



**New York Power
Authority**

John C. Brons
Executive Vice President
Nuclear Generation

IPN-88-033
August 12, 1988

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Station P1-137
Washington, D.C. 20555

Subject: Indian Point 3 Nuclear Power Plant
Docket No. 50-286
Preservice Inspection; Relief from Examination of
Replacement Steam Generator Inside Radius Sections

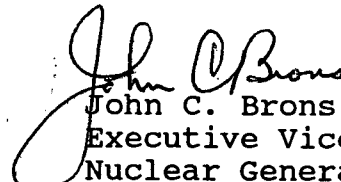
Dear Sir:

This letter requests relief from the Section XI inspection requirements of the ASME Boiler & Pressure Vessel Code, 1983 Edition with Addenda through Summer 1983 Addenda. Pursuant to 10 CFR 50.55a, relief is proposed from the volumetric examination of the inner radii of the steam generator nozzle-to-head and main steam nozzle inside radius sections.

In accordance with 10 CFR 170.12, a check in the amount of \$150.00 is enclosed as payment of the application fee for the review of this proposed relief from inservice examinations required by 10 CFR 50.55a(g).

Your review of this proposed relief is requested by September 23, 1988. This is the scheduled completion date for the preservice inspection program at the fabrication facility. Should you or your staff have any questions regarding this letter please contact Mr. P. Kokolakis of my staff.

Very truly yours,


John C. Brons
Executive Vice President
Nuclear Generation

Attachment
cc: next page

8808240395 880812
PDR ADOCK 05000286
Q PNU

A047
11

cc: U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Resident Inspector's Office
Indian Point Unit 3
U.S. Nuclear Regulatory Commission
P.O. Box 337
Buchanan, N.Y. 10511

Joseph D. Neighbors, Sr. Proj. Mgr.
Project Directorate I-1
Division of Reactor Projects I/II
U.S. Nuclear Regulatory Commission
Mail Stop 14B2
Washington, D.C. 20555

ATTACHMENT TO IPN-88-000

**PROPOSED PRESERVICE INSPECTION RELIEF REQUEST
REPLACEMENT STEAM GENERATORS**

**NEW YORK POWER AUTHORITY
INDIAN POINT 3 NUCLEAR POWER PLANT
DOCKET NO. 50-286
DPR-64**

**PRESERVICE EXAMINATION
RELIEF REQUEST**

1. COMPONENT: Steam Generators Steam Outlet Nozzle and Channel Head Primary Nozzle Inside Radius Sections
2. CODE REFERENCE: ASME Boiler and Pressure Vessel Code Section XI 1983 Edition thru Summer 1983 Addenda IWB-2500-1 Category B-D Item No. B3.140 and IWC-2500-1 Category C-B Item C2.22
3. CODE REQUIRED EXAMINATION: Volumetric Examination of 8 total Primary Nozzle Inside Radius Sections (IWB-2500-1 Category B-D Item No. B3.140): Volumetric Examination of 1 Mainsteam Nozzle Inside Radius Section (IWC-2500-1 Category C-B Item C2.22)
4. ALTERNATE EXAMINATION: In lieu of the above requirement for volumetric examinations the primary nozzle areas will be visually examined from the I.D. The steam outlet nozzle should be excluded from the requirements for reasons outlined below. The nozzle areas will be examined for evidence of leakage during Section III shop hydrostatic test and the subsequent preservice Section XI hydrostatic test following installation of the steam generators as required by ASME Boiler Pressure Vessel Code.
5. BASIS FOR RELIEF REQUEST: Presently, there is no comprehensive inspection technique available, nor guidance for such in the ASME Code, which would provide a conclusive assessment of the Code required volumes of the Nozzle Inside Radius Sections.

PRIMARY NOZZLE

The 8 Primary Nozzles are integrally forged with the Vessel Heads. The as-forged vessel Heads with varying section thicknesses combined with the geometry of this area resulting from the larger non-concentric outer nozzle radius combined with the small nozzle inside radius section effectively preclude ultrasonic examination of the nozzle inside radius section (see attached sketch no. 1).

Precautions taken during manufacture under Section III include the following: 100% ultrasonic inspection of the channel head forging prior to machining, magnetic particle inspection of the entire surface and inspection of the channel head bowl and nozzle bore by UT after machining. Subsequent to clad deposit operations all cladding (including the inside radius section area) was ultrasonically examined for bond and defect. The cladding is also given a liquid penetrant and visual examination for surface defects.

MAIN STEAM NOZZLE

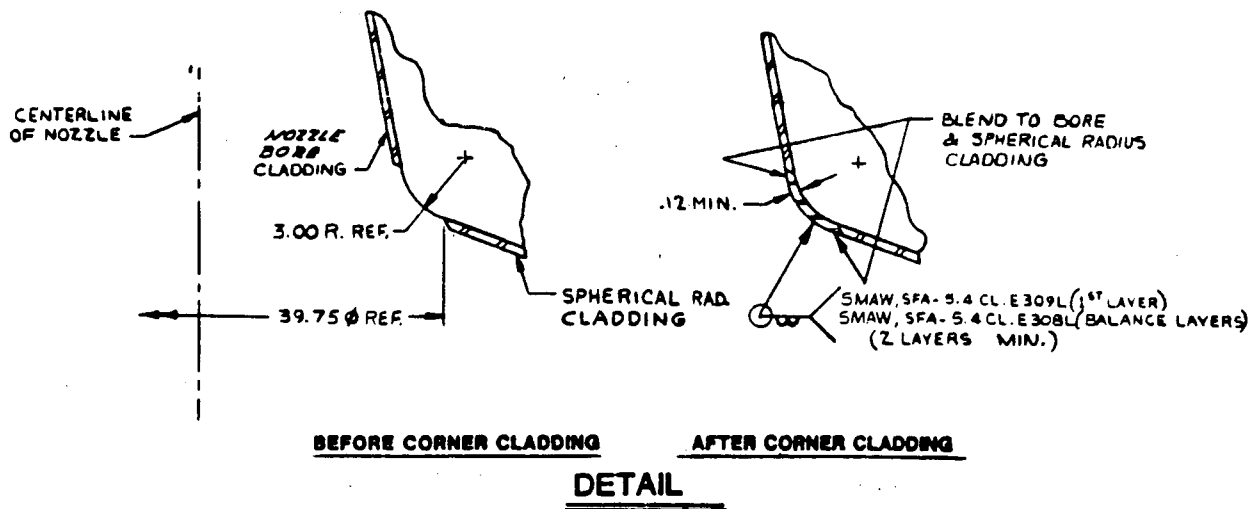
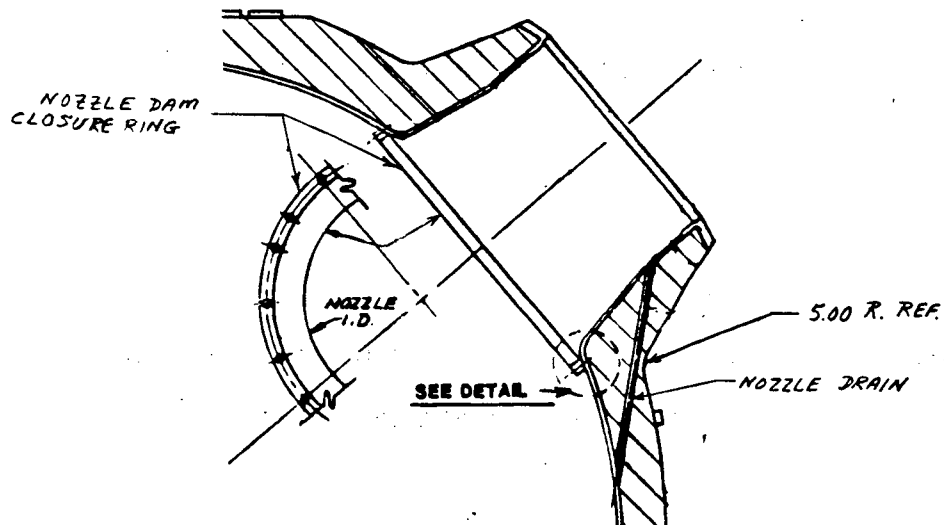
The Main Steam Nozzle is welded to the Steam Generator. Section XI requires volumetric examination of the inside radius section of nozzles greater than a nominal pipe size of 12 inches in Class 2 vessels. In the case of Indian Point No. 3 Steam Generators, due to design, the Main Steam Nozzles do not have an inner or blended radius section to examine. The nozzle is a one piece forging with seven holes bored parallel to the nozzle centerline (see attached sketch no. 2). Inconel flow restrictors are subsequently installed within each of these holes and attached to cladding that is weld deposited onto the bottom surface of the nozzle. The cladding serves as a medium of attachment for the inconel flow restrictors and as an erosion barrier to protect the nozzle forging. Due to the Main Steam Nozzle not having an inner radius blended section to examine, the Section XI requirements are not applicable. The I.D. of the Steam Outlet Nozzle is not accessible for visual examination due to interference from the installed steam separator packages on the inside and the internal geometry of the nozzle itself precludes access for visual examination from the outside.

Examinations performed to Section III on the steam outlet nozzle include the following: 100% Ultrasonic inspection of the nozzle forging prior to final machining followed by magnetic particle and visual inspections after final machining. Examinations performed on the weld deposited cladding in the area beneath the bored hole corners include ultrasonic (for bond and defect), liquid penetrant and visual examination. Upon attachment of the flow restrictors the welds are liquid penetrant and visually examined.

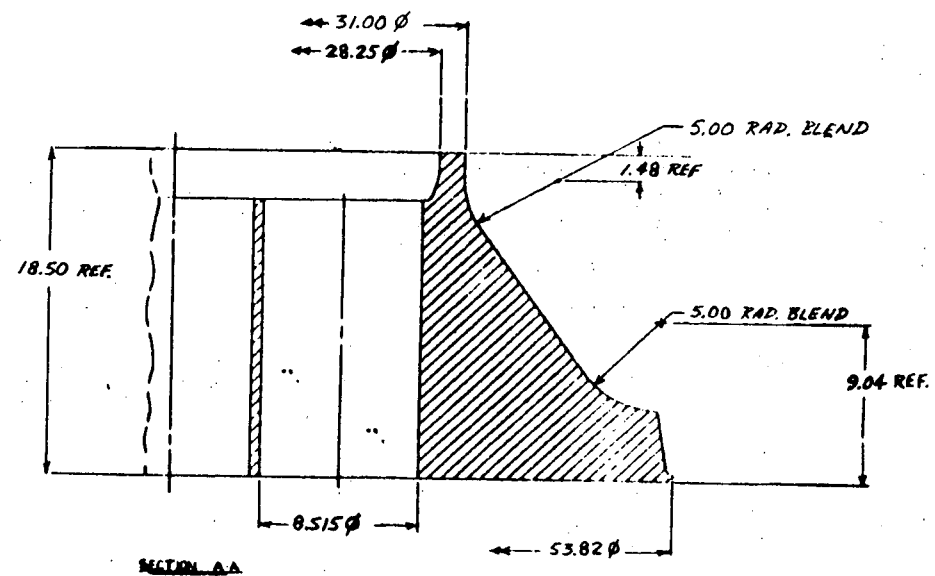
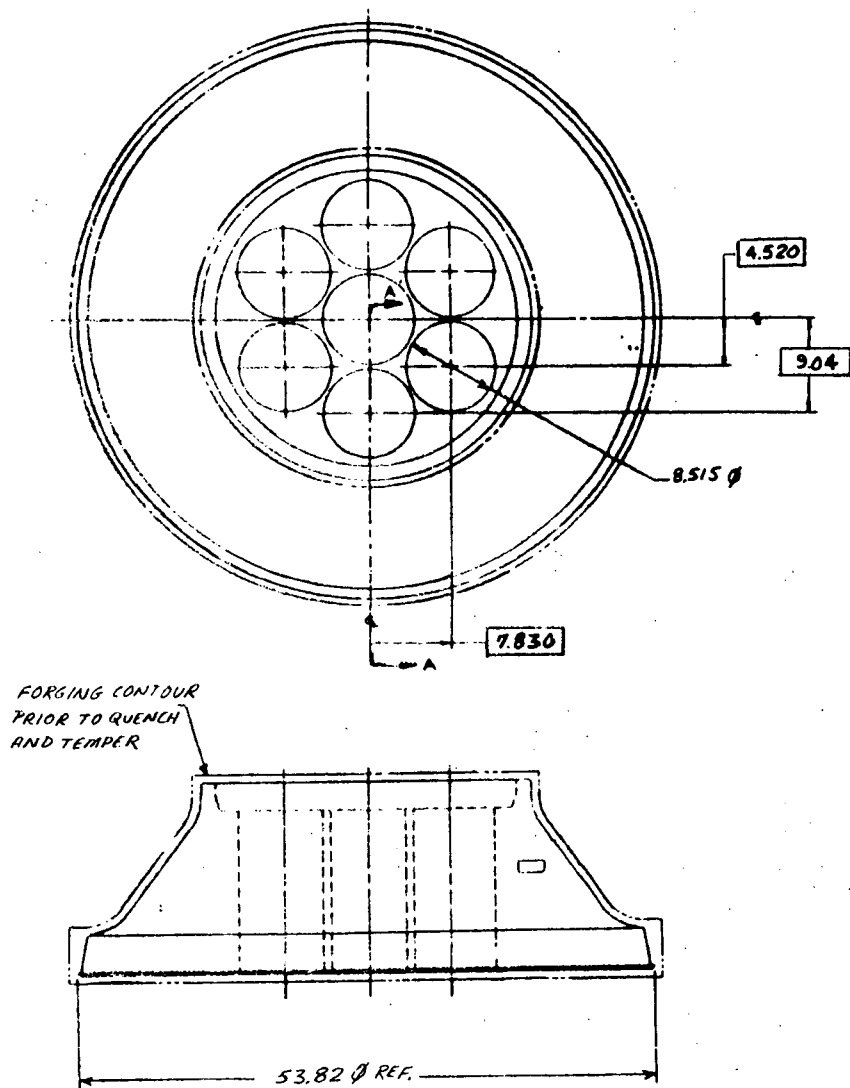
GENERAL

There is no change expected in the overall level of plant safety after installation of the steam generators by performing the proposed alternate examinations. The alternate inspections identified herein will augment the original plant design and fabrication requirements which did not require the volumetric examination of nozzle inside radius sections.

Sketch No. 1



CHANNEL HEAD NOZZLE



STEAM OUTLET NOZZLE FORGING
PRIOR TO CLADDING AND
FLOW RESTRICTOR INSTALLATION