



2012 INMM Meeting

Arlington, VA
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Tennessee Valley Authority Used Fuel Management

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Plant Information / Goals

	BFN	SQL	WBN
Plant Information			
Location	Athens, AL	Soddy Daisy, TN	Spring City, TN
Reactor Type	GE BWR	<u>W</u> PWR	<u>W</u> PWR
Mwe / unit	1135	1160	1170
No. of Units	1 / 2 / 3	1 / 2	1 / 2
Operational	1973 / 1975 / 1977	1980 / 1981	1995 / 2013 est.
Strategic Plan			
Full Core Reserve (FCR)	764	193	193
New Fuel	342	160 (80 each)	176 (84/92)
Fuel Insp Equip /Downcomer	15	100	81
Core Design Changes	30	10	10
Total Open Cells	1151	463	460



ISFSI Status

	BFN	SQN	WBN	Total
ISFSI Pad Capacity	96	90	TBD	
New Pad Need	2018	2026	2014	
System Type				
MPC	MPC-68 / MPC-68M	MPC-32	TBD	
Overpack	HS 100S VB	HS 100S VB	TBD	
Current Status				
2004	0	3	N/A	3
2005	3	0	N/A	3
2006	0	5	N/A	5
2007	1	6	N/A	7
2008	0	6	N/A	6
2009	12	0	N/A	12
2010	9	3	N/A	12
2011	0	9	N/A	9
Total on Pad	25	32	N/A	57

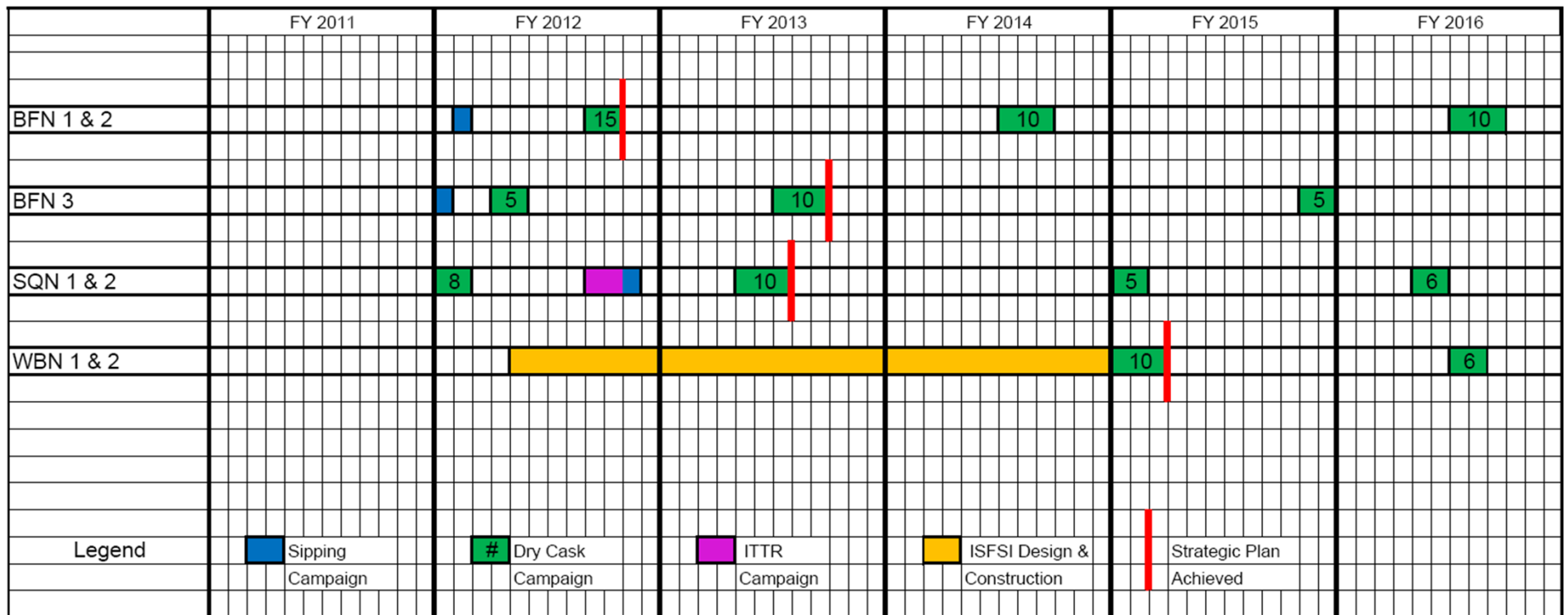


ISFSI Loading Plans

	BFN	SQN	WBN	Total
2012	5/15	0	N/A	20
2013	5	10	N/A	15
2014	10	5	10	25
2015	5	0	0	5
2016	10	6	6	22
2017	5	5	6	16
2018	10	0	0	10
2019	5	5	5	15
2020	10	6	5	21
Total	80	37	32	149



ISFSI Planning Overlay





Fukushima Impacts

- Prompt decisions already made by TVA
 - Decision made to forego the high density re-rack of Watts Bar used fuel storage pools
 - Directly resulted in the need of ISFSI pad in 2014 versus 2020 and the performance of dry cask campaigns in 2014 as well
 - Decision made to include “downcomer” space as part of TVA strategic used fuel storage plan
 - Additional challenge of fuel selection for dry storage due to the decrease in storage locations from the inclusion of “downcomer” space and not re-racking at WBNP
 - “Cold” fuel needed to provide for optimized cask loading strategies, therefore it is not prudent or necessary to strictly empty the pools of all cooled fuel since it does not have a significant impact on surviving a Fukushima type event



Fukushima Impacts

NRC Near Term Task Force Recommendation 7 –Tier 1

- enhancing spent fuel pool makeup capability and instrumentation for the spent fuel pool

TVA Actions

- Provide sufficient safety-related instrumentation to monitor key Spent Fuel Pool parameters from the control room
- Current vendor solutions have been reviewed that will serve to meet this requirement, but the technology is antiquated and maintenance intensive
- Industry “push back” on the need to be Safety Related
- Study needed to identify alternatives



Fukushima Impacts

NRC Near Term Task Force Recommendation 7 –Tier 2

- 7.2 Provide safety-related AC power to the SFP makeup system (Industry push back on Safety Related)
- 7.3 Revise Technical Specifications to address requirements to have one train of onsite emergency power operable for SFP makeup and instrumentation, regardless of mode
- 7.4 Install a seismically qualified means to spray water into the SFP, including easily accessible connection points, using a portable pump outside the building
- 7.5 Initiate rulemaking or licensing activities or both to require Recommendation

TVA Actions

- Under development



Fukushima Impacts

TVA Philosophy for response

- Utilized existing studies, Design Criteria, and Calculations
- Utilized existing emergency and abnormal operating procedures
- Utilized Owners Group analysis
- Performed computer simulations for information not available
- Participated in weekly industry conference calls
- Participated in industry meetings to align TVA response with other utilities
- Utilized common industry templates for consistency
- Coping strategies and durations have been benchmarked with other utilities.
- Each site has presented response to site Corrective Action Review Board
- All identified gaps are documented in the corrective action program



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- Discussion

 - Questions?