Constellation

Crane Clean Energy Center

Restoring the Emergency Plan

February 19, 2025

Introductions

- Constellation
  - Shaina East - Senior Manager, Corporate Emergency Preparedness
  - Zach Smith - Lead Emergency Preparedness Specialist
  - Jim Barstow - Director, Corporate Licensing
  - Craig Smith - Senior Manager Regulatory Assurance, Crane Clean Energy Center
  - Dennis Moore - Senior Manager, Corporate Licensing

Agenda

- Meeting Purpose/Goal
- Overview and Current Plant Status
- Current Status of Site Emergency Preparedness Program
- Restoration Timeline
- Emergency Plan Restoration
- Facilities and Equipment Restoration
- Evacuation Time Estimate
- Offsite Response Organization Restoration
- Final Approval

Meeting Purpose and Goals

- Purpose:
  - Provide an overview of the Crane Clean Energy Center (Crane) Emergency Plan restoration
    - Discuss the timeline for Emergency Plan restoration
    - Outline the major activities necessary to restore the Emergency Plan
- Goal - Obtain NRC feedback and insights on restoration of the Emergency Plan

Overview

- Three Mile Island, Unit 1 commenced commercial operation in 1974
- License renewal granted in October 2009 with the current Operating License expiring in 2034
- Due to market conditions, reactor shut down for retirement on September 20, 2019
- On September 20, 2024, Constellation announced our intention to restore Three Mile Island, Unit 1, to commercial service and that we have signed a 20-year power purchase agreement (PPA) with Microsoft
  - Facility to be renamed Crane Clean Energy Center
- On October 25, 2024, Constellation presented the Crane Clean Energy Center restart overview and regulatory path
- On November 19, 2024, Constellation submitted its request for exemption from 10 CFR 50.82(a)(2), officially notifying NRC of Constellations intention to return Crane Clean Energy Center to power operation

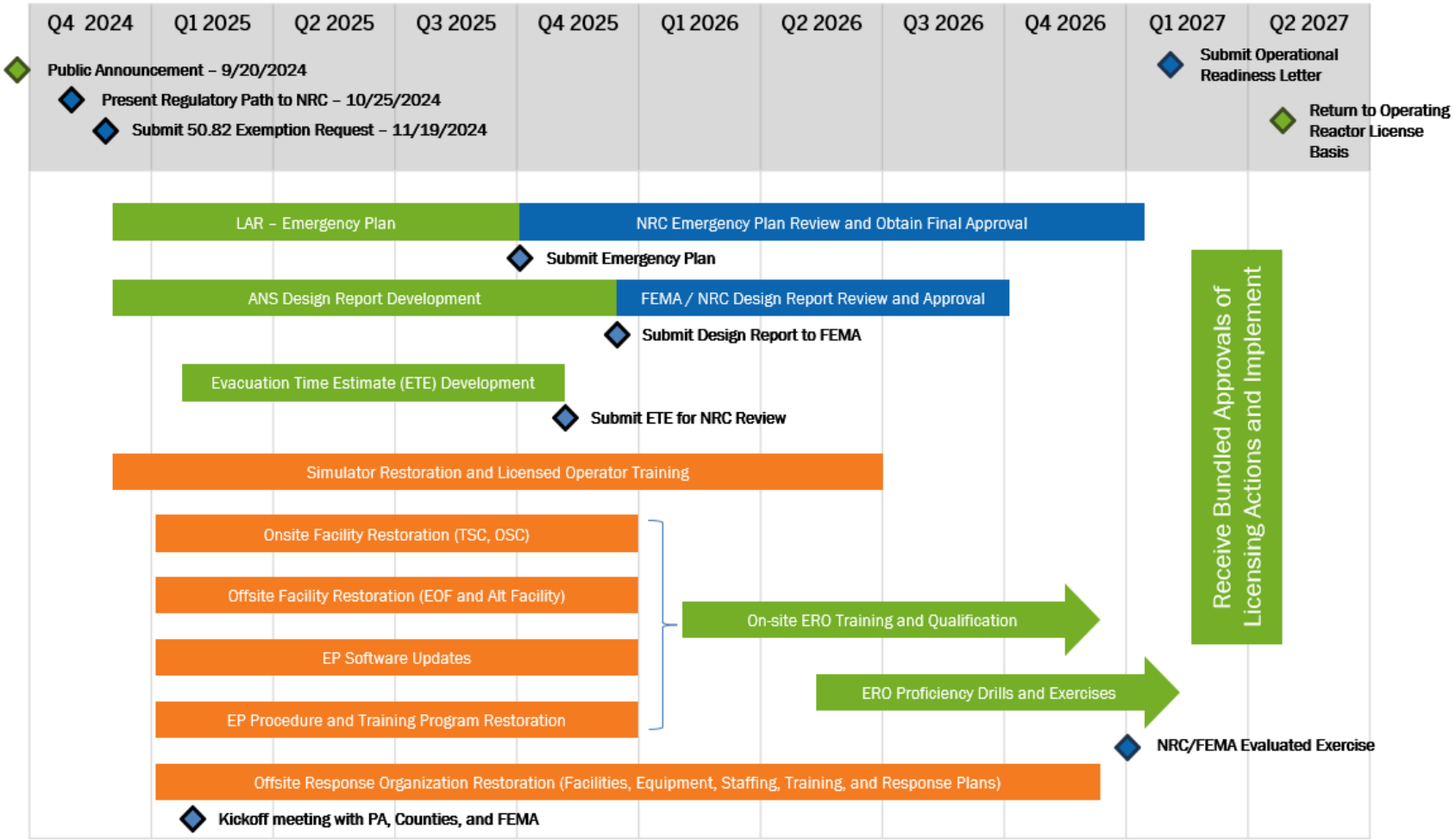
Current Plant Status

- Plant shutdown, September 20, 2019
- All spent fuel is in Independent Spent Fuel Storage Installation (ISFSI)
- Spent fuel pool is drained with cover in place
- Protected Area is scaled commensurate with current plant status
- Security fence in place and monitored for the purposes of material control
- Major systems status:
  - Most major plant systems have been drained and deenergized
  - No major plant components have been removed
  - Reactor coolant system status
    - Loops drained and vented
    - Reactor vessel filled with water covering internals
    - Reactor vessel head installed
  - Once Through Steam Generator inspections complete and placed in long term layup
  - Main generator inspections complete and placed in long term layup
  - Main power transformers inspection complete with procurement of new transformers in progress

Current Status of the Site Emergency Preparedness Program

- Emergency Plan and Regulatory Requirements
  - Independent Spent Fuel Storage (ISFSI) Only Emergency Plan
  - Emergency Action Levels (EALs) limited to ISFSI and Security EALs
- Onsite Emergency Response Organization (ERO) Status
  - Dedicated Facilities not required
  - ERO: Limited to 3 positions (1 on-shift, two augmented)
- Offsite Emergency Planning Status
  - Site largely exempted from offsite planning requirements due to shutdown status
  - Sirens have been removed
  - Evacuation Time Estimate (ETE) last updated in 2018

Emergency Plan Restoration Timeline



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Emergency Plan Restoration

- Emergency Plan License Amendment Request (LAR)
  - Emergency Plan being developed based upon NUREG 0654, Rev. 2
  - EAL scheme based upon NEI 99-01, Rev 7 to restore operational EAL Scheme
  - Expect to submit Emergency Plan LAR in September 2025
- Emergency Response Organization (ERO) Staffing
  - To align with the fleet ERO model, Emergency Plan staffing will be based on NUREG-0654, Revision 2 Table B-1 staffing guidelines
  - On-shift staffing will be restored to last operational on-shift staffing analysis
  - In alignment with recent industry ERO staffing changes, we intend to request NRC approval of the following:
    - Remote response for Technical Support Center (TSC) engineering support
    - 90-minute activation time for TSC/OSC/EOF

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Facility and Equipment Restoration

- Onsite Emergency Response Facilities
  - Previous Technical Support Center (TSC) and Operations Support Center (OSC) will be used for Crane Clean Energy Center
  - Facilities will be restored to prior functionality with additional technology upgrades
- Offsite Facilities
  - Previous Emergency Operations Facility (EOF) and Joint Information Center (JIC) in Coatesville will be used for Crane
    - Currently supports Limerick, Peach Bottom, and Calvert Cliffs stations
  - Alternative Facility will be restored near-site
- Other Equipment and Software Updates:
  - Site-specific Dose Assessment and Core Damage software will be implemented
  - Crane will use Electronic Offsite Notification Software (EONS) to ensure emergency notifications are performed accurately and promptly

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Evacuation Time Estimate

- An Evacuation Time Estimate (ETE) will be conducted based upon the 2020 Census data and current population updates
- Industry-leading subject matter expert is performing the analysis
- Used to develop site specific Protective Action Recommendations schemes
- Used in the development of county evacuation plans
- Expect ETE to be complete and submitted to NRC by the end of 4Q25

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Offsite Response Organization Restoration

- Constellation and counties inside the 10-mile Emergency Planning Zone (EPZ) will update offsite Radiological Emergency Plans (REP) in accordance with NUREG-0654/FEMA-REP-1, Rev. 2 (REP Manual)
- Constellation will work with Commonwealth of Pennsylvania on identification and procurement of REP equipment to support REP Programs in affected counties
- The primary alert and notification system will be upgraded from sirens to the Integrated Public Alert and Warning System (IPAWS)
  - IPAWS utilizes modern technology to simultaneously alert and provide instruction to public
  - Increased reliability and reach to the public - Essentially 100% coverage
  - Uses cellular phones, radio, TV, Emergency Alert System, and more to notify public
  - Backup notification system will be an independent electronic mass notification system
  - Constellation and Offsite Response Organizations (OROs) will work with FEMA to determine required actions prior to submitting ANS Design Report for FEMA approval

Final Approval

- Offsite Response Organization (ORO) Response Plan approval:
  - FEMA will review and approve all ORO plans
  - FEMA will evaluate offsite response in accordance with the FEMA REP Manual
- Constellation anticipates that the Emergency Preparedness program will be ready for NRC review no later than the 4Q26
- Constellation will work with NRC/FEMA to schedule and conduct an evaluated full-scale integrated exercise
- Constellation will work with NRC to determine final steps for approval. It is anticipated that:
  - A final statement of Emergency Preparedness readiness will be included in an Operational Readiness Letter sent to NRC
  - NRC will provide final authorization to reinstate the Emergency Plan bundled with return to the Operating Reactor License Basis (ORLB)

Discussion/Questions