North Carolina Utilities Commission
Public Staff

Christopher J. Ayers
Executive Director

Public Staff Origin

- Established in 1977 by N.C. Gen. Stat. § 62-15
- Represents the using and consuming public in North Carolina Utilities Commission (NCUC) proceedings
- Seventy-six staff members organized into nine divisions

Organization

- **9 Divisions**
  - Accounting
  - Communications
  - Consumer Services
  - Economic Research
  - Electric
  - Legal
  - Natural Gas
  - Transportation
  - Water

Funding

- Regulatory fee established by the General Assembly pursuant to N.C. Gen. Stat. § 62-302
- Fee receipts allocated between NCUC and Public Staff
- Public Staff and NCUC budgets are separate

Key Functions

- Appear in NCUC proceedings on behalf of utility customers
- Investigate customer complaints
- Audit public utilities in NCUC rate proceedings
- Undertake studies and make recommendations to NCUC
  - Proposed new service offerings and changes to existing services
  - Proposed construction of generating facilities and transmission lines
  - Mergers and acquisitions involving public utilities
- Interface with general public on utilities issues
- Present testimony and recommendations to NCUC
- Assist legislative staff and legislators regarding proposed legislation as requested
- Work with other State agencies (e.g., DENR) as well as counties and municipalities on regulated utility matters
- Provide information and guidance to parties who intervene in cases before the NCUC

Public Staff Activities (July 2012 – June 2013)

- Involved in **2,530** formal proceedings before the NCUC
- Participated in **58** hearings in contested cases
- Reviewed **11,417** filings made with NCUC and **2,704** orders issued by NCUC

Complaint Investigation

- Complaints include billing/rate issues and service complaints

- Investigated **13,283** complaints in 2012
- Investigated **14,118** complaints in 2013 (as of Nov 25)

- Complaint breakdown by industry in 2013 (as of Nov 25)
  - Electric – 11,647
    - Duke Energy – 5,951
    - Progress Energy – 5,388
    - Dominion NC Power – 308
  - Telecommunications – 850
  - Natural Gas – 579
  - Water/Sewer – 444
  - Transportation -- 598

2013 Major Proceedings

- General rate cases: Duke Energy Carolinas, Duke Energy Progress, Piedmont Natural Gas, Aqua North Carolina
- Electric utility rider proceedings:
  - Fuel cost
  - Renewable energy/energy efficiency
  - Demand side management/energy efficiency
- Avoided cost
- Integrated resource planning
- Renewable Energy Portfolio Standard compliance
- Appeals to Court of Appeals and Supreme Court

Differences Between NCUC and Public Staff

- Independent agencies
  - Separate staffs, leadership and budgets
- NCUC does not direct or oversee the Public Staff's operations
- Public Staff appears as a party before the NCUC
  - Public Staff subject to ex parte rules and cannot independently communicate with NCUC on pending matters
  - Public Staff does not participate in NCUC decision-making
- Staff roles
  - NCUC staff is an advisory staff
  - Public Staff is an audit/advocacy staff

Differences Between Public Staff and Attorney General

- Both the Public Staff and the Attorney General represent the using and consuming public
- Public Staff's sole responsibility is to represent the using and consuming public before the NCUC
  - Attorney General may intervene at his discretion (N.C. Gen. Stat. § 62-20)
- Public Staff has a full-time staff of engineers, accountants, economists, analysts and attorneys
  - Attorney General has attorneys in Consumer Services section and may hire expert witnesses
- Public Staff and Attorney General are completely independent of one another

Ratemaking Overview

- Utility base rates are established pursuant to statute
  - N.C. Gen. Stat. § 62-133
- Based on the cost of service in the test year
  - Test year – Financial data from a historical 12-month period
    - Update to include known and measurable changes following the test year
- NCUC has 270 days to rule on a general rate case filing

Revenue requirement

- Revenue requirement is the amount of money the utility needs in order to recover its investment, expenses and reasonable rate of return on its investment

Revenue Requirement = Expenses + (Rate base * Rate of return)

Expenses

- Utilities are authorized to recover reasonable and necessary expenses
- Operating expense
  - Payroll
  - Fuel
  - Transportation
  - Customer service
  - Taxes
  - Administrative
  - Uncollectibles
- Maintenance 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 calculation:

  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

- 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 → it is the maximum allowed return the utility may earn

Ratemaking Formula

Revenue Requirement = Utility capital investment * Rate of return) + Expenses

Rate Design

- Individual rates established to meet the revenue requirement
  - Customer rate classes and North Carolina average
    - Residential
    - Commercial
    - 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: 10.91 cents/kwh
    - Commercial: 8.66 cents/kwh
    - Industrial: 6.42 cents/kwh

Source: Energy Information Administration (2012)

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

Avoided Cost

- The cost a utility would incur to generate the next watt of electricity
  - Cost of building the capacity
  - Cost of generating the energy
- “Avoided” because the utility has procured the electricity from another source rather than incurring the cost to produce the electricity itself

Required by PURPA

- PURPA – Public Utility Regulatory Policies Act
  - 16 USC Chapter 46
- Utility must pay certain renewable energy producers for their generated electricity – known as Qualifying Facilities (QF)
  - Generating facility of 80MW or less
  - Hydro, wind, solar, biomass, waste or geothermal resources
  - Co-generation: Efficiently produces electricity and thermal energy
- Pay for the energy produced and the capacity constructed

How is Avoided Cost Calculated?

- Based on the cost (per kWh) of building a new power plant in today's market
  - In today's market, the comparison is to a gas combustion turbine power plant
  - Estimate the cost of the energy and capacity the utility avoids by not building the plant

Example: 3MW solar facility running at 20% capacity factor 365 days; 6¢/kwh – energy charge; 3¢/kwh – capacity charge

Avoided energy cost payment [$315,360]= 3,000kw * 8,760 hrs * .20 * .06

Avoided capacity cost payment [$157,860]= 3,000kw * 8,760 hrs * .20 * .03

Total annual avoided cost payment = $473,040

How is Avoided Cost Used?

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

Integrated Resource Plan

- Pursuant to N.C. Gen. Stat. § 62-133.8
- Filed by electric utilities every two years (updated annually)
- Projection of:
  - Electricity demands
  - Generation resources
  - Planned construction/retirements of generating units
- Facilitates short and long-term planning for electricity needs

Emerging Issues

- EPA new and existing source CO_2 rules
- Integration of distributed generation resources into electric grid
  - Cost of backstanding
  - Equitable distribution of fixed costs
- Nuclear energy
  - Aging nuclear fleet
  - Increasing construction costs
- Energy efficiency and demand side management
- Shift toward gas powered generating facilities
- Cybersecurity
- Integration of smart grid technology

Contact Information

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