

JAN 06 1977

Docket Nos. 50-460
and 50-513

APPLICANT: Washington Public Power Supply System (WPPSS)

FACILITY: WNP-1, 4

SUBJECT: SUMMARY OF MEETING TO DISCUSS REQUIREMENTS ON COMPONENT
COOLING WATER SUPPLY TO REACTOR COOLANT PUMPS

On December 15, 1976, representatives of WPPSS and the NRC staff met to discuss WPPSS' proposed response to a staff position concerning component cooling water requirements. This position was presented to WPPSS in a staff letter (O. Parr to J. J. Stein) dated October 19, 1976. WPPSS asked for this meeting to apprise the staff of their intended response and to solicit the staff's preliminary assessment of the WPPSS proposal. A meeting attendance list is enclosed.

WPPSS proposed to provide an automatic, safety grade reactor shutdown through the Reactor Protection System, on a reduction in component cooling water (CCW) flow as sensed in a section of the CCW return line which is common to all four reactor coolant pumps. Reactor trip would be initiated on a flow decrease representing a loss of flow to at least two reactor coolant pumps. A five-minute time delay would be incorporated in the trip. The WPPSS proposal did not include the commitment that the CCW system supplying the reactor coolant pumps would be Seismic Category I, Quality Group C (Regulatory Guide 1.26).

Staff comment on the WPPSS proposal is summarized in the following items:

1. The automatic, "safety grade" reactor trip proposed must be initiated by a loss of CCW to only one reactor coolant pump.
2. The reactor trip function must be accomplished with systems and components designed to the requirements of IEEE-279 and other applicable safety class requirements. While the proposed design approach appears acceptable, there is some staff doubt regarding the details of the proposed method of flow sensing and signal input to the RPS system.

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- 3. The CCW system and components thereof supplying the reactor coolant pumps must be designed and constructed to Quality Group C requirements, but will not be required to meet Seismic Category I requirements.
- 4. Acceptable reactor coolant pump operation must be demonstrated during the five minute delay period after the loss of CCW is sensed. Such a demonstration must include some test data in combination with an analysis, rather than by analysis alone.

During the discussion, S. Israel of the staff noted that the requirement to initiate protective action on the loss of CCW to only one reactor coolant pump derives from the staff's position that a single active failure or operator error is an anticipated operational occurrence and shall not result in fuel damage. Further, accidental failures such as line breaks, considered to be infrequent incidents, shall not result in excessive fuel damage. 10 CFR 100 is the governing criteria in limiting the consequences of such accidents.

In a discussion of the CCW system design and quality assurance requirements, B&W representatives stated that pump and motor coolers were designed to withstand earthquake loads, but were not "qualified" Seismic Category I components by NRC standards, since not all the quality assurance requirements of the ASME Code were met.

Following the meeting, members of the staff met to discuss the applicant's proposal of Quality Group D piping to the reactor coolant pumps on the basis that automatic protection would be provided for the plant. The staff's conclusion resulted in agreement with the applicant that Quality Group D piping was sufficient rather than the Quality Group C classification proposed by the staff provided the entire detection and protection system met all the requirements of safety grade equipment.

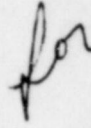
Also following the meeting, the staff concluded that when or if the loss of CCW is due to a postulated pipe crack or other accident (unanticipated occurrence), the automatic protection system proposed by WPPSS may respond to a sensed loss of CCW flow equivalent to that normally supplied to two or more reactor coolant pumps. The system proposed must, however, automatically protect against a breach of the reactor coolant system pressure boundary, which would result from a loss of CCW flow to even one pump. The basis for this conclusion is that the postulated crack or accident is considered an infrequent, unanticipated incident which could result in at most a single locked rotor. For this kind of event, limited fuel damage is acceptable, within the guidelines of 10 CFR Part 100. The consequences of a single locked rotor have been

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JAN 06 1977

analyzed in Section 15.0 of the SAR and found to be acceptable. However, a postulated crack or accident which could cause a multi-pump locked rotor accident is not acceptable since it may result in excessive fuel damage or primary system pressures.

Original Signed by
O. D. Parr



T. Cox, Project Manager
Light Water Reactors Branch No. 3
Division of Project Management

Enclosure:
As Stated

cc: Washington Public Power Supply System
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DATE →	12/29/76	1/5/76	1/5/77	1/6/77	

ENCLOSURE

ATTENDANCE LIST

12/15/76 MEETING OF WPPSS AND NRC STAFF

NRC

T. Cox
S. Israel
F. Ashe
W. LeFave

UE&C

W. Gibson
J. Hill
V. Mani
T. Richardson
A. Friedman
B. Nemroff
M. Paf

B&M

A. McBride
W. Starkey
J. Happell
R. Brockman
H. Baker

WPPSS

A. Hosler

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MEETING SUMMARY DISTRIBUTION

↓ Docket File
NRC PDR
Local PDR
TIC
ACRS (16)
IE (3)
OELD
NRR Reading
LWR-3 File
B. Rusche
E. Case
R. Boyd
R. DeYoung
V. Stello
D. Skovholt
J. Stolz
K. Kniel
O. Parr
D. Vassallo
R. Clark
T. Speis
P. Collins
C. Heltemes
R. Houston
S. Varga
J. Miller
F. Williams
R. Heineman
H. Denton
D. Muller
W. Butler

D. Ross
R. Tedesco
J. Knight
S. Pawlicki
I. Sihweil
P. Check
T. Novak
Z. Rosztoczy
V. Benaroya
G. Lainas
T. Ippolito
V. Moore
R. Vollmer
M. Ernst
W. Gammill
G. Knighton
B. Youngblood
W. Regan
D. Bunch
J. Collins
W. Kreger
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M. Spangler
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