

List of Lessons-Learned for Environmental Review of ESPs

Pre-application Guidance

- Early engagement before application - ESP applicants should engage the NRC at the earliest opportunity that business plans permit to ensure that plans can be made to provide resources for the review. Additionally, pre-application discussions are essential to ensure that (1) the scope and duration of monitoring programs to establish site characteristics are likely to meet regulatory expectations and (2) the approach for identifying alternative sites is reasonable.
- Understand the decision standards - The ESP applicant's team members should be particularly familiar with the environmental decision standards (environmentally preferable, obviously superior) that the staff will use to compare the proposed site to the alternatives. Interactions during the environmental review, such as during an environmental site audit, are most effective with counterparts who are knowledgeable about the issues and the process.
- Data and analyses must support the necessary conclusions - The necessary depth of analysis varies depending on the site-specific environmental setting and environmental resources that may be impacted, but analyses must support the necessary conclusions. Early discussions between the applicant and the staff can help ensure that the data and analyses in the application will adequately support the staff's evaluation.

Content of Submittal Guidance

- Justify applicability of existing information - ESP applicants for sites already in use should consider the wealth of siting information already available and alternative sites that have been considered by the NRC and its predecessor. Nevertheless, the applicability and utility of such information must be established by the applicant for the proposed action.
- Clearly document assumptions and mitigation measures - At the COL stage, the applicant must demonstrate that the design selected is bounded by the evaluation performed at the ESP stage to preserve issue resolution. As part of its COL EIS review, the staff will evaluate and determine whether the design is bounded by the evaluation performed in the ESP EIS. Therefore, the ESP will include a list of assumptions and mitigation strategies relied upon in reaching the conclusion.
- Include commitments related to permits for pre-construction activities - If the ESP applicant plans to seek authorization to conduct site preparation and limited construction activities under 10 CFR 52.25, then it should consult with the State and with other Federal agencies to determine which permits are required before activities can be performed. Once authorized as part of an ESP, there will be no additional NRC action before a COL application; consequently, a license commitment (which will be converted to a license condition) should be provided in the ESP application.
- Other-than-light-water reactors add challenges that must be addressed - Certain analyses, such as the impacts of the uranium fuel cycle and transportation of spent fuel

and high-level waste have the benefit of generic treatments; see Tables S-3 and S-4. Since certain reactor types do not meet the entry conditions for use of the generic treatments, interest in other-than-light-water reactors places additional burdens on the ESP or COL applicants to consider and defend such individual and cumulative impacts within the ESP or COL application.

External Interfaces Guidance

- Reconcile concerns of State and other Federal agencies early - The ESP applicant should engage other governmental agencies (e.g., State and other Federal permitting agencies) prior to submitting the ESP application to the NRC to discuss and reconcile, if possible, siting issues of particular concern (e.g., water use, transmission line corridor issues).
- Resolve issues related to CZMA and 401 certifications early - A Coastal Zone Management Act certification, if applicable, and a Federal Water Pollution Control Act (Clean Water Act) Section 401 certification are required before the ESP permit can be issued. The ESP applicant should take the necessary steps to obtain certifications early in the application process. If the proposed project is modified during the review process to address, for example, a State concern related to one of these certifications, then it could have an adverse impact on the review schedule.

Ongoing Issues Guidance

- Flag conforming changes between the safety and environmental areas - Effective communication is essential between the safety and environmental sides of the review. This applies to both the NRC and the Applicant. The safety and environmental reviews overlap in a number of areas; consequently, a change to the ESP application in response to an environmental RAI can impact the safety side and vice versa.
- Late changes could require re-circulation of the draft EIS - The NRC discloses the environmental impacts of the project to the public and other Federal and State Agencies in a draft EIS. If the application is modified materially after the draft EIS is issued, then the NRC may have to re-circulate a *new* draft EIS; this will have an adverse impact on the review schedule.
- Minimize differences between the ESP and COL designs - The value of the ESP is tied to the early resolution of siting issues and its potential use in a COL. The closer that the design selected at the COL stage is to the surrogate design(s) evaluated during the ESP stage, the more issues will remain resolved at the COL stage; this enhances the effectiveness of the Part 52 licensing process. Use of a plant parameter envelope defers the final resolution of certain design-specific issues to the COL stage.