



# Duke Energy Nuclear Programs Update for the South Carolina Nuclear Advisory Council

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*For Information Purposes Only*



# Agenda

- Nuclear Fleet Overview
  - Operating
  - New
- 2015 Performance
- 2016 Initiatives
- US Nuclear Industry

# Current Nuclear Fleet



- Duke Energy Carolinas Service Area
- Duke Energy Progress Service Area
- Overlapping Areas

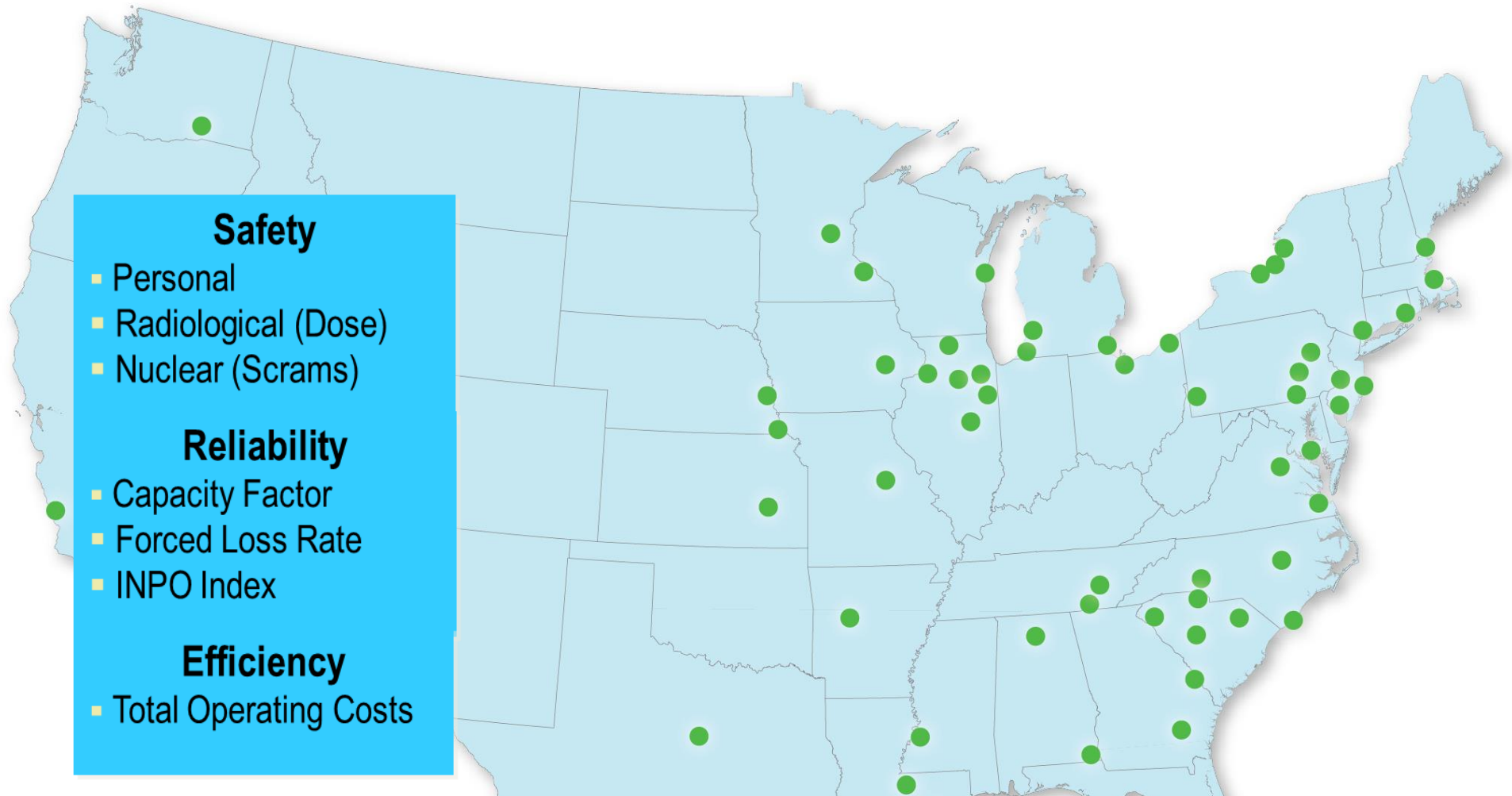
**Duke Energy owns 100% of all units except the Catawba units.**

Station	Capacity (MW)	Units	Commercial Operation	License Expiration
Oconee	2,554	3 PWR	1973	2033, 2034
Catawba	2,290	2 PWR	1985	2043
McGuire	2,316	2 PWR	1981	2041, 2043
Brunswick	1,870	2 BWR	1975	2034, 2036
Harris	928	1 PWR	1987	2046
Robinson	741	1 PWR	1971	2030
Crystal River	Retirement announced 2013			
<b>Total</b>	<b>10,699</b>	<b>11</b>		

# New Nuclear Plants

- Combined construction and operating license (COL) applications
  - Lee (two AP1000 units near Gaffney, South Carolina)
  - Levy (two AP1000 units in Levy County, Florida)
- Levy mandatory hearing scheduled for July 28, 2016
- COLs expected in 2016

# Nuclear Fleet – Key Performance Indicators



2013 Duke Energy nuclear fleet industry ranking = 4 of 9  
2014 Duke Energy nuclear fleet industry ranking = 1 of 8  
2015 Duke Energy nuclear fleet industry ranking = 1 of 8  
**Duke Energy goal = Best fleet in the industry**

# 2015 Generation Highlights

- Fleet capacity factor of 94.21 percent
  - 17th year of fleet capacity factor greater than 90 percent (excluding Crystal River 3 since 2010)
  - Exceeded U.S. industry average for past 23 years
- Oconee record capacity factor of 98.06%
- Both Catawba units completed record breaker-to-breaker runs at the beginning of the refueling outages
- Brunswick dual-unit run of 315 days

# Top Industry Practice (TIP) Awards

- Annual Nuclear Energy Institute awards to utilities
  - New ideas and practices that have a profound and direct impact on the success of the nuclear energy industry
  - 14 awards given out each year
- One Duke Energy TIP winner in 2016
  - Optimization of Nuclear Fleet Standard In-processing – Training Award
  - Ongoing industry-wide initiative to realize the benefits of standardized in-processing at all plants as part of “Delivering the Nuclear Promise”

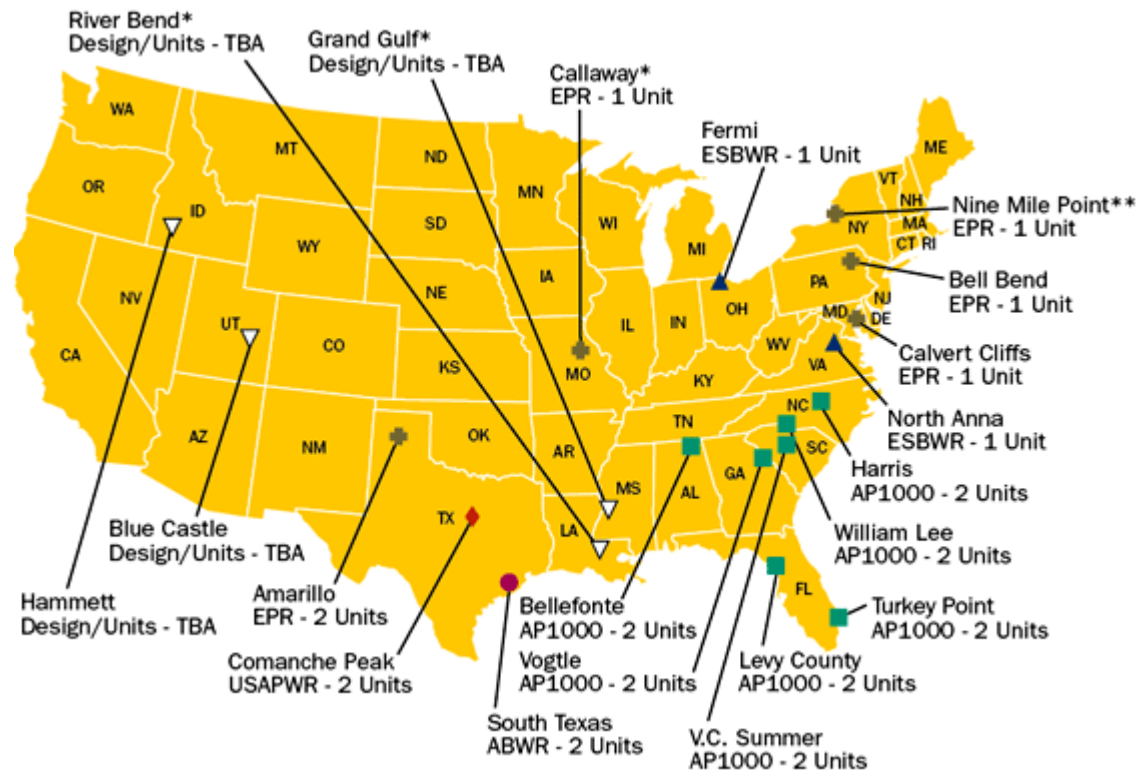
# 2016 Fleet Initiatives

- Sustained Operational Excellence
- Outage Execution
- Employee Engagement and Leadership
- Financial Performance and Productivity



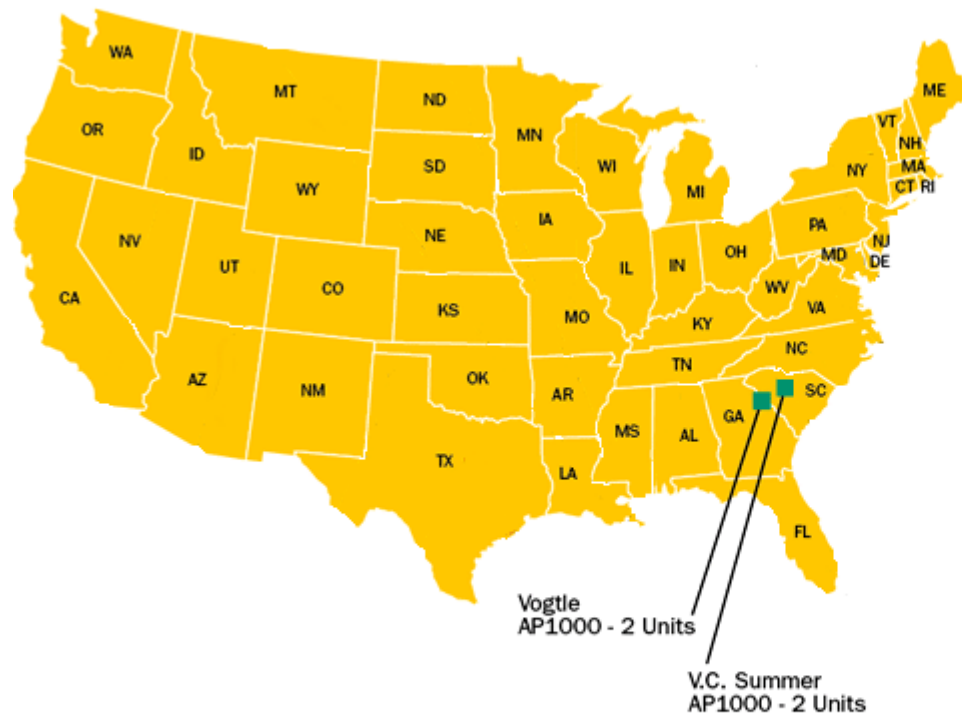
# US Nuclear Renaissance in 2010

Proposed new US nuclear plants:

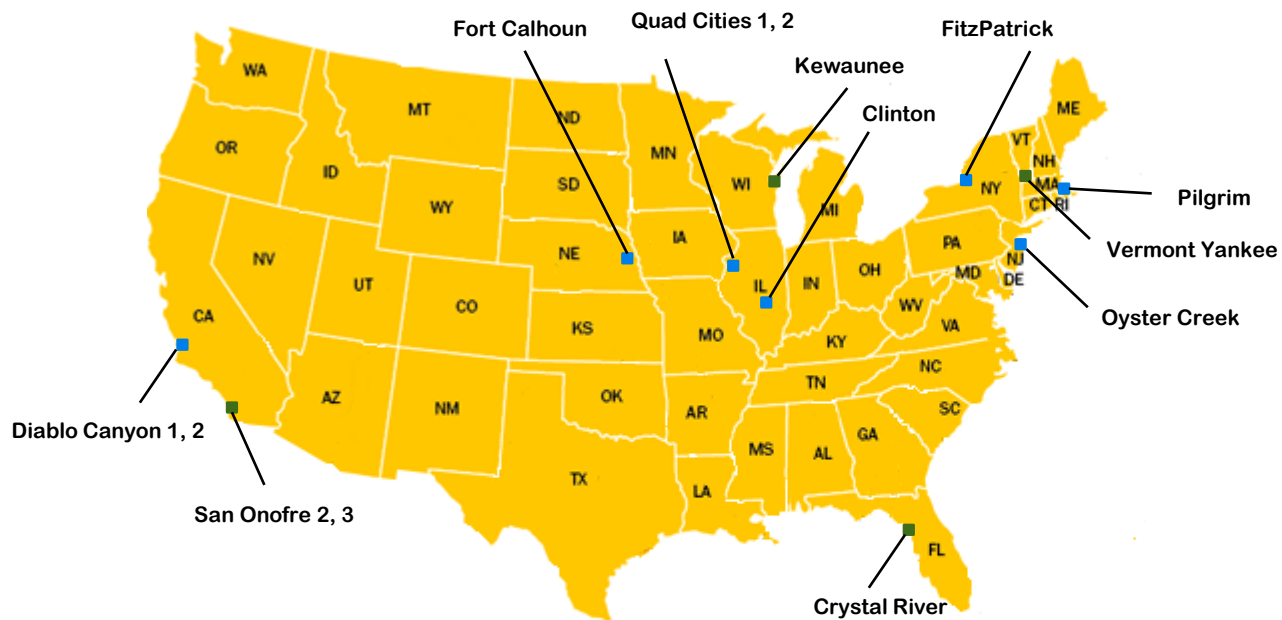


# New Nuclear in 2016

New nuclear plants moving forward with construction:



# Shutdown/Planned Shutdown Plants in 2016



Since 2010:

- Five nuclear units have shut down.
- Nine nuclear units have announced shutdown/retirement.

# Questions ?