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RIC 2015

T4 Improving the Way We Do Business – for Large Lights and Small Modulars

Sponsored by the Office of New Reactors
Session Chair: Stephen Koenick, Senior Policy Analyst,
Division of Advanced Reactors and Rulemaking

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Speakers

Thomas Kevorn, Senior Project Manager, Division of Advanced Reactors and Rulemaking, NRO/NRC – Enhanced Guidance to Part 52 Applicants

Patricia Milligan, Senior Level Advisor for Emergency Preparedness, Division of Preparedness and Response, NSIR/NRC – Emergency Preparedness for Small Modulars

Russell Bell, Senior Director, New Plant Licensing, NEI – Industry Perspective on Improving the Way we do Business on New Plants

Doug Miller, Director (acting), New Major Facilities Licensing Division, Canadian Nuclear Safety Commission -- Regulation of SMRs in Canada: Progress and Challenges

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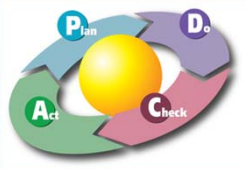
How are we improving?



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Energy Policy Act of 2005 catalyst for updating regulatory infrastructure and standing up NRO

Update regulatory infrastructure based on findings from lessons learned reviews; Prepare for new applications



Received large number of Part 52 applications; Issued 4 licenses for plants now under construction; Continue licensing casework

Perform lessons learned reviews

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Staff issued report, "New Reactor Licensing Process Lessons Learned Review: 10 CFR Part 52," April 2013

- Report identifies actions under seven lesson headings
- Staff nearly complete addressing actions. Examples include:
 - Revision of regulatory guidance (e.g., update to staff review guidance NUREG-0800 based on experience gained from licensing reviews and initiate update of RG 1.206) and tailoring guidance for specific applications (Design Specific Review Standards, DSRS).
 - Issued Office Instruction, NRO-REG-104, "Pre-application Readiness Assessment."
 - Issued OI NRO-REG-100, Revision 2, "Acceptance Review Process for Early Site Permit, Design Certification, and Combined License Applications."
 - Ensuring tools and procedures are in place to support the resolution of technical issues when they arise.
 - Upgrades to tools supporting management of requests for additional information.
 - Issuance of SECY paper recommending rulemaking for 10 CFR Part 52.

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Staff issued report, "Title 10 of the Code of Federal Regulations Part 52 Implementation Self-Assessment Review: 1 Year Post-Combined License Issuance," July 2013

- Report identifies actions under five lesson headings
- Staff nearly complete addressing actions. Examples include:
 - Changes to NRC guidance for closure of unresolved enforcement actions (NRC Inspection Manual Chapter 0613).
 - Endorsement of additional guidance for closing ITAAC Closure Notifications (NEI 08.01).
 - Initiation of the Standardized ITAAC project, and enhanced communications with Small Modular Reactor community.
 - Endorsement of NEI 96-07, Appendix C, addressing the process for making changes to nuclear plants under construction.
 - Enhanced interaction with the international nuclear regulatory community regarding international nuclear vendors.



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- Staff actions to address these lessons should result in:
 - Higher quality applications being accepted for docketing
 - Fewer requests for additional information
 - Earlier management engagement to resolve technical issues



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Commission requested staff conduct another lessons learned review to address whether the NRC can:

- Capture greater efficiencies in the implementation of the Part 52 licensing process
- Update the metrics for the length of time it will take to perform new reactor licensing reviews under Part 52
- Staff examining recent design certification reviews including
 - AP1000 (Revision 15)
 - ESBWR
 - EPR
 - APWR
 - Planning for the APR-1400




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- Issues that impacted design certification schedules being examined include
 - Introduction of novel technology or approaches that need
 - Experimental data not provided in the application
 - Additional code development
 - Policy decisions
 - Significant design changes introduced late in the review
 - New requirements, such as those stemming from the Fukushima Dai-ichi event
 - Prospective customer driven or other vendor initiated design changes
 - Extensive deliberations with NRC to resolve technical issues
- Response to Commission to be provided in Spring 2015

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What about small modular reactors?



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• **Status of Small Modular Applications**

| SMR Design | Originally Proposed Submittal Date | Current Planned Submittal Date |
|---------------|--|---|
| NuScale | 1 st Quarter CY 2012 | 2 nd Half CY 2016 |
| Westinghouse | 2 nd Quarter CY 2014 | TBD - on "hold" pending identification of customers |
| mPower | 4 th Quarter CY 2014 | TBD - on "hold" pending identification of customers |
| Holtec | 4 th Quarter CY 2016 | TBD |
| TVA (utility) | June 2015; Construction Permit for SMR | No sooner than December 2015; Early Site Permit |

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- Meeting frequently with industry on SMR topics
- Identified and resolved several licensing, policy, and technical issues:
 - Control room staffing guidance - complete
 - Security guidance – complete
 - Status of policy issues presented in SECY-14-0095
- Infrastructure Work
 - Developing Regulatory Guidance:
 - Design Specific Review Standards (DSRSs) – on going
 - Regulatory Guide 1.206 – on going
 - Updates of Standard Review Plan Sections – on going
 - Update to internal instructions for applicant pre-application readiness and also staff acceptance reviews – both complete



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- Review Schedule (39-month optimal schedule) based on:
 - Positions developed on all critical issues prior to submittal
 - DSRS complete prior to docketing
 - Request for additional information answered in a timely manner
