



Browns Ferry Nuclear Plant
Units 1, 2, and 3
Proposed Changes to NFPA 805
License Conditions

August 28, 2018

Proposed Changes to NFPA 805 License Condition

TVA proposes to submit a LAR that will request NRC approval to make the following changes to the BFN NFPA 805 Program:

- Extend due dates for Modifications 102 and 106 by 4 months and 6 months, respectively
- Eliminate Modification 85 – CO₂ Pneumatic Alarm and Time Delay from LAR Table S-2 and revise Table B-1 as appropriate
- Revise Operating Licenses

Current Status of NFPA 805 Modifications at BFN

- There are a total of fifty-seven (57) modifications items listed in the S-2 Table
- 42 of the items are completed
- 15 items remain to be completed

- Currently all modifications are scheduled to be completed by the end of the BFN Unit 2, Refueling Outage 20 scheduled for the Spring of 2019

MODIFICATION 102

Table S-2 Plant Modifications Committed

Item	Rank	Unit	Problem Statement	Proposed Modification	In FPRA	Comp Measure	Risk Informed Characterization
102	Low	1,2,3	Transformer water spray actuation systems are not fail safe or fully supervised as required by NFPA 15. Associated NFPA 805 Chapter 3 reference: 3.9.1(2)	Modify the actuation for the Main, USST and CSST transformer water spray systems such that the circuits are supervised per NFPA 15-2001, 6.5.3.1.1.	No	Yes	This is an NFPA 805 Chapter 3 compliance modification. This level of detail is not modeled in the PRA.

- Status
 - Modification is in progress with all stages in plant schedule
 - 10 separate stages
 - Current commitment due date Spring 2019 (U2R20 Outage)
- More Time Needed
 - Risk of work being delayed
 - Weather
 - Plant conditions restricting work in the switchyard
 - Extend due date to four months following the end of the outage
i.e., August 14, 2019

MODIFICATION 106

Table S-2 Plant Modifications Committed

Item	Rank	Unit	Problem Statement	Proposed Modification	In FPRA	Comp Measure	Risk Informed Characterization
106	Low	Common	When the RSW pumps and the water tanks are unable to maintain the pressure in the shared RSW and HPFP piping, a fire pump is activated to aid in maintaining pressure in the system. Associated NFPA 805 Chapter 3 reference: 358	Install additional equipment to provide water to the cooling tower lift pump bearing lubrication water system in order to provide this system a water supply independent from the RSW and HPFP systems to ensure that pressure is maintained in the fire protection system during normal operation without using a fire pump.	No	Yes	Chapter 3 compliance modification. This level of detail is not modeled in the PRA.

- New intake station dedicated to bearing lube water.
 - Fire Pump currently needed to support Cooling Tower lift pumps
- Status
 - Major construction project
 - Engineering, procurement and construction contract being put in place
 - Current commitment due date is Spring 2019 (U2R20 Outage)
- More Time Needed
 - Schedule is aggressive and more time may be needed if problems arise
 - Extend due date to six months following then end of the outage i.e., October 14, 2019

MODIFICATION 85

Table S-2 Plant Modifications Committed

Item	Rank	Unit	Problem Statement	Proposed Modification	In FPRA	Comp Measure	Risk Informed Characterization
85	Low	Common	NFPA 12, Carbon Dioxide Extinguishing Systems, 2008 requires pneumatic pre-discharge alarms and pneumatic time delays for CO ₂ systems. Associated NFPA 805 Chapter 3 reference: 3.10.1	Install pneumatic pre-discharge alarms and pneumatic time delays in CO ₂ systems to meet NFPA 12, 2008. DELETE	No	Yes	This is an NFPA 805 Chapter 3 compliance modification. This level of detail is not modeled in the PRA.

- Difficulty developing a design compatible with old CARDOX CO₂ system
 - 300 psig Liquid CO₂ will require custom design
 - Maintaining UL and Seismic qualification
 - 20 separate control stations impacted
 - Uncertainties in the scope of vendor qualification effort

- Justification
 - No impact on Operator fire event response
 - No impact on Fire suppression
 - No impact on plant risk
 - Existing electrical pre-discharge alarm meets the code of record – NFPA 12-1966

NFPA 805 LAR Submittal

This NFPA 805 LAR follows the guidance provided by NEI for making changes to the NFPA 805 program (Option A)

(Refer to NEI Letter to NRC, “Recommended content for License Amendment Requests that Seek Changes to License Conditions That Were Established in Amendments to Adopt National Fire Protection Association Standard 805 but Have Yet to be Fully Implemented,” dated March 2, 2016 (ML16015A416))

Questions