

PWR Owners Group



Testing and Analysis to Reduce Debris Generation Zones of Influence for GSI-191

Project Update
January 27, 2011

Mo Dinger
PWROG

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ZOI Project Update

OPEN ISSUES BEING ADDRESSED

- Scaling
 - Ongoing discussions with staff to resolve
 - Instrumented testing will verify pressure distributions

- Determination of ZOIs
 - Model being developed
 - To be benchmarked against current program test results and Marviken tests
 - Will provide more accurate prediction of radial pressure profiles to remove conservatisms
 - Will calculate ZOI values based on target test results.

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Instrumented Test Series

Instrumented Test #	Distance from nozzle exit to leading instrument array (inches)	Distance from nozzle exit to trailing instrument array (inches)
1	2.0" (L/D = 0.5)	4.0" (L/D = 1.0)
2	8.0" (L/D = 2.0)	20.0" (L/D = 5.0)
3	16.0" (L/D = 4.0)	28.0" (L/D = 7.0)
4	32.0" (L/D = 8.0)	44.0" (L/D = 11.0)
5	48.0" (L/D = 12.0)	60.0" (L/D = 15.0)

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Target Testing

Target Series	Target insulation	Configuration
1	Jacketed CalSil	SS jacket, SS bands, 3" band spacing
2		SS jacket, SS bands, 6" band spacing
3		Al jacket, SS bands, 6" band spacing
4	NUKON	Unjacketed, pipe target
5		Unjacketed, spherical head mockup
6		Unjacketed, curved surface (SG shell mockup)
7		Edge target (seam test)
8	Cable tray	Cable tray configuration as found in plant
9	TempMat	Plant-specific application; simulating insulation on support.
		Plant-specific application; mounted on a 2" Schedule 160 pipe.
		Plant-specific application; mounted on a channel.
		Plant-specific application; mounted on a channel.
10	TempMat	Plant-specific applications – as warranted (evaluations currently under way)

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Key Schedule Milestones

Milestone	Planned Completion	Actual Completion
Order long lead materials for testing; place order for tests.	12/20/10	12/22/2010
Complete design review – facility modifications	2/16/11	
Completion of test facility modifications	3/31/11	
Completion of instrumented tests	5/13/11	
Complete target tests	7/26/11	
Complete supplemental instrumented tests (if necessary)	8/16/11	
Issue topical report	12/15/11	
Support during NRC formal review	(To be determined)	