

# Millstone Unit 3

In Service Testing of 3CHS\*P3C

# In-Service Testing of 3CHS\*P3C

- Seeking NRC approval of an alternative to the requirements of OM Code ISTB Article 3400, and Table 3400-1
  - Perform quarterly testing only when pump is in service
  - Maintain comprehensive testing on refuel frequency
- Proposed alternative provides an acceptable level of quality and safety

# In-Service Testing of 3CHS\*P3C

- MP3 has three installed charging pumps
- Two pumps (3CHS\*P3A/B) credited for TS compliance
  - Each aligned to an independent safety-related electrical division
- Third pump (3CHS\*P3C) is an installed spare
  - Mechanically connected to plant piping system
  - Power available but not connected
  - Cooling water available but not aligned

# In-Service Testing of 3CHS\*P3C

- Testing 3CHS\*P3C increases safety system unavailability rate for High Pressure Safety Injection (HPSI) function
  - Requires breaker for P3A or B to be removed and installed in P3C bus cubicle
  - Requires realignment of cooling water system
  - Reverse sequence to return the P3C to its normal alignment
  - Accounts for approximately 20% of total unavailability

# In-Service Testing of 3CHS\*P3C

- Testing 3CHS\*P3C increases potential for HU error
  - Breaker removal and installation operations
  - Kirk Key interlocks
  - Cooling water alignment
  - Reverse process to restore normal alignment

# In-Service Testing of 3CHS\*P3C

- Not credited for accident mitigation in its normal alignment
- Not credited in PRA
- Not used to balance run time on other pumps
- In service only for required testing or if P3A or B is unavailable during normal operations

# In-Service Testing of 3CHS\*P3C

- No active degradation mechanism when pump is idle
  - Pump and associated piping are filled and vented
  - Fluid is borated RCS-grade water
    - no corrosion potential when idle
  - No bearing or seal wear when idle
- PMs maintained
- OE applied to all three pumps

# In-Service Testing of 3CHS\*P3C

- Implementation Actions
  - Clarify LB/DB document references
  - Update IST Program Documents