



# Enhancements of NRC Station Blackout Requirements for Nuclear Power Plants

Matthew McConnell  
Senior Electrical Engineer  
U.S. Nuclear Regulatory Commission  
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## **NRC Mission**

*To license and regulate the nation's civilian use of byproduct, source and special nuclear materials to ensure adequate protection of public health and safety, promote the common defense and security, and protect the environment.*



## Background

- March 11, 2011 Japan Earthquake
- Near-Term Task Force (NTTF)
  - SECY-11-0093, “Near-Term Report and Recommendations for Agency Actions Following the Events in Japan,” (July 12, 2011)
- Commission Direction
  - SRM-SECY-11-0093 (August 19, 2011)
  - Directed the staff to identify and recommend which NTTF recommendations should be implemented without delay



## Background (Cont.)

- SECY-11-0124 (September 9, 2011) and SECY-11-0137 (October 3, 2011)
  - Staff provided recommendations on those NTTF action items that should be initiated without delay and the associated prioritization
  
- SRM-SECY-11-0124 (October 18, 2011)
  - Commission directed the staff to initiate rulemaking on NTTF Recommendation 4.1, “Station blackout regulatory actions,” in the form of an advance notice of proposed rulemaking (ANPR)



## Existing SBO Requirements

- Section 50.2 of Title 10 of the *Code of Federal Regulations* (10 CFR 50.2)
  - Defines Station Blackout (SBO)
- 10 CFR 50.63
  - Requires that nuclear power plants have the capability to withstand an SBO event and maintain core cooling and containment integrity for a specified duration
- Related Guidance Documents
  - Regulatory Guide 1.155
  - NUMARC 87-00



# SBO Mitigating Strategies Rulemaking

- Current SBO requirements do not address:
  - Station blackouts involving damage to both the onsite and offsite alternating current (ac) power sources from beyond design basis external events (including unavailability of alternate ac power)
  - Site-wide events (i.e., multiple power reactors in a station blackout)
  - Station blackouts that extend indefinitely
  - Spent fuel pool cooling
  - Not applicable in all modes of operation
- For these reasons alone there is a sound basis for rulemaking
  - Consequently there is a need to amend existing SBO rule and revise associated regulatory guidance



## **SBO Mitigating Strategies Rulemaking (Cont.)**

- Requirements issued to power reactor licensees via NRC Order EA-12-049 (and equivalent license conditions) need to be made generically-applicable
  - JLD-ISG-2012-01, Compliance with Order EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events
- Address beyond design basis external events that create extended loss of all ac condition to maintain/restore:
  - Core cooling
  - Containment
  - Spent fuel pool cooling



# Status

- Issued an ANPR March 20, 2012
- Issued a draft regulatory basis for proposed rulemaking April 10, 2013
  - Public Meeting May 13, 2013
  - Public comment period closes May 28, 2013
- Proposed rule to Commission by June 30, 2014
- Final rule to Commission in December 2016





## **Other Regulatory Items Associated With Batteries**

- Information Notice 2013-05, “Battery Expected Life and its Potential Impact on Surveillance Requirements”
- NUREG/CR-7148, “Confirmatory Battery Testing: The Use of Float Current Monitoring to Determine Battery State-of-Charge”



# Questions?