Prairie Island License Amendment Request to Reclassify Certain Fuel Handling Equipment

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Northern States Power - Minnesota

Presentation Outline

- License Amendment Request
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- Summary

License Amendment Request

- Approval of USAR changes that revise the PINGP Quality Group classification for certain fuel handling equipment from QA Type I (safety-related) to QA Type III (commercial grade)
- Changes are consistent with industry standards
  - ANSI/ANS 58.14-1993 Section 5.6.1, Item 9
  - ANSI/ANS 57.1-1992, Section 6.3
- Purchasing safety-related spare parts does not provide commensurate public health and safety benefits.

Background

- PINGP was designed and build in late 1960's/early 1970s
  - Prior to issuance of GDCs
  - Before guidance for classifying SSCs
- Original A/E developed standard of 1% of 10 CFR 100 limits for classifying SSCs

Background

- PINGP is approved for full scope AST
  - 10 CFR 50.67 replaces 10 CFR 100 as licensing basis
- Fuel handling accident offsite dose consequences fall below 10% of 10 CFR 50.67 limits.
- Fuel handling equipment is currently classified as QA-Type I (safety-related)

Scope

Fuel Handling Equipment to be Reclassified as “QA Type III”:

- Auxiliary Building Crane
- Spent Fuel Pool Crane
- Manipulator Cranes, including Load Cells
- Spent Fuel Assembly Handling Tools
- Rod Cluster Control Changing Tools
- Spent Fuel Transfer System and its constituent components (conveyors, upenders, and related equipment), exclusive of transfer tubes and blind flanges

Example

d. Manipulator Crane

The manipulator crane is a rectilinear bridge and trolley crane with a vertical mast extending down into the refueling water. The bridge spans the refueling cavity and runs on rails set into the floor along the edge of the refueling cavity. The bridge and trolley motions are used to position the vertical mast over a fuel assembly in the core. A long tube with a pneumatic gripper on the end is lowered out of the mast to grip the fuel assembly. The gripper tube is long enough so the upper end is still contained in the mast when the gripper end contacts the fuel. A winch mounted on the trolley raises the gripper tube and fuel assembly up into the mast tube. The fuel is transported while inside the mast tube to its new position. The manipulator can lift only one fuel assembly at a time. Insert 1

Insert 1 –

As approved in Amendment [ ], the manipulator cranes, including the load cells, are classified as QA Class III.

Additional Information

- The QA classification of fuel handling equipment, including cranes, is not discussed in the NSPM QA Manual
- The scope of this amendment does not impact “important to safety” SSCs described in the PINGP ISFI USAR.
- Approval requested by September 1, 2019 to support 1R30
- Precedence

Summary

- Proposed LAR will reclassify certain fuel handling equipment as QA Type – III (commercial grade)
- Original PINGP classification scheme (1% of 10 CFR 100 limits) is more conservative than current standards
- PINGP was approved for full scope AST
- Fuel handling accident consequences fall below 10% of 10 CFR 50.67 limits