

What's new about Georgia Power Company's RTP Program? Why it's successful and how much price response?



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**Jeff Burleson
Georgia Power Company**

**Michael T. O'Sheasy
Christensen Associates**

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RTP in the State of Georgia: Year 2005

- ❑ Largest RTP program in the world
- ❑ > 1600 Customers
 - > 5,000 MW
 - > \$1 billion revenue
- ❑ IRP resource
- ❑ Increasing marginal costs
- ❑ Day-Ahead and Hour-Ahead programs

RTP Value in an Open-Access Marketplace

- Competitive cost-based offers:
 - Within-state customer choice in Georgia
 - Customer choice for new load > 250 kW
 - Competition is munis and REAs with low-cost incremental power and little regulation
 - RTP enables GPC win rates of 65-80%; would probably be no more than 50-60% without RTP

What is Real-Time Pricing?

An electricity rate structure in which retail energy prices:

- Vary frequently (*e.g.*, hourly)
- Change with short notice (*e.g.*, hour-ahead or day-ahead)
- Reflect expected hourly costs
- Can mimic an open market and market prices

Benefits from an RTP Program

- ❑ Improved system reliability
- ❑ Reduced wholesale price volatility
- ❑ Less reliance on outside (high-priced) power purchases

Benefits from RTP (2)

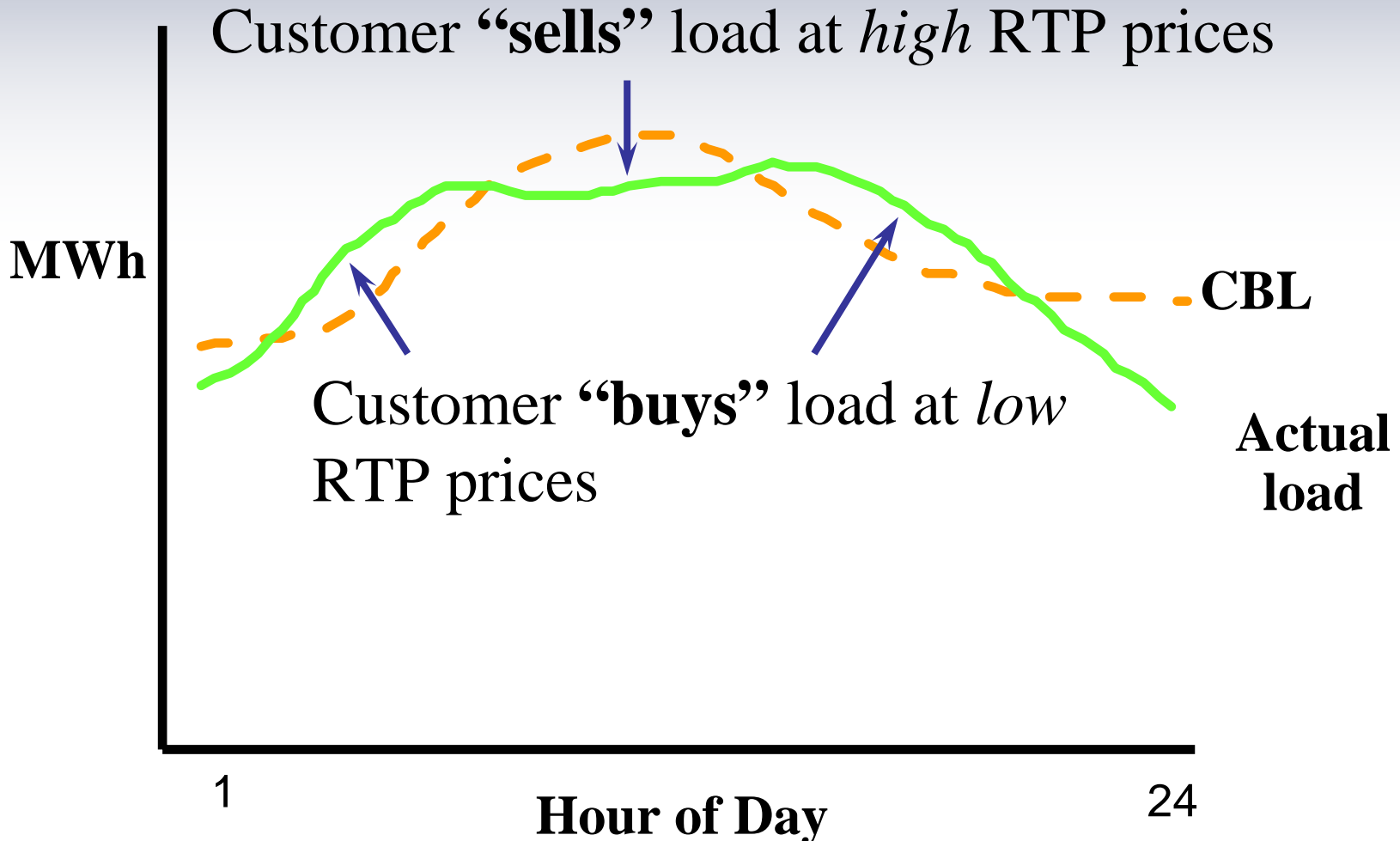
- ❑ Typical utility will achieve, at least cost, a “virtual generation” asset representing as much as 5% of total system load requirements in critical hours
(about 20% load response from participants’ total load)

Benefits from RTP (3)

- ❑ Customer satisfaction
 - Provides open access to market
 - Two-part structure limits price risk exposure

- ❑ RTP customers have incentive to innovate with economic energy efficiency programs/devices

Two-Part RTP Design and What Makes the GPC Engine Go!



Do Customers Respond to RTP?

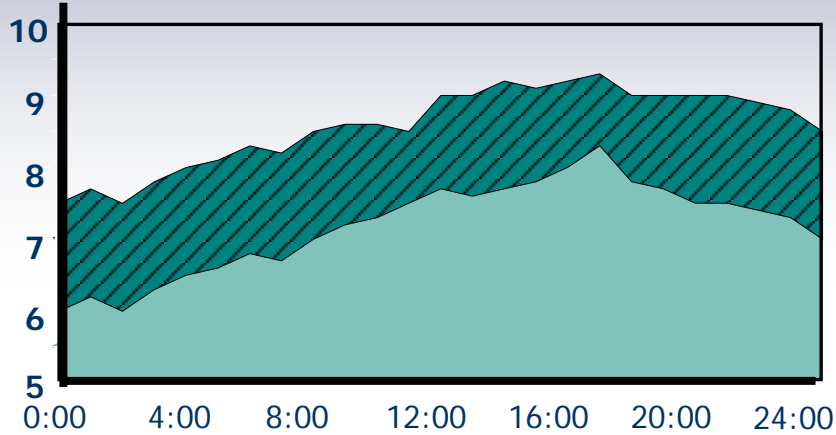
Summary of Findings

- ❑ Portion of customers found to respond significantly to RTP prices: 60-75%
- ❑ Range of flexibility parameters: .01 - .40
(Comparable to negative of own-price elasticity)

A short-period price spike of 10 to 20 times the typical price can yield load reductions of 10 to 20% (e.g., 150 MW from 1,000 MW of load)

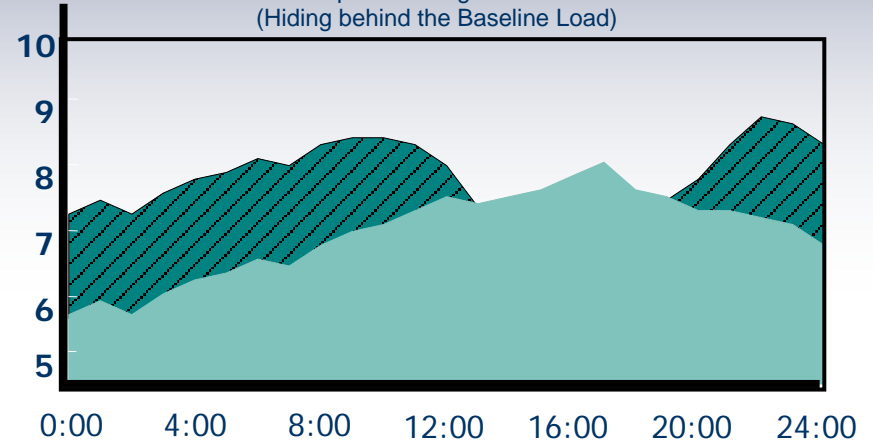
Typical Load Response

Increased Usage in All Hours

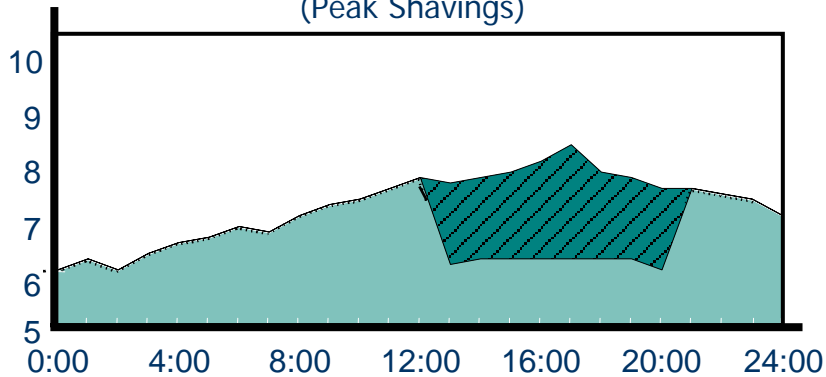


Increased Usage In Low-Priced Hours and

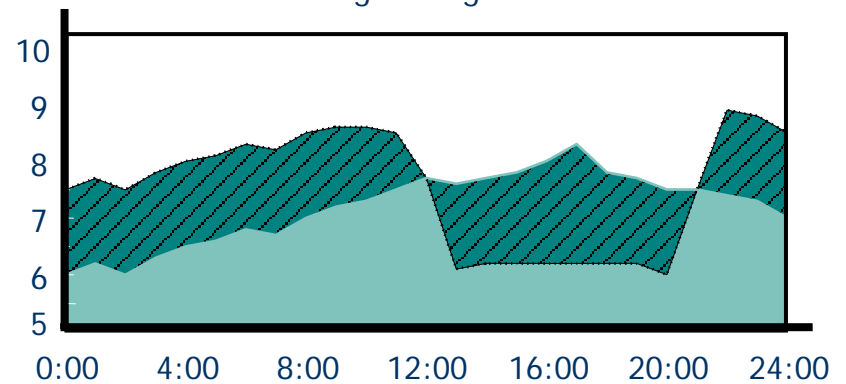
No Response in High-Price Hours
(Hiding behind the Baseline Load)



**No Response in Low-Price Hours and
Decreased Usage in High-Price Hours
(Peak Shavings)**

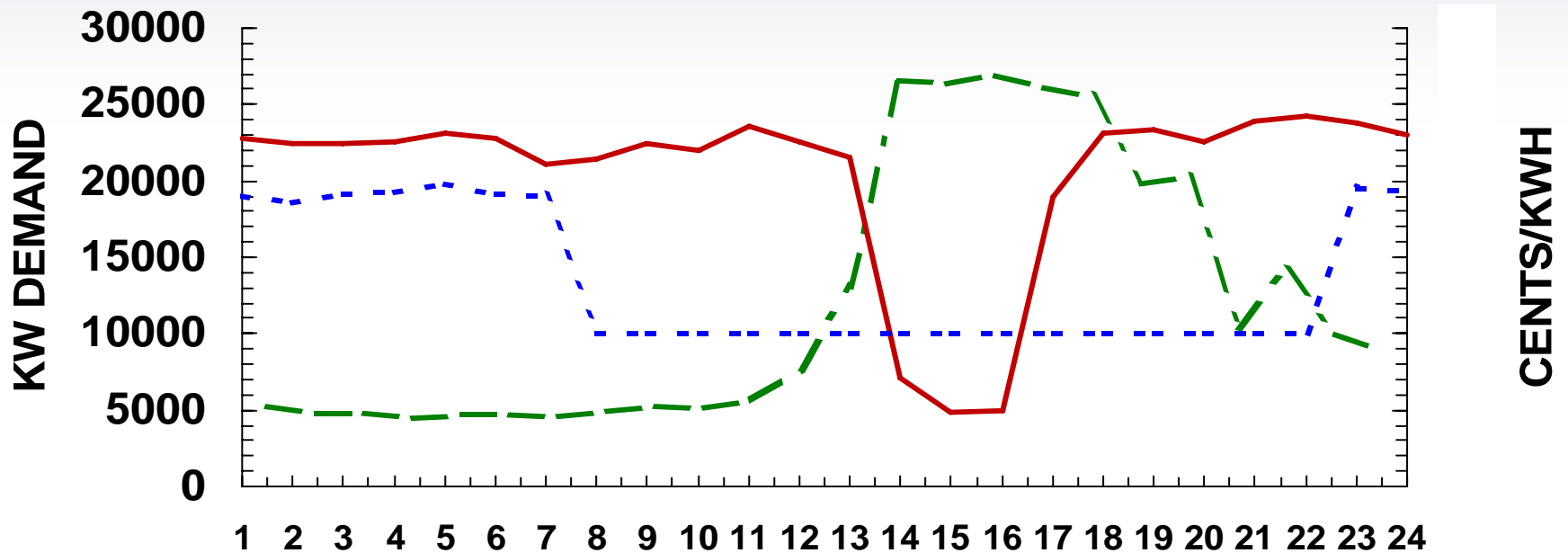


**Increased Usage in Low-Price Hours
Decreased Usage in High-Price Hours**



Demand Profile

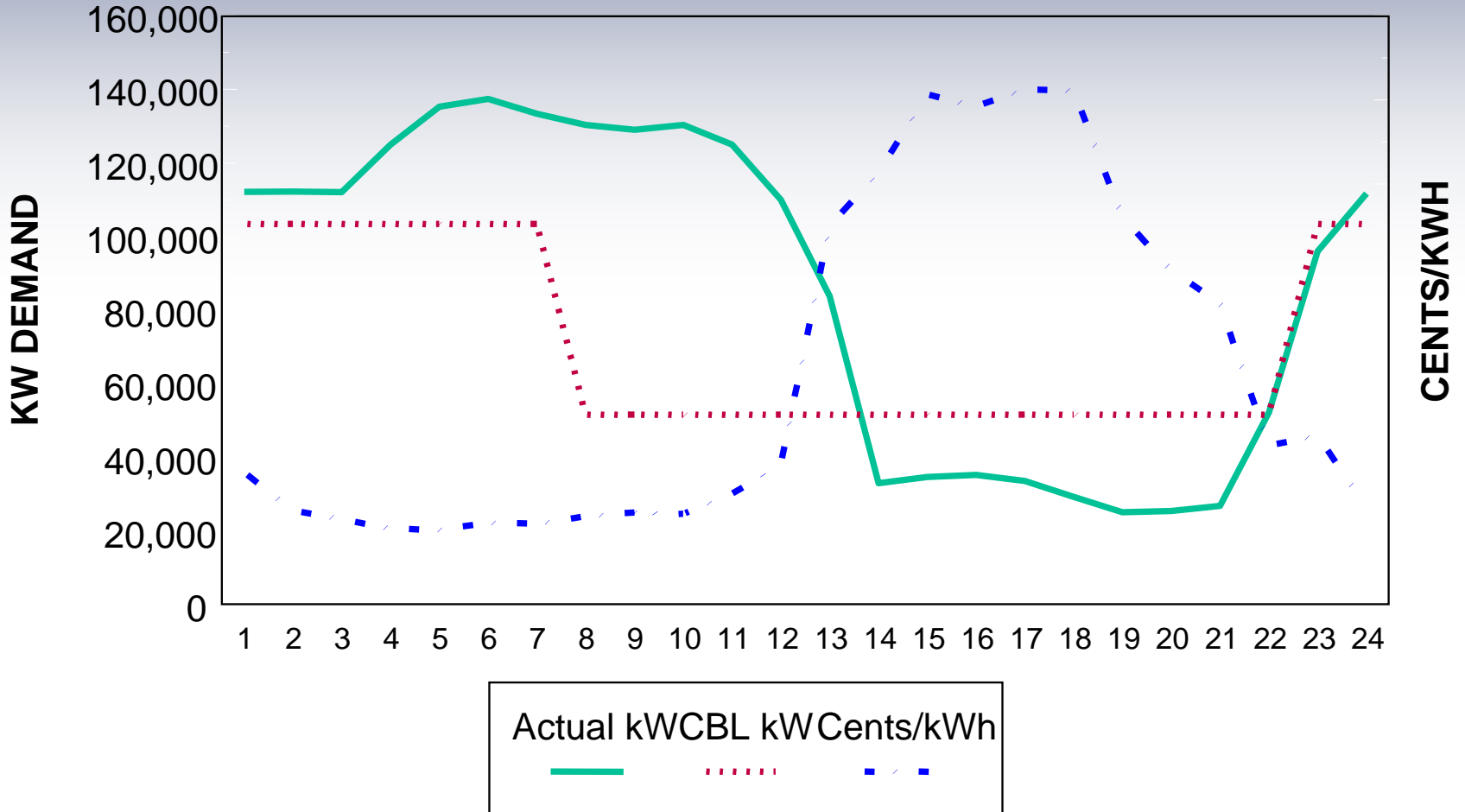
Tuesday



— Cents/kWh — Actual kW - - - CBL kW

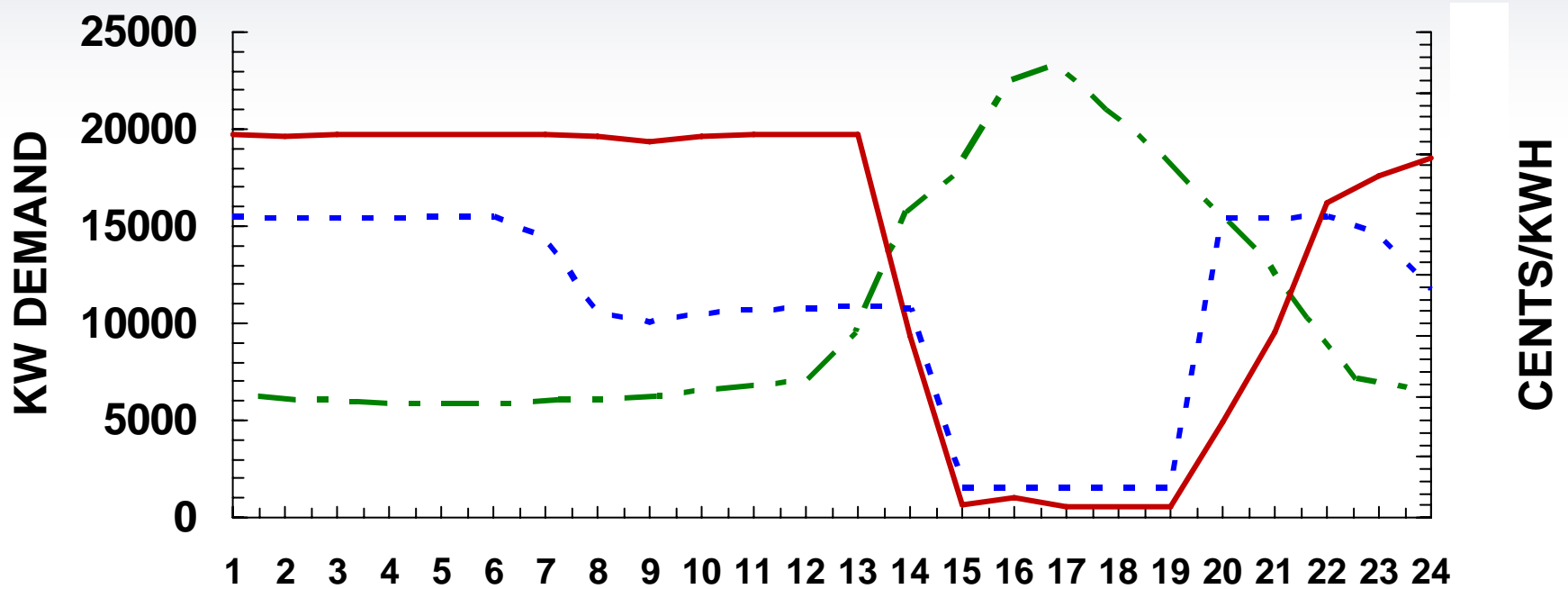
Demand Profile

Thursday



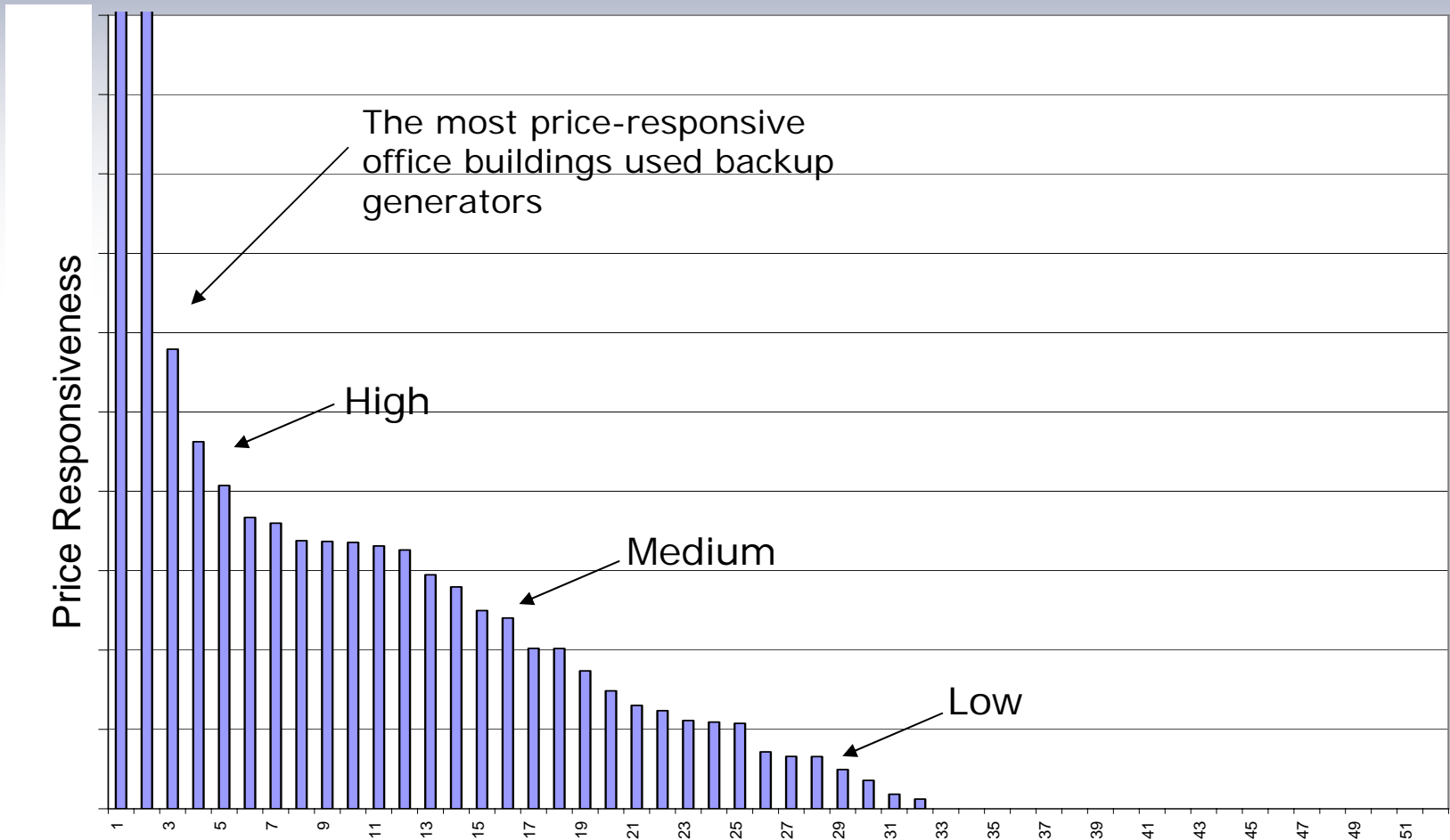
Demand Profile

Monday



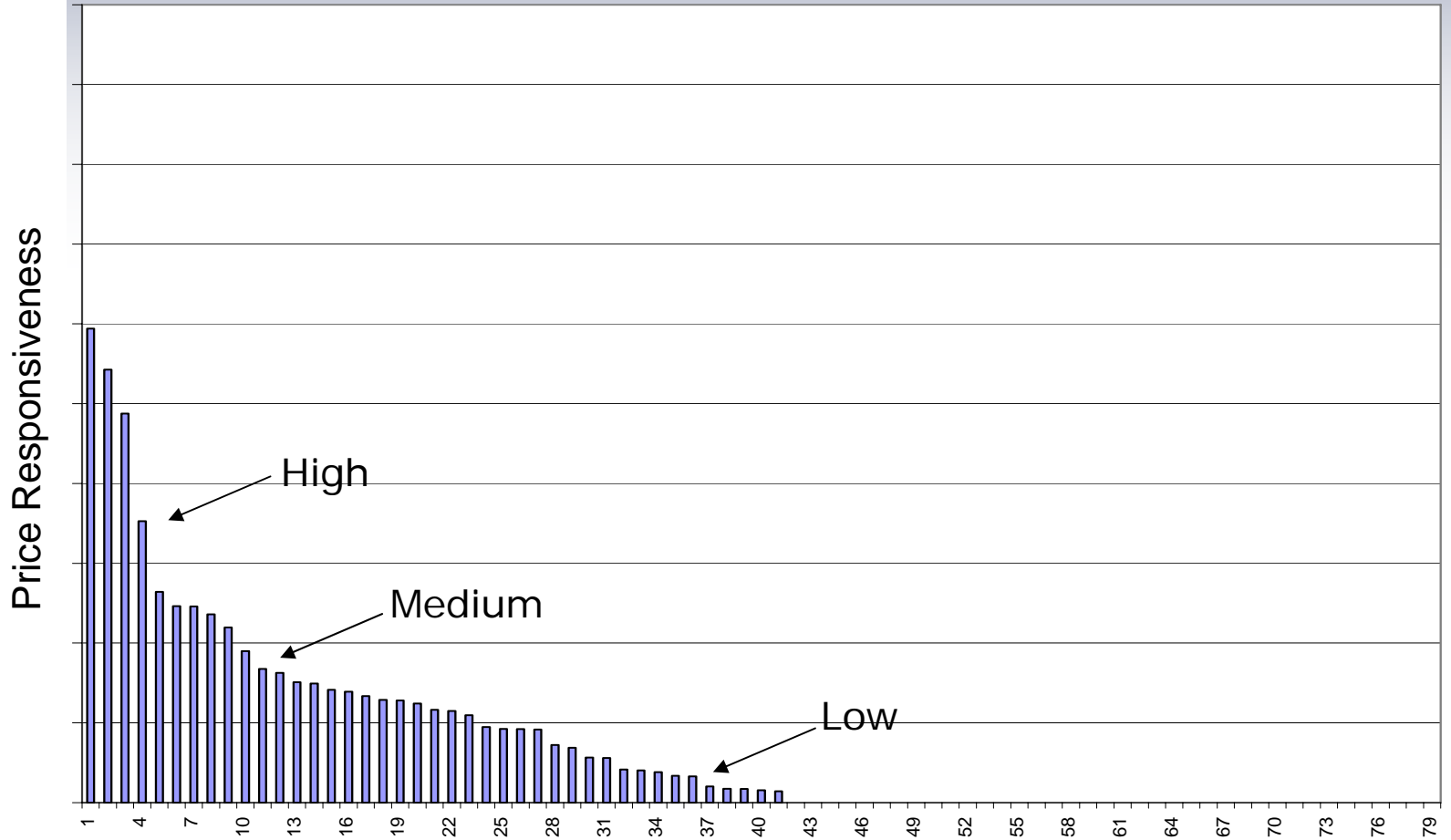
— Cents/kWh — Actual kW - - - CBL kW

Distribution of RTP Price Elasticities *Commercial Office Buildings*

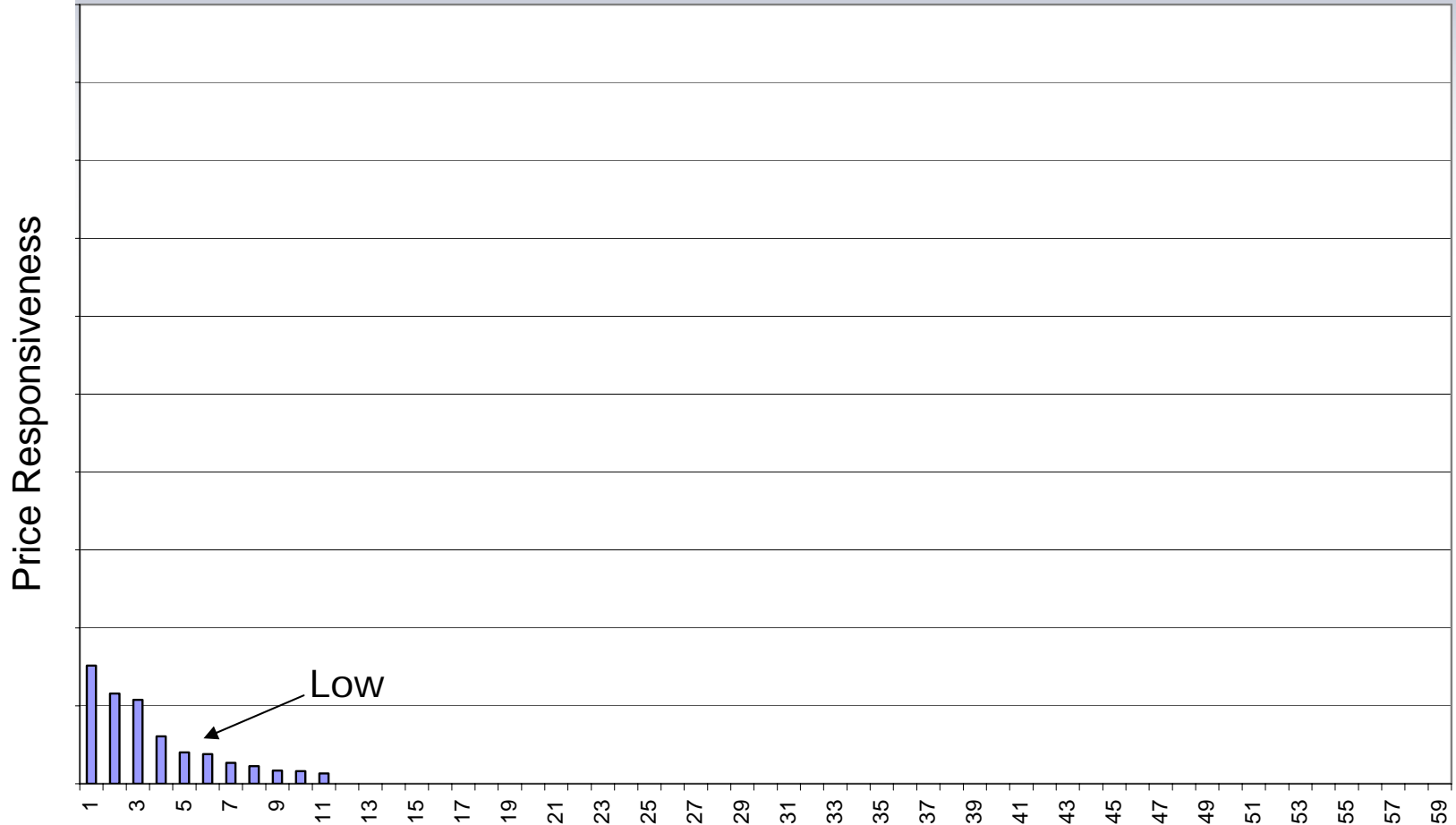


Distribution of RTP Price Elasticities

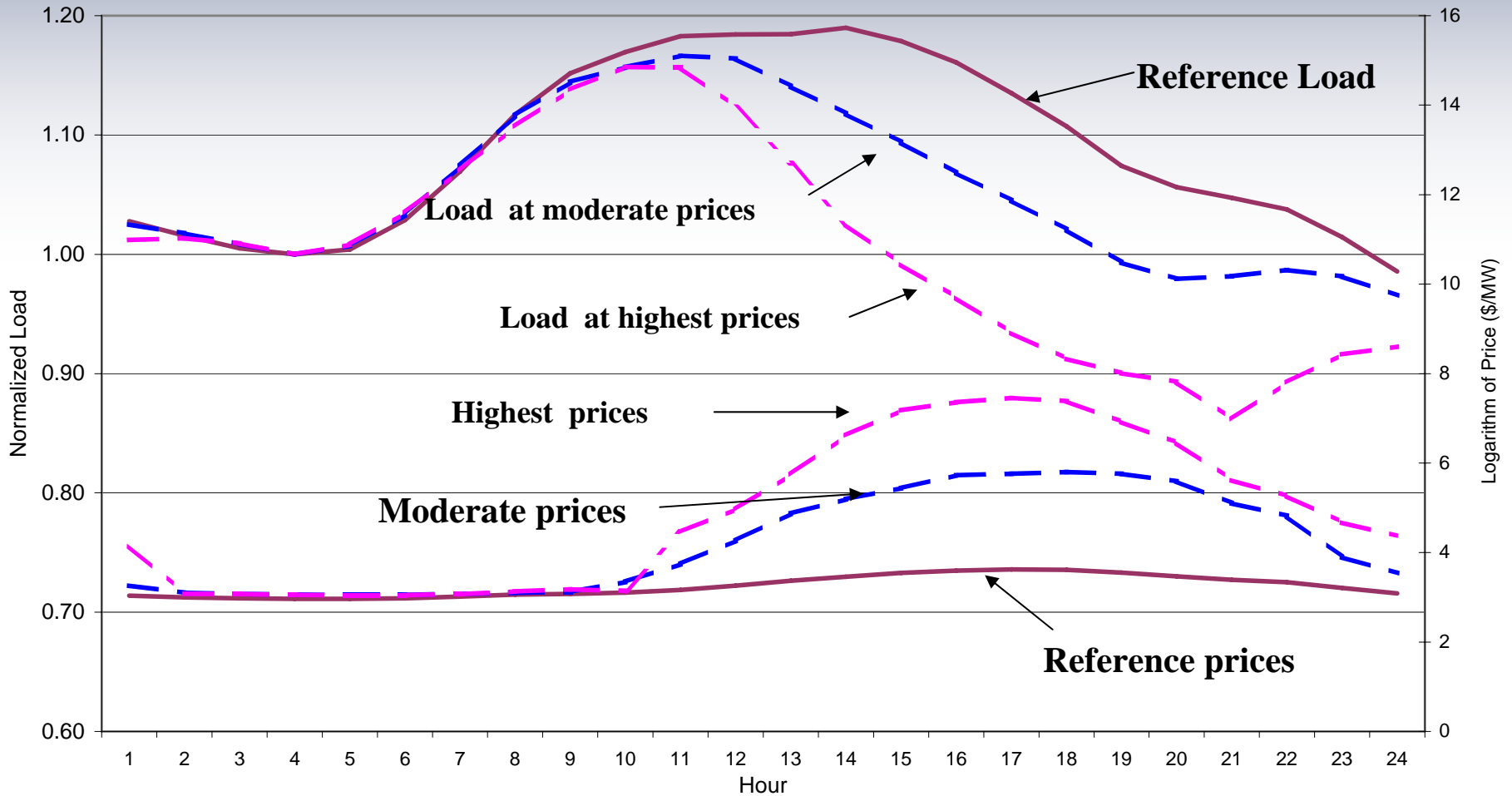
Schools and Universities



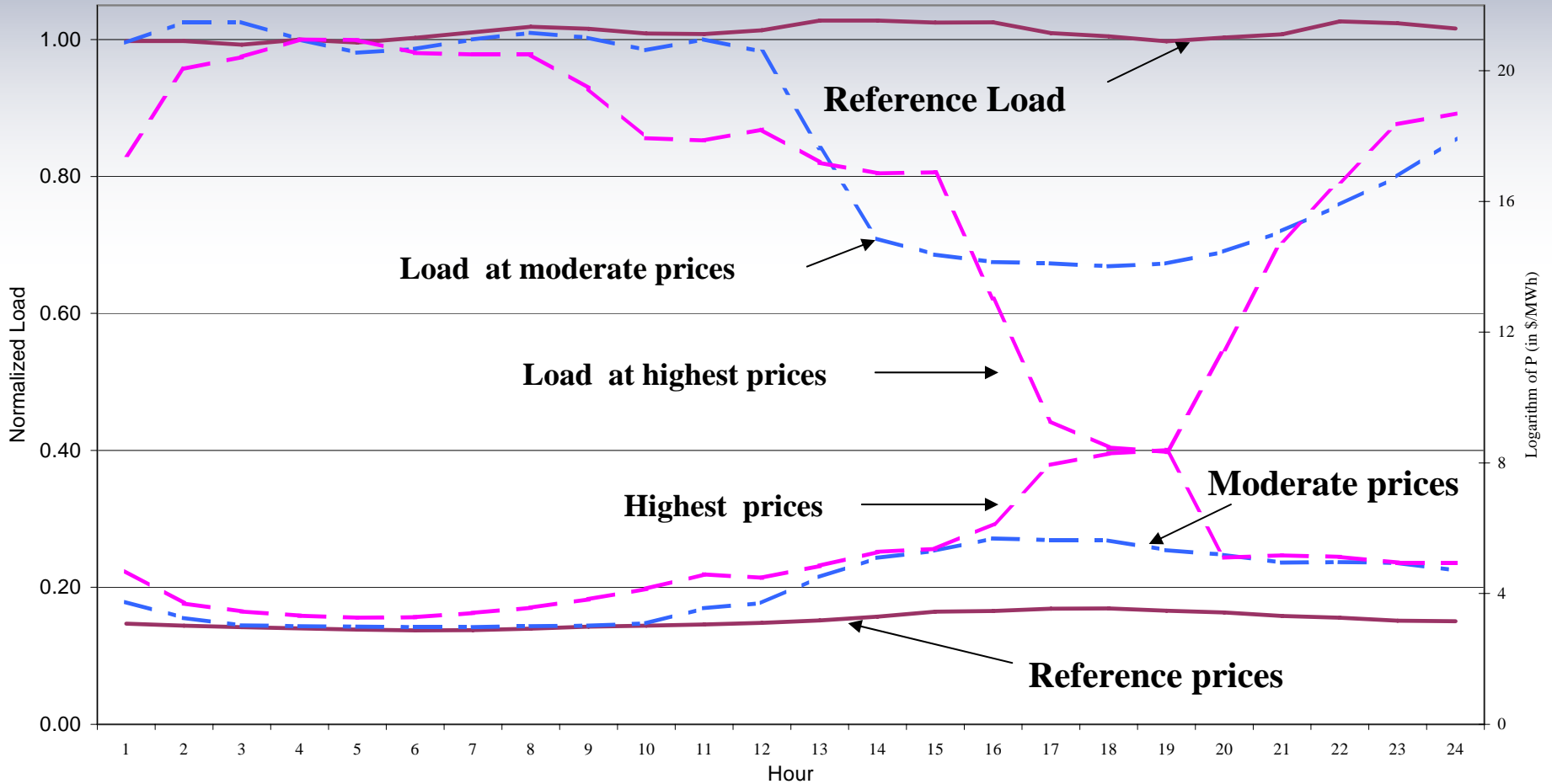
Distribution of RTP Price Elasticities *Supermarkets*



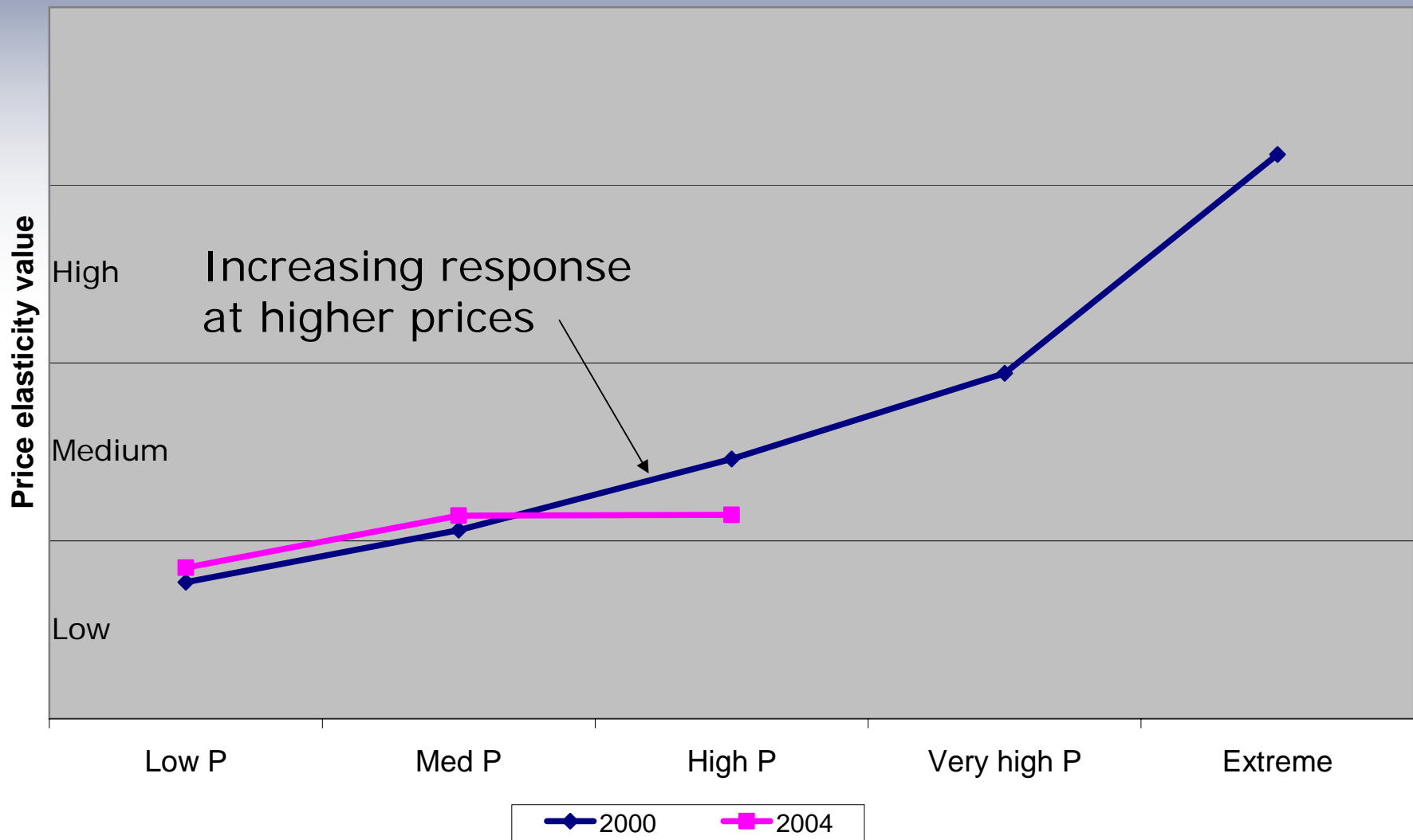
RTP-DA Load Response in '99/'00 -- (Moderate and High-price days)



RTP-HA Load Response in '99/'00 -- (Moderate and High-price days)

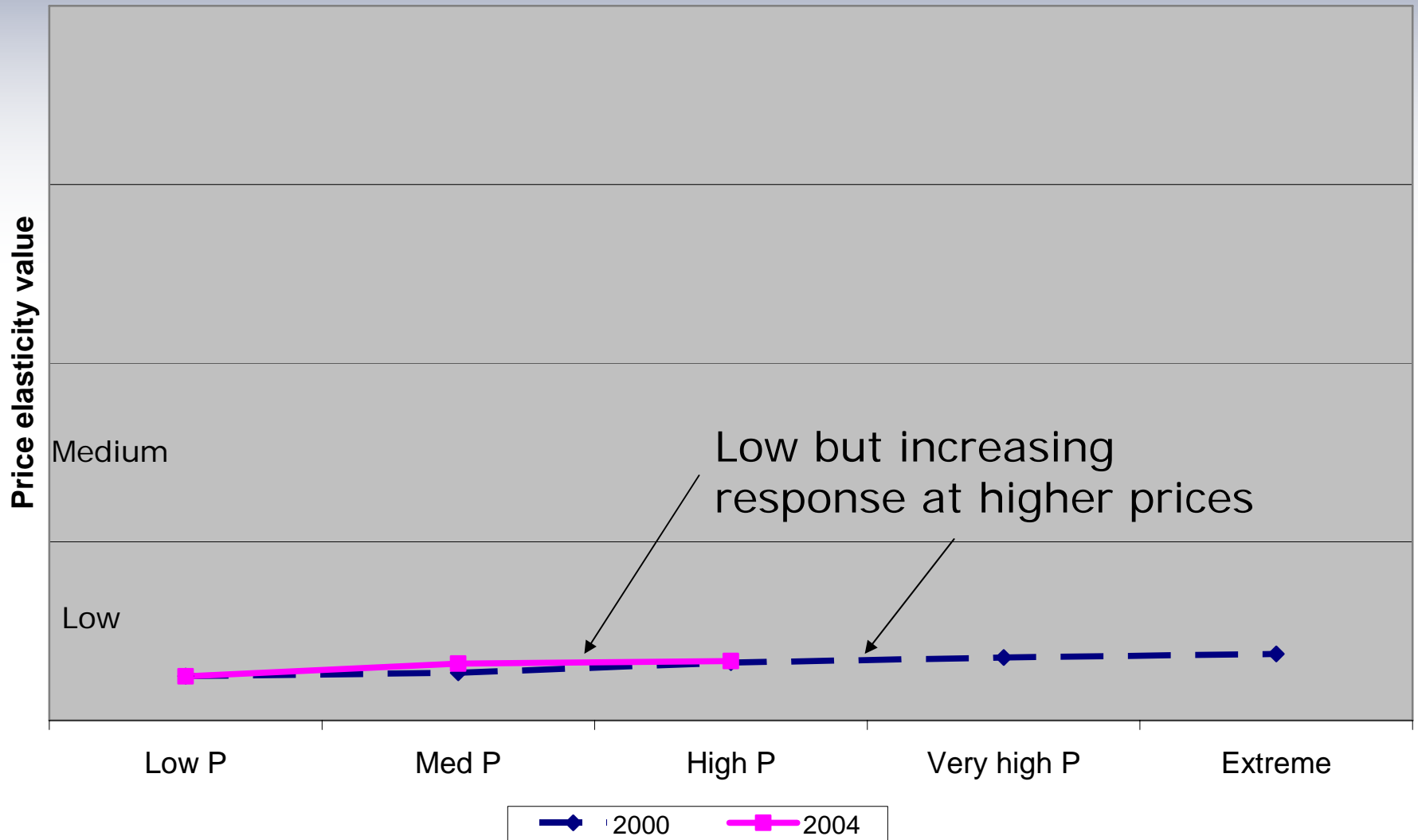


Price Response by Price Level in '00 & '04: *(Hour-ahead customers)*



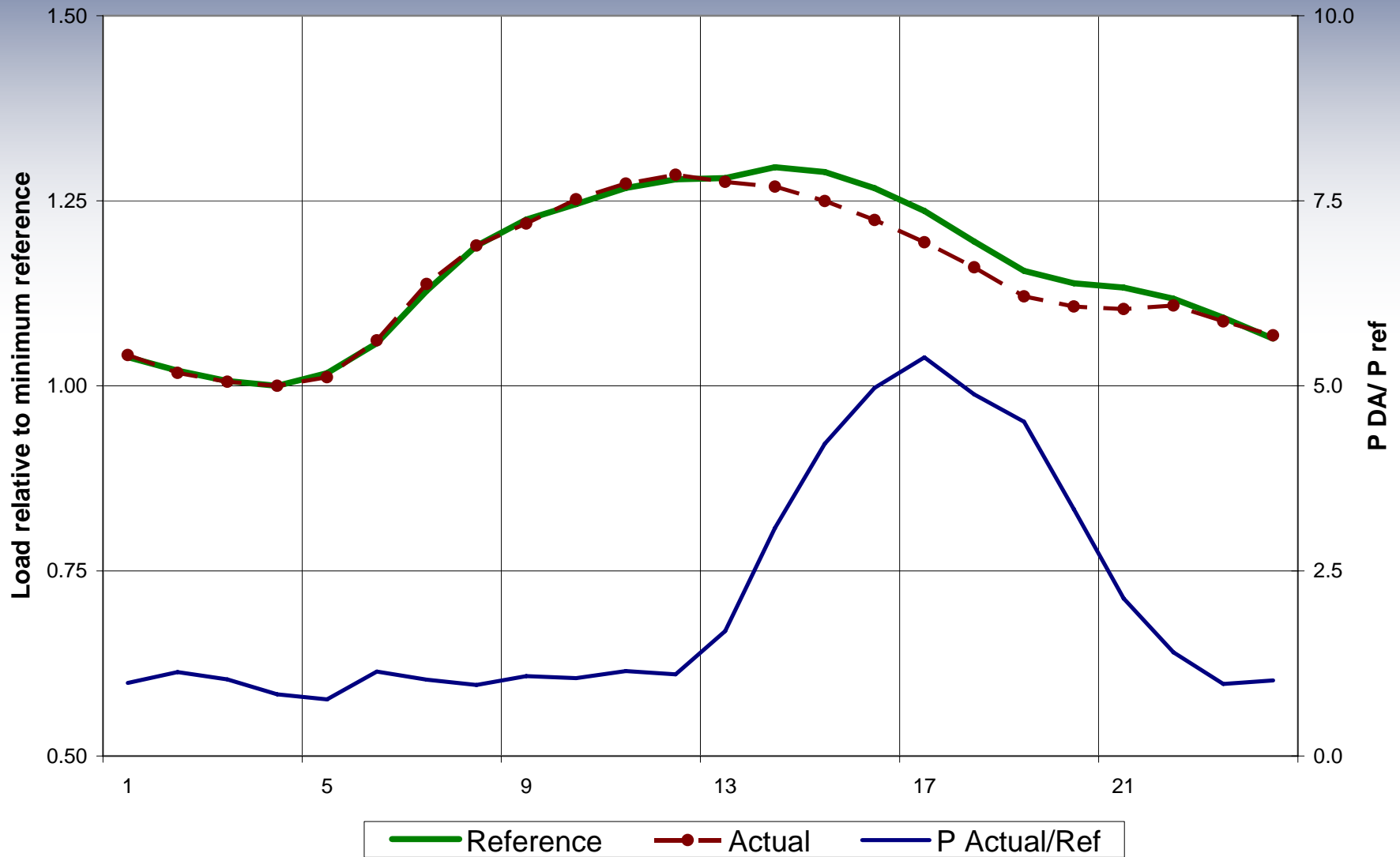
Price Response by Price Level in '00 & '04:

Industrial — No on-site generation (50% of DA load)



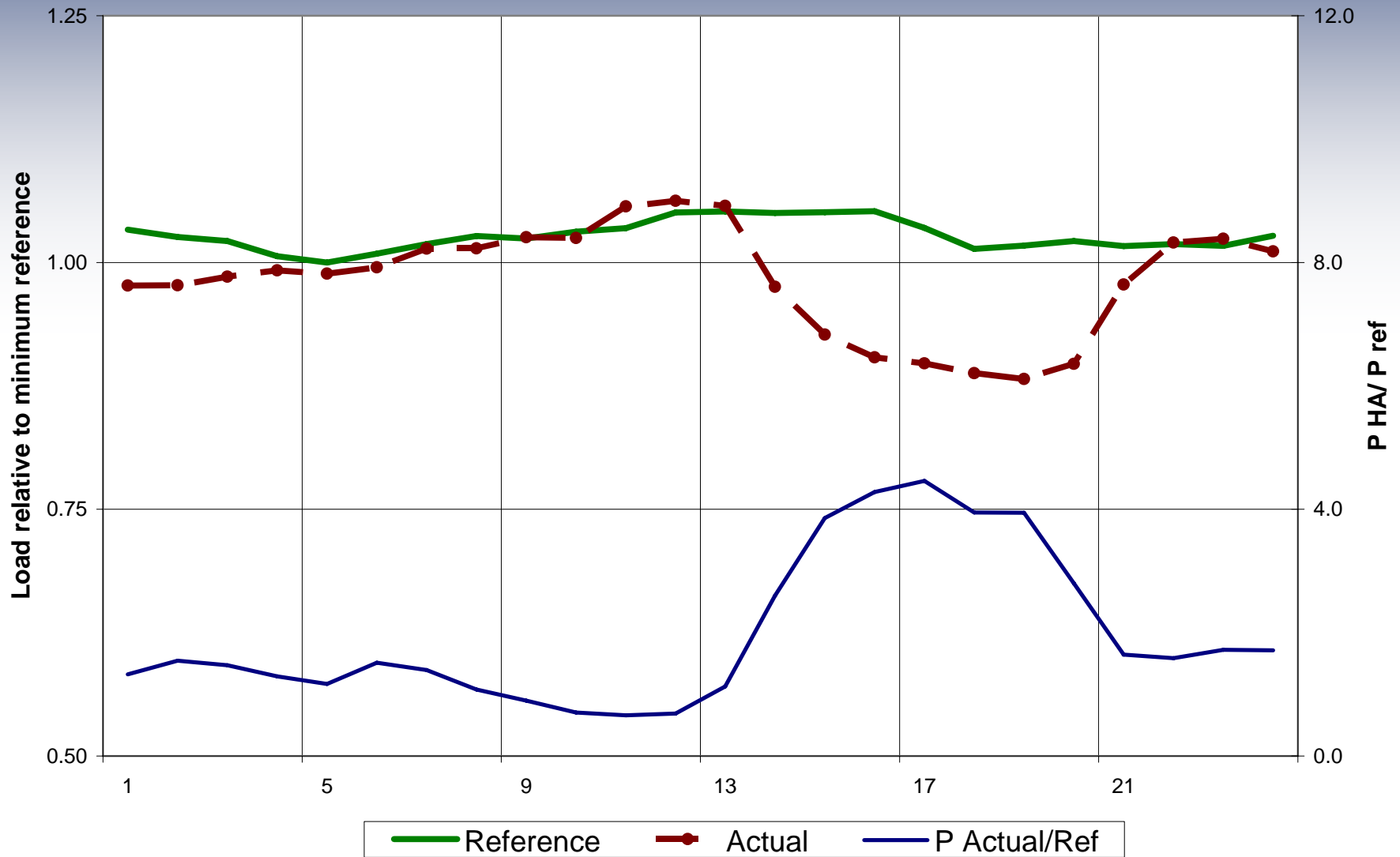
Total DA Load Response in '04

(4% at highest price in '04)



Total HA Load Response in '04

(11% at highest price in '04)



Conclusions

- ❑ Overall RTP price response continues and at about the same level in '04 as '00, *at comparable prices*, helping GPC manage supply risk
- ❑ Two-Part Design enables price response, risk management, and efficient growth
- ❑ RTP remains popular, with > 300 new customers since 2000 and many more in '05