

MEETING THE NEEDS OF THE CONSTANTLY  
CHANGING ENERGY INDUSTRY



# PG&E Automated Demand Response Program

## Update and Participant Forum

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Global Energy Partners, LLC

July 31, 2007



*Pacific Gas and  
Electric Company®*

# Presentation Overview

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- Team Introductions
- Program Summary
- Accomplishments to Date
- Testimonials
- Participant's Forum

# Auto-DR Program – Core Team



**Global Energy Partners, LLC**  
An Employee-Owned Company

- Program administrator and prime contractor to recruitment and technical coordinator firms



- Primary research, technical advisor, training, quality assurance, system validation and evaluation



**Akuacom**

- Auto-DR system architecture and hardware design and production



- Technical training, qualification, quality assurance and system validation



- Technical training and coordination of legacy participants



**Global Energy Partners, LLC**  
An Employee-Owned Company

# Auto-DR Program – Technical Coordinator Team

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- ACCO Engineered Systems
- Applied Power Technologies
- C&C Building Automation
- Energy and Power Solutions
- L&H Airco
- RTP Controls
- Site Controls

# Auto-DR 2007 Program Summary

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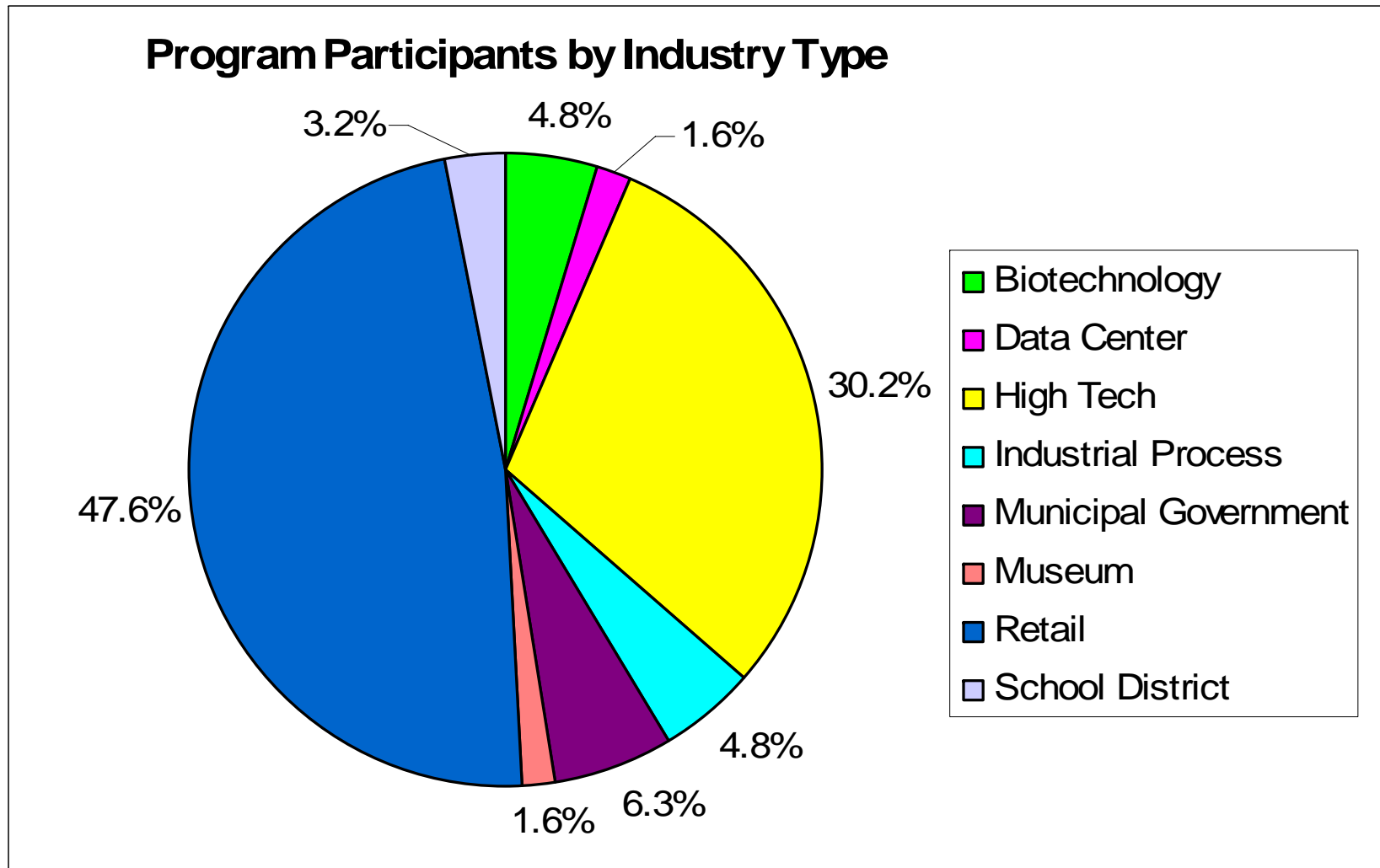
- Program Goals:
  - Achieve peak demand reduction of 15 MW
  - Improve PG&E's demand response program effectiveness through automation
  - Commercialize Auto-DR program delivery
- 2007 Auto-DR program open to customers on Critical Peak Pricing (CPP) and/or Demand Bidding (DBP) programs

# Accomplishments to Date

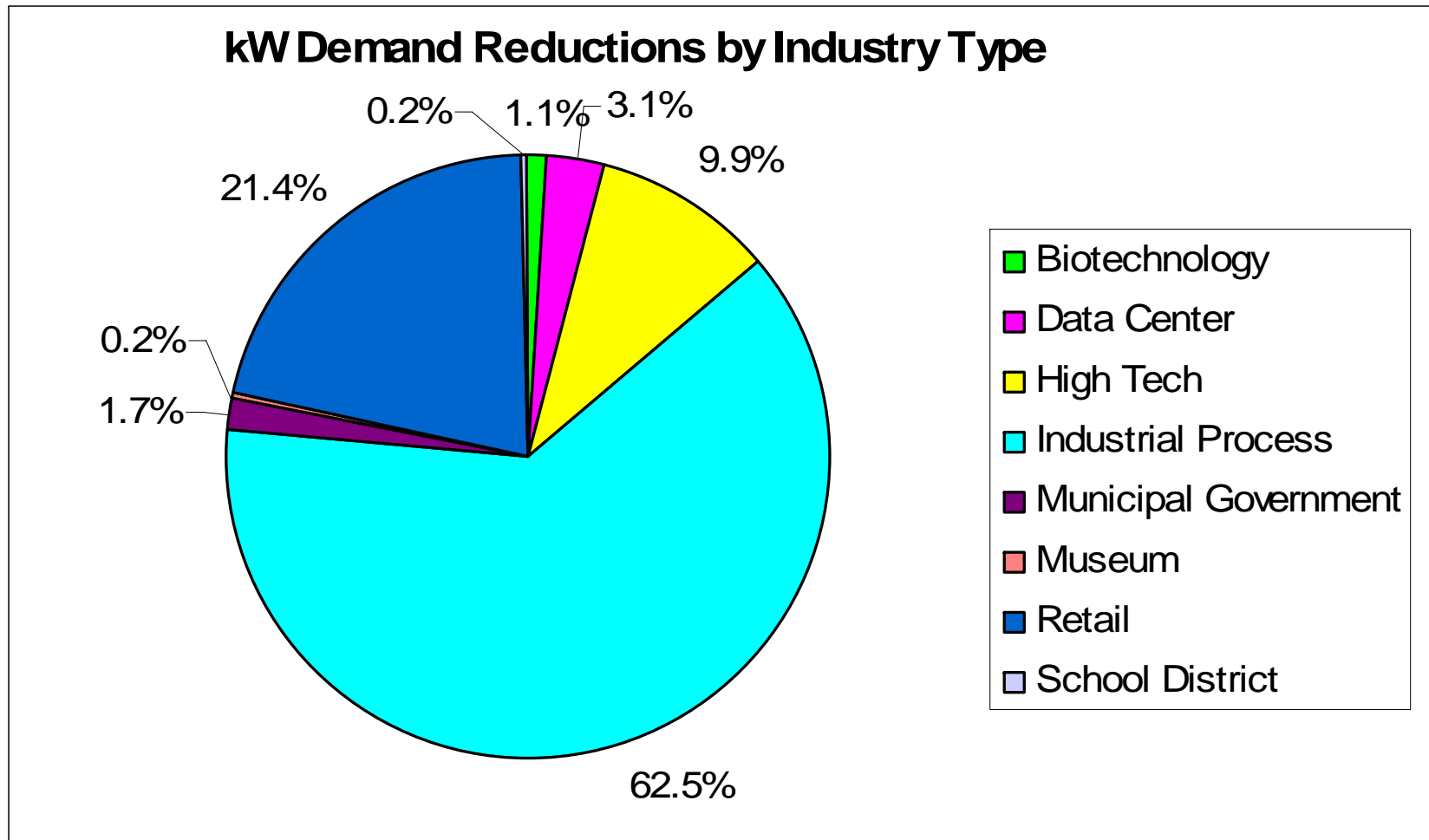
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- Program Procedures Development
- Training and Technical Transfer
  - Recruitment and technical coordination
  - Auto-DR system operations
  - Load assessment and settlement
- Over 16 MW recruited and 12.5 MW tested and ready for program deployment
- 5 CPP events held this summer; no DBP events

# Auto-DR Participant Makeup

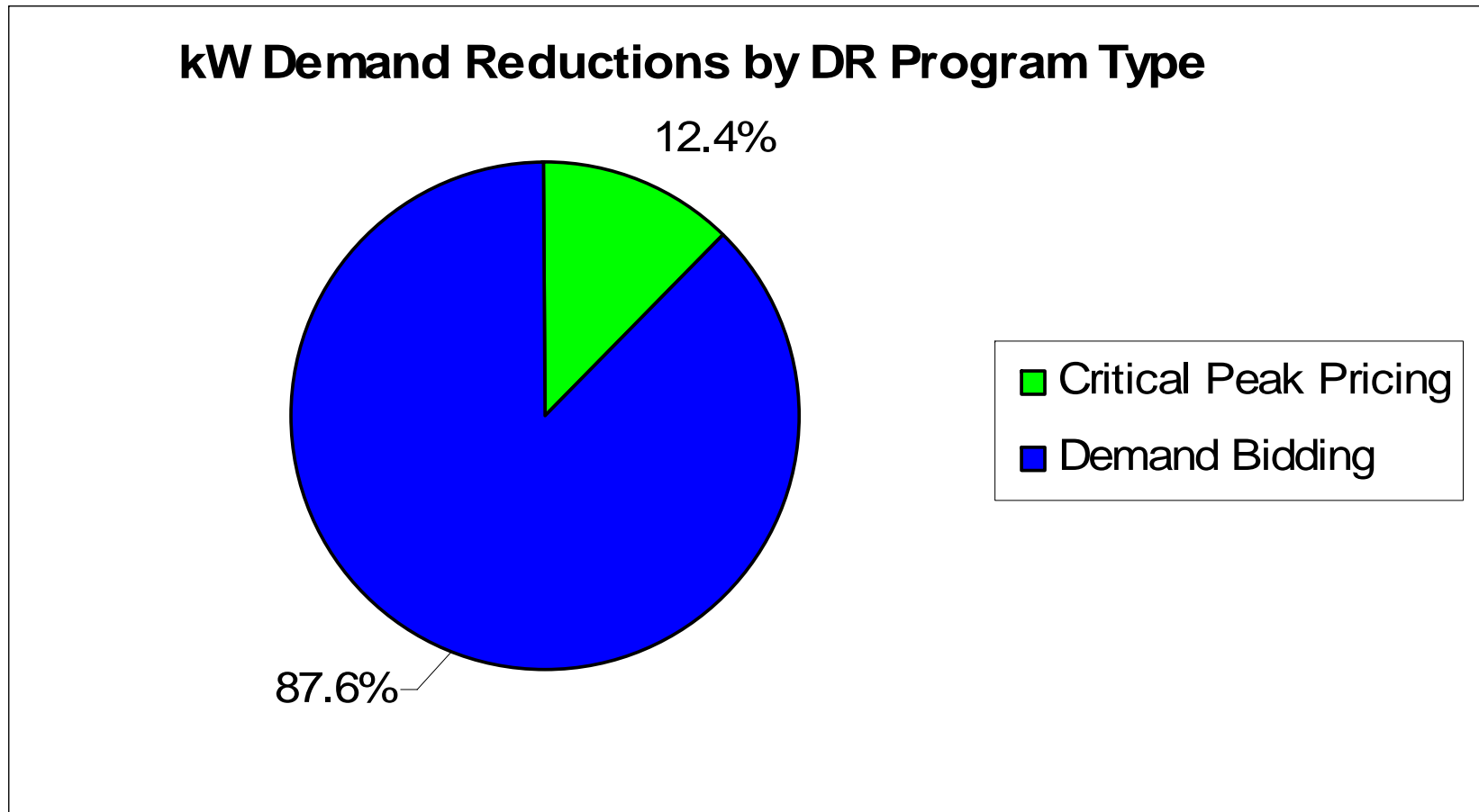


# Auto-DR Participant Makeup (cont.)



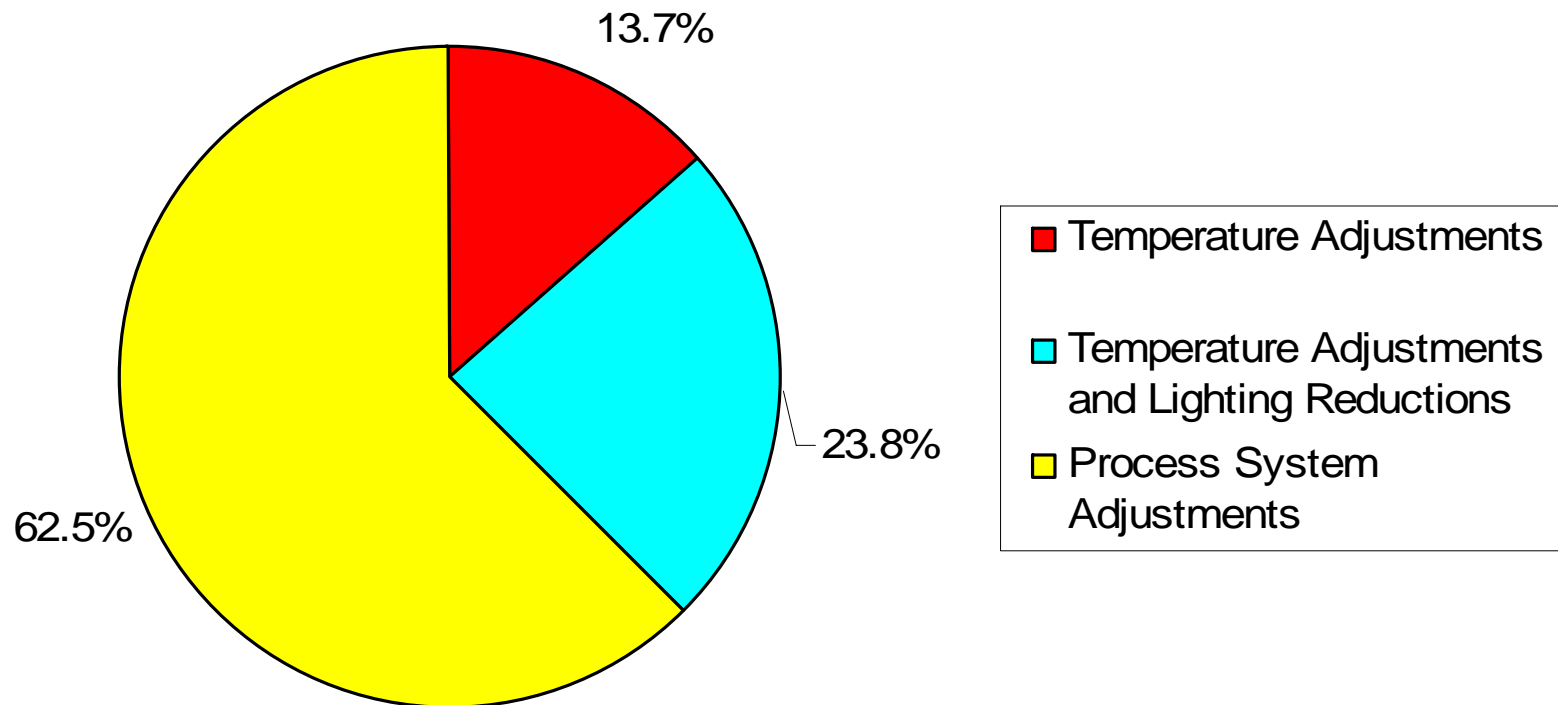


## Auto-DR Participant Makeup (cont.)



## Auto-DR Participant Makeup (cont.)

kW Demand Reductions by Type of DR Measure

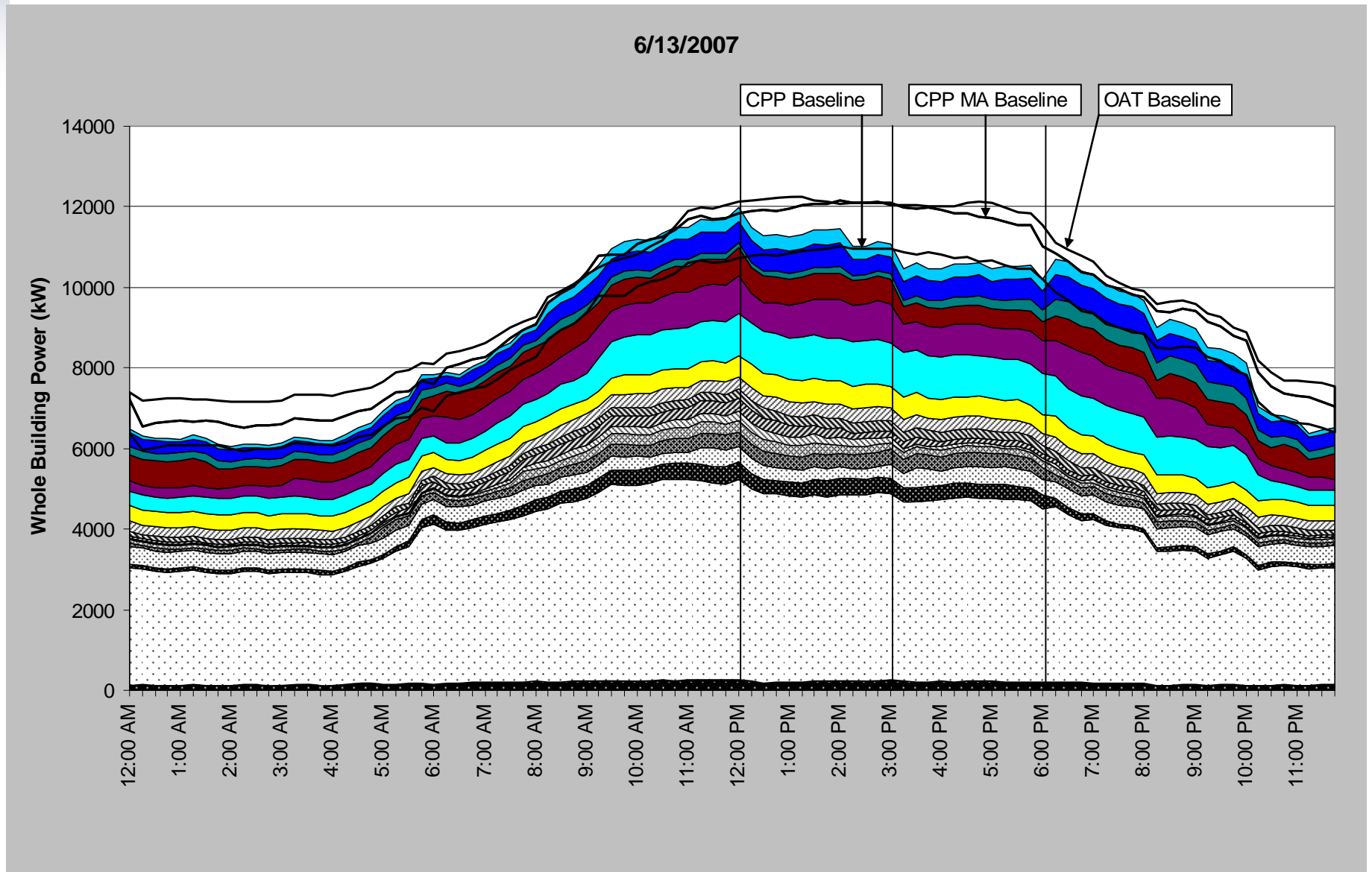


## Results to Date – CPP Events

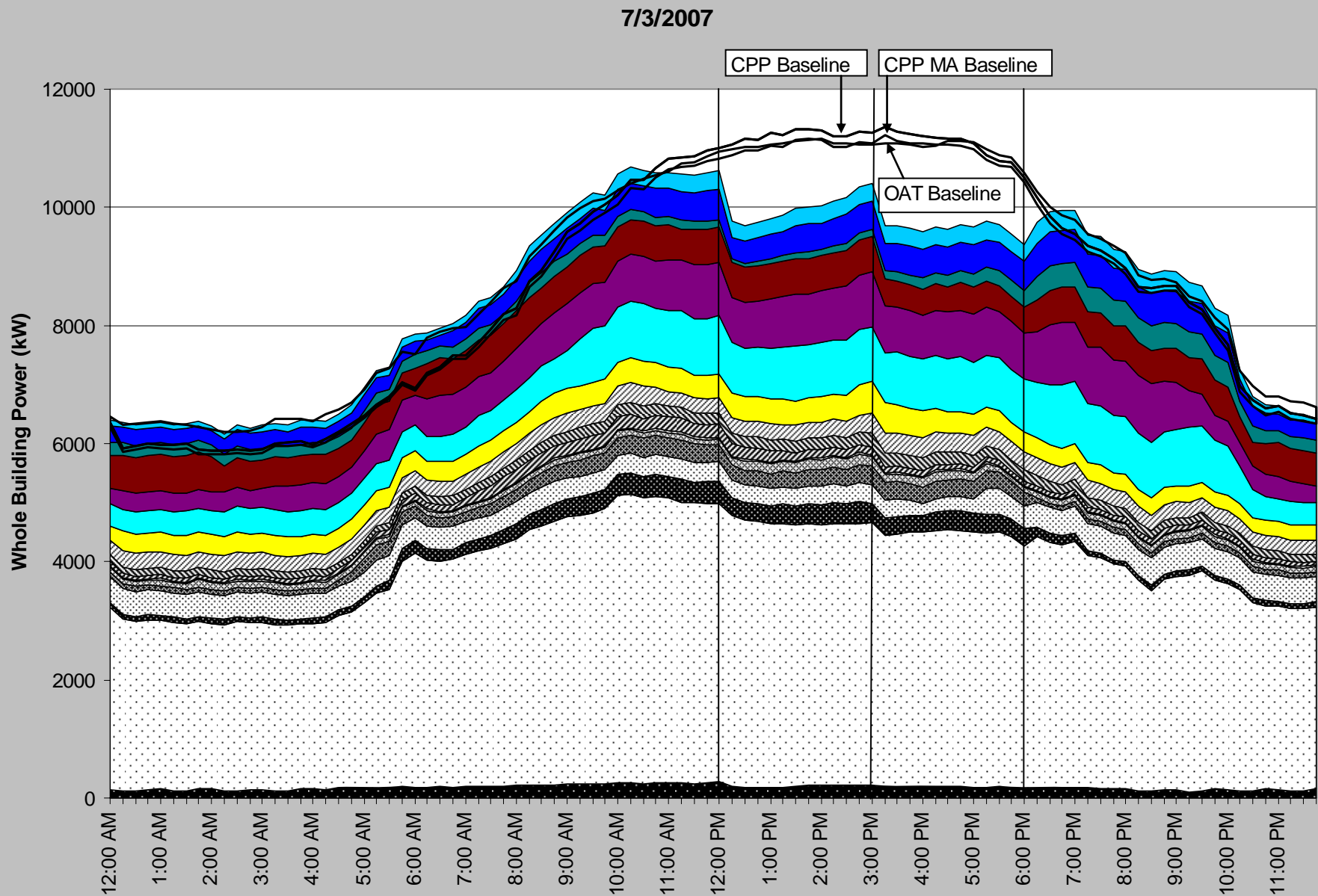
Date of CPP Event	Number Participating of Sites	Estimated Load Shed (kW)	Actual Load Shed (kW)		
			3/10 Base	3/10 Base w/ MA	Temp Adjusted
6/13/07	17	1396	154.08	1,247.97	1,471.53
7/3/07	17	1396	1,413.12	1,298.50	1,352.72
7/5/07	17	1396	680.66	1,330.24	1,280.97
7/6/07	17	1396	1,552.00	1,678.69	1,238.30
7/9/07	17	1396	1,879.22	1,204.12	821.04
<b>Average</b>	<b>17</b>	<b>1,396</b>	<b>1,135.82</b>	<b>1,351.90</b>	<b>1,232.92</b>

- 17 facilities participated in 5 events this year
- 1.1 MW of actual shed using the 3/10 baseline method for the 5 CPP held events this summer
- 1.4 MW using the 3/10 baseline with a morning adjustment (MA) to account for weather differences
- 1.2 MW using the temperature adjusted (OAT) baseline method

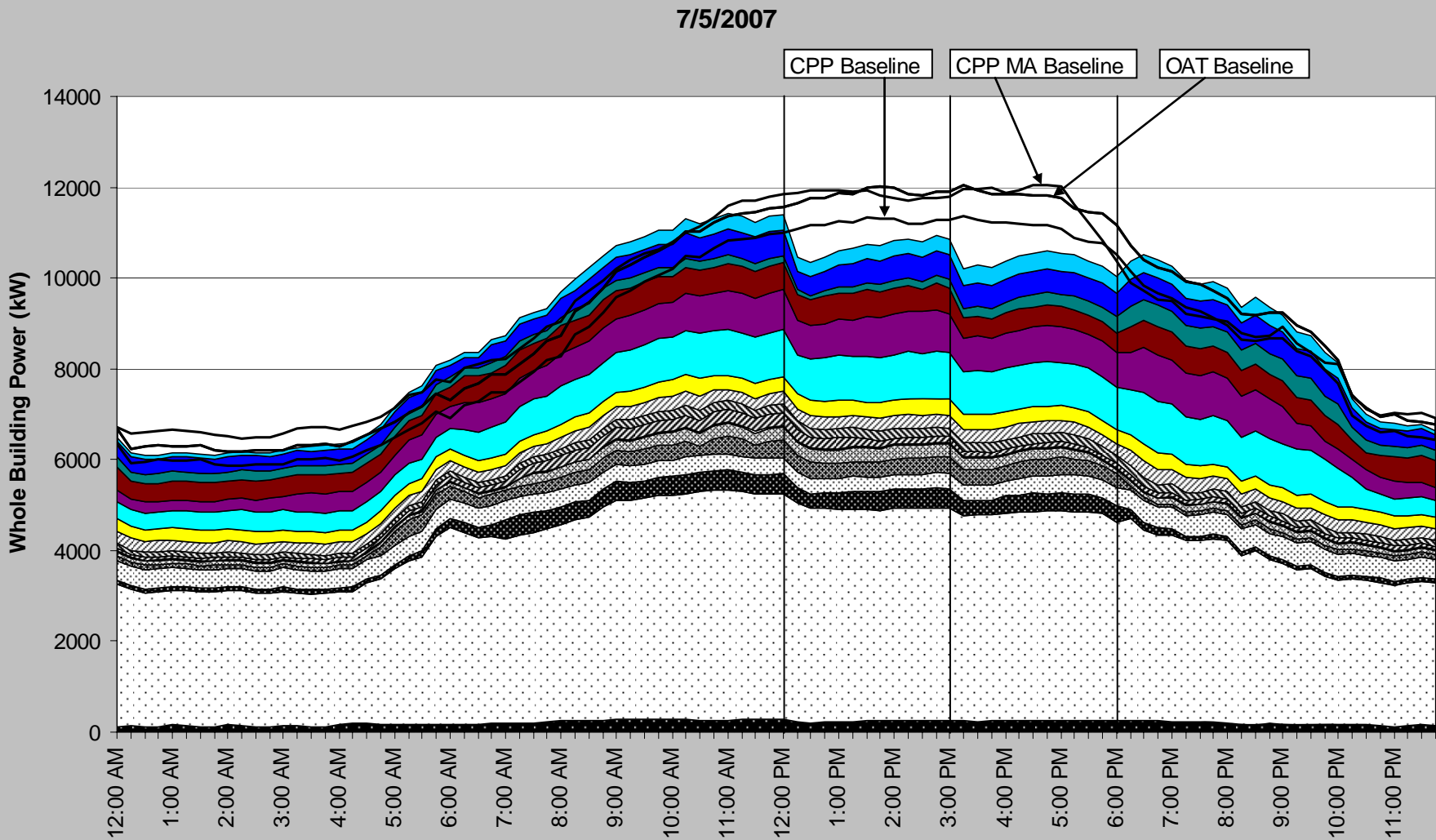
# Results to Date – 6/13 CPP Event



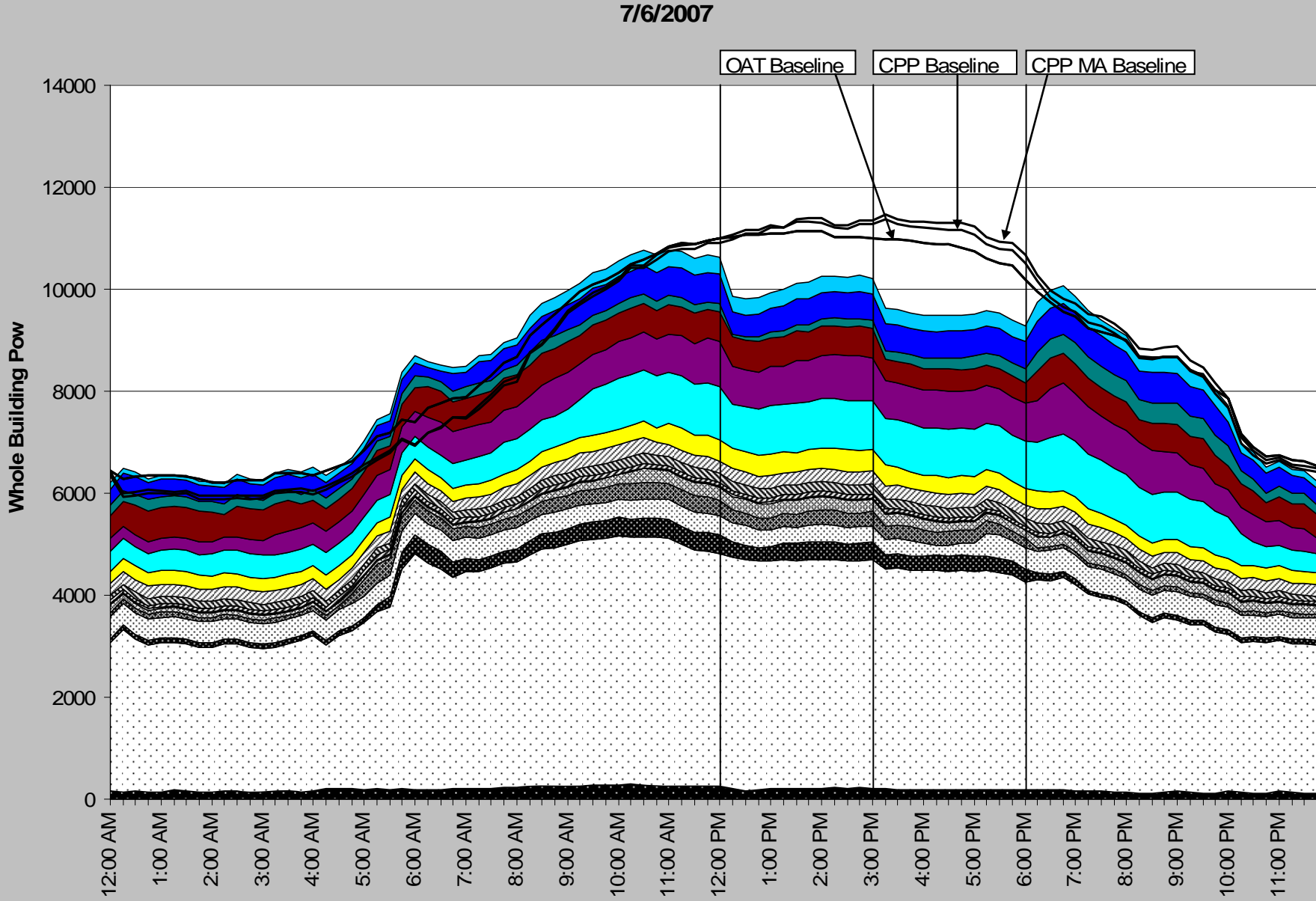
# Results to Date – 7/3 CPP Event



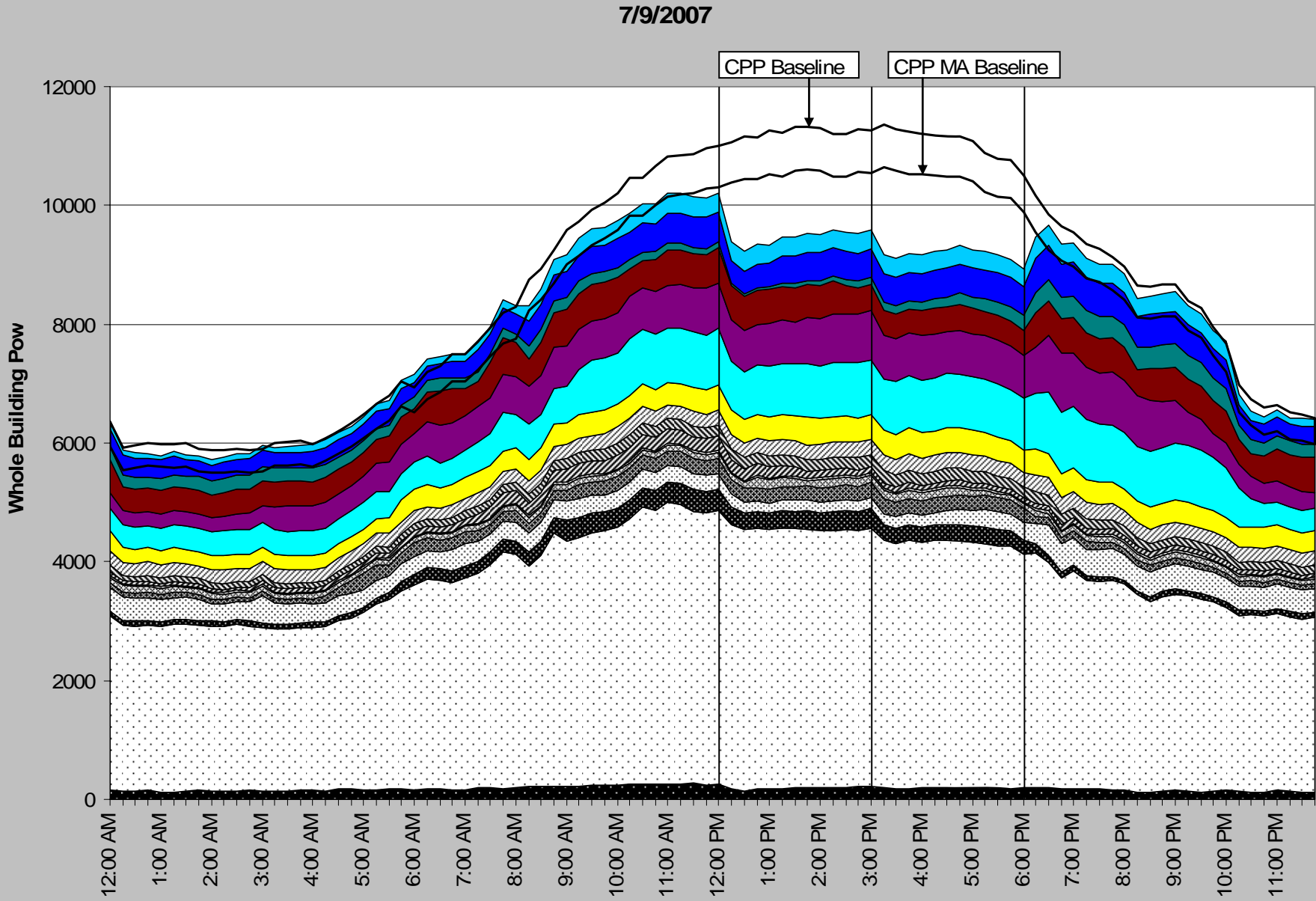
# Results to Date – 7/5 CPP Event



# Results to Date – 7/6 CPP Event



# Results to Date – 7/9 CPP Event





# Participant's Forum

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- Challenges during installation stages
- DRAS communication issues
- Demand bidding flexibility
- Effects of load sheds – feedback from building occupants

# Testimonial Video

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Produced by Tech Closeup TV

[www.techcloseup.com](http://www.techcloseup.com)

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**Global Energy Partners, LLC**

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**DRRC**  
Demand Response Research Center



**EPRI** | ELECTRIC POWER  
RESEARCH INSTITUTE



**Thank You!**

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