Issues raised by ISO-NE

*Status Report on the Future of Price-Responsive
Demand Programs Administered by ISO New England Inc.*
Draft, February 13, 2009

- Double payment

- Missing money

- Baseline establishment (adverse selection, moral hazard)

Example: Simple Customer Demand Bidding

- Consumers located at high cost CLAP:
  - If P > $50/MWh, buy only 8 MW
  - If P < $50/MWh, buy 10 MW
- Generators
  - A: 5 MW Must run unit at cheap bus
  - B: Rest from $100/MW unit at CLAP
- Settlement:
  - LAP = $80/MWh, CLAP = $100/MWh, LMP for Gen A = $60
  - Consumer buys 8 MW, Net = -$640
  - Gen A paid 5 MW x 60$ = +$300
  - Gen B paid 3 MW x 100$ = +$300
  - ISO congestion revenue = $640 - $300 - $300 = + $40
  - Settlement balance = $0

Example: CSP provides DR

- Consumer at high cost CLAP:
  - Load = 10 MW if not curtailed
  - CSP signs contract to pay $50/MWh to consumer if curtail. Submits bid to reduce 2 MW at CLAP at $50/MWh

- Generators: Same
  - A: 5 MW Must run unit at cheap bus (LMP = $60)
  - B: Rest from $100/MW unit at CLAP

Example: CSP provides DR

- Consumer at high cost CLAP:
  - Load = 10 MW if not curtailed
  - CSP signs contract to pay $50/MWh to consumer if curtail.   Submits bid to reduce 2 MW at CLAP at $50/MWh

- Generators: Same
  - A: 5 MW Must run unit at cheap bus (LMP = $60)
  - B: Rest from $100/MW unit at CLAP

- Settlement:
  - LAP = $80/MWh, CLAP = $100/MWh
  - CSP receives $100/MWh x 2 MW = $200, pays 2x$50 to consumer, <u>Net profit = $100</u>
  - Consumer buys 8 MW, pays $640, receives 2x$50 = $100 payment from CSP, <u>Net = -$540</u>
    - *Lower than simple demand bidding case: ISO-NE's Double payment*
  - Gen A paid 5 MW x 60$ = <u>+$300</u>
  - Gen B paid 3 MW x 100$ = <u>+$300</u>
  - ISO congestion revenue = $640 - $300 - $300 - 2MWx$100/MWh = <u>-$160</u>
    - *ISO-NE's Missing Money*
    - *$200 transferred to consumer and CSP*