U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

New Reactor Licensing and Construction Oversight

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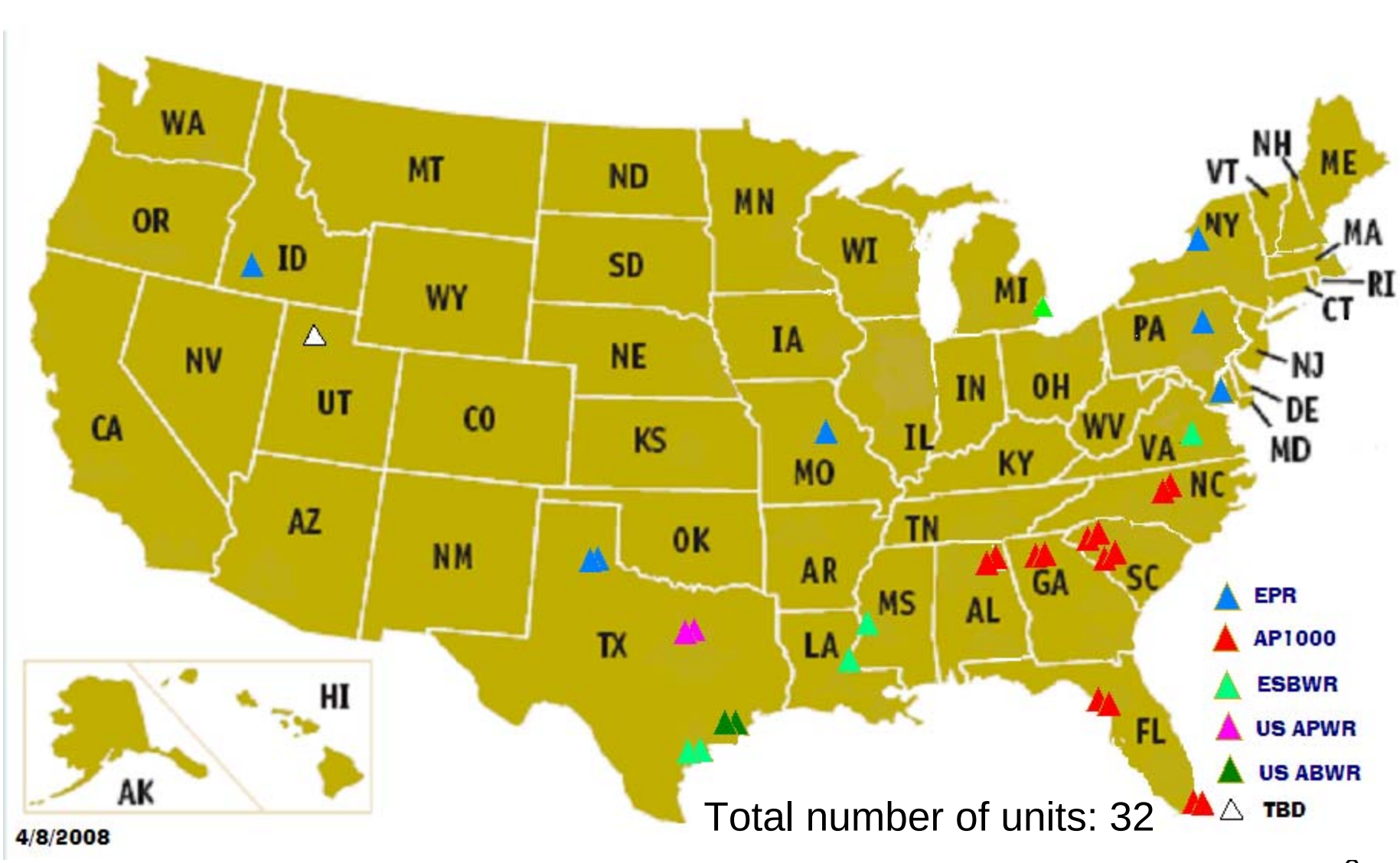
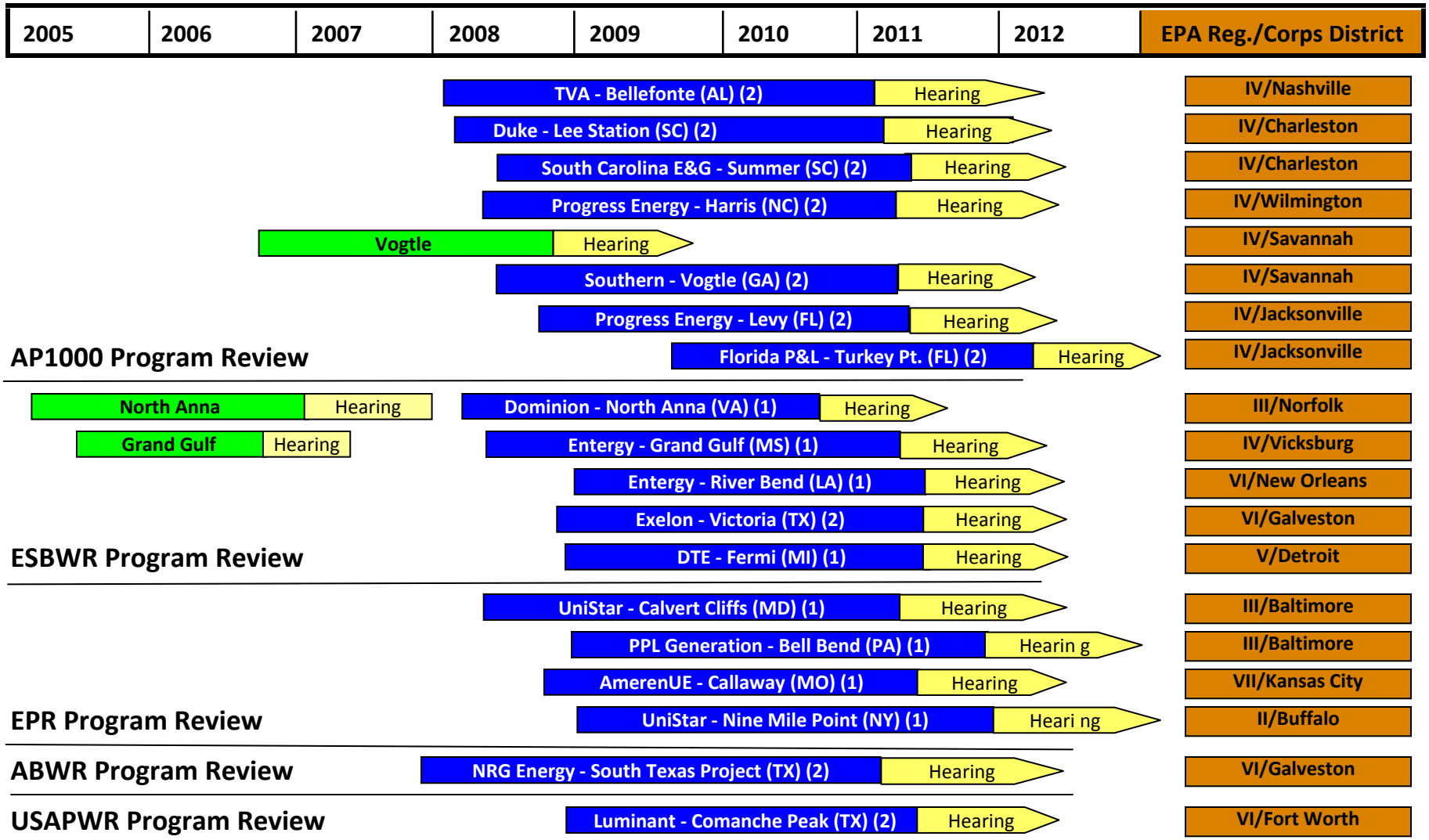
Deputy Director, Office of New Reactors
US NRC
August 18, 2009

New Reactor Applicants



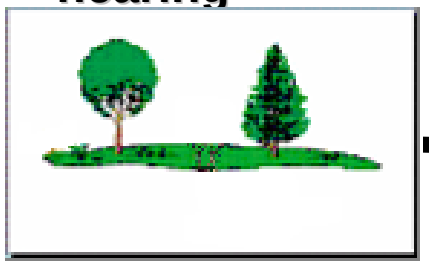
Total number of units: 32

Project Alignments



Combined License, Early Site Permits, and Design Certifications

Early Site Permits with Mandatory hearing



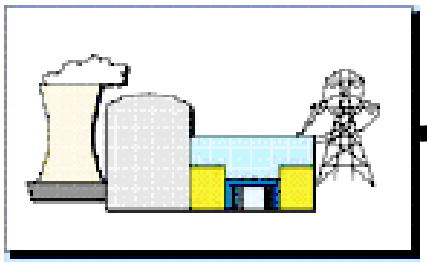
Combined License Review and Mandatory Hearing

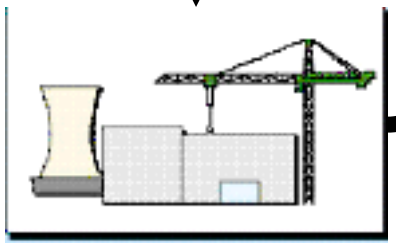
Verification of Inspection, Test, Analysis, and Acceptance Criteria

(optional hearing)

Design Certifications

(optional hearing)

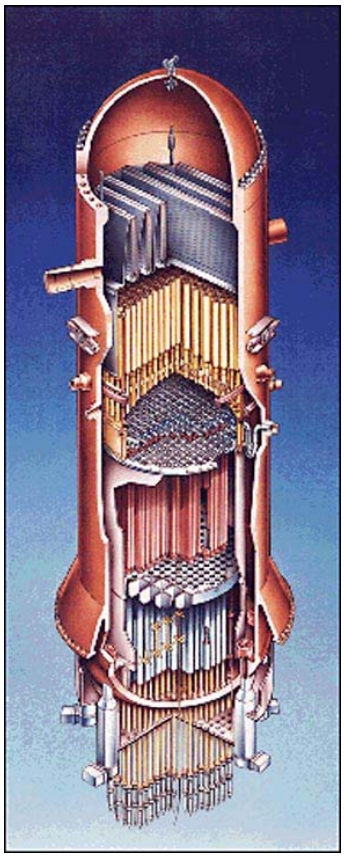




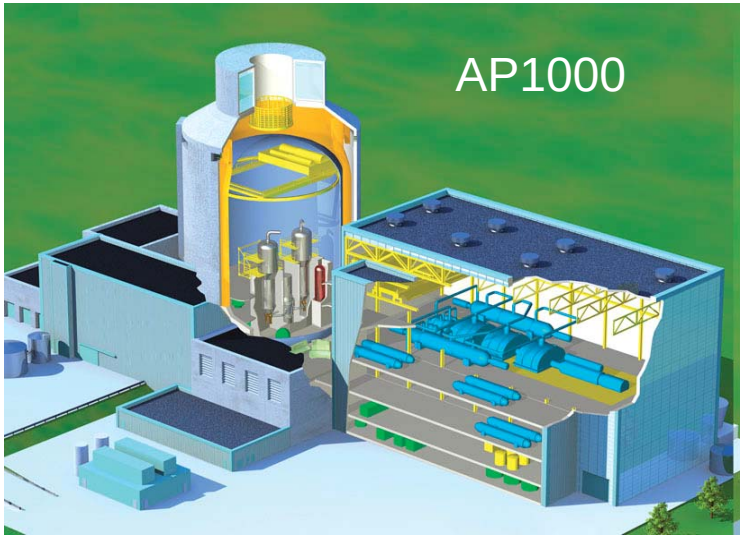
Reactor Construction

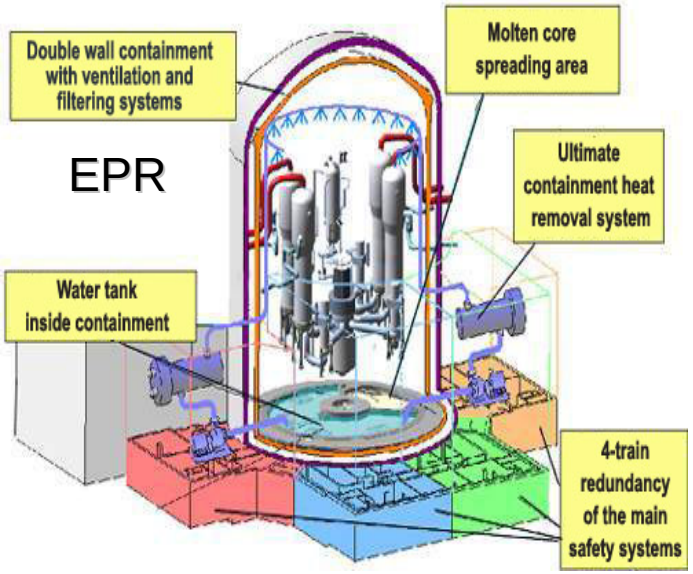
Reactor Operation

Design Certifications Approved or Under Review

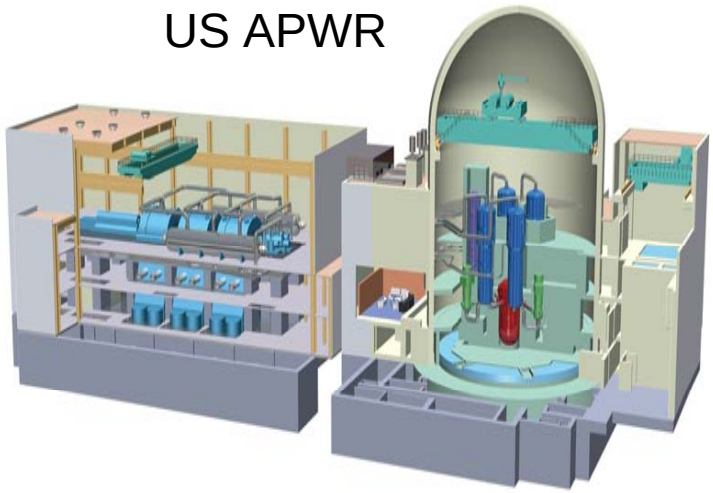


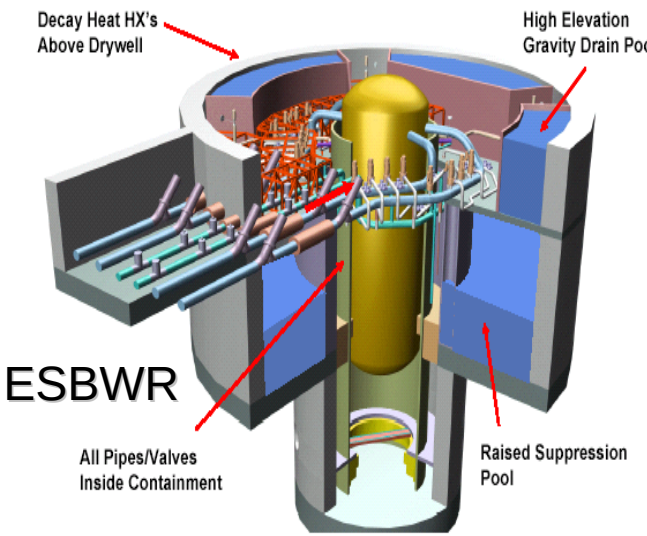
ABWR





US APWR





Early Site Permits

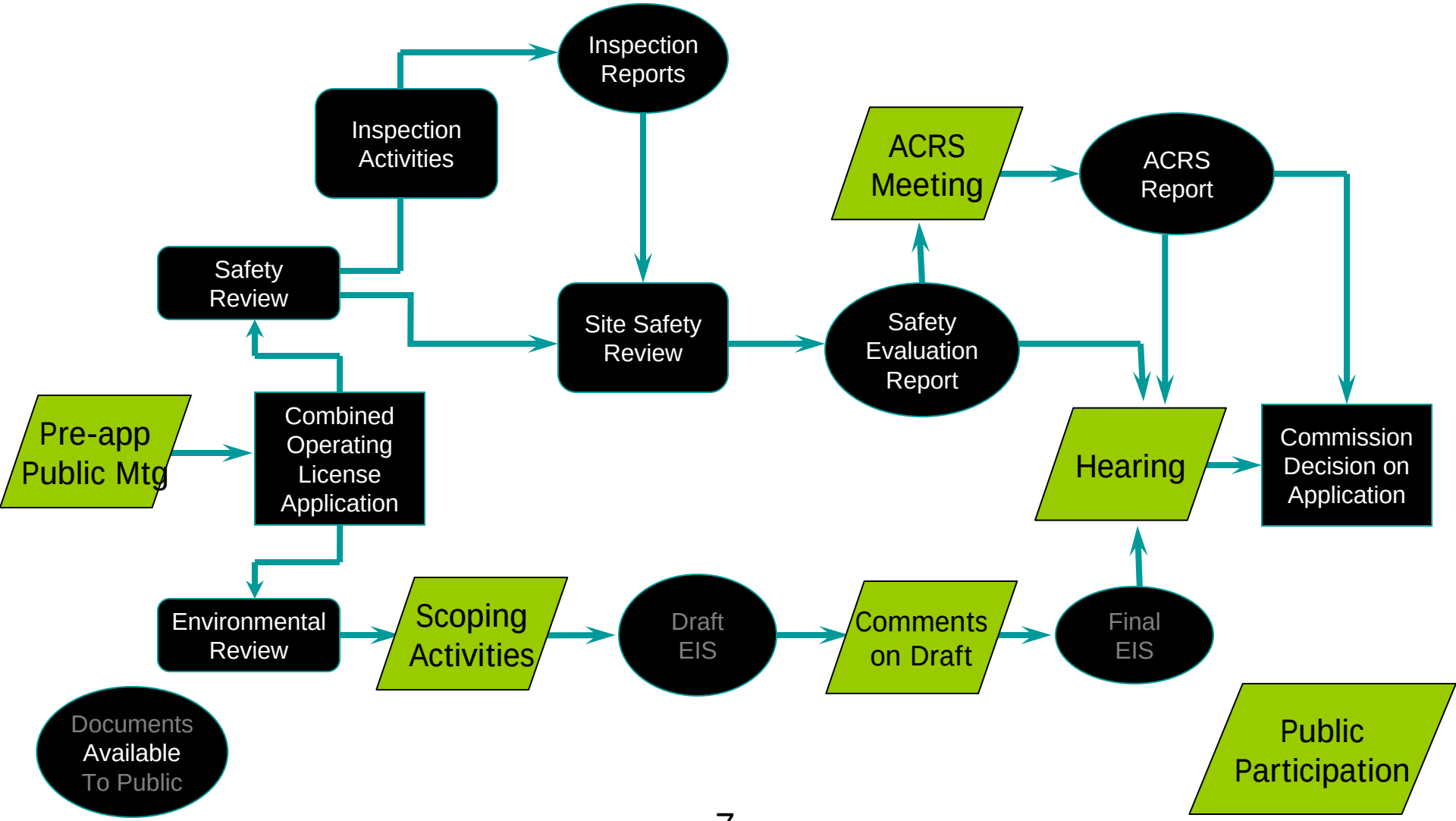
Issued ESPs:

- Clinton (IL)
- Grand Gulf (MS)
- North Anna (VA)

Under Review:

- Vogtle (GA)

Combined License Application Review Process – Public Participation



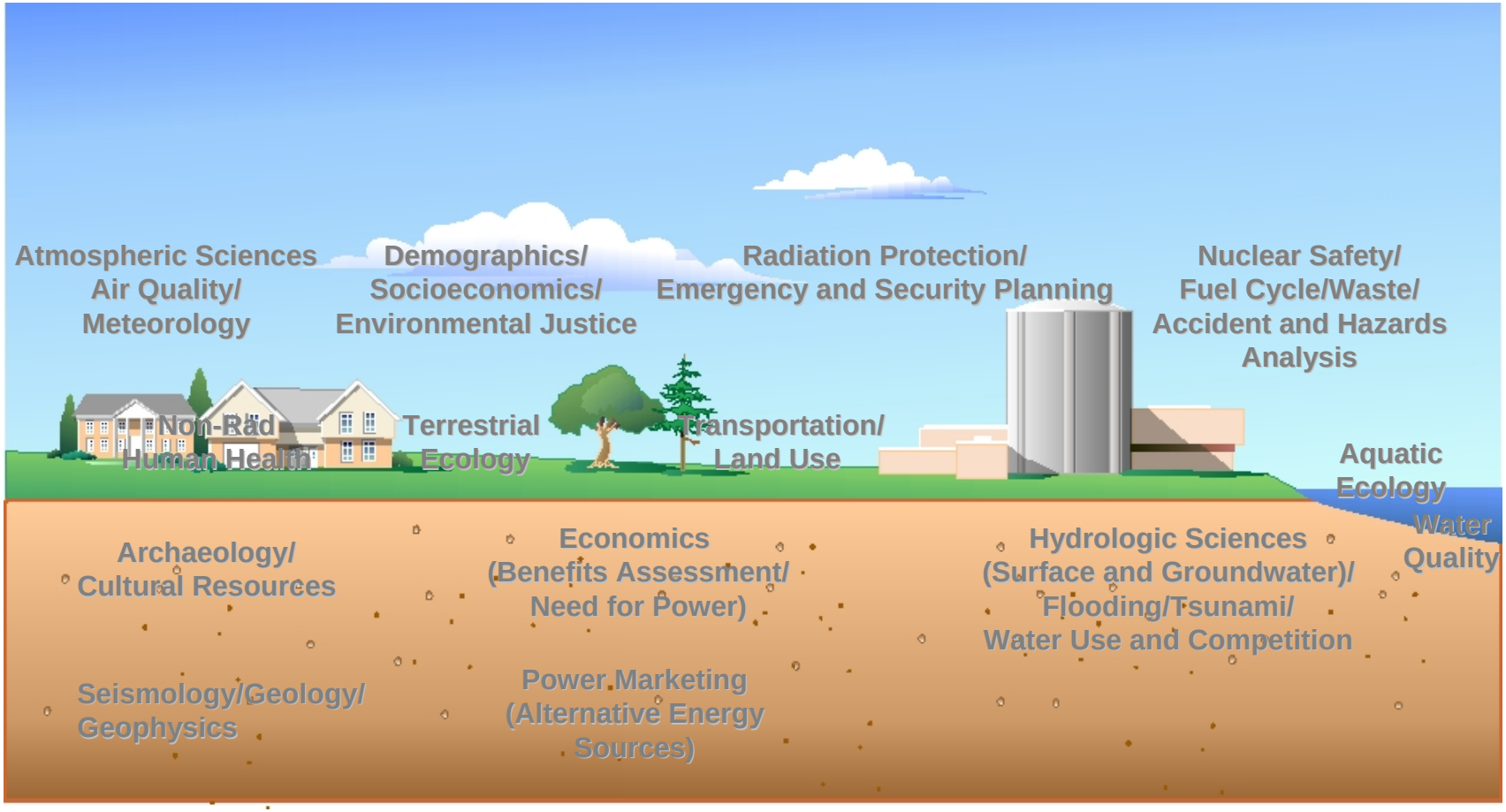
NRC's Siting Activites

From the NRC's Mission: To protect public health and safety, promote common defense and security, and protect the environment.

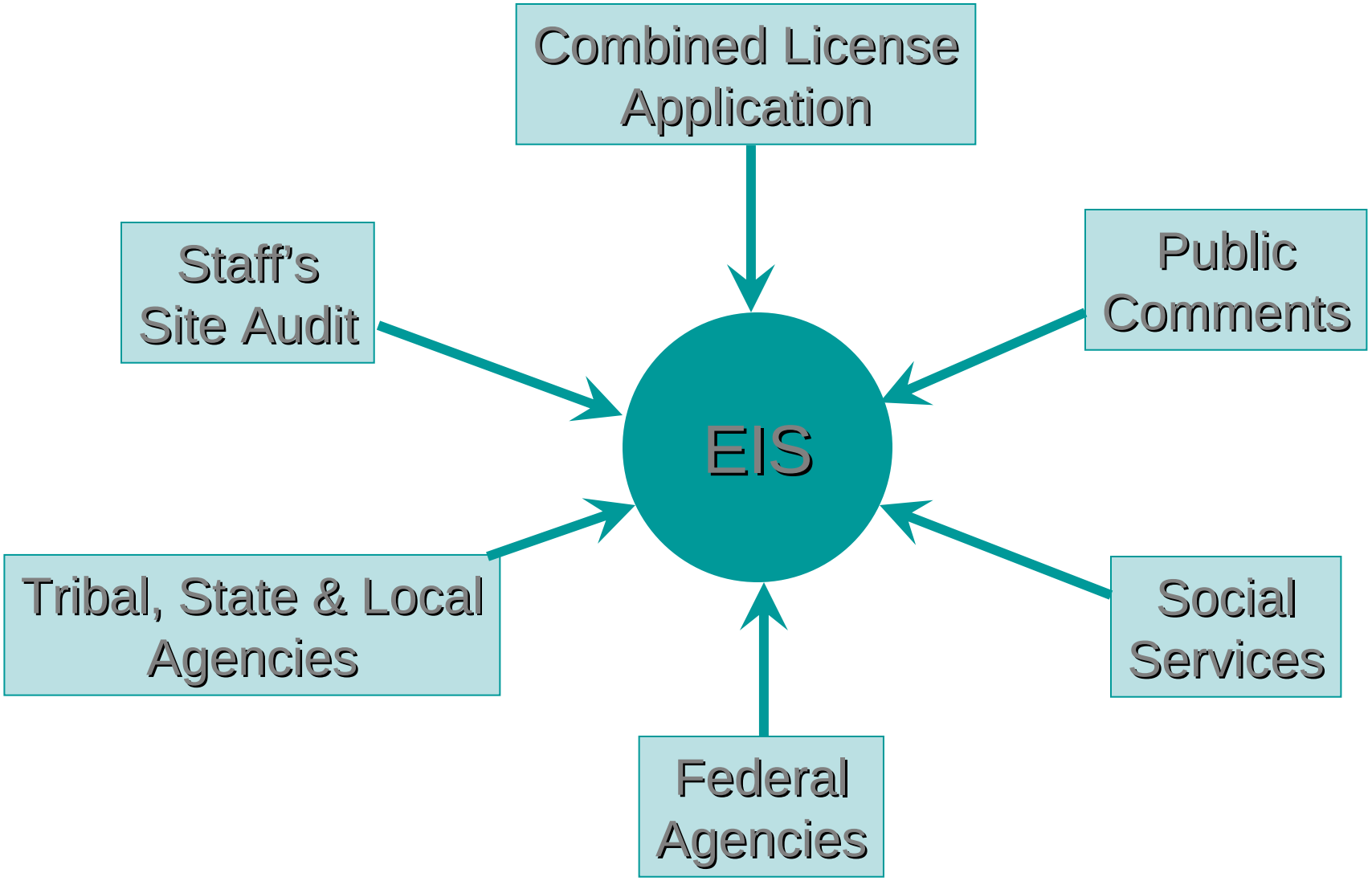
LOOKING INWARD **- NRC considers site safety factors as part of its Atomic Energy Act responsibilities by evaluating the design of the facility to protect against natural phenomena (i.e., environmental factors that affect the design such as earthquakes, floods, tornado-generated missiles, etc.) and emergency and security planning**

LOOKING OUTWARD **- NRC considers environmental values as part of its National Environmental Policy Act responsibilities by evaluating the facility impacts on the human environment (i.e., construction and operational demands and releases such as water use and quality, socioeconomics, terrestrial and aquatic species, routine and accidental releases, etc.)**

NRC Siting Expertise (Staff, Contractor, and Sister Agencies under MOUs)



Information Gathering



Engaging Stakeholders in NEPA Space Principal Milestones

After issuing Federal Register Notice (FRN) of Availability of Application, determine interest of U.S. Army Corps of Engineers, U.S Environmental Protection Agency, or others (e.g., State or Tribal Nation) interest in cooperating agency status

FRN on Acceptance and Sufficiency Review for docketing and initiating review; may be in combination with FRN of Intent to Prepare EIS and Conduct Scoping (including public meeting) or FRN of Hearing Opportunity or both

Compile and reconcile scoping comments (including scoping meeting in site vicinity); conduct technical review (i.e., audit application information and determine need for additional information, develop independent sources, conduct consultations, and perform analyses) and develop EIS; file Draft EIS with EPA for EPA FRN of Filing, issue NRC FRN of Availability of Draft EIS, and conduct public meeting to solicit comments during public comment period

Consider and disposition comments, modify EIS, as appropriate, file Final EIS with EPA for EPA FRN of Filing, issue NRC FRN of Availability

Participation of NRC's Sister Federal, State and Tribal Agencies

Commitment to keep agencies informed of regulatory framework and rule changes, and invite participation in the rulemaking process and development of implementation guidance. Ensure that overlapping areas are covered by Memoranda of Understanding with appropriate Sister agencies (e.g. EPA, USACE, USGS, State and Tribal Programs); cooperating agencies have "staff equivalent" status

Commitment to provide project application material early and when publicly available; include agencies on distribution for project correspondence and notices throughout the review process; afford Federal, State and Tribal agencies opportunity to observe NRC site audit activities with NRC review team and provide for logistics and access equivalent to a team member

Commitment to conduct timely consultations with stakeholders (USFWS, US Fisheries, SHPOs, ACHP, State Rad Health/Environmental Protection/Natural Resource Agencies, etc.) and initiate dialog early in the review process (this excludes the pre-application readiness assessments)

Provide timely and direct access to the NRC's NEPA products to agencies for Section 309 review and comment, and provide adequate review period (i.e., 45 days with two built-in 15-day extensions)

MOU between NRC and Corps

- **NRC worked closely with the Corps and updated the MOU in September 2008**
- **NRC is the *lead* Federal agency for development of EIS for new reactor applications**
- **Corps would be *cooperating* Federal agency for development of EIS, when appropriate (principally, when Corps permits will be needed – this is applicable for most new reactors)**
- **While Corps is integrated into the NRC Environmental Review Team, MOU allows flexibility for other approaches**
- **Goal – a single EIS provides necessary support for NRC license decisions and Corps permit decisions**

Limited Work Authorization Rule

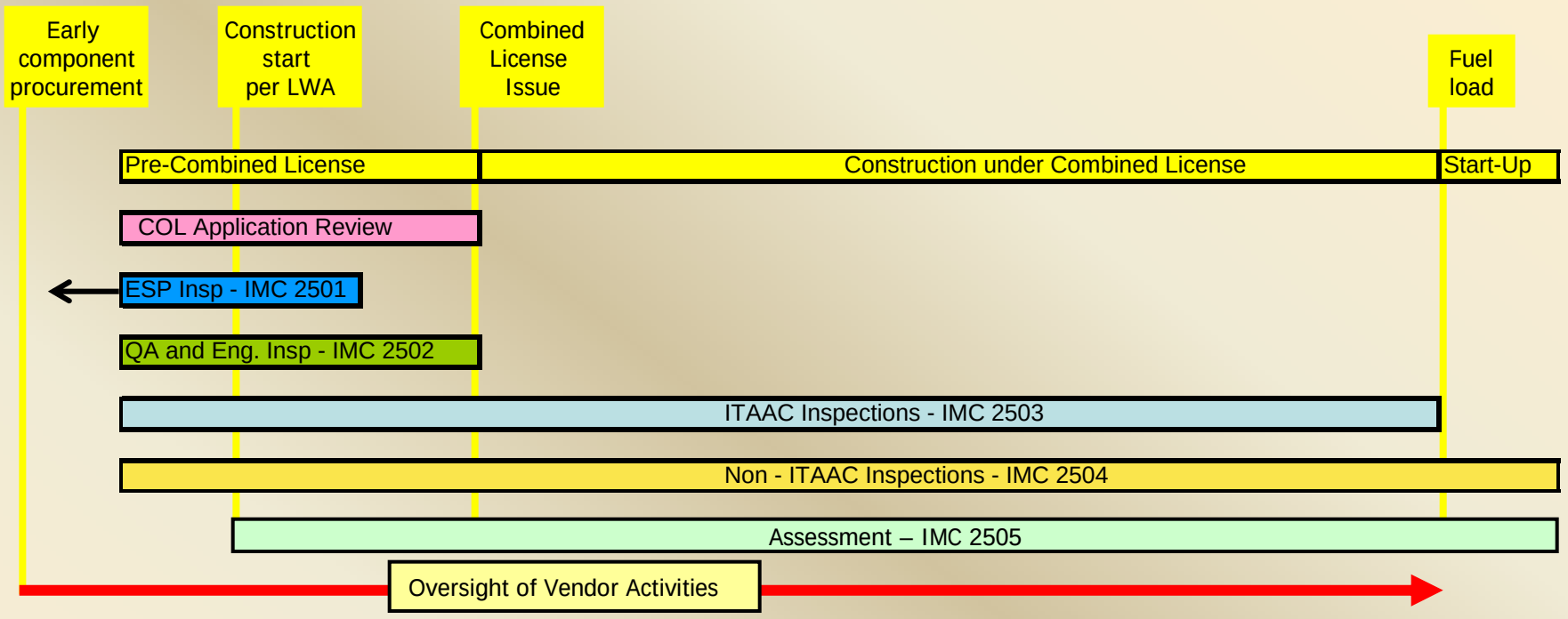
- **Rulemaking defined “Construction” for NRC purposes in the context of the activity’s nexus to radiological safety; “Construction” requires authorization by the Nuclear Regulatory Commission**
- **Rulemaking referred to “Pre-construction” activities that do not have a nexus to radiological safety and, consequently, do not require authorization by the Nuclear Regulatory Commission**
- **Rulemaking established that “Pre-construction” impacts must be addressed in EIS and must be considered as cumulative impacts**
- **LWA grants permission to undertake “Construction” before COL is issued; however, license decision must be supported by EIS**

Construction of Plants

- Nuclear plants will be built more rapidly than their predecessors
  - Detailed engineering essentially complete by start of construction
  - Use of modular construction techniques
  - Start of component fabrication before license issuance
- Components and modules will be fabricated in other countries
- Necessitates changes in NRC approach to oversight

NRC CONSTRUCTION OVERSIGHT HAS MULTIPLE COMPONENTS

Oversight will assure plants are constructed as designed.



Abbreviations

ESP – Early Site Permit
IMC – Inspection Manual Chapter
ITAAC – Inspections, Tests, Analyses, and Acceptance Criteria
LWA – Limited Work Authorization

IMC 2501

ESP QA controls on integrity & reliability of data collected for site

IMC 2502

-QA for design, procurement, & construction
-Translation of certified design into design details

IMC 2503

Verification of successful performance of ITAAC-related activities

IMC 2504

-QA for construction & operations
-Problem identification, reporting, & corrective action
-Work planning/control over work & contractors
-Translation of certified design into design details
-Design change process
-Pre-operational & startup testing
-Operational programs & operational readiness

IMC 2505

-Guides inspection planning

Vendor Oversight

- Verification of QA program implementation, compliance, reporting and corrective action

Construction Inspection Program Status

- Implementing enhanced vendor inspection program and related quality assurance activities
- International cooperation
- ITAAC policy and procedures

Anticipated Construction

- Construction inspections to begin 2011
- Indications of likely construction:
  - Long-Lead Equipment Orders:
  - Engineering, Procurement, and Construction Contracts:
  - Construction of large fabrication facilities in the U.S.