



Entergy Operations

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September 8, 1990

W. T. Cottle

Vice President
Operations
Grand Gulf Nuclear Station

U.S. Nuclear Regulatory Commission
Mail Station P1-137
Washington, D.C. 20555

Attention: Document Control Desk

Gentlemen:

SUBJECT: Grand Gulf Nuclear Station
Unit 1
Docket No. 50-416
License No. NPi-29
Quarterly Status Report for RG 1.97
Neutron Monitoring System for the
Period Ending June 30, 1990
AECM-90/0158

As discussed in AECM-89/0013 dated February 6, 1989, Entergy Operations requested a change in commitment related to Regulatory Guide (RG) 1.97 for the implementation of an excore Neutron Monitoring System in lieu of an incore type system. The NRC approved the Entergy Operations request as discussed in a letter dated July 21, 1989 (MAEC-89/0228), and requested Entergy Operations to continue submitting quarterly status reports for NRC review.

In response to this request, Attachment 1 provides the RG 1.97 Neutron Monitoring System Quarterly Status Report for the period ending June 30, 1990. This report includes major actions completed to date for the GGNS excore system and those major actions necessary to complete implementation of the system. Attachment 2 provides an estimated milestone schedule of these activities.

In accordance with Operating License Condition 2.C (36), Entergy Operations is continuing to pursue implementation of an excore Neutron Monitoring System for RG 1.97 as discussed in the Attachments. Please advise if you require any additional information on this matter.

Yours truly,

WTC:ams
Attachments

cc: (See Next Page)

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RG 1.97 NEUTRON MONITORING SYSTEM
QUARTERLY STATUS REPORT
(PERIOD ENDING JUNE 30, 1990)

I. GENERAL IMPLEMENTATION SCHEDULE STATUS

Entergy Operations is currently progressing on schedule for the implementation of an excore Neutron Monitoring System for Regulatory Guide (RG) 1.97. The current GGNS design approach involves the installation of two instrument channels with one detector for each channel. The detectors will be located within holes bored in the shield wall to provide the greatest sensitivity for neutron detection. Under full power or hot operating conditions upon shutdown, Entergy Operations anticipates a sensitivity of up to $1 \text{ E-}6\%$ power.

II. MAJOR ACTIVITY STATUS

The following provides a discussion of the status for the major activities necessary to complete implementation of the system:

1. Perform detailed engineering and design for the excore system.
 - o In progress. Some specific actions for this major activity are:
 - The Excore Neutron Monitoring System Design Criteria has been completed and is currently undergoing final project review.
 - The Excore System Purchase Specification has been completed and is currently undergoing final project review.
 - Entergy Operations is evaluating Gamma Metrics environmental qualification design criteria and test reports for applicability to GGNS.
 - The GGNS Containment Penetration Design Specifications for the Neutron Monitoring System, necessary for establishing the penetration purchase specification, will be completed.
 - Detailed determination and evaluation of available sensor locations will be made from information obtained by walkdowns during RFO4.
2. Perform an evaluation of GGNS specific excore Neutron Monitoring System range compliance.
 - o Complete, as summarized below:
 - Entergy Operations has reviewed the locational considerations for installing the GGNS excore Neutron Monitoring System to attempt to meet the range of $1 \text{ E-}6\%$ to 100% power given in RG 1.97.
 - In order to attempt to meet a range of $1 \text{ E-}6\%$ to 100% power, Entergy Operations has determined that holes must be bored in the shield wall and the detectors mounted within these holes.

3. Obtain NRC review of the BWROG alternate neutron monitoring position report (NEDO 31558).
 - o Complete; after review, the NRC staff rejected the positions in report NEDO 31558. *
4. Following item 3 above, Entergy Operations submitted PCOL-90/01 (Revision 2 transmitted via AECM-90/0118 dated June 22, 1990) to change the commitment for installation of the RG 1.97 Neutron Monitoring System to the end of RFO5.
 - o Complete.
5. Obtain NRC review and approval of PCOL-90/01.
 - o In progress, scheduled to be completed by November 15, 1990.
6. Develop and issue purchase specifications for the excore system hardware.
 - o In progress (see item 1 above).
7. Develop and issue a design change package for GGNS installation of the excore system.
 - o In progress (see items 1 and 2 above).
8. Receive excore system hardware onsite for installation.
 - o Future action.
9. Install the excore system.
 - o Future action.

* The BWROG has appealed the Staff's position. The NRC review of this appeal is now in progress.

ESTIMATED MILESTONE SCHEDULE FOR INSTALLATION OF EXCORE NEUTRON MONITORING SYSTEM FOR RG 1.97

