

Preliminary Issue List

Palo Verde Nuclear Generating Station Augmented Inspection Team

NOTE: This is NOT an all-inclusive list.

- 230 kV Liberty Transmission Line, Tower#73, Phase "C" Insulator Failure
  - single phase to ground fault resulted in loss of offsite power and three unit trip

Ex 5

Ex 5

- Auxiliary Relay, Liberty Transmission Line Fault Detection/Protection System Failure
  - inadequate design resulted in single failure vulnerability
  - additional single failure design issues identified and corrected to extent practical
  - licensee also did not appear to make resolution of this issue a startup issue until the concern was raised by the AIT

- Unit 1 Atmospheric Dump Valve 185 Failure
  - control room operator distraction with minimal impact on event response
  - apparent cause being determined

- Unit 1 Letdown Heat Exchanger Isolation Failure
  - licensee performance deficiency associated with understanding implications of temporary modification installed in plant
  - little impact on control room response to event
  - some potential impact on fire response being reviewed by AIT

- Unit 1 and 3 General-Electric-Magne Blast Circuit Breaker Failures
  - complicated event recovery efforts by delaying the return of offsite power to ESF buses
  - licensee determined apparent cause as "breaker not cycled frequently enough"
  - AIT challenged licensee on apparent cause, raised concern regarding current functionality of breakers
  - resident staff following as potential operability issue

- Unit 2 Train "A" Emergency Diesel Generator Failure
  - resulted in a loss of power to Train "A" ESF busses following loss of offsite power
  - apparent cause was diode failure in exciter rectifier circuit

- Unit 2, Train "E" Positive Displacement Charging Pump Trip
  - operator error resulted in suction line isolation and protective trip of pump
  - AIT identified that auxiliary operator was delayed approximately 10 minutes at the RCA access point even after the operator explained he was on a time critical mission
  - when RCA access delay was discussed with licensee, AIT determined that the licensee was unaware of delay

Information in this record was deleted  
in accordance with the Freedom of Information  
Act, exemptions 2 & 5  
FOIA- 2004-0201

*- paktt inserted all  
valves to opprm - b/r -*

- Unit 3 Bypass Valve/Control Cabinet Malfunctions

- good operator actions minimized impact on plant, was operator distraction
- potential design modification issue being reviewed by AIT as apparent cause

- Unit 3 Reactor Coolant Pump Lube Oil Lift Pump Breaker Thermal Overload Trip

- no impact on trip but some minor impacts on recovery
- potential design issue associated with set point of thermal overloads

- Unit 3 Low Pressure Safety Injection System In-leakage (Check Valve V217)

- little impact on event, operator distraction to take manual actions to prevent over pressurization
- apparent cause was Borg-Warner check valve leakage, potential maintenance issue

- Unit 3 Variable Over Power Trip - Reactor Coolant Pump Speed Increase to 67 Hz

- licensee investigating potential impacts on plant equipment
- AIT-raised questions about hydraulic affects, if any

- Technical Support Center Emergency Diesel Generator Failure

- apparent cause was test switch out of position
- maintenance personnel failed to use restoration procedure six days prior to event following testing
- some impact on emergency response organization which needed to use alternate TSC

- Procedure Issue Associated with Minimum Amperage for Reactor Coolant Pumps

- complicated recovery efforts by delaying RCP restoration
- appears minimum amperage basis involved NPSH limits
- high voltage in switchyard resulted in low amperage

- Emergency Response Organization Notification Issues

- some delay in notification occurred but little impact
- apparent cause associated with procedure adequacy and communication failures

- Initial Notification of State and Local Official Issues

- Unit 1 and Unit 3 did meet their guidelines on timeliness of initial notification
- little overall impact because Unit 2 Alert Notification was timely
- apparent cause being reviewed