

# Standby Rates for Customers with Distributed Generation

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# Cost-based Ratemaking: The Basics

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- Traditional regulation strives to set prices so that “cost-causers” pay cost of service
- Viewed through a “supply side” lens, this is usually done by
  - Measuring the Customers’
    - Coincidence with system peaks
    - Total energy consumption
  - Then allocating costs accordingly



# Demand-side Resources Present Challenges to Cost-Causer Theory

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- Under normal circumstances, demand-side resources reduce demand and energy in cost allocation formula & may also reduce incurred system costs
- For customers, economics of demand-side resources are usually driven by utility bill savings associated with reduced demand and energy
- But, customer may or may not be willing to suffer an “outage” when demand-side resources are off-line and so may need standby service



## Utility View:

# Customer Must Pay for Standby

- In order to supply customers with standby service, facilities must be in place at all times
- Those facilities have associated costs and failure to recover those costs from customers results in a subsidy by other customers (or loss to utility)



# Customer View: Standby Service Is Different

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- In “normal” conditions, customer would not be using utility facilities and should not pay for them
- Small margins of value in demand-side resources can be quickly overwhelmed by standby charges
- Little data to show that standby service actually increases costs, because:
  - Use of service may or may not be coincident with facility’s peak demand
  - Delivery system may have “excess” capacity already, thus no incremental cost to provide standby service



# Demand-side Resources: Non-traditional Parameters

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- Demand-side resources may deliver benefits to the system which are not being compensated (e.g. reduced reserve margins & deferred distribution system investments)
- Under existing utility or regulatory policy, customer may or may not have option of not taking standby service
- For generation and transmission, the coincident outages of demand-side resources are the likely drivers for standby costs, not the sum of individual customer facilities
- For distribution, the coincident outages on that portion of the distribution system are the likely drivers for cost, not the sum of individual customer facilities



# Distribution Facilities Are Not All Equal

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- System configuration, utilization and planning must be carefully reviewed to understand values and costs
- Cost for utilization of generation off-peak is different than for on-peak
- Individual lines and feeders may:
  - Have substantial excess capacity relative to their own coincident peaks or
  - Be fully utilized and facing upgrades in the near future
- These characteristics are not static and so timing can be important



# Standby Services Are Not All Equal

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- Firm standby service may require demand charge or reservation fee
- “As Available” standby service
  - Relieves utility of cost commitment
  - Provides utility with opportunity sale that benefits other customers (or adds to profits)
- Scheduled standby should reflect marginal costs of supply at time service received



# Standby Rate Paradox: “Costs” May Not Be As Expected

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- Where delivery system has excess capacity, no incremental cost is incurred
- Where delivery system facing upgrades:
  - Demand-side resources may allow upgrade deferrals, in which case benefits should offset costs
  - In some circumstances, these benefits may exceed costs
- Thus, cost-causer principles may be difficult to follow, provide unexpected results or even yield “negative” net costs



# Is Utility Collecting Costs or Erecting Barriers?

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- Utilities may view distributed resources as threat to profits
- Where profits are not decoupled from sales, utility has strong incentive to erect barriers to demand-side resources
- Theory for standby may be provide basis for imposing a barrier to demand-side resources, even though real net costs may be negligible, negative or unknown



# Impacts of Standby Charges Are Asymmetric

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- Risks and opportunity costs from imposing high standby charges are high relative to risks and opportunity costs from imposing no or nominal standby charges
- On Customers with Demand-side Resources
  - Impact may be very large, rising to level of creating barrier to economic demand-side resources
- On Utility & Other Customers
  - Impact may be slight, especially at low-penetration levels



# Costs and Benefits Go Together

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- Symmetry in recovering standby costs and crediting demand-side benefits is appropriate and fair
- If standby charges are imposed, credits for benefits should also be given
- If credits are not given, imposition of standby charges may not be fair
- If value of benefits are unknown, imposition of standby charge may be best delayed until better data is available



# Options & Strategies for Regulators

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- Consider an “as-used” basis for standby charges, rather than a ratcheted rate, perhaps using a daily demand rate, rather than a monthly demand rate
- Measure cost on a coincident use of service basis
- Make standby service optional, non-firm or otherwise customized to customer needs, provided customer is prepared to accept consequences
- Avoid demand fees for planned, or even unplanned off-peak service



# Remember What We Don't Know

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- Don't assume costs of standby service are actually known or appropriately measured
- Traditional approaches may not yield accurate results
- Document actual performance of demand-side resources to develop costs, including benefits of demand-side resources
- Conduct periodic reviews to fine tune tariffs based on real-life experience



# Thank You For Your Attention

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