

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

R. H. LEASBURG
VICE PRESIDENT
NUCLEAR OPERATIONS

May 28, 1982

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
Attention: Mr. Robert A. Clark, Chief
Operating Reactors Branch No. 3
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Serial No. 247
NO/DWL:acm
Docket Nos. 50-338
50-339
License Nos. NPF-4
NPF-7

Gentlemen:

NORTH ANNA POWER STATION
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
RE: I&E BULLETIN 80-04

In your letter dated April 15, 1982, it was requested that Vepco provide an evaluation of the ability of the three Auxiliary feedwater (AFW) pumps to remain operable for 30 minutes at a runout flow condition. This information is to be used by an NRC consultant (Franklin Research Center) in the evaluation of the North Anna response to I&E Bulletin 80-04.

Vepco's response to this request is attached. If additional information is required, contact us at your convenience.

Very truly yours,

DL Stewart
R. H. Leasburg

cc: Mr. James P. O'Reilly
Regional Administrator
Region II
Atlanta, Ga. 30303

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RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION REGARDING I&E BULLETIN 80-04

Request:

Please provide an evaluation of the ability of the motor-driven and turbine-driven AFW pumps to remain operable for 30 minutes at runout flow.

Response:

With the one to one lineup of AFW pumps to S/G's at North Anna, pump runout need only be considered for an AFW pump aligned to a faulted S/G. Back pressure in the intact S/G's would preclude AFW pump runout from occurring. Both motor-driven AFW pumps (340 gpm each) have pressure control valves (PCV's) in the discharge piping of the pumps to regulate back pressure which prevents pump runout. In the event of a failure of the PCV on a motor-driven AFW pump aligned to a faulted S/G, then runout flow could occur for that pump. However, this condition is not limiting from a containment pressure response concern (IEB 80-04) since the runout flow of the motor driven AFW pumps is less than the nominal flow of the turbine-driven AFW pump. Additionally, if runout flow did occur and cause a pump failure within 30 minutes, the accident analysis assumptions for the MSLB transient would not be violated since AFW flow to the faulted S/G is terminated at 30 minutes in the analysis. Termination prior to 30 minutes would improve the containment pressure response and reduce the RCS cooldown. The remaining operable pumps aligned to the intact S/G's are adequate for the longer term removal of core heat.

The limiting MSLB case would be for a faulted S/G aligned to the turbine-driven AFW pump (680 gpm). Runout flow is prevented on the turbine-driven AFW pump by a flow restricting orifice in the discharge piping of this pump. Therefore, operability at a runout flow condition need not be considered since the runout condition is precluded by design.