

At-Risk Construction

Fuel Facilities Construction Oversight Workshop – August 15, 2023

At-Risk Construction

- Construction (10 CFR 70.4):
 - "...installation of foundations, or in-place assembly, erection, fabrication, or testing for any structure, system, or component of a facility or activity subject to the regulations in [Part 70] that are related to radiological safety or security."
- Commencement of construction (10 CFR 70.4):
 - "Commencement of construction means taking any action defined as 'construction' or any other activity at the site of a facility subject to the regulations in this part that has a reasonable nexus to: (1) Radiological health and safety; or (2) Common defense and security."
- At-Risk Construction:
 - Commencement of Construction (as defined by 70.4), prior to the Director of the Office of Nuclear Material Safety and Safeguards (or his/her designee) making a 10 CFR 70.23(a)(7) determination

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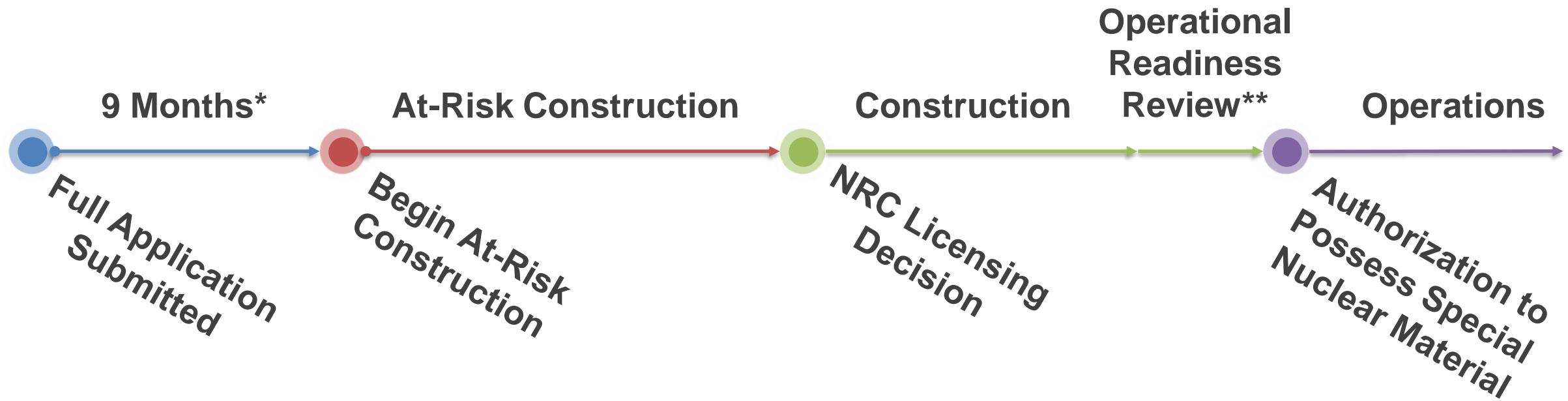
- 10 CFR 70.23(a)(7)* determination:
 - Where the proposed activity is processing and fuel fabrication, scrap recovery, conversion of uranium hexafluoride, uranium enrichment facility construction and operation, or any other activity which the NRC determines will significantly affect the quality of the environment, the Director of Nuclear Material Safety and Safeguards (NMSS) or his/her designee, **before commencement of construction of the plant or facility** in which the activity will be conducted, on the basis of information filed and evaluations made pursuant to subpart A of part 51 of this chapter, has concluded, after weighing the environmental, economic, technical, and other benefits against environmental costs and considering available alternatives, that the action called for is the issuance of the proposed license, with any appropriate conditions to protect environmental values. **Commencement of construction prior to this conclusion is grounds for denial to possess and use special nuclear material in the plant or facility.** Commencement of construction as defined in section 70.4 may include non-construction activities if the activity has a reasonable nexus to radiological safety and security.

*10 CFR 70.23(a)(7) applies to applicants and licensees (Under 10 CFR 70.35, 10 CFR 70.23(a)(7) applies to license renewal and/or amendment)

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- NRC has the authority to inspect at-risk construction activities
- Inspections are intended to verify that the applicant or licensee is constructing in accordance with the proposed design with a priority given to work that the staff can only verify during construction
 - Inspections do not constitute an approval of the design or the application
- Areas of inspection could include structural concrete, structural steel, structural welding, piping systems, electrical components and systems, mechanical components and systems, fire protection systems, confinement systems, implementation of management measures, etc.
- Findings/violations will be resolved prior to the authorization to possess SNM

When is At-Risk Construction?



*Amendments do not require the 9-month wait prior to At-Risk Construction required for a new or renewed license application under 10 CFR 70.21(f)

**Some previous licensing actions for fuel facilities have included a condition requiring the completion of an operational readiness review prior to commencement of operations

At-Risk Construction Impacts



At-risk construction is grounds for denial of the application - 10 CFR 70.23(a)(7)

- Practically, the regulatory decision is based on the NRC staff's ability to make the findings required under 10 CFR 70.23, "Requirements for approval of applications"



NRC Encourages Coordination for At-risk Construction:

- Share an at-risk construction schedule with the NRC early
- Notify the NRC of significant at-risk construction activities

Examples of Risks and Mitigations for At-Risk Construction

Potential Impacts



Design changes



Construction rework



Project delays



Additional oversight activities



Understand potential environmental impacts and consider mitigation activities early

Strategies for Mitigations



Ensure adequate progress on the review



Inform NRC staff of design changes



Identify issues early through inspections and consider additional analysis



Document and track issues to resolution

Options for Applicants and Licensees to Resolve At-Risk Construction Issues

Before the License Decision:

- Rework construction
 - Bring construction into compliance with the commitments
- Update the submittal with additional information
 - Conduct additional analysis
 - Revise or supplement the submittal

After the License Decision:

- Rework construction
 - Bring construction into compliance with the commitments
- Evaluate revisions under 10 CFR 70.72 and submit an amendment, if needed

Questions?
