

PRIMARY COOLANT SYSTEM
PRESERVICE QUALITY ASSURANCE PROGRAM

1. Reactor Vessel

Forgings	
Flanges	UT, MT
Studs	UT, MT
Cladding	UT(a), PT(a)
Nozzles	UT, MT
Plates	UT(b), MT
Cladding	UT(a), PT(a)
Welds	
Main Seams	RT, MT
CRD Head Nozzle Connection	PT(a)
Instrumentation Nozzles	PT(a)
Main Nozzles	RT, MT
Cladding	UT(a), PT
Nozzle Safe Ends	RT, MT
Vessel Support Buildup	UT(a), MT
All Welds - After Hydrostatic Test	MT

2. Steam Generator

Tube Sheet	
Forging	UT, MT
Cladding	UT(a), PT(a)
Primary Head	
Plate	UT(b), MT
Cladding	UT(a), PT(a)
Secondary Shell and Head	
Plates	UT(b), MT
Tubes	UT, ET
Nozzles (Forgings)	UT, MT
Studs	UT, MT

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Welds	
Shell, Longitudinal	RT, MT
Shell, Circumferential	RT, MT, UT
Cladding	UT(a), PT
Nozzles to Shell	RT, MT, UT, PT
Tube-to-Tube Sheet	PT, GT(a)
Instrument Connections	MT, RT
Temporary Attachments After Removal	MT
All Welds - After Hydrostatic Test	MT
Nozzle Safe Ends	RT, MT
3. <u>Pressurizer</u>	
Heads	
Plates	UT(b), MT
Cladding	UT(a), PT(a)
Shell	
Plates	UT(b), MT
Cladding	UT(a), PT(a)
Heaters	
Tubing	UT, PT
Centering of Elements	RT(a)
Nozzle	UT, PT, MT
Studs	UT, MT
Welds	
Shell, Longitudinal	RT, MT
Shell, Circumferential	RT, MT
Cladding	UT(a), PT
Nozzles	RT, MT
Nozzle Safe Ends	RT, MT, PT
Instrument Connections	PT
Support Skirt	RT, MT
Temporary Attachments After Removal	MT
All Welds After Hydrostatic Test	MT

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4. Pumps

Castings	RT, PT
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Forgings	UT, PT
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Welds

Circumferential	RT, PT
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Instrument Connections	PT
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All Welds After Hydrostatic Test	PT
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5. Piping

Fittings (Mill Clad Plate)	UT, PT(a)
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Pipe (Mill Clad Plate)	UT, PT(a)
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Welds

Longitudinal	RT, MT
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Circumferential	RT, MT
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Nozzle to Run Pipe	RT, MT (or PT)
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Instrument Connections	PT
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Cladding	PT
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RT - Radiographic	MT- Magnetic Particle
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UT - Ultrasonic	ET - Eddy Current
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PT - Dye Penetrant	GT - Gas Leak Test
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(a) Above code (ASME B&PV Code, Section III, 1965, W65a).

(b) A 100% volumetric ultrasonic test of plate for both two-directional shear wave and longitudinal wave is performed. The ASME Code requires that Section III, Class A plate receive only a longitudinal wave ultrasonic test on a 9-inch by 9-inch grid. The 100% volumetric ultrasonic test assures that plate used in the primary system is of the highest quality.