James A. FitzPatrick License Amendment Request: Pre-submittal Meeting

Remove reference to Bar Rack Heaters from the Ultimate Heat Sink Technical Specifications (3.7.2)

Proposed Change:

- Technical Specification (TS) 3.7.2 Condition B requires all divisions of required deicing heaters to be operable.

  –Required Action B.1 requires return of the inoperable division within 7 days.

  –Required Action C.1 requires the plant to be in Mode 3 within 12 hours if the completion time for B.1 is not met.

- ***JAF is proposing to remove the deicing heaters from TS 3.7.2 thus eliminating the requirement to enter LCO 3.7.2 (UHS Inoperable) with a single division of deicing heater inoperable.***

Technical Justification:

- Paragraph 50.36(c)(2)(ii) of Title 10 of the Code of Federal Regulations (10 CFR) requires that a technical specification (TS) limiting condition for operation (LCO) be established for each item meeting one or more of four specified criteria.
- Criterion 3 of 10 CFR 50.36(c)(2)(ii) states: “A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.”
- The Emergency Service Water (ESW) system, together with the ultimate heat sink (UHS), satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii).
- TS LCO 3.7.2, which ensures the functions of the ESW and UHS credited in the safety analyses will be accomplished, requires operability of both divisions of the required deicing heaters when the UHS temperature is ≤ 37ºF.

Technical Justification (cont.):

- The deicing heaters were installed in the intake bars as part of the original plant design to inhibit the formation of frazil ice on the steel bars, a condition which can occur under certain meteorological and plant operating conditions.
- A buildup of frazil ice on the bars could cause a significant reduction in the flow through the intake structure, which could challenge the ability of the ESW and RHRSW pumps to perform their safety functions.
- Since continued flow through the intake is necessary for the ESW and RHRSW systems to perform their accident mitigation functions, the deicing heaters were a component that was part of the primary success path and which functions to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier

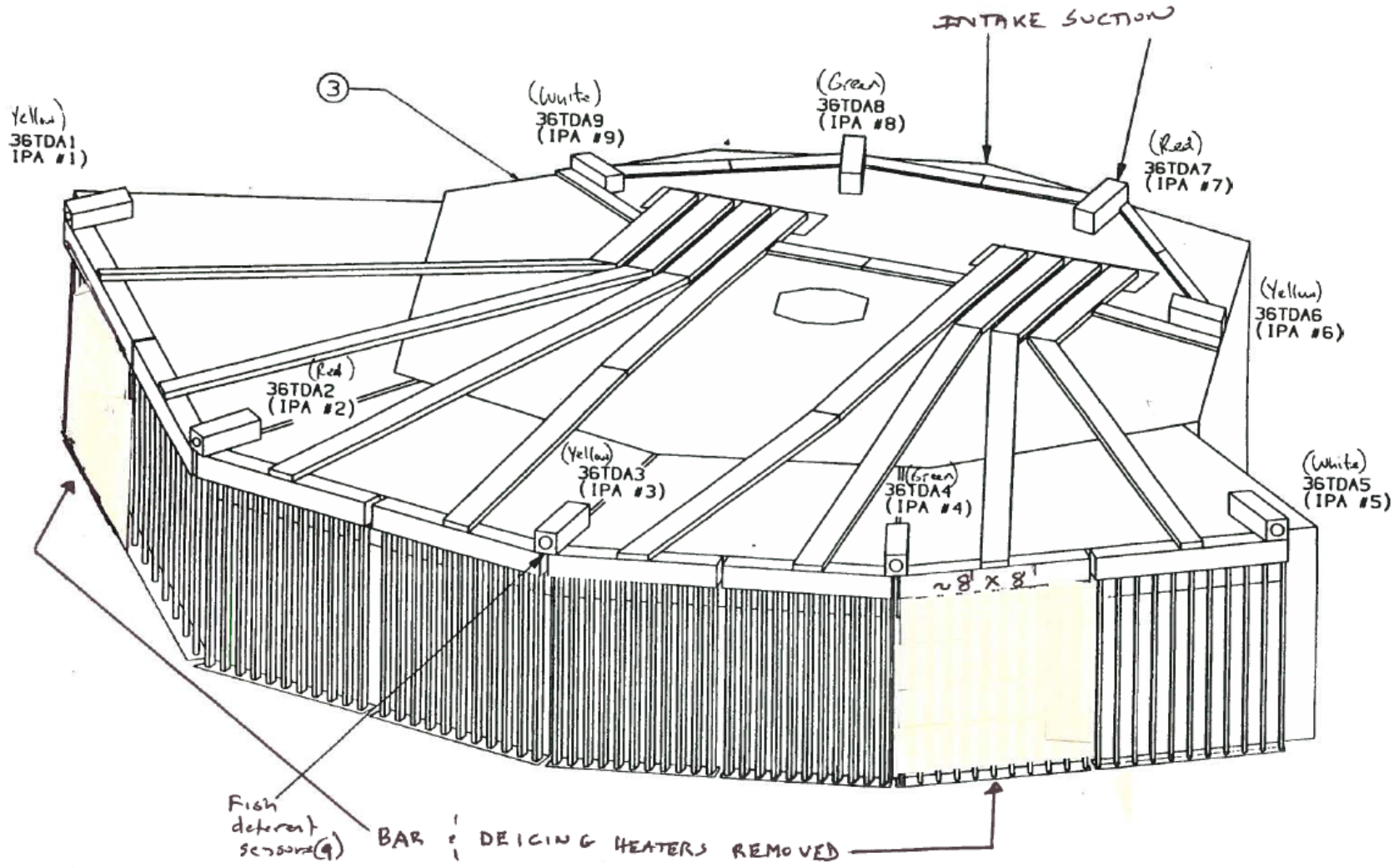
Technical Justification (cont.):

- In January 2016, the buildup of frazil ice on the intake bars resulted in a lowering of screenwell water level such that a manual trip of the reactor was required.
- Following the event, operating procedures were revised to ensure the potential for frazil ice formation is more closely monitored and that the necessary actions (e.g., “tempering”, where a portion of the circulating water discharge is recirculated back to the entrance to the trash racks to prevent the buildup of ice on the trash racks and traveling screens, downstream of the intake bars) are initiated when appropriate.
- In addition to the above, an engineering study of the intake system and the hazard posed by icing of the intake bars was undertaken. The study concluded that ***the potential for large debris entering the intake structure and causing damage or blockage was not considered credible and that there was no technical reason to justify the continued use of bars at the intake***

Technical Justification (cont.):

- On the basis of the results of the engineering study and the improved procedural guidance, two of the original eight bar racks were removed under an engineering change (Fig 1).
- With the removal of the two bar racks, an adequate intake structure suction area, free of frazil ice, is available at all times to support operation of the ESW and RHRSW pumps.
- Since the deicing heaters are not needed to ensure there is sufficient flow through the intake for the ESW and RHRSW systems to perform their accident mitigation functions, the deicing heaters do not satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).

Fig. 1: JAF Intake Structure with 2 Bar Rack Sections Removed



Exelon Generation

Proposed Schedule:

- Target Submit Date: ***14 November 2018***
- Requested Approval Date: ***14 November 2019***
- Implementation Date: ***13 December 2019***