



Turkey Point Unit 3 and Unit 4

Reactor Protection System Engineered Safety Feature Actuation System Nuclear Instrumentation System Replacements

**Safety System Replacement Project LAR
NRC 4th Pre-submittal Meeting Telecon**

April 8, 2021

CLOSED MEETING



Agenda – Closed Portion

- **RPS/ESFAS/NIS Architecture Overview**
- **Human System Interface Overview**
- **Human Factors Engineering Program Plan**
- **Cybersecurity Overview**
- **Technical Specification Surveillance Extension/Reduction**
- **Lifecycle Schedule**

Overview of New RPS/ESFAS/NIS Architecture

- **Turkey Point 3&4 protection systems include:**
 - Reactor Protection System (RPS)
 - Engineered Safety Features Actuation on System (ESFAS).
 - Nuclear Instrumentation System (NIS)
- **RPS/ESFAS/NIS provide the safety functions listed in Tech Spec Tables 2.2-1 for RPS and Table 3.3-3 for ESFAS.**

Overview of RPS/ESFAS/NIS Architecture (Scope of Replacement)

Turkey Point Control Room Layout







HFE Program Plan

HFE Program Plan – Doc. 51-9324097, Rev. 0

HFE Program Plan

Human Factors Plan Major Elements (NUREG-0711):



HFE Program Plan

Guidance of NUREG-0700 Rev 3 and NUREG-0711 Rev 3

HFE Program Plan

The objectives of the HFE Plan are to:



HFE Program Plan

HFE Assessment Process

HFE Program Plan

HFE Assessment Work Products and Initial Schedule

End of HFE Slides



Cybersecurity During RPS/ESFAS/NIS Design and Delivery

- **Secure Development and Operational Environment (SDOE)**

Tech Spec Surveillance Test Extension/Reduction For RPS/ESFAS/NIS LAR – Scope

Present Status of Turkey Point 3&4



Tech Spec Surveillance Test Extension/Reduction For RPS/ESFAS/NIS LAR – Scope

Turkey Point’s Plan forward for Surveillance Reduction



Tech Spec Surveillance Test Extension/Reduction For RPS/ESFAS/NIS LAR – Scope

Tech Spec Surveillance Test Extension/Reduction For RPS/ESFAS/NIS LAR – Channel Check

Tech Spec Surveillance Test Extension/Reduction For RPS/ESFAS/NIS LAR – Channel Check



Tech Spec Surveillance Test Extension/Reduction For RPS/ESFAS/NIS LAR – Channel Check



Tech Spec Surveillance Test Extension/Reduction For RPS/ESFAS/NIS LAR – Channel Check

Tech Spec Surveillance Test Extension/Reduction For RPS/ESFAS/NIS LAR – Channel Operational Test

Tech Spec Surveillance Test Extension/Reduction For RPS/ESFAS/NIS LAR – Actuation Logic Test

Actuation Logic Test (ALT)



Tech Spec Surveillance Test Extension/Reduction For RPS/ESFAS/NIS LAR – Scope and Schedule

Limiting Condition for Operations (LCO) changes:

End of TS Reduction



TP 3&4 RPS/ESFAS/NIS Lifecycle Phases

Lifecycle Phase

Current Schedule

Lifecycle Phase	Current Schedule
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Questions?



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