

Operator Licensing Flexibilities: X-energy-Specific Topics (CLOSED SESSION)

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The following presentation contains ~~PROPRIETARY~~ material.

Background

- [[]]
- X-energy also expressed plans to license Xe-100 under 10 CFR Part 50
- As 10 CFR Part 50 facilities are subject to the operator licensing requirements of 10 CFR Part 55, [[]]
- The NRC staff had a prior meeting with X-energy to discuss this topic (ML23159A020)
- The NRC staff intend to use this current meeting to further discuss considerations associated with this topic

Regulatory Framework Considerations

- GLROs are included in the draft, proposed 10 CFR Part 53 rulemaking that is before the Commission for consideration; this proposed rule remains subject to change
 - GLROs would be licensed under a general license; this license must be written into regulations
 - GLROs comprise part of a broader regulatory framework within Part 53
- Rulemaking would be required to establish comparable general license provisions in the regulations to enable GLROs for Part 50 and 52 applicants
 - Rulemaking options could include engaging the staff to develop a rule of particular applicability
 - There are no current plans to incorporate GLROs in Parts 50/52/55 generically
- Implementing GLROs outside of the proposed Part 53 framework would create misalignment with staffing and human factors engineering requirements
 - All benefits of “self-reliant-mitigation” facility designation would not be realized
 - Recreating full scope of framework would require significant rulemaking

Exemption Considerations

- Another near-term approach may be to use exemptions from certain Part 55 Senior Reactor Operator (SRO) licensing-related regulations to create a modified SRO program
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 - Conceptually, the end result could potentially more closely resemble a non-power reactor SRO licensing process, versus that of a power reactor operator licensing process.
 - Draft DRO-ISG-2023-01, “Operator Licensing Programs,” (currently under review by the Commission as part of the proposed Part 53 rulemaking) was designed to inform the staff review of such Part 50, Part 52, and Part 55 exemption requests by non-LWR facility applicants under Parts 50 & 52

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License Condition Considerations

- As noted, a modified SRO program [[]]
- Non-power reactors are required to be staffed by SROs under Part 55, but use a process that differs substantially from that of power reactors
- In general, non-power reactor operator license training programs are significantly shorter than those of power reactors and require less infrastructure
- **An applicant could potentially demonstrate** that technological and safety attributes of a design could support a scaled approach to operator licensing (e.g., an approach similar to non-power reactor operator licensing)
- **Provided that an adequate technical basis was provided**, a facility license condition could then be incorporated in order to implement an approach similar to a non-power reactor operator licensing process as an alternative to a power reactor operator licensing process

Questions?