

---

---

---

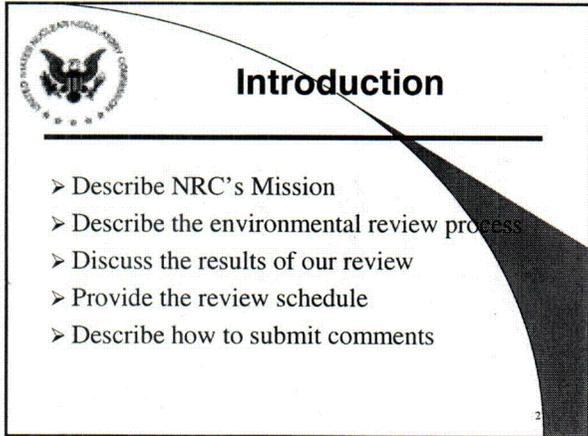
---

---

---

---

---



---

---

---

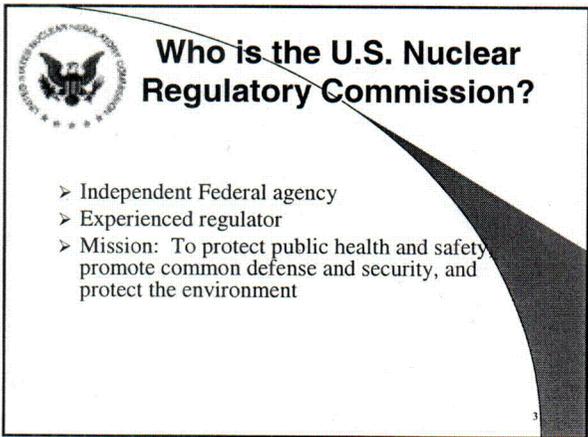
---

---

---

---

---



---

---

---

---

---

---

---

---



## What is an early site permit?

- An NRC decision that the proposed site is suitable for construction and operation of a nuclear power plant(s)
- The permit is not authorization or a decision to actually build and operate a plant
- Site Preparation and limited construction activities allowed with an approved site redress plan

4

---

---

---

---

---

---

---

---



## Site Safety Review

- Site suitability in relation to
  - Reactor safety – site characteristics pose no undue risk for a reactor sited here
  - Emergency Planning – no significant impediments to the development of emergency plan

5

---

---

---

---

---

---

---

---



## Contact Information Safety Evaluation Report (SER)

- Agency point of contact for the SER :
  - Primary: Nitin Patel, (800) 368-5642, Ext. 201
  - Back Up: George Wunder, (800) 368-5642, Ext. 1494
- Supplement to the FSER will be available at the Louisa County Public Library and the NRC's Public Document Room in Rockville MD and will be posted at:  
<http://www.nrc.gov/reactors/new-licensing/esp/north-anna.html>

6

---

---

---

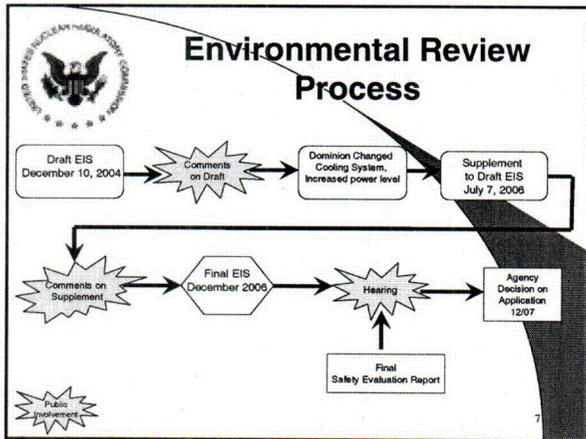
---

---

---

---

---




---

---

---

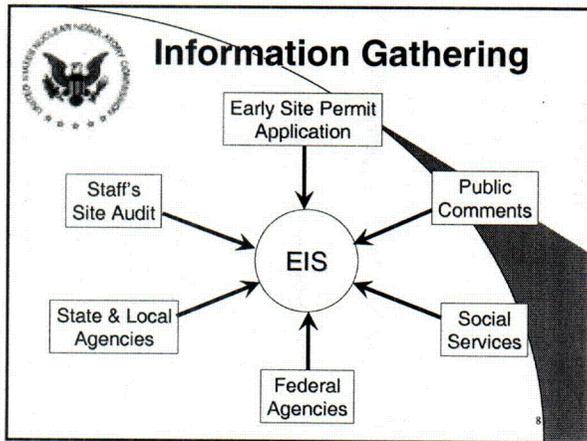
---

---

---

---

---




---

---

---

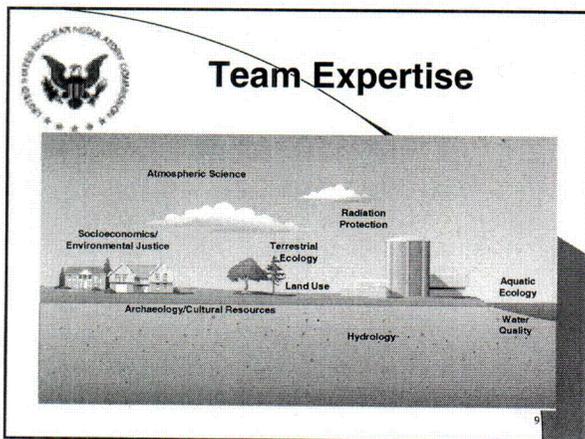
---

---

---

---

---




---

---

---

---

---

---

---

---



## Dominion's Plant Parameter Envelope (PPE)

- What is a PPE?
  - A surrogate for actual design parameters used because a design has not yet been selected
- Why would Dominion use a PPE?
  - Defers a reactor design(s) decision until the CP/COL stage
- Which reactor types are the basis for Dominion's PPE?
  - Five light-water reactors
  - Two gas-cooled reactors

10

---

---

---

---

---

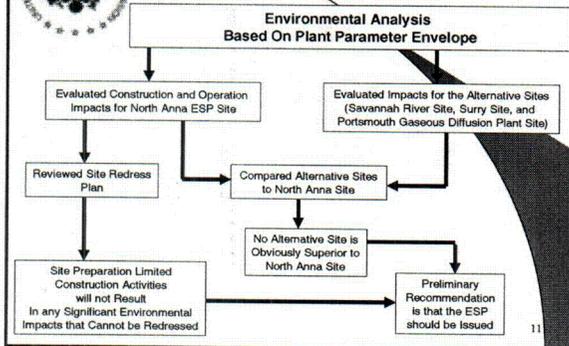
---

---

---



## Analysis Approach



11

---

---

---

---

---

---

---

---



## How Impacts are Quantified

- NRC-defined impact levels:
  - **SMALL:** Effect is not detectable or too small to destabilize or noticeably alter any important attribute of the resource
  - **MODERATE:** Effect is sufficient to alter noticeably, but not destabilize important attributes of the resource
  - **LARGE:** Effect is clearly noticeable and sufficient to destabilize important attributes of the resource
- Reflects Council on Environmental Quality regulations and guidance for NEPA analyses

12

---

---

---

---

---

---

---

---



## Reevaluation of Environmental Impacts of Construction and Operation

- Land Use – not affected
- Air Quality
- Water Use and Water Quality
- Terrestrial and Aquatic Resources
- Threatened or Endangered Species – not affected
- Socioeconomic Resources
- Environmental Justice – not affected
- Historic and Cultural Resources – not affected
- Human Health

13

---

---

---

---

---

---

---

---



## Other Environmental Impacts Reevaluated

- Postulated Design-Basis Accidents
- Postulated Severe Accidents
- Uranium Fuel Cycle and Solid Waste Management – not affected
- Transportation of Radioactive Materials
- Decommissioning – not affected

14

---

---

---

---

---

---

---

---



## Lake Anna Usage

- **Lake Anna**
  - Created for North Anna Power Station
  - Lake Anna used to cool existing Units 1 and 2 through a once-through cooling system
  - Lake Anna as the source of cooling water for proposed Unit 3's closed-cycle, combination wet and dry cooling system
  - Dry-tower cooling to cool proposed Unit 4
- **Other Major Uses of Lake Anna**
  - Recreation and fishing
- **Downstream Issues**
  - Municipal water supplies
  - Aquatic environment
  - Recreation

15

---

---

---

---

---

---

---

---



## Cooling System Impacts of Proposed Unit 3

- **Cooling system operation**
  - Energy conservation mode
  - Maximum water conservation mode
- **Conclusions**
  - Thermal Impacts SMALL
  - Entrainment and Impingement SMALL
  - Water use impact SMALL during normal water years  
MODERATE during severe drought years

16

---

---

---

---

---

---

---

---



## Radiological Impacts

- **Exposures to the public and to workers**
  - Estimated doses to public well within regulatory design objectives and standards
  - No observable health impacts to public
  - Occupational doses estimated slightly lower than those from current reactors
- **Impacts to biota evaluated and found to be acceptable**
- **Conclusion – radiological impacts from construction and operation would be SMALL**

17

---

---

---

---

---

---

---

---



## Alternatives

- **Alternative plant cooling technologies**
  - Once-through cooling
  - Wet cooling towers
  - Dry cooling towers
- **Alternate Sites**
  - Surry Power Station – owned by Dominion
  - Portsmouth Gaseous Diffusion Plant (Ohio) – Department of Energy Site
  - Savannah River Site (South Carolina) – Department of Energy Site

18

---

---

---

---

---

---

---

---



## Preliminary Conclusions about Alternatives

- All four sites appear to have potential for siting a nuclear plant or plants
- While there are differences in environmental impacts of construction and operation at the four sites, none is sufficient to determine that any of the alternative sites is obviously superior to the North Anna ESP site

19

---

---

---

---

---

---

---

---



## Environmental Review Milestones

- Supplemental Draft EIS issued –July 7, 2006
- Comment period ends –September 12, 2006
- Final EIS – December 2006
- Hearing Decision –August 2007
- Commission decision – December 2007

20

---

---

---

---

---

---

---

---



## Point of Contact for SDEIS

- Agency point of contact:  
Jack Cushing  
(800) 368-5642, Ext. 1424
- Supplement to the draft EIS is available at the Loudoun County Public Library and the NRC's Public Document Room in Rockville, Maryland
- Supplement to the draft EIS can also be viewed at:  
<http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1811/supplement1/>

21

---

---

---

---

---

---

---

---



## NRC Addresses

Provide comments on Supplement to the DEIS by September 15, 2006

- > By mail at: Chief, Rules and Directives Branch  
Division of Administrative Services  
Mailstop T-6D59  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001
- > In person at: 11545 Rockville Pike  
Rockville, Maryland
- > E-mail at: [North\\_Anna\\_Comments@nrc.gov](mailto:North_Anna_Comments@nrc.gov)

22

---

---

---

---

---

---

---

---



23

---

---

---

---

---

---

---

---