

Overview of the North Carolina Utilities Commission and Utility Regulation in North Carolina

Presentation to the N.C. House
Committee on Energy and Public Utilities

March 1, 2017

Who We Are



NORTH CAROLINA UTILITIES COMMISSION

Dobbs Building, 430 North Salisbury Street 27603-5918

4325 Mail Service Center, Raleigh, North Carolina 27699-4300

www.ncuc.net Phone: 919-733-4249 Fax: 919-733-7300

Commissioners

Edward S. Finley, Jr., Chairman

**Bryan E. Beatty
ToNola D. Brown-Bland
Don M. Bailey**

**Jerry C. Dockham
James G. Patterson
Lyons Gray**

Commission Organization



- Administrative agency of General Assembly; legislative oversight by House Committee on Energy and Public Utilities, Senate Committee on Commerce and Insurance, and Joint Legislative Commission on Governmental Operations.
 - Within Department of Commerce for budget purposes
- Seven members: appointed by Governor, subject to confirmation by General Assembly. Terms of four Commissioners now serving are staggered, remaining portions of eight-year terms. Terms of three most recently appointed Commissioners are six-year terms. (*G.S. 62-10*)
- Chairman: appointed by Governor, four-year term, organizes and directs the Commission's work. (*G.S. 62-12, 13*)

Commission Organization (*cont.*)

- Commissioners are subject to standards of judicial conduct and prohibited by law from engaging in any other employment, business or profession while in office (*G.S. 62-10[i]*)
- Commission employs up to 60 people, current staffing is 55, organized among four divisions:
 - Legal, Administrative, Operations, and Fiscal Management
- Certified FY2016 annual budget: \$7,773,281
 - NCUC budget: \$ 7,036,014
 - Gas Pipeline Safety budget: \$ 737,267
 - Gas Pipeline Safety is housed in the Commission and receives partial federal reimbursement
 - The Commission is a fee-funded agency, supported by regulatory fee percentage formula established by General Assembly and applied to the jurisdictional revenues of public utilities (*G.S. 62-302*)
 - The Public Staff maintains its own budget which is separate from the Commission's budget but it is funded by the same regulatory fee

The header image features a dark blue background. On the left, a portion of the Seal of the North Carolina Judicial Branch is visible, showing a figure holding a torch and the date 'MAY 20, 1775'. On the right, there is a photograph of a smiling woman with dark hair, wearing a light-colored top.

Commission's Responsibilities & Procedures

- For the 12-Month Period Ending 6/30/16:
 - 4,099 formal proceedings instituted before NCUC
 - 76 hearings in contested cases
 - 14,201 filings in Chief Clerk's office
 - 3,249 orders issued
 - 706 open dockets as of 6/30/16

Commission's Responsibilities & Procedures (cont.)

- Appeals from general rate case decisions to NC Supreme Court; all others to NC Court of Appeals (absent federal jurisdiction).
- The Commission conducts proceedings pursuant to federal law and participates in proceedings before federal courts and regulatory agencies (*G.S. 62-48*).
- Publication requirements: Commission makes various reports to Governor and General Assembly as directed by statute.
- Limited jurisdiction over municipalities and cooperatives
- No jurisdiction over broadband, cell phone, cable, or internet services

Regulated Entities

(As of 6/30/16)

	<u>QTY</u>
BUS / BROKER	13
ELECTRIC	5
ELECTRIC COOPERATIVES	31
ELECTRIC MERCHANT PLANTS	10
ELECTRIC RESELLER	44
FERRIES	9
MOTOR CARRIERS OF HOUSEHOLD GOODS	286
NATURAL GAS:	
– LOCAL DISTRIBUTION COMPANIES	4
– INTRASTATE PIPELINE	1
SMALL POWER PRODUCERS	902
TELEPHONE:	
– COMPETING LOCAL PROVIDERS	169
– INCUMBENT LOCAL EXCHANGE COMPANIES	16
– LONG DISTANCE CARRIERS	267
– PAYPHONE SERVICE PROVIDERS	55
– SHARED TENANT SERVICES	16
WATER / WASTEWATER	108
WATER / WASTEWATER RESELLERS	<u>1,185</u>
TOTAL	3,122

Industry Revenue Profile



(All figures reflect 12-month period ending June 30, 2016)

- FY2015 Jurisdictional Revenues: \$11.47 billion
 - Electric: \$8.68 billion
 - Telecommunications: \$1.28 billion
 - Includes Local and Long Distance Telephone Companies, Payphone Service Providers, and Shared Tenant Service Providers
 - Natural Gas: \$1.20 billion
 - Water and Wastewater: \$201 million
 - Includes Water/Wastewater Resale Companies
 - Transportation: \$93.3 million
 - Includes Brokers, Buses, Ferries, and Household Goods (HHG) Carriers

Filings & Orders by Industry Group

(For the 12-Month Period Ending 6/30/16)

	<u>Filings</u>	<u>Orders</u>
Electric	1,792	462
Telephone	1,042	127
Natural Gas	611	88
Water/Wastewater	3,138	1,425
Household Goods Carriers	1,044	206
Small Power Producers	5,836	
Other (Bus/Broker, Electric Merchant Plant, EMC, Ferry, Payphone Provider, Renewable Energy Facilities, & Misc.)	<u>738</u>	776
		<u>165</u>
TOTAL	14,201	3,249

Regulation of Public Utilities



- Purpose: protect the public's interest in receiving adequate service at reasonable rates.
- Traditional regulatory bargain: utilities exchange benefit of monopoly franchised service territory for obligation to provide adequate service at reasonable rates.
- Commission's regulatory obligation: to be fair and reasonable to public utilities and their customers.
- Commission's regulatory tools:
 - certification of new facilities
 - rate establishment or review
 - service quality oversight
- Recent trends: regulation of certain utility industries and services by the Commission has become more complex due to changes in State and Federal law and rules, and industry trends. Certain utility services have been fully or partially deregulated.

Ratemaking Overview



- The Commission has ratemaking authority pursuant to several sections of the Public Utilities Act (Ch. 62 of the General Statutes), for example:
 - G.S. 62-130(a); G.S. 62-131(a); 62-133(a).
- Rates shall be “just and reasonable” and “fair both to the public utilities and to the consumer.”
- This statutory authority, as implemented by the Commission, has been interpreted by the state and federal courts in dozens of appellate decisions.
- Based on the cost of service in the test year financial data from a historical 12-month period
 - Updated prior to the hearing to include known and measurable changes following the test year.
- The Commission has 270 days to rule on a general rate case filing

Basic Ratemaking Concepts

$$\text{Ratemaking Formula: } RR = E + (RB \times RoR)$$

- **Revenue Requirement:** the total amount of expenses plus a reasonable rate of return on capital invested. Provides an opportunity, not a guarantee, to earn a given rate of return.
- **Expenses:** a public utility is allowed to recover its reasonable and prudent expenses incurred to deliver service to its customers, based upon a test year that approximates a “typical year.”
 - This includes payroll, taxes, maintenance, depreciation, etc.
 - Expenses are non-capital costs
- **Rate Base:** the depreciated value of the property on which a utility may earn a rate of return, less capital costs provided by ratepayers (depreciation reserve, accumulated deferred taxes, etc.)
 - This includes “net plant in service.”
 - Must be “used and useful.” E.g., power plants, transmission, and distribution lines, etc.
- **Rate of Return:** % return that utility may earn on invested capital, including debt and equity investments. Approximates the utility’s investors’ cost of debt and equity.

Expenses



- Utilities are authorized to recover reasonable and necessary expenses as demonstrated in the test year
- Expenses =
 - Operating expense
 - Payroll
 - Fuel
 - Transportation
 - Customer service
 - Taxes
 - Administrative
 - Uncollectibles
 - Maintenance expense
 - Depreciation expense

Rate Base



- Rate base is the value of property on which a public utility is authorized to earn its rate of return
- **Rate Base =**
Original cost of the utility assets (prudent capital investment)
(minus)
Depreciation expense
 - Investment costs include:
 - Power plants
 - Transmission lines
 - Distribution lines
 - Transformers
 - Computer systems

Rate of Return

- **Rate of Return** = Percentage return that the utility is allowed to earn on its invested capital
- Designed to compensate investors for the cost of using their capital and associated risk
- **Rate of return** composed of three components:
 - Cost of equity
 - Cost of debt
 - Ratio of debt to equity
- **Rate of return** is not a guaranteed return, but it is the maximum allowed return the utility may earn

Rate Design

- Individual rates established to meet the **revenue requirement**
 - Customer rate classes in North Carolina
 - Residential
 - Commercial (General Service)
 - Industrial
 - Various rate schedules in each customer class
 - Designed to mirror the cost of service to each class
- Average retail price of electricity per customer class
 - Residential: 11.22 cents/kwh
 - Commercial: 8.37 cents/kwh
 - Industrial: 5.74 cents/kwh

Source: Energy Information Administration (2016)

Other Mechanisms for Adjusting Utility Rates



- Fuel cost rider
- Renewable energy/energy efficiency rider
- Demand side management/energy efficiency rider
- Pass-through mechanisms
 - Bulk water/sewer
 - Gas pipeline integrity
 - Water system improvement charge
- Purchased Gas Adjustments (PGAs) for changes in benchmark commodity cost of natural gas
- Customer usage tracking adjustments

PURPA and QFs



- PURPA – Public Utility Regulatory Policies Act of 1978
 - 16 USC Chapter 46
- “Qualifying facility” (QF), is defined as:
 - Electric generating facilities of 80 MW or less using hydro, wind, solar, biomass, waste, or geothermal resources; or
 - Co-generation facilities: efficiently produce electricity and thermal energy
- Utility must pay QFs for the energy produced and the capacity constructed.
- Utility must interconnect the QF to the utility’s electric system.

QFs and Avoided Cost



- Generally, QFs are to be paid for the energy and capacity provided to the utility at a rate equal to the utility's avoided cost.
- Avoided Cost is the cost a utility would incur to generate the next unit of electricity
 - Cost of building the generation capacity
 - Cost of generating the energy
- “Avoided” because the utility has procured the electricity from the QF rather than incurring the cost to produce the electricity itself.

How is Avoided Cost Used?



- Establishes payment amounts to QFs
- Also used in various Commission proceedings:
 - Integrated Resource Plans
 - Determining savings from Demand Side Management/Energy Efficiency Programs
 - Determining incremental costs of Renewable Energy Portfolio Standards compliance

Questions/Contact



NORTH CAROLINA UTILITIES **COMMISSION**

Dobbs Building, 430 North Salisbury Street 27603-5918

4325 Mail Service Center, Raleigh, North Carolina 27699-4300

www.ncuc.net Phone: 919-733-4249 Fax: 919-733-7300

Appendices



- A. Selected Mergers and Acquisitions 2003-Present
- B. Industry Specific Information
 - 1. Electric
 - 2. Natural Gas
 - 3. Telecommunications
 - 4. Water and Wastewater
 - 5. Transportation

Appendix A

Selected Mergers and Acquisitions 2003 to Present^[1]

- Electric
 - In 2005, Dominion joined PJM Interconnection, LLC
 - In 2006, Duke Energy acquired Cinergy
 - In 2012, Progress Energy merged with Duke Energy
 - In 2016, Duke Energy acquired Piedmont Natural Gas
- Natural Gas
 - In 2003, Piedmont acquired NCNG and 50% interest in Eastern NCNG
 - In 2005, Piedmont acquired the remaining 50% interest in Eastern NCNG
 - In 2007, Energy West acquired Frontier
 - Pending before the Commission, Frontier's parent company acquisition by FR Bison Holdings

[1] The business combinations presented, although dated, typically engender the greatest interest.

Appendix A (cont.)

Selected Mergers and Acquisitions 2003 to Present^[1]

- Water/Wastewater
 - In 2004, Aqua America acquired stock of Heater
 - In 2006, Hydro Star acquired stock of Utilities, Inc., from nv Nuon
 - In 2007, Utilities, Inc. subsidiaries: Belvedere, Queens Harbor, Riverpointe, and Watauga Vista merged into Carolina Water
 - In 2008, Aqua America subsidiaries: Fairways, Glynnwood, Heater, Mountain Point, Rayco, and Willowbrook merged into Aqua NC
 - In 2009, Pluris acquired North Topsail
 - In 2010, Utilities, Inc. subsidiaries: Carolina Pines and Nero merged into Carolina Water
 - In 2012, Corix acquired stock of Utilities, Inc., from Hydro Star

[1] The business combinations presented, although dated, typically engender the greatest interest.

Appendix B



Industry Specific Overview

1. Electric
2. Natural Gas
3. Telecommunications
4. Transportation
5. Water and Wastewater

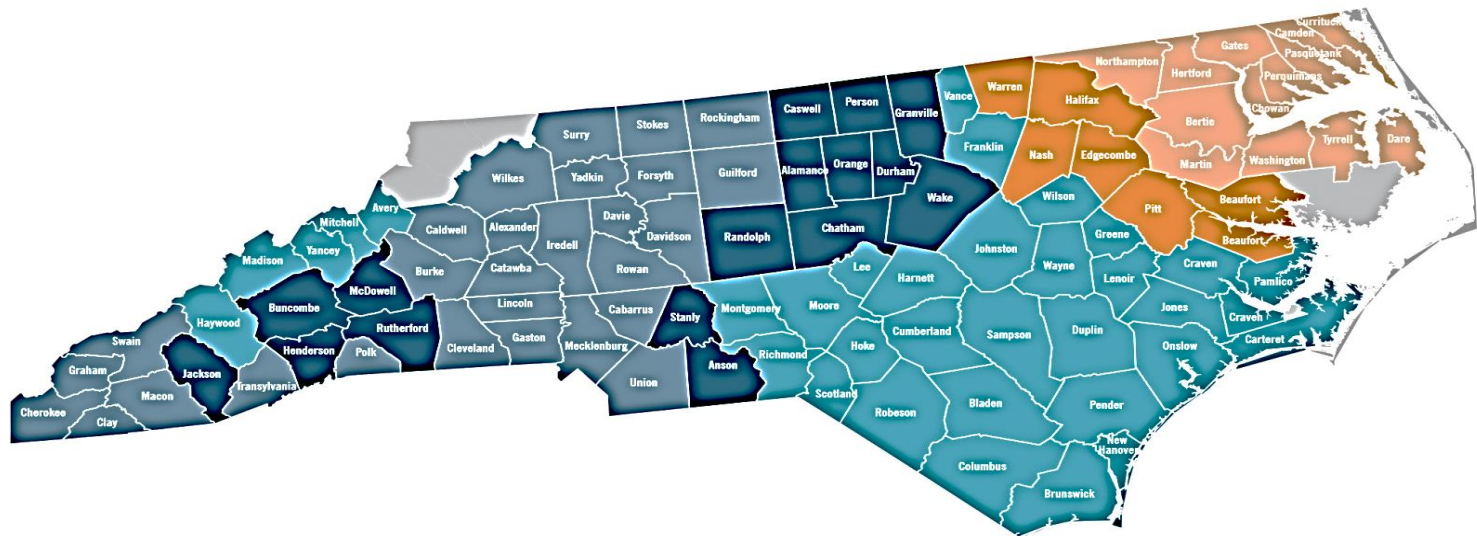
Appendix B. 1. Electric Regulated Electric Utilities

- 3 Investor-Owned Utilities (IOUs)
 - Duke Energy Carolinas – 1,921,000 customers in Piedmont and Western North Carolina
 - Duke Energy Progress – 1,339,000 customers in Eastern and Western North Carolina
 - Dominion NC Power – 120,000 customers in Northeastern North Carolina


As of 6/30/16


Appendix B. 1. Electric


North Carolina Electric IOU Service Area Map



SERVICE TERRITORIES (counties served)

 Duke Energy Carolinas

 Duke Energy Progress

 Duke Energy Carolinas/
Duke Energy Progress overlapping counties

 Dominion North Carolina Power

 Dominion North Carolina Power/
Duke Energy Progress overlapping counties

Appendix B. 1. Electric EMC, Municipal-Owned, & University-Owned

- 31 Electric Membership Corporations (EMCs) – 1,071,000 customers
- About 75 Municipal and University-owned electric distribution systems – 587,000 customers
- Limited Commission jurisdiction: EMCs, Munis, and certain University systems
 - Monitor subsidiary business activities of EMCs to prevent subsidization by electric customers (*G.S. 117-18.1*)
 - EMC territorial assignment issues (*G.S. 62-110.2*)
 - Certification authority for construction of electric generating facilities (*G.S. 62-110.1*) and electric transmission lines of 161 + kV (*G.S. 62-101*)
 - Adjudicate pole attachment disputes (*G.S. 62-350*)
 - Safety jurisdiction over gas pipeline facilities operated by municipalities and similar entities (*G.S. 62-50*)
 - Rates charged to customers of New River Light and Power (Boone) and Western Carolina University (Cullowhee) are regulated by the Commission

As of 6/30/16

Appendix B. 1. Electric

Renewable Energy & Energy Efficiency Portfolio Standard (REPS)

- In 2007, North Carolina became the first State in Southeast to adopt a renewable energy portfolio standard – Session Law 2007-397 (Senate Bill 3)
- REPS requirement may be met through combination of renewable energy generation and energy efficiency savings
- REPS requirement applies to investor-owned electric utilities (electric public utilities), electric membership corporations, and municipal utilities
- REPS requirement increases from 3% of customer electricity use in 2012 to 12.5% by 2021 (for electric public utilities)
- Specific requirements for energy derived from the sun and from poultry and swine waste, with solar requirement that began in 2010
- Cap on incremental cost of compliance, including annual rate adjustments for investor-owned utilities
- Legislation adopting REPS also provides timely cost recovery for new demand-side management programs and energy efficiency measures by electric public utilities, including the opportunity for utility incentives
- The Commission has registered about 1,450 renewable energy facilities, and a third-party renewable energy certificate (REC) tracking system became operational in 2010

Appendix B. 2. Natural Gas Industry Structure



- Three parts of natural gas industry
 - Exploration and Production (E&P)
 - Interstate pipelines and storage facilities
 - Local Distribution Companies (LDCs)
- E&P companies are not price-regulated
- Interstate companies are regulated by FERC (Federal Energy Regulatory Commission)
- LDCs are regulated by state commissions

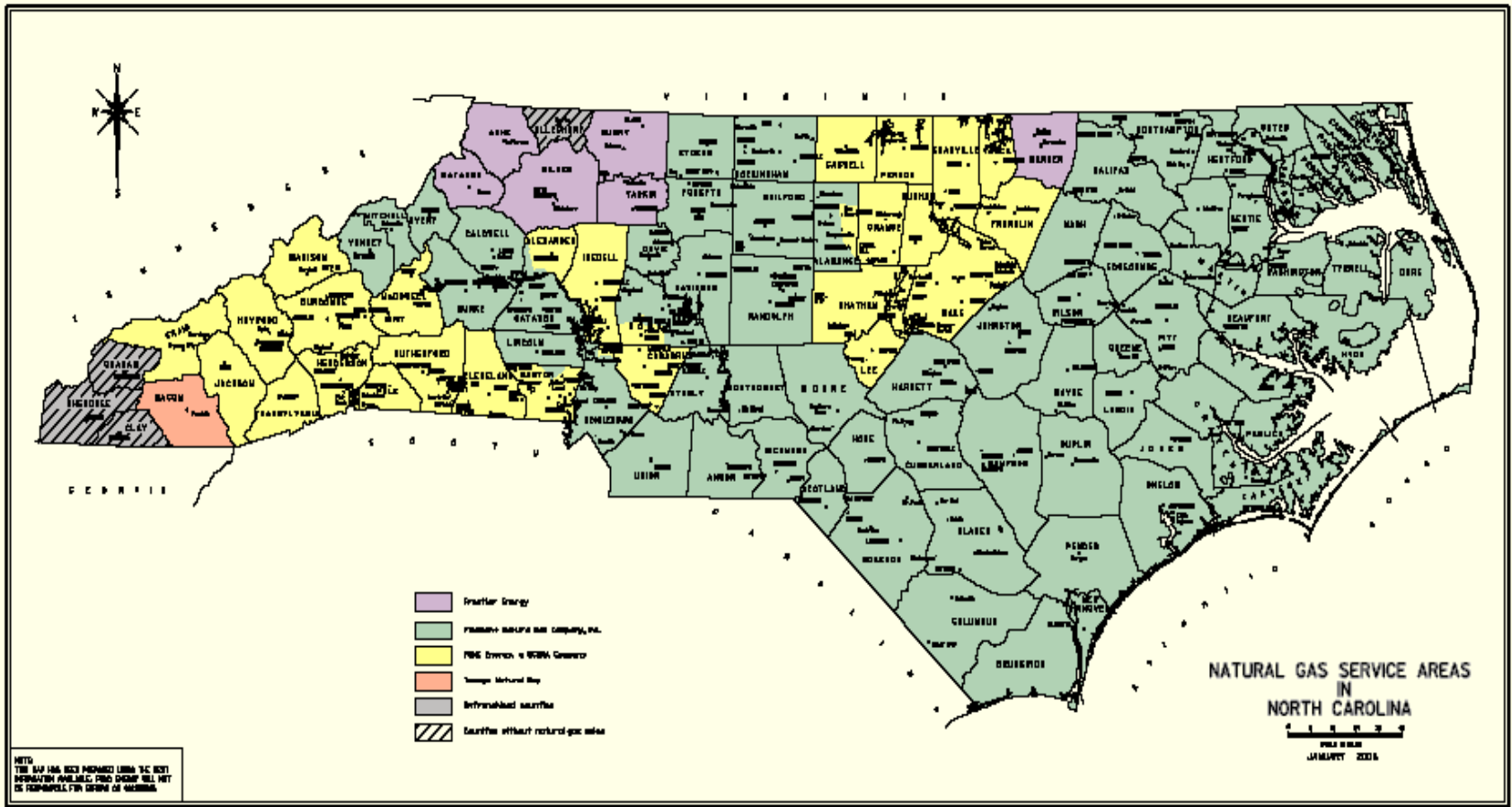
Appendix B. 2. Natural Gas

Natural Gas Utilities



- 4 Local Distribution Companies (LDCs) in the state
 - Piedmont Natural Gas Company, Inc.
 - PSNC Energy
 - Frontier Natural Gas Company, LLC
 - Toccoa Natural Gas
- 1 Intrastate Gas Pipeline (Cardinal Pipeline Company, LLC)
- 8 Municipal Gas Systems – rates not regulated by the Commission
- 1 Interstate Gas Pipeline (Transco) crosses the State
 - 2 others (Columbia and Patriot) provide small volumes
 - Atlantic Coast Pipeline to cross the State in late 2018
- 1 interstate liquefied natural gas storage facility
(Pine Needle LNG Company, LLC)

Appendix B. 2. Natural Gas Local Distribution Companies' Service Territories

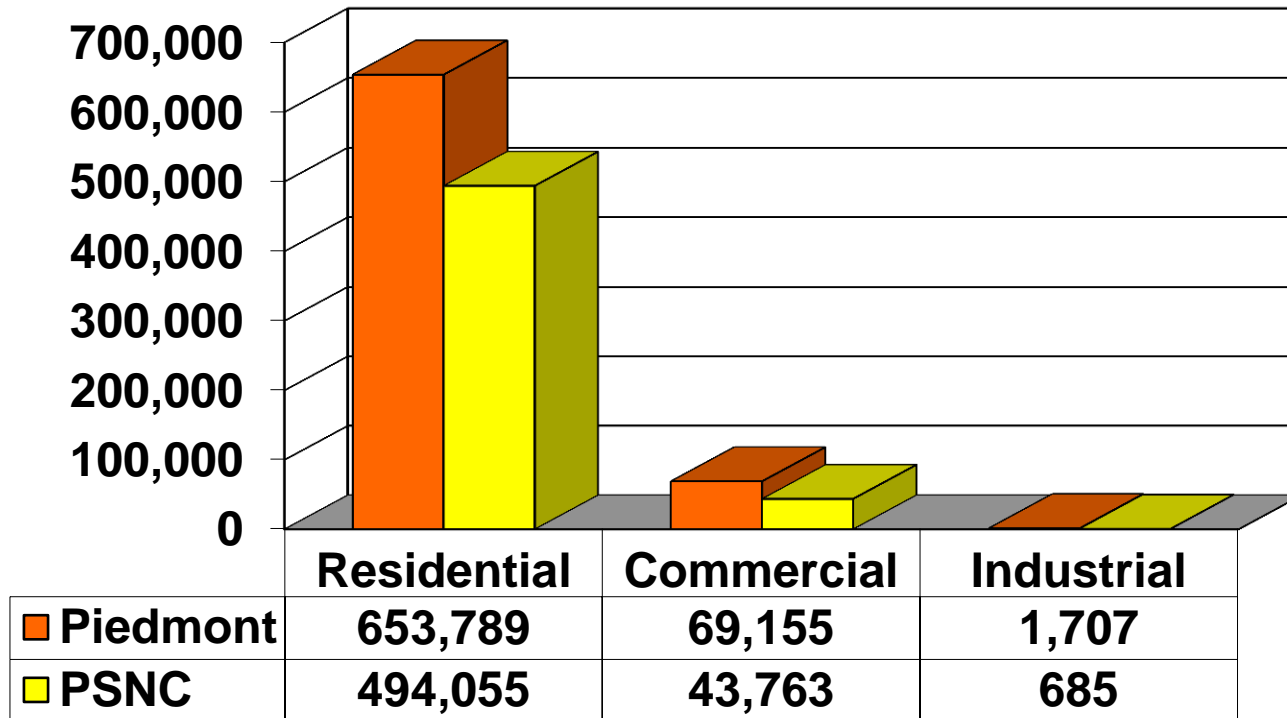


Appendix B. 2. Natural Gas



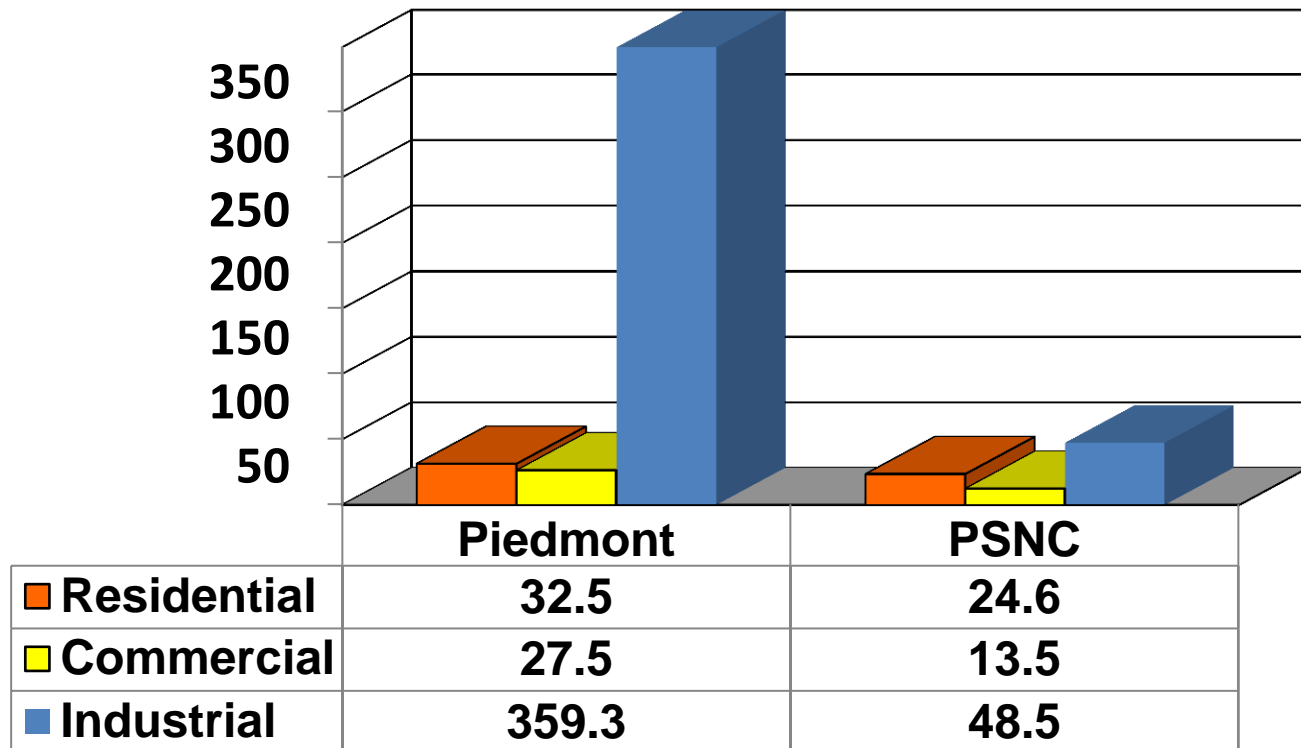
Major Local Distribution Companies' Number of Customers

(As of 3/31/16)



Appendix B. 2. Natural Gas

Major Local Distribution Companies'
Volumes Delivered (In Millions of Dekatherms) (12-Month Period Ending 3/31/16)



Note: "Industrial" volumes include deliveries to gas-fired electric generators;
Piedmont's "Industrial" volumes include deliveries for resale to municipal gas systems.

Appendix B. 2. Natural Gas

State Regulatory Framework For Local Distribution Companies' Rates

- The Commission establishes level of base rates in a general rate case
- LDCs earn a return on equity invested
 - Pass through prudently incurred costs
- LDCs may file purchased gas adjustments at any time
 - To adjust gas cost portion of rates prospectively
 - To pass through the wholesale cost of natural gas
 - LDCs do not profit from high gas prices
- The Commission annually reviews each LDC's gas purchasing practices
 - Compares prudently incurred costs to costs recovered
 - Changes rates to “true up” under-recoveries or over-recoveries

Appendix B. 2. Natural Gas

State Regulatory Framework For Local Distribution Companies *cont.*

Tracker Mechanisms

- Laws allow for certain costs to be recovered outside of a rate case
 - G.S. 62-133.7 – customer usage adjustment
 - G.S. 62-133.7A – safety-related capital expenditure adjustment
- G.S. 62-133.7 – Lets LDCs adjust rates to track customer usage
 - Without this, reduced usage would cause LDCs to under-recover margin
 - Would punish LDCs for promoting conservation and efficiency
 - Tracker allows for rate adjustments to recover rate case margins
- G.S. 62-133.7A. – Lets LDCs put safety-related investments in rate base
 - Federal pipeline safety laws and regulations require major investments
 - Without this, LDCs might have to file frequent “pancaked” rate cases

Appendix B. 3. Telecommunications



Basic Facts: Telecom Utilities

(As of 6/30/16)

- 16 Incumbent Local Exchange Companies (ILECs)
 - 4 ILECs price-plan regulated¹
 - No ILECs remain rate-of-return regulated
 - 8 ILECs Subsection (h) price-plan elected, effective upon filing notice² (G.S. 62-133.5[h])
 - 4 ILECs Subsection (m) price-plan elected, effective upon filing notice³ (G.S. 62-133.5[m])
- 169 Competing Local Providers (CLPs)
 - Rates are not regulated; may raise rates after 14 days customer notice
- 267 Interexchange Long Distance Carriers (IXCs)
 - Senate Bill 814, signed into law on 5/30/03, found long distance services sufficiently competitive and no longer subject to regulation by the Commission. However, the Commission has authority regarding certification and enforcement of slamming and cramming rules.

¹ Barnardsville Telephone Company, Citizens Telephone Company, d/b/a Comporium, Saluda Mountain Telephone Company, and Service Telephone Company.

² Ellerbe Telephone Company, Frontier Communications of the Carolinas Inc., North State Telephone Company, Pineville Telephone Company, Verizon South, Inc. (Knotts Island exchange only), Windstream Concord Telephone Company, Windstream Lexcom Telephone Company, and Windstream North Carolina, LLC.

³ BellSouth Telecommunications, Inc. d/b/a AT&T North Carolina, Carolina Telephone and Telegraph Company LLC d/b/a CenturyLink, Central Telephone Company d/b/a CenturyLink, and MebTel, Inc. d/b/a CenturyLink.

Appendix B. 3. Telecommunications



North Carolina ILECs

(As of 12/31/15)

- Largest NC Incumbent Local Exchange Companies (ILECs)
 - AT&T – 515,826 access lines
 - Carolina Telephone (d/b/a CenturyLink) – 496,104 access lines
 - Frontier – 140,898 access lines
 - Central Telephone (d/b/a CenturyLink) – 109,448 access lines
- All other ILECs serve total of 277,406 access lines in NC

Appendix B. 3. Telecommunications

- Deregulation: The telecommunications industry in North Carolina is largely deregulated.
- The extent of the Commission's authority to regulate a telecommunications company pricing, but not rate of return, depends upon the telecommunications company's election under G.S. 62-133.5:
 - Subsection (h): ILECs must continue to offer stand-alone basic residential lines to all customers who choose to subscribe to that service, and the rate for stand-alone basic residential service may not increase more than the GDP-PI on an annual basis. Commission cannot regulate the rates, terms, conditions, or availability of retail services for Subsection (h) price-plan companies.
 - Subsection (m): company forgoes receipt of any State funding to support universal service. Commission cannot regulate the rates, terms, conditions, or availability of retail services for Subsection (m) price-plan companies, including stand-alone basic residential service. Company does not have any carrier of last resort obligations.

Appendix B. 3. Telecommunications

North Carolina Area Code Map



Appendix B.4. Transportation

(As of 6/30/16)

- **Motor Carriers of Household Goods (HHG)**
 - 286 certificated movers
 - Subject to provisions of Maximum Rate Tariff, effective 1/1/03
 - Provide intrastate transport of HHG
- **Regular Route Passenger Carriers**
 - 2 certificated bus companies
 - Provide passenger service over regular routes
- **Passenger Brokers**
 - 11 licensed brokers
 - Broker tours and trips with charter bus companies
- **Ferryboat Operators**
 - 9 certificated ferryboat operators
 - Provide passenger service via water over authorized routes
 - Commission does not regulate ferries operated by NCDOT's Ferry Division



Appendix B. 5. Water and Wastewater

- Anyone furnishing water to the public for compensation or operating a public sewerage system for compensation is a public utility (*G.S. 62-3(23)a.2*)
- Regulation does not include –
 - Operations with less than 15 residential customers
 - Municipal or County systems
 - Sanitary Districts
 - Mobile Home Parks (where water/wastewater included in rent)
 - Homeowners' Associations
 - Nonprofit and consumer-owned corporations



Appendix B. 5. Water and Wastewater

- The Commission grants certificates for specific service area and regulates rates and service aspects of utility operation
- The Commission does not regulate drinking water quality, but requires compliance with NCDEQ, Division of Water Resources, Public Water Supply regulations
- The Commission does not regulate discharge of sewage being treated, but requires compliance with NCDEQ, Division of Water Resources, Water Quality regulations



Appendix B. 5. Water and Wastewater

- Traditional Companies
 - The Commission establishes base rates in general rate case (*G.S. 62-133 and -133.1*).
 - In general rate case, Company may seek approval of rate adjustment mechanism for investment in eligible repair, improvement, and replacement of water and sewer facilities (*G.S. 62-133.12*). Once mechanism is approved and eligible system improvements are completed and placed in service between rate cases, Company may seek approval to impose water (and/or sewer) system improvement charge (WSIC and SSIC) pursuant to mechanism, subject to 5% statutory cap and Commission procedures (*Rules R7-39 and R10-26*).
 - Company may request a pass-through rate adjustment, outside a general rate case, for changes in costs based on third-party supplier's rates (*G.S. 62-133.11*).
- Resale Companies
 - The Commission establishes rates based upon charges by a third-party supplier of service and an administrative fee (*G.S. 62-110[g]*).

Appendix B. 5. Water and Wastewater

(As of 3/31/16)

- Traditional Companies
 - 44 Water and Wastewater
 - 35 Water only
 - 31 Wastewater only
 - 1,192 Systems
 - 125,289 Water and 58,853 Wastewater customers
- Resale Companies
 - 1,154 Water and/or Wastewater

} 110 Total Companies

Questions/Contact



NORTH CAROLINA UTILITIES **COMMISSION**

Dobbs Building, 430 North Salisbury Street 27603-5918

4325 Mail Service Center, Raleigh, North Carolina 27699-4300

www.ncuc.net Phone: 919-733-4249 Fax: 919-733-7300