



United States Nuclear Regulatory Commission

*Protecting People and the Environment*

# Flooding Walkdowns and Hazard Reevaluations: Status & Guidance

Christopher Cook, Ph.D.  
Chief, Hydrology and Meteorology Branch  
Office of New Reactors  
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Japan Lessons Learned

# Overall Approach

Recommendation (R) 2.3 –  
Flooding Protection Walkdowns

R2.1 – Flooding Hazard  
Reevaluations and Interim Actions

R2.1- Integrated Assessment  
(if required)

Regulatory Actions  
(if appropriate)

R2.2 – Periodic Reevaluations of  
new and significant information



# Observations from Walkdown Reports

- Approximately 90% of licensees entered an issue into its Corrective Actions Program
- Common issues identified include:
  - Inadequate procedures
  - Flood protection features that may not perform as planned
  - Degraded or missing seals
- Flood protection enhancements were identified:
  - Procedural improvements
  - Improve or develop preventive maintenance programs for flood protection



# Motivation for New Guidance

- Flooding Hazards due to Dam Failure
  - Regulatory reviews demonstrated the need to update and supplement guidance
- Flooding from Tsunami, Storm Surge, or Seiche
  - Incorporate lessons-learned from new reactor reviews and NRC research programs
- Integrated Assessment for Flooding
  - Evaluate total plant response (protection and mitigation) to the reevaluated flooding hazard





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# Flood Hazard Reevaluations: Categories

Category 1 Due 03/12/2013		Category 2 Due 03/12/2014		Category 3 Due 03/12/2015	
Callaway	Quad Cities	Arkansas Nuclear One	Fort Calhoun	Bellefonte	Perry
Calvert Cliffs	Salem	Beaver Valley	Robinson	Brunswick	Pilgrim
Comanche Peak	Sequoyah	Braidwood	Farley	Crystal River	Point Beach
Dresden	Shearon Harris	Browns Ferry	Kewaunee	Diablo Canyon	GINNA
Fermi	South Texas	Byron	LaSalle	DC Cook	San Onofre
Grand Gulf	Three Mile Island	Catawba	Monticello	FitzPatrick	Seabrook
Hope Creek	Turkey Point	Clinton	Palo Verde	Limerick	St. Lucie
Indian Point	Vermont Yankee	Columbia	Peach Bottom	Millstone	Surry
Nine Mile Point	Summer	Cooper	Prairie Island	Oyster Creek	Susquehanna
North Anna	Vogtle	Davis-Besse	River Bend	Palisades	Waterford
Oconee	Watts Bar	Duane Arnold	McGuire		
		Hatch	Wolf Creek		
<b>COUNT= 22</b>		<b>COUNT= 24</b>		<b>COUNT= 20</b>	

delayed



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# Category 1: Summary

Plant	Extension Requested Thru	Extension Approved? (Y/N)	* Interim Actions? (Y/N)	* Integrated Assessment? (Y/N)
Callaway	N/A	N/A	N	N
Calvert Cliffs	N/A	N/A	Y	Y
Comanche Peak	N/A	N/A	N	Y
Dresden	Submitted 5/10/2013	Y [ML13095A320]	Y	Y
Fermi	N/A	N/A	N	N
Grand Gulf	N/A	N/A	N	Y
Hope Creek	March 2014	Y [ML13095A281]	N	-
Salem	March 2014	Y [ML13095A281]	N	-
Indian Point	December 2013	Y [ML13095A297]	Y	-
Nine Mile Point	N/A	N/A	Y	Y
North Anna	N/A	N/A	Y	Y

\* Based on licensee submittal currently under evaluation by staff.

# Cat 1: Summary – continued

Plant	Extension Requested Thru	Approved? (Y/N)	* Interim Actions? (Y/N)	* Integrated Assessment? (Y/N)
Oconee	N/A	N/A	Y	Y
Quad Cities	N/A	N/A	Y	Y
Sequoyah	March 2015	Y [ML13163A296]	Y	-
Watts Bar	March 2015	Y [ML13163A296]	Y	-
Harris	N/A	N/A	N	Y
South Texas	N/A	N/A	N	N
Three Mile Island	N/A	N/A	N	N
Turkey Point	N/A	N/A	Y	Y
Vermont Yankee	N/A	N/A	Y	Y
V. C. Summer	N/A	N/A	Y	Y
Vogtle	N/A	N/A	N	Y

\* Based on licensee submittal currently under evaluation by staff.

# Summary of Progress

- Issued all guidance documents for addressing recommendations.
- Actively completing walkdown report reviews, which will be documented in a Staff Assessment.
- Actively completing review of the 17 submitted hazard reevaluation reports, some with Interim Actions, which will be documented in Staff Assessments.





# Next Steps & Challenges

- Continuing to coordinate with other federal agencies regarding specific dams
  - Evaluations involving dams that can potentially flood a nuclear power plant site require close coordination with our federal partners and protection of sensitive, unclassified, data.
- Importance of details associated with staff review of the flood hazard reevaluation reports.
- Actively preparing for second set of hazard reevaluation report submittals this spring (24 sites).

