

**BWROG/NRC Meeting Agenda
December 8, 2004**

9:00 Opening Remarks

BWROG/NRC

Regulatory Policy – Open Discussion

BWROG/NRC

Joint Schedule

BWROG/NRC

- Status of BWROG Submittals
- RHR Suppression Pool Cooling

Extended Power Uprate / Steam Dryer Integrity

BWROG

Review Action Items

BWROG

12:00 Adjourn



STATUS OF BWROG SUBMITTALS

Presentation For
BWROG/NRC Management Meeting
December 8, 2004
Rockville, MD
Ken Putnam (NMC)
BWROG Chairman



STATUS OF BWROG SUBMITTALS

◆ TSTF 454 EXTENSION OF COMPLETION TIMES FOR CONTAINMENT ISOLATION VALVES

- Current restrictions on allowed-out-of-service times restrict maintenance and can challenge operators
- Topical Report submitted February 2002 documents that risk of extending completion times is low
- NRC Issued SE for Topical October 8, 2004
- Expected CLIIP notice in early November
- BWROG requests update on schedule for CLIIP issuance



STATUS OF BWROG SUBMITTALS



◆ TSTF 357 SAFETY LIMIT MCPR

- MCPR calculations are performed late in core reload design cycle which results in compacted schedule for Licensee submittal and NRC review
- MCPR Calculations performed using NRC approved methods
- Existing TS SLMCPR is a surrogate for the true Specified Acceptable Fuel Design Limit (SAFDL) of 99.9% of fuel rods avoiding boiling transition
- MCPR is routinely cycle specific whereas SAFDL is independent of fuel cycle
- November 9, 2004 NRC staff letter indicates lack of confidence in vendor generic methods
- BWROG evaluating response



STATUS OF BWROG SUBMITTALS



- ◆ TSTF 425 Relocation of Surveillance Frequencies
 - Limerick pilot plant submittal 6/15/2004
 - Significant site specific work needed for implementation
 - Firm schedule would aid members in planning
 - Other BWROG submittals shown in matrix



BWROG NEAR TERM SUBMITTALS



- ◆ Topical Report for Alternate Source Term for high-exposure fuel (10/25/2004)
- ◆ Topical Report for relaxation of SRV Position Indication
- ◆ RITS Initiative 6 extends time to enter LCO 3.0.3



BWROG 2005 SUBMITTALS



- ◆ Separation of LOOP and Large Break LOCA
 - Topical Report submitted April 2004
 - Lead plant submittal June 2005-opportunity to test extent to which Generic PRA can be utilized versus site specific
- ◆ BWROG-97 Deletion of Low Pressure Testing of HPCI/RCIC
- ◆ BWROG-102 Use of 3.10.1 for Scram Time Testing
- ◆ Combustible Gas Control

BWROG RHR-SUPPRESSION POOL COOLING

**BWROG-NRC Management Meeting
December 8, 2004
NRC Offices-White Flint**

BWROG RHR-SPC

BACKGROUND

- LaSalle RHR-Suppression Pool Cooling (SPC) run-time issue (2002) initiated BWROG evaluation
- Initial BWROG discussions with NRC (LaSalle project office) influenced BWROG pursuit of formal activity (RHR-SPC Committee)
- Each plant currently manages run-times based on engineering judgment
- NRC Inspectors have questioned SPC run-times at several plants
- Objective of BWROG activity is to define a basis and method to establish BWR RHR-SPC run-time limits
- BWROG submitted RHR-SPC LTR July 19, 2004 for NRC review (NEDO-33150)

BWROG RHR-SPC

BWROG REQUEST BASIS

- NRC response to LaSalle TIA 2001-14
 - SPC operation would be of short duration
 - Recognizes the generic nature of this issue and states plans to supplement IN 87-10
- BWROG LTR Objective
 - Demonstrate that risk of RHR-SPC operation is acceptable when run-time is within a specified limit
 - Identify a generic run time limit for the RHR system in the SPC mode

BWROG RHR-SPC

BWROG REQUEST BASIS *(Continued)*

- NEDO-33150 provides a reasonable basis for defining a safe “operational threshold” for RHR-SPC.
 - Analysis based on conservative assumptions:
 - All water hammer events assumed to disable the operating loop of RHR (this has not been industry experience)
 - All LOOP events assumed to cause the conditions for a water hammer (this would not be the practical case)

BWROG RHR-SPC

BWROG REQUEST BASIS (*Continued*)

- NEDO-33150 provides a reasonable basis for defining a safe “operational threshold” for RHR-SPC (*continued*)
 - Supports its position with a generic risk evaluation
 - Continuous RHR-SPC operation would result in 3.8×10^{-6} increase in CDF
 - NEDO-33150 justifies 10% run-time limit. CDF increase is less than 1×10^{-6}

BWROG RHR-SPC

LTR ACCEPTANCE REVIEW

- NRC Feedback
 - LTR uses risk-based evaluation but does not meet RG 1.174 requirements for NRC “risk-informed” review.
- NRC has not accepted BWROG LTR for review

BWROG RHR-SPC

SUMMARY

- NEDO-33150 provides a reasonable basis for defining a conservative and safe “operational threshold” for RHR-SPC.
- Generic resolution benefits BWRs and the NRC
- BWROG is requesting NRC review of NEDO-33150 as submitted for use in the generic resolution of this issue

NRC REVIEW SCHEDULE

Document Number	PM	Title	Project Milestone	BWROG Dates			NRC Dates			COMMENTS
				Original Date	Expected Date	Actual Date	Original Date	Expected Date	Actual Date	
MPR-2524	Flock	Joint Owners' Group MOV Response to GL 96-05	Final report			2/27/2004				Fee waiver request granted by NRC.
			RAIs provided				10/20/2004			
			RAI responses	2/15/2005						
			SER				10/1/2004	7/30/2005		
NEDO-33150	Flock	Suppression Pool Cooling / RHR Operable Initiative	Submit Topical Report			7/19/2004				NRC wants topical to be fully compliant with RG 1.174. EOC will discuss with NRC 12/8/04. Topical may need to be withdrawn and revised. Negotiating with NRC.
			NRC acceptance for review							
			NRC SER				7/1/2005			
NEDO-33163	Flock	Alternate Source Term - generic gap release fraction for high-burnup fuel.	Pre-submittal meeting			4/28/2004				Review fee waiver requested. None established.
			Submit LTR		10/25/2004					
			NRC acceptance for review							
			SER				8/1/2005			
NEDO-33160	Kenny	SRV position indication LTR	Pre-submittal meeting.			11/10/2004				
			LTR Submittal	12/31/2004	12/17/2004					
			NRC SER				9/1/2005			
NEDO-33159		EPU Lessons Learned and Recommendations	Issue Report to Industry	11/30/2004		11/23/2004	NA	NA	NA	Report submitted to NRC for information only, not for review and approval
TSTF-225	Hill	Fuel movement with Inoperable Interlocks	Submit revision 3	12/15/2004						
TSTF-343	Hill	Containment Structural Integrity (All Owners Groups)	Revise TSTF	3/31/2004	11/30/2004					WOG action to revise TSTF to use correct version of the Code.
			WOG		WOG					
			RAIs provided							
			RAI responses							
			NRC SER							
			CLIIP							
TSTF-357, R1	Hill	Revision to TS 2.1.1.2, MCPR Safety Limit	Submit TSTF R0			10/20/1999				
			R1			4/7/2003				
			BWROG/NRC meeting	7/20/2004	7/20/2004	7/20/2004	7/20/2004	7/20/2004	7/20/2004	
			NRC comments on on TSTF-357 R1					8/15/2004	11/9/2004	NRC responded to BWROG in November 9, 2004, letter. Indicates they will not approve until vendor methodology issues are resolved.

NRC REVIEW SCHEDULE

Document Number	PM	Title	Project Milestone	BWROG Dates			NRC Dates			COMMENTS
				Original Date	Expected Date	Actual Date	Original Date	Expected Date	Actual Date	
			Vendors to develop SLMCPR submittal template	9/1/2004			9/1/2004			Parallel effort to reduce number of RAIs. Need feedback from GE & Framatome fuel vendors on status of efforts with NRC.
TSTF-423	Hill	End States - NEDC-32988-A	See RITS Initiative 1 Status							
TSTF-425	Hill	Relocate SR Frequencies from TS	See RITS Initiative 5.b Status							
TSTF-448	Hill	Control Room Habitability (All Owners Groups)	Submit TSTF R0			12/30/2002				
			Submit TSTF R1			8/19/2003				
			NRC RAI						12/16/2003	
			TSTF Committee response			3/8/2004				RAI response committed to revise TSTF following NRC review of response.
			NRC Comments					1/30/2005		Status of TSTF-448 was discussed at October 20/21, 2004, annual NEI Licensing forum. NRC indicated they would contact NEI Control Room Habitability committee and joint TSTF committee to resolve differences "soon".
			TSTF Committee response							
			NRC SER				1/30/2005			
			CLIP							
TSTF-454	Hill	CIV AOT extension	See RITS Initiative 4.a Status							
TSTF-459	Hill	Eliminate the requirement to have one RHR Shutdown Cooling System in operation	Submit TSTF			9/17/2003				
			Revise TSTF	9/30/2004	12/30/2004					NRC requests TSTF revision based on telecon comments, on hold pending decision wrt potential change in RHR SPC LTR approach
			NRC SER							
			CLIP							
TSTF-460	Hill	Control Rod Scram Time Frequency (120 days -> 200 days)	Submit TSTF			9/7/2003				
			Draft NRC SER						5/27/2004	CLIP comment period ended on 6/28/04.
			NRC issue FR Notice of Availability to adopt via CLIP				8/31/2004		8/23/2004	Notice of Availability to Adopt posted August 23, 2004.

NRC REVIEW SCHEDULE

Document Number	PM	Title	Project Milestone	BWROG Dates			NRC Dates			COMMENTS
				Original Date	Expected Date	Actual Date	Original Date	Expected Date	Actual Date	
TSTF-465	Hill	Addition of Time performance Surveillance Requirement (SR) note to Source Range Monitor (SRM) SRs	Submit TSTF			9/18/2003				In NRC house for review. As of 11/03/2004, this TSTF has been reassigned to Carl Schueten in NRC, who has intends to work item as a CLIIP.
			NRC RAIs							
			BWROG response							
			NRC SER				12/30/2004			
			CLIIP							
TSTF-475	Hill	Extend CRD Notch Test Frequency to Monthly	Submit TSTF			8/31/2004				
TSTF-476	Hill	Improved BPWS Control Rod Insertion Process NEDO-33091	See NEDO-33091 status below							
TSTF-477	Hill	Add Action for Two Inoperable Control Room AC Subsystems	Submit TSTF			8/31/2004				
			NRC RAIs				8/31/2005			
TSTF-478	Hill	Combustible Gas Control	Submit TSTF	12/31/2004			7/1/2005			
NEDO-33091	Tuttle	Improved BPWS Control Rod Insertion Process	Submit Topical			6/6/2003				BWROG requested earlier review for Spring 2004 Outages
			NRC comments						3/23/2004	NRC comments received via telecon.
			RAI response			4/21/2004				
			NRC SER				8/31/2005		6/16/2004	
			Submit supporting TSTF-476	7/15/2004	9/10/2004	8/30/2004				
			NRC approve TSTF						No NRC date assigned yet.	
Risk Informed Tech Specs (RITS)										
Initiative - 1	Hill	Modified End States	Pre-submittal meeting			RITSTF meetings				
			NEDC-32988, R2			Submitted on 1/8/2001				
			RAIs			10/26/2001			Provided 8/2001	
			SER						9/27/2002	
			TSTF-423			Submitted 8/12/2003				
			Guidance Document		8/31/2004	9/10/2004	10/1/2004	10/29/04	10/29/04	
			Revised guidance	12/10/2004						Guidance vs. TS change decision is needed as part of the TSICC Committee meeting in 12/1-3.
			CLIIP				4Q04			
Initiative - 4a	Hill	CIV AOT Extension	Pre-submittal meeting			RITSTF meetings				

NRC REVIEW SCHEDULE

Document Number	PM	Title	Project Milestone	BWROG Dates			NRC Dates			COMMENTS
				Original Date	Expected Date	Actual Date	Original Date	Expected Date	Actual Date	
			NEDC 33046			Submitted on 2/21/02				
			RAIs			Response 7/03			Provided 7/02	
			Draft SER on NEDC						8/12/2004	
			BWROG Comments on draft SER			Submitted 09/10/2004				
			Final SER on NEDC						10/8/2004	
			TSTF-454			Submitted 9/5/2003				
			NRC Comments on TSTF							
			Guidance			7/30/2004				
			CLIIP				4Q04			
Initiative 4a	Hill	Extended scope - system specific applications	Pre-submittal meeting with NRC	10/28/2004		10/28/2004				
		LTR submittal		1/31/2005						
Initiative 4a	Hill	Further extended scope for 2006	Pre-submittal meeting with NRC	6/30/2005						
		LTR submittal		1/31/2005						
Initiative - 4b	Hill	Risk Informed AOTs with Backstop								No BWROG/NRC activity until closer to pilot submittal in late 2005.
Initiative - 5b	Hill	Relocate Surveillance Test Interval to Licensee Control	Pre-submittal meeting	9/9/2004 RITSTF meeting		9/9/2004				
			Position paper			6/31/2001			5/15/2003	NRC concern about legality of moving STIs
			Pilot plant LAR			6/15/2004				
			TSTF-425	6/9/2004	8/31/2004	8/31/2004	9/10/2004			NRC comments received in RITSTF meeting
			TSTF comment response	10/1/2004		10/19/2004				Response sent to NEI on the 18th.
			Lead plant submittal			6/11/2004				
			NRC approval of Lead Plant				12/31/2005			
			CLIIP				6/30/2006			Dependent on pilot plant review
Initiative - 6	Hill	Modify LCO 3.0.3 to 24 Hours - system specific applications	Pre-submittal meeting with NRC	10/28/2004		10/28/2004				
		LTR submittal		1/31/2005						
Initiative - 6	Hill	Modify LCO 3.0.3 to 24 Hours - 2006 extended scope	Pre-submittal meeting with NRC	6/30/2005						
		LTR submittal		12/31/2005						
Initiative - 7a	Hill	TSTF-372 Snubber inoperability							11/24/2004	No action for BWROG, TSTF 372 published in the FR

NRC REVIEW SCHEDULE

Document Number	PM	Title	Project Milestone	BWROG Dates			NRC Dates			COMMENTS	
				Original Date	Expected Date	Actual Date	Original Date	Expected Date	Actual Date		
Initiative - 7a	Hill	Allowance for Non-Technical Specification Barrier Degradation on Supported System OPERABILITY								No action for BWROG. TSTF-427	
Initiative - 7b	Hill	Define Not Operable/Functional								No action for BWROG	
Initiative - 8	Hill	Eliminate TS-that do not Meet Criteria								Low Priority	
Risk Informed Activities											
NEDC-30148	Hill	Elimination of LOOP Requirements with LB LOCA (option 3)	Pre-submittal meetings			2/27/2003 7/24/2003					
			NEDC-30148	12/31/2003	2/28/2004	4/27/2004					Exemption is required.
			Electrical RAIs				9/30/2004		9/28/2004		
			Responses	12/31/2004							EPRI is answering.
			PRA and T/H RAIs				6/30/2005				
			Lead plant submittal	6/30/2005							
			NRC approval of Lead Plant					6/30/2006			
SER						6/30/2006					

NRC REVIEW SCHEDULE

Document Number	PM	Title	Project Milestone	BWROG Dates			NRC Dates			COMMENTS
				Original Date	Expected Date	Actual Date	Original Date	Expected Date	Actual Date	
		Future Submittals								
		Combustible Gas Control	Submit TSTF	6/30/05						
BWROG-71		Allow Performance Testing for ECCS	Submit TSTF	6/30/05						
BWROG-97		Deletion of Low Pressure Testing for HPCI/RCIC	Submit TSTF	6/30/05						
BWROG-102		Use of 3.10.1 for Scram Time Testing	Submit TSTF	6/30/05						



***BWR Owners' Group
Extended Power Uprate
and
Steam Dryer Integrity Status***

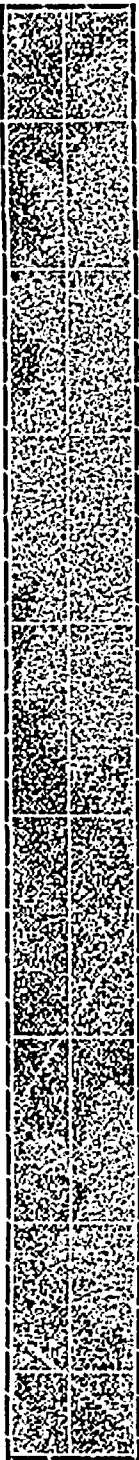
Presentation for BWROG/NRC Management
Meeting

December 8, 2004
Rockville, MD



EPU / Steam Dryer Integrity Background

- ✱ Power Uprates provide an important contribution to electrical capacity
- ✱ Uprates only have value if done safely and result in reliable plant operations



BWR Extended Power Uprate Committee Objective

- * Ensure that operating experience and lessons learned are incorporated into power uprate programs to assure safe and reliable operations
- * Provide oversight for a broad range of industry efforts related to BWR power uprates

Understanding Equipment Challenges From EPU

- ❖ Material condition assessment
 - ◆ Extent of Condition evaluation by Exelon/GE
- ❖ Survey of BWR EPU experience
- ❖ INPO Power Uprate and Cycle Extension database evaluation
 - ◆ Includes PWR and smaller uprates
- ❖ Vibration monitoring information exchange
- ❖ EPU power ascension test program evaluations

Improving Management of Steam Dryers

- ✱ SIL 644 revision 1 issued November 11, 2004
 - ◆ Includes inspection and evaluation guidance and BWR Moisture Carryover Operational Guidance
- ✱ BWRVIP Inspection and Evaluation Guidelines
- ✱ BWRVIP-06 section 4 – enhanced Loose Parts potential and consequences evaluation
- ✱ Development of enhanced methodology for determining steam dryer loads
 - ◆ Finite Element Modeling
 - ◆ Acoustic Circuit Analysis
 - ◆ Scale Model Testing
 - ◆ Benchmark With Plant Data (Instrumented Dryers)

NEDO-33159 EPU Lessons Learned and Recommendations

-
- * GE evaluation process improvements
 - * Plant condition evaluation
 - * Operating margin assessment
 - * Steam dryer loads
 - * Steam dryer inspection and evaluation
 - * Operating procedures
 - * Instrument calibration and setpoint adjustments
 - * Plant baseline data
 - * IVVI and FAC program changes
 - * Flow induced vibration



NEDO-33159 EPU Lessons Learned and Recommendations

✱ Rev 0 issued on November 23, 2004

✱ Distributed to:

- ◆ NRC

- ◆ NEI

- ◆ INPO

- ◆ EPRI

- ◆ Westinghouse Owners' Group

- ◆ B&W Owners' Group

✱ BWROG plans to revise in 2005 to reflect additional plant EPU experience and finalized steam dryer load methodology

Exelon and GE - Evaluation for Extent of Condition

Task	Responsibility	Status
EPU Extent of Condition Evaluation for Dresden and Quad Cities	GE/Exelon	Complete May 2004
Modify GE Process for EPU Evaluations as Required	GE	Complete June 2004

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Steam Dryer and Internals Initiatives

Task	Responsibility	Status/ Scheduled Completion
Revision of SIL 644 to include more recent experience	GE	Issued Nov. 2004
Steam Dryer I&E Guidelines	GE/BWRVIP	Jan 2005
Revision of BWRVIP-06 Section 4 guidance for addressing loose parts	GE/BWRVIP	Jan 2005
Validate a methodology for determining steam dryer loading using main steam acoustic circuit analysis and verification with scaled model testing and plant data	GE	August 2005

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BWROG Assessment of Industry Experience

Task	Responsibility	Status
Analysis of INPO Power Uprate and Cycle Extension Database	BWROG	Completed Feb 2004
BWROG EPU Survey summary and evaluation	BWROG	Completed March 2004
Best practices for steam dryer performance monitoring	BWROG	Completed Sept 2004 (issued with SIL 644 rev 1)

BWROG Oversight of Industry Activities

Task	Responsibility	Status
Review EPU Extent of Condition Evaluation process and pilot for Dresden and Quad Cities	BWROG	Completed Feb 2004
Review EPU-related vulnerabilities for "Group 1" systems from EPU Extent of Condition Evaluation	BWROG	Completed April 2004
Review EPU Extent of Condition final recommendations	BWROG	Completed June 2004
Conduct vibration monitoring and evaluation information exchange meeting and document lessons learned and industry recommendations	BWROG	Completed June 2004

BWROG Oversight of Industry Activities

Task	Responsibility	Status
Issue letter to NRC summarizing results of BWROG EPU Survey, Evaluation of INPO Database, and Integrated Industry Plan	BWROG	Completed May 2004
Develop draft EPU evaluation and implementation recommendations resulting from review of industry data and GE/Exelon extent of condition reviews for BWR owners	BWROG	Completed July 2004
Issue final EPU evaluation and implementation recommendations	BWROG	Completed November 2004
Review results of industry programs and BWROG recommendations with NRC management	BWROG	Ongoing