

FEB 22 1985

Docket No. 50-458

Mr. William J. Cahill, Jr.
Senior Vice President
River Bend Nuclear Group
Gulf States Utilities Company
Post Office Box 2951
Beaumont, Texas 77704
ATTN: Mr. J. E. Booker

Dear Mr. Cahill:

SUBJECT: EMERGENCY CLASSIFICATION SCHEME - RIVER BEND STATION

The staff has completed its review of the Emergency Classification Scheme contained in Section 13.3.3 of the River Bend Station Radiological Emergency Plan through Amendment 15 to the FSAR. As a result of our review, the staff finds that additional information and clarification is required on the Emergency Action Levels (EALs) listed in Table 13.3-1 of the Plan before the staff can conclude that the EALs conform to the guidelines of Appendix 1 to NUREG-0654. The specific information and clarification requested is discussed in the enclosure.

Please provide your response to the enclosed within 30 days of the date of this letter. NRC Project Manager Steve Stern is available to provide additional information or clarification.

Sincerely,

A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing

Enclosure: As stated

cc: See next page

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

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Sincerely,

A handwritten signature in cursive script, appearing to read "A. Schwencer".

A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing

Enclosure: As stated

cc: See next page

River Bend Station

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REVIEW OF THE RIVER BEND STATION EMERGENCY
ACTION LEVELS

General

The comments pertain to the EALs found in Table 13.3-1 of the River Bend Station Emergency Plan, dated November 1984. Emergency classification and action level schemes compatible with NUREG-0654, Appendix 1 have been established. The following EALs are in need of further revision.

ALERT

Initiating Condition 3 (Steam line break with MSIV leakage). The plan addresses a steam line break inside containment with MSIV leakage. The plan should provide appropriate EALs for steam line breaks both inside and outside of containment with MSIV leakage. Generic EALs for this initiating condition are "high steam line flow and low reactor water level" to indicate a steamline break inside containment. Generic EALs for MSIV leakage are "Shift Supervisor's opinion that MSIVs are malfunctioning or continuing steam flow with evidence that the steam line break is outside containment." Radiation or temperature instrumentation in the steam tunnel or turbine building can indicate breaks outside containment.

Site Area Emergency

Initiating Condition 1 (Inability to maintain reactor water level). The new initiating condition and EAL response is inadequate. The initiating condition "inability to maintain reactor water level" should be changed to "known LOCA

greater than makeup pump capacity." This will better meet the intent of NUREG-0654. An adequate EAL set is "high drywell radiation, temperature or pressure, or low low low (Level-1) reactor water level."

Initiating Condition 6 (Loss of functions needed for hot shutdown). The NUREG-0654 initiating condition "complete loss of any function needed for plant hot shutdown," addresses the loss of capability to bring the reactor from full power to hot shutdown. The initiating condition "loss of functions needed to bring the reactor from hot shutdown to cold shutdown" should be changed to meet this intent. To prepare an adequate EAL response, the EAL set could be altered to read "EAL No. 1 and any one of the three parts of EAL No. 2," and add EALs that indicate the reactor has not scrammed. An example initiating condition of these EALs is "inability to scram and inoperable standby liquid control system."

Initiating Condition 7 (Transient requiring operation of shutdown system with failure to scram). Failure to scram in the sense used here, where power generation continues, also requires the loss of the standby liquid control system. An EAL should be added that indicates this loss.

General Emergency

Initiating Condition 4 (Other plant conditions). The plan lists the four example BWR sequences (Initiating Conditions 6a, 6b, 6c and 6d of NUREG-0654

Appendix 1) under this initiating condition. Essentially there have been no changes made to the EAL set reviewed in the EAL review letter dated May 25, 1984. The comments discussed in the above letter are still applicable for this present review, and are repeated below.

Initiating Conditions 6a, 6b, 6c, and 6d (BWR Accident Sequences). The licensee listed one EAL set for all four BWR sequences. This EAL set is interpreted as follows:

"LOCA and Low Reactor Water level, and
Loss of all offsite and onsite AC power, and
Loss of all vital onsite DC Power, and
No Suppression pool cooling initiated for >30 minutes, or
Loss of all onsite DC power for >10 hours."

This EAL set indicates some of the conditions for each BWR sequence, but it does not completely address each one. The generality of the EAL set does not allow for explicit and unique characterization of some of the conditions found in these sequences. It is suggested that an EAL set be prepared for each example BWR sequence listed in NUREG-0654, Appendix 1. Some recommended generic EALs for each sequence are given below.

6a. Transient and Failure of Core Shutdown Systems

The main point of this sequence is that the reactor is producing power without adequate heat sinks. Appropriate EALs for this example BWR sequence and for a number of others involving failure to scram would be cases where the reactor remains critical after a trip with any of the following:

- very high reactor pressure,
- rapidly increasing containment or suppression pool temperature, and
- rapidly increasing containment pressure.

6b. LOCA with ECCS Failure Leading to Core Melt

This sequence is a LOCA with ECCS failure that has resulted in damaged fuel. If the ECCS continues to malfunction, core melting will occur, which is grounds for declaring a General Emergency. Generic EALs would be:

- EALs for indicating a LOCA (e.g., high drywell pressure or low reactor water), and
- Gap activity in primary fluid or steam, or the core is uncovered, and ECCS malfunction.

6c. LOCA with Unsuccessful Containment

This sequence assumes that a LOCA has occurred with the ECCS functioning properly. However, containment cooling has failed which, in time, would lead to a loss of the ECCS and core melt. Generic EALs are:

- A small or large LOCA has occurred, and
- Containment temperature has become excessive and is still rising, or
- Containment cooling is inadequate for 30 minutes or more.

6d. Shutdown without Heat Removal Means

This sequence, in simple terms, means that all heat sinks have been lost.

Generic EALs would be:

- RHR not functional or no standby service water, and
- Main feedwater/condenser system not functional or no circulating water system, and
- RCIC not functional or excessive suppression pool temperature.