



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

JAN 9 7 1986

Docket No. 50-461

Mr. Frank A. Spangenberg  
Manager - Licensing and Safety  
Clinton Power Station  
P.O. Box 306  
Mail Code V920  
Clinton, Illinois 61727

Dear Mr. Spangenberg:

SUBJECT: CLINTON POWER STATION - STANDARD REVIEW PLAN DEVIATION FROM  
POSTULATING PIPE BREAK IN RHR HEAT EXCHANGER CUBICLES

The staff has reviewed your submittal, dated December 9, 1985, requesting NRC approval of a plant specific deviation from the Standard Review Plan. The proposed deviation is to not postulate a break at a specific location on the Residual Heat Removal (RHR) system piping in each of the RHR heat exchanger cubicles. Based on its review, the staff has determined your request for the deviation at this specific location is reasonable and can be granted as discussed below.

At the RHR piping penetration location in the wall which separates the Auxiliary Building main steam tunnel from the RHR heat exchanger cubicle, an anchor plate is attached to the steam tunnel side. There are welds on either side of this anchor plate which attach the RHR piping to the plate. The partial penetration weldment of the RHR pipe to anchor plate on the RHR heat exchanger cubicle side of the anchor plate is not included in the Inservice Inspection (ISI) program because of inaccessibility. However, the partial penetration weldment on the other (steam tunnel) side is accessible and is in the ISI program. The location of these welds is considered to be a terminal end of the piping and, in accordance with the guidelines of Standard Review Plan 3.6.2, a break should be postulated at this location.

At Clinton, the steam tunnel side has been designed to withstand the jet impingement, pipe whip and environmental effects of this break. The RHR heat exchanger cubicle has been designed to withstand the jet impingement and pipe whip effects of the same break. However, the flooding effects of this break in one cubicle, combined with a single active failure in the other cubicle would result in the loss of both RHR loops; this necessitates the request for a deviation from the requirement to consider the flooding effects of this break in each cubicle. This request is based on the assumption that this break is unlikely to occur because of the following provisions in the design:

1. The pipe stresses in the RHR piping at the anchor plates in the steam tunnel wall are approximately 50% of the code allowable stresses.

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2. The RHR piping in the areas under discussion are stagnant lines under normal plant operating conditions; therefore no flow induced vibration is expected here and also no rapid temperature change is expected during normal plant operations.
3. There are two independent types of leak detection instrumentation that can alert the control room operator if there is a pipe crack in the RHR heat exchanger cubicles as described in FSAR Section 7.6.1.4.3.4. Therefore, in the unlikely event of a pipe crack, the operator could initiate corrective action to minimize the effects of this event.
4. Because of the design details of this anchor plate to piping weldment, a failure of the piping pressure boundary is unlikely to occur if the partial penetration weld should fail.

Based on the considerations discussed above, the staff concludes that reasonable assurance has been provided that a pipe break at the location identified is not likely to occur. Thus the staff has determined that granting a Standard Review Plan deviation from postulating a break in each cubicle is acceptable.

In response to staff concerns relative to postulating a break at the branch connection of the RHR system to the feedwater system, you stated that this area has been designed to withstand the effects of jet impingement and pipe whip as well as environmental effects of the break, thus eliminating this as a concern.

It is requested that you provide an amendment to FSAR Section 3.6.2 to be consistent with applicable portions of your December 9, 1985 letter and the staff's approval of your request. If you have any questions related to this issue please contact the staff's project manager for your application.

Sincerely,



Walter R. Butler, Director  
BWR Project Directorate No. 4  
Division of BWR Licensing

cc: See next page

Mr. Frank A. Spangenberg  
Illinois Power Company

Clinton Power Station  
Unit 1

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2. The RHR piping in the areas under discussion are stagnant lines under normal plant operating conditions; therefore no flow induced vibration is expected here and also no rapid temperature change is expected during normal plant operations.
3. There are two independent types of leak detection instrumentation that can alert the control room operator if there is a pipe crack in the RHR heat exchanger cubicles as described in FSAR Section 7.6.1.4.3.4. Therefore, in the unlikely event of a pipe crack, the operator could initiate corrective action to minimize the effects of this event.
4. Because of the design details of this anchor plate to piping weldment, a failure of the piping pressure boundary is unlikely to occur if the partial penetration weld should fail.

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Sincerely,

Original Signed by

Walter R. Butler, Director  
BWR Project Directorate No. 4  
Division of BWR Licensing

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