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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
Withdrawal and Resubmittal of Relief Requests from Preservice Volumetric Examination of Replacement Steam Generator Nozzle Inner Radii

Reference: 1. Letter from Mr. J.C. Brons (NYPA) to NRC, "Preservice Inspection; Relief from Examination of Replacement Steam Generator Inside Radius Sections," dated August 12, 1988.

Dear Sir:

This letter requests the withdrawal of requests for relief from the ASME Section XI preservice inspection requirements submitted by Reference (1). Pursuant to 10 CFR 50.55a, Reference (1) requested relief from the volumetric examination of the steam generator nozzle-to-head (Category B-D, Item B3.140) and the main steam nozzle (Category C-B, Item C2.22) inside radius sections. Volumetric examination of Item B3.140 was completed during the preservice examination of the replacement steam generators for Indian Point 3. The proposed relief request concerning Exam Category B-D, Item B3.140 is no longer required. The examination of the main steam nozzles (Item C2.22) was not completed for reasons stated in Reference (1). Accordingly, the proposed relief from examination of main steam nozzles required by this item is resubmitted by this letter.

Ultrasonic inspection techniques have advanced such that inspection of forged vessel nozzles with varying thicknesses is possible. A procedure developed at another utility for inspection of a similar geometry, was modified and qualified for use on the primary nozzle inner radii at Indian Point 3. Although some limitations caused by transducer lift off at surface imperfections and physical appurtenances occurred as expected, it is the Authority's conclusion that the intent of the ASME Code to inspect "essentially 100%" of the examination

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area was met. Therefore, relief from Exam Category B-D, Item B3.140 is not needed in this case. Limitations, when encountered, were documented on "Limitation to Examination Forms" (as required by Code) describing approximate size, location and type for each weld examined.

The proposed relief from preservice examination transmitted by Reference (1) is withdrawn. It is requested that the amount of $150.00 previously forwarded by Reference (1) be applied as payment of the application fee required by 10 CFR 170.12 for the review of the proposed relief request from examination of main steam nozzles (Item C2.22) which is resubmitted by this letter.

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: U.S. Nuclear Regulatory Commission
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Resident Inspector's Office
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RELIEF REQUEST
PRESERVICE EXAMINATION

1. **COMPONENT:**

Steam Generator Steam Outlet Nozzles

2. **CODE REFERENCE:**

ASME Boiler and Pressure Vessel Code, Section XI 1983 Edition through Summer 1983 Addenda IWC-2500-1 Category C-B Item C2.22.

3. **CODE REQUIRED EXAMINATION:**

Volumetric Examination of Each Steam Generator Main Steam Nozzle Inside Radius Section (IWC-2500-1 Category C-B Item C2.22).

4. **ALTERNATE EXAMINATION:**

The main steam 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:**

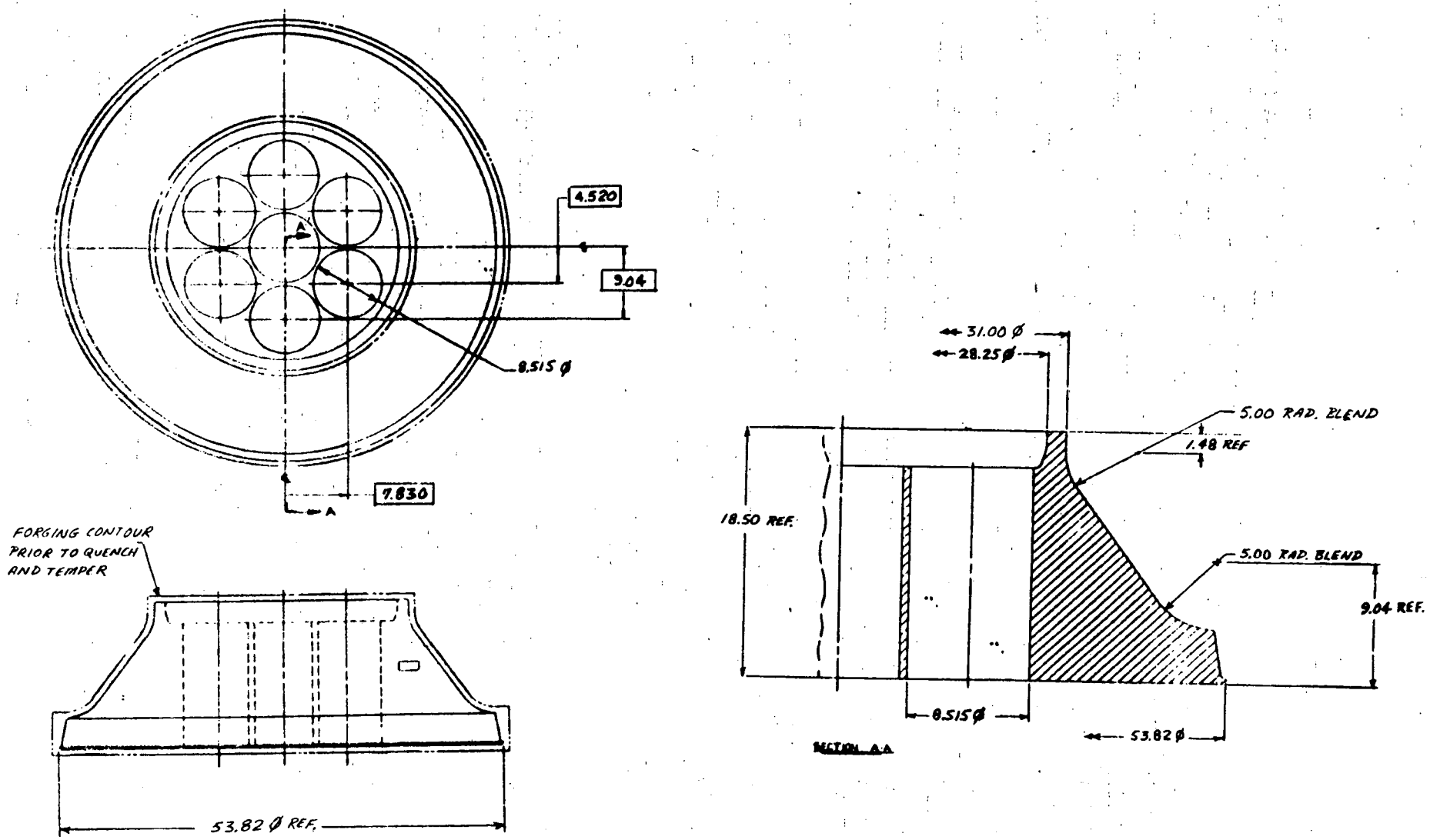
Presently, there is no comprehensive inspection technique available, nor guidance for such in the ASME Code, which would provide a conclusive assessment of the Code required volumes of the Main Steam Nozzle Inside Radius Sections.

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. By 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). Inconel flow restrictors are subsequently installed within each of these holes and attached to cladding that is weld deposited onto the bottom surface of

5. **BASIS FOR RELIEF** (continued):

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 examination 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.



STEAM OUTLET NOZZLE FORGING
PRIOR TO CLADDING AND
FLOW RESTRICTOR INSTALLATION

Sketch