

NRC SFPO Public Conference on Improving Parts 71/72 Licensing Process

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Type AF -- LEU Perspective

February 8, 2005



Things That Work Well

- Guidance on applications
- A defined review process
- Estimates of schedules early cycle
- Schedules generally met
- RAIs with regulatory requirements/objectives
- A willingness for SFPO to take an introspective look
- SFPO staff very helpful in discussing applications, needs, formats, etc.



Things That Need Work

- Length of time required to get review and approval
 - New – routine – 12 months
 - New Priority – demonstrated – 6 months
 - Revisions – 6 months
- Reviews of foreign packages for DOT revalidation (good company – Canada, Britain, Japan, France)
 - More credit for design certificate
 - Missing or inappropriate review standards
 - Country dependent
 - Individual reviewer dependent



Things That Need Work

- Length of time to adopt/harmonize to IAEA revisions
 - Many agencies – many schedules
- Allow overlap of certificate revisions
 - Currently disruptive
- Changes allowed under QA Plans
 - Parallel to Part 50, Appendix B
- Accident condition testing scenarios



Things That Need Work


- Input of electronic submittals reportedly adds time to cycle?
 - Is it true?
 - Industry finding digitization improves speed and efficiency
- More flexible authorized content for fuel assembly packages
 - Too much specific information
 - Need to look at BWR and PWR reactivity



Nice to Have

- Licensee review of certificates before issue
- Easy Reference on NRC Homepage to package information
 - Current NRC Certs with links to SAR
 - Applications pending
 - User friendly search summaries
- Rapid acknowledgement of requests as "Registered User"
- Online Directory of Registered Users
- Use "N" in certificated, drop rounding in 71.59






Duratek Lessons Learned Licensing Process Conference


February 8, 2005

Mark S. Whittaker, CHP






Duratek Licensing Experience


- Duratek holds South Carolina licenses for the Bamwell LLW Disposal Facility and a LLW processing facility
- Duratek holds Tennessee licenses for LLW processing facilities at Bear Creek and Memphis
- Duratek holds NRC, South Carolina, and Tennessee licenses for D&D at temporary job sites




Transportation Packages

- Duratek holds the Certificate of Compliance for eight NRC licensed packages
- AF, B(), B()F, B(U), B(U)-85
- Over 20 cask licensing actions since 2000








Transportation Services & Logistics




- Largest and most up-to-date fleet of radioactive waste shipping casks
- About 80% of the casks rented each year in this country are rented from Duratek
- Since 1996, Duratek has moved over 60 large used radioactive components or 90% of the total number of such components moved



Communication- Key to a Successful Application

- Informal Telephone Discussion
 - Open Exchange of Ideas
 - Suggestions
 - Highly Beneficial



Communication- Key to a Successful Application

- Pre-Application Meetings
 - Plans for a Submittal
 - Methodology
 - Feedback on Approach
 - Caution: No Commitments

Communication Improvements



- Circumstance
 - Errors in Issued Certificate of Compliance
 - ◆ Typos
 - ◆ Omissions
- Suggestion
 - Provide Draft for Review

Communication Improvements



- Issue
 - Need to Budget for NRC Review Cost
 - Schedule Resources
- Suggestion
 - PM to provide estimate of review cost and schedule after Completeness Review

Communication Improvements



- Issue
 - Communication from NRC (After Submittal)
 - ◆ Revised Certificate of Compliance issued with no warning
 - ◆ RAIs issued
- Suggestion
 - Telephone call from PM to Licensee

Process Improvement




- Issue
 - Licensees rely on feedback from pre-application meetings to make decisions on whether and how to proceed
 - Changes in opinions on acceptability of an approach can have a negative impact on an application
 - Changes in PM or technical staff can have a negative impact
- Suggestion
 - Request a written response to a specific question

SFPO Licensing Conference February 2005


Terence L. Grebel
Pacific Gas and Electric Company




PG&E Dry Cask Licensing Experience

- Diablo Canyon (complete)
 - Part 72 License for 138 cask ISFSI
 - 50.68 exemption
 - Part 50 cask handling license change
 - Humboldt Bay (in process)
 - Part 72 License for 6 cask ISFSI (5 spent fuel and 1 GTCC)
 - Part 50 cask handling license change
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Diablo Canyon ISFSI Site-Specific Aspects

- High seismic
 - Anchored casks
 - In-ground CTF
 - Transmission lines over ISFSI
 - Transport route to ISFSI is steep
 - Steep slopes around ISFSI
 - Blast and explosion hazards around ISFSI and transport route
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Humboldt Bay ISFSI Site-Specific Aspects

- High seismic
 - Tsunami hazard
 - In-ground vault
 - Fossil units on-site
 - Blast and explosion hazards around ISFSI and transport route
 - Transport route seismic and tsunami hazards
 - Public trail close to ISFSI
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Previous Lessons Learned

- Seek to Understand
 - Reviewed SRP and developed compliance checklists
 - Reviewed previous applications, RAIs and SERs
 - Understand basis for RAIs
 - Communications
 - Pre-application meetings with SFPO
 - Technical meetings with SFPO and NRR and CNWRA
 - Understanding of NRC perspective/role
 - SAR references.
 - Ensure RAI responses address all aspects and provides technical basis for conclusions
 - Recognize need for docket to adequately reflect basis for licensing decision
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Other Lessons Learned

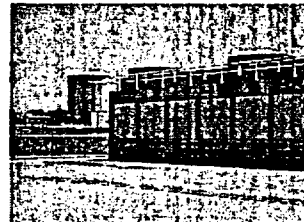
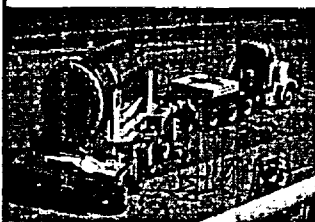
- Process
 - Interaction between NRR and SFPO
 - SFPO-technical consultant interface
 - Technical
 - Part 50/72 governance in Part 50 facilities
 - Use of RG 1.91 1 psia criteria for Part 72
 - Risk-informing decisions
 - Applicability of new ISGs to in-process review
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Licensing Process Lessons Learned

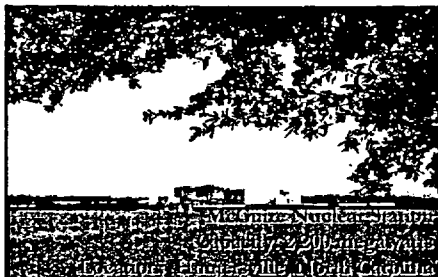
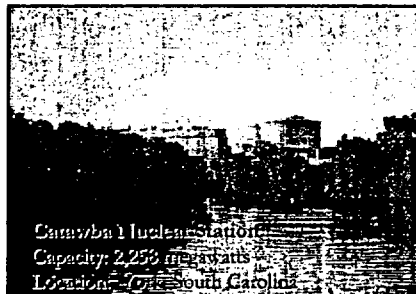
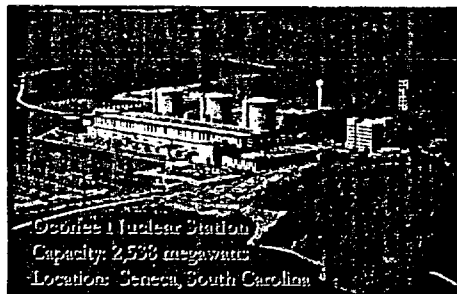
--A Utility Perspective--

U.S. Nuclear Regulatory Commission
Spent Fuel Project Office
Licensing Process Conference
February 8, 2005

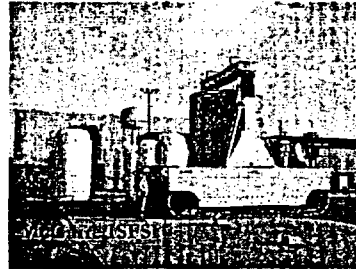
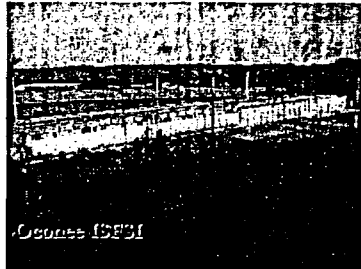
David C. Jones
Spent Fuel Program Manager
Duke Power



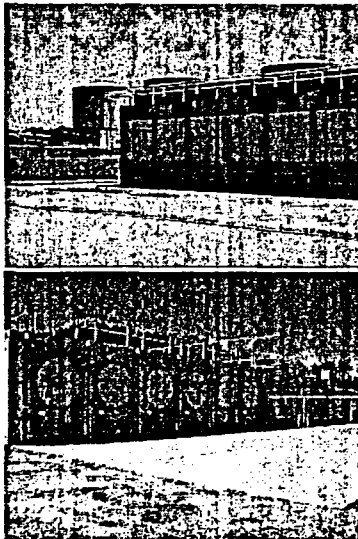
Duke Power Nuclear Generation



Duke Power ISFSIs



Oconee ISFSI



- Site-Specific License issued to Duke Power January 31, 1990
 - 20 year license
 - Oconee switched to General License NUHOMS in 1998
 - 84 NUHOMS systems loaded to date
- Oconee will need to renew site-specific ISFSI license prior to January 31, 2010

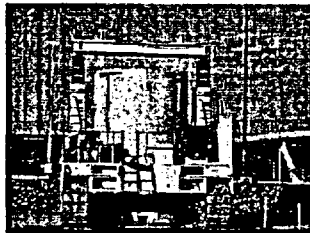
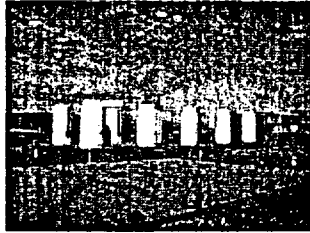
ISFSI License Renewal

- Current ISFSIs are licensed for only 20 years
- Major DOE delays in accepting spent fuel
- Near-term end of licenses:
 - 2006: Surry; Robinson
 - 2010: Oconee
 - 2012: Calvert Cliffs; Prairie Island; Davis Besse
- Submittal status:
 - Surry & Robinson both submitted along with exemption requests for 40 year renewal terms
 - Oconee submittal required by 2008

License Renewal Process

- Rule change needed to allow for 40-year renewal term
 - Already approved for Surry ISFSI
 - Avoid “licensing by exemption” approach
- Look at licensing processes external to Part 72
 - Standard review plans lack sufficient guidance for renewal applications (NUREG-1536, NUREG-1567)
 - Back fitting to current requirements should be avoided
 - Limit scope of reviews to safety-related SSCs and effects of aging
 - Ongoing programs not directly related to performance of SSCs should be exempted from NRC review (e.g. QA, RP, training, EP, environmental, etc.)
 - Part 50 License Renewal guidance (NUREG-1800, NUREG-1801)

McGuire ISFSI

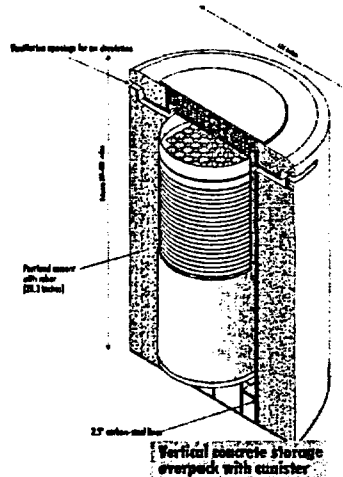


- Initial loading in 2001
- 10 TN-32 storage casks loaded
- Transition to UMS system underway
 - Initial UMS loading in December 2004
 - 2 UMS storage systems loaded
 - Plan to load additional 22 UMS over next 18 months

10CFR50.68 & Dry Storage

- 50.68—Criticality Accident Requirements
 - "...comply with either 10CFR70.24...or the requirements in [10CFR50.68(b)]..."
 - Dry storage—impacts sites implementing 50.68 and needing soluble boron credit
- To date, Duke Power operated plants have opted for 70.24 route
- McGuire spent fuel pool LAR—submitted September 2003
 - Partial soluble boron credit
 - Commitment to implementation of 50.68 (June 30, 2005)
- Implications for McGuire dry storage
 - UMS—restricting fuel enrichments below UMS Tech Spec allowances of up to 5% with soluble boron credit
 - TN-32—in unlikely event one needs to be returned to pool, would need 50.68 exemption to do so

Catawba ISFSI



- Loss of POR in 11/06
- Catawba ISFSI schedule
 - Project initiated 2/01
 - ISFSI site selection 1/02
 - ISFSI design complete 9/04
 - ISFSI constr. complete 8/05
 - Initial loading 8/06
- Will share UMS system supply with McGuire

Catawba ISFSI Design

- With current ISFSI design, deployment of UMS will comply with all aspects of Amendment 3 with one exception:
 - Does not meet current Tech Spec seismic acceleration requirements
 - However, Catawba ISFSI design does meet requirements for safety factors against sliding and tip-over granted to Maine Yankee
- Catawba needs seismic solution prior to loading in Summer 2006

License Amendment Process

- NAC Amendment 4 for UMS
 - Based on NRC feedback during annual Dry Storage Information Forum
 - NRC recognition that, in certain cases, there may be overly restrictive requirements in Tech Specs
 - Other alternative approaches would be considered, where warranted
 - Removed seismic Tech Spec requirements
- Other options being considered by Duke
 - Request Amendment 3 exemption based on site specific accelerations and safety factors
 - Request Amendment 3 exemption based on ongoing work by Sandia

Summary

- Build off lessons learned outside of Part 72 to improve licensing processes and guidance
- Licensing processes outside of Part 72 can have implications on dry storage
- Opportunities remain for licensing process improvements within Part 72
- Overall goal
 - Reduce exemption requests
 - More efficient and effective



CST ASSOCIATES, LLC

Nuclear Licensing and Engineering Consulting

10 CFR 72 CoC Holders' Experience

Brian Gutherman, P.E.

SFPO Licensing Process Conference
White Flint, MD
February 8, 2005

Positive Processes

- o Docketed schedules
- o Rules of engagement
- o Case work communication
- o Meetings
 - Pre- and/or post-application
 - RAI clarification
 - Technical issues
- o Single PM for all GLs

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Lessons Learned

- o Schedules
 - Acceptance review
 - o Start, duration
 - Rulemaking
 - o Start, duration
 - o SFPO PM cognizance thru final approval
 - o Status of public comments
 - Include these "bookend" activities in total schedule
 - Meetings can affect RAI response timing and overall schedule
 - o Post-receipt, pre-response (RIS 2004-20)
 - Formally re-schedule if 2nd RAI is needed

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Lessons Learned (cont'd)

- o Interim Staff Guidance
 - Controlled by SFPO
 - Implementation process unclear
 - o Applicable immediately or future?
 - No public/industry review
 - No formal backfit evaluation
 - Certain key issues (400°C PCT limit, burnup credit, damaged fuel definition) should use a more formal process (e.g., Reg. Guide) to gain broader agency review (including CRGR) and public/industry involvement

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Lessons learned (cont'd)

- o Requests for Additional Information
 - Information not changing is questioned
 - "More data" paradox
 - Reviewer's preference for certain analytical approach or computer code
 - Inconsistency with methods and assumptions already found acceptable in Part 50
 - Need to risk-inform reviews

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Lesson Learned (cont'd)

- o Reg. Guides for SAR format and content do not match SRP format and content
 - SARs in RG format do not match SRP
- o ISG and SRP interface difficult to follow
 - 19 ISGs currently issued, some inter-related
- o Submittal of calculations and SAR markups not required by regulations but required by staff
- o Approval of methods needs clarification
- o Partial RAI responses sometimes appropriate
- o Latitude need to allow small changes during the review without considering it a new application (RIS 2004-20)

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Lessons Learned (cont'd)

- o CoC Technical Specifications
 - No criteria for inclusion
 - TS becomes a dumping ground for things deemed "important"
 - Level of detail in TS not commensurate with risk
 - NUREG-1745
 - o Implementation unclear
 - Same Part 50 lesson already learned and fixed (§50.36(c))