

Structure and Timelines

Extended Storage and Transportation Regulatory Program

The Extended Storage and Transportation (EST) Regulatory Program encompasses the EST Safety and Security Project and the Long-Term Waste Confidence (WC) Update Project. Figure 1-1 depicts the general structure of the EST Regulatory Program. The timelines for each project represent staff's current understanding of the work scope and available resources.

EST Safety and Security Project

This Project is principally focused on identifying and analyzing the technical and regulatory information needed to ensure effective regulation of EST. The staff is examining technical areas associated with multiple renewals of fixed-term, dry storage licenses and certificates to address age-related degradation of dry cask storage systems, structures, and components. The staff will begin work on security issues after the current independent spent fuel storage installation security rulemaking is completed. The key timeframes for the EST Safety and Security Project are as follows:

- Identification of Technical Information Needs Associated with Extended Storage and Transportation (2011-2015)

The initial phase of this Project involves identification and prioritization of technical information needs. In May 2012, the staff issued for public comment its draft report, "Identification and Prioritization of Technical Information Needs Affecting Potential Regulation of Extended Storage and Transportation of Spent Nuclear Fuel." The staff has initiated work in some key high-priority areas, including the potential for stress corrosion cracking of stainless steel in marine environments, the effects of residual moisture after drying, and the need to develop improved thermal models of dry storage systems. The staff is developing a research plan to address the technical information needs in coordination with planned work by the U.S. Department of Energy, industry, participants in the Electric Power Research Institute's Extended Storage Collaboration Program, international groups, and other stakeholders. This area is closely coordinated with parallel staff activity on process improvements for the existing licensing process for spent nuclear fuel (SNF) storage and transportation, and with the impact analyses for the WC environmental impact statement (EIS). In 2012 and 2013, the staff will examine the potential impact of the technical investigations on both the plans for the WC EIS and the current regulatory framework for storage and transportation.

- Identification of Regulatory and Potential Policy Issues Associated with Extended Storage and Transportation (2012-2016)

This phase will identify the regulatory and potential policy issues that may affect the existing regulatory framework to address issues associated with multiple license renewals. This effort will entail a systematic examination of the existing regulations and guidance. The staff began planning this work in 2012. Because the significance of technical information needs depends on the potential regulatory impact, the staff expects that this task will inform the prioritization and timing of the research to resolve technical information needs. Likewise, the timeframe for resolution of the technical needs will affect the schedule for completing the

identification of regulatory and potential policy issues. The staff will engage the Commission as needed when issues are ready for Commission consideration.

- Revisions to Regulatory Framework (2014-2018)

In this phase, the staff will complete supporting documentation and prepare the necessary changes to guidance and, if needed, regulations. Presently, the staff believes that the current regulatory framework used to renew current licenses (i.e., first renewal) provides a basic framework to regulate the management of SNF and high-level waste for multiple renewal periods. As technical, regulatory, and policy issues are resolved, the staff will revise guidance and staff qualification and training accordingly. The current planned time frame for this phase assumes that potential changes to regulations supporting EST will be relatively limited. If a major rulemaking is deemed necessary, the staff will extend the time frame for this phase. This phase also includes completion of deferred work, including security assessments for EST, review of financial assurance for extended storage, development of domestic codes and standards, and identification of state-of-the-art technology incentives and possible risk-informed enhancements to 10 CFR Part 72, "Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater Than Class C Waste." The planned time frame also assumes that the staff will begin its review of potential changes to security for EST no later than FY 2015, and that a major rulemaking will not be needed in this area.

Long-Term WC Update Project

This Project focuses on the development of an EIS and a potential change to the WC decision and rule. The NRC staff explained its current plan for the EIS in a draft report published for public comment in December 2011, entitled "Background and Preliminary Assumptions for an Environmental Impact Statement – Long-Term Waste Confidence Update."

The proposed WC EIS differs in several ways from other NRC EISs and comparable EISs prepared by other agencies. These differences contribute to the challenge of communicating to stakeholders about the complexity of the possible long-term update and its relationship to both the National Environmental Policy Act (NEPA) process and NRC's regulation of SNF storage. In particular, the proposed EIS is not directly connected to any NRC licensing action or other regulatory oversight action. However, to develop an evaluation of impacts associated with longer-term storage of SNF that would begin in the future (mid-century) and continue for about 200 years, the staff must make assumptions for that time period about the regulatory environment and technical aspects of SNF storage and transportation. As described in SECY-11-0029 and in the staff's draft report on the long-term WC update, the staff is proposing to construct a set of scenarios to assess the impacts of SNF and high-level waste storage and transportation. These scenarios are not alternatives to, or proposals for, any specific NRC action, but simply represent a range of possible future conditions for consideration in the EIS. Finally, based on the EIS and other factors, the Commission may decide to update the WC rule or, alternatively, conclude that no changes to the current WC rule are needed.¹

¹ The validity of the current rule is being challenged in the United States Court of Appeals for the District of Columbia Circuit.

The staff will engage the Commission as needed on this Project as issues arise. The key time frames for the Project are as follows:

- Activities to Develop Preliminary EIS Scope (2011-2013)

The staff has begun and will continue its activities to develop and refine the proposed scope of the EIS. Activities completed during this phase include the development of the draft and final background and assumptions report mentioned above. In preparing for formal scoping under the NEPA, the staff will develop additional documents to describe in greater detail the staff's proposed scope and methodology for the EIS. These documents will be publicly available to facilitate the scoping process.

- Formal NEPA Scoping Process (2013-2014)

The formal NEPA process begins with publication of a *Federal Register* "Notice of Intent" to prepare the EIS. The staff expects to hold scoping meetings at multiple locations beginning no sooner than late 2013 and to develop a scoping summary report over the following year. In addition and as practicable, the staff will begin work on the EIS during the scoping process.

- Develop and Publish Draft EIS, Draft Decision, and Proposed Rule (2014-2017)

Staff efforts during this period include development of the draft EIS, possible draft WC decision, and a possible proposed rule to reflect any substantive changes in the decision. If a rulemaking is warranted for this update, the process to develop the proposed rule would take place in parallel with development of the draft EIS. The substance of the draft WC decision, as well as the specific language of a proposed rule, if needed, will not be determined until the staff has developed the draft EIS sufficiently to understand the range of potential impacts. For a final EIS to be completed in 2019, the staff anticipates that a draft EIS, draft WC decision, and proposed rule would have to be published for public comment no later than 2017.

- Develop and Publish Final EIS, Final Decision, and Final Rule (2018-2019)

The staff expects that most of the effort to develop the final EIS will be in reviewing, consolidating, and responding to public comments on the draft documents. The staff will publish the final EIS and, if applicable, the final WC decision and rule, in 2019. If the EST research being conducted in parallel develops information that could change one or more EIS conclusions, then the staff would develop a supplemental EIS.

Figure 1-1: Extended Storage and Transportation Regulatory Program

