



**Entergy
Operations**

Entergy Operations, Inc.
P.O. Box 750
Port Gibson, ME 39150
Tel 601-437-6406

W. T. Cottle
Vice President
Operations
Grand Gulf Nuclear Station

February 6, 1991

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

Attention: Document Control Desk

SUBJECT: Grand Gulf Nuclear Station
Unit 1
Docket No. 50-416
License No. NPF-29
Quarterly Status Report for RG 1.97 Neutron Monitoring
System for the Period Ending December 31, 1990

GNRO-91,00006

Gentlemen:

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 December 31, 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 the estimated milestone schedule of these activities. As discussed below, these efforts may be affected by the ongoing NRC review of the BWR Owners' Group (BWROG) appeal related to RG 1.97 and neutron monitoring requirements.

On August 16, 1990, the BWROG filed an appeal of the NRC Staff's position on BWROG Topical Report NEDO-31558. This report had provided alternate requirements on neutron monitoring for RG 1.97, and was previously endorsed by Entergy Operations. In a September 13, 1990, letter to the BWROG Chairman, Dr. Thomas E. Murley of the NRC indicated that his decision on the appeal would be made within two months and also stated that licensees could defer plant-specific actions until his decision was reached. As of this date, the NRC has not yet reached a decision on the appeal.

G9101071/SNLICFLR - 1

9102120009 910206
PDR ADOCK 05000416
R PDR

A003
111

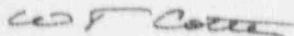
February 6, 1991
GNRO-91/00006
Page 2 of 4

As discussed in this series of quarterly status reports, Entergy Operations has worked in good faith to meet our current Operating License condition of upgrading existing neutron monitoring capability by the end of the fifth refueling outage (RF05). At this point, our current commitment schedule can be met only if Entergy Operations enters into a purchase agreement with the supplier by approximately March 1, 1991. This date is necessary to ensure the equipment is ordered, fabricated, and delivered in time for RF05 installation. The equipment involved is highly customized and we anticipate large penalties for cancellation once a purchase agreement has been executed. Therefore, we cannot proceed to enter into such an agreement without significant financial risk until the NRC decision on the BWROG appeal is made. We believe this approach to be consistent with Dr. Murley's remark regarding the deferral of plant-specific actions in the September 13, 1990, NRC letter to the BWROG Chairman.

Due to the above, Entergy Operations requests notification of the NRC decision on the BWROG appeal prior to March 1, 1991. If such notification cannot be made by this date, we will submit an Operating License amendment request to adjust our commitment schedule past RF05 or establish a new commitment for neutron monitoring capability consistent with the final resolution of the BWROG appeal. Should the NRC accept the BWROG appeal (and consequently NEDO-31558 positions) prior to March 1, 1991, Entergy Operations anticipates submitting an amendment request to be consistent with the appeal results.

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 above and in the Attachments. Please advise if you require any additional information on this matter.

Yours truly,



WTC/HEK/tkm

attachments: 1. RG 1.97 Neutron Monitoring System Quarterly Status Report
2. Estimated Milestone Schedule for Installation of Excore Neutron Monitoring System for RG 1.97
cc: (See Next Page)

February 6, 1991
GNRO-91/00006
Page 3 of 4

cc: Mr. D. C. Hintz (w/a)
Mr. J. Mathis (w/a)
Mr. R. B. McGehee (w/a)
Mr. N. S. Reynolds (w/a)
Mr. H. L. Thomas (w/o)

Mr. Stewart D. Ebnetter (w/a)
Regional Administrator
U.S. Nuclear Regulatory Commission
Region II
101 Marietta St., N.W., Suite 2900
Atlanta, Georgia 30323

Mr. L. L. Kintner, Project Manager (w/a)
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Mail Stop 11D21
Washington, D.C. 20555

Mr. G. J. Beck, Chairman (w/a)
BWR Owners' Group
Philadelphia Electric Company
955-65 Chesterbrook Boulevard
Wayne, Pennsylvania 19087-5691

REGULATORY GUIDE 1.97 NEUTRON MONITORING SYSTEM
QUARTERLY STATUS REPORT
(PERIOD ENDING DECEMBER 31, 1990)

I. GENERAL IMPLEMENTATION SCHEDULE STATUS

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 E-6% power.

Entergy Operations is currently progressing on schedule for the implementation of an excore Neutron Monitoring System for Regulatory Guide (RG) 1.97. Overall progress was limited this reporting period due to the GGNS fourth refueling outage (RFO4); however, this does not impact the schedule for system installation by the end of RFO5. * During RFO4, walkdowns for the Neutron Monitoring System sensor locations were completed. Several other activities were also completed since the previous status report, see Items 1, 5, and 6 below.

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 in review.
 - The Excore System Purchase Specification has been completed and issued for Entergy Operations use.
 - The preliminary review of Gamma Metrics environmental qualification documentation for applicability to GGNS has been completed.
 - Detailed determination and evaluation of available sensor locations was completed based upon information obtained by walkdowns during RFO4.
 - The Design Change Package will be completed and issued.

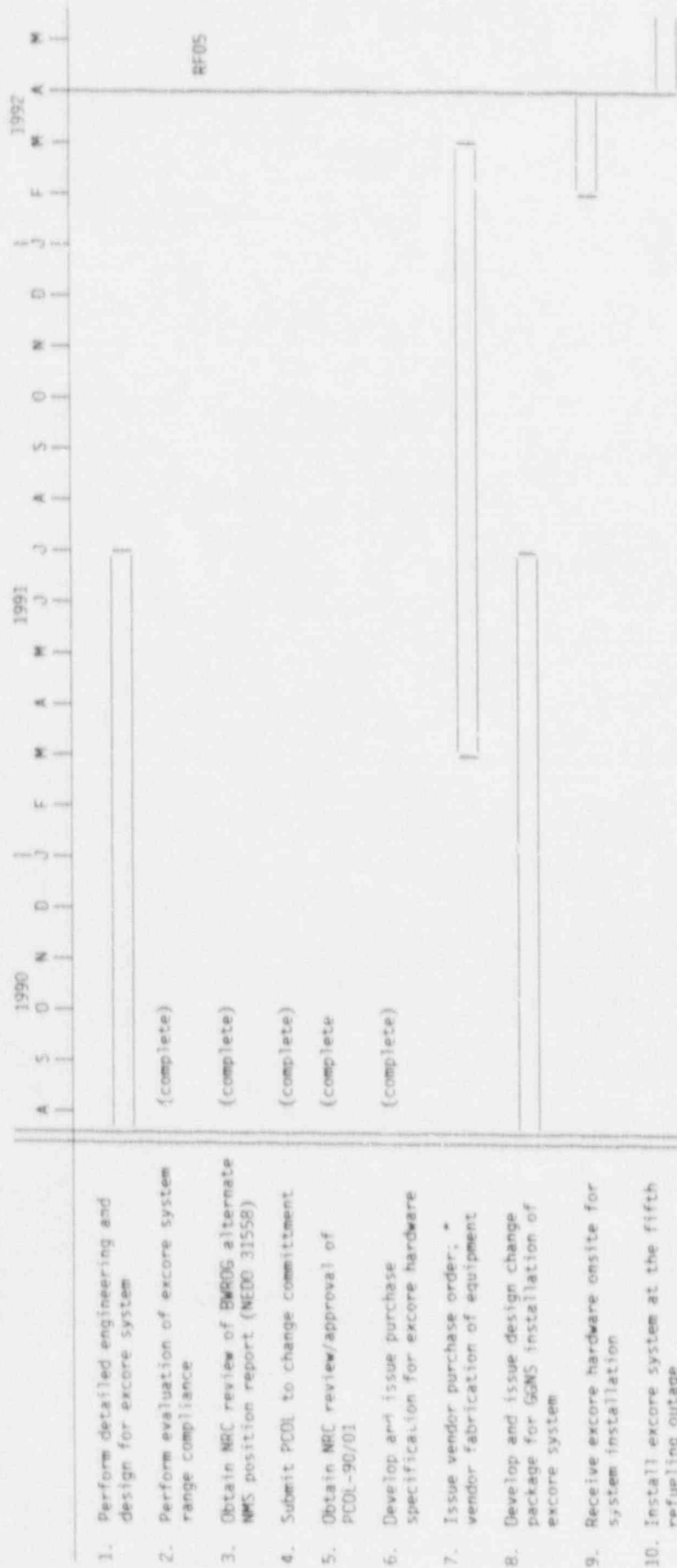
* See scheduling note on page 2 of this Attachment.

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 E-6% to 100% power given in RG 1.97.
 - In order to attempt to meet a range of 1 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, stating that upgraded neutron monitoring is unnecessary. A similar position was taken by GGNS in a plant-specific analysis and endorsement of NEDO-31558 via AECM-88/0083 dated April 28, 1988.
 - o Complete; after review, the NRC Staff rejected the positions in report NEDO-31558 and the GGNS submittal AECM-88/0083. *
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 Complete, see OL Amendment 72 (MAEC-90/0281).
6. Develop and issue purchase specification for the excore system hardware.
 - o Complete, see Item 1 above. (A vendor quote has also been requested.)
7. Issue a vendor purchase order*; vendor fabrication of equipment.
 - o Future action.

* The BWROG has appealed the Staff's position on NEDO-31558. The NRC review of this appeal is now in progress and is being followed by GGNS. Due to the ongoing review of this appeal, there is a potential schedule conflict. To meet the existing schedule, GGNS must complete a vendor purchase order by approximately March 1, 1991. If the NRC decision on the BWROG is not made by this date, GGNS will face financial risk by proceeding with an agreement (see the cover letter for additional information).

8. Develop and issue a design change package for GGNS installation of the excore system.
 - o In progress (see items 1 and 2 above).
9. Receive excore system hardware onsite for installation.
 - o Future action.
10. Install the excore system.
 - o Future action.

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



* See scheduling note on Attachment 1, Page 2.