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Existing NRC Regulations, Policies, and Guidance for Licensing

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Topics For Discussion

- Licensing processes
  - 10 CFR Part 50
  - 10 CFR Part 52
- Key Commission policy statements
- Selected guidance documents

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10 CFR Part 50 Licensing

- Process used for all operating plants
- Last construction permit issued in 1978
- Regulations and infrastructure have not been consistently maintained for new reactor applications

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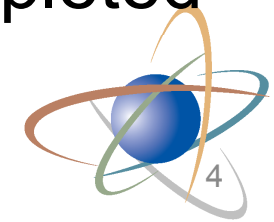
Housing Analogy

- Building permit for a house
  - Specifies location and general configuration
  - Confirms adequacy of the site
  - Confirms applicant is using appropriate codes
- Occupancy permit
  - Local authorities confirm construction in accordance with approved codes
  - Inspection of work-in-progress and completed house



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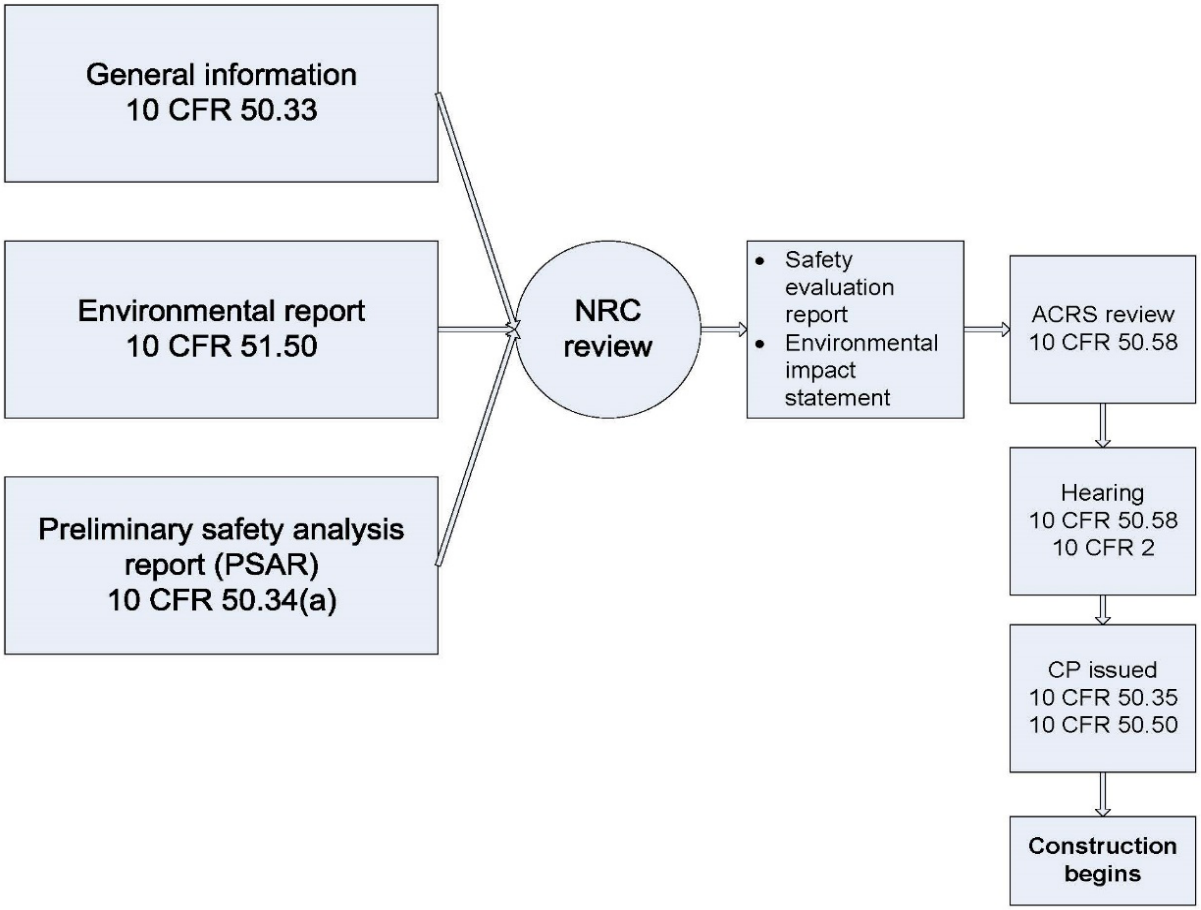
10 CFR Part 50 Construction Permit Process



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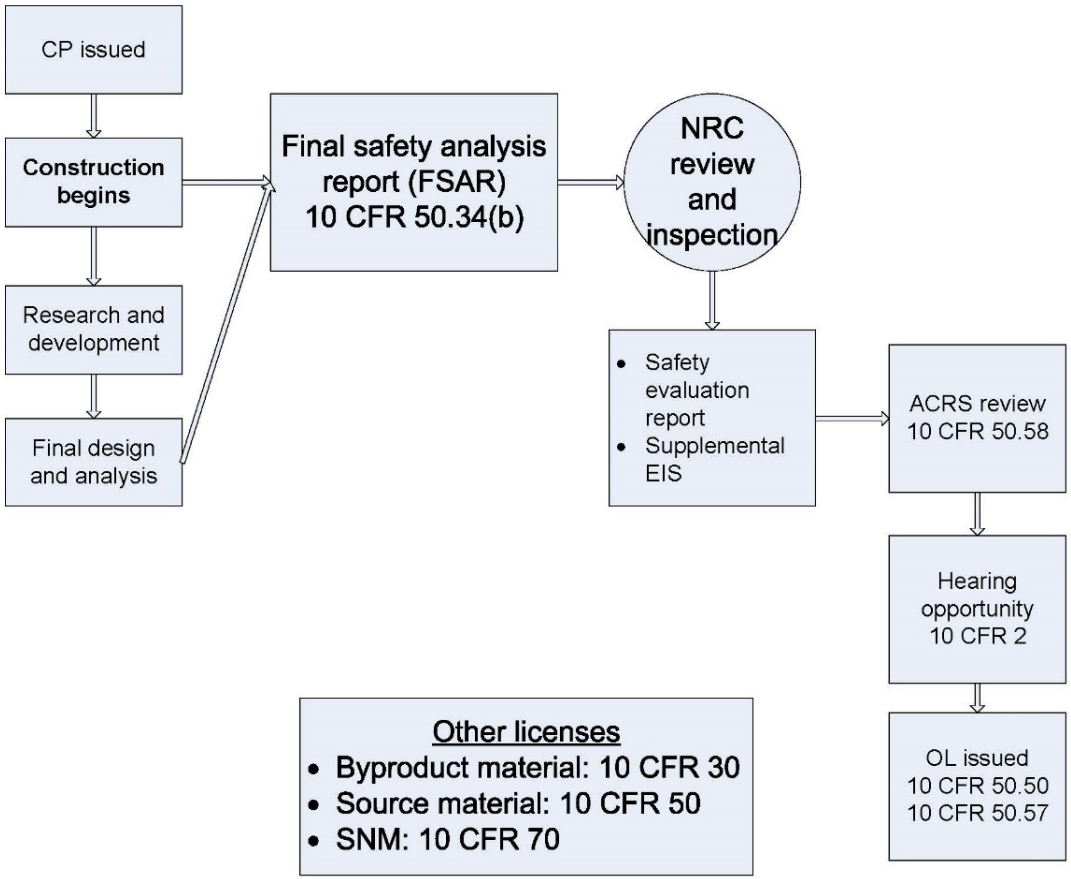
10 CFR Part 50 Operating License Process



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10 CFR Part 50

Advantages

- Start construction earlier
- Regulatory acceptance of preliminary design
- Flexibility in completing design and construction
- Backfit protection

Disadvantages

- Construction delays and rework due to design and regulatory changes
- Final safety decisions not made until plant is nearly complete and most costs expended
- Lack of finality in CP
- Public participation difficult

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10 CFR Part 52 Goals

- Increased standardization
- Decrease regulatory uncertainty
- Reduce financial uncertainty

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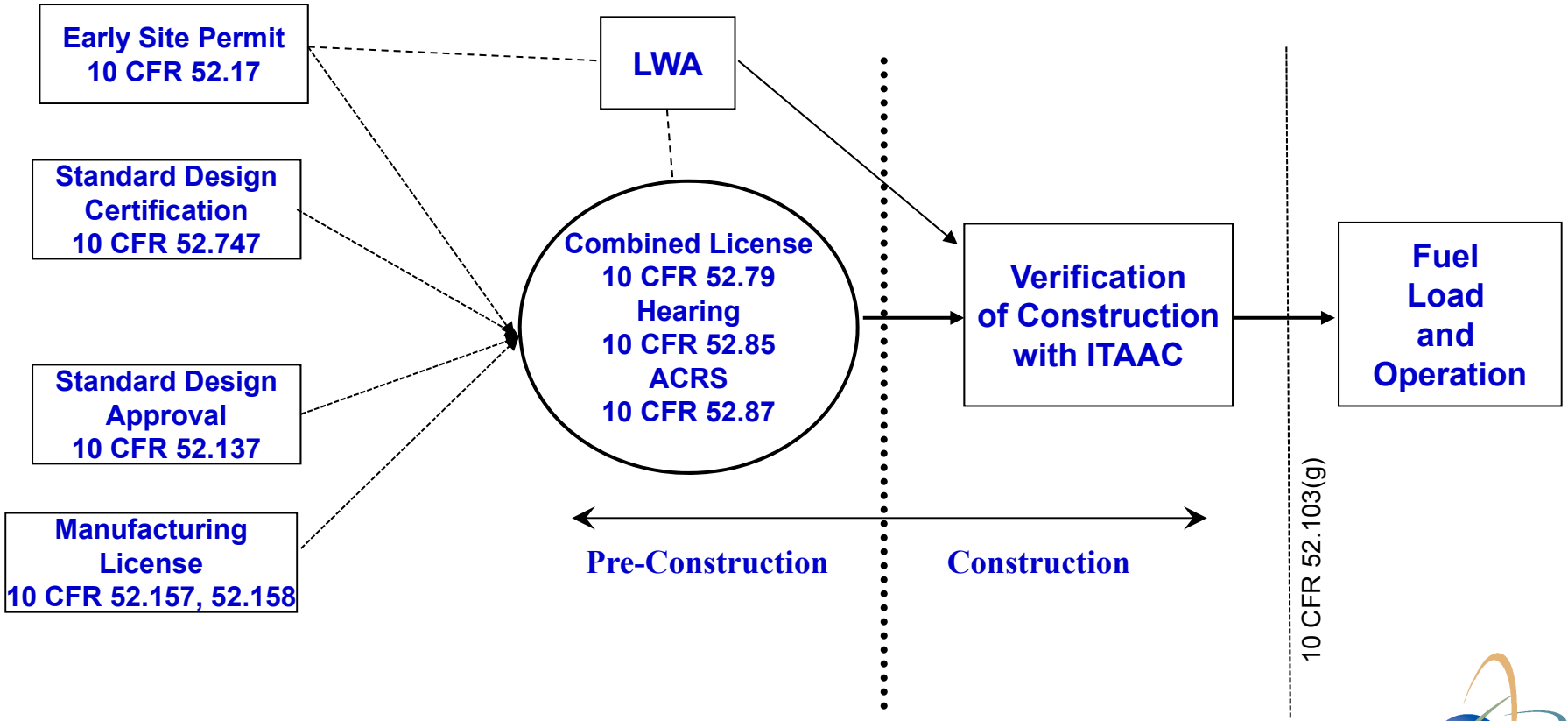
10 CFR Part 52 Licensing Process



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10 CFR Part 52

Advantages

- Reduced financial and regulatory uncertainty for licensees
- Increased standardization
- Multiple opportunities for public participation

Disadvantages

- Larger commitment of designer's resources before construction
- Less construction flexibility

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Differences Between Parts 50 and 52: SECY-15-002

- Commission asked to
  - Confirm advanced reactor policies apply to all new reactor applications
  - Authorize rulemaking to align requirements between Parts 50 and 52
- Described needed guidance updates
- Commission decision pending

Advanced Reactor Policy
73 FR 60612

- "…the Commission expects that advanced reactors will provide enhanced margins of safety and/or use simplified, inherent, passive, or other innovative means to accomplish their safety and security functions."

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Advanced Reactor Policy
73 FR 60612

- Encourage the earliest possible interaction of applicant, vendors, and government agencies with the NRC
- Provide all interested parties, including the public, with the Commission's views concerning the desired characteristics of advanced reactor designs
- Express the Commission's intention to issue timely comment on the implications of such designs for safety and the regulatory process

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Severe Accident Policy
50 FR 32138

- Compliance with regulations
- Resolve Unresolved Safety Issues and medium- and high-priority Generic Safety Issues
- Complete a PRA and consider the severe accident vulnerabilities revealed
- Design review approach stresses deterministic engineering analysis and judgment complemented by PRA

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Guidance Documents

- NUREG-0800, “Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition”
- Regulatory Guide 1.206, “Combined License Applications for Nuclear Power Plants (LWR Edition)”
- Regulatory Guide 1.70, “Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants (LWR Edition)”

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Summary

- Applicants
  - Have multiple options for licensing advanced nuclear plants
  - Need to determine which option works best for their situation
- Engage early to ensure understanding of
  - Technology
  - Planned regulatory approach