U.S. DEPARTMENT OF ENERGY

Nuclear Energy

NRC-DOE Workshop on Advanced non-LWRs

DOE Roles & Responsibilities: Reactor Authorization

Office of Nuclear Energy

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Reactor Review and Authorization

- **The Atomic Energy Commission (AEC) was authorized under the Atomic Energy Act of 1954, as amended, to regulate activities conducted on its behalf and to license activities of "persons"**
  - "Persons" required to obtain a license from the AEC
    - Included individuals, corporations, firms, public institutions, etc.
    - Excluded the AEC
- **The Energy Reorganization Act (1974) split the duties and authorities of AEC, establishing the roles of NRC and DOE**
- **Today's earlier presentation summarized NRC's authority to license various kinds of facilities:**
  - Research and test reactors
  - Commercial reactors, including prototypes
- **DOE maintains its authority to regulate activities conducted on its behalf, except for certain specific facilities**

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DOE Facility Authorization

- **For a new DOE research or test reactor to be regulated by DOE and not NRC, it:**
  - Can't be operated for the purpose of demonstrating the suitability for commercial application of such a reactor
  - Can't be operated as part of the power generation facilities of an electric utility system

- **Example of a facility that DOE could authorize:**
  - A test reactor (irradiation machine) used to test advanced materials in a particular neutron spectrum environment
    - It's noted that if information or data from such a test reactor were intended to later support NRC licensing of a demonstration reactor, the necessary quality assurance (Appendix B compliant) program would need to be applied

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Challenges to a DOE Facility Authorization Path

Although statutory paths exist, pursuing DOE facility authorization in lieu of NRC licensing does not appear to be an efficient or desirable path:

- **Reactor facility types that are outside of NRC's jurisdiction, but of interest to reactor developers and external stakeholders, are limited**
  - Limited to research reactors that are not operated in any manner for the purpose of demonstrating the suitability for commercial application of such a reactor
- **DOE standards infrastructure for nuclear reactors is considerably limited and would need significant development and expansion to address the review of new reactors**
- **DOE does not currently have adequate numbers of knowledgeable or experienced technical staff to regulate a new nuclear reactor technology**
- **Reactor developers and other stakeholders would still be left with similar levels of NRC regulatory uncertainty, if NRC engagement is deferred to a future demonstration reactor licensing phase**