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XO1-24-005

ATTN: Document Control Desk
US Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: Presentation Materials for Energy Northwest Pre-Application Meeting

This letter transmits presentation materials for the subject meeting between Energy Northwest (EN) and Nuclear Regulatory Commission (NRC) Staff to be held on October 24, 2024.

Sincerely,

DocuSigned by:

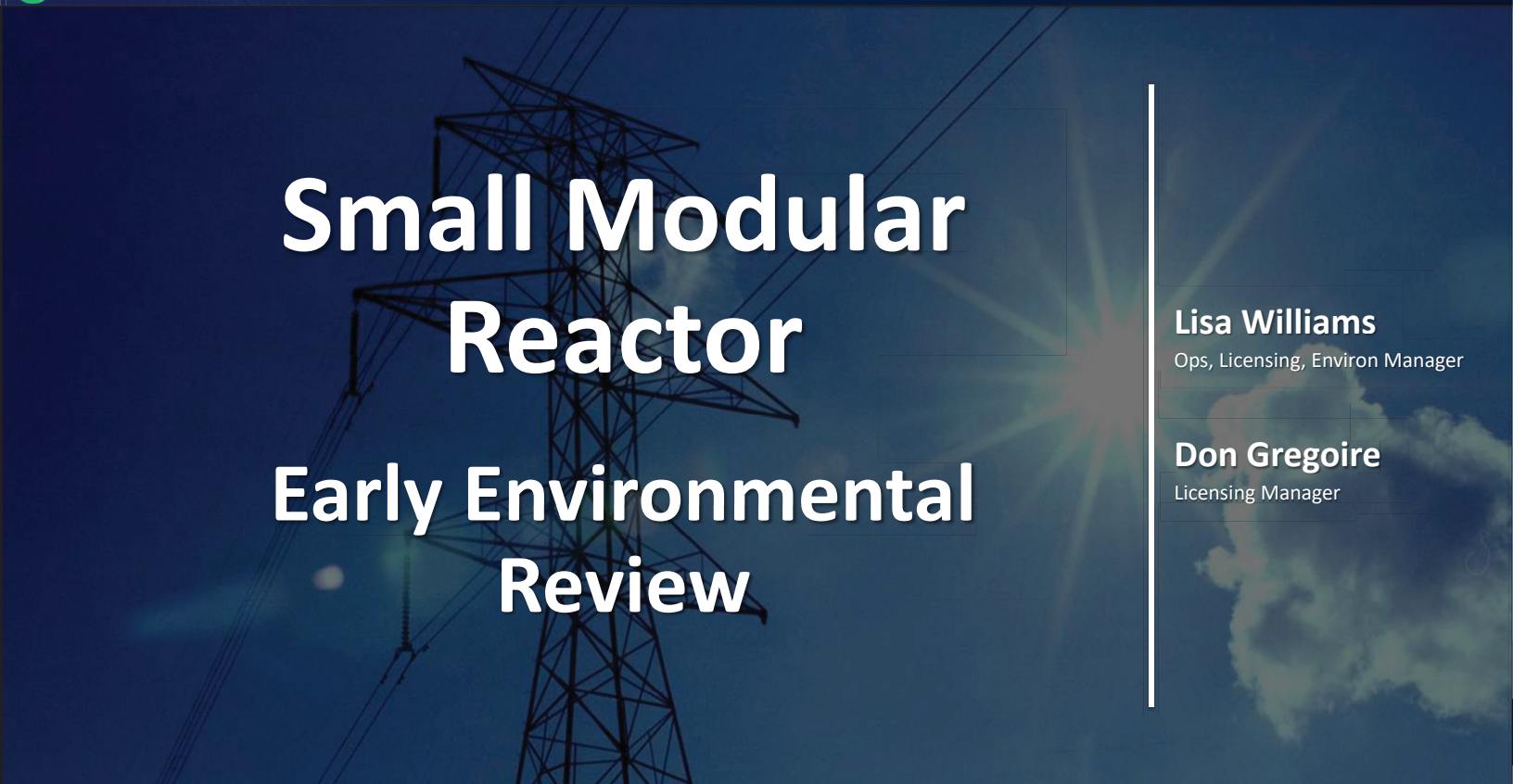
A handwritten signature in black ink that reads "Don Gregoire".

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Don Gregoire
Licensing Manager, New Nuclear Development

Attachment - Presentation Materials for EN Pre-Application Meeting

cc:
Greg Cullen
Ken Langdon
Lisa Williams



Small Modular Reactor

Early Environmental Review

Lisa Williams

Ops, Licensing, Environ Manager

Don Gregoire

Licensing Manager

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Proposed Location

Purpose of Meeting

The purpose of this pre-application meeting is to explore the possibility for an early environmental review of the brown field site associated with Energy Northwest's small modular reactor project and identify regulatory pathways that might be reasonable and achievable to accomplish the desired goal.

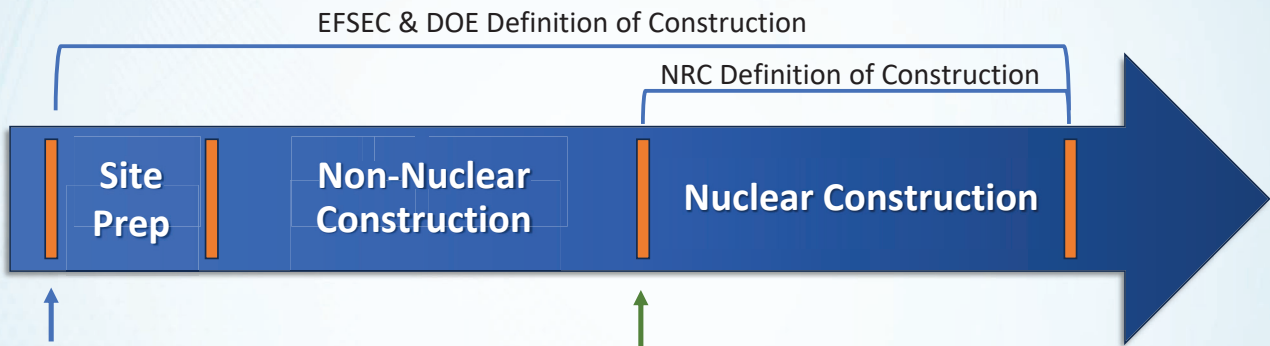
Factors Affecting Urgency of Earlier Environmental Reviews

1. Federal/State urgency to transition to clean energy infrastructure sooner than later, increasing near term energy demands
2. Significant clean energy tax credits under Inflation Reduction Act set to expire December 31, 2032
3. Project start (site preparation) prevented until completion of environmental review
4. Timing of funding for long lead items can impact project completion

Approvals Required to Support Site Construction

- **Federal**
 - Nuclear Regulatory Commission (NRC) Construction Permit (CP)
 - Dept of Energy – Richland Office (DOE-RL) Lease Agreement
 - Dept of Energy Loan Programs Office (DOE-LPO) Funding
- **State**
 - Energy Facility Site Evaluation Council (EFSEC) Site Certification Agreement (SCA)

Process of Site Construction and Required Approvals



- 1. WA EFSEC Site Certification Agreement
- 2. DOE-RL Lease Amendment

- 3. NRC Construction Permit
- 4. DOE LPO Loan Guarantee

Notes

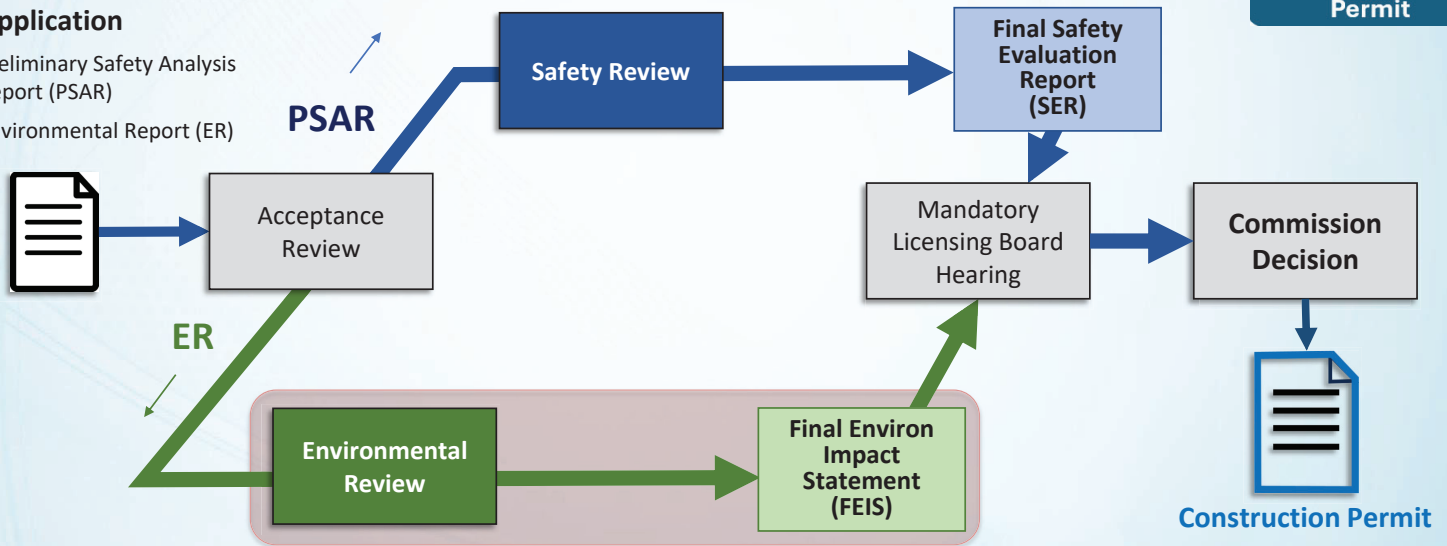
- All 4 processes require an environmental review
- Most efficient process is for environmental reviews to be performed concurrently.
- NRC environmental review timeline is the limiting factor

NRC Construction Permit Review Process



CP Application

- Preliminary Safety Analysis Report (PSAR)
- Environmental Report (ER)

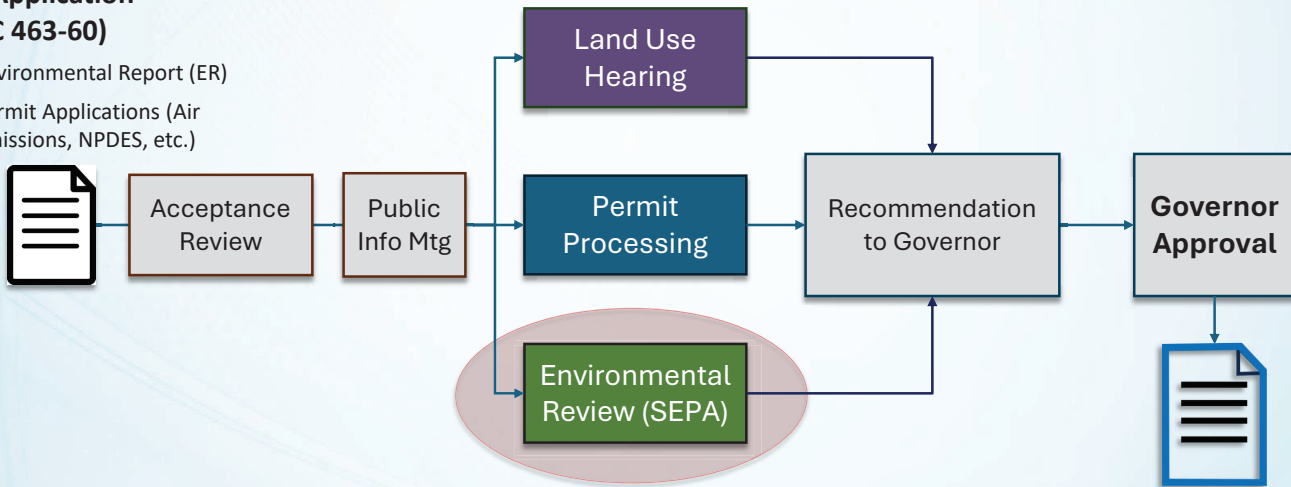


EFSEC Application for Site Certification (ASC) Review Process



ASC Application (WAC 463-60)

- Environmental Report (ER)
- Permit Applications (Air Emissions, NPDES, etc.)



Site Certification Agreement (SCA)

EFSEC Site Safety Requirements

WAC 463-60-265, Proposal—Protection from natural hazards.

The application shall describe the means to be employed for protection of the facility from **earthquakes, volcanic eruption, flood, tsunami, storms, avalanche or landslides**, and other major natural disruptive occurrences.

WAC 463-60-302(1), Natural environment—Earth (Geology)

The applicant shall provide...mitigation measures for the following: (a) Geology. The application shall include the results of a **comprehensive geologic survey showing conditions at the site**, the nature of foundation materials, and potential seismic activities.

WAC 463-60-322(4), Natural environment—Water (Floods)

The application shall describe potential for flooding, identify the **five, fifty, and one hundred-year flood boundaries**, and describe possible flood impacts at the site...and all protective measures to prevent possible flood damage to the site and facility.

EN Assessment of EFSEC Site Safety Requirements

- **Site Safety previously evaluated by all agencies; no new safety insights expected that should delay environmental review**

NRC

- NUREG-75/036, Units 1 and 4 Safety Evaluation Report (CPR-134)
- NUREG-0892, CGS Operating License Safety Evaluation Report
- NUREG-1437 Suppl 47, CGS License Renewal
- CGS Post-Fukushima Seismic and Flooding Hazard Re-Analysis

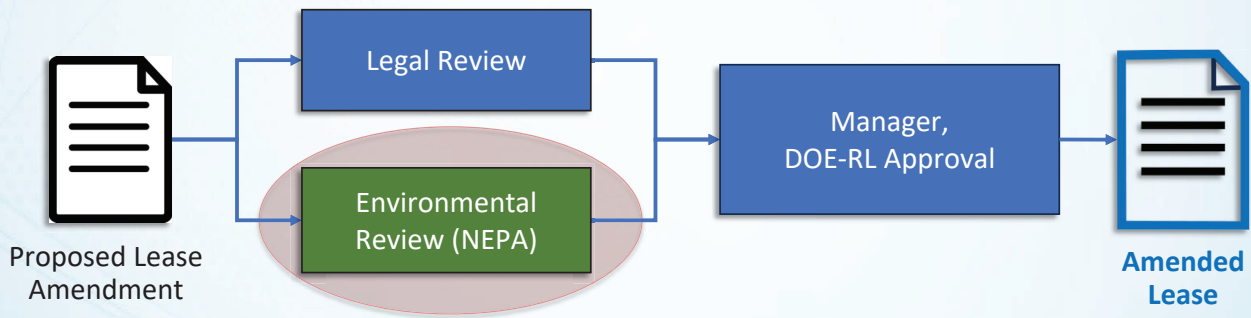
Dept of Energy

- HNF-SD-GN-ER-501, Natural Phenomena Hazards, Hanford Site, Washington
- PNNL 20684 Review of Natural Phenomena Hazard Assessments for DOE Hanford Site

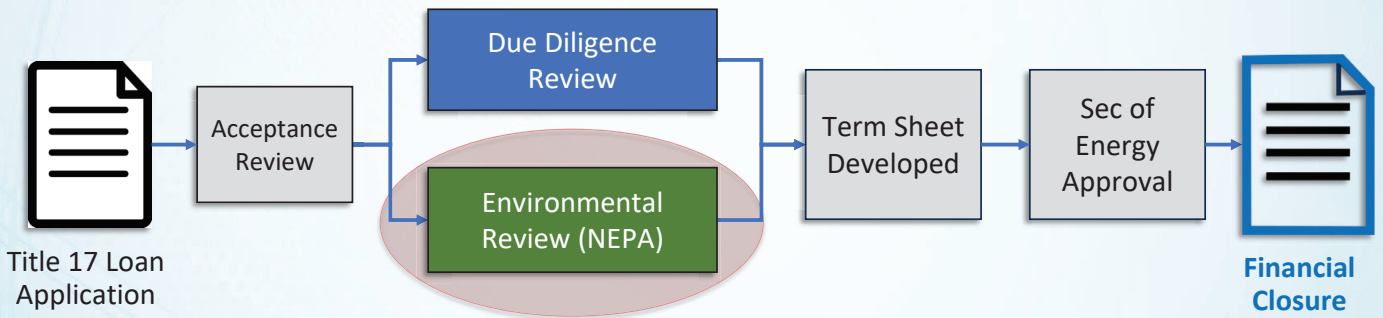
EFSEC

- WNP 1-4 Site Certification Agreement (Aug 1975)
- CGS Site Certification Agreement (May 1972)

DOE-RL Lease Amendment Review Process



DOE-LPO Loan Funding

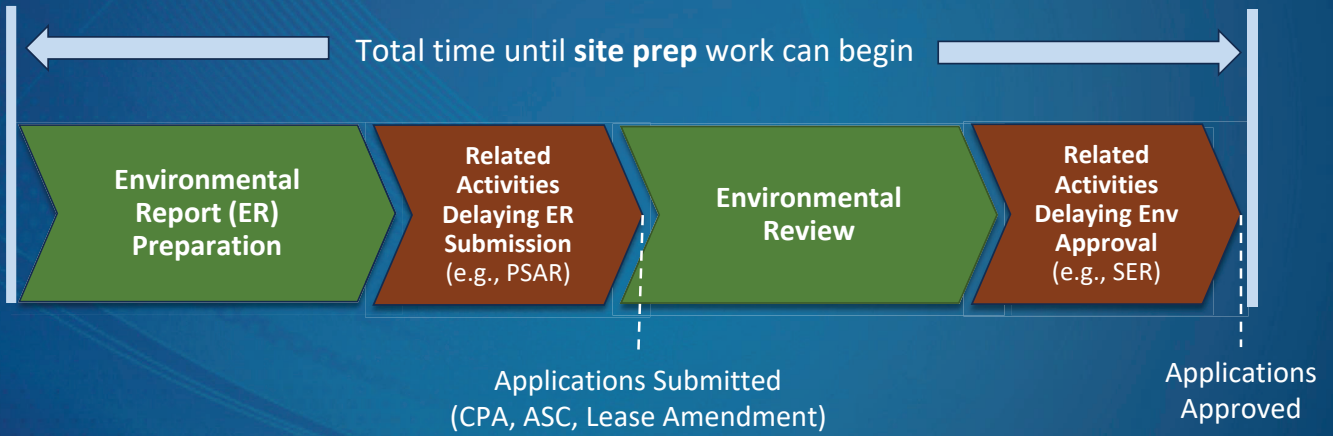


[Environmental Compliance | DOE-LPO](#)

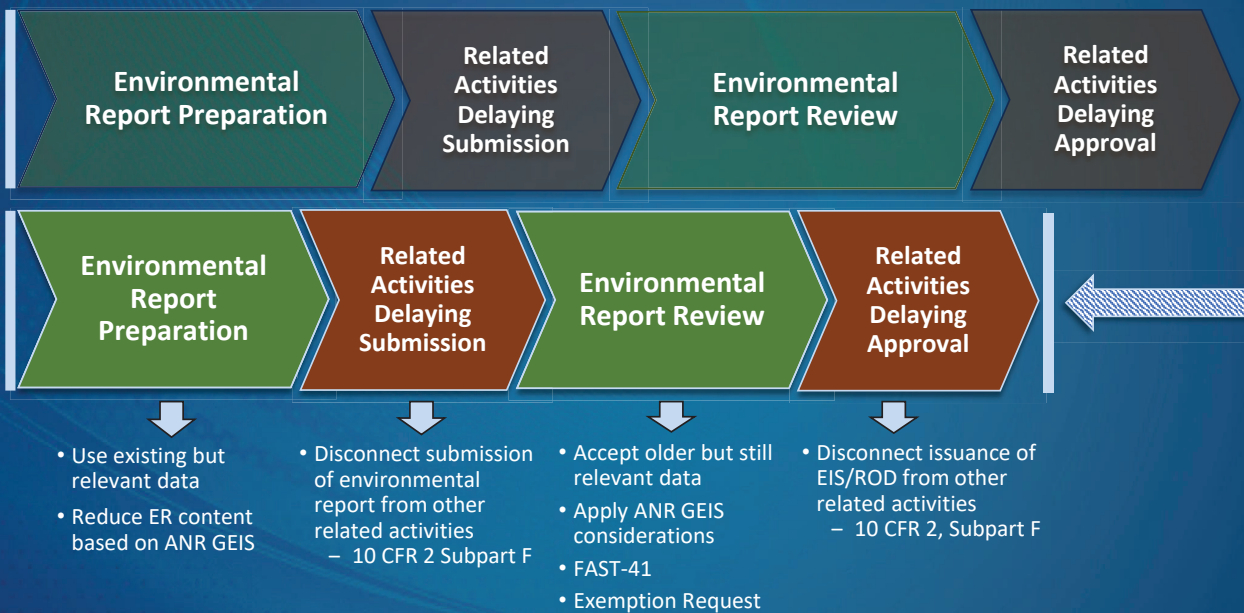
Environmental Review Timeline

Assumption:

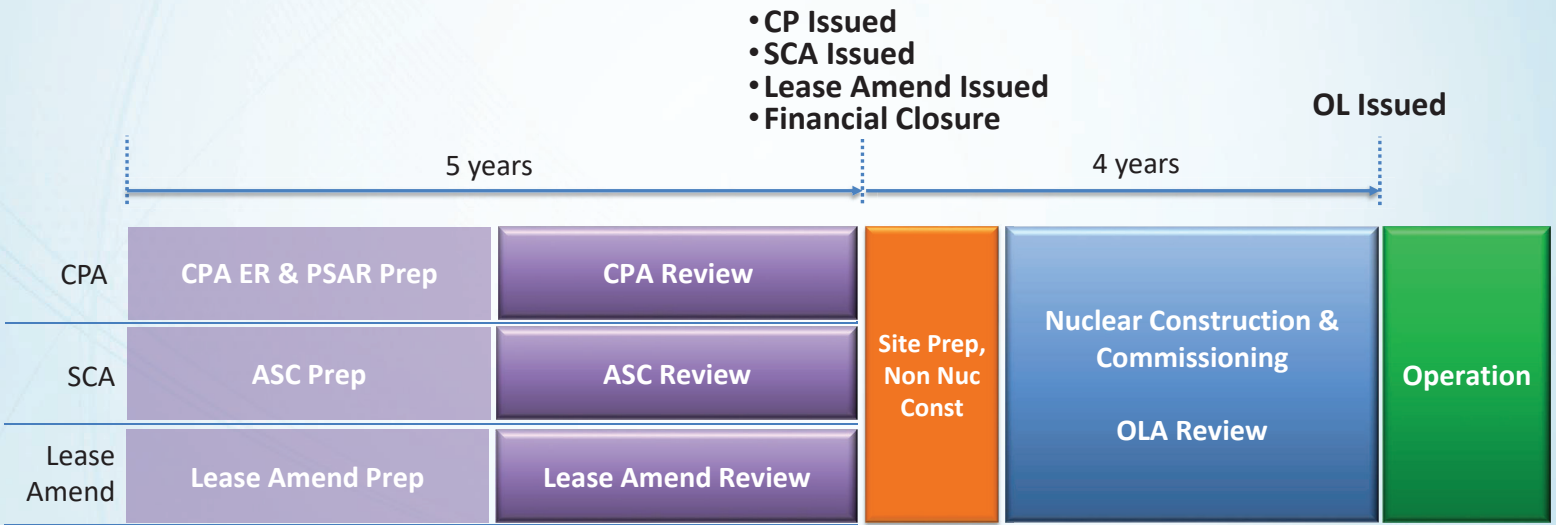
NRC, EFSEC, DOE-RL, DOE-LPO performing environmental review at same time (NRC-Leads)



Factors Potentially Reducing the Review Timeline

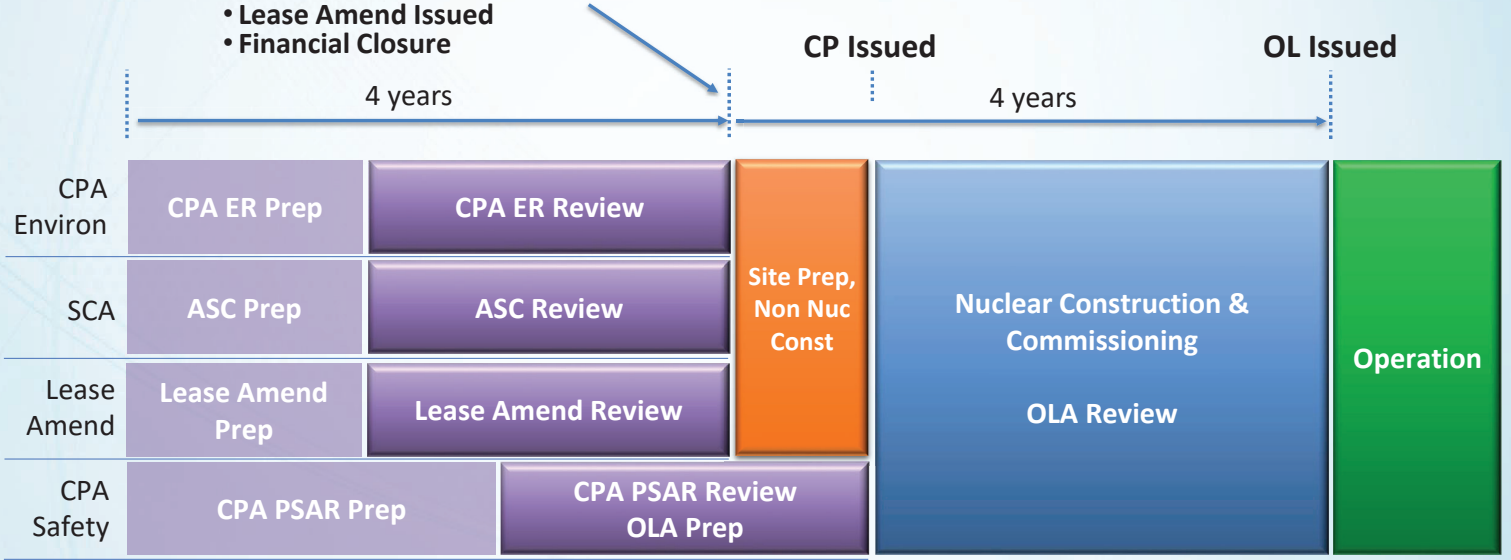


Project Milestones – Normal Process



Project Milestones – Early Environmental Review

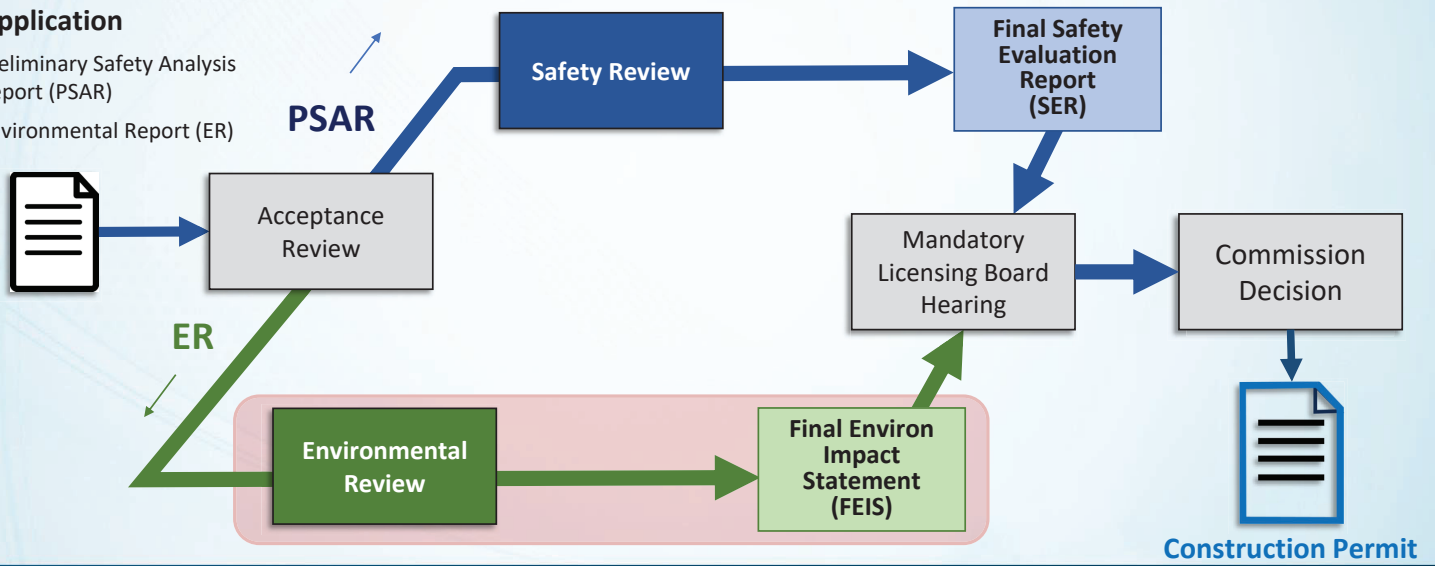
- NRC Environmental Review Completed
- SCA Issued
- Lease Amend Issued
- Financial Closure



NRC Construction Permit Review Process

CP Application

- Preliminary Safety Analysis Report (PSAR)
- Environmental Report (ER)



Potential Success Pathways

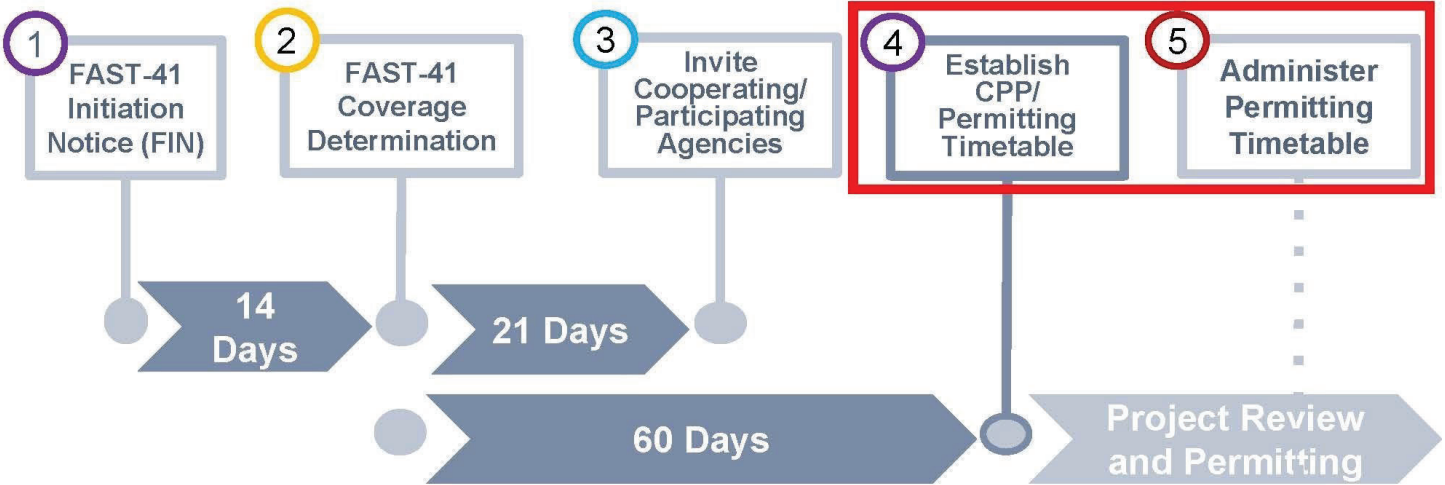


1. Implement FAST-41 process
2. Pursue 10 CFR 2.101(a)(5) process
3. Pursue 10 CFR 2.101(a-1) Subpart F process
4. EFSEC & DOE Perform Env Review Separate from NRC
5. Obtain Regulatory Exemption

Fast-41 Process



FAST-41 Process Covered Project Stages



Compliance Report to Congress issued quarterly

In developing a permitting timetable, the total duration of the timetable must not exceed the average time needed to complete the environmental review process for similar projects in a given sector during the past two years.

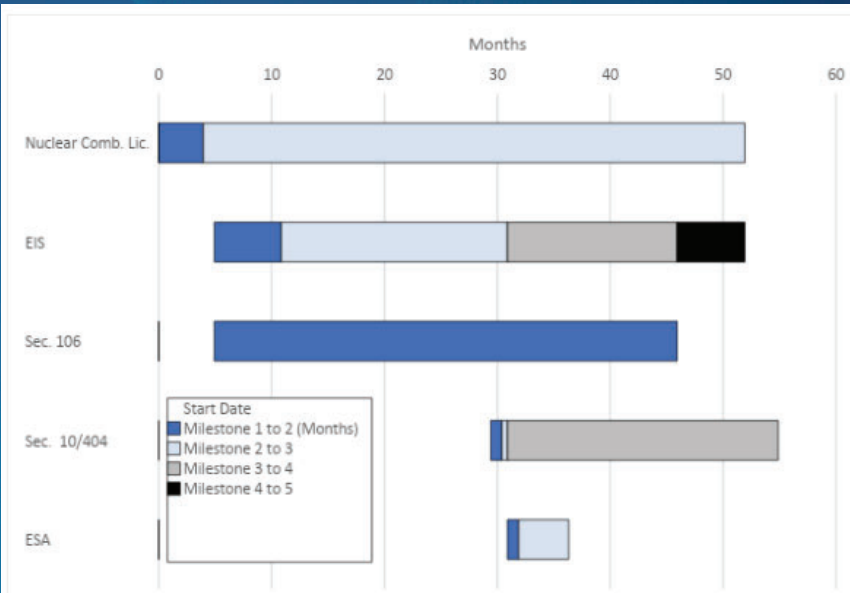


Figure 6: FAST-41 performance schedule for the Nuclear Power Plant – Combined (construction and operating) License subsector.

From FAST-41 Performance Schedules, November 2023, revised January 2024

1. Implement FAST-41 process

FAST-41 is similar to EFSEC process (i.e., coordinated agency engagement) but at the federal level. Federal agencies would engage to provide the necessary support to complete the review.

PROs

- Could potentially shorten overall review time.

CONs

- Fast-41 time schedule does not address Construction Permits and does not suggest appreciable time savings
- Appears to be untested regarding nuclear construction permits
- Questions remain as to how it would be able to support coordination with EFSEC, DOE-RL, and DOE-LPO more effectively than NRC

10 CFR 2.101(a)(5) Process

10 CFR 2.101(a)(5)

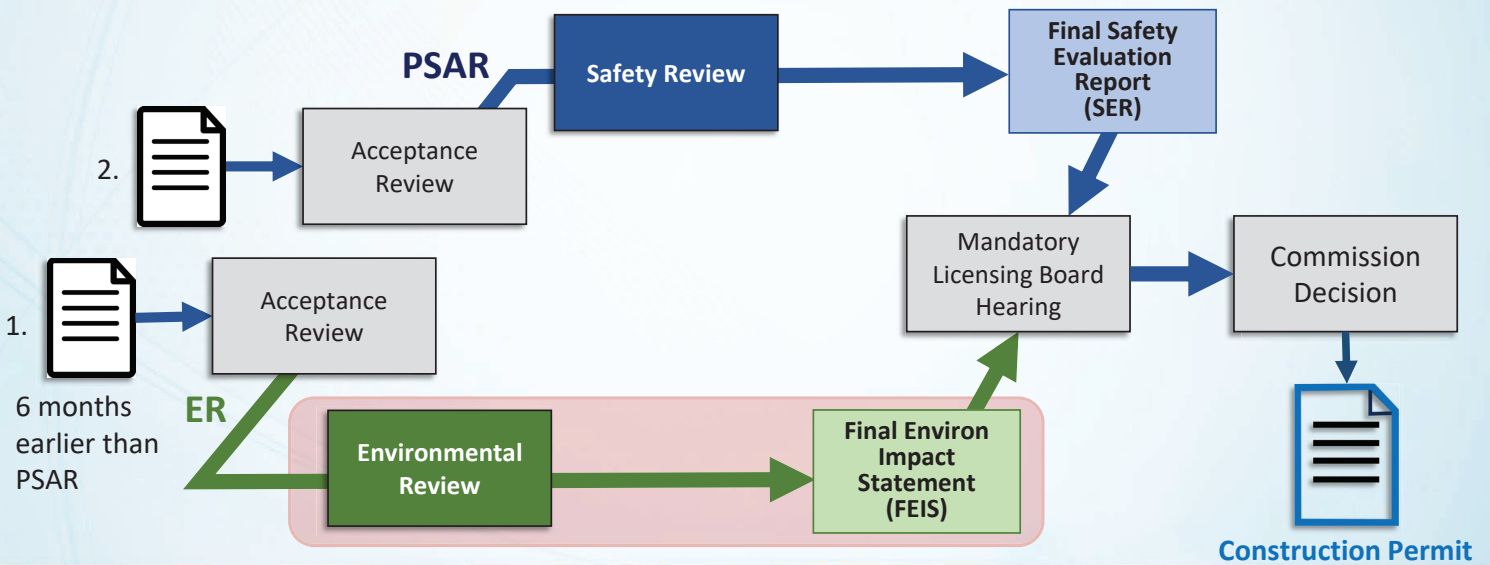
(5) An applicant for a construction permit under part 50 of this chapter...for a...utilization facility...may submit the information required of applicants by part 50...of this chapter in two parts.

One part shall be accompanied by the information required by **§ 50.30(f)** of this chapter...

The other part shall include any information required by § 50.34(a) and, if applicable, § 50.34a of this chapter...

One part may precede or follow other parts by no longer than 6 months...

NRC Construction Permit Review Process under 10 CFR 2.101(a)(5)



2. Pursue 10 CFR 2.101(a)(5) process

Allows for submission of environmental report and an earlier start time on environmental review.

PROs

- Gains 6 months on start of ER review over that of PSAR

CONs

- Won't help if a record of decision is required.
- 6 months still may not provide for the best timetable

10 CFR 2.101(a-1) *Subpart F Process*

NUREG-BR-0073, Project Manager's Handbook

2.1.2 Early Site Review

In an early site review (ESR), **any aspect of the suitability of a site for a nuclear power plant may be reviewed** before the design of the plant is submitted.

This review allows utilities, State and other government agencies, and others to request that the NRC consider an issue or set of issues to (1) determine the suitability of the site with respect to one or more of the issues...

10 CFR 2.101(a-1)

(a-1) Early consideration of site suitability issues.

An applicant for a construction permit under part 50 of this chapter...may request that the Commission conduct an early review and hearing and render an early partial decision in accordance with subpart F of this part on issues of site suitability within the purview of the applicable provisions of parts 50, 51...of this chapter.

(1) Construction permit.

The applicant...may submit the information...in three parts:

Construction Permit Application

Part 1 2.101(a-1)(1)(i)

1. Site safety issues which relate to the request for early review
2. Environmental issues which relate to the request for early review
3. Applicant information and type of license being requested
4. Agreement on limiting access to classified information

Part 2 2.101(a-1)(1)(ii)

1. Remaining environmental report content
2. Financial qualifications, analysis for plume exposure EPZ, completion of construction date, regulatory agencies having jurisdiction over rates of electricity, list of trade and news publications in area
3. Remaining description and safety assessment of the site and remaining safety assessment of the facility

Part 3 2.101(a-1)(1)(iii)

1. A description of the preliminary design of equipment to be installed to maintain control over radioactive effluents (gas/liquid) produced during normal ops, including expected operational occurrences, with estimate of quantity of radionuclides released
2. Remaining PSAR content

3. Pursue 10 CFR 2.101(a-1) Subpart F Process

Obtain early review of environmental report including mandatory hearing.

PROs

- Could resolve environmental review concerns for other agencies with early decision (Hearing Complete)

CONs

- Rarely used process.
- Multiple hearings and commission reviews

EFSEC & DOE Perform Independent Environmental Review

4. EFSEC & DOE Perform Env Review Separate from NRC

EFSEC and DOE-RL would initiate independent or joint reviews that depend on their resources to complete.

PROs

- SCA and Lease Amendment would not be dependent on NRC review process to be completed and could start before NRC CPA review

CONs

- Reluctance by EFSEC and DOE to move forward without NRC
- Not currently planned for, unanticipated resource challenges
- Increased probability that time to get through environmental reviews will take longer

Obtain Regulatory Exemption

5. Obtain Regulatory Exemption?

1. Pursue exemption to 10 CFR 2.101(a)(5) to extend 6 months to 1 year or longer.
2. Pursue exemption to 10 CFR 51.20(a)(2) to allow an Env Assessment as opposed to an Env Impact Statement

PROs

- Could support earlier completion of environmental reviews.

CONs

1. Won't help if a record of decision is required
2. Time to obtain approval for exemption request may result in longer review times

Recommended Approach: TBD

Final decision pending further discussions with NRC, DOE-RL, DOE-LPO, and EFSEC on what is needed to meet environmental review requirements.