

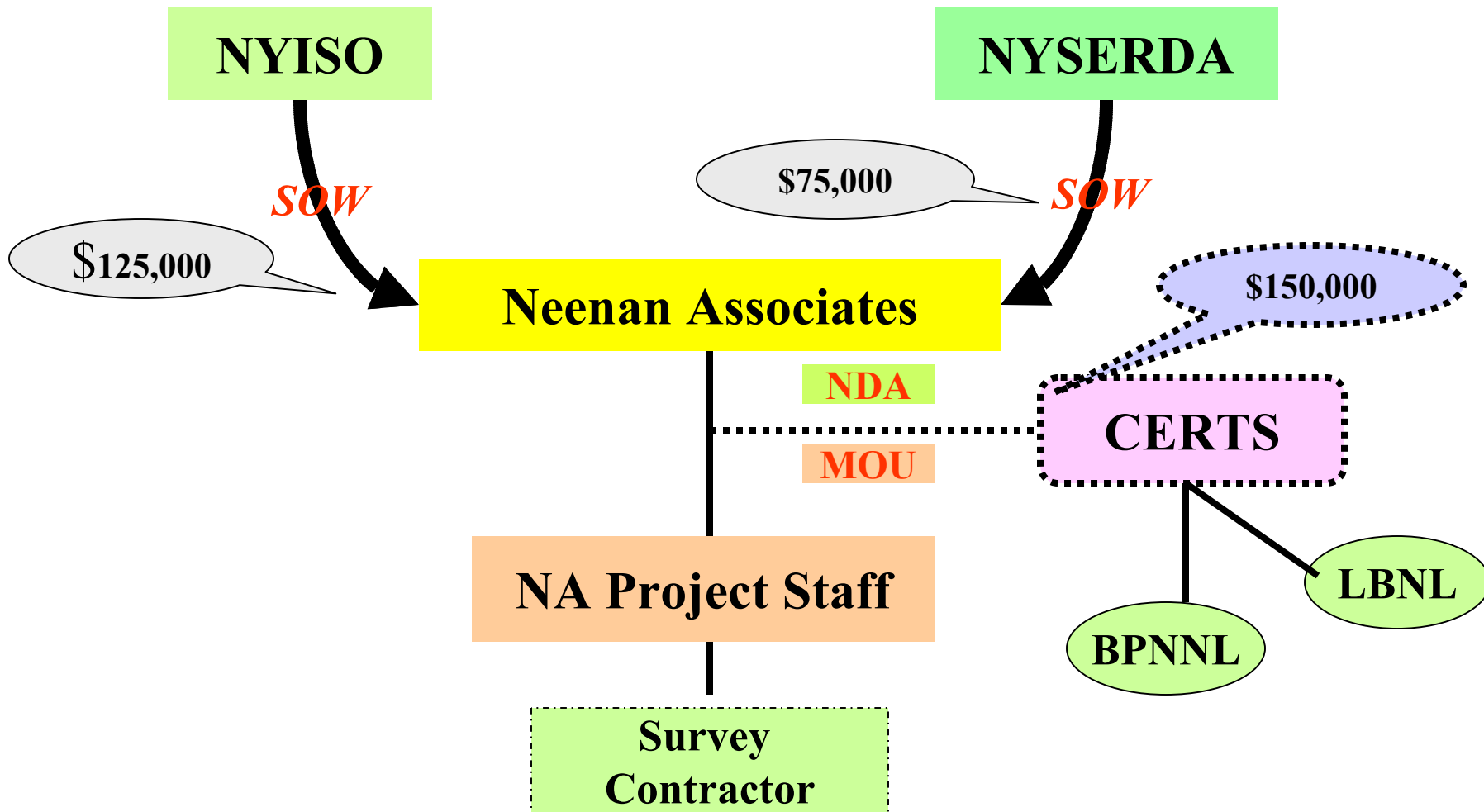
How and Why Customers Respond to Electricity Price Variability

***A Study of NYISO and NYSEERDA 2002 PRL
Programs: Preliminary Results***

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PRL 2002 Evaluation Project Organization



Project Goals

Application

- ✓ Identify and quantify the impact of key drivers to PRL participation
- ✓ Assign performance index to individual participants
- ✓ Quantify the level and distribution of market impacts
- ✓ Identify key influences to participation by Market Makers

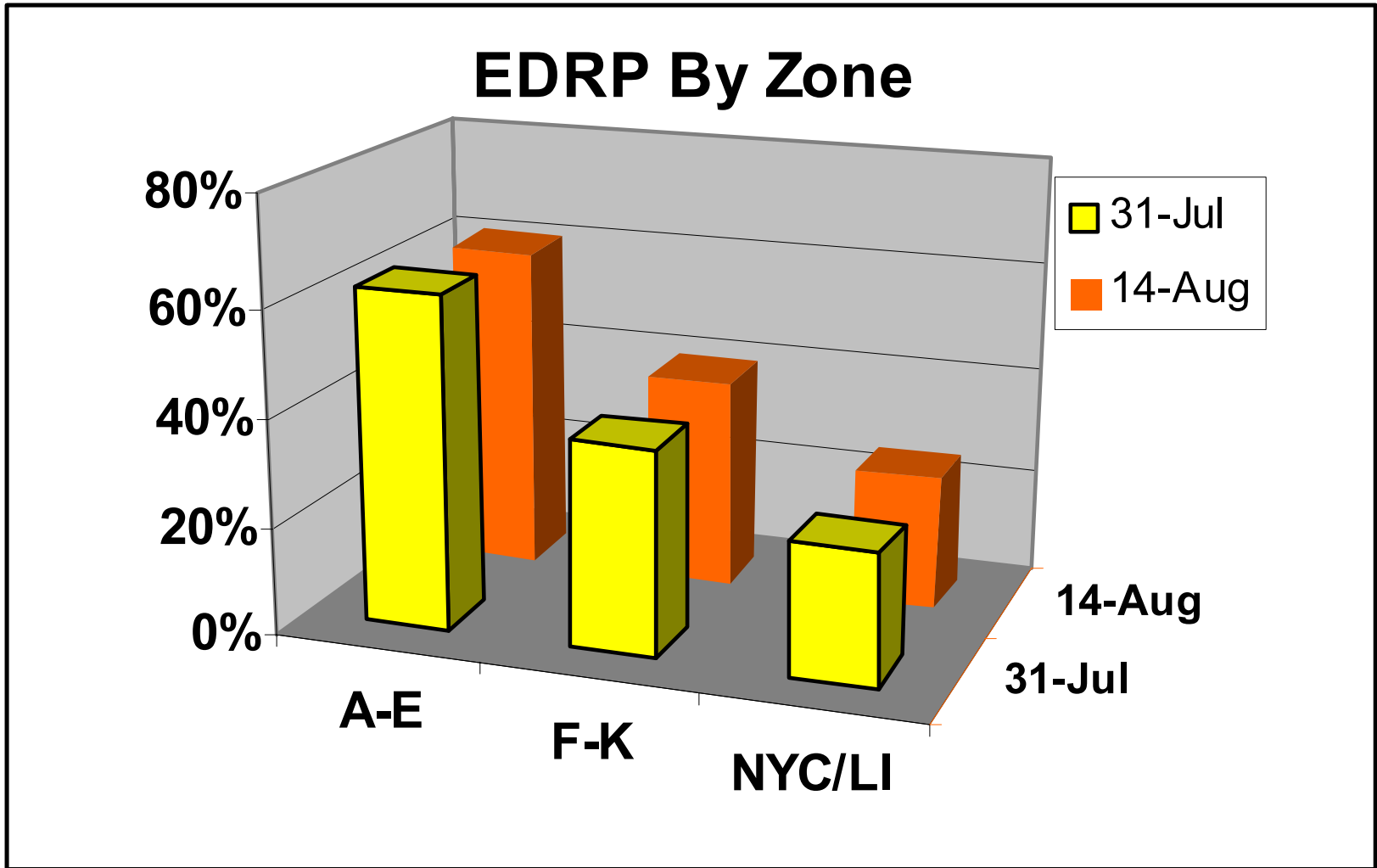
Market segmentation, identify under-served markets

Program design, Technology assessments, Business case planning

Market segmentation, sales

Identify market barriers, effective PON design and administration

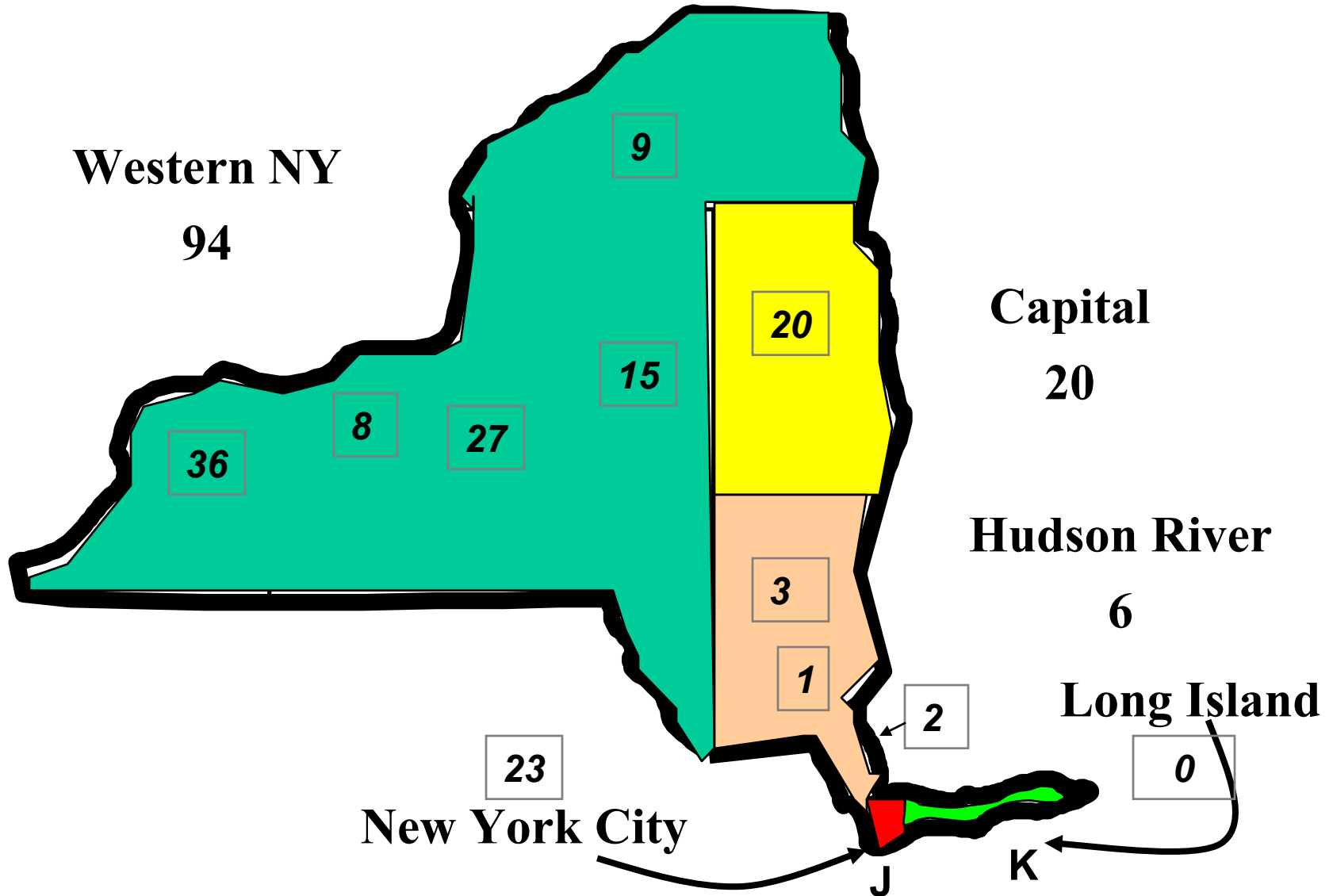
EDRP By Zone



Multi-Site Participation

- Multi-site participant: individually registered locations with a single point of contact for all locations
- 25% of 2002 NYISO program participants were multi-site (all programs)
- 2001 – less than 10% multi-site
- Surveys conducted with single contact for a multi-site participant

Survey Response by “SuperZone”



Typical DADRP Respondent (N=11)

- Manufacturing company
- Summer peak demand >5 MW
- Uses electricity accounting for 6 to >10% of operating expenses
- With between 100-500 employees
- Occupies >500,000 square feet of space
- Has participated in utility load mgmt programs (TOU, Interruptible)

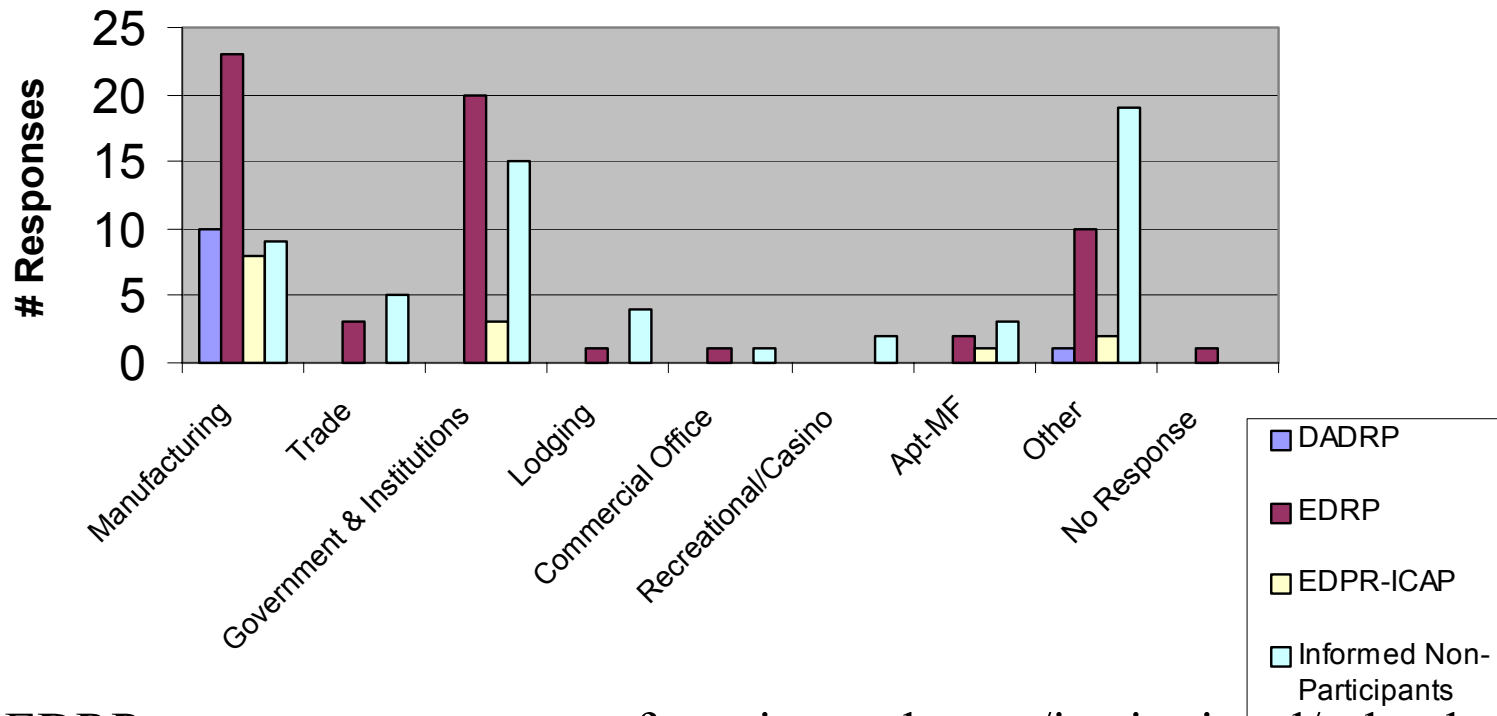
Typical EDRP Respondent (N=61)

- Manufacturing (23) or Govt./Institution (20)
- Summer peak demand 1 to >5 MW
- Uses electricity accounting for 4 to >10% of operating expenses
- With between <100 to 500 employees
- Occupies from 100,000 to >1M square feet
- 30% participated in utility load mgmt pgm

Typical Informed Non-Participant (N=58)

- Govt./Institution (15) or Other (18)
- Summer peak demand 500 kW to >5 MW
- Uses electricity accounting for 1 to >10% of operating expenses
- With between <100 to 500 employees
- Occupies from 50,000 to 1M square feet
- <20% participated in utility load mgmt pgm

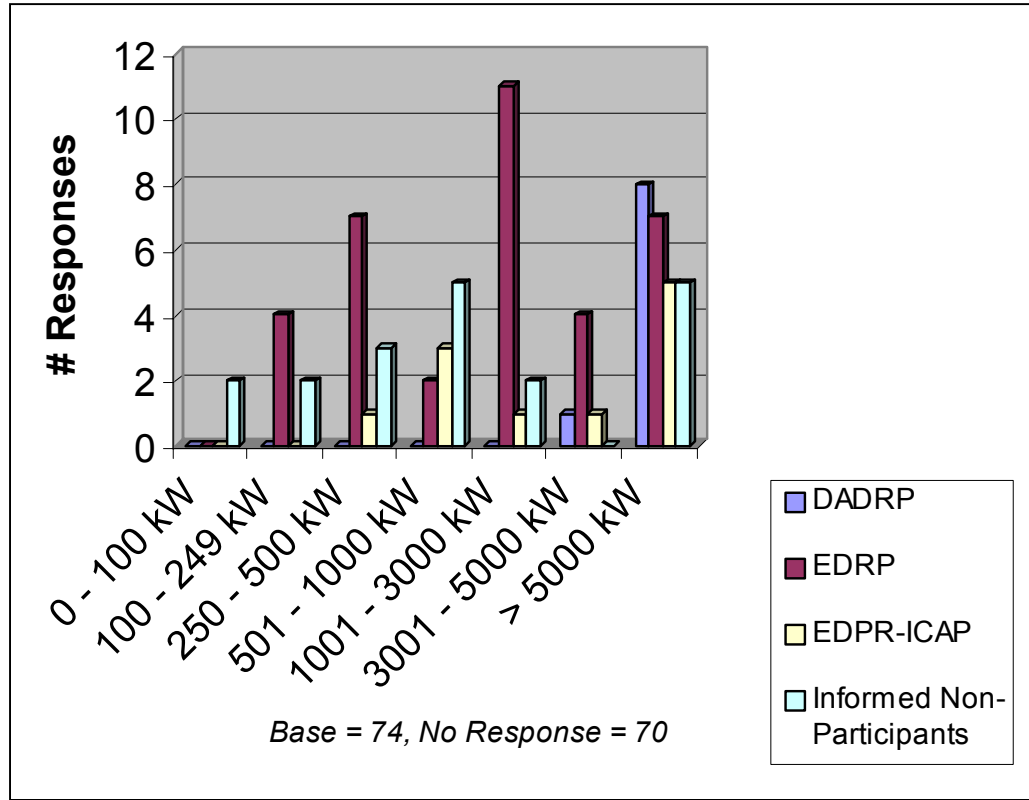
Major Activity of Respondents



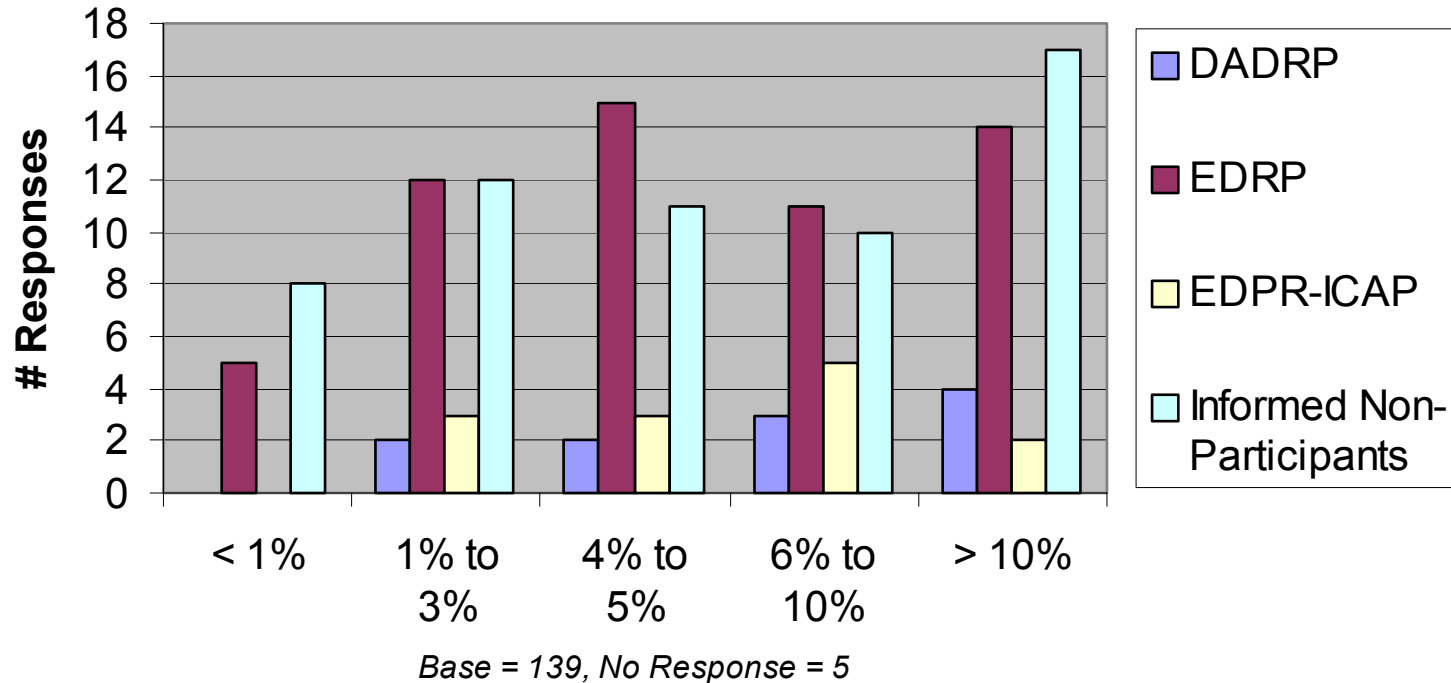
- EDRP program attracts manufacturing and govt./institutional/school sector (38% and 33% of sample)
- Virtually all DADRP participants in manufacturing
- Non-participants are from govt./institutional/school and Other (25% and 33% of sample)

Summer Peak Demand

- Median summer peak demand is significantly lower for non-participants (750 kW) compared to DADRP (14.5MW), EDRP only (1.7 MW), and EDRP/ICAP (5 MW)
- Non-response is an issue (70), based on customer self-reports

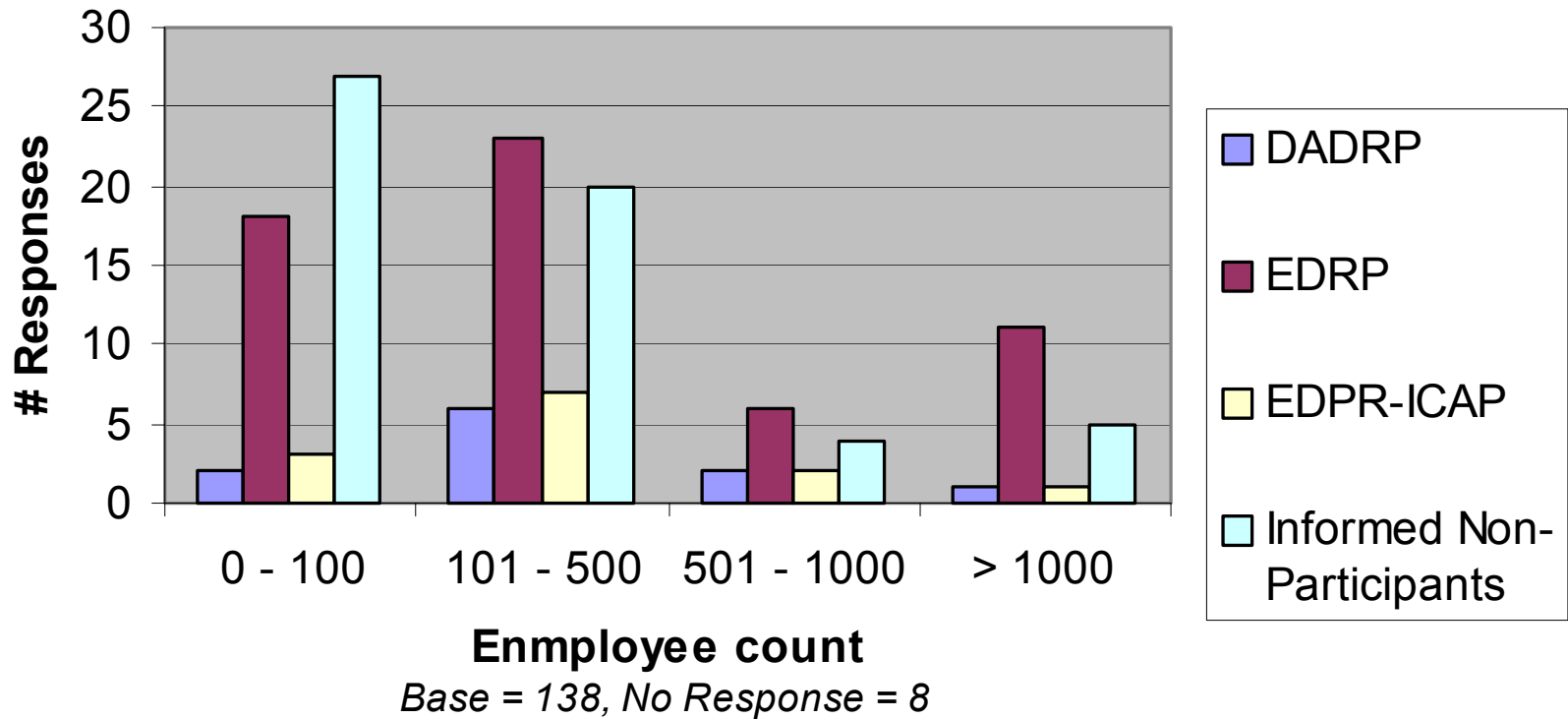


Proportion of Operating Expenses for Electricity



- 26% of respondents indicate that electricity represents >10% of operating costs (37 of 139)
- Median value is ~5%; similar pattern among program participants and non-participants

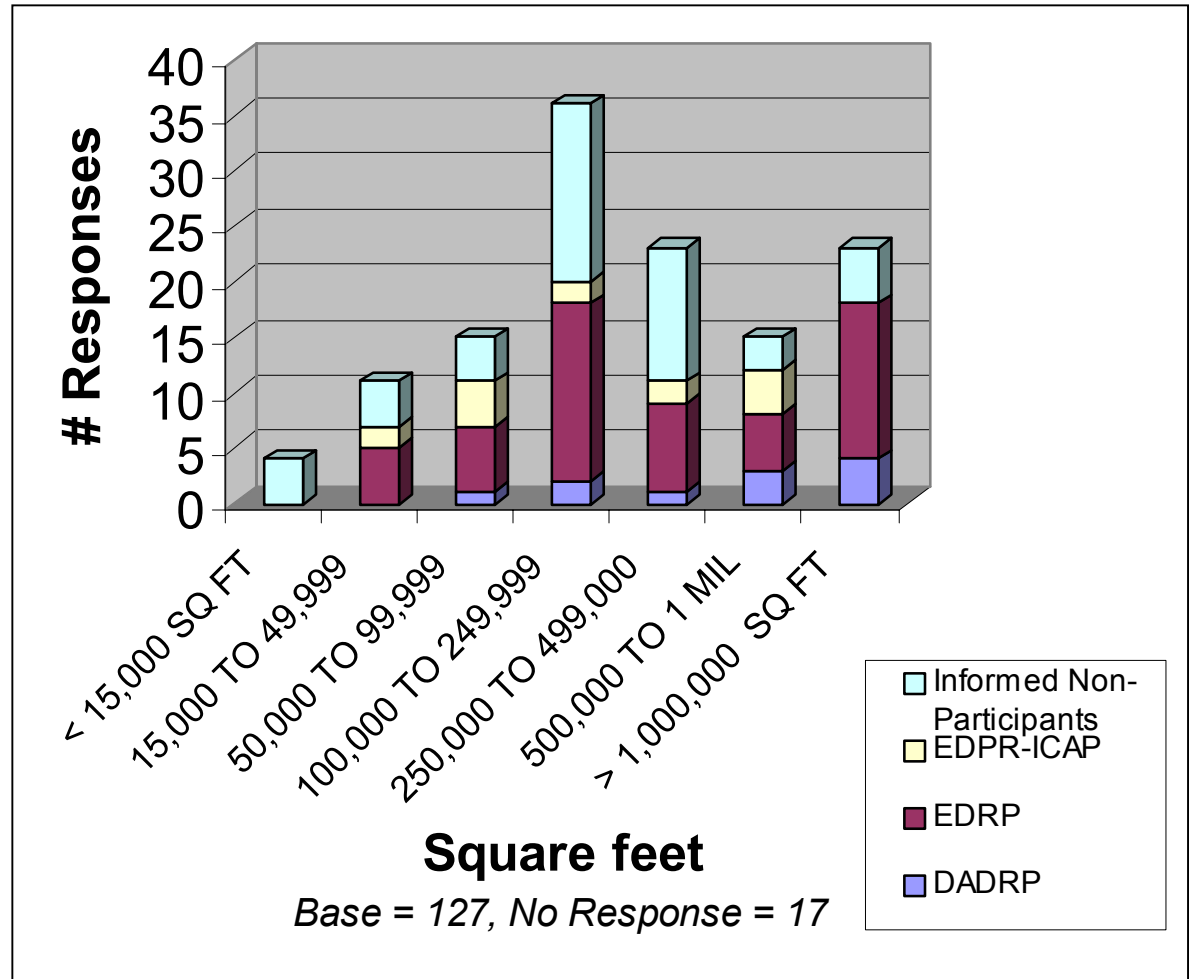
Number of Full-time Employees



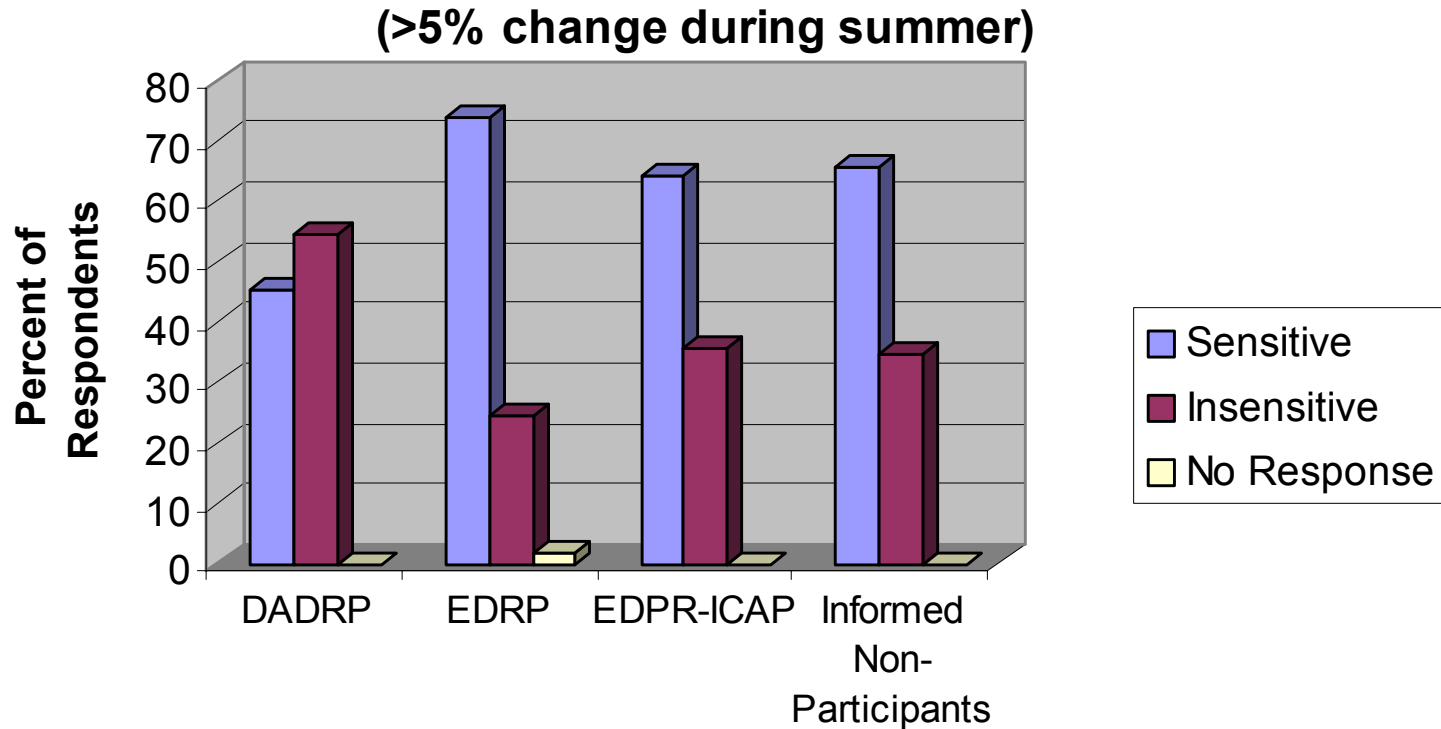
- 77% of respondents had fewer than 500 employees, and ~36% had fewer than 100 employees
- Non-participants tended to have fewer FTE

Facility Size

- DADRP participant facilities tend to be larger (>500,000 sq. feet)
- Median value for floor area is between 100,000-249,000 sq. ft.



Temperature Sensitivity



- 65-75% of customers describe their load as temperature sensitive except among DADRP participants (45%)
- Much higher than those that use temperature-sensitive baseline method

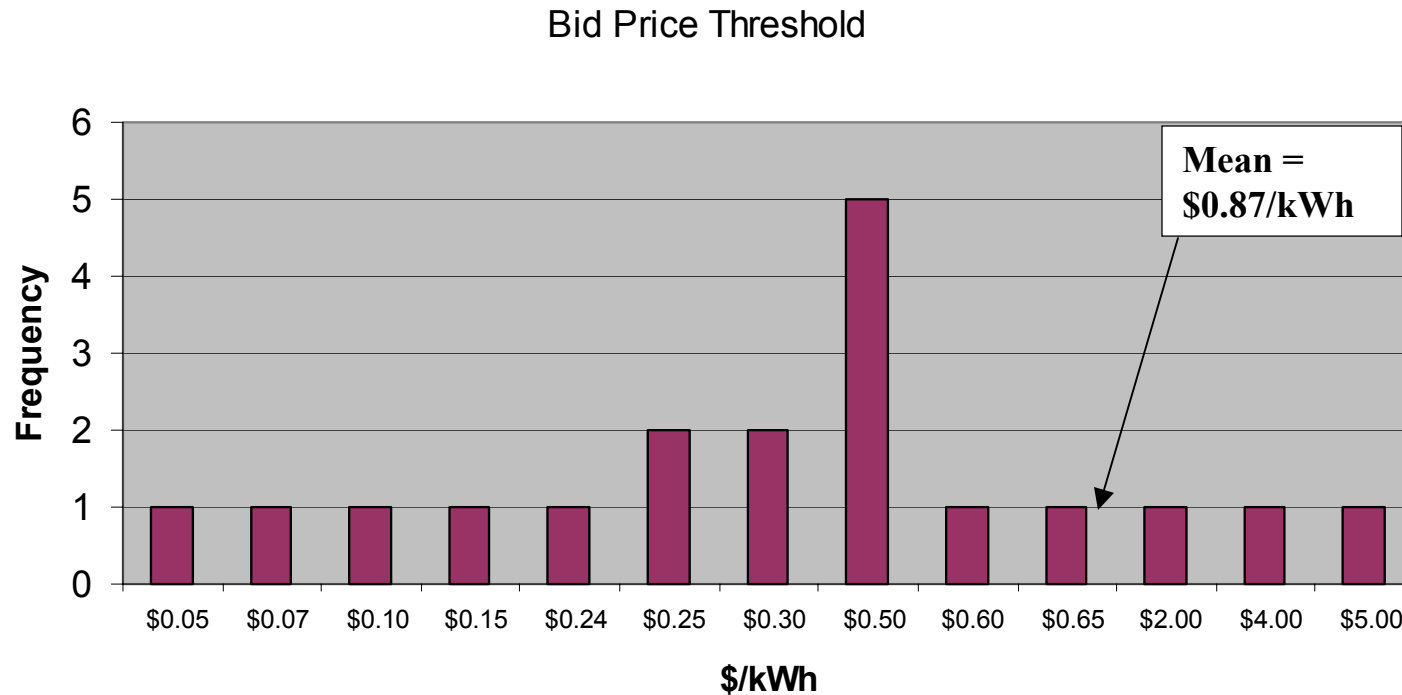
DADRP Barriers:

Lack of Information/Knowledge

	Mean	t Value
Plan Comfort Level - Bid Price Level	1.16	3.95
Monitor Price Comfort Level - Bid Price Comfort Level	0.23	1.49

- Customers are much less comfortable determining at what price to bid compared to creating a load curtailment plan or monitoring DAM prices
- Calculated difference in comfort level rating for each respondent between determining bid price & either load curtailment or monitoring energy price
- Differences in sample means (1.16 and 0.23) are statistically significant (80% level)

DADRP Barriers: Bid price thresholds are high for many customers



- Customers asked about their bid price minimum threshold
- Bid prices ranged from \$0.05 - 5.00/kWh
- Mean and median values are \$0.87/kWh & ~\$0.50/kWh