



U.S.NRC

UNITED STATES NUCLEAR REGULATORY COMMISSION

Protecting People and the Environment

AP1000 I&C Testing

Related NRC Topics of Interest

March 27, 2014

T R Fredette, PE

NRO/DCIP/CIPB

thomas.fredette@nrc.gov



Points of Emphasis

- **AP1000 I&C testing represents another critical area where licensees face challenges**
- **Awareness of regulatory “process”**
- **Continued awareness of I&C current licensing basis (CLB)**
 - **taking credit for FAT**
 - **other interpretations of I&C testing CLB**
 - **planned deviations from I&C testing CLB**
- **Limitations on continued communications and interactions (“drop-ins”)**



Staff Topics of Interest

- Consortium plans/details of PMS testing that demonstrate system performance under abnormal and/or worst case conditions such as a data storms, frozen microprocessors, etc.
- Consortium plans/details of integrated testing of all digital I&C Systems, including testing that demonstrates complete I&C functionality when all systems are physically connected (not via simulation)
- Licensee's plans for organization, process and reviews to ensure that items discovered throughout the design and test phases are captured and addressed (recognizing that system acceptance and verification testing will be prior to design finalization)
- Detailed descriptions of systems testing- where/how portions of testing conducted (vertical slice)