Waterford 3

Relocate Toxic Gas Monitoring Technical Specifications to Technical Requirements Manual License Amendment Request

NRC Pre-submittal Meeting

December 15, 2020

Entergy®

Participants

Entergy

- Phil Couture, Manager, Fleet Licensing Programs
- Paul Wood, Manager, Waterford 3 Regulatory Assurance
- Billy Steelman, Manager, Waterford 3 Design Engineering
- Richard French, Project Manager, Waterford 3
- Wesley Johnson, Supervisor, Corporate PRA
- Michelle Groome, Supervisor, Waterford 3 System Engineering
- Remy Devoe, Waterford 3 Regulatory Assurance
- Alan Harris, Jensen Hughes, Licensing Consultant
- Andy Spotts, Jensen Hughes, PRA Consultant

Agenda

- ✓ Introduction/Opening Remarks
- ✓ Waterford 3 LAR Overview
  - ✓ Systems Overview
    - ✓ Broad Range Gas Monitors
    - ✓ Chlorine Monitors
  - ✓ Technical Specifications (TS) to Relocate to Technical Requirements Manual (TRM)
  - ✓ Other TS affected
- ✓ Basis for Change
- ✓ Open Discussion
- ✓ Closing Remarks

Waterford 3 LAR Overview

Systems Overview

- ✓ Broad Range Gas Monitors
  - ✓ 2 BRGMs continuously monitor for large variety of toxic gases.
  - ✓ Located in intake ducting
  - ✓ Sounds alarm and auto isolates control room
- ✓ Chlorine Monitors
  - ✓ 2 Chlorine monitors located near normal outside air intake
  - ✓ Sounds alarm and auto isolates control room

TS to Relocate to TRM

- ✓ TS 3.3.3.7.1 – Chlorine Detection System

  Two independent chlorine detection systems, with their alarm/trip setpoints adjusted to actuate at a chlorine concentration of less than or equal to 2 ppm, shall be OPERBLE.

- ✓ TS 3.3.3.7.3 – Broad Range Gas Detection

  Two independent broad range gas detection systems shall be OPERABLE with their alarm/trip setpoints adjusted to actuate at the lowest achievable Immediately Dangerous to Life or Health gas concentration level of detectable toxic gases providing reliable operation'

Other TS Affected

- ✓ TS 3.7.6.1 – Control Room Emergency Air Filtration System

  Delete Surveillance Requirement 4.7.6.1.d.4.

  Verifying that on a toxic gas detection signal, the system automatically switches to the isolation mode of operation, except for dampers and valves that are locked, sealed, or otherwise secured in the actuated position in Modes 5, 6, or defueled.

.

Basis for Change

Relocation of TS 3.3.3.7.1 and 3.3.3.7.3

Chemical detection system TS do not meet the 10 CFR 50.36 requirements for retention in TS and are not included in NUREG-1432 Revision 4, “Standard Technical Specifications – Combustion Engineering Plants”.

See following slide for discussion of 4 criterion from 10 CFR 50.36

Deletion of SR 4.7.6.1.4.d.

Redundant to the channel functional test currently required by SR 4.3.3.7.3 that verifies the control room ventilation isolates on high toxic gas signal.

No corresponding SR in NUREG-1432 Revision 4

Basis for Change

10 CFR 50.36(c)(2)(ii) Criteria (paraphrased)

Criterion 1 – instrumentation indicating degradation of the reactor coolant pressure boundary

Criterion 2 – initial condition of design basis accident and transient analyses

Criterion 3 – part of primary success path to mitigate design basis accident or transient challenging integrity of fission product barrier

Criterion 4 – operating experience (OE) or probabilistic risk assessment (PRA) shows significance to public health and safety

Discussion focused on Criterion 4

- No OE examples where failure of chemical detection had significant adverse effect on public health and safety
- Bounding risk assessment evaluating the threat of external toxic hazards performed. CDF estimated is range of 6.5E-8/year, which is considerably less than other analyzed hazard groups.

Precedence

Limerick:

ML19213A246 – August 1, 2019

Submitted License Amendment Request to remove Chemical Detection Systems from the Technical Specifications including:

- Chlorine Detection System 3/4.3.7.8.1
- Toxic Gas Detection System 3/4.7.8.2
- Surveillance Requirement 4.7.2.1.e.2

ML19345D984 – March 11, 2020

NRC approved request to relocate these Technical Specifications to the Technical Requirements Manual.

Next Steps

Submittal date:

December 30, 2020

Request approval by:

January 30, 2022

Open Discussion

Questions

Closing Remarks