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PDR

R. C. DeYoung, Assistant Director for Pressurized Water Reactors, DRL
THRU: D. R. Muller, Chief, PWR Projects Branch #1, DRL

MEETING WITH NORTHERN STATES POWER COMPANY ON MONTICELLO SAFE END
MODIFICATIONS AND RELATED ACRS COMMENTS

A meeting was held on July 8, 1970, with Northern States Power (NSP) and General Electric (GE) representatives primarily to discuss the implementation of ACRS recommendations on means to further reduce the probability of a failure in a safe end or other primary system components. In addition, GE discussed the apparent "common mode" failure of some reactor protection systems relays at Monticello. (This latter subject will be presented in a separate memo). The salient points of the meeting are discussed below. An attendance list is attached.

1. Independent Check of Stresses in As-Built Primary System Piping

A two-phased approach was proposed. GE will check the assumptions, input data and calculational methods used in establishing stresses in the recirculation piping and portions of the RHR system. This phase will be done by GE engineers from a different in-house group than that which originally performed the calculations. NSP has made arrangements with the Teledyne Corporation to perform an audit of the stresses of the balance-of-plant systems within the drywell. This program will include the following:

- a. Piping layouts and schematics will be reviewed.
- b. Two systems will be selected for a complete recalculation of stresses and a comparison made with the original stress analysis results.

NSP stated that the entire program is scheduled for completion in mid-September. We stated our position was that the results of the stress analysis audit should be submitted to DRL prior to issuance of a full power license.

Memo

On July 13, 1970, NSP notified us, via phone, that instead of Teledyne, NSP would arrange with the Bechtel Corporation (AE) to perform the stress audit. This would be done by an independent group within the Bechtel organization. A discussion with Ray Maccary indicated that this would be acceptable.

2. Supplementary In-Service Inspection of Safe Ends

The applicant stated that the in-service inspection program currently included in the Technical Specifications was adequate and did not require any change. Ray Maccary of DRS discussed an expanded in-service inspection program.

We advised the applicant that these recommendations were still in the discussion stage and did not represent an official DRL position. NSP said it would not have any difficulty in implementing the DRS program if that became a requirement. The only question was that related to the recommendation on inspection of sensitized welds and its applicability to Monticello.

3. Integrity of Shield in the Event of a Failure of a Safe End or Nozzle

NSP stated that the analysis was in progress and will be completed in the early fall. It further stated that if any modifications were required as a result of this analysis, these modifications would be made before the end of the first refueling cycle. However, GE stated that its analysis would consider only a break of the weld connecting the nozzle to the safe end. The ACRS letter states that failure of a nozzle should also be considered. GE said if failure of the nozzle is considered it would increase the break size by a factor of four and would necessitate a redesignation of the design basis accident. We said that we would try to obtain clarification of the ACRS intent in this regard.

4. Observation of Displacements of Piping in Hot Condition

A program is being developed and will be submitted to us prior to issuance of a full-power license. The proposed program to check these deflections appears to be less rigorous than that proposed for the Nine Mile Point Plant. For Monticello NSP proposes to perform one check in the temperature range of 300 to 400°F, whereas for Nine Mile Point, checks were made at 100°F intervals. The results would be extrapolated to operating temperatures.

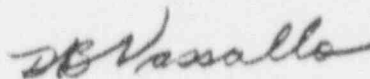
5. Provisions to Assure that Gasses Could Not be Trapped in High Point of Primary System Piping

NSP showed us a list of all piping which has been reviewed to date and the corrective action taken. There appears to be a potential problem with some nozzles such as that for the core spray. The Monticello thermal sleeve on the core spray nozzle is of a different design than NMP or Dresden-2, i.e., the sleeve is a separate piece involving a screwed fitting. The pipe itself will be vented at the high point inside the reactor vessel; however, it appears that on filling, a small air pocket could remain between the sleeve and pipe. Also, for dead-ended piping of short lengths, GE said the entrapped oxygen will be diffused into the flowing stream. NSP stated that the complete study will be completed by mid-September and the results submitted for our review.

6. Review of Leak Detection System

The applicant agreed to change the writeup in the Technical Specifications in regard to studying the performance of the leak detection system. This change would incorporate the viewpoints of the ACRS by stating that the performance of the leakage detection system, including consideration of the speed and sensitivity for detection, will be evaluated during the first 18 months of plant operation, and the results reported to the AEC. Modifications, if required will be performed during the first refueling outage.

NSP agreed to submit its responses to the ACRS recommendations in a letter to DRL, prior to reconvening of the public hearing.



D. B. Vassallo, Project Leader
PWR Projects Branch #1
Division of Reactor Licensing

Enclosure:
Attendance list

Distribution:
Docket File
KL Reading
PWR-1 Reading
D. J. Skovholt
S. Levine
F. Schroeder
R. S. Boyl
Branch Chiefs/PWR
R. W. Klecker
D. B. Vassallo

T. R. Wilson
N. M. Blunt

ATTENDANCE LIST

MEETING WITH NORTHERN STATES POWER

JULY 8, 1970

AEC-DRL

D. Muller
W. Haass
D. Vassallo
B. Grimes

NSP

A. Dienhardt
E. Ward
C. Ross

AEC-DRS

V. Moore
T. Ippolito
R. Maccary
L. Porse

GE

J. Barnard
L. Wolf
G. Davis
L. Test

AEC-CO

W. Collins
V. Thomas

Shaw, Pittman

G. Charnoff