



OFFICE OF THE
COMMISSIONER

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

August 29, 1990

*file: NUMARC
Part 52
U. 8 #6*

Byron Lee, Jr.
President and Chief Executive Officer
Nuclear Management and Resources Council
1776 Eye Street, N.W. #300
Washington, D.C. 20036

Dear Byron:

As a result of the Commission meeting of July 16, 1990, where industry representatives presented views on the subject of nuclear power plant standardization and, more specifically, on implementation of the provisions of 10 CFR Part 52 concerning level of design detail, I have a number of questions about the approach recommended by the industry. In order to clarify these matters, I would appreciate your responses to the enclosed questions.

I thank you in advance for your attention to this matter.

Most sincerely,

James R. Curtiss

Enclosure: as stated

cc: Chairman Carr
Commissioner Rogers
Commissioner Remick
William C. Parler
James M. Taylor
Samuel J. Chilk

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PDR COMMS NRCC
CORRESPONDENCE PDR

Questions Regarding Level of Design Detail

1. During the Commission briefing of July 16, 1990, where the subject of the two-tiered approach to design certification was discussed, NUMARC representatives indicated that --

"[the] second tier would reference the entire SSAR design description. . . . [B]y referencing the SSAR in the design certification rule's second tier, the NRC would document the features and commitments that were the basis for NRC approval . . . and . . . matters resolved in connection with the issuance of a design certification."

(See Commission Meeting Transcript, p. 27-28).

Does NUMARC intend that, by reference to the SSAR design description in Tier 2, all design matters addressed in Tier 2 would be considered resolved and thereby placed beyond the scope of design features that intervenors could challenge or NRC could modify?

2. NUMARC indicated that it does not view its proposed two-tier approach, coupled with a 50.59-type provision allowing changes to matters addressed in Tier 2, as permitting a licensee to make unbridled changes to a certified design, noting that there will be disincentives for certified design applicants and combined license holders to overload Tier 2 with design details or to abuse the 50.59-type procedures that would apply to matters addressed in Tier 2 (See Commission Meeting Transcript, p. 30).
 - a. What is the basis for NUMARC's view that the "staff [will have] to approve a 50.59-type modification" (See Commission Meeting Transcript, p. 31)? If staff approval is required, how would this approach work? Would staff approval be required before the change is made or is this an after-the-fact review?
 - b. Would the NRC have the opportunity to impose changes on Tier 2 design items without having to go through the backfit process set forth in Part 52? In 10 CFR 50.109?
 - c. Will parties to the combined license proceeding have an opportunity to request a hearing on 50.59-type changes to matters addressed in Tier 2?
 - d. How will parties to the combined license proceeding be made aware of the fact that an applicant or licensee has made a 50.59-type change to a matter addressed in Tier 2?

- e. If a hearing can be requested, would this hearing focus on the merits of the modification that the license holder proposes to make or on the narrower issue of whether the licensee properly applied the criteria set forth in the 50.59-type provision?
 - f. Apart from the possibility that a party will request a hearing on a 50.59-type change, what safeguards exist to prevent abuse of the 50.59-type provision?
 - g. Section 50.59, as it currently exists, does not provide for considering the adverse impact that design changes would have on standardization. What changes, if any, would you propose in the existing 50.59 mechanism to ensure that the impact on standardization is taken into account by both the Commission and the license holder when design changes are considered under the 50.59-type provision?
 - h. Does NUMARC contemplate that the 50.59-type provision that has been proposed would allow the vendor who holds the design certification to make changes in the design, or would it be limited to the COL-holder that references that vendor's design?
3. If both Tier 1 and Tier 2 of the design certification rule were incorporated by reference into the combined license (See Commission meeting Transcript, p. 31), would a subsequent change to matters addressed in either Tier 1 or Tier 2 require a license amendment and the opportunity for a prior hearing pursuant to 10 CFR 52.97(b)?
 4. Taking into account all of the design detail to be included in Tier 1 and Tier 2, please relate this level of detail to the detail that is available to the NRC today prior to the issuance of an operating license.
 5. Please describe where the line would be drawn between Tier 1 and Tier 2 issues. Is this a matter that can be treated generically or does it depend upon the particular design issue involved?
 6. Under NUMARC's proposal, would the level of design detail in Tier 1 be comparable to what is contained in the staff's SER as a whole or would it be limited to the SER section that corresponds to SSAR section 1.2 (See Commission Meeting Transcript, pp. 66, 68)?
 7. Beyond the issues that are normally addressed in an SER, are there matters that may well have the effect of fostering standardization, thereby having a safety nexus strictly for that reason, and that should therefore be addressed in a design certification? Do you view these issues as properly

within the scope of the Commission's authority to address in a design certification proceeding, even though such issues may not fall within the traditional definition of safety and would not normally be addressed in an SER? If so, should these matters be addressed in Tier 1 or Tier 2?

Adv LWR
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UNITED STATES
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WASHINGTON, D. C. 20555

September 13, 1990

MEMORANDUM FOR: Commissioner Curtiss

FROM: Harold R. Denton, Director
Office of Governmental and Public Affairs *HR Denton*

SUBJECT: LEVEL OF DETAIL FOR REVIEW OF CONVOY PLANTS

In response to your request for information about the level of detail provided to German regulators for the review of the Standard German "Convoy" plant, we contacted the plant's designer/constructor Siemens/KWU in Erlangen, FRG. To facilitate the discussion, we had faxed to them the table "Completeness of Design" sent to us in the August 31, 1990 letter from DOE Assistant Secretary W. Young.

An item by item comparison between DOE's proposal and the level of detail prepared by Siemens to obtain BMU certification for the Convoy design is attached. The two columns track fairly closely, but in safety related areas Siemens provided more detailed information. In the conventional part of the plant, less detail was available. It was noted by Siemens that while piping and cable routing was well fixed, there were minor details completed during the course of construction. They indicated that construction times were reduced from 60 months for the first Convoy unit to 55 months for the third.

Attachment:
Completeness of Design

cc: Chairman Carr
Commissioner Rogers
Commissioner Remick
SECY
EDO
OGC

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COMPLETENESS OF DESIGN

Mechanical and Piping

Basis for Safety Certification

Convoy

A. Systems

1. Reactor & Reactor Coolant Systems	RFD1	same
2. Safety Feature Systems	RFD1	same
3. HVAC		
o Safety	RFD1	same
o Non-Safety	RF	same
4. Cooling Water Systems		
o Safety	RFD1	same
o Non-Safety	RFD2	RF only
5. Fuel Storage and Handling	RFD2	RFD1
6. Radioactive Waste Systems	RFD2	RFD1
7. Turbine Generator Systems	RFD2	RF
8. Main Steam, Condensate, & Feed	RFD1	same
9. BOP Auxiliary Systems	R/RF	same

B. Components

1. Major Reactor Coolant System	RFD1	same
2. Major Safety Feature	RFD1	same
3. Other Nuclear	RFD2	RFD1
4. Major Balance-of-Plant	RFD2	same
5. Other Balance-of-Plant	R/RF	same

Electrical and Instrumentation and Control

A. Systems

1. Safety and Major	RFD1	same
2. Other	R/RFD2	RF

B. Components

1. Safety and Major	RFD1	same
2. Other	R/RFD2	RF

Structures

A. Containment	RFD1	same
B. Reactor/Auxiliary/Control Buildings	RFD2/D1	same
C. Diesel Generator Building	RFD2/D1	same
D. Turbine Generator Building	RFD2	RF only
E. Service Building (s)	RF	same

Key:

- R = Requirements: Design Criteria and Bases, Functional Descriptions, and Performance Requirements
- F = Functional Design: Functional design including Piping and Instrument Diagrams, Process Flow Diagrams, Logic Diagrams, General Arrangement and Equipment Location Drawings, Component Descriptions and Design Parameters and Characteristics
- D = Detailed Design: D1 = Detailed design of major plant systems and structures important to safety, plant reliable operation and construction. Includes structural design and structural and seismic analyses of buildings, detailed building general arrangements and structural drawings, pipe and cable routing, major equipment design specifications.
- D2 = A lesser degree of detailed design than the above for other plant systems (e.g., equipment functional specifications).

AJU LWR
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