

Nebraska Public Power District

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U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Subject: Reactor Vessel Surveillance Program
Cooper Nuclear Station
NRC Docket No. 50-298, DPR-46

Reference: Letter from W. O. Long to G. A. Trevors, dated April 26, 1988,
"Cooper Nuclear Station - Amendment 120 to Facility Operating
License No. DPR-46 (TAC65793)"

Gentlemen:

The letter referenced above requested that the District submit a plan to reevaluate the reactor vessel surveillance program within 180 days. The District has reviewed the options available to provide additional reactor vessel surveillance data. The options considered are presented in Attachment 1.

Option 1, as recommended in the referenced letter, and Option 2 are not considered optimum. This is because the specimens in the first surveillance capsule will lag the vessel in exposure by more than four effective full power years (EFPY) and the archived capsule has no exposure history. The specimens in Capsules 2 and 3, now in the vessel, can be removed, analyzed, reconstituted, and reinstalled in the vessel with only one cycle of exposure lost. Option 3 offers only one benefit over Option 4, and that is the ability to reconstitute the specimens from both Capsules 2 and 3. This would only be important if a negative trend continues in vessel embrittlement and the District intends to extend the life of Cooper Nuclear Station (CNS) beyond 32 EFPY. It may be beneficial, to both the District and to all BWRs, to choose Option 5, which is the BWR Owner's Group/EPRI initiative. Option 5 could result in both additional data for CNS and a better embrittlement model for BWR vessels.

The District, therefore, proposes the following plan for reevaluating the reactor vessel surveillance program. The second surveillance capsule will be withdrawn and the test data analyzed prior to 12 EFPY. Based on the reasoning described above, the District anticipates implementing Option 3, 4, or 5. The direction taken depends to a large extent upon the results from the next set of specimens. A continued trend of higher than predicted shift in reference temperature may dictate the need to reconstitute both of the remaining capsule specimens. On the other hand, the data from the next capsule could indicate

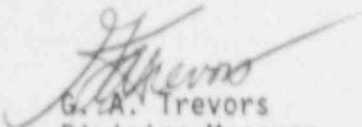
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that the current prediction is accurate. In this case, only the final capsule may need to be reconstituted for life extension purposes (if applicable to CNS). The District will also follow the BWR Owner's Group/EPRI effort. Prior to expiration of the current technical specification pressure-temperature limits at 12 EFPY, and after analysis of the next surveillance capsule, the District will provide additional information on the proposed revisions to the reactor vessel surveillance program.

Should you have any questions concerning the proposed plan to reevaluate the reactor vessel surveillance program, please contact me or Guy Horn at CNS.

Sincerely,



G. A. Trevors
Division Manager
Nuclear Support

GAT/mtb:rh11/1(12)
Attachment

cc: U.S. Nuclear Regulatory Commission
Region IV - Arlington, TX

NRC Senior Resident Inspector
Cooper Nuclear Station

S. Grant (BWROG Committee Chairman)
D. Grace (BWROG Chairman)

OPTIONS FOR A REVISED
REACTOR VESSEL SURVEILLANCE PROGRAM

OPTION 1

Reconstitute specimens from Capsule 1 (withdrawn at 6.8 EFPY)

OPTION 2

Install specimens from archived capsule

OPTION 3

Reconstitute specimens from Capsule 2 (to be withdrawn at 12 EFPY)

OPTION 4

Reconstitute specimens from last capsule

OPTION 5

Continue participation in BWR Owner's Group/EPRI effort. Objective is to fill in missing data that represents BWR fluences and vessel chemistries. Use this data to develop better model to represent BWR vessel embrittlement. Available coupon sample location in CNS vessel may be beneficial.