Substations at Progress Energy-Carolinas

IEEE Power & Energy Society

Substations Section Meeting

May 21, 2012

Raleigh, NC

Caren Anders – Vice President-Transmission Operations & Planning-Carolinas

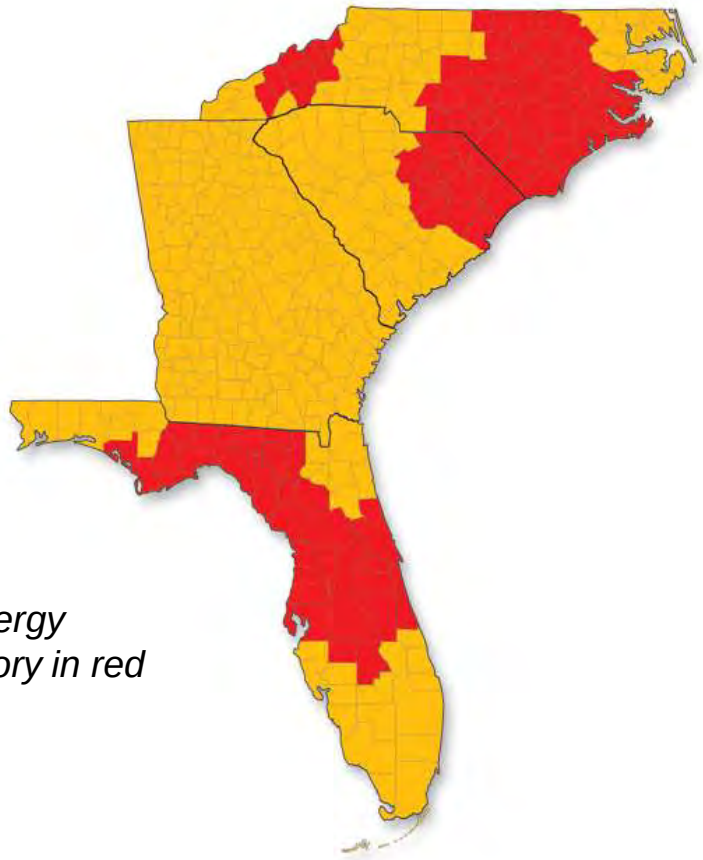
Progress Energy

Substations at Progress Energy-Carolinas – Presentation Outline

- Company Overview
- Construction Evolution
- Implementation Challenges
  - Environmental
  - Property Costs
  - Construction Sequence

Progress Energy at a glance

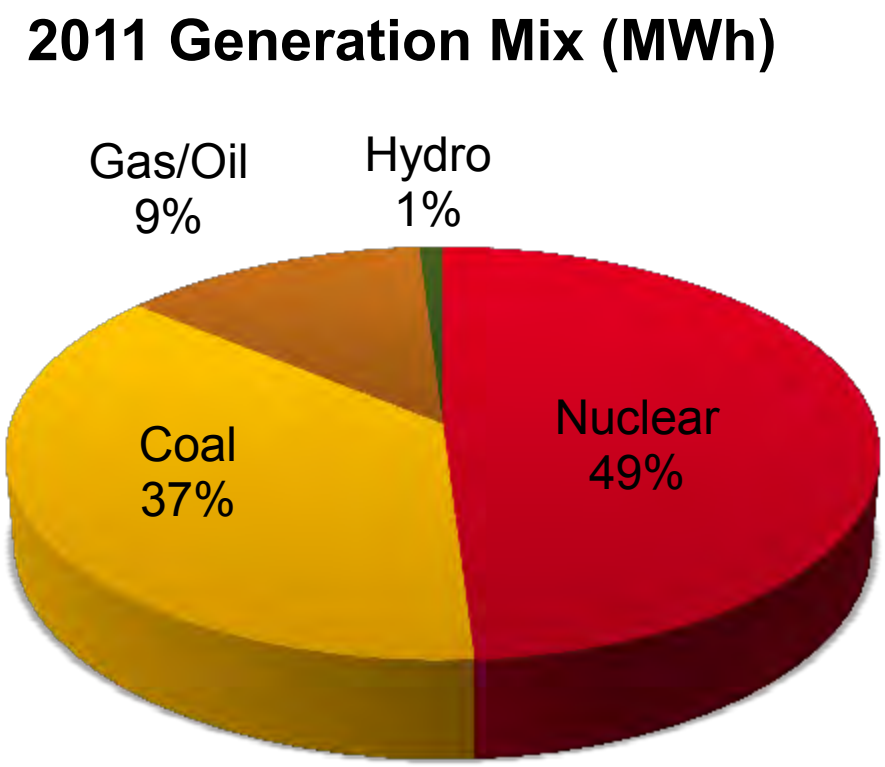
- 3.1 million customers with 23,000 megawatts of generation
- Progress Energy Carolinas - 1.5 million customers
- Progress Energy Florida - 1.6 million customers



Progress Energy service territory in red

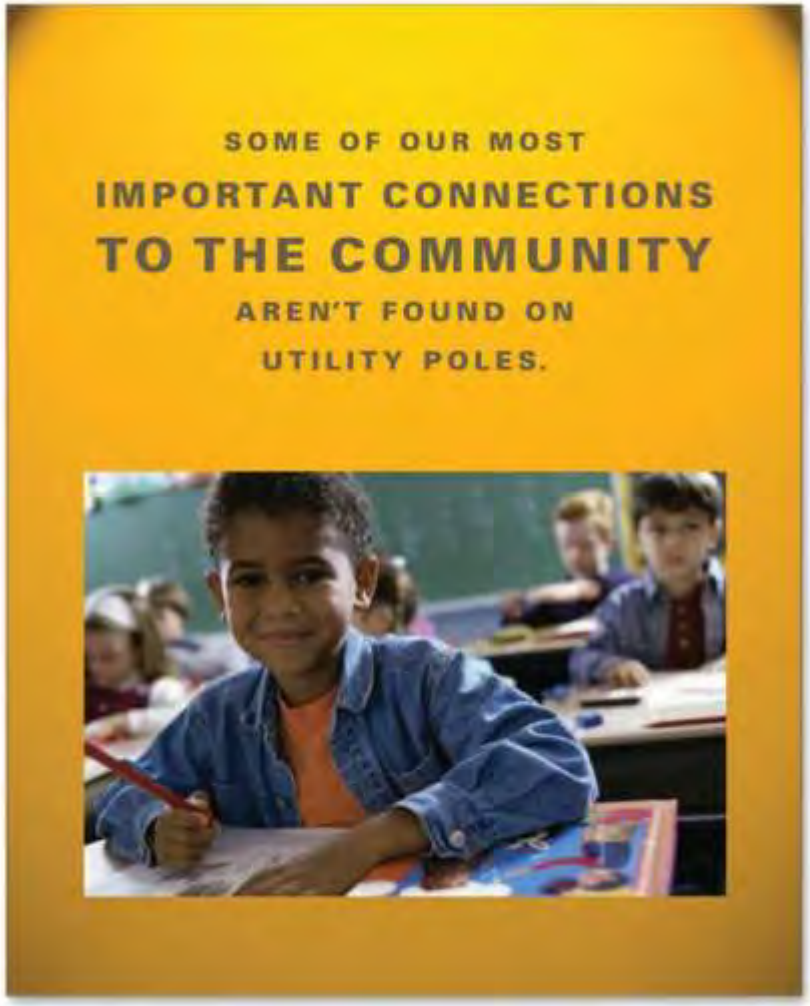
Progress Energy

Carolinas Generation



Progress Energy

Partnering with the communities we serve



2010 Community Investments

- $9 million in corporate giving
- More than $2 million pledged through Employee Giving Campaign
- Nearly $1 million to the Energy Neighbor Fund

Progress Energy

The new energy reality: More customers to serve

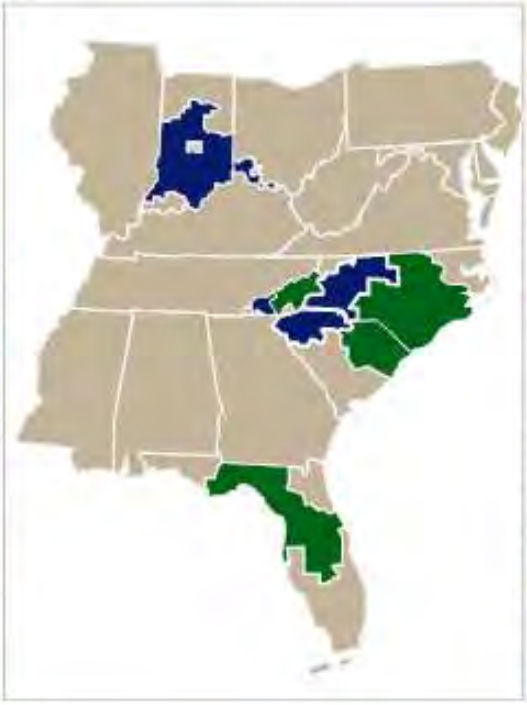
2010

1.5 million customers

2026

1.9 million customers

Progress Energy



Duke Energy®

Progress Energy

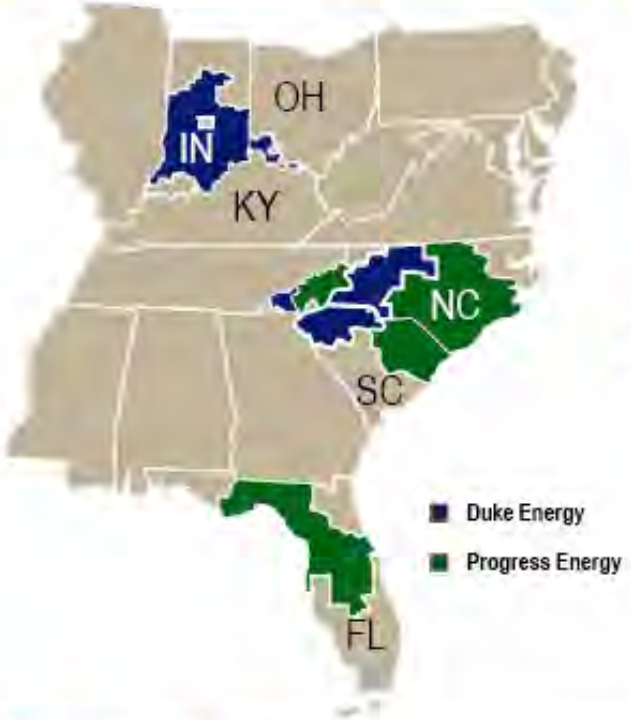
CREATING THE LEADING U.S. UTILITY

January 10, 2011

Attractive, Diversified Operations

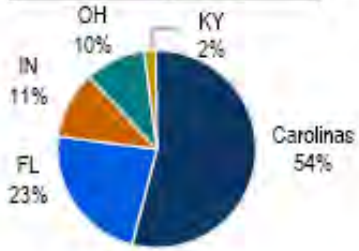
- Presence in six attractive growth service territories with constructive regulatory traditions
- More electric customers than any other U.S. utility, serving 7.1 M domestic regulated electric customers

Diverse Service Territories

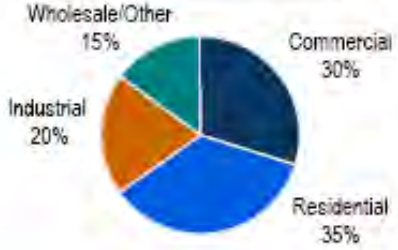


Customer Diversity: 7.1 M regulated customers

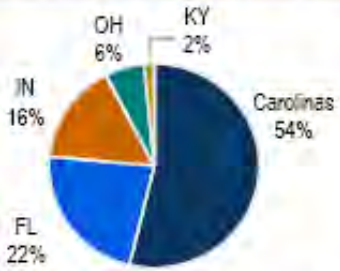
By Geography



By Type: 235 TWh

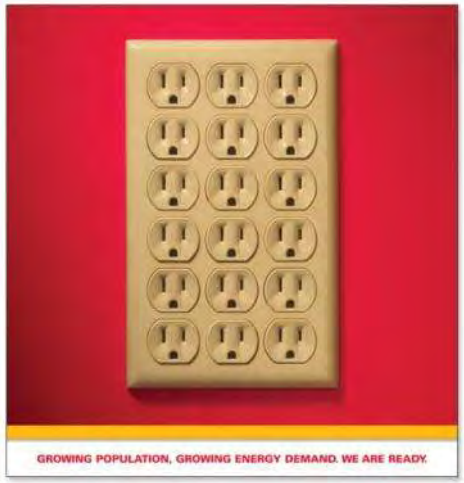


Rate Base Diversity: $40 B



Note: Customer data as of 12/31/2009; rate base data estimated as of 12/31/2010 (see Note on slide 24); customer data only includes regulated customers

The new energy reality:
More energy to power our lives



600 sq ft average increase in home size

1975

Average size of home in 1975 - 1,535 square feet

2009

Average size of home in 2009 – 2,135 square feet

Progress Energy

Substation Assets – Progress Energy-Carolinas

- Transmission/Distribution
  - 332
- Transmission/Transmission
  - 98
- Industrial (T/T & T/D)
  - 81
- Wholesale Points of Delivery (T/T ; T/D)
  - 129

Construction Evolution

- Current preferred structural material : Steel

Construction Evolution

- Wood & Steel Mixture Currently In-Service

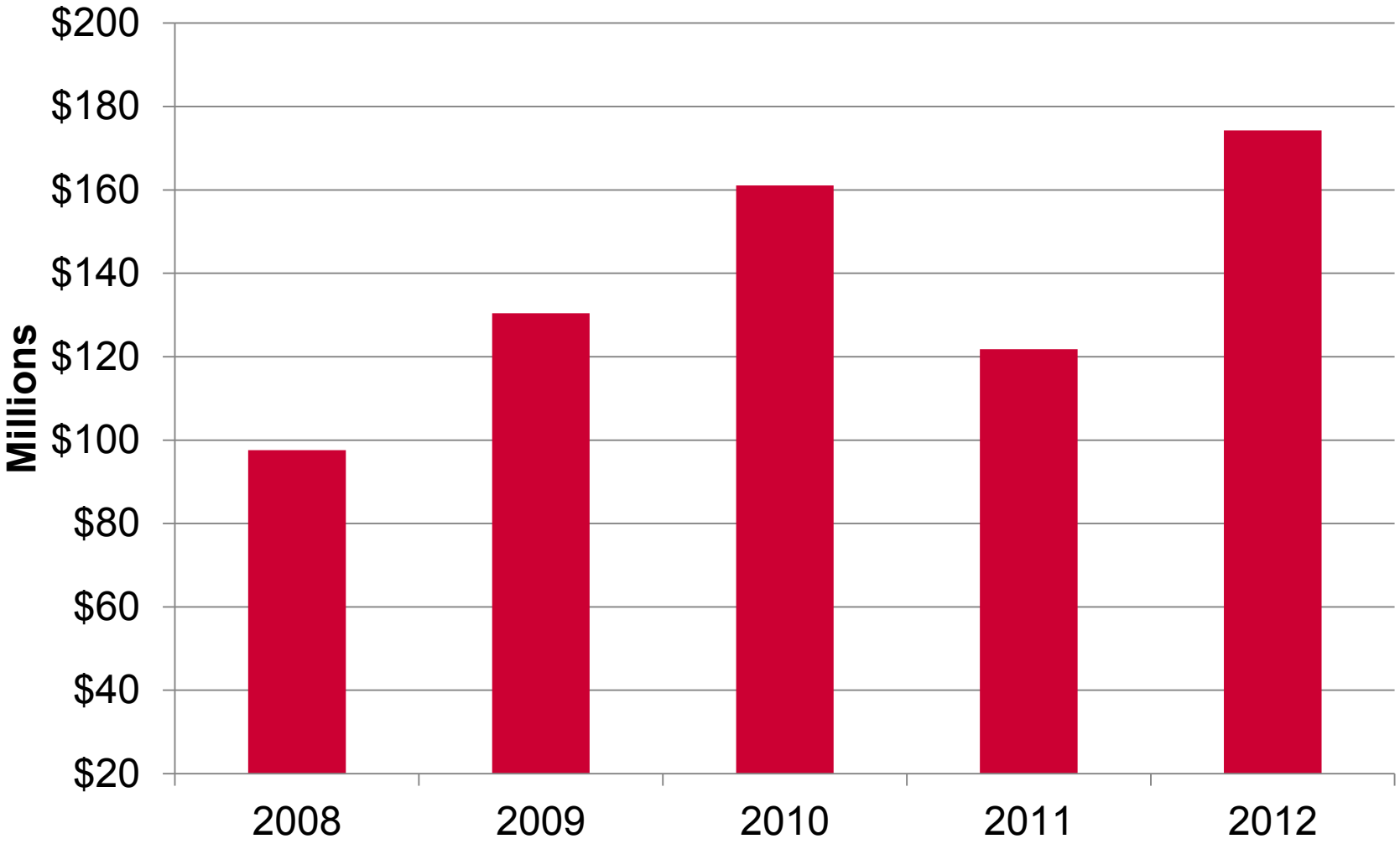
Construction Evolution

- Equipment Foundations
  - Timbers (Wood vs Pre-Cast Concrete Beams)
  - Poured-in-place concrete slabs

Construction Evolution

- High Reliability Substation (HRS) Design

Transmission Capital Budgets



Progress Energy

Implementation Challenges

- Environmental
  - Post-Construction Storm Water

Progress Energy

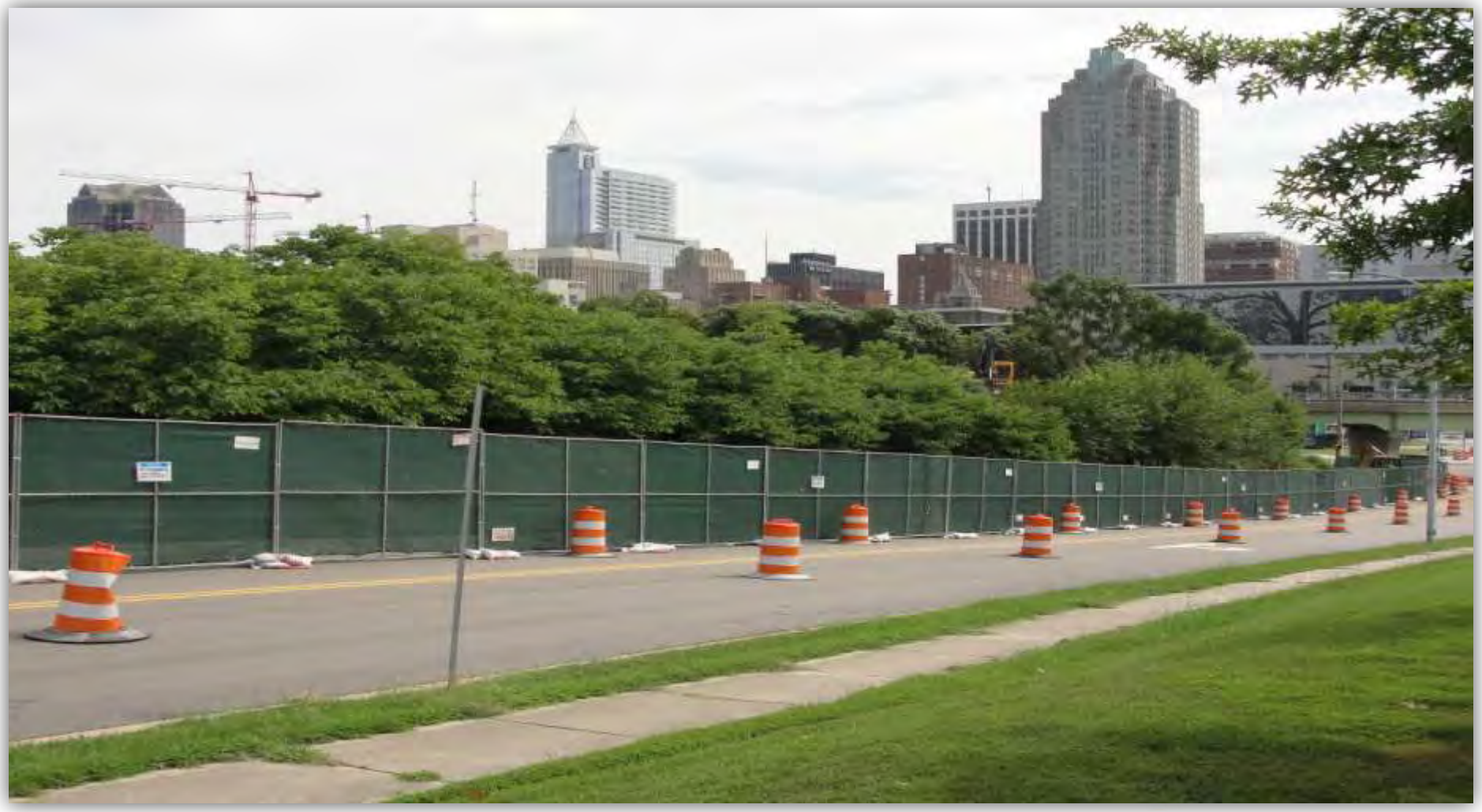
Implementation Challenges

- Environmental Protection Agency (EPA) – SPCC

Implementation Challenges

- Property Costs & Availability

Raleigh Harrington Street 115 kV Substation - August 25, 2010



Raleigh Harrington Street 115 kV Substation - September 1, 2010

Raleigh Harrington Street 115 kV Substation - September 16, 2010

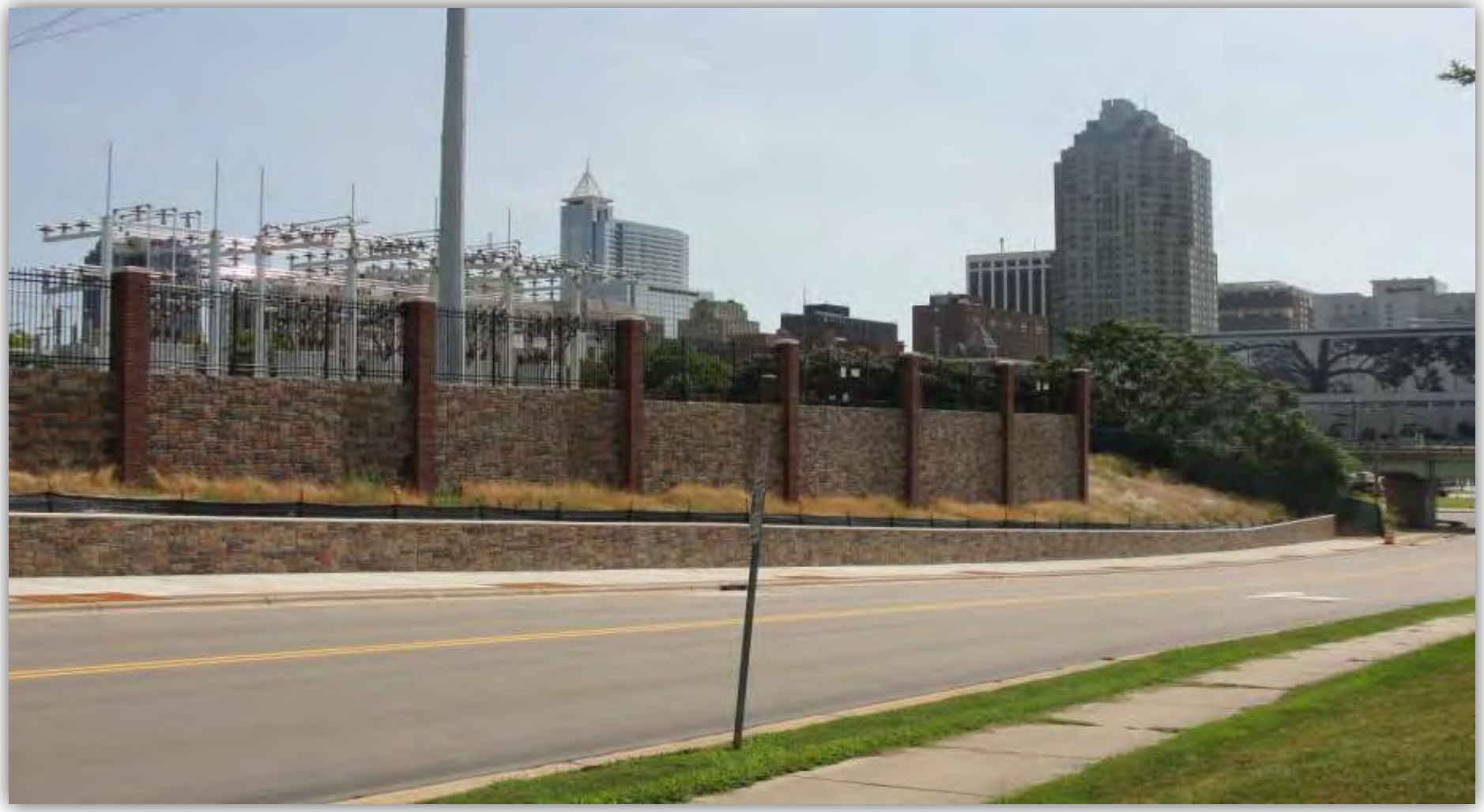
Raleigh Harrington Street 115 kV Substation - October 31, 2010

Raleigh Harrington Street 115 kV Substation - November 29, 2010

Raleigh Harrington Street 115 kV Substation - February 15, 2011

Raleigh Harrington Street 115 kV Substation - March 1, 2011

Raleigh Harrington Street 115 kV Substation - July 14, 2011



Raleigh Harrington Street 115 kV Substation - January 3, 2012

Substations at Progress Energy-Carolinas – Presentation Summary

- Company Overview
- Construction Evolution
- Implementation Challenges
  - Environmental
  - Property Costs
  - Construction Sequence
- Thanks for coming to Raleigh!