



MISSISSIPPI POWER & LIGHT COMPANY

Helping Build Mississippi

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January 17, 1985

NUCLEAR LICENSING & SAFETY DEPARTMENT

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

CORRECTED COPY: Duplicate
letter ID No. - AECM-85/0014
should have been AECM-85/0027.

Attention: Mr. Harold R. Denton, Director

Dear Mr. Denton:

SUBJECT: Grand Gulf Nuclear Station
Unit 1
Docket No. 50-416
License No. NPF-29
File: 0260/L-860.0
Remote Shutdown Panel - Request for
Additional Information
AECM-85/0027

By letter AECM-83/0802, dated December 28, 1983, Mississippi Power & Light (MP&L) Company submitted a description of proposed provisions for isolating Division I remote shutdown panel control circuits from potential damage due to a control room fire. By letter to MP&L dated November 9, 1984, the NRC requested additional information concerning MP&L's proposed installation. The purpose of this letter is to provide MP&L's response to that request.

The request for additional information relates to concerns involving transfer of control to the remote shutdown panel which may result in a change in operating status of the load and additionally may be detrimental to safe shutdown. In light of information contained in the attachment to this letter, MP&L contends that there are no cases where loads change state as a result of operation of the Transfer Switch design proposed for Grand Gulf Unit 1. A discussion of MP&L's position is provided in the attached response.

If you have any further questions, please contact this office.

Yours truly,

L. F. Dale
Director

MLC/JGC:rg
Attachment

cc: (See Next Page)

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MISSISSIPPI POWER & LIGHT COMPANY

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cc: Mr. J. B. Richard (w/a)
Mr. N. S. Reynolds (w/a)
Mr. R. B. McGehee (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
101 Marietta St., N.W., Suite 2900
Atlanta, Georgia 30323

Question 1:

Identify any loads for which their operational status following transfer of control to the remote shutdown panel is dependent on position of remote shutdown control switches prior to the transfer.

Response: There are no cases where loads change state as a result of operation of the Transfer Switch design, as proposed for GGNS, that are required to achieve and maintain safe-shutdown due to the effects of a control room fire. Note that a control room fire is the only event requiring utilization of the Transfer Switch, and as such, this evaluation is limited to this consideration.

In general, the Grand Gulf remote shutdown control parallels control room control and the transfer switch merely serves to isolate the control room. With the exception of the SRV Control (discussed below in response to Question 2), when maintained contact switches are used they are used in pairs. One switch provides valve position control and the associated selector switch provides location control capability (i.e., control room or remote shutdown panel). Therefore, in the case of maintained contact switches there would be no change in state upon transfer.

Question 2:

For the loads identified in 1 above, a) describe any additional changes to be implemented to preclude the potential that loads could change state due to transfer of controls, or b) provide a justification that such changes in operational status would not have a detrimental impact on safe shutdown.

Response: Based on a review of loads controlled by the remote shutdown panel, only the SRVs were identified to require an operator action to insure that spurious signals do not precipitate undesirable actions after transfer. Also, the review revealed two components where the potential exists for relay races to occur if the equipment is running at the time of transfer, however, neither component is required for safe shutdown due to the effects of a control room fire. These three loads are discussed below.

- 1) The safety relief valves are normally closed, (de-energized), for a normal shutdown without a loss of offsite power. Utilization of the transfer switch due to a control room fire will not effect a change in valve status.

With a loss of offsite power, the MSIVs close causing a subsequent rise in reactor pressure. If the pressure increases to 1103 PSIG, SRVs Q1B21F051 B and D opens and if pressure continue to increase to 1113 PSIG the other SRVs will have opened. Each SRV is provided with a dual solenoid. Each solenoid is powered from a separate DC divisional power source, such that each SRV reacts to the same parameters of either division and can be opened by either division. If the SRVs were controlled by Division I only then the transfer switch would cause the SRVs to close (de-energize). Due to the fact that each SRV is controlled

with redundant power sources the transfer switch will not cause a change in valve status because the SRVs will be reacting to the parameters of the Division II logic until Division I control can be secured. After Division I control has been secured it will be necessary to trip the Division II DC breaker, 72-11B34, thus, precluding any spurious valve actuation that may be caused by the affects of a control room fire onto the Division II circuitry within the control room. Tripping the Division II DC breaker will be an action administratively controlled.

2) CRD drive water pump N1C11C001A-A

The CRD drive water pump circuit would appear to have the potential for changing state, from running to trip if the pump was running. A relay race in the control circuit could cause the pump to trip upon transfer, although, manufacturers relay data indicates that this should not be the case. Regardless, the pump is not used as a part of a normal safe shutdown. Pump control was added to the Remote Shutdown Panel as an alternative for supplying high pressure water to the reactor. The purpose behind having this capability available should not be coupled with the effects of a control room fire. Therefore, the CRD pump should be allowed to remain as is.

3) RCIC Gland Seal system compressor, Q1E51C002-A2

The Gland Seal system compressor control circuit would appear to have the potential for changing state, from running to trip if the compressor was running. A relay race could cause the component to trip. However, manufacturers relay data indicates that proper coordination does exist to prevent this. Aside from the above, the compressor is normally tripped upon receipt of a LOCA signal and therefore, should the compressor trip as a result of the transfer, the loss of the compressor is of no consequence and will not preclude the RCIC system from performing its intended shutdown function.

Question 3:

The transfer scheme for the control of loads is not generally directly compatible for use with analog measurements. Therefore, describe the means by which transfer switches are used to assure that analog indicators at the remote shutdown panel will be suitable isolated from that portion of such circuits subject to potential damage due to control room fire.

Response: All analog indicators, with the exception of the RCIC speed indicator (1C61-SI-R101), are on instrument loops independent of the control room and the Transfer Switch, thereby precluding the potential for damage of these circuits due to a control room fire or loss of function due to transfer of control. The RCIC speed indicator is in series with the control room indicator on the same

instrument loop with no control room isolation capability.

- However, loss of this loop would not compromise safe shutdown due to the effects of a control room fire as this equipment has been determined to be unnecessary for mitigation of the effects of a control room fire.