

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

W. L. STEWART
VICE PRESIDENT
NUCLEAR OPERATIONS

February 8, 1983

Mr. Harold R. Denton
Office of Nuclear Reactor Regulation
Attn: Mr. Steven A. Varga, Chief
Operating Reactors Branch No. 1
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Serial No. 001A
NO/WDC:acm
Docket No. 50-280
License No. DPR-32

Gentlemen:

SUPPLEMENT TO RELIEF REQUESTS FROM ASME XI FOR SURRY
POWER STATION UNIT 1 10 YEAR INSERVICE INSPECTION

Surry Power Station is preparing for its 10 year inservice inspection outage. In our letter dated January 7, 1983 (Serial No. 001), we requested relief for certain cases where the requirements of the governing code were determined to be impractical or not achievable. Attached is an additional proposed relief request for Surry Unit 1.

This relief request concerns examination of nozzle dissimilar metal welds in accordance with IWB-2500 and IWB-2600. Relief was granted in this category from the 1971 ASME Code when Technical Specification 4.2 Bases A. Reactor Pressure Vessel, Category F was approved. However, when Surry upgraded to the 1974 ASME Code, we failed to include this relief in our submittal. Please add this relief request to Attachment 2 of our letter (Serial No. 001) referenced above.

Very truly yours,

W. L. Stewart
for W. L. Stewart

Attachment

cc: Mr. James P. O'Reilly
Regional Administrator
Region II

1. a) Reactor Vessel Nozzle Dissimilar Metal Welds
 - b) Reactor Coolant System
 - c) Class I
2. Class I Non-destructive Testing, IWB-2000, Examination Category B-F, IWB 2600 Bl.6.
3. Extent of the presently scheduled examinations of the nozzle dissimilar metal welds in accordance with IWB-2500 and IWB-2600 is Volumetric and Surface from the outside diameter (OD). This requires significant surface preparation time involving removal of interference, cleaning of the welds, moving necessary test equipment into position and conducting the examinations in a high radiation area and virtually in near contact with the loops. At Surry, it is estimated that the average general radiation levels in the vicinity of the nozzle dissimilar metal welds will be at least 500mr/hr with loop contact readings of 2-4 R/hr. At this radiation level, it is estimated that the following exposures will be incurred to complete all remaining inlet loop nozzle dissimilar metal weld inspections on Unit 1 (Unit 2 is expected to be comparable):

	MANHOURS	MANREM
Removal of interference materials to gain access	12	6
Weld preparation around 100% of circumference	18	9
Conduct of examination	<u>9</u>	<u>4.5</u>
TOTAL	<u>39</u>	<u>19.5</u>

During this 1st Interval, the following examinations of nozzle dissimilar metal welds have been completed with no relevant flaw indications:

Unit 1 Outlets (all loops) Volumetric (UT) and Surface OD
Inlets (all loops) Volumetric only from ID

Unit 2 Outlets (all loops) Volumetric and Surface

The capability exists to volumetrically examine all nozzle dissimilar metal welds from the ID as required by the follow-on 1977 and 1980 ASME Code Section XI for 1/3t. A full volumetric examination from the ID has been accomplished which adequately inspects the weld for integrity. Thus the surface preparation of the OD, in view of the anticipated exposure dose even with portable shielding and exposure time improvement techniques, would not be commensurate with the gain in weld integrity inspection.

Over 40 nozzle dissimilar metal welds are known to have been examined at various nuclear plant utilities with no service induced flaws detected.

Since thermal stress is the likely method to initiate cracks, such a flaw would be most likely to initialize itself on the ID where the thermal stress and pressure forces combine to form the greatest tensile stresses particularly during a cold water transient.

4. As an alternative and in agreement with Surry Technical Specification 4.2 Bases A. Reactor Pressure Vessel, Category F, it is requested that the nozzle dissimilar metal welds IWB-2600 B1.6, be volumetrically inspected from the ID without an OD Surface and Visual examination. This would greatly reduce the exposure of personnel and is commensurate with ALARA practices.