



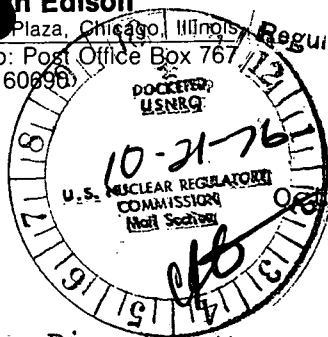
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October 18, 1976



Mr. Benard C. Rusche, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Dresden Station Units 2 and 3
Quad-Cities Station Units 1 and 2
Proposed Change to Technical Specifications
Appendix A to DPR-19, DPR-25, DPR-29, and
DPR-30 to Authorize Single Loop Operation
NRC Docket Nos. 50-237/249 and 50-254/265

Reference (a): R. L. Bolger Letter to B. C. Rusche dated
September 2, 1976, NRC Docket Nos.
50-237/249 and 50-254/265.

Dear Mr. Rusche:

Reference (a) transmitted information and amended Technical Specification pages in support of the proposed single loop amendment. Subsequent to that submittal, it has been noted that pages 91a and 99a of Enclosure (2) to Reference (a) were not edited to remove sections prohibiting single loop operation. The corrected pages are enclosed. In addition, Figures 4-1 and 4-2 for Question 4 of Enclosure (4) to Reference (a) were unavailable at the initial submittal date. These figures are also enclosed.

Please substitute corrected pages 91a and 99a in Enclosure (2) to Reference (a) and add Figures 4-1 and 4-2 to Enclosure (4) to Reference (a).

Three (3) signed originals and 57 copies are enclosed for your use.

SUBSCRIBED and SWORN to
before me this 18th day
of October, 1976.

Nancy M. Hollingworth
Notary Public

Very truly yours,

R. L. Bolger
Assistant Vice President

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Enclosure (1): 60 Copies, Dresden Station Units 2 and 3, Technical Specification Pages 91a and 99a.

Enclosure (2): 60 Copies, Figures 4-1 and 4-2, Peak Cladding Temperature Following a DBA From Single Loop Operation for Example Plant.

3.6 LIMITING CONDITION FOR OPERATION

H. Recirculation Pump Flow Mismatch

1. Whenever both recirculation pumps are in operation, pump speeds shall be maintained within 10% of each other when power level is greater than 80% and within 15% of each other when power level is less than 80%.
2. If Specification 3.6.H.1 cannot be met, one recirculation pump shall be tripped.
3. Whenever one pump is operable and the remaining pump is in the tripped position, the operable pump shall be at a speed less than 65% before starting the inoperable pump.

I. Recirculation Loop Crosstie

The crosstie and equalizer valve configuration shall be such that the two recirculation loops are isolated from each other at all times except when the reactor is in the cold shutdown condition.

4.6 SURVEILLANCE REQUIREMENT

3. The baseline data required to evaluate the conditions in Specifications 4.6.G.1 and 4.6.G.2 will be acquired each operating cycle.

H. Recirculation Pump Flow Mismatch

Recirculation pumps speed shall be checked daily for mismatch.

I. Recirculation Loop Crosstie

The crosstie and equalizer valve position indication shall be checked daily to verify isolation between recirculation loops.

H. Recirculation Pump Flow Mismatch

The LPCI loop selection logic has been described in the Dresden Nuclear Power Station Units 2 and 3 FSAR, Amendments 7 and 8. For some limited low probability accidents with the recirculation loop operating with large speed differences, it is possible for the logic to select the wrong loop for injection. For these limited conditions the core spray itself is adequate to prevent fuel temperatures from exceeding allowable limits. However, to limit the probability even further, a procedural limitation has been placed on the allowable variation in speed between the recirculation pumps.

The licensee's analyses indicate that above 80% power the loop select logic could not be expected to function at a speed differential of 15%. Below 80% power, the loop select logic would not be expected to function at a speed differential of 20%. This specification provides a margin of 5% in pump speed differential before a problem could arise. If the reactor is operating on one pump, the loop select logic trips that pump before making the loop selection.

In addition, during the startup of Dresden Unit 2, it was found that a flow mismatch between the two sets of jet pumps caused by a difference in recirculation loops could set up a vibration until a mismatch in speed of 27% occurred. The 10% and 15% speed mismatch restrictions provide additional margin before a pump vibration problem will occur.

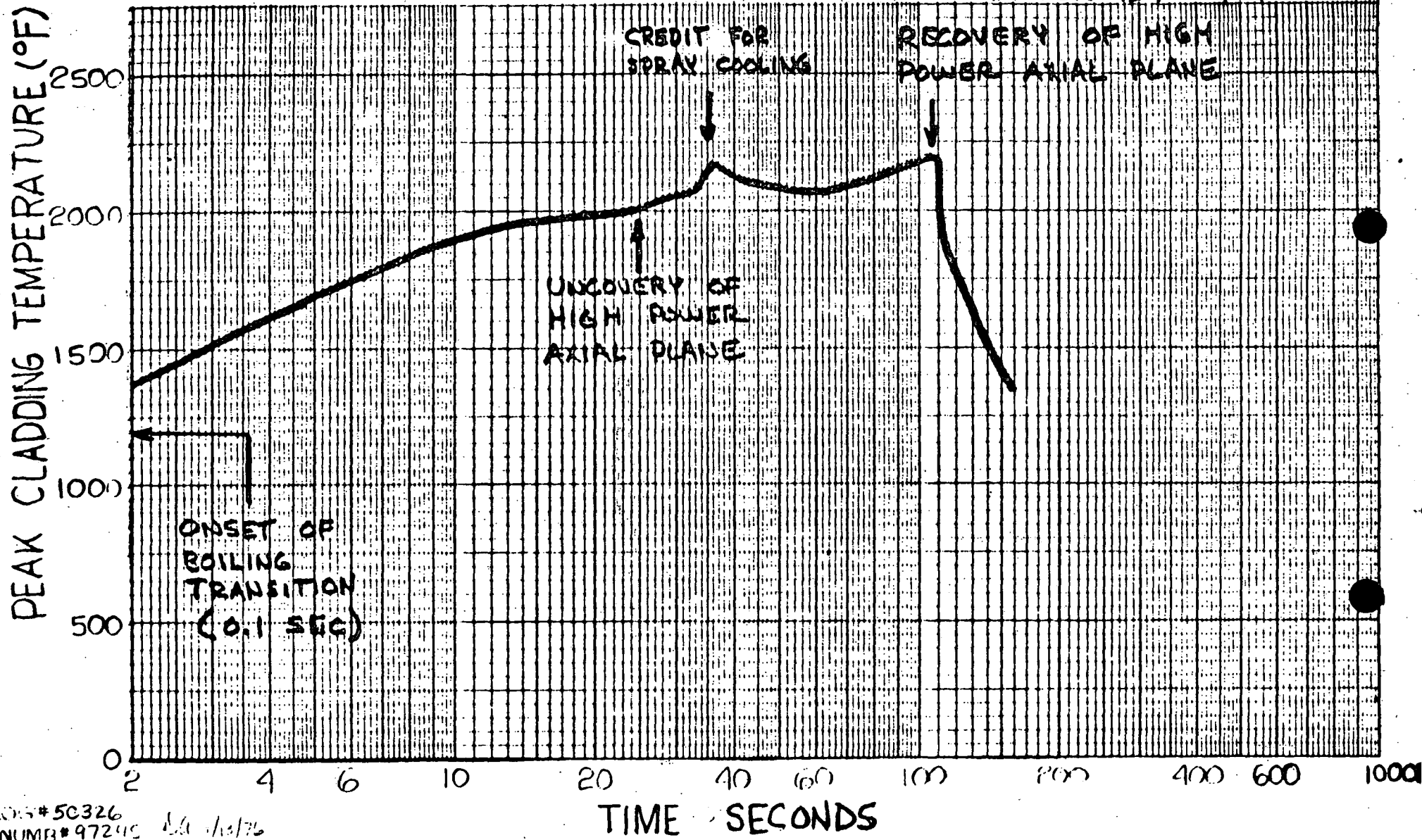
I. Recirculation Loop Crosstie

The crosstie piping between the two recirculation loops must remain closed in order to limit the blowdown area during the postulated design basis loss of coolant accident to that assumed in the analysis. As presently analyzed, the maximum blowdown area for the DBA is 4.2 ft² which is based on the cross sectional area of the 28 inch suction line and the summation of the 10 cross sectional areas of the 3.31 inch jet pump nozzles in the broken loop. The crosstie piping potentially provides an additional blowdown flowpath during a LOCA from the remaining 10 jet pumps in the broken loop. It is, therefore, necessary to assure that the loops are isolated from one another whenever the vessel is pressurized.

FIGURE 4-1
 PEAK CLADDING TEMPERATURE FOLLOWING A DBA FROM SINGLE LOOP OPERATION FOR EXAMPLE PLANT

NRC Dkts.
 50-237/249
 50-254/265

MAPLHGR = 12.7 KW/FT

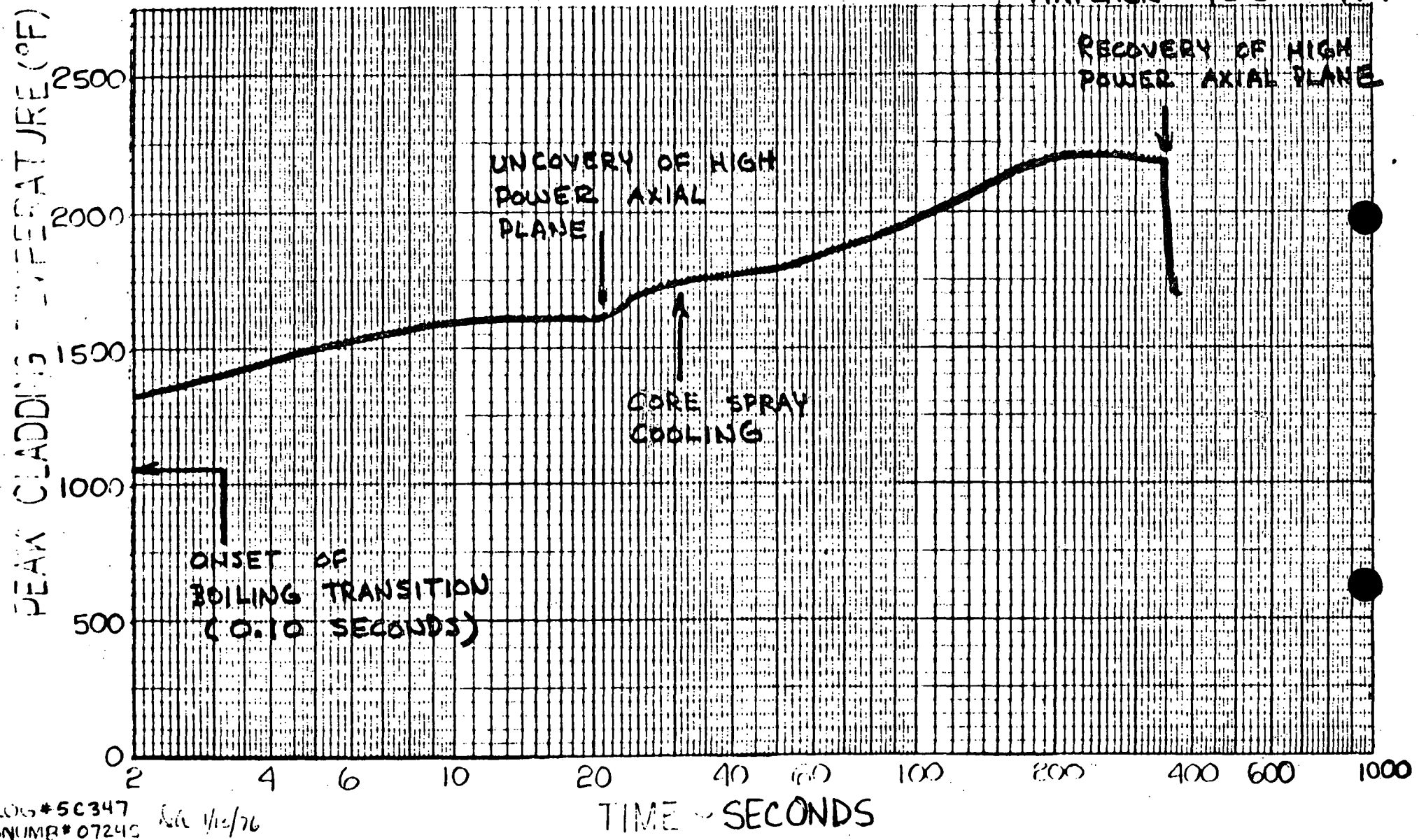


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FIGURE 4-2
 PEAK CLADDING TEMPERATURE FOLLOWING A DBA
 FROM SINGLE LOOP OPERATION FOR EXAMPLE PLANT

NRC Dkts.
 50-237/249
 50-254/265

MAPLHGR = 12.3 kw/ft



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Rev 1/10/76
 1/11/76

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