



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20545

APR 12 1984

MEMORANDUM FOR: Elinor G. Adensam, Chief  
Licensing Branch #4  
Division of Licensing

FROM: Victor Benaroya, Chief  
Chemical Engineering Branch  
Division of Engineering

SUBJECT: FIRE PROTECTION REQUEST FOR INFORMATION FOR  
VOGTLE ELECTRIC GENERATING PLANT, UNITS 1 & 2

Plant Name: Vogtle Electric Generating Plant, Units 1 & 2  
Docket Nos.: 50-424/425  
Milestone No.: N/A  
Licensing Branch & Project Manager: LB #4; M. Miller -  
CMEB Reviewer: R. Eberly  
Requested Completion Date: April 16, 1984  
Review Status: Q-1's completed

Enclosed is our request for the additional information CMEB needs on the fire protection program to complete our review. The primary items of concern apply throughout the plant. We will need the information by July 1, 1984 to meet the schedule.

Victor Benaroya, Chief  
Chemical Engineering Branch  
Division of Engineering

Enclosure: As stated

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Chemical Engineering Branch  
Fire Protection Section  
Request for Information  
Vogtle Electric Generating Plant, Units 1 & 2  
Docket Nos. 50-424/425

- 280.1 Your fire protection program will be reviewed to the guidelines of BTP CMEB 9.5-1 (NUREG-0800), July 1981. Provide a comparison that shows conformance of the plant fire protection program to these guidelines. Deviations from the guidelines should be specifically identified. A technical basis should be provided for each deviation.
- 280.2 Verify that a plant fire brigade, the brigades personnel and minimum equipment, and training intervals will be provided in accordance with BTP CMEB 9.5-1, Section C.3.b.
- 280.3 Verify that all fire barriers have been tested and approved by an independent laboratory in accordance with BTP CMEB 9.5-1, Section C.5.a.
- 280.4 Verify that all openings in rated fire barriers will be sealed to provide a fire resistance rating at least equal to that of the barrier in conformance with BTP CMEB 9.5-1, Section C.5.a.
- 280.5 Provide a design description of the types of penetration seals used, including materials of construction. Verify that tests have been conducted to qualify the resistance of the seals in accordance with BTP CMEB 9.5-1, Section C.5.a, including the maximum allowable temperature of 325°F on the unexposed side of the test assembly. Verify that the seals will be installed in accordance with the manufacturer's instructions.
- 280.6 Verify that door openings in fire barriers will be protected with equivalently rated doors, frames, and hardware. Verify that a nationally recognized independent testing laboratory has tested and labelled this equipment in accordance with BTP CMEB 9.5-1, Section C.5.a.

280.7 Verify that all fire barrier ductwork penetrations will be sealed by fire dampers having a fire resistance rating at least equal to that of the barrier. Verify that such dampers have been tested and approved by a nationally recognized laboratory in accordance with Section c.5.a of BTP CMEB 9.5-1.

280.8 Verify that fire protection has been provided for safe shutdown so that one train of systems necessary to achieve and maintain hot shutdown conditions from either the control room or emergency control station(s) is free of fire damage and that systems necessary to achieve and maintain cold shutdown from either the control room or the emergency control station(s) can be repaired within 72 hours.

Provide an analysis which shows that one redundant train of equipment structures, systems, and cables necessary for safe shutdown can be maintained free of fire damage by either:

- a) Separation of cables and equipment and associated circuits of redundant trains by a fire barrier having a 3-hour rating. Structural steel forming a part of or supporting such fire barriers should be protected to provide fire resistance equivalent to that required of the barriers;
- b) Separation of cables and equipment and associated circuits of redundant trains by a horizontal distance of more than 20 feet with no intervening combustible or fire hazards. In addition, fire detectors and an automatic fire suppression system should be installed in the fire area; or
- c) Enclosure of cable and equipment and associated circuits of one redundant train in a fire barrier having a 1-hour rating. In addition, fire detectors and an automatic fire suppression system should be installed in the fire area.

- 280.9 Identify those areas of the plant that will not meet the guidelines of Section C.5.b of BTP CMEB 9.5-1 and, thus alternative shutdown will be provided. Additionally provide a statement that all other areas of the plant will be in compliance with Section C.5.b of BTP CMEB 9.5-1.
- 280.10 Verify that the fire pumps, motors, and controllers will be listed by an independent testing laboratory for the service intended and that the fire pump installation will be in accordance with NFPA STD 20, referenced in BTP CMEB 9.5-1, Section C.6.b.
- 280.11 VEGP FSAR Appendix 9B, page 48 states that "Detection systems are located in areas containing safety-related equipment". It is our position that areas which present a fire exposure to safety-related equipment also be provided with detection systems. Verify that detection systems are provided for all areas that contain or present a fire exposure to safety-related equipment, to comply with BTP CMEB 9.5-1, Section C.6.a(1).
- 280.12 Verify that, as a minimum, fire detection systems installed in the plant comply with the requirements of Class A systems as defined in NFPA 72D and Class 1 circuits as defined in NFPA 70, to comply with the provisions of BTP CMEB 9.5-1, Section C.6.a(2). Describe those instances in which the design of installed fire detection systems will not meet these minimum criteria and provide the basis for such deviations.
- 280.13 Verify that, as a minimum, automatic sprinkler systems installed in the plant comply with the requirements of NFPA 13 and NFPA 15, to comply with the provisions of BTP CMEB 9.5-1, Section C.6.c(3). Describe those instances in which the design of the installed systems will not meet these minimum criteria and provide the basis for such deviations.

- 280.14 Verify that, as a minimum, interior standpipe and hose systems installed in the plant comply with the requirements of NFPA 14, to comply with the provisions of BTP CMEB 9.5-1, Section C.6.c(4). Describe those instances in which the design of these systems will not meet these minimum criteria and provide the basis for such deviations. In particular, describe the dry standpipe system designed to operate after an SSE from a Category 1 water source.
- 280.15 Describe how fire protection features of the control room complex comply with BTP CMEB 9.5-1, Section C.7.b with respect to the following:
- a. Location and operation of automatic smoke dampers in ventilation system openings between the control room and peripheral rooms
  - b. Smoke detectors in control room cabinets and consoles
  - c. Carpeting in the control room
  - d. Protection of peripheral rooms
  - e. Cables in the ceiling
- 280.16 VEGP Appendix 9B, page 61 indicates that the seismic analysis on the reactor coolant pump oil collection system has not yet been completed. This analysis is required in order to comply with the provisions of BTP CMEB 9.5-1, Section C.7.a(1)(e). Indicate the date by which this analysis will be provided.
- 280.17 Describe how hydrogen concentrations in the battery room will be maintained below 2 volume % in conformance with BTP CMEB 9.5-1, Section C.7.g. Verify that the loss of ventilation is alarmed in the control room.

- 280.18 Verify that self-contained 8-hour minimum capacity, battery powered emergency lighting units are installed in all areas needed for remote shutdown, and in access and egress routed thereto in conformance with BTP CMEB 9.5-1, Section C.5.g.
- 280.19 Verify that hydrogen lines in safety-related areas are protected in accordance with our guidelines in Section C.5.d of BTP CMEB 9.5-1.