



RPS/ESPS Digital LAR

March 18, 2008

Oconee Nuclear Station



Objectives

- ❖ Confirm that the NRC has required information to complete the LAR Acceptance Review
- ❖ Provide Technical Information associated with RPS/ESPS V&V Process and ISG 4 Data Communication
- ❖ Discuss NRC LAR Review/Plan and Milestones to facilitate resource planning by Duke
- ❖ Communicate Duke Unit 1 RPS/ESPS Schedule to facilitate NRC site visits/audits

- ❖ RPS/ESPS Project V&V Process
- ❖ Duke Oversight of AREVA documents
- ❖ LAR Submittal Quality
- ❖ ISG 4 Data Communication Compliance Matrix
- ❖ Status of LAR Acceptance Review
- ❖ NRC LAR Review/Plan and Milestones
- ❖ Duke Plan To Support Staff Licensing Phase
- ❖ Unit 1 RPS/ESPS Schedule
- ❖ LAR Document Availability
- ❖ Action Items
- ❖ Closing Remarks

- ❖ NRC Regulations for V&V Processes
 - 50.55a(h) - IEEE Std 603
 - Appendix B - Criterion I, II, III, XI, and XVIII
- ❖ Regulatory Guidance provides an acceptable method for meeting the applicable requirements
 - RG 1.152 - IEEE Std 7-4.3.2
 - RG 1.168 - IEEE Std 1012
- ❖ Applicable requirements and guidance addressed in RPS/ESPS LAR - Enclosure 1, Section 4.2



AREVA V&V Process

- ❖ AREVA V&V organization is outlined in several documents including:
 - Software Quality Assurance Plan
 - V&V Plan
 - V&V Position Paper
 - AREVA Operating Instructions for V&V
- ❖ These documents, as a whole, demonstrate that the V&V team is independent from a managerial, financial, and technical standpoint
- ❖ AREVA V&V organization discussed in LAR Enclosure 1 Sections 3.4.3.2.4 & 5



Duke Review of AREVA V&V

- ❖ Performed detail review of the AREVA V&V documents
- ❖ Initial review determined compliance with IEEE 1012 not clear
- ❖ Requested Position Paper be developed to justify exception from IEEE 1012
- ❖ Several meetings and reviews ensued to gain an understanding of the adequacy of the AREVA V&V process
- ❖ AREVA pointed to the Westinghouse Common Q SPM Topical Report and NRC SE as describing a similar methodology to the AREVA process
- ❖ Following Duke's review and comment resolution Duke concluded that the AREVA V&V documents provided an acceptable method of complying with NRC regulations
- ❖ LAR Sections 3.3.3 and 3.4.3 provide detailed information on the Duke quality review efforts



Duke Oversight of AREVA Documents

- ❖ RPS/ES QMP LQST implemented to address LAR document completeness and accuracy
- ❖ LQST consist of steering team members and core team reviewers from Duke plant engineering, Duke Major Projects engineering, AREVA AE group, and AREVA I&C group.
- ❖ 35 AREVA documents subject to LQST review from 3/07 to 1/08
- ❖ 43 comment resolution meetings involving 8 – 12 individuals (average length of meeting - 2.5 hrs)
- ❖ Approved by LQST Steering Team only after LQST core team reviewer comments were resolved satisfactorily

- ❖ LAR based on numerous technical documents that support the contents of the LAR which were reviewed and approved by Duke
- ❖ LAR sections 3.3.3 and 3.4.3 provide information on quality of hardware and software respectively
- ❖ LAR provides information recommended by the regulatory guidance
- ❖ LAR submitted under oath and affirmation following a rigorous development process



ISG 4 Compliance Matrix

- ❖ Data communication addressed in:
 - Numerous Sections of the LAR as noted in compliance matrix – particularly 3.4.6 of Enclosure 1 and 9.2 of Enclosure 2
 - Separate cyber security submittal
 - TXS Topical Report
 - TXS Safety Evaluation
 - December 13-14, 2006 meeting

- ❖ Handout – Compliance Matrix

- ❖ Status of LAR Acceptance Review
- ❖ NRC LAR Review Plans and Milestones



Duke Plan To Support Staff Licensing Phase

- ❖ Overall objective is to resolve concerns in a timely and appropriate manner
- ❖ Staff Level
 - Several phone calls each week
 - Technical level meetings monthly or as needed
 - Written submittals made as needed to support the LAR review plan
- ❖ Management Level
 - Phone calls as needed
 - Periodic drop-in visits
 - Status review meetings as needed
- ❖ Executive Level meetings
 - At least one during the licensing review



Unit 1 RPS/ESPS Schedule/Milestones

- ❖ 3/1 – 9/08 Factory Acceptance Test procedure development
- ❖ 10/24 – 12/19/08 Factory Acceptance Test
- ❖ 3/1 - 3/21/09 Site Acceptance Test
- ❖ 4/08 – 3/09 Installation Procedures/PMT Procedure Development
- ❖ 3/31/09 Latest NRC SE date for Unit 1 Installation in Fall 2009
- ❖ 4/09 – 12/09 Plant Personnel Training
- ❖ 4/09 - 12/09 Plant Procedure Development
- ❖ 10/09 – 12/09 Install Unit 1 RPS/ESPS



LAR Document Availability

<u>Document</u>	<u>Date</u>	<u>LAR Encl. 1, Table 1-2</u>
RTM - Post FAT	2/09	Item 2
FAT Procedures	9/08	Item 16a
FAT Report	1/09	Item 16b
Power Imb. SLs & TS Setpoints Calc.	7/09	Item 34
Duke I&C procedures	10/09	Item 39
SAT Plan	8/08	Item 44
SAT Procedures	2/09	Item 44a
SAT Report	5/09	Item 44b



Action Items and Closing Remarks
