# Implementation Phase of the Digital I&C Upgrade to Oconee Nuclear Station

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**Oconee Nuclear Station**

# Project Status

❖ **Reactor Protection and Engineered Safeguards System to be installed on Unit 1 - April 2011, Unit 3 - April 2012, Unit 2 - October 2013**

❖ **Design Change package approved**

❖ **Site Acceptance Testing completed**

❖ **Installation and Post Mod Test Procedures approved**

# Site Acceptance Testing Activities

❖ **Site Acceptance Test Plan covers the testing scope**

❖ **Site Acceptance Test Procedures govern the test performance**

❖ **Design requirements and operational modes of the system were tested**

❖ **NRC inspection of Site Acceptance Testing was performed**

# Operation and Maintenance Activities

❖ **Maintenance and Operations classroom training completed**

❖ **Maintenance and Operations procedure development in progress**

❖ **Operations Training Simulator modified to represent the digital system**

❖ **Simulator training for Operations personnel is in progress**

# Operation and Maintenance Activities

❖ **Maintenance Training System procured as part of the upgrade project**

❖ **Maintenance Training System is duplicate of Channel A with other channels simulated**

❖ **Maintenance Training System used to perform technician qualification**

# NRC Inspection Followup Actions

❖ **Software Plans**

❖ **Configuration Management**

❖ **Keyswitch Admin Controls**

❖ **Operation and Maintenance Procedures**

❖ **Cyber Security**

❖ **Post Modification Testing**

# Post Installation Monitoring

❖ **Enhanced post installation monitoring implemented in 2006 for significant modifications**

❖ **Process requires identification of critical design features for monitoring system performance**

❖ **System Engineer performs monitoring to ensure adequate design margin**

# Digital Directives

❖ **Oconee implemented directives for digital lifecycle and software design controls**

❖ **Directives incorporate guidance from industry and NRC standards**

❖ **Developed in 1997 to support Integrated Control System upgrade**

❖ **Directives enhanced as additional upgrades have been performed**