Results of Temporary Instruction 2515/165

Operational Readiness of Offsite Power and the Impact on Plant Risk

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Background

- **Performed assessments of operational readiness of offsite power for nuclear power plants**
  - Temporary Instruction 2515/156 [ML041200565]
  - Temporary Instruction 2515/163 [ML051240080]
  - Temporary Instruction 2515/165 [ML060550258]

Temporary Instruction 2515/165

- **Offsite power**
  - Notification of inadequate post-trip voltage
  - Compensatory actions
- **Maintenance**
  - Procedures for including offsite power in assessing plant risk
  - Acceptance criteria for notifying grid operator to manage risk

Temporary Instruction 2515/165 Findings

- Notified of a post-trip contingency, all nuclear power plants would either immediately declare offsite power inoperable or evaluate the situation before deciding on what action to take

- All but 5 nuclear power plants have procedures with compensatory actions

- All nuclear power plants consider offsite power in their risk assessments

Temporary Instruction 2515/165 Findings (Cont.)

- All nuclear power plants have or are developing procedures that require the assessment of plant risk based on maintenance activities

- A few nuclear power plants do not notify the Grid Operator of changes at the nuclear power plant that could impact the transmission system

Summary

- Nuclear power plants appear to be ready for the summer
- Nuclear Power Plant Licensees recognize the sensitivity of offsite power

Results of Generic Letter 2006-02

Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power

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Focus of Generic Letter 2006-02

- **Generic Letter focused on Licensees' capability to:**
  - Monitor grid conditions to determine the operability of offsite power systems
  - Incorporate grid conditions in the assessment and management of risk-associated maintenance
  - Evaluate site-specific increases in loss of offsite power frequency and impact on station blackout

Offsite Power Area Results

- **Switchyard voltage limits [Question 1g]**
  - Not provided by some licensees
- **Compensatory measures for loss of ability to predict post-trip voltage [2f]**
  - Multi-layered software capability
- **Validation of predicted post-trip voltage [2g]**
  - Actual trip values not used for verification

Offsite Power Area Results (Cont.)

- **Definition of single-contingency [3a]**
  - Only addressed trip of nuclear power plant
- **Double sequencing [3b]**
  - Not part of licensing basis
  - Some licensees have performed an analysis

Maintenance Rule Area Results

- **Seasonal variation in grid stress [5c]**
  - Not addressed
- **Communication during grid risk-sensitive maintenance [5g]**
  - Changes not addressed

Station Blackout Area Results

- **Review of station blackout analysis [8b]**
  - Nuclear power plants that experienced a loss-of-offsite power event have not addressed classification

Summary

- **Off-site Power Area**
  - Protocols exist between Nuclear Power Plant Licensees and Grid Operators [1]
- **Maintenance Rule Area**
  - Grid-risk-sensitive equipment considered in maintenance rule evaluations [5a]
- **Station Blackout Area**
  - Nuclear Power Plants given off-site power restoration priority [7a]

Next Steps

- Work with nuclear power plant licensees and industry to resolve open items
- Possible generic communication to outline concerns in detail