

# SERC and BPU Partnership

## The BPU's Experience in Ensuring Quality and Security of Energy Supplies

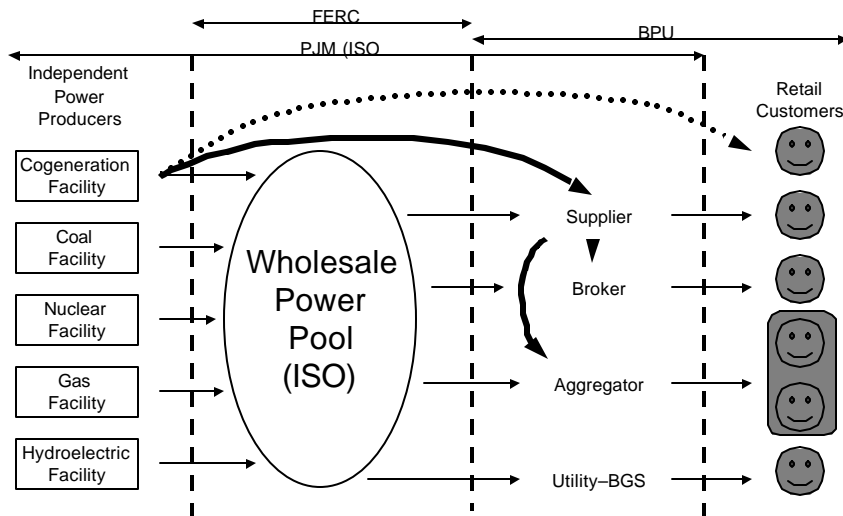
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1

## New Jersey's Wholesale Energy Market



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2

# FERC

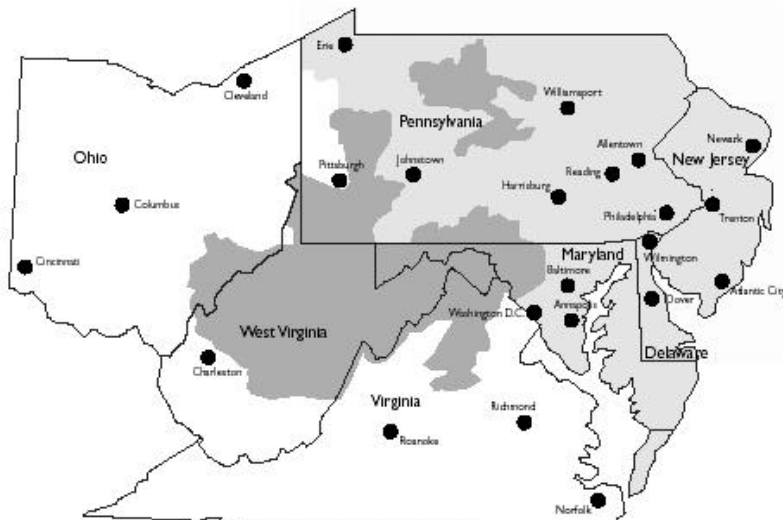
- Regulates the operation of PJM as the independent system operator
- Approves wholesale interstate rates and tariffs
- Resolves issues among ISO members and PJM
- Ensures nondiscriminatory access to transmission system

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3

# PJM Electric System



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# PJM

- Coordinates the transmission of energy throughout the mid-Atlantic states
  - In operation for 75 years
  - Opened first wholesale market in 1997
  - Fully functioning regional transmission organization
- Ensures the reliability of one of the largest electric systems in North America
- Administers the largest wholesale electric market in the world
- Provides real-time pricing information to its member
- Operates independently and neutrally

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5

# PJM (cont'd)

- Manages access to transmission facilities
  - Provides nondiscriminatory access to all members
  - Plans transmission and generation maintenance and expansion
    - Reduce “congestion” resulting from increased customer demand
    - Allow for addition of new generation facilities
- Balances energy availability with demand
  - Initiates emergency purchases from other ISOs
  - Recalls energy sold outside the system
  - Initiates load reduction measures
    - Voluntary customer load reduction programs
    - Mandatory load shedding

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## PJM (cont'd)

- Requires all members to adhere to a Reliability Assurance Agreement (RAA)
  - Members must maintain  $\cong$ 18%-20% capacity reserve margin through the availability of generation or through capacity contracts

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## PJM Statistics

(Statistics include recent addition of PJM West)

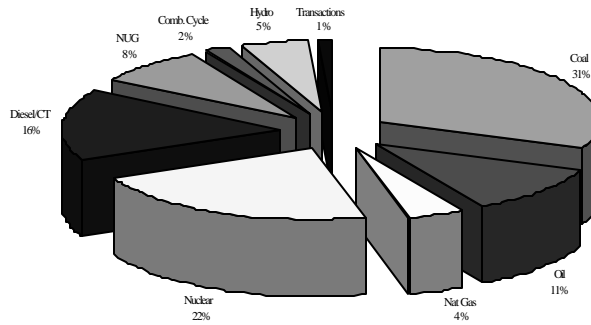
- 25.1 million people in its control area
- 614 generation facilities
- 298,011 gigawatts of annual energy
- 13,100 miles of transmission lines
- Over 67,000 megawatts of capacity
- Over 200 members
  - Transmission owners
  - Distributors (utilities)
  - Generators
  - Suppliers
  - Large Customers

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## PJM Installed Capacity - 2000



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9

## BPU

- Regulates the retail distribution of energy by utilities to customers
- Licenses alternate energy suppliers
- Approves distribution rates and tariffs
- Resolves issues among utilities, suppliers and customers
- Ensures nondiscriminatory practices by utilities and energy suppliers
- Encourages load reduction programs by utilities

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10

## BPU (cont'd)

- Conducts ongoing reviews of reliability for each utility
  - Ensures that utilities have adequate funding to maintain and improve distribution system
  - Investigates service interruptions and initiates corrective action when necessary
- Implements energy efficiency and renewable energy programs
  - \$1 billion in funding over eight years
  - Promotes distributed generation
- Encourages utilities to uncover and reduce theft of electric service

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11

## New Jersey Electric System

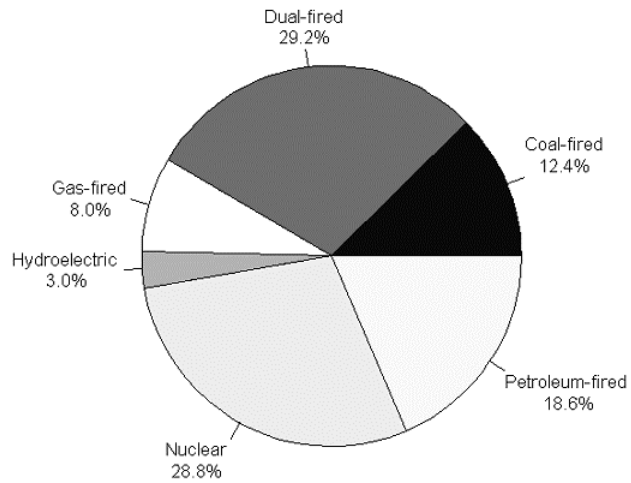


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12

# New Jersey Capacity - 1999

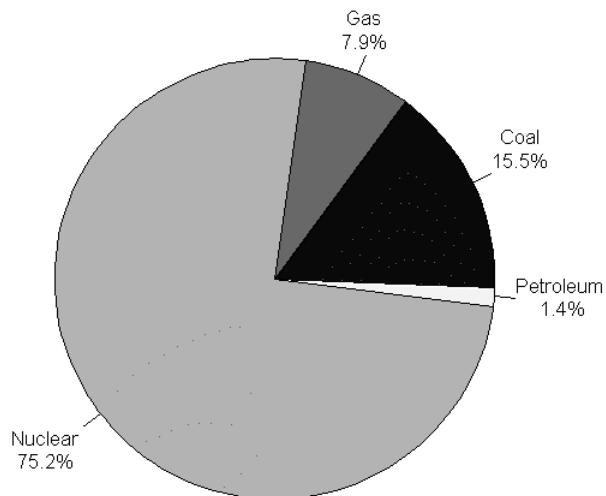


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# New Jersey Generation - 1999



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## Utility

- Maintains and upgrades transmission system as required by PJM
- Maintains and upgrades distribution system to ensure the continuous provision of safe, adequate and reliable energy to all customers
- Responds to emergencies affecting availability of service
- Implements voluntary customer load reduction programs to maintain quality of energy

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## Theft of Service

- Utilities enforce BPU-approved rules against theft of service by customers
  - Rewards to employees who uncover theft
  - Bills customer for theft amount calculated to last meter change or beginning of service
    - Customer can petition the BPU to review any dispute with the utility
  - Prosecutes customer if unwilling to pay
  - Terminates service for nonpayment

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## Theft of Service (cont'd)

- New Jersey law prohibits the theft of any utility service
  - Customer can be fined \$500
  - Customer can be imprisoned
- BPU authorizes utilities to discontinue service in case where illegal use is determined

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## Theft of Service (cont'd)

- Utility can demand immediate payment for all costs
  - Investigations
  - Inspections
  - Prosecution
  - Installation of protective equipment
  - Energy illegally used

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## Theft of Service (cont'd)

- Utilities prevent theft through various means
  - Meter readers report meter tampering
    - Broken seal on meter
    - Unusual wiring
    - Damage to meter
  - Utilities monitor customer usage and identify deviations from normal usage patterns

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19

## BPU Experiences

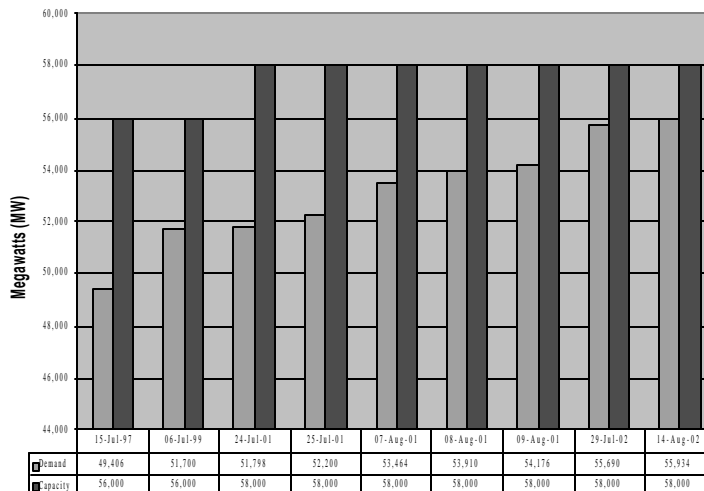
- PJM provides reliable system operation even during times of significant stress
  - Recent record peak demands were met without disruption of service
  - Load shedding has been minimal
  - Voluntary customer load reduction programs at the transmission level have been successful
- PJM recently added “PJM West”, further expanding the availability of additional generation and transmission facilities
  - Increase of system area and greater diversification of regional demands provide for a higher level of reliability throughout system

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## PJM Demand vs. Capacity



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## BPU Experiences (cont'd)

- New Jersey's utilities provide reliable service at the distribution level
  - Utilities continue to experience occasional local disruptions due to storms and excessive heat
  - Corrective actions have been initiated

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## BPU Experiences (cont'd)

- Customer theft is not a significant problem
  - Utilities' efforts are largely successful
  - Limited problems exist in apartment buildings
    - Tenants sometimes attempt to avoid payment through use of different names
    - Landlords sometimes divert tenant service for general building use

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23

## Additional Information

- Energy Information Administration
  - [www.eia.doe.gov](http://www.eia.doe.gov)
- Federal Energy Regulatory Commission
  - [www.ferc.fed.us](http://www.ferc.fed.us)
- PJM Interconnection, LLC
  - [www.pjm.org](http://www.pjm.org)
- BPU Division of Energy
  - [www.bpu.state.nj.us](http://www.bpu.state.nj.us), OR
  - [george.riepe@bpu.state.nj.us](mailto:george.riepe@bpu.state.nj.us)

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24