

March 3, 1983

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Docket Nos. 50-413/414

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ACRS (16)

Docket Nos: 50-413  
and 50-414

Mr. H. B. Tucker, Vice President  
Nuclear Production Department  
Duke Power Company  
422 South Church Street  
Charlotte, North Carolina 28242

Dear Mr. Tucker:

Subject: Request for Additional Information -  
Catawba Nuclear Station

In the performance of the Catawba Station licensing review, the NRC staff has identified the need for additional information in the environmental equipment qualification area (Enclosure). We request that you provide the information herein requested no later than April 8, 1983. If you require any clarification of this matter, please contact thr project manager, Kahtan Jabbour, at (301) 492-7800.

The reporting and/or recordkeeping requirements contained in this letter affect fewer than ten respondents; therefore, ONB clearance is not required under P.L. 96-511.

Sincerely,

Elinor G. Adensam, Chief  
Licensing Branch No. 4  
Division of Licensing

Enclosure:  
As stated

cc: See next page

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DATE	2/28/83	2/28/83	3/1/83				

CATAWBA

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REQUEST FOR ADDITIONAL INFORMATION

CATAWBA NUCLEAR STATION UNITS 1 AND 2  
ENVIRONMENTAL QUALIFICATION PROGRAM

Upon receipt of the Catawba Nuclear Station revised submittal on equipment environmental qualification, the NRC staff will make a determination on its completeness and the necessity for additional information and/or clarification. However, based on our review of the information in the June 17, 1982 submittal, we require that the forthcoming revision to the submittal include the following information.

- 1) Provide a list of safety-related systems containing components in a harsh environment.
  - a) Compare the systems in (1) above with those described in table 3.2.2 of the FSAR. Justification should be provided for the exclusion of safety-related system(s) in table 3.2.2 from the environmental qualification program (e.g., not required for accident mitigation, all components located in a mild environment, etc.). Indicate the Class IE function(s) performed by each system.
  - b) Identify all safety-related components of each system by manufacturer model number and plant component I.D. number. For each component I.D. number specify its specific location in the plant (e.g., room number or room I.D. such as RHR Pump Room, etc.) and its function.
  - c) For each component, (inside and outside containment, in the annulus and those that are subjected to the post-LOCA recirculation environment) provide qualification information addressing temperature, pressure, humidity, radiation, chemical spray and submergence. If a particular parameter does not apply, make a statement to that effect.
  - d) Specify the frequency of replacement for components qualified for a period shorter than the design life of the plant. A surveillance and maintenance program that includes a replacement plan should be documented and implemented.
  
- 2) Provide a list of TMI Action Plan equipment (by Categories listed in NUREG-0737) currently in your program and its equipment I.D. number. If not in your program, describe the qualification status or your plans for qualification, including the schedule for completion of qualification in accordance with NUREG-0588.

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- 3) The staff's screening criteria for radiation levels that result from an accident environment inside containment is  $4 \times 10^7$  rads total integrated dose (TID). In your June 17, 1982, submittal a value of  $1 \times 10^7$  TID was used. Because this value is less than the screening criteria, a sample calculation that includes the basis and all assumptions used in determining both gamma and beta radiation levels must be provided.
- 4) The maximum temperature postulated to exist following a HELB inside containment may be higher than the value ( $327^{\circ}\text{F}$ ) specified in your June 17, 1982, submittal. This issue must be resolved with the NRC's Containment Systems Branch prior to acceptance by the Equipment Qualification Branch.
- 5) Provide a statement that IE equipment located in areas which experience a significant percent increase in radiation during a LOCA has been reviewed for possible damage to solid state devices and describe the methods of qualification or bases for exemption.
- 6) The June 17, 1982, submittal did not always include the appropriate margin (1 hour or 10%) in the qualification data. Qualification data that are acceptable to the staff must include the appropriate margins in accordance with the requirements of NUREG-0588. Use of less than one hour must be justified.
- 7) Provide information to demonstrate that a flooding and aging analysis is included in your qualification program.
- 8) A discussion on the effects of beta radiation on components should be included in your qualification program.
- 9) The submittal should address the environmental qualification of safety-related mechanical equipment located in a harsh environment. In order to demonstrate compliance with GDC-4, we require that a review and evaluation be performed that includes the following:
  - a) Identification of safety-related mechanical equipment located in harsh environment areas, including required operating times.
  - b) Identification of nonmetallic subcomponents.
  - c) Identification of environmental conditions.
  - d) Identification of nonmetallic material capabilities.
  - e) Evaluation of environmental effects.

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When this effort is completed, documentation packages for three types of mechanical equipment should be submitted for our review. Also, justification for interim operation (JIO) should be provided, prior to exceeding 5% of full power operation, for all equipment determined to utilize nonmetallics not qualified for the environment they may be subjected to.

Except for the JIOs, the above effort should be completed in time for the staff to include the results in an SER that will be issued within a month of the electrical equipment audit.

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