

# Shearon Harris Nuclear Power Plant Harris Advanced Reactors 2 and 3 COL Application Overview



Presentation  
to  
NRC Staff  
*March 6, 2008*

# Agenda

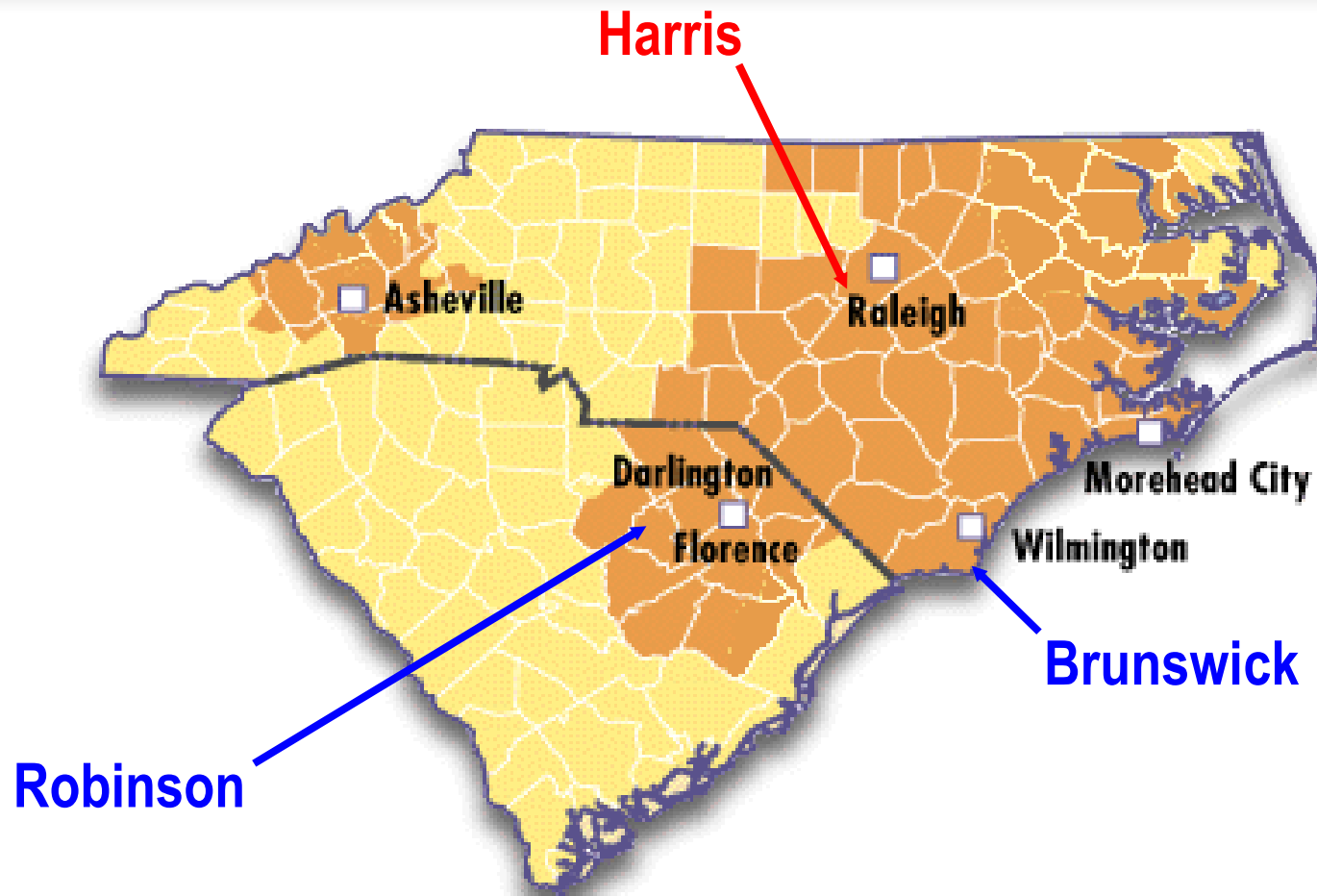
<b>1330-1345 Opening Statements &amp; Introductions</b>	<b>NRC/Bob Kitchen (PGN)</b>
<b>1345-1430 COL Application Overview &amp; Navigation</b>	<b>Dave Waters (PGN)</b>
<b>1430-1500 Geotechnical and Seismic Overview</b>	<b>Vann Stephenson (PGN)</b>
<b>1500-1530 Environmental Report Overview</b>	<b>Paul Snead (PGN)</b>
<b>1530-1545 Wrap-Up &amp; Closing Remarks</b>	<b>Bob Kitchen (PGN)/NRC</b>



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# PEC Service Territory

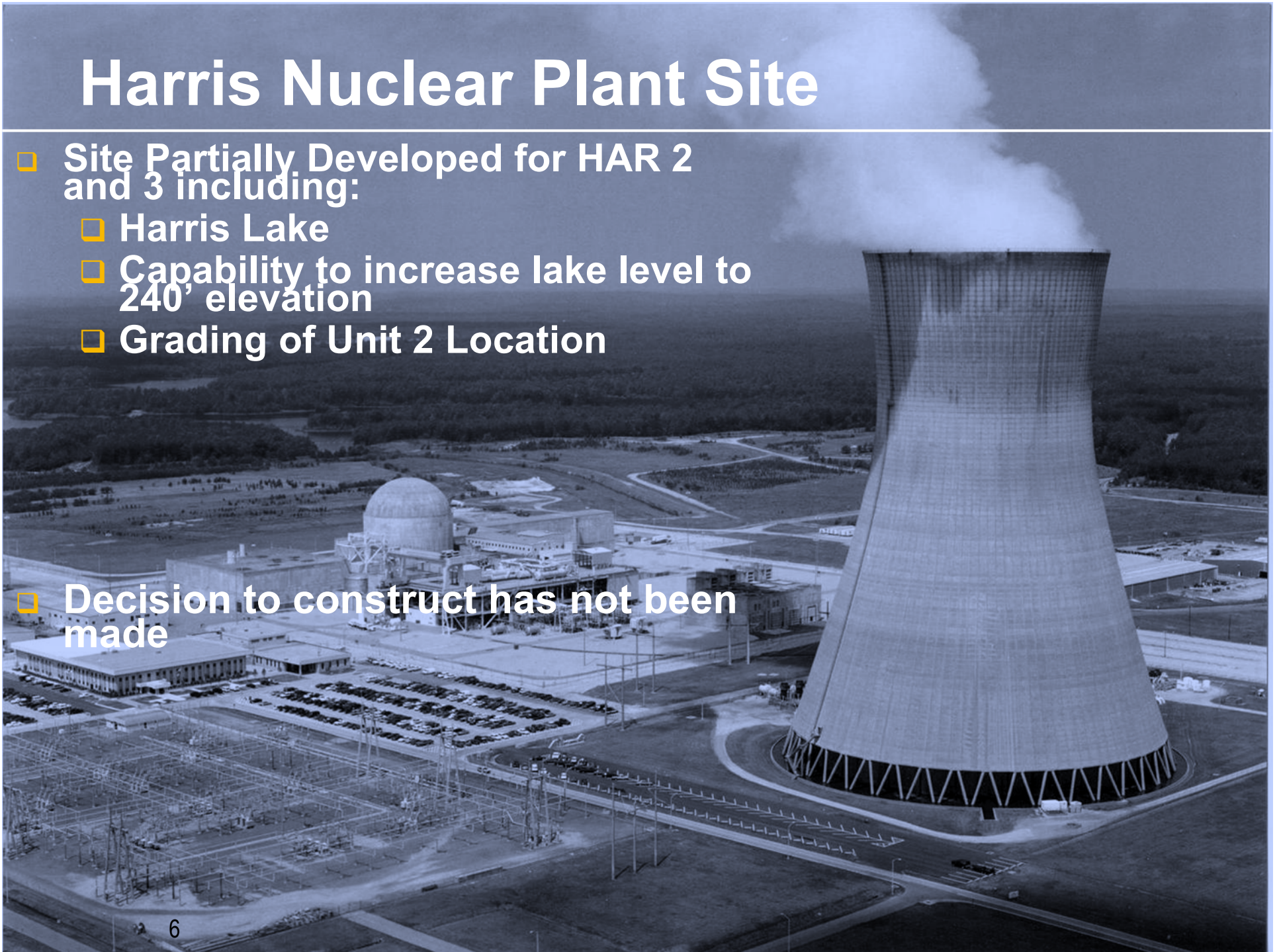


# Current Harris Plant



# Harris Nuclear Plant Site

- ❑ Site Partially Developed for HAR 2 and 3 including:
  - ❑ Harris Lake
  - ❑ Capability to increase lake level to 240' elevation
  - ❑ Grading of Unit 2 Location
- ❑ Decision to construct has not been made

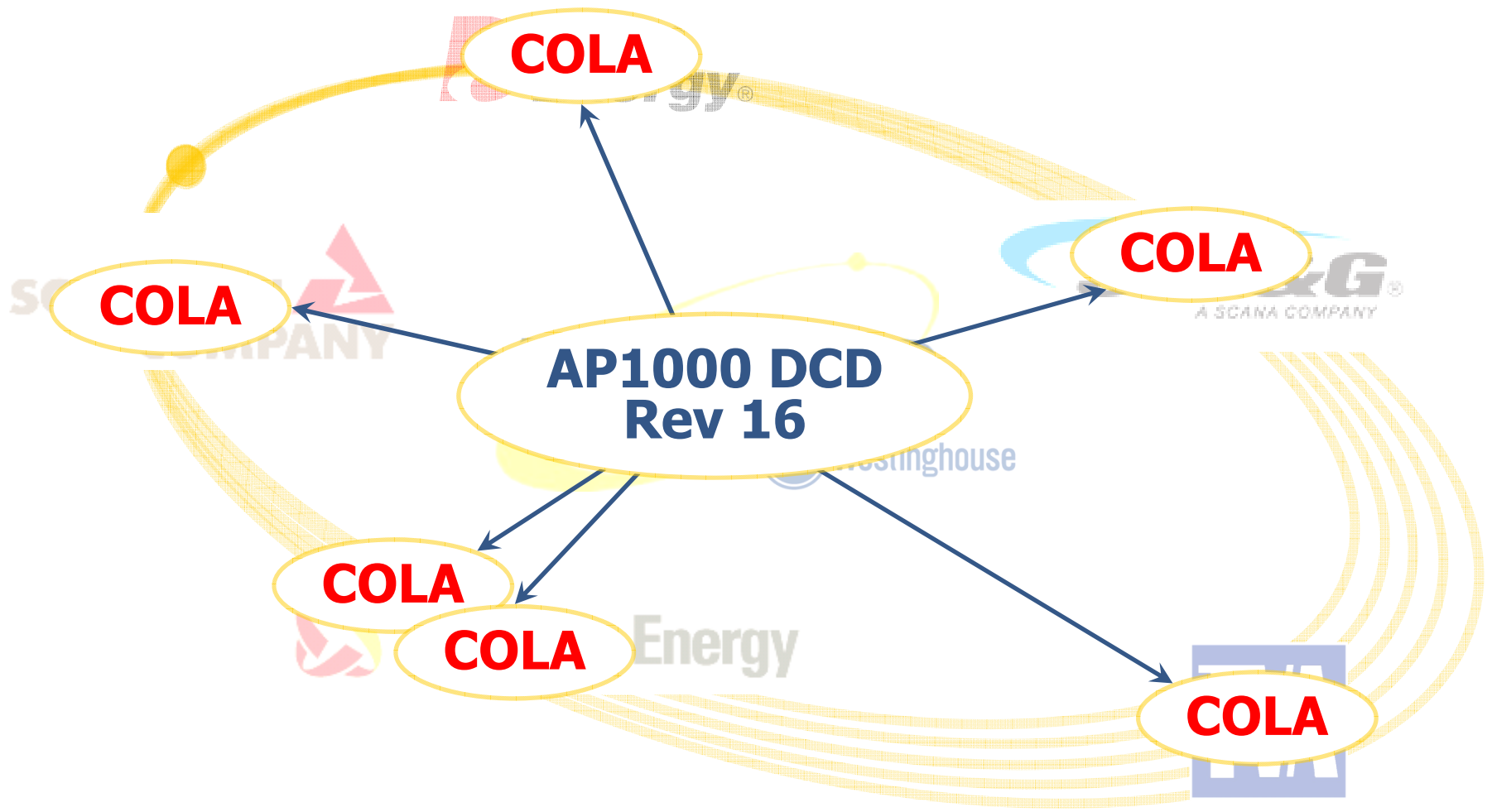


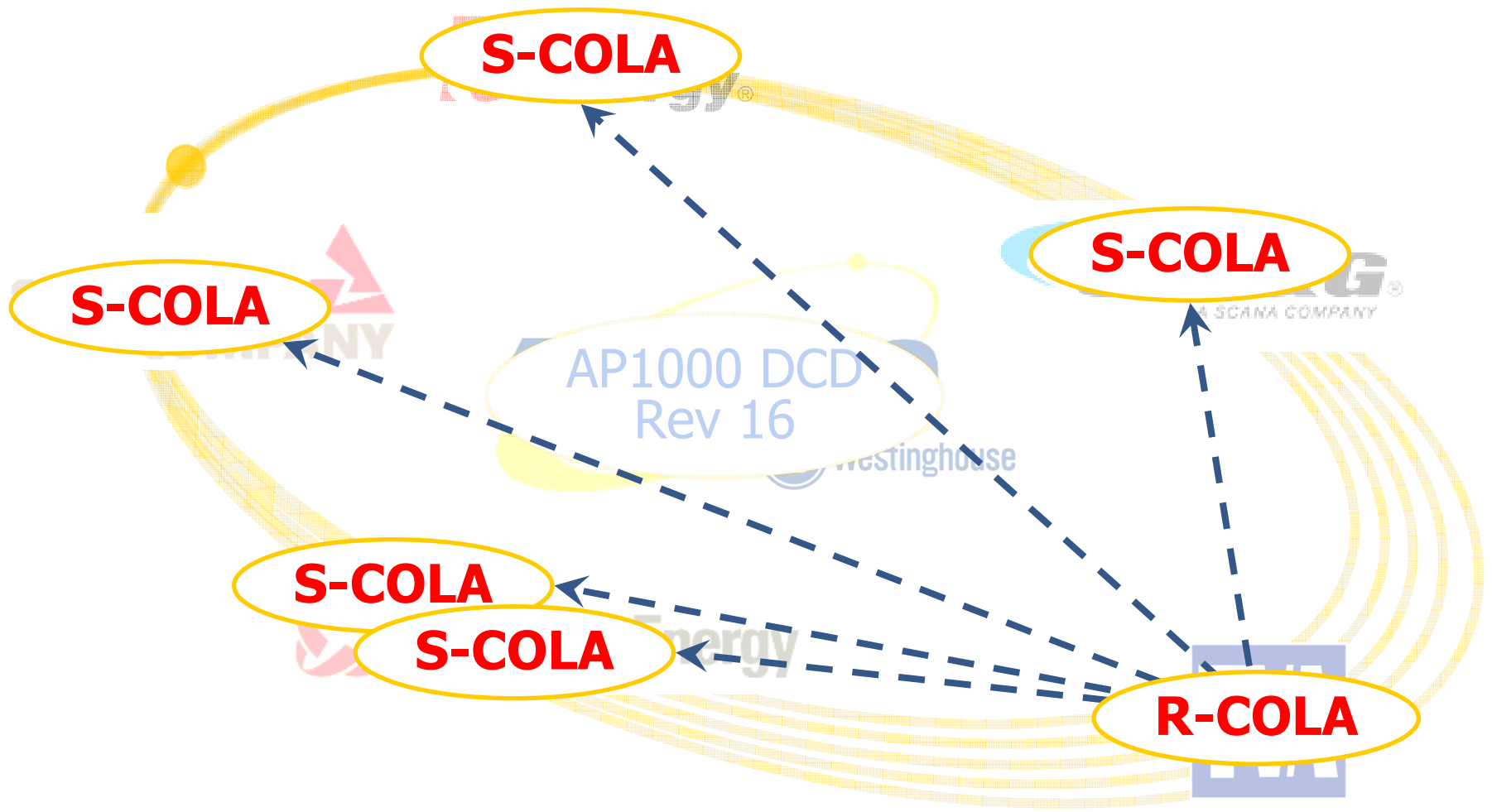
# COLA – Key Points

- ❑ HAR COLA is Standard COLA
  - ❑ Minor differences from R-COLA
- ❑ Site seismic response bounded by AP1000 design
- ❑ Environmental impacts are primarily small
- ❑ Site characteristics are acceptable for AP1000 standard plant design

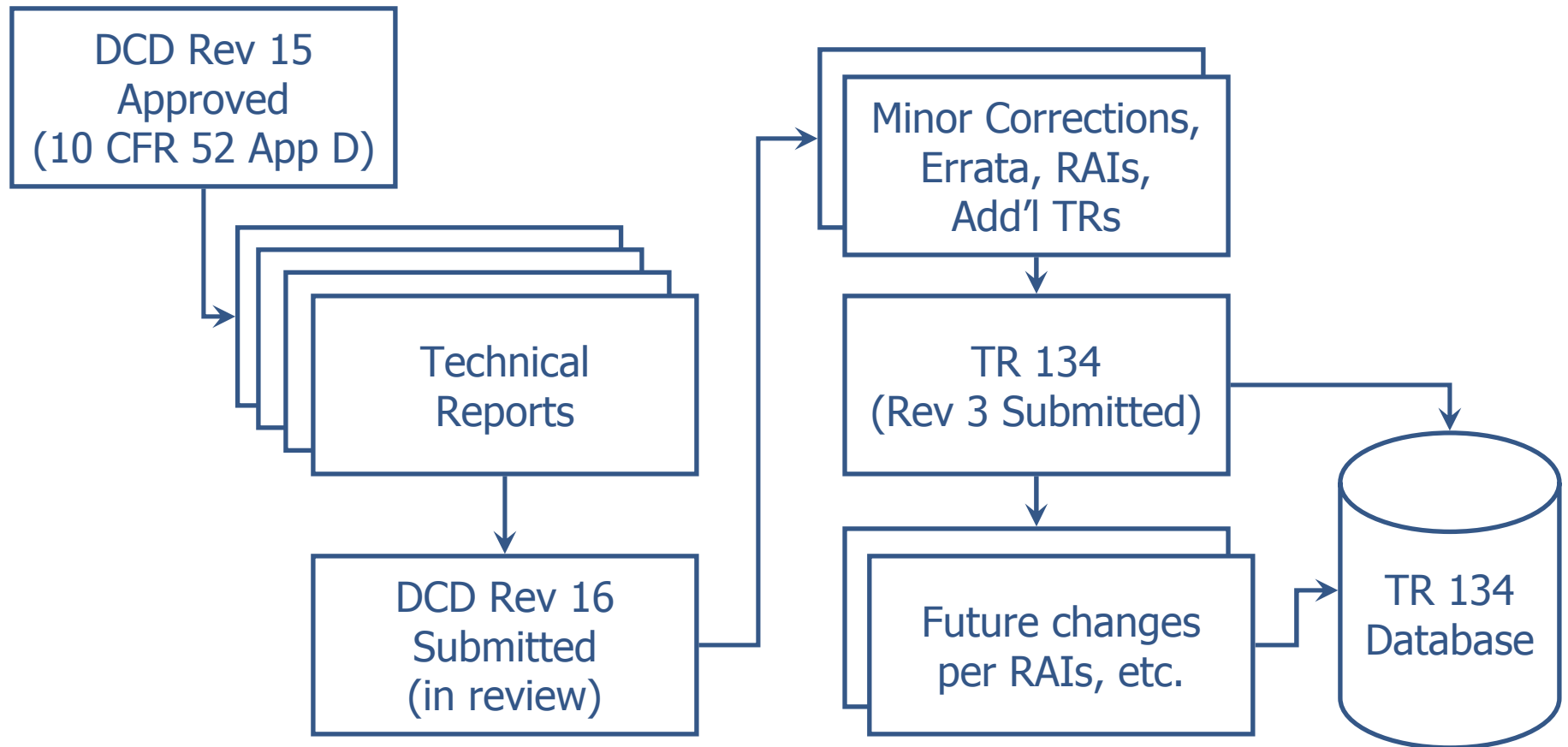
# **HAR 2 and 3 COL Application Overview and Navigation**







# AP1000 Design Control Document



# COL Application Contents

- ❑ Cover Letter & Affidavits
- ❑ Part 1 – General & Financial Info
- ❑ Part 2 – Final Safety Analysis Report
- ❑ Part 3 – Environmental Report
- ❑ Part 4 – Technical Specifications
- ❑ Part 5 – Emergency Plan
- ❑ Part 6 – Limited Work Authorization (not used)
- ❑ Part 7 – Departures & Exemption Requests
- ❑ Part 8 – Safeguards Information (Separate Cover)
- ❑ Part 9 – Other Withheld Information (SUNSI)
- ❑ Part 10 – License Conditions & ITAAC
- ❑ Part 11 – Enclosures, i.e., QAPD

# COL Application Navigation

- File Structure
  
- -HAR COLA
  - AP1000\_DCD\_R16\_Public
  - DCD Departures (Part 7)
  - Reference Info (Part 11)
  - Emergency Plan (Part 5)
  - Environmental Report (Part 3)
  - FSAR (Part 2)
  - Gen and Financial Info (Part 1)
  - ITAAC (Part 10)
  - LWA Requests (Part 6)
  - Safeguards-Security (Part 8)
  - Technical Specifications (Part 4)
  - SUNSI Information (Part 9)

# COL Application Navigation

- ❑ Organization
  - ❑ Text – typically one file per document or chapter
  - ❑ Tables follow sections in text files, e.g., 1.6, 1.9, 2.5
  - ❑ Figures are separate files
  - ❑ Large appendices are separate files, e.g., FSAR 2AA & 2BB
  
- ❑ Links & Search Capability
  - ❑ FSAR to IBR DCD Chapter TOC
  - ❑ Cross references to DCD
  - ❑ Tables and Figures
  - ❑ References list
  - ❑ ER to FSAR cross-reference

# HAR FSAR Left Margin Annotations (LMAs)

MARGIN NOTATION

**STD DEP X.Y.Z-#**

**STD COL X.Y-#**

**HAR COL X.Y-#**

**HAR CDI or STD CDI**

**STD SUP X.Y-#**

**HAR SUP X.Y-#**

**DCD**

# COL Application

## Part 1 – General & Financial

- ❑ Addresses 50.33 information needs:
  - ❑ General Information
  - ❑ Applicant's Corporate information
  - ❑ Financial information
    - ❑ Including construction & related fuel cycle estimates and reasonable assurance
    - ❑ Conforms to COL/DC-ISG-002
    - ❑ Proprietary / Business Sensitive Info (Part 9)
- ❑ Decommissioning funding requirements – 10 CFR 50.75
  - ❑ Appendix 1A - Decommissioning Cost Estimate Report



# COL Application

## Part 2 – Final Safety Analysis Report (FSAR)

- ❑ COL applications based on incorporation by reference of DCD Rev 16 plus TR 134 Rev. 3 (DCD Rev 16 impacts)
- ❑ “IBR” = Incorporation By Reference
- ❑ FSAR Table 1.6-201
  - ❑ DCD Rev 16
  - ❑ TR 134
  - ❑ NEI templates
- ❑ Standardization of COL Applications (FSAR)

# COL Application

## Part 3 – Environmental Report

- ❑ **To be discussed later in presentation**

# COL Application

## Part 4 – Technical Specifications (TSs)

- ❑ IBR of DCD GTS (including Bases) – no departures or exemptions
- ❑ COL item – Fill in brackets – most filled in
- ❑ Some brackets remain
  - ❑ proposed License Condition in Part 10
- ❑ Section A includes information on GTS brackets
- ❑ Section B includes a full set of PSTS and Bases

# COL Application

## Part 5 – Emergency Planning Information

- ❑ Site specific licensee Emergency Plan
- ❑ Integrated Plan for existing HNP plus HAR 2 and 3 – Transition Plan provided
- ❑ Includes Certifications and Cross-references
- ❑ State and local plans
- ❑ Evacuation Time Estimate
- ❑ EP ITAAC in Part 10

# COL Application

## Part 6 – Limited Work Authorization

### Limited Work Authorization

(not requested for HAR 2 and 3)

# COL Application

## Part 7 – Departures and Exemptions

- ❑ Exemptions (2)
  - ❑ Fitness for duty program description per expected rule
  - ❑ COLA organization and numbering per NRC guidance
  
- ❑ Departures (1)
  - ❑ STD DEP 1.1-1
    - ❑ Administrative departure for organization and numbering for the FSAR sections

# COL Application

## Part 8 - Safeguards Information

- ❑ Separate Submittal
  - ❑ Security Plans
  - ❑ Not discussed in this public meeting

# COL Application

## Part 9 – Withheld Information

- ❑ Part 9 Index
  - ❑ Public version [redacted] identifies complete information in Part 9
  - ❑ Parts 1 and 2 contain information
  - ❑ Part 1 – Financial Information - 2.390(a)(4)
  - ❑ Part 2 – Physical Security Information - 2.390(d)(1)



# COL Application

## Part 10 – Proposed License Conditions & ITAAC

- ❑ Proposed License Conditions to:
  - ❑ Incorporate ITAAC into COL
  - ❑ Complete Holder items prior to initial fuel load
  - ❑ Implement Operational Programs by specific milestones in 13.4
  - ❑ Provide Fire Protection Program revision criteria
  - ❑ Provide Security Program revision criteria
  - ❑ Provide Operational Program Readiness schedule
  - ❑ Provide Vendor AE Constructor qualifications
  - ❑ Provide Startup Program revision criteria
  - ❑ Complete bracketed items in Tech Specs
  - ❑ Incorporate Environmental Protection Plan
  
- ❑ Draft Environmental Protection Plan
  
- ❑ ITAAC – Security, Plant Specific, Emergency Planning

# COL Application

## Part 11 – Enclosures

- ❑ Quality Assurance Program Description
  - ❑ Addressed in FSAR Section 17.5
  - ❑ QAPD based on NRC-approved NEI 06-14A template
  - ❑ Site-specific (bracketed) information completed

# **HAR 2 and 3 FSAR Overview (COL Application Part 2)**

# FSAR Chapter 1

## Introduction and General Description

- ❑ IBR of DCD; STD DEP 1.1-1
- ❑ Discussion of format, e.g., LMAs and numbering of Figures, Tables, & References
- ❑ Lists - acronyms, RG usage, SRP conformance, RG conformance
- ❑ Summary of Departures as Table 1.8-201, e.g., STD DEP 1.1-1
- ❑ STD COL 1.9-1, 2\*, 3\* (RGs, BLs & GLs, and USI/GSIs)
- ❑ COL Information Item tabulation as Table 1.8-202
- ❑ Proposed License Condition (in Part 10)
  - ❑ Vendor/Constructor/AE qualifications
- ❑ Section 1.10 - multi-unit site construction considerations

(\* these COL items not numbered in DCD)

# Summary of COL Information Items

- ❑ 175 COL Information Items (DCD Rev 16 Table 1.8-2)
- ❑ 44 expected to close via DCD Rev 16
- ❑ 16\* COL Holder Items (19 in Table 1.8-202)
  - ❑ To be addressed post issuance of COL (as built info)
  - ❑ Proposed license condition in Part 10
  - ❑ 3 Holder Items (per DCD) addressed in COLA
    - ❑ 3.11-1, 9.5-6, 10.1-1
- ❑ 115\* addressed via COL application
  - ❑ Includes three covered by operational program TRs

**\* 2 items are partially addressed via COL application and partially addressed as COL Holder items: 14.4-6, 19.59.10-2**

# COL Holder Items (Example)

## 6.3-2 Verification of Water Sources for Long-Term Recirculation Cooling Following a LOCA

- *The Combined License holder referencing the AP1000 design will provide an assessment of the acceptability of the screen performance by performing testing and analysis of the screens. Downstream effects will be assessed to confirm the coolability of the core.*

# FSAR Chapter 2

## Site Characteristics

- ❑ Mostly site specific material, STD DEP 1.1-1 for organization and numbering
- ❑ Comparison of HAR Site Characteristics to DCD Site Parameters
  - ❑ Combined listing of DCD Tier 1 Table 5.0-1 and Tier 2 Table 2-1
- ❑ SUP material and COL items

# FSAR Chapter 3

## Design of SSCs

- ❑ Mostly IBR of DCD
- ❑ Dual unit information (DCD is for single unit)
- ❑ Inservice testing program description
  - ❑ Snubbers
  - ❑ Valves (no pumps)
- ❑ SUP material and COL items



# FSAR Chapter 4 Reactor

- Mostly IBR of DCD
- COL items

# FSAR Chapter 5

## Reactor Coolant System

- ❑ Mostly IBR of DCD
- ❑ Inservice inspection program (Class 1)
- ❑ SUP material and COL items