



A subsidiary of Pinnacle West Capital Corporation

Palo Verde Nuclear  
Generating Station

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ATTN: Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Dear Sirs:

**Subject: Palo Verde Nuclear Generating Station (PVNGS)  
Unit 3  
Docket Nos. STN 50-530  
Request for Relief from the American Society of Mechanical Engineers  
(ASME) Code, Section XI – Relief Request No. 47**

Pursuant to 10 CFR 50.55a(g)(5)(iii), Arizona Public Service Company (APS) is submitting a request for relief for the Unit 3 second Inservice Inspection (ISI) interval. Specifically, APS is requesting relief from the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI requirements, regarding Class 1 weld and component volumetric examinations which have been determined by APS to be impractical.

No commitments are being made to the NRC by this letter. Should you need further information regarding this relief request, please contact Russell A. Stroud, Licensing Section Leader, at (623) 393-5111.

Sincerely,  
*A.C. Mims*

DCM/RAS/RJR/gat

Enclosure: Relief Request No. 47

cc: E. E. Collins Jr. NRC Region IV Regional Administrator  
J. R. Hall NRC NRR Project Manager  
R. I. Treadway NRC Senior Resident Inspector

AD47  
NRR

**ENCLOSURE**

**Relief Request No. 47**

**Relief Request in Accordance with 10 CFR 50.55a(g)(5)(iii)  
Inservice Inspection Impracticality**

**Relief Request No. 47**

**Background**

Due to the one-cycle deferral of the Unit 3 reactor vessel nozzle to vessel weld examinations submitted in Relief Request 34 and approved by the NRC on May 16, 2007, the impracticality of compliance described herein was not submitted with APS' original 10 CFR 50.55a(g)(5)(iv) submittal, Relief Request 43, dated January 12, 2009. The Unit 3 examinations were performed during the fourteenth refueling outage completed on May 28, 2009, representing the one-cycle deferral.

**ASME Code Components Affected**

PVNGS Unit:	3
Description:	B-D, Reactor vessel nozzle to vessel welds
Item numbers:	B3.90
Code Class:	1

**Applicability Code Additions and Addenda**

Second 10-year Inservice Inspection Interval for Palo Verde Nuclear Generating Station (PVNGS) Unit 3: American Society of Mechanical Engineers (ASME) Code, Section XI, 1992 Edition and 1992 Addenda.

**Applicable Code Requirement**

Subsection IWB of ASME Section XI 1992 Edition, 1992 Addenda defines the ASME Class 1 welds and components that are required to be examined. For volumetric examinations it further specifies the associated examination volume. These examination volume requirements were modified using Code Case N-613-1 which provides alternative figures and volumes and Code Case N-460, which provides alternative rules that allow the examination volume to be reduced by 10% under certain conditions.

**Impracticality of Compliance**

ASME Code requires a minimum of 90 percent coverage of the weld volume; but, because of the configuration of the reactor vessel outlet nozzles and the geometric shape, the examination is limited and APS is seeking relief from the Code requirement.

**Burden Caused by Compliance**

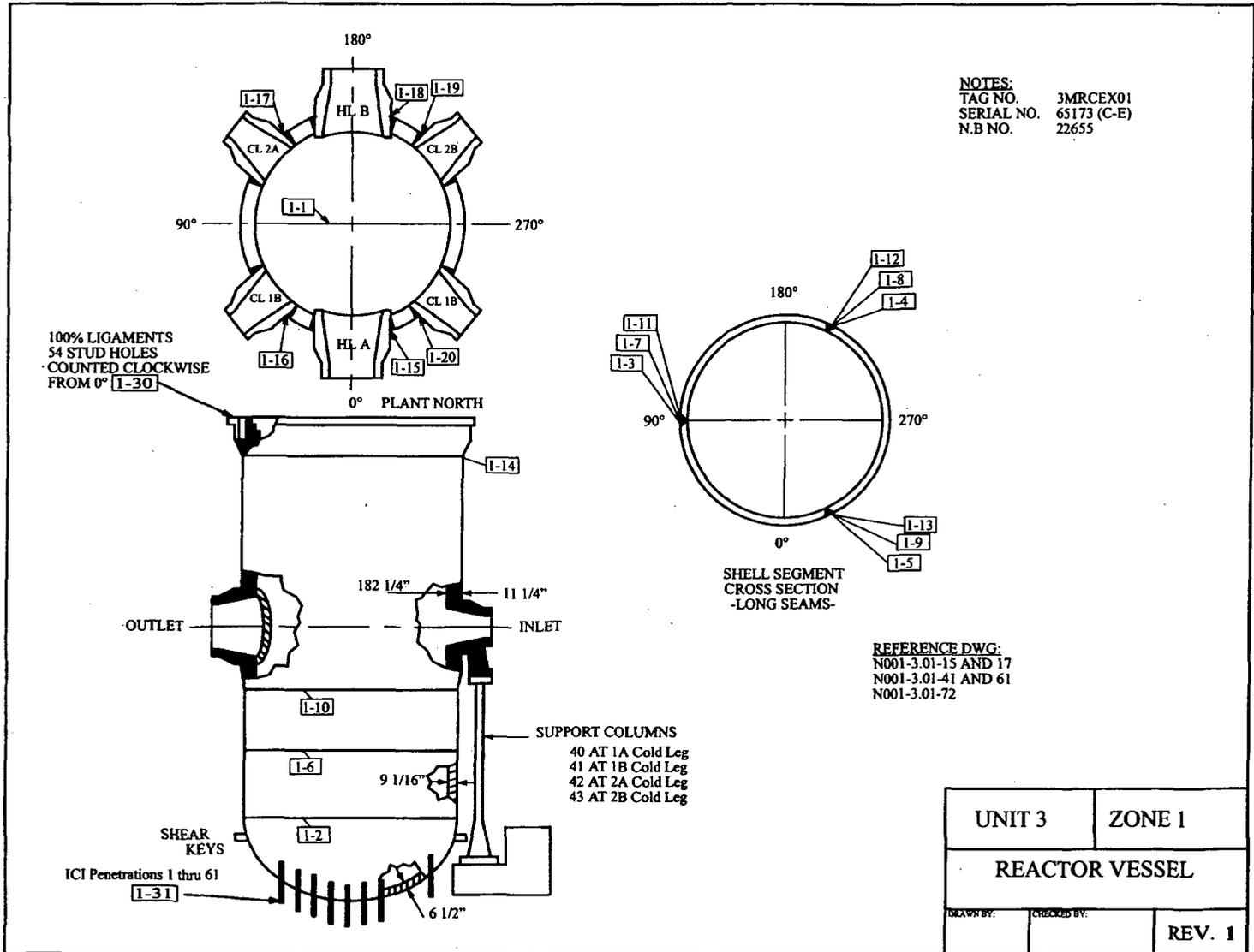
Due to component geometry several scans are performed on these nozzles to maximize coverage. To comply with the Code, the reactor vessel outlet nozzles and geometric shape would need to be redesigned and modified to increase the coverage to 90 percent or better.

**Proposed Alternative and Basis for Relief**

Figure 1 illustrates the ISI drawing for Zone 1 and the welds 1-15 and 1-18. The design of the reactor vessel outlet nozzle protrusion provides a geometric limitation to the scanning area. The examination robot and transducer sled are physically limited by this protrusion. Figure 2 illustrates where the limitations were documented and a typical transducer sled scanning from the vessel inside diameter. The limitation is the nozzle protrusion as seen in this figure. All reactor vessel surfaces were examined, with the exception of scanning from the radius and protrusion. Examination scanning was performed on these nozzles to obtain the highest examination volume practical. The examination volume coverage was 98% for perpendicular to the weld centerline scans from the nozzle bore. The tangential scans that are parallel to the weld centerline are limited to 67%. The overall combined examination volume was 82.5%.

Based on the above evaluation, the proposed alternative is to examine these welds to the extent practical.

FIGURE 1, ISI ZONE 1



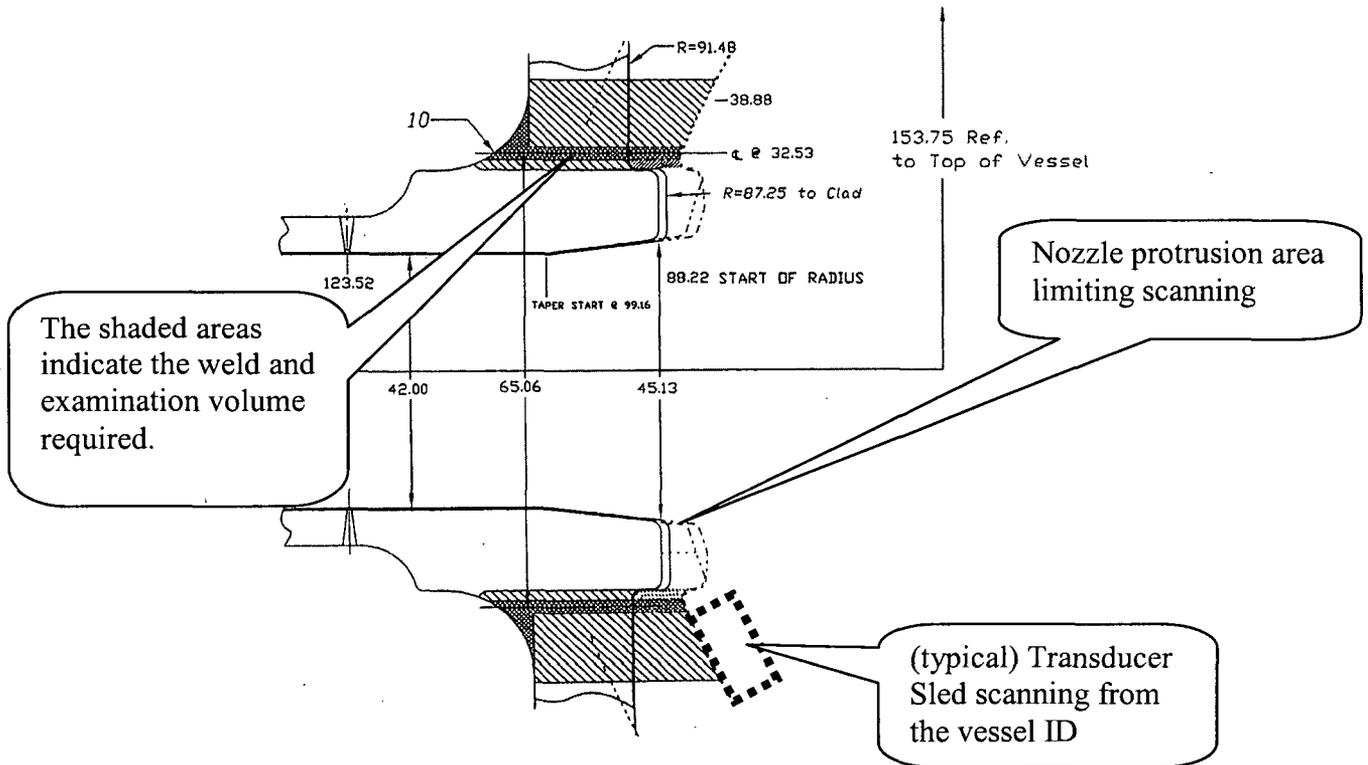


FIGURE 2, NOZZLE TO VESSEL PROTRUSION (typical sketch)

**Duration of Proposed Alternatives**

In conclusion, both welds 1-15 and 1-18 were examined to the fullest extent practical. In accordance with 10 CFR 50.55a(g)(5)(iii), PVNGS is requesting relief from conformance with the above code requirements which have been determined to be impractical for the second inspection interval for Palo Verde Unit 3.

**References**

NRC letter dated May 16, 2007, "Palo Verde Nuclear Generating Station, Units 2 and 3 – Supplement to Relief Request No. 34 RE: Request to Extend the Second 10-year Inservice Inspection Program Interval for Reactor Vessel Weld Examinations (TAC NOS. MD3917 and MD3918)."