

U.S. Licensing Xe-100 Pre-application Engagements 2026

The purpose of this enclosure is to provide an easily maintained list of on-going and planned pre-application engagement activities through the calendar year 2026 for use by X-energy and the NRC staff specific to the Xe-100 docket 99902071. Under the participants’ involvement in the Department of Energy’s Advanced Reactor Demonstration Program (ARDP) award, this docket was established to manage X-energy licensing and permitting activities associated with a four reactor module Xe-100 plant.

X-energy’s assigned licensing project manager will ensure this table is referenced during routine engagements and revised when necessary to accurately reflect readiness for the engagement and milestones and other resource/schedule impacts. The planned activities are listed in Table 1.

Table 1: Planned Licensing and Regulatory Submittals

Report Type¹/Topic	Target Submission Period²	Objective
LTR: Graphite Structural Analysis and Material Qualification and Modelling, Rev 3	[[]] ^P	The purpose of this pre-engagement is to provide X-energy's technical basis and approach for resolving some of the Conditions from Rev 2 of the LTR as well as providing updates to the remaining Conditions.
LTR: TRISO-X Fuel Qualification Methodology, Rev 4	[[]] ^P [[]] ^P	Provide the NRC staff with updated testing plans for TRISO fuel qualification and a revision to the structure of the LTR.
LTR: Staff Qualification, Rev 1	[[]] ^P [[]] ^P	The purpose of this LTR is to provide X-energy’s alternative methodology to qualification and experience requirements for the Xe-100 main control room operators and assess the proposed methodology for the remaining plant staff to align with ANSI and Regulatory Guides standards.

¹ Licensing topical report (LTR) and White paper (WP)

² Specific dates/times will be coordinated with the NRC Project Manager



Report Type ¹ /Topic	Target Submission Period ²	Objective
LTR: Principal Design Criteria, Rev 4	[[]]]] ^P	The purpose of this LTR is to provide an update to X-energy's Principal Design Criteria.
LTR: Generally Licensed Reactor Operator and Self-Reliant-Mitigation Facility, Rev 1	[[]]]] ^P	The purpose of this LTR is to establish that the design and operation of the Xe-100 supports the classification of this reactor as a self-reliant mitigation facility and the use of generally licensed reactor operators.
WP: Fire Protection Program Approach	[[]]]] ^P	The purpose of this White Paper is to present X-energy's approach to developing the Xe-100 Fire Protection Program to meet 10 CFR 50.48 and PDC 3, including alternate fire brigade staffing levels and other possible deviations from the guidance in RG 1.189.
LTR: Human Factors Engineering (HFE) Methodology, Rev 1	[[]]]] ^P	The purpose of this HFE LTR is to describe the methodologies and practices X-energy is using to develop the 12 elements of the HFE Program in accordance with NUREG-0711.

