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Grand Gulf Nuclear Station

February 21, 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 - December 1990 "Degraded Core Accident Hydrogen Control Program"

GNRO-91/00034

Gentlemen:

The Grand Gulf Nuclear Station (GGNS), Unit 1 Facility Operating License (License No. NPF-29) requires that Entergy Operations, Inc. submit to the NRC quarterly reports on the status of the "Degraded Core Accident Hydrogen Control Program." In response to that requirement, Entergy Operations, Inc. is submitting the attached report covering the period from October 1, 1990 through December 31, 1990.

Should you have any questions concerning this report, please contact this office.

Yours truly,

WTC/WKH/mtc
attachment:
cc: (See Next Page)

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Quarterly Status Report for
Quarter Ending December 31, 1990

"Degraded Core Accident
Hydrogen Control Program"

Grand Gulf Nuclear Station
Docket No. 50-416

Entergy Operations, Inc.

Quarterly Status Report - December 31, 1990

"Degraded Core Accident Hydrogen Control Program"

1.0 Introduction

This quarterly status report is submitted to comply with a requirement in the Grand Gulf Nuclear Station (GGNS), Unit 1 Facility Operating License (License No. NPF-29). This requirement specifies that Entergy Operations, Inc. should provide quarterly reports outlining the status of the ongoing research program to address degraded core hydrogen control requirements. This report covers the fourth calendar quarter of 1990 ending December 31, 1990.

This report includes brief summaries of any submittals made by Entergy Operations, Inc. during this quarter along with summaries of any meetings between the NRC staff and Entergy Operations, Inc. Entergy Operations, Inc. is participating in the Hydrogen Control Owners Group (HCOG) which is conducting generic research and completing generic analyses to resolve the degraded core hydrogen control issue. Since the work completed by HCOG complements Entergy Operations, Inc.'s program to resolve this issue, this report also includes summaries of meetings between the HCOG and the NRC. The summaries of these meetings included in this report do not reflect a formal HCOG position with respect to any issue and represent only the Entergy Operations, Inc. interpretation of the meetings.

2.0 Summary of Entergy Operations, Inc. Submittals

Entergy Operations, Inc. made no submittals to the NRC on the Degraded Core Accident Hydrogen Control Program during this calendar quarter of 1990.

3.0 Summary of HCOG and NRC Meetings

On October 23, 1990, the Hydrogen Control Owners' Group (HCOG) met with the NRC for the purpose of reviewing the Generic Mark III Containment Hydrogen Control Safety Evaluation Report (SER). Primary items of discussion included the application of station blackout accident sequences to hydrogen generation events (HGEs), the availability of containment sprays or unit coolers during an HGE and pressure survivability of essential equipment during an HGE. The HCOG presented its understanding of the SER information and identified areas in the SER where clarification or change may be warranted. The NRC requested that HCOG provide confirmatory information regarding its position on these issues. In addition, a telecon with HCOG was initiated by the Staff on November 16 to provide additional information regarding the Staff position on the above items.

4.0 Hydrogen Control Program Status

The summaries and status of the Hydrogen Control Program as stated herein do not reflect the HCOG position with respect to any program and represent only an Entergy Operations, Inc. interpretation of these programs.

The generic research and generic analyses conducted by HCOG to resolve the degraded core hydrogen control issue are complete. In accordance with this, the NRC issued a Safety Evaluation Report (SER) on the generic Hydrogen Control Program on August 10, 1990. The SER documented the NRC's review of the generic Hydrogen Control Program and delineated which issues were considered closed by the NRC and which required additional action by the HCOG and/or the individual utilities.

4.1 Status of Significant Issues

Based on review of the "Generic Safety Evaluation Report Relating to Mark III Containment Hydrogen Control" and meeting with the NRC Staff, Entergy Operations and the HCOG believe that the following significant open issues remain.

These issues will require action by the HCOG and/or NRC to support their closure.

a. The SER identifies the TBU sequence described in NUREG-1150 and NUREG-4550 as an appropriate hydrogen generation event (HGE) for use in the HCOG program. While the TBU sequence is similar to the HCOG HGE, several aspects of the TBU sequence must be clarified prior to its incorporation, in whole or part, into the generic Hydrogen Control Program.

b. The SER indicates that credit for containment sprays/coolers cannot be considered in plant unique survivability analyses. This is inconsistent with the HCOG program and past HCOG-NRC discussions.

c. The pressure survivability value identified in the SER is inconsistent with the value that HCOG assigned as the appropriate containment criterion for survivability.

4.2 Planned Activities for the First Quarter of 1991

HCOG plans on meeting with the NRC in February, 1991 to discuss the above issues and to obtain clarification and/or agreement as necessary. Depending on the outcome of the meeting, Entergy Operations will review its schedule for submittal of the GGNS Final Hydrogen Control Report, identify the remaining work necessary for this submittal and initiate work on the remaining plant specific tasks. Entergy Operations plans to notify the NRC of its proposed submittal date by way of a separate letter.