



RIC 2012 Spent Fuel Pool Lessons Learned

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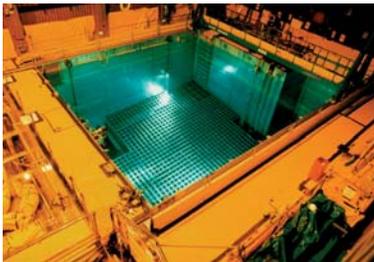
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Spent Fuel Pool Construction

- Robust construction features:
 - Thick reinforced concrete walls and floor slabs lined with stainless steel plate
 - Walls are typically several feet thick
 - Floor slabs are typically several feet thick
 - Typical dimensions are 40 feet long, 35 feet wide and 40 feet deep

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Spent Fuel Pool During Japan Event

- SFP cooling was lost during the extended loss of power
- Operators were unable to determine the status of the SFP
- Hydrogen explosions in Units 1, 3 and 4; and loss of the Unit 2 blowout panel, exposed the SFPs to the environment

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Spent Fuel Pool During Japan Event

- Alternate SFP water supply
 - Fire engine truck
 - Helicopters
 - Concrete pumping trucks
- Subsequently it was determined that SFP water levels did not decrease below the top of fuel and there was no significant fuel damage

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Spent Fuel Pool Lessons learned

- Spent fuel pool water level is a key parameter for emergency event response
- Lack of SFP information altered priorities for emergency responders
- Emergency response resources were diverted

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SFP Recommendation

- Enhance spent fuel pool (SFP) makeup capability and instrumentation...
- Provide sufficient instrumentation to monitor key SFP parameters remotely

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Order Modifying Licenses

- Order basis and applicability
- Detailed NRC guidance due August 2012
- Licensee plan due February 28, 2013
- Full compliance schedule

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Order Modifying Licenses

- Specific SFP Instrument requirements:
 - Permanent primary and backup level instruments
 - Capable to address key decision points
 - Qualified for temperature, humidity and radiation levels

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Key Points

- SFPs have rugged design and construction features
- SFP water level is a key parameter for emergency event response
- Spent fuel damage due to loss of cooling is a low likelihood event
