MISSISSIPPI POWER & LIGHT COMPANY
*Helping Build Mississippi*
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December 20, 1982

NUCLEAR PRODUCTION DEPARTMENT

U. S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
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/M-001.0/L-860.0
ADS Air System, EQB Concerns
AECM-82/581

REFERENCES:

1. AECM-82/317, July 15, 1982
2. AECM-82/465, October 7, 1982
3. AECM-82/490, October 18, 1982
4. AECM-82/510, October 26, 1982

In recent telephone conversations with Mississippi Power & Light Company (MP&L), members of the Equipment Qualification Branch and Reactor Systems Branch, indicated that there were still unresolved concerns regarding the Automatic Depressurization System (ADS) air system. These concerns stem from the NRC Staff review of the latest MP&L submittals on this subject (References 3 and 4 above). MP&L's responses to these concerns are discussed below.

1. Related Licensee Event Report

In AECM-82/465, (Reference 2, above), MP&L reported an event which had resulted in an extended loss of ADS air system pressure. As a result, the NRC has expressed a reluctance to accept items 1 and 2 of the justification for interim plant operation in AECM-82/510. However, MP&L holds that the event was an isolated occurrence which resulted from an operator error during the unique circumstances which accompany initial plant testing. Furthermore, at the time of the event, only the tests and inspections required by normal construction practices had been completed. These include inspections, flushes, and hydrostatic tests and are intended to verify proper system installation. Such procedures do not have the sensitivity to detect a pressure decay of less than 1 psi/hour, similar to that discussed in AECM-82/465. Greater sensitivity is obtained in the pre-operational tests which are intended to verify system design and performance. (The ADS air system pre-operational test will be completed during the current outage.) Therefore, the event discussed in AECM-82/465 does not weaken the justification for interim plant operation presented in AECM-82/510.





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Submission of the additional information given above, in the view of MP&L, resolves this issue for full power licensing. If you have any questions, please do not hesitate to contact us.

Yours truly,

L. F. Dale
Manager of Nuclear Services

GWD/MJD/JGC/JDR:sap

cc: Mr. N. L. Stampley
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2. Leakage Reduction Measures

In preparation of the ADS air system for its pre-operational test, a leak reduction program has been initiated. The program includes the replacement of all valve packings, flange gaskets, and inspection cover gaskets which could allow air leakage to the containment and drywell atmosphere. The effectiveness of the current gasket material will be enhanced with a compatible sealing compound. Valve packing material will either be changed, or remain the same with a compatible sealing compound - depending on material availability. These measures, followed by successful completion of the pre-operational test, will provide assurance that the ADS air system will remain operable between periodic system leak tests.

3. Pre-Operational Test

To verify the capacity of the ADS air receivers, the instrument air booster compressors will be turned off and the compressor discharge piping vented to the atmosphere. With the containment and drywell at atmospheric pressure, the pressure decay rate in each of the two ADS air headers will be monitored for at least eight hours and an extrapolated, seven-day air pressure will be determined. The leakage test will be considered successful if the air pressure after seven days (based on extrapolation from test data) is above 110 psig. Field tests have shown that with the ADS air system at 110 psig, each ADS valve can be actuated three times.

The capacity of the ADS air accumulators will be verified by venting the ADS air receivers to atmosphere, with the containment and drywell at atmospheric pressure, and each ADS valve will be cycled twice. Drywell backpressure requirements were included in the basis for accumulator sizing and is accounted for during valve testing. Successful completion of the pre-operational test will be recorded at the plant for Nuclear Regulatory Commission (NRC) review, if desired.

4. Reliance on Instrument Air System Instrumentation

The NRC has expressed a reluctance to accept Item 3 of the justification for interim plant operation in AECM-82/510 because: the instrumentation is part of the instrument air system and, as such, is not safety-related; there is no procedural link between the instrumentation readout and the Technical Specification action statements for the ADS. In regard to the first issue, MP&L has committed in AECM-82/317 and AECM-82/510 to install safety-related instrumentation, during the first outage, to measure ADS Air System pressure. In accordance with SECY-82-111B, dated September 8, 1982, reliance on the non-safety-related instrument air system instrumentation, until the above commitments can be implemented, is justified.

To provide a back-up to the instrument air instrumentation and to address the second NRC issue, MP&L will install a temporary mechanical pressure gauge on the test connection shown at location A-5, FSAR Figure 9.3-1. This gauge will be installed prior to exceeding 5% power and will not

interfere with the capability for ADS air makeup discussed in AECM-82/490. The plant operator's Round Sheet is being revised to require the gauge to be read once every 24 hours. Notes on the Round Sheet will state that if the gauge reads 150 psig or less, Technical Specification Action 3.5.1.e will apply immediately. It should be noted that any operator action prompted by a low pressure indication on the instrument air instrumentation or on the temporary pressure gauge will be conservative in nature because, with the ADS air system check valve arrangement, a low indication does not necessarily represent low ADS air pressure. Conversely an acceptable pressure reading at the subject gauge is generally indicative of acceptable pressure at the ADS accumulators, providing a proper initial valve lineup.

5. Administrative Measures Pertaining to Makeup Air Supply

As noted in the attachment to AECM-82/490 (Reference 3), a makeup air supply may be required after seven days to hold certain ADS SRVs open. Operator action is required to provide a source of makeup air to a test connection located in the auxiliary building. This is not an immediate action but may be required at some point in the initial phases of plant stabilization, following the LOCA event.

MP&L commits to revising the appropriate Alarm Response Instruction (ARI) and/or Off Normal Event Procedures (ONEP) to advise the operator that the receiver/accumulator system design provides for seven days supply and that additional makeup air can be provided to the system via the subject test connection, if required.

The criteria for when to establish the makeup connection will not be specified but rather left to the judgement of the shift supervisor and the supporting emergency response team. This decision will be based primarily on the availability of normal and emergency pressure control and decay heat removal systems and the plant conditions.

These procedural revisions discussed above will be accomplished prior to exceeding 5% power

6. Periodic Leak Test

In AECM-82/510, MP&L committed to perform an integrated leak test on the ADS air system every 18 months. As currently planned, this test will be initiated by turning off the instrument air booster compressors and by venting the booster compressor discharge to atmosphere. The pressure decay rate in each of the two ADS air headers will be monitored and an extrapolated seven-day air pressure will be determined. The leakage test will be considered successful if the air pressure after seven days (based on extrapolation from test data) is above 110 psig. Should the pressure be below 110 psig, MP&L will take those steps necessary to reduce ADS air system leakage.