

SNUPPS

Standardized Nuclear Unit  
Power Plant System

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September 6, 1984

SLNRC 84-112 FILE: 0541/M-189  
SUBJ: Preservice Inspection Relief  
Request - Wolf Creek Plant

Mr. Harold R. Denton, Director  
Office of Nuclear Reactor Regulation  
US Nuclear Regulatory Commission  
Washington, D.C. 20555

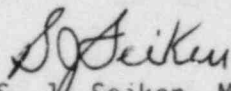
Docket No.: STN 50-482

Dear Mr. Denton:

Enclosures A - F provide data in support of a request for relief from preservice examination (volumetric and visual) requirements for selected Wolf Creek component and piping systems. Enclosure G provides data in support of a volumetric examination relief request for 18 branch connection welds in the Reactor Coolant System. With exception of partial relief requests required for certain weldments in the Wolf Creek Reactor Pressure Vessel, no additional volumetric examination relief requests are anticipated.

A supplemental submittal in support of the Wolf Creek Reactor Pressure Vessel preservice examination relief request is being finalized and will be forwarded to the NRC by Sept. 15, 1984.

Very truly yours,

  
S. J. Seiken, Manager  
Quality Assurance

8409110137 840906  
PDR ADOCK 05000482  
G PDR

SJS/dck/8a19

Enclosures: A thru G

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Boo!  
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Page Two

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## ENCLOSURE A

System: Main Feedwater

<u>Component I.D.</u>	<u>Category</u>	<u>Description</u>	<u>Code Requirement</u>	<u>Basis For Relief</u>
1-AE-05-FW302	C-F	14" Valve to 14" Pipe	Volumetric examination by scanning both sides of weld	Valve geometry and sockolet obstruction affects scan path. 5% loss of volume coverage.
1-AE-05-F020	C-F	14" Valve to 14" Pipe	Volumetric examination by scanning both sides of weld	Valve geometry and sockolet obstruction affects scan path. 5% loss of volume coverage.
1-AE-04-F020	C-F	14" Valve to 14" Pipe	Volumetric examination by scanning both sides of weld	Valve geometry and sockolet obstruction affects scan path. 5% loss of volume coverage.
1-AE-04-F005	C-F	14" Valve to 14" Pipe	Volumetric examination by scanning both sides of weld	Valve geometry and sockolet on pipe side obstructs scan path. 5% loss of volume coverage.
1-AE-04-F033	C-F	4" Elbow to 4" Valve	Volumetric examination by scanning both sides of weld	Valve geometry obstructs scan path loss of transducer contact on the elbow inner radius. 10% loss of volume coverage.
1-AE-05-F031	C-F	4" Elbow to 4" Valve	Volumetric examination by scanning both sides of weld	Valve geometry obstructs scan path loss of transducer contact on the elbow inner radius. 10% loss of volume coverage.
1-AE-04-F031	C-F	4" Elbow to 4" Valve	Volumetric examination by scanning both sides of weld	Valve geometry obstructs scan path. Loss of transducer contact on the elbow inner radius. 10% loss of volume coverage.

System: High Pressure Coolant Injection

1-EM-02-S008-M	C-F	6" Tee to 6" Pipe	Volumetric examination by scanning both sides of weld	Tee geometry, obstructs scan path. Limited scan due to lug obstruction on pipe side. 5% loss of volume coverage.
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## ENCLOSURE B

System: Steam Generator

<u>Component I.D.</u>	<u>Category</u>	<u>Description</u>	<u>Code Requirement</u>	<u>Basis for Relief</u>
1-EBB01A-SEAM- 2-W	C-A	Tube Sheet to Stub Barrel	100% Volumetric Examination	Flange obstruction limiting scan length on tube sheet side. Three latches, instrumentation, nozzle and I.D. plate obstructing scan path on stub barrel side. 5% loss of volume coverage at 60° & 45°.
1-EBB01A-SEAM- 6-W	C-A	Transition Cone to Shell Section C	100% Volumetric Examination	Four instrumentation nozzles, two lugs, guages and a feedwater nozzle obstructing scan path. 5% loss of volume coverage at 60° scan angle and 10% at a 45° scan angle.
1-EBB01A-SEAM- 8-W	C-A	Shell Section D to Top Head	100% Volumetric Examination	Loss of transducer contact due to transition section, lug and guage obstructions. 10% loss of volume coverage.
1-EBB01A-SEAM- 5-W	C-A	Shell Section B to Transition Cone	100% Volumetric Examination	Loss of transducer contact due to transition section and two guages. 10% loss of volume coverage at 60° and 5% loss of volume at 0°.
1-EBB01A-SEAM- 3-W	C-A	Stub Barrel to Shell Section A	100% Volumetric Examination	Loss of transducer contact due to transition section and two guages. 10% loss of volume coverage.

ENCLOSURE C

System: Reactor Coolant

Category: C-F

Component Description:

Component Identification

1-BG-09-W790  
1-BG-09-FW879  
1-BG-09-FW880  
1-BG-09-W859

Component Description

Reactor Coolant Pump D Seal  
Water Injection Line Welds

2" X 1½" Reducer to 1½" Pipe  
1½" Pipe to Valve  
Valve to 1½" Pipe  
1½" Pipe to 2" X 1½" Reducer

1-BG-09-W686  
1-BG-09-FW881  
1-BG-09-FW882  
1-BG-09-W779

Reactor Coolant Pump A

Seal Water Injection Line Welds

2" X 1½" Reducer to 1½" Pipe  
1½" Pipe to Valve  
Valve to 1½" Pipe  
1½" Pipe to 2" X 1½" Reducer

1-BG-09-W806  
1-BG-09-FW877  
1-BG-09-FW878  
1-BG-09-W807

Reactor Coolant Pump C

Seal Water Injection Line Welds

2" X 1½" Reducer to 1½" Pipe  
1½" Pipe to Valve  
Valve to 1½" Pipe  
1½" Pipe to 2" X 1½" Reducer

1-BG-09-W814  
1-BG-09-FW875  
1-BG-09-FW876  
1-BG-09-W696

Reactor Coolant Pump B

Seal Water Injection Line Welds

2" X 1½" Reducer to 1½" Pipe  
1½" Pipe to Valve  
Valve to 1½" Pipe  
1½" Pipe to 2" X 1½" Reducer

Code Requirements: Volumetric examination of these welds not required by Code.

Areas For Relief: Volumetric examination of piping welds.

Basis For Relief: Combination of small pipe diameter and minimum wall thickness cause volumetric examination to be meaningless.

Alternate Testing: Penetrant Testing.

ENCLOSURE D

System: Essential Service Water System

Category: D-A

Component Description: Pump Supports K-EF11-R005, K-EF11-B003, K-EF11-R001  
K-EF11-R006, K-EF11-B004, K-EF11-ROD2

Code Requirement: Visual Examination - 3

Areas for Relief: Entire Examination

Basis for Relief: The pump supports are inaccessible due to their  
submersion within the Essential Service Water  
Pump Pit.

Alternate Testing: None

ENCLOSURE E

System: Fuel Pool Cooling and Cleanup

Category: D-C

Component Description: Pipe Supports 1-EC-04-R026, 1-EC-04-R027,  
1-EC-04-R029, 1-EC-04-R030

Code Requirement: Visual Examination - 3

Areas for Relief: Entire Examination

Basis for Relief: These pipe supports will be submerged in the  
spent fuel pool during the life of the plant.

Alternate Testing: None

## ENCLOSURE F

<u>System: Pressurizer</u>		<u>Description</u>	<u>Code Requirement</u>	<u>Basis for Relief</u>
<u>Component I.D</u>	<u>Category</u>			
1-TBB03-4-W	B-F	Relief Nozzle to Safe-end Weld	Volumetric examination by scanning both sides of weld.	Component undulations restricting search unit movement and metal structure of inconell buttering inhibiting shear wave transmission. 20% loss of volume coverage with a 60° axial scan and a 45% loss of volume coverage with a 45° axial scan.
1-TBB03-3-A-W	B-F	Safety Nozzle to Safe-end Weld	Volumetric examination by scanning both sides of weld.	Component undulations restricting search unit movement and metal structure of inconell buttering inhibiting shear wave transmission. 50% loss of volume coverage with a 60° axial scan and a 35% loss of volume coverage with a 45° axial scan.
1-TBB03-1-W	B-F	Surge Nozzle to Safe-end Weld	Volumetric examination by scanning both sides of weld.	Component undulations restricting search unit movement and metal structure of inconell buttering inhibiting shear wave transmission. 15% loss of volume coverage with a 60° axial scan and a 40% loss of volume coverage with a 45° axial scan.
1-TBB03-3-B-W	B-F	Safety Nozzle to Safe-end Weld	Volumetric examination by scanning both sides of weld.	Component undulations restricting search unit movement and metal structure of inconell buttering inhibiting shear wave transmission. 55% loss of volume coverage with a 60° axial scan and a 40% loss of volume coverage with a 45° axial scan.
1-TBB03-2-W	B-F	Spray Nozzle to Safe-end Weld	Volumetric examination by scanning both sides of weld.	Component undulations restricting search unit movement and metal structure of inconell buttering inhibiting shear wave transmission. 10% loss of volume coverage with a 60° axial scan and a 40% loss of volume coverage with a 45° axial scan.



ENCLOSURE F  
CONT'D

<u>System: Pressurizer</u> Component I.D	Category	Description	Code Requirement	Basis for Relief
1-TBB-03-3-C-W	B-F	Safety Nozzle to Safe-end Weld	Volumetric examination by scanning both sides of weld.	Component undulations restricting search unit movement and metal structure of inconell buttering inhibiting shear wave transmission. 20% loss of volume coverage with a 60° axial scan and a 40% loss of volume coverage with a 45° axial scan.

## ENCLOSURE G

### RELIEF REQUEST FOR THE VOLUMETRIC PRESERVICE INSPECTION - WOLF CREEK REACTOR COOLANT SYSTEM BRANCH CONNECTIONS

#### I. ASME CODE SECTION XI REQUIREMENTS

In Section XI, 1977 Edition/Summer 1978 Addenda, Table IWB-2500-1, examination Category BJ, item B9.31 requires a surface and volumetric examination of regions described in Figures IWB-2500-10 and 11, for branch connection piping 2" nominal pipe size and greater. However, the above code does not define the specific weld volume required to be examined. To address this lack of definition, Figure IWB-2500-8 was used as a guideline to define the examination volume of the branch connection welds.

Figure 01 corresponds to Figure IWB-2500-8 of the Code and Figures 02 and 03 correspond to Figures IWB-2500-10 and 11, respectively, with the modifications as stated above. The preservice inspection examinations were performed to ultrasonically examine the defined volumes in Figures 02 and 03.

#### II. SPECIFIC RELIEF REQUEST

Relief is requested from performing volumetric examinations of 18 branch connection welds on the primary loops of the Reactor Coolant System. The welds are identified in Table I along with identification of the type of weld (referring to the weld configuration in the attached figures). Branch connections for the accumulator discharge lines are butt welded to the reactor coolant loop piping and are not included in this relief request. All branch connections to the reactor coolant loop piping are covered by this relief request, with the exception of the accumulator discharge lines as noted above.

#### III. BASIS FOR RELIEF

Due to the materials of construction (austenitic) and the design and fabrication geometry of corner type branch connections depicted in attached Figures 02 and 03, it is concluded that meaningful examination by ultrasonic methods is not feasible and that no other practical volumetric method is available.

#### IV. ALTERNATE TEST METHOD

As an alternative, VT-2 examinations for leakage will be conducted in accordance with IWA-5240. These will be carried out during the leakage test specified under IWB-5221. The combination of required surface examination, visual examination for leakage and the Code required fabrication examinations will establish the integrity of the as-built pressure boundary.

## Enclosure G (contd)

Table I

BRANCH CONNECTION WELDS

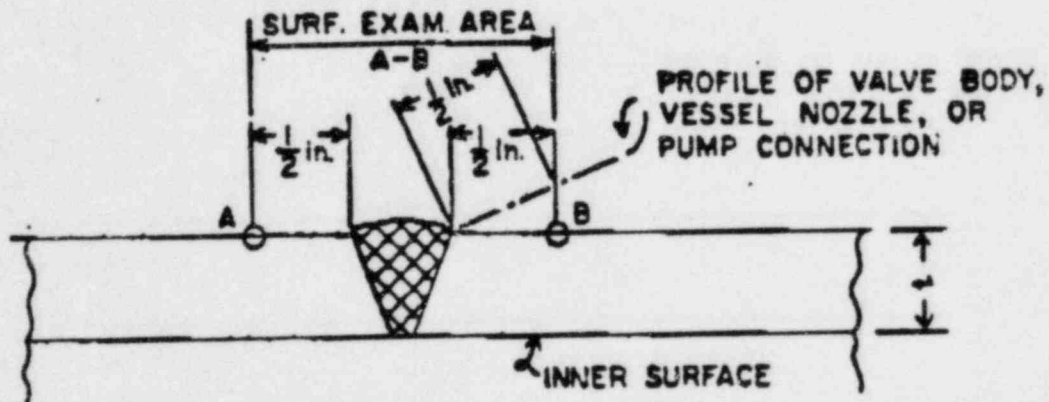
<u>Item</u>	<u>W WELD #</u>	<u>KGE WELD #</u>	<u>SIZE</u>	<u>VOLUME UNEXAMINABLE</u>	<u>TYPE OF WELD</u>
<u>Loop 1</u>					
1	15	1BB 01 S102-3	12"	20%	Figure 03
2	17	1BB 01 S105-5	3"	75%	02
3	19	1BB 01 S101-5	4"	60%	02
4	21	1BB 01 S101-8	3"	75%	03
5	22	1BB 01 S101-9	3"	75%	02
<u>Loop 2</u>					
6	15	1BB 01 S202-3	6"	55%	03
7	17	1BB 01 S205-5	3"	75%	02
8	19	1BB 01 S201-5	4"	60%	02
9	21	1BB 01 S201-8	3"	75%	02
<u>Loop 3</u>					
10	15	1BB-01 S302-3	6"	55%	03
11	17	1BB-01 S305-5	3"	75%	02
12	21	1BB-01 S305-6	3"	75%	03
13	20	1BB-01 S301-5	3"	75%	03
<u>Loop 4</u>					
14	15	1BB-01 S402-3	14"	10%	03
15	16	1BB-01 S402-4	12"	20%	02
16	18	1BB-01 S405-5	3"	75%	02
17	20	1BB-01 S401-5	3"	75%	02
18	22	1BB-01 S401-6	3"	75%	02

WESTINGHOUSE ELECTRIC CORPORATION

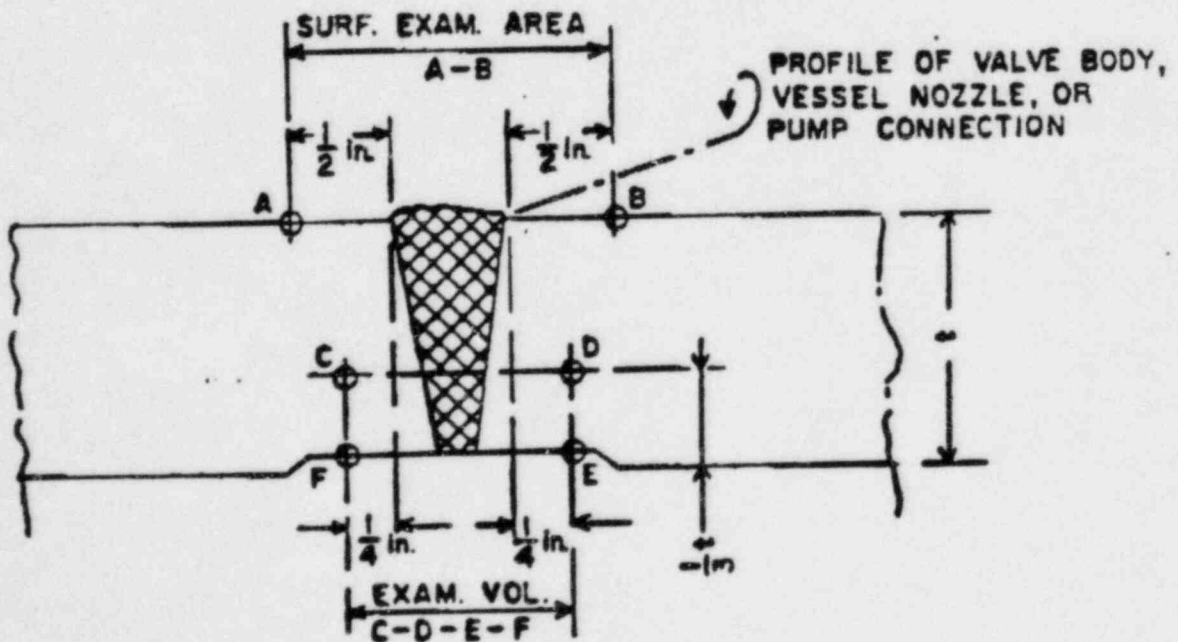
FIGURE 01

ILLUSTRATIVE ONLY  
REFERENCE TABLE 1

SIMILAR AND DISSIMILAR METAL  
WELDS IN PIPING



NOM. PIPE SIZE LESS THAN 4 IN.



NOM. PIPE SIZE 4 IN. AND GREATER



ILLUSTRATIVE ONLY  
REFERENCE TABLE 1

FIGURE 03

# PIPE BRANCH CONNECTION

