

Perry Nuclear Power Plant License Renewal Application

July 21, 2022

Environmental Report & SAMA
Pre-Application Meeting

Agenda

- Opening Remarks/Introductions
- Background
- Discussion Items
- Lessons Learned
- Closing Remarks

Opening Remarks / Project Team Members

Energy Harbor License Renewal Project Environmental Report Development Team

Energy Harbor

- Douglas Reeves - Director of Site Engineering, Project Sponsor
- Mark Bensi - LR Team, Project Manager
- Theodore Hilston - LR Team, Technical Lead
- Ben Spiesman - LR Team, ER/SAMA and OE
- John Grimm - LR Team, ER/SAMA
- Paul Bessette – Morgan Lewis, Legal Support

Enercon

- Stacy Burgess - Project Manager
- Rachel Turney-Work - Manager, Environmental Licensing
- Mary Hoganson – Environmental Licensing Specialist
- Steve Phillippi - Supervisor, PRA Services

Background

Perry Nuclear Power Plant

- Single Unit General Electric BWR
- Current rated core thermal power 3,758 MWt
- Current gross electrical output 1,327.6 MWe, net output 1,277 MWe
- Capital improvements include a 5% Thermal Power Uprate in 2000.
- No refurbishment anticipated for period of extended operation (PEO)

| | OLs | 40 Yrs | 60 Yrs |
|--------|------|--------|--------|
| Unit 1 | 1986 | 2026 | 2046 |

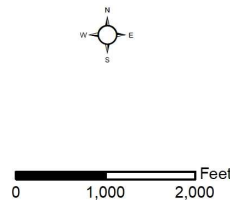


Plant Arial



- The Perry Nuclear Power Plant (PNPP) is owned and operated by Energy Harbor, the licensee and applicant
- The PNPP plant site is approximately 1,030 acres along the southern shore of Lake Erie
- Entirely located within Lake County, Ohio
 - Approx. 2/3 of the site is located within the Village of North Perry, while the remaining 1/3 is located within Perry township.
- Except for Lake Erie and the switchyard, the PNPP Exclusion Area Boundary (EAB) falls entirely within the site boundary

- Legend**
- Protected Area Fence
 - Submerged Tunnel
 - ++ Railroad
 - Buildings/Structures
 - Exclusion Area Boundary (EAB)
 - PNPP Site Boundary



Vicinity (6-mile) Map

Legend

- Community
- Interstate
- U.S. Route
- State Highway
- Local Road
- ++ Railroad
- ▭ PNPP Site Boundary
- ✈ Airport
- ✈ Heliport
- ☁ Surface Water
- ⊞ 6-Mile Radius
- ▭ County
- ▭ Place
- ▭ Federal
- ▭ State
- ▭ Local



Region (50-mile) Map

Legend

-  PNPP
-  Community
-  Airport
-  Heliport
-  Surface Water
-  50-Mile Radius
-  Interstate
-  U.S. Route
-  State Highway
-  Railroad
-  Place
-  County
-  State



Environmental Report (ER) Discussion Items

- **Methodology**
 - Regulatory
 - Incorporate by Reference
- **Major Permits / Authorizations**
 - Coastal Zone Management Act (CZMA)
 - Clean Water Act (CWA) 401 Certification
 - National Pollutant Discharge Elimination System (NPDES)
- **Consultations & Public Communications**
 - Consultations with agencies and Native American Tribes have taken place and all received responses will be included in the License Renewal Application Environmental Report.

ER Discussion Items, Cont'd

- Surface & Groundwater Use
- Circulating Water System
- Severe Accident Mitigation Alternatives (SAMA) Analysis Status
 - Development and Screening of Candidate SAMAs
 - Guidance from Nuclear Energy Institute (NEI) 05-01 and NEI 17-04, Rev 1
 - Qualitative and Quantitative SAMA screening
 - Full Level 3 PRA / Cost Benefit Analysis
 - The results of this analysis will be detailed in the SAMA Basis Document and summarized in the Environmental Report
- Alternatives Analysis
- PNPP does not use High Burnup Fuel
- Independent Spent Fuel Storage Installation

ER Discussion Items: Ecology

Essential Fish Habitat

- No essential fish habitat (EFH) or EFH areas protected from fishing are located within the vicinity of the PNPP

Habitat Areas of Particular Concern

- No habitat areas of particular concern (HAPC) are located within the six-mile vicinity of the PNPP

Critical Habitat

- Lake County features critical habitat for the piping plover

Threatened and Endangered Species

- Six federally-listed threatened, endangered or candidate species are listed within Lake County
- 63 state-listed species are located within Lake County

ER Discussion Items: Cultural Resources

- One Cultural Resource Survey performed for the PNPP
 - No archaeological entries and no National Register of Historic Places (NRHP) eligible cultural resources are located within the PNPP
 - No structures within the PNPP property are listed on the Ohio Historic Structures Inventory
- Within the 6-mile vicinity there have been 15 cultural resource surveys documented:
 - 37 NRHP sites listed and two sites are eligible
 - 64 archeological sites (one site on the NRHP list and one eligible)
 - 21 cemeteries
- There will be no impacts to cultural resources located within the plant vicinity

ER Lessons Learned – LR Review

- Incorporate lessons learned from previously submitted Environmental Report (ER) & SAMA analyses into the PNPP License Renewal (LR) ER and basis documents
 - SAMA Evaluations
 - Agency Consultations
 - Alternatives
- Review and incorporate applicable information into the PNPP ER based on previously submitted license renewal and Supplemental License Renewal (SLR) ER Requests for Additional Information (RAIs)
- We will allocate sufficient time to test Information Technology (IT) resources and NRC access to the portal in support of the ER audit

ER Discussion Items: Topics of Interest

- PNPP Property Ownership
 - All PNPP property was previously owned by subsidiaries of the previous parent company FirstEnergy Corp (FE)
 - Several parcels retained by FE post Energy Harbor separation
 - Expected to be resolved prior to the submittal of the PNPP License Renewal Application (LRA)
- Flooding License Amendment Request
 - In April 2021, PNPP submitted a License Amendment Request (LAR) reconstituting the site's external flood hazard design basis
 - Flooding LAR approval is expected in Nov. 2022
 - Environmental Report based on scope of LAR
- License Renewal Application Timing
 - PNPP is on track to submit the LRA in July 2023
 - PNPP current operating license expires November 2026
 - PNPP granted an Exemption to 10 CFR 54.17(a) providing timely renewal protection with LRA submittal by three years prior to license expiration

Scheduling and Closing Remarks

- PNPP is on track to submit the License Renewal Application in July 2023
- PNPP will submit a high-quality application which will support efficient Staff reviews
 - Highly knowledgeable team with significant License Renewal experience
 - Participation in industry working groups and meetings
 - Industry Peer Reviews of the PNPP LRA
 - Monitoring on-going applicant processes
 - Reviews of recent applicant RAIs, RCIs and Supplements
- PNPP's License Renewal Application will be consistent with NRC requirements for initial LRA, industry practices and recent precedent