

# The Licensing and Regulatory Process

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**May 13, 2008**

# Components of New Licensing Process

- ✓ Combined License
- ✓ Certified Standard Plant Design
- ✓ Early Site Permit
- ✓ Limited Work Authorization

## Standardization is Key

- ✓ Design Centered Working Groups
- ✓ Reference and Subsequent COL applications
- ✓ Standardization matrices
- ✓ Improves efficiency of NRC review

## Preparing a Combined License Application

- ✓ One to two years to prepare application
- ✓ About 1000 activities planned in detailed schedule
- ✓ Costs about \$20 to \$25M
- ✓ Approximately 8000 pages of information

## Parts of Combined License Application

- ✓ General and Financial Information
- ✓ Final Safety Analysis Report
- ✓ Environmental Report
- ✓ Technical Specifications
- ✓ Emergency Plans
- ✓ Departures Report
- ✓ Security Plan
- ✓ Inspections, Tests, Analysis, Acceptance Criteria

# Content of Final Safety Analysis Report

- ✓ Site characteristics
  - Geography/demography, nearby industrial facilities, meteorology, hydrology, geology/seismology
- ✓ Onsite/offsite power systems
- ✓ Auxiliary systems (e.g., water, air, chemical, fire protection)
- ✓ Radiation Protection, Conduct of Operations, Quality Assurance

# Content of Final Safety Analysis Report

- ✓ Design of Structure, Systems, Components
- ✓ Reactor, Reactor Coolant System
- ✓ Engineered Safety Features
- ✓ Instrumentation and Controls
- ✓ Steam and Power Conversion
- ✓ Radioactive Waste Management
- ✓ Initial Test Program
- ✓ Safety Analyses
- ✓ Human Factors; Probabilistic Risk Assessment

## Content of Environmental Report

- ✓ Environmental Impacts of Construction/Operation
- ✓ Environmental Measurements/Monitoring Programs
- ✓ Environmental Impacts of Postulated Accidents Involving Radioactive Materials
- ✓ Need for Power
- ✓ Alternatives to the Proposed Action
- ✓ Environmental Consequences of the Proposed Action

## Site Activities to Acquire Information for COL Application

- ✓ Meteorological tower installation
  - Continuous collection of data to determine atmospheric dispersion
  
- ✓ Aerial survey of site
  - Develop topographic map
  
- ✓ Subsurface investigation
  - Borings and laboratory tests to determine soil geotechnical properties

## Site Activities to Acquire Information for COL Application

- ✓ Groundwater monitoring wells
  - Hydrologic characteristics of site
- ✓ Environmental surveys
  - Aquatic ecology
  - Terrestrial ecology
  - Wetlands
- ✓ Cultural resources survey
  - Determine presence of historical artifacts

## Emergency Plans

- ✓ Establish Emergency Planning Zone
- ✓ Conduct Evacuation Time Estimate Study
- ✓ Develop Alert Notification System Design
- ✓ Work with State and local counties to develop radiological emergency response plans

## NRC Licensing Process

- ✓ Safety review
- ✓ Environmental review
- ✓ Advisory Committee on Reactor Safeguards Review
- ✓ Public participation process

## Other Federal and State Permits

- ✓ Permit for disturbance of wetlands or navigable waters
- ✓ Water quality certification
- ✓ Air quality permit
- ✓ Water rights permit
- ✓ Permit for domestic/industrial wastewater
- ✓ Permit for cooling water intake structure

## Overall Timeframe for Licensing

- ✓ Approximately 30 months NRC technical review of COL application
- ✓ Estimated one year for public hearing
- ✓ Pursue other Federal and state permits in parallel to support pre-construction activities

## Conclusion

- ✓ Large commitment of resources to apply for NRC combined license
- ✓ Standardization in applications is necessary
- ✓ Focus on other Federal and state permits in advance of decision to build
- ✓ Process expected to reduce overall licensing time