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MAY 2 2 1978

MEMORANDUM FOR: John F. Stolz, Chief
Light Water Reactors Branch #1, DPM

FROM: Delbert F. Bunch, Chief
Accident Analysis Branch, DSE

SUBJECT: GRAND GULF NUCLEAR STATION, UNITS 1 AND 2, FSAR
ACCEPTANCE REVIEW

PLANT NAME: Grand Gulf, 1 and 2
LICENSING STAGE: OL
DOCKET NUMBER: 50-416, 417
MILESTONE NUMBER: 01-31
RESPONSIBLE BRANCH: LWR #1
PROJECT MANAGER: C. O. Thomas
REQUESTED COMPLETION DATE: May 22, 1978
REVIEW STATUS: AAB acceptance review complete

We have examined the FSAR and have found it to be sufficiently complete to be accepted. The attached questions were generated during the acceptance review.

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Delbert F. Bunch, Chief
Accident Analysis Branch
Division of Site Safety and
Environmental Analysis

Enclosure:
As stated

cc: See attached sheet

next Side 4

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SURNAME ➤	JRead/bm	WNischan	GChipman	DFBunch		
DATE ➤	5/19/78	5/19/78	5/22/78	5/22/78		

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DATE ➤						

ACCEPTANCE REVIEW - GRAND GULF FSAR

311.1 The FSAR implies that the applicant owns all property within the exclusion area, but this should be explicitly stated, if true.

311.2 In Section 3.11.2.2 it was not clear what the sequence would be for the testing of the essential equipment to the more severe conditions associated with the DBA. Please clarify.

311.3 There are no radiological units associated with the dose rate values for the Design Basis Accident column in Table 3.11-2. Please specify.

311.4 The dose rate values for the Design Basis Accident column of Table 3.11-2 appear to be instantaneous value (i.e., t=0). Please state if this is the case. If so, provide a simple figure giving the DBA dose rate as a function of time post-LOCA so that the accuracy of the total integrated dose over 6 months can be verified. If possible identify the major radioactive isotopes which contribute substantially to the dose at the end of 6 months.

311.5 Specify the beta particle radiation dose rate field in the drywell associated with DBA conditions. While it is accepted that the conduit will be of sufficient thickness to stop the poorly penetrating beta particles, describe any qualification testing that has been performed in the postulated high beta dose rate fields associated with DBA's to verify

that there are no adverse effects from; (1) surface heating resulting from the energy deposition of the stopped particles; or (2) induced conductivity or secondary emission and charge transfer which can compromise component operation due to spurious false signal generation. Provide appropriate details and references of such testing in the text.

311.6 The Figure 3.11-1 is not currently referenced in the text of Section 3.11. Please reference and discuss in the appropriate SAR section the purpose of this figure, the appropriate dose rate associated with zones 1, 2 and 3 for both normal and accident conditions and how these dose rates were used in calculating the integrated dose values of Table 3.11-2. Indicate on Figure 3.11-1 (if possible) the approximate location of the reference points identified in Table 3.11-2 for the drywell and containment.

311.7 Figure 3.11-2 is not currently referenced in the text of SAR Section 3.11. Please reference and discuss the purpose of this figure in the text of the appropriate SAR section. Also provide the normalizing value for t=720 hours and the justification for that value in light of the fact that the total integrated doses for the DBA conditions are supposedly calculated using a time period of 6 months (180 days).

311.8 For a continuous containment purge system, such as proposed for the Grand Gulf Mark III containment, analyze the radiological consequences from a postulated LOCA during a purge and include this analyses and results in the appropriate SAR section. Provide in the analysis the assumptions with regard to the size of the purge lines and flow rate through the system, isolation valve closure time, amount of steam release prior to valve closure and any credit taken for removal of fission products prior to release of any radioactivity.

311.9 The text describes Table 3.11-4 as listing integrated dose consequences, although none appear in this table. These data should be added to the table.

311.10 Provide a table listing all safety systems/components necessary to achieve and maintain a safe shutdown and needed to mitigate the radiological consequences of design basis accidents. Include in the table, the method of tornado missile protection provided for each system/component and significant protection parameters (i.e., wall and roof thickness, concrete strength (psi) and curing time on which concrete strength is based etc.).