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JOHN R. McGAHA, JR.
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September 8, 1994

U. S. Nuclear Regulatory Commission
Mail Station P1-37
Washington, DC. 20555

Attention: Document Control Desk

Subject: River Bend Station - Unit 1
Docket No. 50-458
License No. NPF-47
Licensing Amendment Request (LAR 94-09) - Change to Technical
Specification 3.10.2, Special Test Exceptions - Rod Pattern Control
System

File Nos.: G9.5, G9.42

RBF1-94-0037
RBG-40863

Recently, Entergy Operations, Incorporated (EOI) determined that a small fuel leak exists in the reactor core at River Bend Station (RBS). After reviewing related industry experience and consulting with the fuel vendor (General Electric), EOI believes that it is necessary to perform a power suppression test to determine the location of the fuel leak. Once located, the leaking fuel will be evaluated to determine the need to suppress the fuel by fully inserting the associated fuel cell control rod. This action will help reduce the potential for further degradation of the damaged fuel.

The power suppression test procedure will be accomplished by reducing core power less than or equal to 55% and establishing a predetermined control rod test pattern in accordance with applicable analysis. Once the test pattern has been established, control rods will be inserted and withdrawn per the approved test procedure. To minimize the nodal power transient caused when withdrawing the control rod, RBS operators must continuously withdraw each control rod being tested. Continuous withdrawal is accomplished by bypassing the control rod withdrawal notch restraints imposed by the Rod Pattern Control System (RPCS).

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Bypassing the RPCS logic for power suppression testing is not currently allowed by Technical Specification 3.10.2, "Special Test Exceptions - Rod Pattern Control System". Therefore, EOI requests a change to Technical Specification 3.10.2 to allow this testing. The request is provided in Attachment 1 to this letter.

Per guidance provided in General Electric SIL #379, "Power Suppression Testing," the power suppression test should be performed as soon as practical to reduce the consequences of the leaking fuel. Failing to perform power suppression testing and taking appropriate actions leaves the damaged fuel unprotected allowing further degradation. RBS has reviewed industry experience and has found that fuel suppression activities taken within 30 days of discovery greatly reduces continued fuel degradation. The existence of leaking fuel was initially discovered on August 20, 1994 and confirmed on August 23, 1994.

During the time from discovery to present, EOI has investigated options to allow power suppression testing using continuous rod withdrawal. In addition to this request, EOI evaluated using a design feature of the RPCS which allows continuous rod withdrawal under certain conditions. On September 7, this option was ruled out when EOI determined that all the control rods could not be tested using this design feature due to power control restrictions. Also, EOI performed analysis to attempt to determine the approximate location of the leaking fuel based on off-gas chemistry. This analysis was inconclusive due to lack of cesium build-up in the off-gas.

To mitigate further fuel degradation, EOI requests this change be reviewed and approved under the provisions of 10CFR50.91(a)(5). EOI requests approval as soon as practical since any plant transient could further damage the leaking fuel and increase off-site dose. Identifying the leaking fuel as soon as possible will minimize both the probability of further fuel degradation and risk to the public.

EOI believes this request meets the requirements for emergency action per 10CFR50.91(a)(5) as follows:

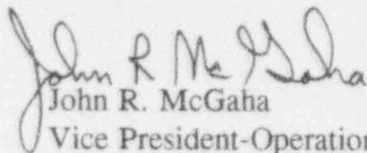
1. Even though well below RBS licensed off-site dose limits, the leaking fuel is causing an increase in off-gas activity; therefore, the amount of off-site dose has increased.
2. The potential exists for further fuel degradation caused by normal power changes needed to perform various Technical Specification surveillance tests. Also, any plant power excursions have a potential to increase fuel damage.

3. If the leaking fuel continues to degrade, RBS will be forced to de-rate to maintain off-gas activity within Technical Specification requirements. Eventually, RBS will be forced to shut down in order to locate and remove the leaking fuel.

Based on the detailed discussion provided in the attachment, bypassing the RPCS control logic and inserting individual rods and subsequently withdrawing them to their pre-test position for the purpose of power suppression testing does not result in undue risks to the health and safety of the public. This request has been reviewed and approved by the RBS Facility Review Committee and the Nuclear Review Board in accordance with Technical Specifications.

By locating the leaking fuel and taking the necessary actions, off-site dose to the public may be reduced. If you have further questions regarding this request, please contact me or my staff.

Sincerely,


John R. McGaha
Vice President-Operations

attachment

cc: NRC Resident Inspector
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