PUCN

Public Utilities Commission of Nevada

Presentation to the Legislative Committee on Energy
November 20, 2015

The Ratemaking Process

Exhibit D - ENERGY
Document consists of 19 pages.
Entire exhibit provided.
Meeting Date: 11-20-15

Cost of Service Ratemaking

An Unregulated Firm:

- Starts with sales, subtracts expenses to get net revenues.
- Divide the net revenues by $ invested to determine Rate of Return.

A Regulated Utility:

- Exactly Reversed
- Start with the Rate of Return, multiply by the amount invested, plus the annual expenses = "Revenue Requirement".

Rate Components

- "BTGR" – Base Tariff General Rate
  - Wages & Benefits, Office expenses, Meters, Trucks, Capital Costs of Power Plants (includes operating expenses and a Rate of Return)
    - Legislative impacts: SB123 (2013 session), SB87, SB416 (2015 session)
- "BTER" – Base Tariff Energy Rate
  - A forecasted rate to recover the expected cost of fuel and market purchases of power only
    - Legislative impacts: SB123, SB252 (2013 session) , AB1 of 28th Special Session (2014)
- "DEAA" – Deferred Energy Accounting Adjustment
  - Recovers the difference between the forecasted and the actual cost of fuel and purchased power.
- "EE" – Energy Efficiency Rates (EEIR and EEPR)
  - Recovers the 'lost revenues' and program costs of NVE as a result of Energy Efficiency Measures
    - NRS 704.785 and NRS 704.786
- "REPR" – Renewable Energy Program Rate
  - Recovers the expenditures made to promote renewable energy under NRS 701B.
    - Legislative impacts: AB428 (2013 session)
- "TRED" – Temporary Renewable Energy Development
  - A trust payment to benefit a solar project . NRS 704.7827.
- "UEC" – Universal Energy Charge
  - A subsidy used to assist low-income customers with their energy bills and weatherization. NRS 702.150-NRS 702.170.

Types of Rate Applications

General Rate Cases

- Filed every three years
- Return on assets + cost recovery
- Does not include fuel & purchased power costs
- Base Tariff General Rate (BTGR)

Deferred Energy Cases

- Set the DEAA and BTER
  - BTER and DEAA are set quarterly
  - Recovery of fuel and purchased power costs
  - $1 recovery for $1 spent (no profit)
  - Deferred Energy Accounting Adjustment (DEAA)
    - Collects the difference between estimated and actual costs –along with EE rates.

Note: Nevada electric and gas utilities purchase power because they do not always generate 100% of customer needs. This strategy is addressed in Integrated Resource Plan filings for electric companies and gas supply plans for gas companies.

Rate components – 2015 Residential Single Family house

- Customer charge – $12.75
- BTGR rate – 0.06999 per kWh
- BTER rate – 0.04488 per kWh
- DEAA rate – 0.00000 per kWh
- UEC rate – 0.00039 per kWh
- TRED rate – 0.00062 per kWh
- REPR rate – 0.00051 per kWh
- EE rate – 0.00245 per kWh

- Total variable rate: 0.11884 per kWh

- Average usage: 1,141kWh per month
- Average monthly bill: $148.35

Nevada Power Co.

- Customer charge – $15.25
- BTGR rate – 0.05793 per kWh
- BTER rate – 0.03842 per kWh
- DEAA rate –(0.00250) per kWh
- UEC rate – 0.00039 per kWh
- TRED rate – 0.00105 per kWh
- REPR rate – (0.00422) per kWh
- EE rate – 0.00198 per kWh

- Total variable rate: 0.09305 per kWh

- Average usage: 758 kWh per month
- Average monthly bill: $85.78

Sierra Pacific Power Co.

Rate components – 2015 General Service (Small businesses)

- Customer charge – $27.50
- BTGR rate – 0.02704 per kWh
- BTER rate – 0.04469 per kWh
- DEAA rate – (0.00250) per kWh
- UEC rate – 0.00039 per kWh
- TRED rate – 0.00082 per kWh
- REPR rate – 0.00051 per kWh
- EE rate – 0.00177 per kWh

- Total variable rate: 0.07272 per kWh

- Average usage: 748 kWh per month
- Average monthly bill: $81.89

Nevada Power Co.

- Customer charge – $32.00
- BTGR rate – 0.04422 per kWh
- BTER rate – 0.03842 per kWh
- DEAA rate –(0.00250) per kWh
- UEC rate – 0.0039 per kWh
- TRED rate – 0.00105 per kWh
- REPR rate – (0.00422) per kWh
- EE rate – 0.00174 per kWh

- Total variable rate: 0.07910 per kWh

- Average usage: 1275 kWh per month
- Average monthly bill: $132.85

Sierra Pacific Power Co.

Rate components – 2015 NPC Large General Service (LGS)

- Customer charge – $21.10
- BTGR rate – 0.02091per kWh
- BTER rate – 0.04469 per kWh
- DEAA rate – (0.00250) per kWh
- UEC rate – 0.00039 per kWh
- TRED rate – 0.00082 per kWh
- REPR rate – 0.00051 per kWh
- EE rate – 0.00177 per kWh
- Total variable rate: 0.06659 per kWh
- Demand charge per kW – $4.35
- Facilities charge per kW – $4.22
- Average usage: 11,330 kWh per month
- Average usage: 33 kW per month
- Average monthly bill: $1,058.37

Nevada Power Co.

Rate components – 2015 SPPC Large General Service (GS-3S)

- Customer charge – $537.00
- Avg. Summer BTGR – 0.03982/kWh
- Avg. Winter BTGR – 0.01165 /kWh
- BTER rate – 0.03842 per kWh
- DEAA rate –(0.00250) per kWh
- UEC rate – 0.0039 per kWh
- TRED rate – 0.00105 per kWh
- REPR rate – (0.00422) per kWh
- EE rate – 0.00159 per kWh

- Avg. Summer Demand/kW – $7.00
- Avg. Winter Demand/kW – $1.24
- Facilities charge per kW – $4.22

- Average Summer: 83,402 kWh/month
- Average Summer Demand: 1,212 kW
- Average Facilities Demand: 1806 kW
- Average Summer bill: $23,152.68

- Average Winter: 214,559 kWh/month
- Average Winter Demand: 473 kW
- Average Facilities Demand: 1806 kW
- Average Winter bill: $19,449.19

Sierra Pacific Power Co.

Rate components – 2015 NPC Large General Service (LGS-XP))

- Customer charge – $7,750
- Avg. Summer BTGR – 0.01861/kWh
- Other BTGR – 0.00708 /kWh
- BTER rate – 0.04469 per kWh
- DEAA rate – (0.00250) per kWh
- UEC rate – 0.00039 per kWh
- TRED rate – 0.00082 per kWh
- REPR rate – 0.00051 per kWh
- EE rate – 0.00176 per kWh

Avg. Summer Demand/kW – $7.42
Other Demand/kW – $0.60
Facilities charge per kW – $1.63

- Average Summer:1,370,750 kWh/month
- Average Summer Demand:14,540
- Average Facilities Demand: 24,047 kW
- Average Summer monthly bill: $242,561

- Average Other: 6,495,737 kWh/month
- Average Other Demand: 12,148
- Average Facilities Demand: 24,047 kW
- Average Other monthly bill: $395,066

Nevada Power Co.

Determining "Just and Reasonable"

- General Rate Cases – every 3 years
  - Cost of Capital –
    - Determines the range of reasonable rates of return (This is not a guarantee!)
  - Revenue Requirement –
    - Determines what investments and expenses are "Used and useful" as well as "Just and Reasonable"
  - Rate Design –
    - Determines 'Who Pays What and How'

Cost of Capital – Practical and Policy Considerations

- Allowed returns should promote financial integrity and reasonable capital attraction terms for the regulated firm.
- Positive net revenues from utility operations are not guaranteed, even though rates must be set to yield prospectively market-required COCs on prudent operations.
- Regulators must balance interests of ratepayers and utility investors and serve the public interest in setting rates and allowed returns.
- Regulators have wide discretion, especially in methods they use; judicial review focuses on the reasonableness of the end-result allowed returns, not on methodological choices.

Revenue Requirement

- "Used and Useful" – Are the equipment, structures, etc. being used and in a useful manner?
- "Just and Reasonable" – More of a personal benchmark
- "Prudent" – Was this a logical thing to do? (Build this plant, substation, size, etc.)
- Utilities use a historical 'test year' to determine the revenue requirement going forward.

Cost of Service Studies

- Are used to allocate revenue requirement between customer classes

- Embedded – Southwest Gas and small water companies tend to use this one. Embedded studies look at the past to see what plant has been installed for each class.
- Marginal – NV Energy uses this kind. Marginal studies look to the future to see what plant or technology will be needed to serve the classes and load in the future.

Purpose of a good Cost of Service Study:

- Limits interclass and intraclass rate subsidies
- Tracks costs and provides accurate price signals
- Enhances revenue stability

Customer Costs

Costs incurred to serve customers without regard to usage

- Meters, service lines, distribution lines
- Meter reading, billing and collections
- Capital costs for plant, equipment (ROI)

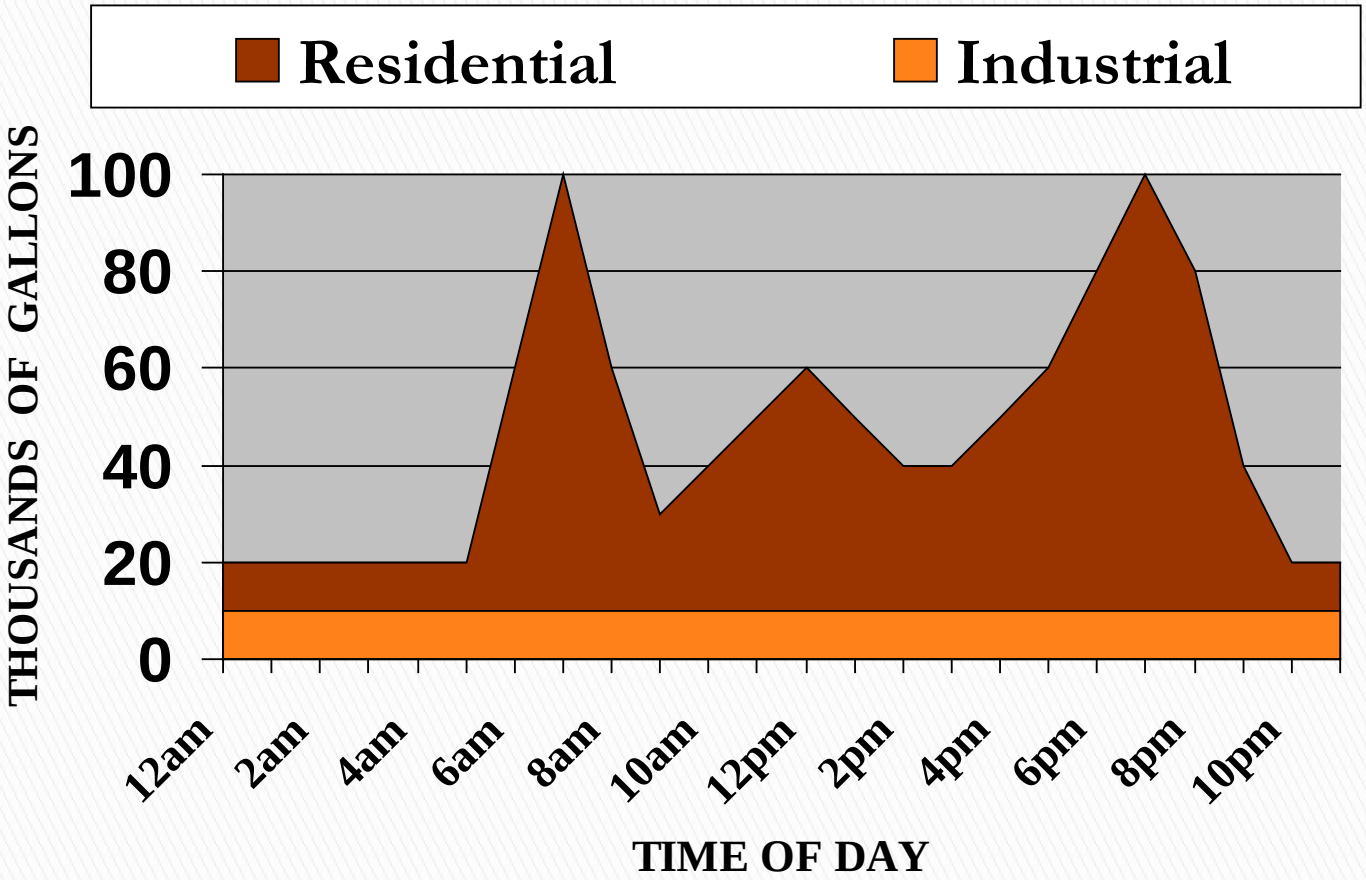
Energy or Unit Costs:

Costs that vary with consumption of the good (i.e. Kilowatt-hours, gallons)

- Fuel costs
- Some labor costs
- Operations and Maintenance costs

Capacity or Demand Costs

The most complex and murky. They are joint costs that without, there could be no customer or demand costs. For example, sometimes costs are allocated based on Coincident System Peak, sometimes Noncoincident Peak, and other economic methods.



Consider peak demands

Any system must be designed to handle peak usage, however not all classes contribute equally to the variation in peak.

It is not considered discriminatory to charge peak users more than non-peak users if the higher charge only covers the incremental cost of the capacity used.

Rate Design (or Fair vs. Equal)

- Attributes of a sound rate structure:
  - Effective at yielding total revenue requirements
  - Provides for revenue stability and predictability for all parties
  - Discourages wasteful usage
  - Reflects private and social costs and benefits
  - Is fair in allocating costs among customers
  - Avoids undue discrimination
  - Efficient in promoting innovation and changing demand/supply
  - Simple, convenient, understandable, publicly acceptable, feasible, and easy to collect.

- Examples:
  - Uniform rate per Kilowatt-hour
  - Block energy rates (increasing, declining)
  - Two part rates (Demand and Energy)
  - Three part rates (Customer, Energy, Demand)
  - Interruptible
  - Based on voltages

  - Always tempered by Public Policy concerns.

If you have further questions, please feel free to contact us:

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