Nuclear Power Renaissance & Lee Nuclear Station Overview

North Carolina Health Physics Society Meeting
November 6-7, 2008

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Engineering Manager
This document contains forward looking information which is subject to risks and uncertainties that could cause actual results to be different than those contemplated, including, but not limited to:

- changes in state, federal or international regulatory environments;
- project costs;
- operational performance;
- commercial, industrial and residential growth in the Company’s service territory;
- natural phenomena;
- the timing and extent of changes in commodity prices, interest rates, and foreign currency exchange rates;
- general economic conditions;
- changes in environmental and other laws and regulations to which Duke Energy and its subsidiaries are subject or other external factors over which Duke Energy has no control;
- the results of financing efforts;
- the effect of accounting pronouncements;
- growth in opportunities for Duke Energy’s business units, and other risks described in the Company’s most recent earnings release filed with the Securities and Exchange Commission on Form 8-K and other Securities and Exchange Commission filings.

Safe Harbor Statement Under the Private Securities Litigation Act of 1995
Outline

- Nuclear Power Renaissance
  - Energy Policy in United States
  - New Nuclear in United States

- Lee Nuclear Station Overview
  - Significant Milestones
  - Current Activities
  - Time Line Drivers

- Questions

New NRC Licensing Process

Early Site Permit *

Combined License *

Construction

Construction Acceptance Criteria *

Operation

Design Certification *

* Public Comment Opportunity
Nuclear Power 2010

- Department of Energy Initiated in 2002
  - Cost Shared Government and Industry Effort
  - Future Expansion of Nuclear Generation

- Early Site Permit (ESP) Process
  - Dominion – North Anna
  - Entergy – Grand Gulf
  - Exelon – Clinton

- Combined License (COL) Process
  - Dominion – ESBWR
  - NuStart – AP1000 & ESBWR
NuStart Energy Consortium

Apply New Licensing Process
- Bellefonte COL (AP1000) and Grand Gulf COL (ESBWR)

Complete Design of Standard Plants
- Westinghouse (AP1000) and General Electric (ESBWR)

Members:
- DTE
- Duke Energy
- EDF International NA
- Entergy Nuclear
- Exelon Generation
- Florida Power & Light
- Progress Energy
- SCANA
- Southern Company
- TVA
- General Electric
- Westinghouse
AP1000 Design-Centered Work Group
Energy Policy Act of 2005

- Signed August 2005
- Financial Incentives
  - Production Tax Credit ($18/MW-hr)
  - Government Loan Guarantees
  - Standby Support to Cover Delay Costs Caused by Regulator or
New Nuclear in United States

Evolutionary Standard Designs
- ABWR – GE
- EPR – AREVA
- USAPWR – MHI

Passive Standard D
- AP1000 – Westinghouse
- ESBWR – GE
New Nuclear in the US
## COL Applications - Review In Progress

<table>
<thead>
<tr>
<th>Company</th>
<th>Design</th>
<th>Date Submitted</th>
<th>Site Under Application</th>
<th>State</th>
<th>Existing Plant</th>
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<td>26 Units</td>
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Lee Nuclear Station – Overview

Historical Information

- Cherokee – Part of “P-81” Project in Early 1970s
- Environmental Impact Statement and Construction Permit Issued in 1975
- Duke Power Cancelled Cherokee Project in 1983
- Sold Property to Private Party

Site Partially Developed Including

- Nuclear Service Water Pond
- Cooling Water Sedimentation Basin
- Excavation of Power Block
- Partial Construction of Unit 1 Containment
And Then - Movie Studio
Late 1980s
Significant Milestones

- **2005**
  - Announced Intent to Pursue COL
  - Reactor Technology Selection Completed (AP1000)
  - Preparation of COL Commenced

- **2006**
  - Site Selection Study Completed
  - Reacquired Former Cherokee Site
  - Site Characterization Commenced
Two AP1000 Units On Former Cherokee Site

WLS Unit 1

WLS Unit 2
Significant Milestones

2007
- December: Combined Construction and Operating License Application (COL) Submitted

2008
- February: NRC Acceptance of Lee COL
- June: NC/SC Project Development Orders Issued
- June: BREDL Filed Contentions on Lee COL
- July: Site Preparation (Demolition) Completed
Site Preparation
Site Preparation
Current Activities

2008 - 2009

- Respond to NRC Questions on Lee COL
- Continue Project Development Activities
  - Oversight of Standard Plant Design Finalization
  - Development of Procedures and Training
  - Contract Negotiations
- File Federal Loan Guarantee Application
- File State Applications (CPCN, Baseload Review, Need Determination)
- Pursue Enabling Legislation (Favorable Financing)
Time Line Drivers

- Demand for Electricity
- Cost and Schedule
- State Approvals
- Legislative Needs
- Ongoing Global Construction Experience
Questions?