# DUKE ENERGY NUCLEAR PROGRAMS UPDATE FOR THE SOUTH CAROLINA GOVERNOR'S NUCLEAR ADVISORY COUNCIL

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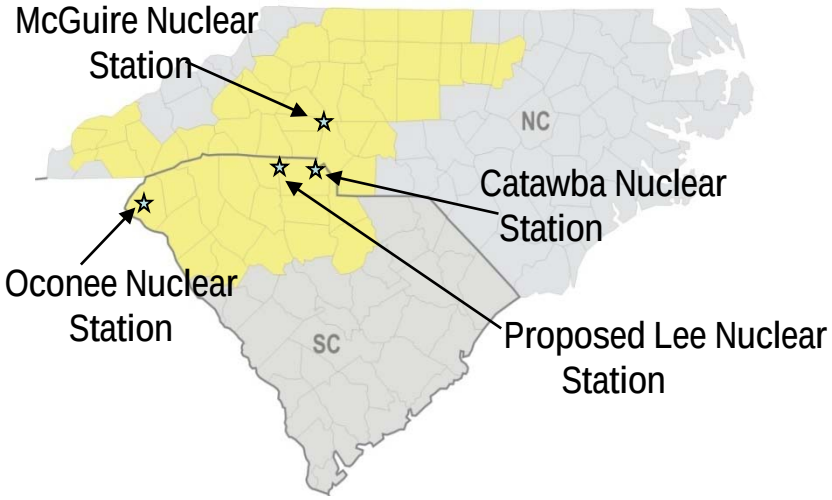
September 8, 2011

# NUCLEAR FLEET OVERVIEW

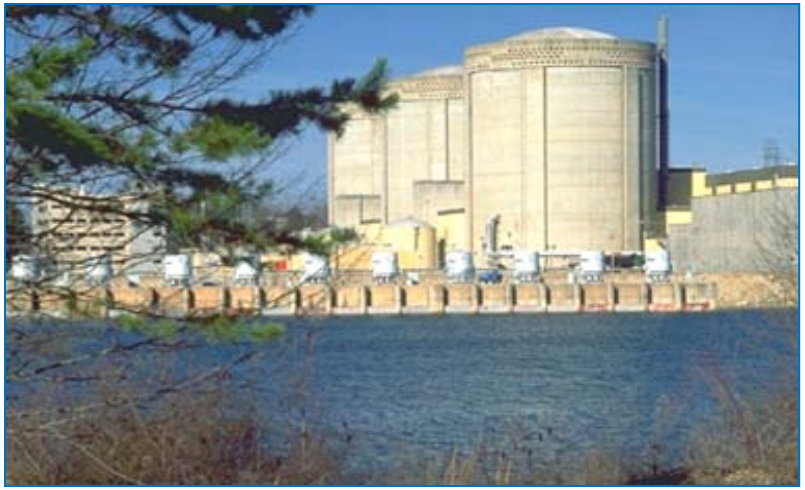
## Duke Energy's Nuclear Fleet

- Seven pressurized water reactors
- 6,996 megawatts of capacity
- >50 percent of DE-Carolinas 2010 generation
- 2010 nuclear fleet capacity factor – 95.88 percent




## Oconee Nuclear Station

- Location: Seneca, S.C.
- Station capacity: 2,538 megawatts (3 units)
- Commercial operation: unit 1 – 1973; units 2 and 3 – 1974
- Operating license: units 1 and 2 – 2033; unit 3 – 2034



# NUCLEAR FLEET OVERVIEW

## McGuire Nuclear Station

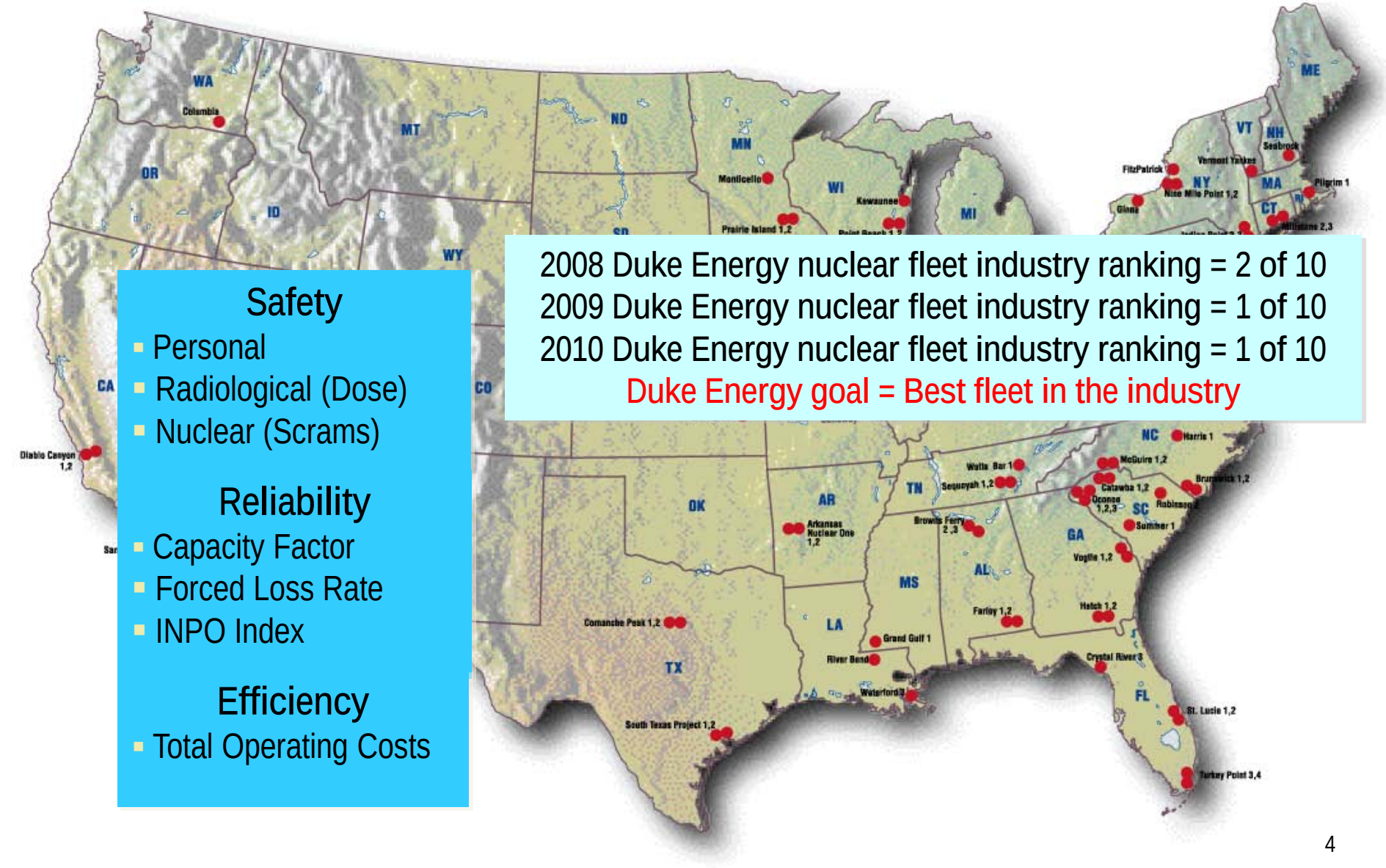
- Location: Huntersville, N.C.
- Station capacity: 2,200 megawatts (2 units)
- Commercial operation: unit 1 – 1981; unit 2 – 1984
- Operating license: unit 1 – 2041; unit 2 – 2043

## Catawba Nuclear Station

- Location: York, S.C.
- Station capacity: 2,258 megawatts (2 units)
- Commercial operation: unit 1 – 1985; unit 2 – 1986
- Operating license: units 1 and 2 – 2043
- Jointly owned*

***Catawba co-owners:** North Carolina Municipal Power Agency Number One, North Carolina Electric Membership Corporation, Piedmont Municipal Power Agency and Duke Energy

# NUCLEAR FLEET – KEY PERFORMANCE INDICATORS




## Safety
- Personal
- Radiological (Dose)
- Nuclear (Scrams)

## Reliability
- Capacity Factor
- Forced Loss Rate
- INPO Index

## Efficiency
- Total Operating Costs

2008 Duke Energy nuclear fleet industry ranking = 2 of 10
2009 Duke Energy nuclear fleet industry ranking = 1 of 10
2010 Duke Energy nuclear fleet industry ranking = 1 of 10
Duke Energy goal = Best fleet in the industry

# FLEET PERFORMANCE IN 2011

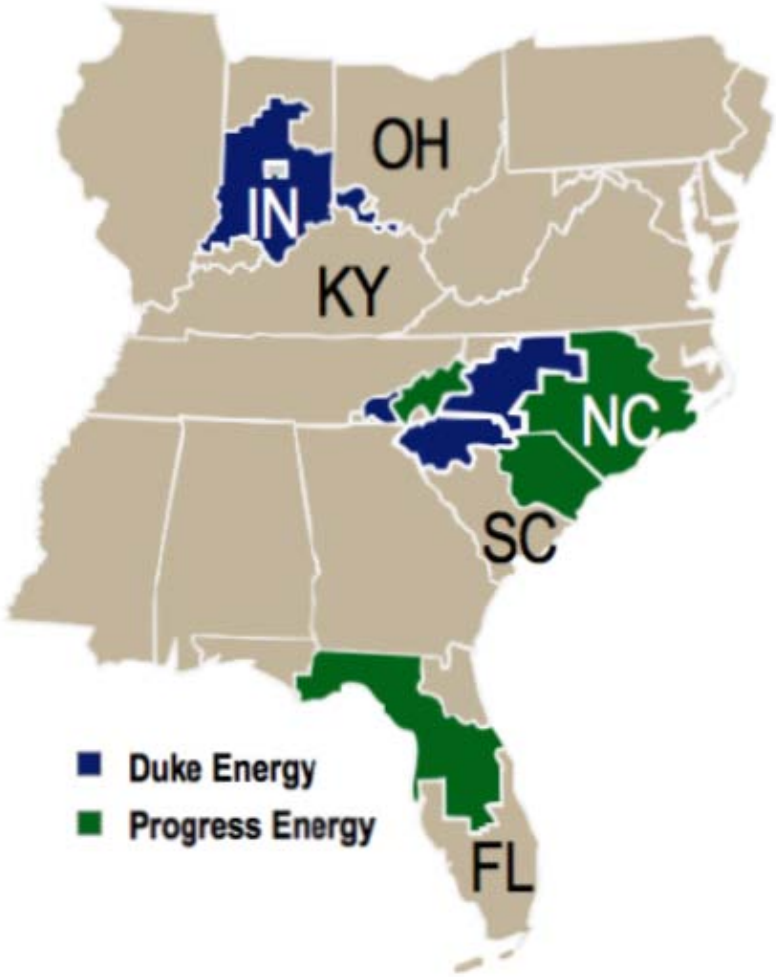
- Refueling outages at McGuire 2, Oconee 1 and Catawba 1
  - McGuire 2 – 38 days
  - Oconee 1 – 69 days
  - Catawba 1 – 45 days
- McGuire 1 and Oconee 2 fall outages upcoming
- Four forced outages in January
- Fleet capacity factor 90.6 percent through July
- Upgraded the McGuire 2 process control system to digital distributed controls
- Replaced the Oconee analog reactor protective and engineering safeguards systems with a digital system
  - First such safety-related application in the United States

# NUCLEAR DEVELOPMENT

- Continuing development of the W. S. Lee Nuclear Station in Cherokee County, S.C., based on Westinghouse AP1000 reactor design
  - August 2011: Duke Energy filed an application with the South Carolina Department of Health and Environmental Control (SCDHEC) for a National Pollutant Discharge Elimination System (NPDES) permit
  - Late 2011: Nuclear Regulatory Commission approval of AP1000 design certification amendment expected
  - Summer 2012: NPDES permit decision expected
  - Late 2012 or early 2013: Nuclear Regulatory Commission combined construction and operating license expected
- Signed letter of intent with Santee Cooper in July 2011 for potential 5-10 percent ownership interest in V.C. Summer Units 2 and 3

# Duke Energy – Progress Energy Merger

- Announced January 2011
- Goal of closing by end of 2011
- Will create the country's largest electrical utility
- Subject to regulatory approvals
- Headquarters in Charlotte, N.C.



# Combined Nuclear Fleet of Merged Company

- 12 units at seven sites
  - Six Westinghouse pressurized water reactors (PWRs)
  - Four Babcock & Wilcox PWRs
  - Two General Electric boiling water reactors
- 11,631 MWe rated electrical capacity
- Applications for six new AP1000 reactors at three sites
  - Cherokee County, S.C. (Lee Nuclear Station)
  - Levy County, Fla., near Crystal River
  - Shearon Harris near Raleigh, N.C.