FLEX Guidance

Public Meeting
May 9, 2012

NUCLEAR ENERGY INSTITUTE

Addressing Potential Effects on Electrical Distribution Systems

- Potential exists for beyond design basis condition to involve damage to AC & DC electrical distribution systems
- Not feasible to identify which equipment likely to be damaged without specification of event
- Flexible, symptom based approach required

Addressing Potential Effects on Electrical Distribution Systems (Cont.)

- Key features:
  - Procedural guidance for manual initiation of key core cooling functions [Sec. 3.2.2 (2), Appendices C & D]
  - Primary and alternate power connection points address potential for unanticipated damage [Sec. 3.2.2, Appendices C & D]
    - e.g., power battery chargers & power specific DC loads
  - Required reference source for the plant operators that provides approaches to obtaining necessary instrument readings [Sec. 5.3.3.1]

Mitigation of All Modes

- Strategies are designed for at power conditions but the equipment would be available to be deployed in any mode or condition
- Provision of primary and alternate connection points provides higher reliability and helps address equipment being out of service
- Safety function requirements augmented when at-power capabilities are not bounding

Mitigation of All Modes (Cont.)

- Examples:
  - SFP makeup:
    - Makeup rate assumes full core offload [Sec. 3.2.1.6]
    - Connection below refuel floor addresses loss of inventory scenarios, e.g., cavity seal failures, draindowns [Tables 3-1, 3-2, Appendices C & D]
  - PWR Core Cooling
    - Primary and alternate connection points [Sec. 3.2.2, Appendix D]
    - Makeup function addresses maintaining subcriticality & RCS inventory loss due to seal leakage for at-power [Appendix D]
    - Connections sized to support RCS makeup for decay heat removal for cases where SGs are not available [Table 3-2, Appendix D]