, 1984, the gas turbines will provide AC power to emergency loads in the unlikely event that both TDI standby diesel generators fail to respond to the loss of all offsite power. In the unlikely event of this accident, power from the gas turbine generators will be supplied to emergency loads through the non-Class 1E plant distribution system to the Division I or II safety related busses. Connection of the gas turbines to these busses through a non-Class 1E distribution system is consistent with the manner in which the three offsite power lines are tied into the plant.

The gas turbines can be started up and loaded within 25 minutes of a loss of offsite power event. This time is sufficiently long to permit using a manual means to start and load the gas turbines and still maintain the plant in a safe condition.

In addition, based on its review of MP&L's submittals<sup>(24)</sup> and its own independent technical assessment, the NRC has stated, "Based on our evaluation of the available power sources and in view of the minimum power needs for low power operation, the staff finds that these sources (offsite, one TDI diesel and gas turbine generators) together with the specified surveillance requirements, represent a power system which has the capacity, capability, reliability, and redundancy for this low power level and that the health and safety of the public will not be endangered by implementation of this Order."<sup>(25)</sup> MP&L has demonstrated

that the use of the gas turbines does not represent a "jury-rigged" approach as JULEP contends, but, to the contrary, was ordered by the NRC in its May 22, 1984 Order, subject to strict maintenance, surveillance and testing requirements. Thus, the allegations concerning use of gas turbine generators does not provide a basis for the relief requested.

3. Switching HPCS Diesel

JULEP alleges that MP&L has proposed switching over the HPCS diesel generator to carry other loads during an accident. [JULEP petition, para. 17, p. 6] This is not the case. MP&L has considered the possibility of using the HPCS diesel generator in this manner along with other alternatives, [MP&L meeting with NRC on February 16, 1984, summarized in AECM-84/0113, dated February 26, 1984]; however, such an unusual alignment and operating mode is not the preferred approach to supplying plant loads and has not been proposed by MP&L. In responding to an NRC question,<sup>(26)</sup> MP&L stated that, "There is currently no procedure developed for cross-connecting the Division III (HPCS) D/G to Division I or II loads. While this alternative is considered technically feasible, a detailed design review is needed to support procedure development and to ascertain its feasibility from the standpoint of required operator actions and maintaining plant safety." It is clear that the use of the HPCS diesel generator to power Division I or II loads is a possible alternative that MP&L has considered, but this approach has not been evaluated in sufficient detail for MP&L to propose it as a viable means of providing another source of power to these loads. Therefore, the JULEP allegation has no merit and is

apparently based on lack of comprehension of information MP&L has submitted to the NRC.

4. TDI QA Problems

JULEP alleges problems with the TDI QA program as a basis for the requested relief. In order to demonstrate that the TDI Emergency Diesel Generators, in general, are capable of performing their intended safety function in nuclear service, a program plan has been established by the TDI Diesel Generator Owners Group. The objective of the plan is to confirm the reliability of TDI diesel generators by establishing adequate confidence through a combination of design reviews, quality revalidations, engine tests, and component inspections that the diesel generator will perform satisfactorily in service (Design Review/Quality Revalidation Program). The plan was instituted by the TDI D/G Owners Group. Prior to implementation of the plan for the key engine components at Grand Gulf, NRC concurrence was obtained in the Order dated May 22, 1984. The DR/QR program provides a planned and systematic approach necessary to provide adequate confidence that the diesel engines will perform their intended nuclear safety service throughout the life time of the plant.

The design reviews for the key TDI engine components have been completed by the Owners Group. An independent third party, Failure Analysis Associates, Inc. (FaAA), verified the TDI diesel generator design as being in accordance with established regulatory requirements and design criteria of 10 CFR 50 Appendix A.

Prior to the most recent engine disassembly at Grand Gulf ordered by the NRC on May 22, 1984, a detailed inspection plan was developed and stringent acceptance criteria were established. The plan was executed and the results were documented in accordance with the NRC approved MP&L Quality Assurance Program. The physical characteristics of the components and materials were verified to the predetermined requirements set forth in the DR/QR program. Anomalies found were either determined to be acceptable to the predetermined acceptance criteria or replaced with known acceptable components (e.g., turbocharger bolts). MP&L will in the near future submit a report to the NRC documenting the results of this inspection.

Based on the augmented inspection and design reviews of the Grand Gulf TDI diesel generators, objective evidence has been provided that the TDI emergency diesel generators will perform their intended safety function with a high confidence level. Upon reassembly a thorough testing program of the engine commenced as required in the staff's May 22, 1984 Order, to confirm the operability of the engines under load conditions. MP&L will in the near future submit a report to the NRC documenting the results of this testing program. Based upon the inspection program and the Owners Group actions, there are no grounds for the requested relief premised upon this allegation.



5. Crankshaft Design Inadequacies Allegation

JULEP alleges design deficiencies in the Grand Gulf diesel generator crankshafts. It should be noted that JULEP mischaracterizes the crankshaft design problems. Only the original Shoreham crankshafts (for a very different design and model from the diesel generator at Grand Gulf) were of deficient design. There have been no crankshaft problems of any significance at Catawba as indicated in the June 1, 1984 report by Duke Power, entitled "Catawba Nuclear Station Diesel Engine 1A Component Revalidation Inspection Report," contrary to JULEP's assertion. [JULEP petition, para. 20, p. 7.]

Upon notification of the Shoreham crankshaft failures, investigations were immediately conducted by MP&L on the applicability of the failures to the Grand Gulf TDI diesel generators. A physical comparison of the DSR-48 (in-line eight cylinder) series engine crankshaft that failed, with that employed in the DSRV-16-4 (Vee-16 cylinder) series at Grand Gulf, revealed some important differences. The Shoreham engine crankshafts were unique to the Shoreham engines in that they were the only crankshafts having 11" crankpins and 13" journals supplied in DSR-48 in-line engines rated at 225 BMEP. Among the significant design differences on the Grand Gulf engine are the larger web size and shape, larger crankpin diameter, larger pin fillet radius and the use of counter-weights.



Independent dynamic analyses of the DSRV-16-4 crankshafts at GGNS have also been performed by Bechtel and FaAA and confirmed that the total stress values for the GGNS DSRV-16-4 engine crankshafts are within the limits of allowable stress published by the Diesel Engine Manufacturers Association (DEMA). Although not mandatory, the DEMA standards are in widespread use in stationary diesel engine applications.

As a further verification of crankshaft adequacy, during December, 1983, and January, 1984, when the Division I and II engines were disassembled for maintenance and replacement of existing piston skirts with improved piston skirts, the Division I and II crankshafts were inspected using accepted NDE methods. No indications outside the bounds of acceptance criteria were discovered. Also a recent inspection of the Grand Gulf Division I TDI diesel generator, in accordance with the NRC order of May 22, 1984 reverified that the design of the GGNS TDI engine crankshaft is adequate to perform satisfactorily in service. Therefore, this allegation does not provide any basis for the relief requested.

6. Inadequate Piston Design Allegation

JULEP alleges that the pistons are inadequately designed. JULEP overlooks significant differences in the different types of piston components manufactured by TDI. The GGNS TDI diesels were originally provided with pistons that included type AF piston skirts. During preoperational testing of one GGNS TDI diesel in November, 1981, a single piston's crown and skirt became separated due to failure of studs which fasten the crown and skirt. Based on evaluations by both TDI and

Licensee, all pistons in both GGNS Unit 1 TDI diesels were returned to TDI for modification to prevent future separations. All piston skirts were modified by TDI (i.e., "modified AF skirts") and were re-installed in the GGNS Unit 1 TDI diesels. The discussion of the subject piston design change implemented as a corrective action was documented in the MP&L submittal dated October 26, 1983.<sup>(27)</sup> No further problems were encountered with piston skirt-crown separation at GGNS during subsequent operation of the engines.

In December 1983 and January 1984, based on early evaluations of the discovery of linear indications in the modified AF skirts at Shoreham, MP&L replaced the modified AF skirts with the improved type AE piston skirt. Major improvements were made in the AE piston skirt design in the region of the bosses through which studs extend to attach the crown to the skirt.

A recent inspection of the MP&L Unit 1, Division I TDI engine AE piston skirts and inspection of other AE piston skirts that have accumulated thousands of hours of operation disclosed no anomalies and provides confidence that the AE pistons will perform satisfactorily in service.

Based on the results of the engine operated AE piston skirt inspections and stress analysis, the independent consultants to the TDI D/G Owners Group have also concluded that the AE piston skirt will perform satisfactorily in service. Therefore, this allegation does not provide any basis for the requested relief.

7. Inadequate Cylinder Head Design Allegation

JULEP alleges that the cylinder heads are inadequately designed. The results of an evaluation by the independent consultants to the TDI D/G Owners Group concluded that the TDI R-4 series cylinder heads are adequate for their intended service. Replacement of the head during engine installation was due to an indication on the air intake pipe mounting flange. Heads replaced during the December 1983 and January 1984 engine disassembly for piston change out were replaced due to indications in the stellite valve seats. A metallurgical evaluation performed by Middle South Services concluded that the indications were shrinkage cracks which are not detrimental to the intended service of the engines. A recent inspection of the Division I D/G heads per the NRC Order of May 22 confirmed that the heads are adequate for their intended service. The condition of the valve seats did not impair the operation of the GGNS Unit 1 TDI engine. Therefore, this allegation does not form an adequate basis for the relief requested.

8. Inadequate Fuel Line Allegation

JULEP alleges that fuel lines are inadequately designed and/or installed. Discussions of fuel line related issues are provided in the MP&L submittal dated October 26, 1983.<sup>(28)</sup> A further update on evaluations in this area was provided in the MP&L submittal dated April 20, 1984.<sup>(29)</sup>

As noted by JULEP (JULEP Petition, paragraph 23, p. 7), a fuel line failure did result in a diesel fire at GGNS. The failed line was a low pressure fuel oil line. Evaluations to determine the cause of failure were quite extensive, including engine walk downs and metallurgical analyses. While these were contributing factors, it was determined that the line failure was due to high cycle fatigue which in turn was caused by excessive vibrational loads induced by the turbocharger and improper tubing support. The line has been repaired; new design tubing supports have been installed on both Unit 1 TDI diesels; and a special procedure was developed for turbocharger alignment. Based on extensive diesel testing and vibration monitoring conducted, Licensee is confident that the above discussed corrective actions effectively address the low pressure fuel line failure. (30)

A failure of a high pressure fuel line was experienced on a GGNS TDI diesel. The metallurgical evaluation indicated that the cause of failure was a manufacturing flaw. As discussed in the MP&L evaluation of this issue, those lines considered suspect were replaced with new lines. The replacement lines have successfully passed TDI inspections, designed specifically to reveal the manufacturing flaw discovered in the Grand Gulf line. (31) The above discussed action is considered adequate both by Licensee and the NRC staff's consultant in this matter, as discussed below.

The JULEP petition at paragraph 23 only notes the occurrence of the subject fuel line failures but does not acknowledge corrective actions taken by Licensee, and furthermore, offers no criticism as to the



adequacy of those corrective actions. The NRC staff's consultants have reviewed these proposed actions and concur in Licensee's findings and have concluded that these actions are acceptable.<sup>(32)</sup> And therefore, this allegation does not form an adequate basis for the requested relief.

9. Conclusion on TDI Diesel Generators

Thus, the NRC Order of May 22 and the Licensee's disassembly and inspection program have already addressed this issue in full. This has eliminated any substantial health or safety issues. Therefore, relief pursuant to a 2.206 petition is unwarranted and should be denied.

VII. License Modifications

Petitioners seek two specific modifications to the operating license. The first of these requested modifications deals with "removal from the management organization of those responsible for past failures at Grand Gulf . . ." [relief request number 5(a)]. Licensee recognizes that technical and management competence to operate a facility is an important issue and is within the realm of Staff review in accordance with 10 CFR 50.40(b) and the Standard Review Plan (NUREG-0800), Section 13.1. The Staff finding which must be made is that the licensee has complied with all appropriate Commission requirements in the area of management competence and is qualified to operate the facility.<sup>(33)</sup> In denying another 2.206 petition with a similar contention on management competence, the Director found that, despite

prior SALP deficiencies, a civil penalty and a notice of violation, the management was capable and responsible.<sup>(34)</sup> As described above in Section V. 1 the NRC staff has already concluded the MP&L staff to be competent and qualified for operation. Additional improvements have also taken place in terms of a strengthened management team and organization.<sup>(35)</sup>

MP&L's response to correcting the technical specification deficiencies, the other technical issues petitioner has raised, the diesel generator inspection program, and implementation of compensating onsite power measures demonstrates a clear commitment to compliance with NRC regulations and the safe operation of the plant. As indicated in Section V above, MP&L has also demonstrated that its management philosophy embraces a strong commitment to ensuring that its management team is highly qualified and dedicated to ensuring safe operation of the plant. Because MP&L has demonstrated its management competence, there is no merit to the requested license modification and it should be denied.

The second proposed license modification requests "implementation and verification of corrective actions for all identified deviations from requirements". As described above, MP&L has corrected all deviations identified from requirements. In doing so MP&L has applied its QA program, which fully complies with 10 CFR 50 Appendix B requirements. This QA program provides confidence that all NRC requirements are implemented, among other things, by independently verifying corrective actions for any identified deficiencies. In addition, the NRC Region II staff, by its program of resident and special inspections, determines licensee compliance with

regulations and licensee fulfillment of commitments to those regulations governing the design, construction, and operation of GGNS. The NRC Region II program includes a comprehensive inspection program which identifies deficiencies and tracks these deficiencies until adequate licensee corrective action has been implemented. Therefore, modification of the operating license is (1) not warranted for the reasons set forth in Sections V and VI, and, (2) completely superfluous since the NRC regulations (10 CFR Part 50 Appendix B) and inspection practices already provide for verification of corrective actions.

VIII. Irrelevant, Immaterial  
Statements and Allegations

The JULEP petition is fraught with irrelevant and/or immaterial statements and allegations which form the premise for many of JULEP's arguments. We have already cited inaccuracies and shortcomings in the characterization of the diesel generator resolution.

Another such irrelevant and immaterial allegation concerns the removal of the Director of OIA. [JULEP petition, para. 26, p. 8]. That matter is not germane to the licensing and operation of Grand Gulf.

Furthermore, the JULEP assertion of cost overrun, increased utility rates and delays ["JULEP petition, para. 9, p. 3] are not germane to the NRC's concern with enforcement actions to protect public health and safety.

XI. Conclusion

The scope of relief available pursuant to a 2.206 petition is limited to revocation, suspension or modification of the existing low power license. All other forms of relief are inappropriate as beyond the scope of a 2.206 petition and should be dismissed.

The technical matters raised by JULEP does not meet the standard for issuance of a show cause order (whether substantial health or safety issues have been raised) because all technical matters raised have been or are being adequately addressed by the NRC staff and the Licensee. Thus, that much of the requested relief which is within the scope of 10 CFR 2.206 should be denied.



- 1 42 USC 2133, 2235; 10CFR 2.104, 2.105
- 2 Lorion v. U. S. Nuclear Regulatory Commission, 712 F.2d 1472, (D.C. Cir. 1983)
- 3 - Natural Resources Defense Council, Inc. v. U. S. Nuclear Regulatory Commission, 606 F.2d 1261, 1265, (D.C. Cir. 1979).
- 4 In uncontested operating license proceedings, the operating license does not "automatically" issue. Rather the NRC must make all findings set forth in 10CFR 50.57. Washington Public Power Supply System, et al. (WPPSS Nuclear Project No. 2), ALAB-722, 17 NRC 546, 553, n. 8 (1983).
- 5 Consolidated Edison Company of New York (Indian Point, Units 1, 2 and 3), CLI-75-8, 2 NRC 173, 175 (1975).
- 6 MAEC-84/0006, January 11, 1984
- 7 Id.
- 8 Id.
- 9 AECH-84/0283, May 24, 1984
- 10 AECH-84/0207, April 18, 1984
- 11 MAEC-82/0242, October 20, 1982
- 12 AECH-83/0431, August 29, 1983
- 13 AECH-83/0298, September 23, 1983
- 14 MAEC-84/0144, April 18, 1984
- 15 AECH-83/0681, November 1, 1983
- 16 AECH-83/0750, November 21, 1983
- 17 AECH-84/0191, April 10, 1984
- 18 AECH-84/0267, May 1, 1984
- 19 AECH-83/0630, September 30, 1983
- 20 AECH-84/0240, April 20, 1984
- 21 Report of Meeting with Representatives of Transamerica Delaval, Inc. Owners Group, Ralph Caruso, NRC Staff, MAEC-84/0044, February 2, 1984.

- 22 AECM-84/0271, May 6, 1984
- 23 MAEC-84/0195, May 22, 1984
- 24 AECM-84/0103, February 20, 1984; AECM-84/0113, February 26, 1984;  
AECM-84/0226, April 17, 1984; and AECM-84/0271, May 6, 1984
- 25 MAEC-84/0195, supra
- 26 AECM-84/0241, April 18, 1984; Meeting with NRC, April 3, 1984
- 27 AECM-83/0689, October 26, 1983
- 28 Id.
- 29 AECM-84/0240, supra
- 30 Id.
- 31 Id.
- 32 MAEC-84/0160, April 25, 1984
- 33 WPPSS Director's Denial, DD-84-7, Supra, at 32-33
- 34 Id. at 29-33.
- 35 MAEC-84/0283, supra



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J. B. RICHARD  
SENIOR VICE PRESIDENT - NUCLEAR

J 13, 1984

*Verelli*  
*MP&L COMMENTS*  
*MARKEY*  
*MARCH 13, 1984*  
*LETTER*

The Honorable Nunzio J. Palladino  
Chairman  
U.S. Nuclear Regulatory Commission  
1717 H Street, N.W.  
Washington, D.C. 20555

Dear Mr. Palladino:

SUBJECT: Grand Gulf Nuclear Station  
Units 1 and 2  
Docket Nos. 50-416 and 50-417  
License No. NPF-13  
File: 0260/L-860.0  
Comments on Commission Responses to  
Question from Rep. E. J. Markey  
of March 13, 1984  
AECM-84/0375

On July 17, 1984 the Commission filed final responses to questions raised by Representative E. J. Markey in his letter to the Commission, dated March 13, 1984. These responses were obtained by Mississippi Power & Light Company (MP&L) on July 21, 1984. MP&L has reviewed these Commission responses and wishes to take this opportunity to provide clarifying remarks and additional information regarding the responses to Questions 1(B) and 1(F).

MP&L does not disagree with the factual content of the subject responses but considers that there exists additional information surrounding these complex circumstances and events. The purpose of this letter is to provide that information in hope that it will be useful to you and the other Commissioners in constructing a more balanced view of these complicated issues.

Specific clarifying information with respect to Question 1(B) and 1(F) is contained in Attachment 1 to this letter. Information on the chronology of the development of the GGNS Technical Specifications which supplements and expands the information provided in our April 9, 1984 letter is provided as Attachment 2 to this letter. That chronology indicates the significant effort expended in the development of the GGNS Technical Specifications and illuminates the complexity of the total issue. Additional background information on the development of the GGNS Technical Specifications is provided in Attachment 3.

Please advise me if you require clarification or additional information regarding these attachments.

*20PP*  
*6408134150*  
Yours truly,

*J. B. Richard*

JBR:rg  
Attachments  
cc: See next page

Member Middle South Utilities System

MISSISSIPPI POWER & LIGHT COMPANY

AECH-84/0375  
Page 2

cc: Commissioner James K. Asselstine (w/a)  
Commissioner Frederick M. Bernthal (w/a)  
Commissioner Thomas M. Roberts (w/a)  
Commissioner Lando W. Zech (w/a)

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ADDITIONAL INFORMATION REGARDING QUESTIONS  
IDENTIFIED IN REPRESENTATIVE E. J. MARKEY  
LETTER TO THE NUCLEAR REGULATORY COMMISSION,  
DATED MARCH 13, 1984

Question 1(B)

MP&L Comments on Commission Response, dated July 17, 1984

The NRC indicates that two significant contributors to problems associated with the GGNS Technical Specifications were excessive informality of the process employed by both MP&L and the NRC Staff and a lack of sufficient review by the plant operations staff.

MP&L discussed both of these causes in a meeting with the NRC Staff on April 4, 1984 and formally documented these two areas as causes in letter AECM-84/0217, dated April 9, 1984. To the extent that the plant operations staff should have been more involved in the latter stages of the development of the GGNS Technical Specifications, MP&L concurs with the NRC Staff assessment of these two factors as causes for the technical specification problems.

MP&L also believes that there were additional, significant causes which were not discussed in the NRC response to this question. In particular:

- a. Lack of Standard Technical Specifications and the first-of-a-kind nature of the plant;
- b. Absence of application of Quality Assurance attention to the development and review of technical specifications;
- c. Insufficient management attention;
- d. Insufficient review of technical specifications by not only the plant operating staff, but also by Bechtel and General Electric during the late stages of technical specification development; and
- e. No final, complete review of technical specifications immediately after receipt of Attachment A to the GGNS operating license.

The entire issue of problems associated with the GGNS Technical Specifications is complex with numerous contributors as discussed above. In particular, the fact that no BWR6 Standard Technical Specifications existed while the GGNS Technical Specifications were being developed is considered by MP&L to be a major contributor. For the initial three years of the five year span in which the GGNS Technical Specifications were being developed, substantial resources were expended by MP&L in an effort to develop a suitable BWR6 standard on which to base plant specific technical specifications. This expenditure of resources was essentially inefficient and ineffective since ultimately the NRC required that submittals be based on a set of technical specifications for an earlier model plant.

Information on the chronology of the development of the GGNS Technical Specifications which supplements and expands the information provided in our April 9, 1984 letter is provided as Attachment 2 to this letter. That chronology indicates the significant effort expended in the development of the GGNS Technical Specifications and illuminates the complexity of the total issue and the role of the informality, lack of a standard, and inadequate MP&L management attention in the development process. Additional background information on the development of the GGNS Technical Specifications is provided in Attachment 3.

Regardless of the contributors leading to the problems identified, MP&L considers that the applicant/licensee is ultimately responsible for the development and implementation process; MP&L acknowledges that responsibility. Since the receipt of the Low Power Operating License, management attention has steadily increased regarding the technical specifications.

This increased management attention has given rise to significant review efforts aimed to establish the accuracy and adequacy of the technical specifications and associated surveillance procedures. Detailed evaluations were conducted into the background and causes of the problems experienced. MP&L considers all root causes to be adequately addressed by various corrective actions taken to date and is further committed to providing the proper level of management attention to maintain these documents accurate and adequate.

Question 1(F)

MP&L Comments on Commission Response, dated July 17, 1984

By way of the background, the Commission Response to Question 1(F) briefly discusses some key events and activities at Grand Gulf Nuclear Station immediately following the receipt by MP&L of the Low Power Operating License on June 16, 1982. Additional information is provided here to elaborate on the sequence of events following initial criticality, the rationale for the proposed testing schedule, and the entry into the maintenance outage following that testing.

The low power test program was specifically constructed to allow for timely execution of required tests and to eliminate duplicative testing, wherever possible. Proper sequencing was, therefore, essential to the efficient startup of GGNS - a prototype BWR6/Mark III design. For the purposes of this discussion, the sequence of some key events during this period is presented as follows:

- (a) Initial fuel load;
- (b) Low power physics testing (reactor pressure vessel head off, as is characteristic of the BWR design);
- (c) Installation of reactor pressure vessel head;
- (d) Non-nuclear heatup using recirculation system;
- (e) Conduct prototype reactor, internal component vibration monitoring testing;
- (f) With reactor near normal operating temperature and pressure, conduct single rod scram (friction) testing.

It should be noted that steps (e) and (f) above must have the reactor's fuel installed as a prerequisite. For this reason and because low power physics testing was to be conducted with the RPV head off, this test sequence dictated that non-nuclear heatup follow the plant's initial criticality. This test sequence is typical of an initial BWR startup.

Non-nuclear heatup commenced in mid-September, 1982. It was during the testing at or near operating conditions, following initial criticality and non-nuclear heatup, that it was discovered that the drywell cooling capability, for a number of reasons, was apparently insufficient. Only after an evaluation of this insufficiency and the prescription of appropriate corrective actions did MP&L elect to commence a maintenance outage to support the resulting design changes. That maintenance outage commenced in late October, 1982.

In summary, as clarification to the Commission Response to 1(F), the plant was shutdown following initial criticality testing; however, only after the conduct of later, appropriately scheduled testing and subsequent evaluation was a decision made to enter into a maintenance outage.

## CHRONOLOGY OF GRAND GULF NUCLEAR STATION TECHNICAL SPECIFICATIONS

### 1977

There were several early efforts to develop GGNS Technical Specifications (Tech Specs) and to develop BWR6 Standard Technical Specifications (STS). MP&L began to develop GGNS "Standard" Technical Specifications based upon the existing standard which was for a Mark I plant. A BWR6 Standard Technical Specifications Review Group was established to determine a licensing strategy and develop a set of BWR6/Mark III Standard Technical Specifications. This group consisted of: Mississippi Power & Light Company (MP&L), Cleveland Electric Illuminating Company, Gulf States Utilities Company, Tennessee Valley Authority, Illinois Power Company, Public Service Company of Oklahoma, Puget Sound Power & Light Company, Tiawan Power Company, and General Electric (GE). The initial MP&L representative for the Review Group was from the corporate Project Management staff.

The early efforts involved use of a December 1975 BWR3/4 Mark I GE Standard Technical Specification for format guidance. The early draft STS developed by the Review Group was a re-typed version, as opposed to a marked-up copy of the NRC STS as was desired. This early group informally interfaced with Dr. Bob Bottimore of the NRC and was oriented mostly toward resolving the licensing issues and developing a licensing strategy. MP&L's internal efforts were limited since all Operations personnel and most of the key supervisors and managers on plant staff were involved in Cold License Operator Training through the end of the year.



## 1978

With fuel load scheduled for 1980, MP&L realized that the Technical Specifications must be developed as early as possible in order to support completion of surveillance procedures, operator training, and Pre-Op Testing. Therefore, most of the activities for developing BWR6/Mark III Standard Technical Specifications and the Grand Gulf specific Technical Specifications became more intense. In 1978 the following significant events took place:

1. The BWR6 STS Review Group evolved into 2 groups, one of which remained oriented toward the licensing issues and the second group which took over the responsibility for the technical content of the Technical Specifications. This second group was represented by most of the utilities' plant operations staff in order to take advantage of the best operations experience available to the BWR6 utilities. In addition, besides GE, most utilities had an Architect-Engineer (A/E) representative. MP&L was represented by a Plant Staff Technical Support Section Engineer. The Bechtel primary representative was the Mechanical Group Supervisor.
2. By September of 1978, MP&L, working closely with the BWR6 STS Review Group, completed a second draft of the Grand Gulf version of the BWR6 STS.
3. Based on a proposed draft of the BWR6 STS prepared by MP&L and the Review Group, MP&L, in late 1978 began intensive efforts to complete the Grand Gulf specific Technical Specifications with input from GE and Bechtel. At this time the Technical Support Section of Plant Staff was assigned responsibility for developing Grand Gulf specific Standard Technical Specifications. The Technical Support Section was responsible for insuring proper review by Operations, HP/Chemistry, Startup, Maintenance, PSRC, Engineering, Licensing, etc. Project Engineering was formally responsible for obtaining the GE and Bechtel input and reviews as requested by Technical Support. However, most communication went directly from Plant Staff to Bechtel.
4. In early 1978, the NRC was in the process of revising the GE STS. In April of 1978 they issued Revision I of the GE STS. This STS was later revised by the NRC in September, October, November, and again in December of 1978. However, these revisions were not formally issued

by the NRC. The new revised sections were informally sent to the appropriate utilities for inclusion in the Technical Specifications.

5. LaSalle submitted their proposed Technical Specifications on October 29, 1978. Since the document submitted by LaSalle was so different from the standard, they did not follow NRC directions and submit a marked-up copy of the STS. Instead, they had a new draft Technical Specifications printed and submitted that copy. However, the NRC felt it would be too difficult to review such a document and requested that LaSalle instead mark-up the standard, regardless of the difference between LaSalle's proposed Technical Specifications and the standard. The NRC intended to revise the standard again based upon their review of LaSalle Technical Specification and to issue a new standard based on the BWR5 product line.

### 1979

Significant activities continued through 1979 by both the Standard Technical Specifications Review Group and MP&L. MP&L was planning to complete its second draft of the GGNS specific Technical Specifications with a final review by the end of 1979, and then submit the GGNS Technical Specifications in early 1980. To meet this objective the following events took place:

1. In January 1979, the NRC provided MP&L with a draft "proof and review" copy of the STS which had been revised in September, October, November, and again in December of 1978. The NRC, after making several additional significant changes, later issued this basic document as Revision 2 of GE STS in August 1979. This STS still did not incorporate BWR5 product line features.
2. MP&L contacted the NRC, Dr. Bob Bottimore, to discuss the submittal of GGNS Technical Specifications. His direction was to use the latest material issued from his office and to mark up these Technical Specifications for submittal to the NRC. He indicated that the Technical Specifications should not be submitted any earlier than 6 months prior to fuel load and, based upon NRC estimates of the GGNS schedule, he felt a submittal in 1980 would be too soon.

3. Because of the significant changes which had occurred in the Standard Technical Specifications, Bechtel & GE were asked to supply additional input and review the draft GGNS Technical Specifications in time to supply another draft of the GGNS Technical Specifications by July of 1979. Because of the problems experienced at LaSalle, Bechtel and GE were directed for the first time to supply their input in the form of marked-up STS pages. It was in this draft that MP&L changed the format from a completely retyped Technical Specifications to a mark-up of the STS. The mark-up was based on the latest draft copy of the STS provided by the NRC in January of 1979, which was effectively still a Mark I STS. The STS used by MP&L did, however, reflect the changes which the NRC had proposed in September, October, November and December of 1978.
4. At the July 10, 11 meeting of BWR6 Technical Specifications Review Group, MP&L presented the following schedule for the Technical Specifications:
  - a. July 1979 - resolve comments and complete new draft of GGNS Technical Specifications.
  - b. October 1979 - using the Bechtel, GE, and Review Group comments and the new STS Revision 2, complete a second draft of GGNS Technical Specifications.
  - c. January 1980 - revise the GGNS Technical Specifications as necessary due to changes in the STS and complete the submittal packages with justification for changes from the STS.
  - d. March 1980 - submit the final GGNS draft Technical Specifications to the NRC for review and approval.
  - e. October 1980 - NRC approval of the Technical Specifications and fuel load.
5. Bechtel input to the GGNS Tech Specs was supplied on July 9, 1979 (MPB-79/0042). GE input would not be provided until September of 1979 and would be in the form of a revised STS submitted to the BWR6 STS Review Group.
6. Internally, MP&L went through at least four rewrite and review cycles during this period in order to develop the draft Tech Specs by the end of the year. The efforts were all coordinated by the Plant Staff Technical Support Section and involved extensive review by Operations, Maintenance, HP/Chemistry, and Startup.



7. At the July 10, 11 meeting of the BWR6 STS Review Group the following major generic BWR6 issues were identified as priority issues requiring resolution for the BWR6 STS:
- a. Section 3/4.6 - Containment Systems
  - b. Section 3/4.4.5 - Specific Activity
  - c. Section 3/4.8 - Electrical
  - d. Section 3/4.1.3 - Control Rods
  - e. Section 3/4.4.1 - Recirculation Systems
  - f. Section 3/4.1.1 - Shutdown Margin
  - g. Section 3/4.4.2 - Safety Relief Valves
  - h. Section 3/4.3 - Instrumentation
  - i. Radiological Effluent Technical Specifications
8. The BWR6 STS Review Group objective was to resolve these generic BWR6 issues with the NRC before Dr. Bottimore issued the GGNS "proof and review" copy for review. This way, only specific GGNS issues would have to be taken up with the NRC during their review process. The NRC was contacted and made aware of the fact that the group was preparing a position on these generic issues and would like to meet with the NRC to resolve them. The NRC was receptive, but felt their priority was on BWR5 STS and review and approval of the LaSalle Technical Specifications.
9. In June, 1979, responsibility was assigned to a consultant (Ron Williams, from NSC/Quadrex) working under the direction of the Operations and Maintenance Superintendent (Assistant Plant Manager) to coordinate the final review and approval of GGNS Technical Specifications and establish a plan for developing surveillance procedures and controlling the Tech Specs/surveillance procedures such that changes to the Tech Specs would be reflected in the surveillance procedures. The consultant was a previously degreed SRO Senior Operations Engineer from Commonwealth Edison Co. (Dresden 2, 3) with many years of BWR operations experience. }
10. In August of 1979, several key management positions and organizational changes occurred which had some impact on the Technical Specifications and surveillance procedure effort. The Operations and Maintenance Superintendent was promoted to another position in the Corporate office. The Operations Superintendent was promoted to the Manager of Safety and Licensing position in the Corporate office. At this time, it was felt that the basic draft Tech Specs had been developed by the Plant Staff and most of the remaining activity with the Technical Specifications would be between the NRC and MP&L.



Licensing along with support from Plant Staff, GE and Bechtel. Therefore, it was agreed by the Plant Manager and the Manager of Safety and Licensing that responsibility for the Technical Specifications would shift to the Licensing Section. The Plant manager felt that this was appropriate since the Manager of Safety and Licensing had been instrumental in the development of the Technical Specifications, knew the GGNS design well, and most of the future activities would involve licensing. In addition, this would relieve his personnel and allow them to concentrate on the surveillance procedures. It was agreed that the Manager of Safety and Licensing would assure appropriate review and approval of Technical Specification changes by Plant Staff. Primary responsibility for the surveillance procedure effort shifted from Operations and the Operations and Maintenance Superintendent to the Technical Support Section on plant staff.

### 1980

As a result of delays in projected fuel load date for Grand Gulf Unit 1, the proposed date for submittal of the GGNS Tech Specs was delayed until the end of 1980. As a result, the following activities took place:

1. A meeting of the BWR6 STS Review Group was held in March 1980, in order to review and resolve comments on significant changes to the STS proposed by GE. In addition, the group met with Dr. Bob Bottimore of the NRC to discuss plans for review of the proposed STS and also the NRC review of the GGNS plant specific Tech Specs to be submitted later in the year. At the meeting, Dr. Bottimore said that his plans for the upcoming year were to issue the "proof and review" copy of the LaSalle Tech Specs in the summer, to issue a Revision 3 to GE STS for BWR5 by the end of the year and to issue a draft copy of the BWR6 STS.
2. A draft copy of the upcoming STS Revision 3 (marked "proof and review" March 1980) was provided to MP&L and other members of the BWR6 Standard Review Group. The purpose of Revision 3 was to incorporate BWR5 features and, therefore, this was the first glimpse of the NRC's proposed upgrade. Dr. Bottimore indicated that he appreciated the input for the BWR6 STS since it was his intent to issue a draft STS copy applicable to the BWR6 by the end of the year. However, because of his heavy work load he probably would not have much of a

chance to incorporate the Owners Group input. He indicated that the NRC version should resolve most of the BWR6 issues. He advised GGNS to submit a marked-up version of the latest STS provided from his office and that as he reviewed the Owners Group input and made changes to the BWR6 STS draft copy he would provide those to MP&L for incorporation into their Tech Specs. It was at this point that several copies of the STS and GGNS Technical Specifications began circulating.

3. A proposal was made by the Owners to the NRC to rewrite the STS in order to make it more useable by the operations and maintenance personnel. Dr. Bottimore indicated that any attempts to change the wording in the STS would be unacceptable since this was a legal document that had been carefully reviewed and approved by the NRC.
4. By May 17, 1980, MP&L had prepared another draft of the GGNS Technical Specifications based on Revision 2 of the STS. It also reflected changes identified in the March 1980 STS "proof and review" copy and incorporated additional input from GE and Bechtel. The GE input was specifically tailored to GGNS for the first time.
5. In July of 1980, after additional internal review by MP&L, a proposed draft of the GGNS Technical Specifications dated May 19, 1980 was issued to all of the utilities in the BWR6 STS Review Group, GE, and Bechtel for a final review. In addition, this copy of the Technical Specifications was issued to all Plant Staff sections for a thorough final review and comment prior to NRC submittal.
6. Based on a mid 1981 projected fuel load date, the NRC had requested submittal of the draft GGNS Technical Specifications by October 1980.
7. The LaSalle draft "proof and review" copy of the Tech Specs was issued by the NRC on August 1, 1980 this copy of the Tech Specs went through approximately 25 revisions from this period through January of 1982.
8. In September of 1980, Dr. Bob Bottimore informally sent to MP&L a copy of a proposed draft BWR6 GE STS dated August 25, 1980 for use in completing GGNS plant specific Tech Specs.
9. In November of 1980, Dr. Bottimore again informally sent a new BWR6 GE STS which changed the STS he had sent to MP&L in September.

10. As a result of these changes by the NRC, the submittal of GGNS Tech Specs was delayed to December of 1980, in order to assure that the latest guidance from the NRC was incorporated prior to submittal. On December 15, 1980, MP&L submitted the proposed GGNS Tech Specs and indicated that it was based primarily on Revision 2 of the STS since this was the only formal revision issued by the NRC at that time. Actually, MP&L included the NRC Revision 3 features they agreed with and omitted those that were unacceptable, or proposed an alternative.
11. In December 1980, the NRC issued Revision 3 (BWR5) to NUREG-0123 GE STS which superseded Revision 2.
12. Throughout this period, GE was working with the NRC relatively independent of the Owners on BWR5 and 6 STS. Dr. Bottimore received the input from GE, changed the STS if it was acceptable to the NRC and then informally sent changed pages to the owners.
13. Although earlier efforts had been initiated to develop the surveillance procedures, very little work had been completed. Because of the relatively final status (as MP&L thought) of the GGNS Tech Specs and the impending 1981 fuel load date, a program was initiated by MP&L to complete the surveillance procedures. A consultant (Quadrex) with approximately 20 engineers and procedure writers was contracted to complete the surveillance procedures. The initial drafts of most of the surveillance procedures were completed in mid 1981.

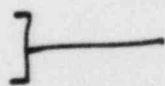
### 1981

The primary objective of the Technical Specifications effort in 1981 was to complete negotiations with the NRC, resolve all Technical Specifications issues, and gain NRC approval of the Grand Gulf Technical Specifications. As a result, the following major activities occurred:

1. By the time Grand Gulf submitted their Technical Specifications in December, 1980, the BWR6 STS Review Group had completed most of its activities and no longer functioned as an established owners group.
2. Because of the potential for a significant number of changes during NRC review and the fact that the surveillance procedures were under development, additional pro-



cedures were put in place for controlling the Technical Specifications. An MP&L contract engineer in the Licensing Section was assigned primary responsibility for controlling Technical Specification changes. This individual performed two functions: 1) to administratively track and control changes and insure the proper review and approvals, and 2) to perform an initial technical licensing review. A similar position was established within the Plant Staff Technical Support Section (Licensing Coordinator) to receive proposed changes from Licensing to assure proper Plant Staff review and approval, and to receive approved Plant Staff requests for changes and transmit them to Licensing.

3. During 1981, as a result of submittal of the Technical Specifications to the NRC, the MP&L Licensing Section controlled the Technical Specifications by use of a master copy. The master copy was dated and a log was kept for all proposed revisions to Technical Specifications. Any proposed changes received by the Plant Staff were reviewed by the Licensing Section and submitted to the NRC. Any proposed changes received from GE, Bechtel, or the NRC were sent to the Plant Staff for review. Any changes proposed by the NRC or "proof and review" pages received by the NRC were reviewed by Plant Staff and Licensing and, if approved by MP&L, the changes were dated and incorporated into the master copy. If the changes were not approved, then alternative specifications were proposed to the NRC.
4. The NRC did not really look at MP&L's submittal of their Technical Specifications submitted in December of 1980; they were actively involved in the review and approval of the LaSalle Technical Specifications. In April 1981, after a review by Bechtel and an internal review by the Plant Staff, the Radiological Effluent Technical Specifications were submitted to the NRC. 
5. In May 1981, the NRC provided MP&L with their version (a draft "proof and review" copy) of the Grand Gulf plant Technical Specifications which was primarily a version of the BWR5 STS that had been revised to reflect the issues which had been addressed on the LaSalle Plant. MP&L was told to mark-up the proposed Technical Specifications and submit them to the NRC by the second week of June, 1981.
6. Based on an initial review of the NRC transmitted Technical Specifications, it was obvious that they had not incorporated much, if any, of the previous GE input for BWR6 STS or input from the MP&L proposed Technical



Specifications. There were many additional items and changes which were obviously a result of the LaSalle Technical Specifications review effort by the NRC.

7. On June 26, 1981, after a review of the NRC proposed Grand Gulf Technical Specifications by Bechtel, GE, MP&L Plant Staff, and MP&L Licensing, the MP&L-approved second draft of the Grand Gulf Technical Specifications was submitted to the NRC. All the changes over the previous draft were indicated by margin bars and the NRC was requested to please use this type of identification for subsequent proposed revisions (this was usually not done by the NRC).
8. On October 7 and 8, 1981, the NRC held a meeting with MP&L at the Grand Gulf Nuclear Station to discuss the proposed Technical Specifications with the MP&L Licensing group and primarily the MP&L Plant Operations staff. The objectives of the meeting were to discuss MP&L's requested Technical Specifications changes and to identify the issues which would require resolution, as well as those items which the NRC would not approve for the Grand Gulf Technical Specifications. In addition, the NRC wanted to assess the Plant Staff's involvement in the Tech Specs.
9. Consultant support for surveillance procedures was reduced in the fall of 1981 to one operations and two maintenance (I&C) procedure writers to complete additional procedures and subsequent revisions to the procedures (normally done by Temporary Change Notices).
10. By the end of 1981, MP&L had requested additional reviews by Bechtel and GE in order to assure the accuracy of the Technical Specifications and to finalize the Technical Specifications to the maximum extent possible. Most of the tables and setpoints were blank since this information was not available when the Technical Specifications were submitted. At this time, fuel loading was scheduled for early to mid 1982.

## 1982

MP&L was scheduled to load fuel in early to mid 1982 and the objective of the Technical Specifications effort was to resolve NRC open items, complete all the setpoint calculations, complete the tables and gain NRC approval of the Grand Gulf Technical Specifications.

1. In early 1982, Bechtel and GE were requested to finalize the instrument setpoints and to complete the tables in the Technical Specifications. These changes, as they were received, were sometimes sent to the NRC by formal letter, but more usually sent informally to Dr. Bottimore, who preferred it that way.
2. In January 1982, the NRC informally transmitted MP&L's "proof and review" Technical Specifications for final review.
3. In early 1982, MP&L Licensing requested one final review of the Grand Gulf Technical Specifications and indicated to the plant operating organization that the FSAR and Technical Specifications would be finalized following this review and comment resolution in order to obtain a final copy that the NRC could print for issuance in the operating license.
4. Because the final proof and review had to be "frozen" to allow printing, the NRC was very reluctant to make any additional changes. For the most part, change requests were sent to the NRC and new NRC approved pages were not sent back to MP&L indicating their disposition. Therefore, effectively, MP&L did not know until receipt of the operating license if the many changes requested in the last several months prior to receipt of the operating license on June 16, 1982, were made by the NRC.
4. Just prior to the receipt of the operating license (within one week before OL issuance), several changes requested by the plant staff as a result of their ongoing work at the site to close out all remaining items for fuel loading were requested by MP&L and subsequently made by the NRC.
5. Upon receiving the operating license, the plant staff was requested to review the Technical Specifications in order to ensure their accuracy and appropriateness, since many of the changes requested in early 1982 and just prior to licensing may not have been incorporated by the NRC. This review, however, was never formally conducted and discrepancies in the Technical Specifications and surveillance procedures were identified during fuel loading and low power physics testing as attempts were made to use them.

ADDITIONAL INFORMATION ON TECHNICAL SPECIFICATION DEVELOPMENT

1. OVERVIEW OF APPROACH

In early 1977, when MP&L initiated efforts to develop GGNS Technical Specifications, the task appeared to be formidable. In the early days of the GGNS project, the operations experienced resources were limited, and the guidance from the NRC was outdated and two BWR product lines removed. As a result, MP&L, in conjunction with other BWR6 owners, General Electric and Bechtel, determined that the best approach would be to pull together the best operations experience available to the BWR6 plants. This effort would not only provide valuable input to a set of Standard Technical Specifications, it would allow an efficient use of utility resources to resolve all generic issues relative to the BWR6 Technical Specifications such that when individual plants submitted their plant specific Technical Specifications, only issues relevant to that plant would have to be dealt with for the NRC review. The early approach of the BWR6 STS Review Group was to develop a completely new retyped version of the STS. However, as indicated previously, based on direction from the NRC in 1979, rather than develop a BWR6 specific STS, the Review Group was required to mark up a previously issued version of BWR3/4 STS.

The BWR6 STS Review Group interfaced informally with the NRC (Dr. Bob Bottimore) and during the initial efforts discussed their plans and objectives with the NRC. The NRC indicated their receptiveness to receiving the input from the BWR6 STS Review Group. Once the Review Group had completed most of its work toward developing a BWR6 STS, the intent was to meet with the NRC as necessary to resolve generic issues until a final BWR6 STS had been developed and agreed upon between the Review Group and the NRC.

MP&L's approach to developing the GGNS specific Technical Specifications involved using the Review Group's basic BWR6 STS document and revising it as necessary for plant specific applications. Since most of the operations expertise existed on the Plant Operating Staff, it was the responsibility of the Plant

Operating Staff to develop the initial set of GGNS Technical Specifications until submittal of the document to the NRC. Following submittal of the Review Group's BWR6 Standard Technical Specifications, MP&L intended to submit its GGNS Technical Specifications, providing at least one year for NRC's review and resolution of issues since it was the lead BWR6. Following submittal of the GGNS Technical Specifications, it would be MP&L Licensing's responsibilities to negotiate the issues with the NRC using the expertise of the architect/engineer and NSSS vendor, as well as the operations expertise of the Plant Operating Staff as necessary. An internal set of Technical Specifications, controlled by the Licensing Section, would be used as the base document for developing surveillance procedures and training operators. This would prevent use of out of date revisions to the GGNS Technical Specifications.

This approach, although logical, did not account for the number of proposed Standard Technical Specifications issued by the NRC during the process. With the number of Technical Specifications changing so rapidly during the critical stages of preparation for fuel load, it is not appropriate to expect any system to adequately control and distribute the proper version of a specific Technical Specification at any one particular time. In addition, because of a number of design changes to the plant in the late stages of construction resulting from Three Mile Island, other new regulatory issues, and design problems found during preoperational testing, much of the plant specific design information necessary to complete the Technical Specifications, including setpoints, was not available until very late in the development process. It was not anticipated that this information would be available until such a late date. In order to control the review and revision cycle and assure the adequate reviews and approvals from the Plant Operating Staff, Licensing assigned an individual on the Nuclear Safety Staff responsibility for tracking and coordinating the review and approval for all proposed Technical Specification changes from MP&L or the NRC. In addition, a focal point for Plant Operating Staff interface was established as the Licensing Coordinator in the Plant Technical Support Section. During this period of significant changes to the Technical Specifications, much of the interface with the NRC was through informal channels.



## II. QUALIFICATIONS OF PREPARERS AND REVIEWERS

During the initial stages of development of the GGNS Technical Specifications and the BWR6 Review Group, the effort was predominantly handled by the MP&L Plant Operating Staff. The Technical Superintendent was responsible for developing the GGNS Technical Specifications. The Technical Superintendent was a degreed nuclear engineer who had been a reactor operator in the nuclear navy, with many years of naval operating experience. He assigned primary responsibility to two of his engineers, both of whom had been involved in the GGNS project since its early days. All three of these individuals had been through the initial portions of the GGNS operator cold licensing training program which included certification as an SRO at the Dresden simulator. In addition, the Operations Superintendent and the Initial Shift Supervisors were intimately involved in the review of the proposed GGNS Technical Specifications. The Operations Superintendent had been previously qualified as an Engineering Officer of the Watch and a Shift Supervisor at a naval prototype, and had also had been through the operator cold licensing training program which included certification as an SRO at the Dresden simulator.

In early 1979, a BWR operations experienced consultant was contracted by Plant Staff from Nuclear Services Corporation (Ron Williams). This consultant had been an SRO licensed senior operating engineer at the Dresden 2/3 plants and had many years of BWR operating experience. His initial responsibilities involved working for the Operations Superintendent to review the Technical Specifications and to develop the Operations Section surveillance procedures. Shortly after his initial efforts, he was assigned responsibility by the Operations and Maintenance Superintendent for initiating the surveillance procedure development efforts and developing a Technical Specification/surveillance procedure cross reference matrix.

As indicated previously, in late 1979 control of the Technical Specifications was shifted to the Corporate Licensing Section. In 1980 when the Technical Specifications were changing very rapidly due to changes in the base STS documents, the Licensing Section contracted with a BWR experienced consultant from EDS Nuclear who had several years of BWR engineering experience with Georgia Power Company. His responsibilities included initial technical review of the proposed revisions to the Technical Specifications from either MP&L or the NRC, providing recommendations on the disposition of such changes, and

obtaining the necessary reviews and approval of the Plant Operating Staff, Bechtel and General Electric. This consultant worked directly for the Supervisor of Nuclear Safety who reviewed all of his recommendations and work efforts. The Supervisor, Nuclear Safety was a degreed nuclear engineer (MS Nuclear Engineering) with over 11 years of engineering and licensing experience in BWR and PWR designs. The Supervisor, Nuclear Safety as well as the Manager, Safety and Licensing (over 8 years engineering, operations and licensing experience in PWR and BWR designs), who had previously been the Operations Superintendent on the Plant Operating Staff, were both intimately involved in the development, review and approval process.

In mid-1981, when the NRC directed MP&L to resubmit a complete new set of Technical Specifications, another contracted engineer was assigned responsibility for assisting in the coordination of the Technical Specifications revision effort. From that point on, this consultant, who had many years of predominantly PWR engineering experience (some BWR engineering experience), was assigned responsibility to administratively control the Technical Specifications in the Safety and Licensing Section. In this role he interfaced with the Plant Staff Licensing Coordinator who also acted in an administrative capacity to obtain the necessary reviews and approvals of the Plant Operating Staff of any changes requested by the NRC or MP&L.

In the latter portions of the Technical Specifications development effort and during the last two years prior to receipt of an operating license, several personnel with BWR operations experience were added to the Plant Operating Staff. The Assistant Plant Manager, Nuclear Support Manager, Operations Superintendent, and several shift supervisors were previously SRO licensed and possessed several years of BWR operating experience. During this period of time it was the responsibility of the Licensing Coordinator and the Plant Operating Staff to obtain their review and approval of proposed Technical Specification changes.

March 29, 1984

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

DOCKETED  
USNRC

BEFORE THE COMMISSION

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In the Matter of

MISSISSIPPI POWER & LIGHT COMPANY, et al.

(Grand Gulf Nuclear Station, Unit 1)

Docket No.

SHOW CAUSE PETITION  
FROM JACKSONIANS UNITED FOR LIVABLE ENERGY POLICIES  
ON T. D. I. GENERATORS,  
REQUESTING REVOCATION OF LOW POWER LICENSE AND  
DENIAL OF A FULL POWER OPERATING LICENSE  
FOR GRAND GULF NUCLEAR STATION UNIT 1

I. INTRODUCTION

1. Comes now Jacksonians United for Livable Energy Policies (hereinafter "Petitioner" or "JULEP") to petition the Commissioners of the U. S. Nuclear Regulatory Commission (NRC), pursuant to Title 10 of the Code of Federal Regulations, Section 2.206, to serve upon Mississippi Power and Light Company ("Licensee" or "MP&L") an order to show cause, pursuant to 10 C.F.R. 2.202(a), why the low power license for Grand Gulf Nuclear Station, Unit 1, should not be revoked, a stay of operation issued, the pending application for an operating license denied, and a proceeding initiated under 42 U.S.C. 2239(a).

II. DESCRIPTION OF PETITIONER

2. JULEP is a public interest organization formed in 1979 to address issues of nuclear power, and utility rates and conduct. Members have testified at Atomic Safety and Licensing Board Panel hearings and environmental hearings on Grand Gulf and have written letters protesting Grand Gulf to the NRC. The organization is currently involved in proceedings to challenge certain technical changes in the operating license for Grand Gulf, Unit 1. Several members of JULEP live within 20 miles or less of Grand Gulf.

III. AUTHORITY

3. Title 10 of the Code of Federal Regulations, 2.206(a), establishes the right of the public to petition the Commission to institute a proceeding pursuant to 2.202(a) to modify,

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suspend, or ~~revoke~~ a license or for other relief. Such a petition must set forth the factual basis and the relief requested. The Commission may, pursuant to 10 C.F.R. 2.202(a), institute such a proceeding by servicing upon the licensee an order to show cause.

#### IV. DISCRETIONARY HEARING

4. The Atomic Energy Act of 1954 gives discretion to revoke, suspend, or modify the construction permit of an NRC licensee:

A license or construction permit may be revoked, suspended or modified in whole or in part, for any material false statement in the application for license or in the supplemental or other statement of fact required by the applicant, or because of conditions revealed by the application for license or statement of fact or any report, record, inspection, or other means which would warrant the Commission to refuse to grant a license in an original application; or for failure to construct or operate a facility in accordance with the terms of the construction permit or license or the technical specifications in the application; or for the violation of or failure to observe any of the terms and provisions of this chapter, or of any regulation of the Commission.

42 U.S.C. 2236. Notwithstanding the discretionary aspect of this statute, the NRC has a mandatory duty to exercise its authority when necessary and is required to determine that there will be adequate protection of the public health and safety. See Natural Resource Defense Council vs. U. S. Nuclear Regulatory Commission, 528 F. 2d 166 (2d Cir. 1978). The Supreme Court has determined that the Atomic Energy Act mandates that "the public safety is the first, last and permanent consideration in any decision of . . . a license to operate a nuclear facility." Power Reactor Co. v. Electricians, 367 U.S. 396, 402 (1961), quoting In re Power Reactor Development Co., 1 A.E.C. 128, 136 (1959).

5. JULEP seeks consideration of whether the Licensee has met and will continue to meet the requirements of the Rules and Regulations of the NRC, and further, whether there exists reasonable assurance that continued low power operation, and issuance of a full power license to the Licensee, will not jeopardize the public health and safety.

6. There is no existing forum to address the matters at issue. The operating license for Grand Gulf was uncontested. A request for hearing and petition to intervene filed at this stage pursuant to 10 C.F.R. 2.714 would be untimely. At the time the Operating License application for Grand Gulf, Unit 1, was noticed, JULEP did not represent affected members of the public, and was unable to contemplate an active role as intervenor.

7. The lack of an existing forum does not alter the fact that a utility bears the burden of proof. As the Commission has stated:



We think it ineluctable that a utility must bear the burden of proving compliance with the Commission's safety regulations not only at the beginning and at the end of the nuclear licensing process — but, as in this case — when called upon at some interim point to "show cause" why a construction permit should not be lifted for safe construction practices.

Consumer Power Company (Midland Plant, Units 1 and 2), ALAB-315, 3 N.R.C. 101, 104 (1976). A petitioner need only provide the NRC staff with "sufficient reason" to look into the matter of revocation of a license, but is not required to assume the burden itself. Consolidated Edison Company of New York, et al. (Indian Point Units 1, 2 and 3), CLI-75-8, 2 N.R.C. 173, 177 (1975). Public safety, as well as the right of the public to due process of law, dictate that this should be so.

8. Regardless of the lack of an existing forum, the public is entitled to a hearing in order to protect the public interest in its health and safety. As Scenic Hudson Preservation Conference v. Federal Power Commission, 354 F. 2d 608 (1965), demonstrates, the NRC is under an obligation to consider all relevant information in an effort to protect the public interest, especially in an issue of this type where concern for public health and safety is so great.

9. A petitioner, in requesting a show cause order, must show that "substantial health or safety issues [have] been raised." Indian Point, supra, at 177. Another test against which any request for a discretionary hearing must be judged is whether such a proceeding would serve any "useful purpose." Public Service Company of Indiana (Marble Hill Nuclear Generating Station, Units 1 and 2), CLI-80-10, 11 N.R.C. 438, 443 (1980). In the instant case, the lack of intervention in the licensing of Grand Gulf notwithstanding, the matter of the operation of the plant is of great concern to residents of Mississippi. Enormous cost overruns, resulting predicted increases in utility rates, and a history of delays, management and technical difficulties, and the falsification of training data of employees at Grand Gulf have given rise to tremendous interest and concern about the plant. As will be shown, the problems forming the base of this request point to an inevitability of harm to public health and safety. The understandable interest of the public can only be addressed in a public forum. The long history of problems has caused the public to lose faith in the regulatory process. Regulation of Grand Gulf, because of the lack of prior public intervention, has been conducted largely out of the public eye.

10. The "useful purpose" served by a discretionary hearing is the technical resolution of problems resulting in a greater degree of safety afforded to the public. Suspending orders can be used to remove a threat to the public health and safety. The primary test of "useful purpose" is based on what type of regulatory action best serves the public welfare.

11. Given the Licensee's constant failures to meet regulations — indeed, its apparently deliberate breaking of regulations in the case of employee training — and the enormous number of discrepancies between physical plant and specifications, it can only be concluded that neither the NRC nor the Licensee knows what has been constructed. The relief requested by the petitioner, including 100% review of the design and as-built plant and an adjudicatory determination of both the quality of the Licensee's plant and management, is the only method of determining that operation of this facility will not pose a threat to the public health and safety. This, in essence, is a determination of the "inevitability of harm," based on the extent to which the Licensee has conformed to the NRC's regulations.

#### V. 10 C.F.R. SECTION 50, APPENDIX A, CRITERIA

12. Grand Gulf, Unit 1, received a low power license in June 1982. Discovery of a design flaw requiring modifications delayed completion of low power testing until late last year. In the NRC-conducted Systematic Assessment of Licensee Performance (SALP) annual Board reviews, MP&L management has consistently scored poorly. Grand Gulf received a license despite the fact that approximately 200 technical specifications and 600 surveillance procedures were in error, despite the fact that the qualifications of operators were apparently falsified, and despite the fact that the drywell cooling system was inadequately designed and constructed. Some of the erroneous surveillance procedures were submitted for equipment that does not even exist at the plant. Some of the incorrect technical specifications were written for a different size and type containment building than the one at Grand Gulf. Grand Gulf, Unit 1, is the first U.S. boiling water reactor to use Mark III containment. MP&L has no previous nuclear experience. Until very recently, none of the operating staff had operated a commercial reactor. In light of all these factors, Grand Gulf should have received the strictest scrutiny by the NRC. Hugh Thompson of the Office of Nuclear Reactor Regulation has admitted that neither staff nor applicant review of the technical specifications was adequate (*Inside NRC*, March 5, 1984, p. 9). Prior to licensing, the NRC sent MP&L a copy of technical specifications for a Mark II containment plant, expecting the licensee to review and adjust them to meet the actual physical plant. MP&L did not do this. NRC assumed that it had and issued a low power license. None of the problems — the considerable discrepancies in technical specifications and surveillance procedures, the falsification of operator training data, a design flaw requiring modification — were even discovered until after issuance of the license. No public hearing has been held on these

issues, nor was a prior public hearing held when the NRC agreed to waive certain technical requirements in September 1983. In spite of these problems, and consistent poor performance of Licensee management, the NRC has repeatedly assured itself that corrective actions have been initiated which will result in the fulfillment of NRC regulations. Nothing in the existence or history of this plant justifies this excusing.

13. The Licensee has been, and continues to be, incapable of meeting NRC requirements, particularly Appendix A to 10 C.F.R. Section 50. Criterion 17 under II in Appendix A states:

The onsite electric power supplies, including the batteries and the onsite electric distribution system, shall have sufficient independence, redundancy, and testability to perform their safety functions assuming a single failure."

#### VI. INADEQUATE ONSITE ELECTRIC DISTRIBUTION

14. Two of the three electrical generating engines at Grand Gulf are Model DSRV 16, supplied by Transamerica Delaval (TDI). These engines have experienced significant problems in completing the pre-operational test program, have had several major failures, including a fuel line break which caused a fire, and many minor failures. The problems to date include:

3/81	Excessive turbocharger thrust bearing wear;
4/81	Non-class 1E motors supplied with EDG auxiliary system pumps;
11/81	Piston crown separation during operation;
1/82	Governor lube oil cooler located too high, creating possibility of trapping air in the system;
3/82	Air start sensing line not seismically supported;
3/82	Engine pneumatic logic improperly designed, creating possibility of premature engine shutdown;
3/82	The crankcase cover capscrew failed, with head lodging in and shorting out the generator;
6/82	Air starting valve capscrews replaced because they were too long for holes;
8/82	The flexible drive coupling material incompatible with the operating environment;
8/82	The latching relay failed during testing;
7/83	Air start valve failures;
8/83	High pressure fuel injection line failed;
8/83	Cracks in connecting push rod welds discovered;
9/83	The fuel oil line failed, causing a major fire;
9/83	Unqualified instrument cable;
10/83	Fuel oil leak;
10/83	Cracked push rod weld;
1983	Turbocharger mounting bolt failures;
1983	Cracked jacket water welds;
1983	Turbocharger vibration;
12/83	Cylinder head cracks;
12/83	Cracks in piston skirts in Division II EDG;
During EDG Installation Cylinder head cracks.	

15. The long history of problems with TDI generators at Grand Gulf and other plants (see Attachment 1) demonstrates that they cannot be depended upon to function when needed. This leaves only one dependable source of electric power in the event of an emergency. This does not meet the redundancy required by the NRC.

16. The Licensee proposes to jury rig gas turbines to overcome the problem (see Attachment 2). At the February 29 NRC Commission meeting, MP&L indicated that these gas turbines would require 10-15 minutes to come to power as opposed to the 10-15 seconds now required for the diesel generators (February 29 Briefing on the Status of Grand Gulf before the NRC, page 18). This long delay is totally unacceptable in the course of an accident.

17. MP&L has proposed to switch the third non-TDI diesel generator, which is dedicated to the High Pressure Core Spray system (HPCS), over to carry other loads during an accident. This would result in the HPCS being taken out of service (February 29 Briefing, page 18). This results in a loss of a vital emergency response system.

18. It is clear that the TDI generators are completely unreliable. The NRC has expressed concern over the multiple and seemingly endless problems with the generators. Harold Denton, the NRC's director of Nuclear Reactor Regulation, has directed that no nuclear plant be allowed to operate with a TDI emergency diesel generator until technical questions about their operating history are answered (see Attachment 3). Last October, Darrell G. Eisenhower, Director, Division of Licensing, in a letter to NRC Commissioners stated that "the identification of QA problems at TDI, taken together with the number of operational problems and the Shoreham crankshaft failure, has reduced the staff's level of confidence in the reliability of all TDI diesel generators." (See Attachment 4.) Certainly no exception or reduction in scrutiny should be made for Grand Gulf, particularly in light of the fact that it is precisely the lack of vigilant regulation and scrutiny that has resulted in a plant with the magnitude of problems present at Grand Gulf being permitted to operate at all.

19. The proposals of the Licensee to deal with this, to jury rig gas turbines and to switch the HPCS diesel power over, are makeshift measures to try and compensate for serious deficiencies. This licensee has been unable to conform specifications to physical plant. It is questionable, given the poor management, training data falsification, and discrepancies in specifications and surveillance procedures, whether MP&L really understands the construction and operation of Grand Gulf, Unit 1. If they have not proved competent to even conform to the most basic regulations, they certainly should not be considered competent to implement makeshift measures. For the NRC to allow this, and once again permit MP&L to proceed in the face of problems and inadequate scrutiny, would be inexcusable.

20. The crankshafts of the TDI generators are inadequately designed. In similar TDI diesel engines at the Shoreham Nuclear Station operated by Long Island Lighting, one crankshaft broke



and cracks appeared on the remaining crankshafts. Crankshaft problems have also occurred at the Catawba plant operated by Duke Power Company. The TDI generators at Catawba and Grand Gulf are identical.

21. The pistons are inadequately designed. Early on at Grand Gulf, piston crown separation occurred during operation. They were returned to TDI for rework. TDI is the source of the TDI generator malfunctions. There is no indication that any change in design has occurred to ensure that the separation, or other problems, will not recur. Defective performance of the pistons has occurred almost across the board with TDI generators, both at nuclear plants and on marine operation. (See Attachment 1.)

22. The cylinder heads are inadequately designed. At Grand Gulf, three heads have already had to be replaced due to cracks. Again, cylinder malfunctions have occurred across the board with TDI generators. Only redesign, and not replacement, will ensure proper operation!

23. The fuel lines are inadequately designed and/or installed. Numerous fuel line failures have occurred at Grand Gulf. One resulted in a major fire. Fuel oil lines at Shoreham ruptured.

#### VII. N. R. C. ENFORCEMENT

24. The responsibilities of the NRC Office of Inspection and Enforcement (I & E) are established by 10 C.F.R. 1.64:

The Office of Inspection and Enforcement develops policies and administers programs for: inspecting licensees to ascertain whether they are complying with NRC regulations, rules, orders, and license provisions, and to determine whether these licensees are taking appropriate actions to protect nuclear materials and facilities, the environment, and the health and safety of the public; inspecting applicants for licenses, as a basis for recommending issuance or denial of a limited work authorization, construction permit or an operating license; inspecting suppliers of safety-related services, components, and equipment to determine whether they have established quality assurance programs that meet NRC criteria; investigating incidents, accidents, allegations, and unusual circumstances including those involving loss, theft, or diversion of special nuclear material; enforcing Commission orders, regulations, rules, and license provisions; recommending changes in licenses and standards, based on the results of inspections, investigations, and enforcement actions; and notifying licensees regarding generic problems so as to achieve appropriate precautionary or corrective action. . . . NRC's five Regional Offices are responsible for carrying out inspections and investigations.

25. The lack of decisive actions on the part of I & E, Region II, to ensure that this Licensee meets Appendix A requirements, as well as other regulations, has resulted in conditions that present a serious threat to public health and safety. The staff has allowed the Licensee to get by with prospective commitments, with the result that past defects are not adequately analyzed or corrected. It is inappropriate and totally unacceptable for the NRC to continue to accept the Licensee coming forward with new "plans" in which it proposes to meet NRC criteria.

26. There is no assurance that the public record, upon which the Petitioner must rely, is in any way complete. It is relevant to note that James J. Cummings, director of the Office of Investigator and Auditor (OLA), responsible for authorizing all investigations, was removed from his position by the Commission in September 1960. The public has no way to know what matters the NRC and the Licensee have "settled" between themselves, whether properly or improperly.

### VIII. Relief Requested

27. Petitioner, having shown herein that the Licensee, Mississippi Power and Light Company, has failed to meet the criteria of 10 C.F.R. Section 50 for electric power systems, requests the revocation of the low power license of Grand Gulf Nuclear Station, Unit 1, and a stay of operation, in that prior knowledge of the scope and substance of the Licensee's failure to meet NRC requirements would have caused the Commission to refuse the original application. Moreover, the foregoing has demonstrated that the NRC cannot yet make the finding required by 10 C.F.R. Section 50.57 for issuance of an operating license that there is reasonable assurance that the activities authorized could be conducted without endangering the public health and safety, and thus the pending application for full power license should be denied.

28. The request for a revocation of the low power license notwithstanding, the petitioner requests further relief, to include:

(1) Appointment of an independent panel of investigators from outside the agency to investigate (a) possible improprieties and illegal acts by NRC inspectors and investigators; (b) the handling by the OLA of the improprieties which have been previously identified; and (c) the effectiveness of NRC Region II in fulfilling the mandated responsibility to enforce the regulations of the NRC which exist to ensure protection of the public health and safety;

(2) Modification of the operating license to include (a) removal from the management organization of those responsible for past failures at Grand Gulf; (b) implementation and verification of corrective actions for all identified deviations from requirements; and

(3) Hearings before an Atomic Safety and Licensing Board.

### IX. CONCLUSION

29. As the foregoing petition has illustrated, the Licensee has not designed, constructed and documented Grand Gulf in compliance with the regulations of 10 C.F.R. Section 50 and

in conformity with the terms of its technical specifications and operating license. The evidence presented herein is only that which is in the public record and is but a fraction of the findings made by the NRC over the course of the regulatory history of Grand Gulf.

30. WHEREFORE, petitioner prays for an order granting the requested relief set forth above.

Respectfully submitted,

Cynthia Stewart

Cynthia Stewart  
Jacksonians United for Livable  
Energy Policies