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 7th Pre-submittal Meeting Telecon

August 23 and August 25, 2021

OPEN SESSION

FPL

Introductions – Project Team

- **FPL Nuclear Licensing**
    - Steve Catron – Licensing Fleet Manager
    - Jarrett Mack – Fleet Licensing Lead
    - David Stoia – Turkey Point Site Licensing Lead
- **FPL Nuclear Engineering**
    - Brian Dunn – Fleet Design Director
    - Phil Barnes – Design Engineering Manager
    - Wes Frewin – Fleet Digital Design Supervisor
    - Warren Busch – Project Engineer
    - Philip Tiemann – Fuels / Safety Analysis
    - Jim Goodrich – Operations Unit Supervisor
- **Framatome**
    - Ron Legrand – Project Manager
    - Brian Haynes – Licensing Lead
    - Ted Quinn – Licensing Engineer
    - Jerry Mauck – Licensing Engineer
    - Ron Jarrett – Licensing Engineer
    - Michael Howard – Safety Analysis
    - Jacek Nowakowski – Human Factors
    - Troy Soaper – Equipment Qualification
    - Mark Harvey– Director of Quality Assurance
    - McKeag Johnson – NIS Design Engineer
- **Sargent & Lundy -Third Party Review**
    - Pareez Golub

Agenda – Open and Closed Sessions

- **Open Session**
  - Vendor Oversight Plan and LAR Summary
  - Documents to be Submitted and Documents Available
  - Follow-up – Open Items

- **Closed Session**
  - Components not Addressed in Approved SER
  - Equipment Qualification and Dedication
  - Human Factors Engineering Program Update
  - Application of Leak Detection in D3 Evaluation
  - Command Prioritization
  - Surveillance Reduction Activities
  - Schedule Update
  - Action Items and Follow-up

Vendor Oversight Plan – Table of Contents

Attachments

1) Vendor Oversight Reporting Relationship
2) Procedure Task Identification
3) Document Reviews
4) Codes and Standards used in System Requirements Spec DRAFT Rev H

Non-proprietary information suitable for public disclosure

Vendor Oversight Plan / LAR VOP Summary - Scope

Vendor Oversight Plan

3.1 Scope of the Plan

3.1.1 This plan includes oversight of vendor activities to develop, test, install, and put in service engineered RPS/ESFAS/NIS system replacements described in the LAR.

3.1.2 This plan includes changes to SR systems credited in the LAR for independence of function or indication from the RPS/ESFAS/NIS systems.

3.1.3 This plan includes Non Safety Related (NSR) components added or modified to perform the following functions credited in the LAR:

    3.1.3.1 Automation of Technical Specification surveillance
    3.1.3.2 Diverse indication from the RPS/ESFAS/NIS systems
    3.1.3.3 Diverse Actuation System (DAS) functions
    3.1.3.4 Monitoring of safety systems credited for reliability

3.1.4 Products created during development are used as input to the LAR and/or the engineering change (EC) process. The LAR review and the EC processes are interfacing processes with programmatic oversight. This plan does not comprehensively cover the LAR or the EC process oversight.

3.1.5 This plan covers Requirement, Design, Implementation, Test, Installation and Start-up life cycle phases of the system replacement project as defined in Framatome program documents. Operating Maintenance phases are implemented using Vendor prepared documents under FPL's program and procedures. This document covers vendor activities that affect these phases of the project but FPL's programs and procedures, and changes made by FPL without vendor input are not included in the scope of this plan.

VOP LAR Summary (Draft)

13.17.2.2 Scope of the Plan

The plan includes oversight of vendor activities to develop, test, install and put in service engineered RPS/ESFAS/NIS system replacements, referred to collectively as the replacement Protection System. The plan includes changes to existing Safety Related (SR) systems to implement independence of function and indication from the Protection System. The plan also includes Non Safety Related (NSR) components added or modified to perform functions described I the LAR including automation of surveillance, diverse indication, diverse actuation system, and monitoring of SR components.

Products produced during replacement Protection System development are used as input to the LAR, for audit and inspection activities, and as input to the Engineering Change (EC) process to support installation and plant document revisions. The EC process is an interfacing process with established procedural oversight. Documents that are used for Protection System development and the EC process are included but the scope of this plan is not comprehensive of EC process activities as some activities are administrative.

The plan covers life cycle phases for Requirements, Design, Implementation, Test, Installation and Start-up as described in Framatome program documents. The Installation and Startup phase and the Operating Maintenance phases are implemented using Vendor prepared documents under FPL's program and procedures. This document covers vendor activities that affect these phases of the project but FPL's programs and procedures, and changes made by FPL without vendor input are not included in the scope of this plan.

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Control of Vendor Oversight Plan / LAR Summary

Vendor Oversight Plan

6.1 Control of the Vendor Oversight Plan

6.1.1 This plan is a controlled (including revision control) in accordance with FPL Procedure EN-AA-203-1100, Engineering Evaluations (Reference 41). It is maintained as a Quality Assurance record in NAMS Electronic Records Management System.

6.1.2 This plan will be updated during the Project to reflect the results of planning activities, to provide reference to completed oversight activities, and for changes that occur as the project advances through life cycle phases.

6.1.3 Revisions to this Plan are reviewed against the LAR Summary (Refer to Section 8 of this document) for the purpose of identifying if communication with the NRC is necessary. Each revision should include a revision summary and a statement that it has been reviewed for LAR Summary impact.

6.1.4 Deviations to the Plan will be entered into and evaluated under the FPL Corrective Action Program in accordance with FPL Procedure PI-AA-104-1000, Condition Reporting (Reference 28). Corrective action resolution may result in plan revisions.

6.1.5 This plan is not a basis for changes to the plant or procedures. It is not a verification activity, verification requirements for SR documents are implemented in Framatome's engineering procedure and processes. This document is classified as Not Safety Related.

6.1.6 The initial issuance of this plan is approved by representatives of each department that has vendor oversight responsibility up to and including the Turkey Point Site Vice-President, Nuclear Fleet Vice-President, and Nuclear Oversight & Assessment Director. Subsequent revisions will be approved by department representatives affected by the change, each signatory will determine if other approvals are needed. The revision of the NAMS controlled document as an evaluation requires preparer and supervisor or manager approval on document control entry forms.

VOP LAR Summary (Draft)

13.7.2.9 Control of the Vendor Oversight Plan

The plan is controlled (including revision control) as a Quality Assurance record in FPL's Nuclear Asset Management electronic records management system. The plan will be updated to reflect the results of planning activities, to provide references to completed oversight activities, and for changes that occur as the development of the replacement systems progresses through the life cycle phases. Revisions to the plan are reviewed against this LAR Summary for the purpose of identifying if communication with the NRC is necessary. Each revision will include a revision summary and a statement that it has been reviewed for LAR Summary impact.

Deviations to the Plan will be entered into and evaluated under FPL's Corrective Action Program. Corrective actions may result in plan revisions.

The initial issuance of the Plan is approved by representatives of each department that has vendor oversight responsibilities up to and including the Turkey Point Site Vice-President, Nuclear Fleet Vice-President, and Nuclear Oversight & Assessment Director. Subsequent revisions are approved by department representatives affected by the change.

Vendor Oversight Plan / Summary Interfaces

Vendor Oversight Plan

5.1 Vendor Oversight Interfaces

5.1.1 Framatome QA program is reviewed in accordance with FPL Nuclear Assurance department procedures. Audits are documented in audit plans and reports.

5.1.2 Framatome implementation of their QA program is validated through Nuclear Assurance audits and surveillances and documented in reports.

5.1.3 Replacement system development and installation products are based on the contract and procurement specification (Reference 1) and are established during planning and schedule development. The products subject to oversight reviews are scheduled for FPL comment review and resolution prior to the document being issued final. Documents scheduled for FPL review and comment are also reviewed if the document is revised. Scheduled review cycles are the primary mechanism for document oversight.

5.1.4 Oversight reviews are documented on comment resolution forms. The forms identify the document under review, the name of the reviewer(s), the comments resulting from the review, Framatome response to the comment, and the reviewer acceptance or rejection of the response. Documents are not issued final until all comments are resolved and the reviewer has accepted the resolution.

5.1.5 Oversight reviews can be performed on Framatome developed documents not issued to FPL for review and comment. These reviews will be documented on comment review forms however no comment resolution is expected. Comments requiring document changes will be entered into the FPL corrective action program and transmitted to Framatome for resolution.

5.1.6 FPL will provide, as a minimum, Engineering, Maintenance, and Operations department resources for active participation in functional and task validation activities, factory acceptance testing, and procedure validation. These activities are performed to approved procedures and documented in completed, executed procedures. FPL's participation will validate execution and acceptability of results as evidenced by FPL signature on the completed procedure.

VOP LAR Summary (Draft)

13.7.2.7 Vendor Oversight Interfaces

FPL Nuclear Assurance & Assessment Department performs audits of Framatome Quality Assurance program and surveillance of Framatome implementation of their QA program in accordance with FPL Nuclear Assurance procedures. These activities are documented in QA audit plans and reports.

Replacement system development and installation documents are based on the contract between FPL and Framatome and the supporting specification. Specific documents to be produced are established during planning and schedule development. The products subject to oversight reviews are scheduled for FPL comment review and resolution acceptance prior to the document being issued final. Revisions to these documents also go through a comment review and resolution cycle. Schedule review cycles are the primary mechanism for document oversight.

Oversight reviews are documented on comment resolution forms. The forms identify the document under review, the name of the reviewer(s), the comments resulting from the review, vendor response to the comment, and reviewer acceptance or rejection of the response.

Oversight reviews are also performed on vendor developed documents not issued for FPL review and comment. These reviews may be documented on comment review forms. Comments requiring document changes will be entered into FPL Corrective Action Program and transmitted to the vendor for resolution.

FPL will provide resources for active participation in functional and validation activities, Factory Acceptance Testing, and procedure validation. These activities are performed to approved procedures and are documented in executed procedures. FPL participation and acceptance of the results will be documented by FPL signature on the completed document.

Vendor Oversight Plan – Document Reviews

- **VOP Attachment 3 Provides:**
  - Specific Documents to be reviewed
  - Schedule Task Identification for the activity
  - Reference to documentation of completion of the oversight activity
  - Updated based on planning changes, completion of tasks

- **Example of Attachment 3 showing 6 of 202 documents**

Attachment 3 – Document Reviews

Document Title	Schedule	Documentation
Project Management Plan	A34750	NEE-PTN-SRDP-013
Project Quality Plan	A34850	NEE-PTN-SRDP-011
Software Quality Assurance Plan	A34920	NEE-PTN-SRDP-007
Software Configuration Management Plan	A36440	NEE-PTN-SRDP-029
Software Development Plan	A78570	NEE-PTN-SRDP-032
Software V&V Plan	A36470	NEE-PTN-SRDP-038

Vendor Oversight - Traceability

Letter Number tracking

References to specific transmittal of documents

Comment Resolution Sheets with resolution acceptance attached

end of topic

NEXTera ENERGY

Turkey Point Nuclear
SR Digital Platform Project
Letter: NEE-PTN-SRDP-011

January 6, 2021

Ron Legrand
Framatome
3315 Old Forrest Rd
Lynchburg, VA 24501

Subject: Acceptance of Comment Resolutions on the Project Quality Plan (PQP)

References: a) FPL PO 2419951, accepted 12/9/2020
             b) F.505454-OUT-0008, Project Quality Plan (PQP), 56-9321451 rev 001, Dated 12/17/2020
             c) F.505454-OUT-0017, Project Quality Plan (PQP), 56-9321451 rev 002, Dated 1/6/2021

FPL accepts the comment resolutions for the Project Quality Plan issued in response to References b) and c).

If you have any questions, please contact me.

Sincerely,

Michael Matchinis
PTN Project Manager

Attachment 1: Comment resolution acceptance for Project Quality Plan.

Copy: Eric Meerbach   Warren Busch   Wes Frewin
       Brian Haynes   Ray Stewart
       Phil Barnes   Wendy Zumbo

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Documents to be Submitted and Documents Available

- **FPL/Framatome has plans for 3 different classifications for documents included in or associated with the LAR:**

  – Items to be <u>submitted</u> and docketing with the LAR

  – Items to be <u>available</u> through access for remote viewing

  – Items subject to <u>audit or inspection</u>

- **All documents can be audited or inspected by the NRC.**

  – Protocol for exchange of documents

Submitted Documents based ISG-06, Rev 2 AR Process

RPS/ESFAS/NIS LAR Table of Contents (1 of 3)

- **Intro/Justification/Safety Analysis**
- **Detailed Description**
- **Technical Evaluation**
  - Existing Plant System Description (D1)
  - Existing and New Architecture (D2)
  - New Safety System Equipment
  - New System Functions (D2.3)
  - Functional Allocation (D2.4)
  - New Augmented Quality System Functions
  - System Interfaces (D2.5)
  - Defense-In-Depth and Diversity (D2.6)
  - Setpoint Methodology and Calculations (D2.7)
  - Response Time Performance

RPS/ESFAS/NIS LAR Table of Contents (2 of 3)

- **Technical Evaluation (Cont.)**
  - Summary System Development Process (D.4)
  - Equipment Qualification (D.3)
  - Applying a Referenced Topical Report (D.5)
  - Tricon Plant Specific Action Items (D.5)
  - Human Factors Engineering (B.1.4)
  - Tests and Self Diagnostics
  - System Failure Analysis
  - Fundamental Design Principles in the new Architecture
  - Compliance with IEEE Std. 603-1991 and IEEE 7-4.3.2-2003 (D.6)
  - NRC ISG-04 Compliance Matrix
  - Reliability
  - Secure Development and Operational Environment (D.8)

Submitted Documents based ISG-06, Rev 2 AR Process

RPS/ESFAS/NIS LAR Table of Contents (3 of 3)

- **Technical Evaluation (Cont.)**
  - Summary of Vendor Oversight Plan (C2.2)
  - Technical Specification Surveillance Reduction (a non ISG-06 item)

- **Regulatory Evaluation Basis**
  - Applicable Regulatory Requirements/Criteria
  - Precedent
  - No Significant Hazards Consideration Analysis
  - Environmental Consideration Analysis
  - Conclusions

Non-proprietary information suitable for public disclosure

Available Documents

- ## LAR ATTACHMENTS
  - Markup Technical Specification Pages
  - Markup Technical Specification Bases (Information Only)
  - Equipment Qualification Plan and Available Summary Reports
  - Defense-In-Depth and Diversity Analysis (D3)
  - HFE Program Plan
  - RPS/ESFAS/NIS System Requirements Specification (SyRS)
  - Technical Specification Surveillance Reduction Report
  - Framatome Affidavit in support of Attachments
  - Listing of Implementation Items

- ## No Identified New Regulatory Commitments

Documents for NRC Inspection and Audit (1 of 2)

- **Vendor Oversight Plan**
- **Lifecycle Plans including:**
  - Project Quality Plan
  - Project Management Plan
  - Software Quality Assurance Plan
  - Software Verification and Validation Plan
  - Software Configuration Management Plan
  - Software Safety Plan
  - Software Development Plan
  - Software Integration Plan
  - Verification and Validation Test Plan
- **Lifecycle Development Products including:**
  - Software Requirements Specifications
  - Hardware Requirements Specifications
  - Software Design Descriptions
  - Factory Acceptance Test Procedures
- **Design Documents including:**
  - Drawings (Architecture, logic, wiring, etc.)
  - Calculations (Setpoints, Time Response, Reliability, etc.)
  - System Failure Modes and Effects Analysis

Documents for NRC Inspection and Audit (2 of 2)

- **HFE Project Plans and Plan Deliverables including:**
  - Implementation and verification and validation Plans
  - Function, Task, and Operating Experience Analyses
  - Task Level Implementation Plans and Results Summary Reports

- **Qualification and Commercial Grade Dedication Plans and Plan Deliverables:**
  - Dedication and Test Procedures
  - Test Reports
  - Qualification and Commercial Grade Dedication Summary Reports

- **Cybersecurity Plan and Procedures:**
  - Secure Development and Operating Environment Procedures
  - Component vulnerability mitigation assessments

- **FSAR Markups**

end of topic

Questions, Comments, and Follow-up Items