

EXHIBIT NO. ___(WJE-12)
DOCKET NO. _____
2005 POWER COST ONLY RATE CASE
WITNESS: W. JAMES ELSEA

**BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

PUGET SOUND ENERGY, INC.,

Respondent.

Docket No. UE-_____

**ELEVENTH EXHIBIT TO THE PREFILED DIRECT TESTIMONY OF
W. JAMES ELSEA (NONCONFIDENTIAL)
ON BEHALF OF PUGET SOUND ENERGY, INC.**

JUNE 7, 2005

Aurora 6 Forecast Development and Volatility

Resource Planning and Acquisition
Quantitative Analysis Team
July 19, 2004

Aurora 6 Price Forecast

- Need for the forecast
- Changes from Aurora 4 and Aurora 5
- Issues with Aurora
- Solutions
- Long run Resource Portfolio to support Resource Acquisition Analysis (Stage II)

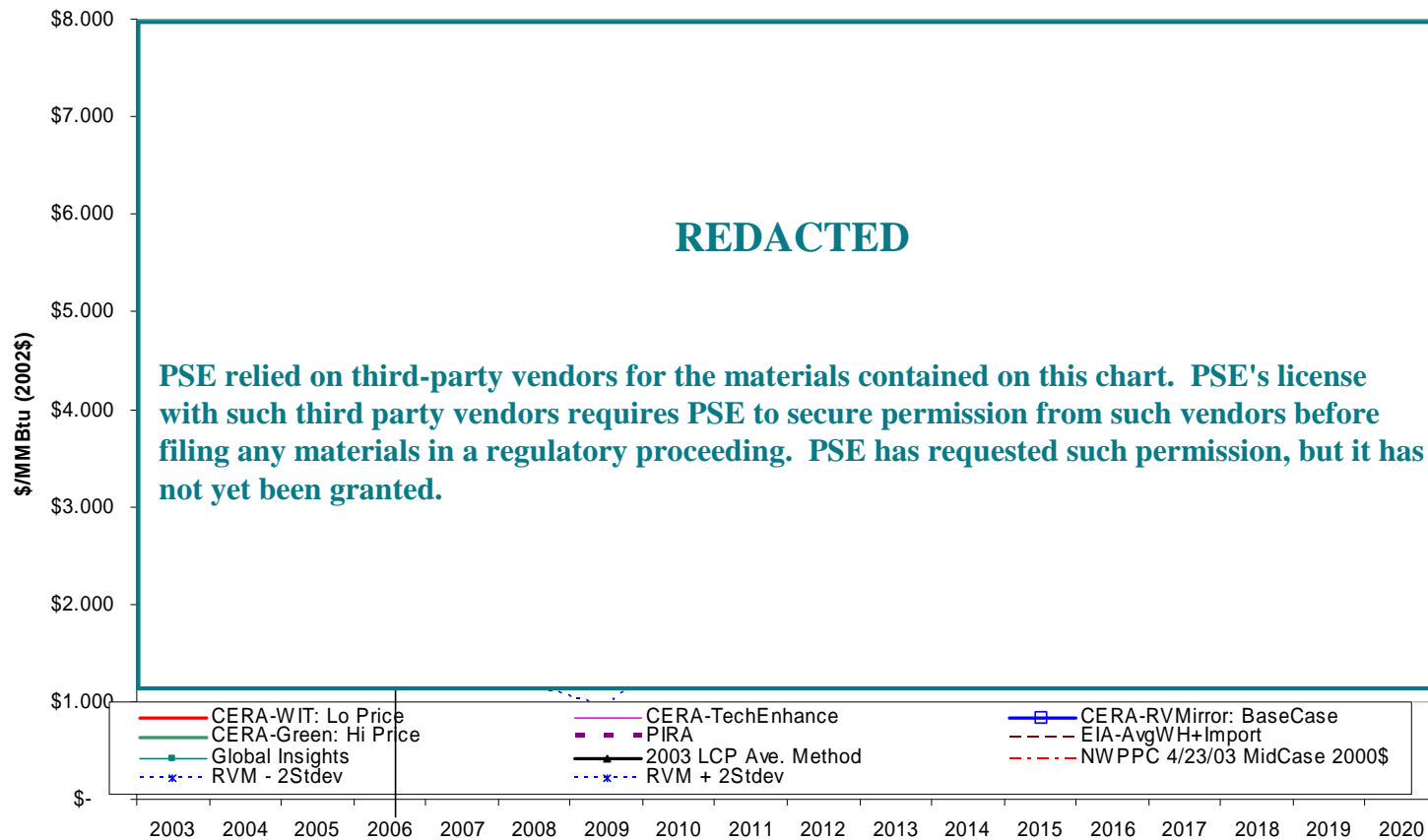
Need for a New Forecast as Part of the Stage II Evaluation

- Analysis requires updated price forecast
 - ◆ Aurora 4 developed in June, 2003 for the LCP and Frederickson 1 analyses
 - ◆ Aurora 5 created with new CERA Rearview Mirror gas forecast into the Aurora 4 framework
 - ◆ Aurora 6: new framework based on new gas prices and informed resource costs
- Revisit the Resource Strategy

Updated Gas Forecast (2/25/2004)

Comparison of Real Henry Hub Prices (2002\$)

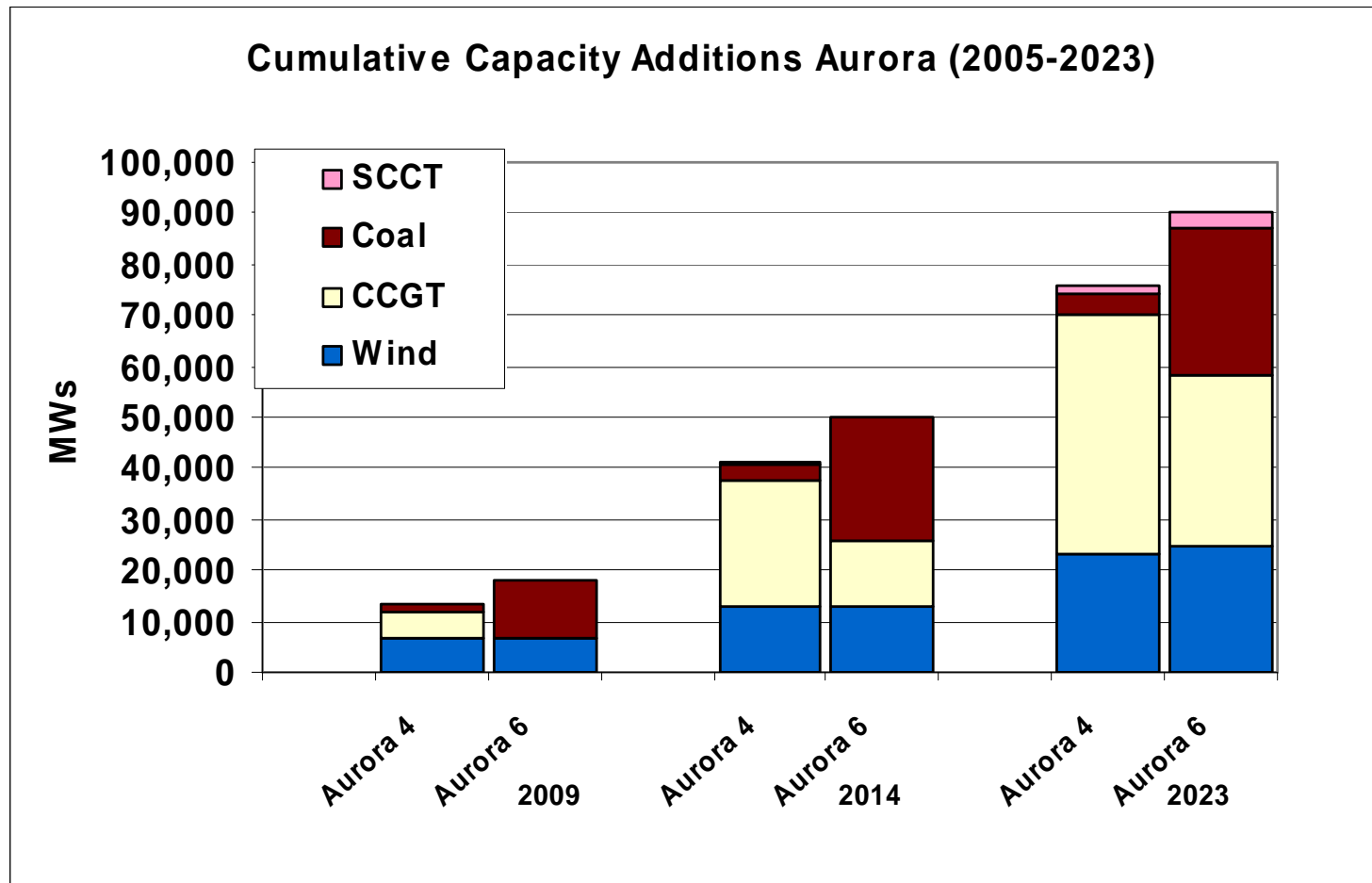
(Note: EIA prices are average of domestic wellhead plus imports, not Henry Hub)



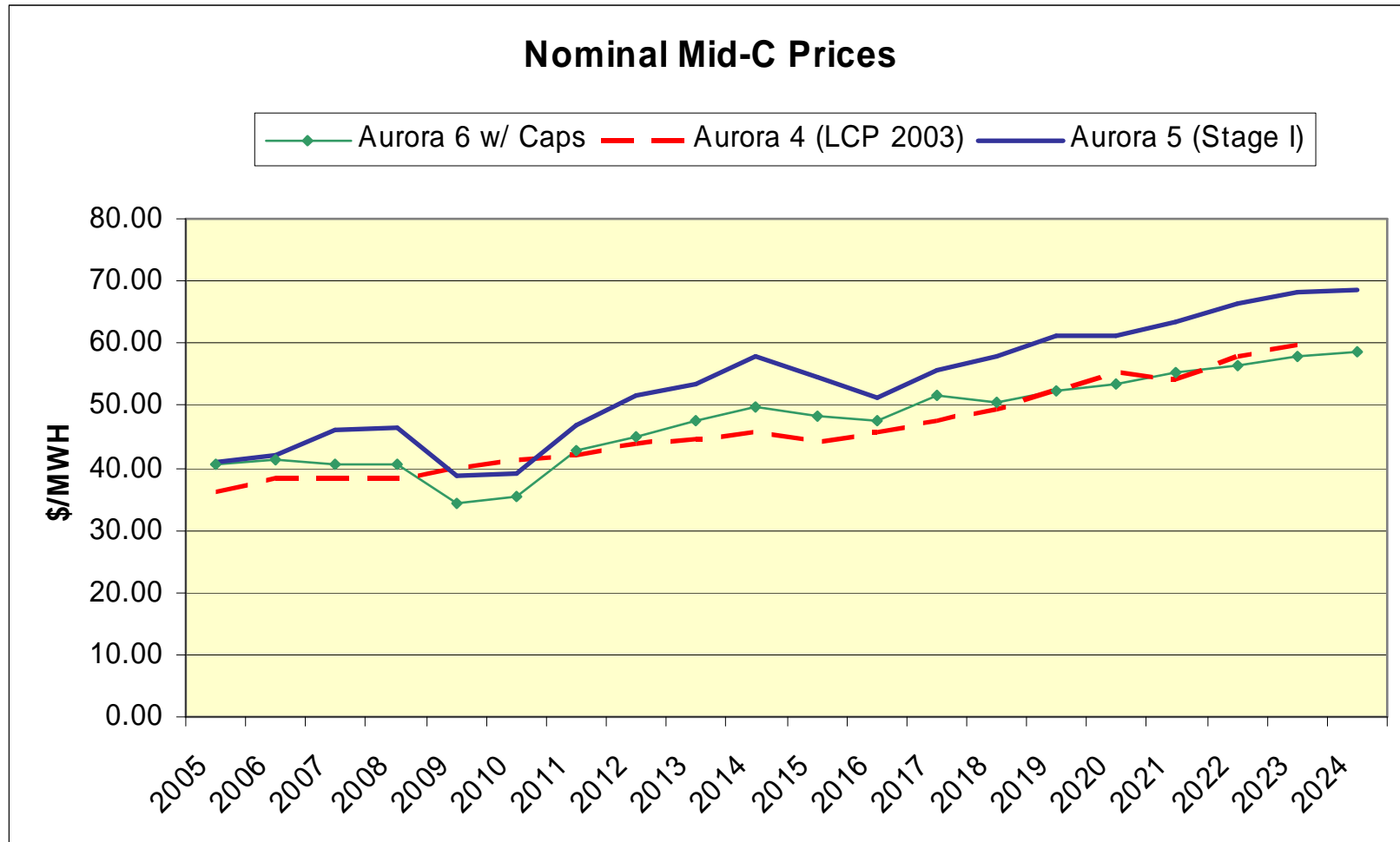
Aurora 6 Generic Resource Characteristics

- Most unchanged from LCP
- Wind turbine cost up from \$1003/KW to \$1200/KW (1/year/region)
- New CO₂-mitigated coal plant (EIA)
 - ◆ For WA/OR, CA2, CA3 (2009, 2010)
 - ◆ \$1,500/KW vs \$2,500/KW
- Base coal plant limits increased from 900MW and 1/year to 600 MW and 4/year. (2007)
- Drop IPP/IOU developer which lowers composite cost of capital

Aurora 6 – New Resource Additions

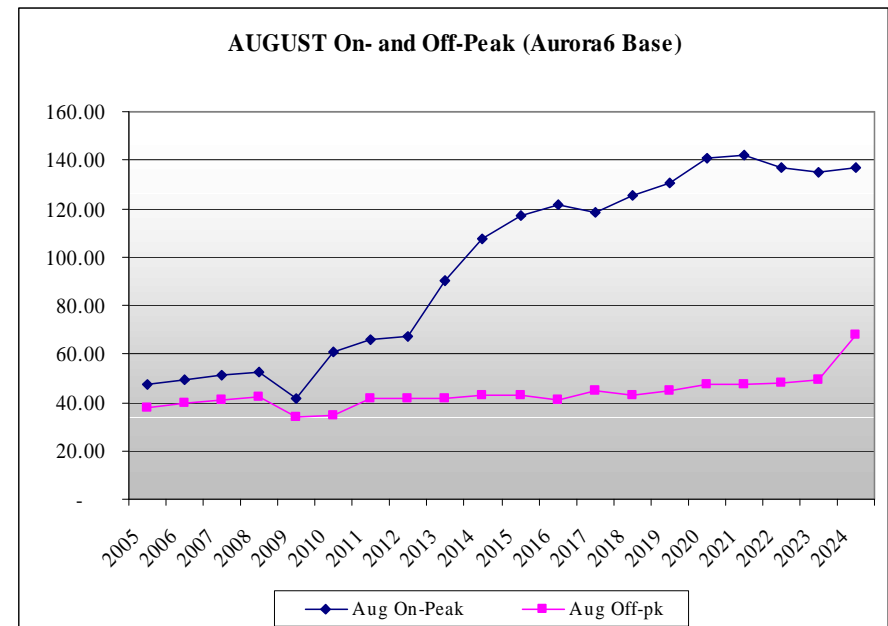


Aurora 6 – New Prices



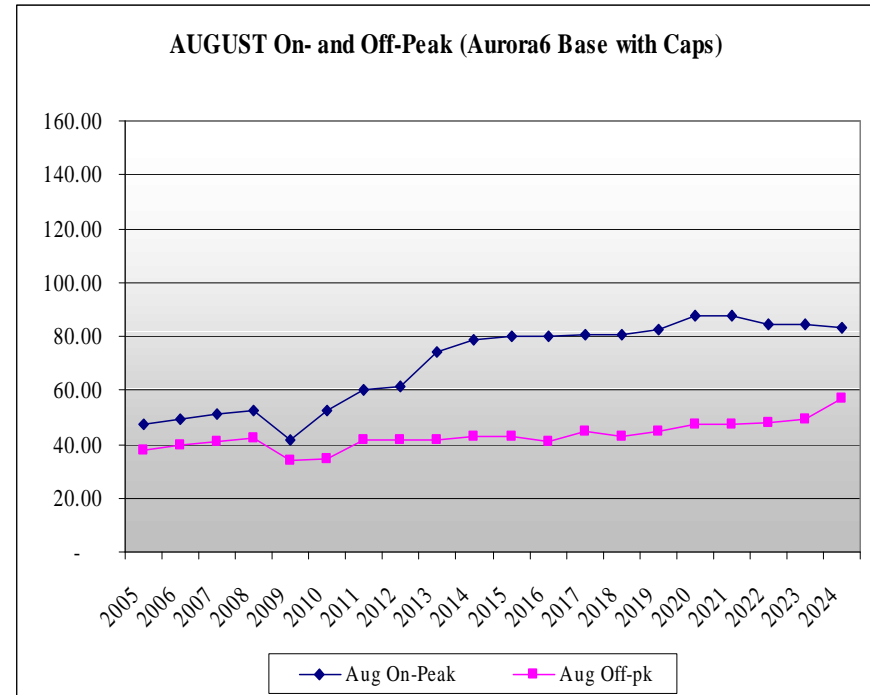
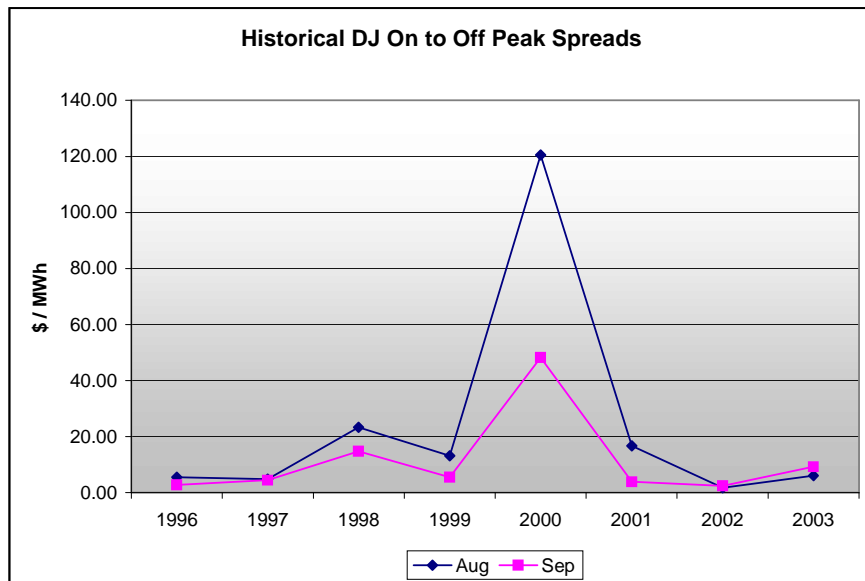
Aurora Issues

- Aurora creates extreme peak hour prices
- August and September late afternoons
- Prices above \$250/MWH
 - ◆ 46 hours in 2014
 - ◆ 71 hours in 2020



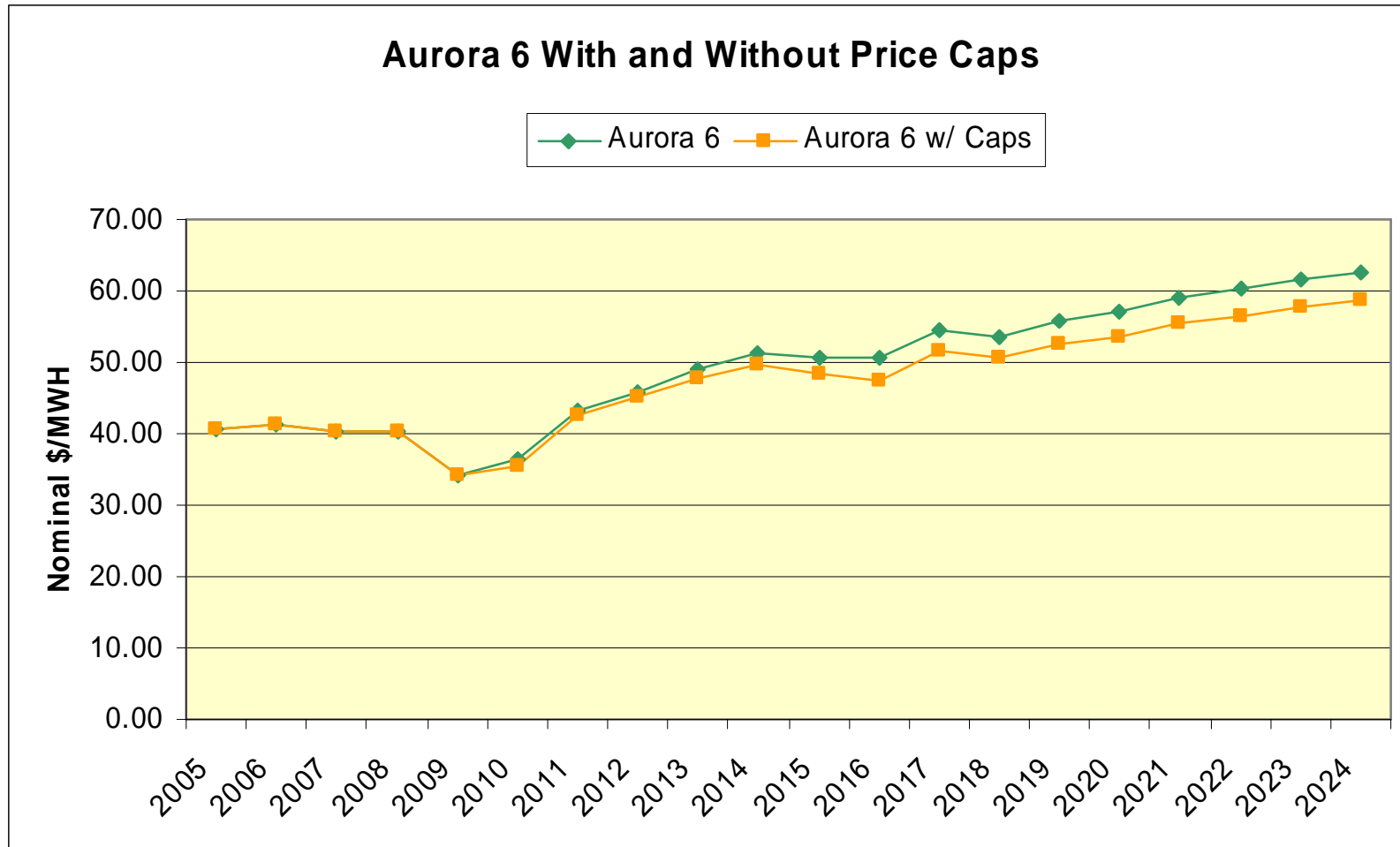
Aurora Summer Peak Prices

- FERC Planning Standard
 - ◆ 15%, 6%
- FERC Price Caps
 - ◆ \$250/MWH

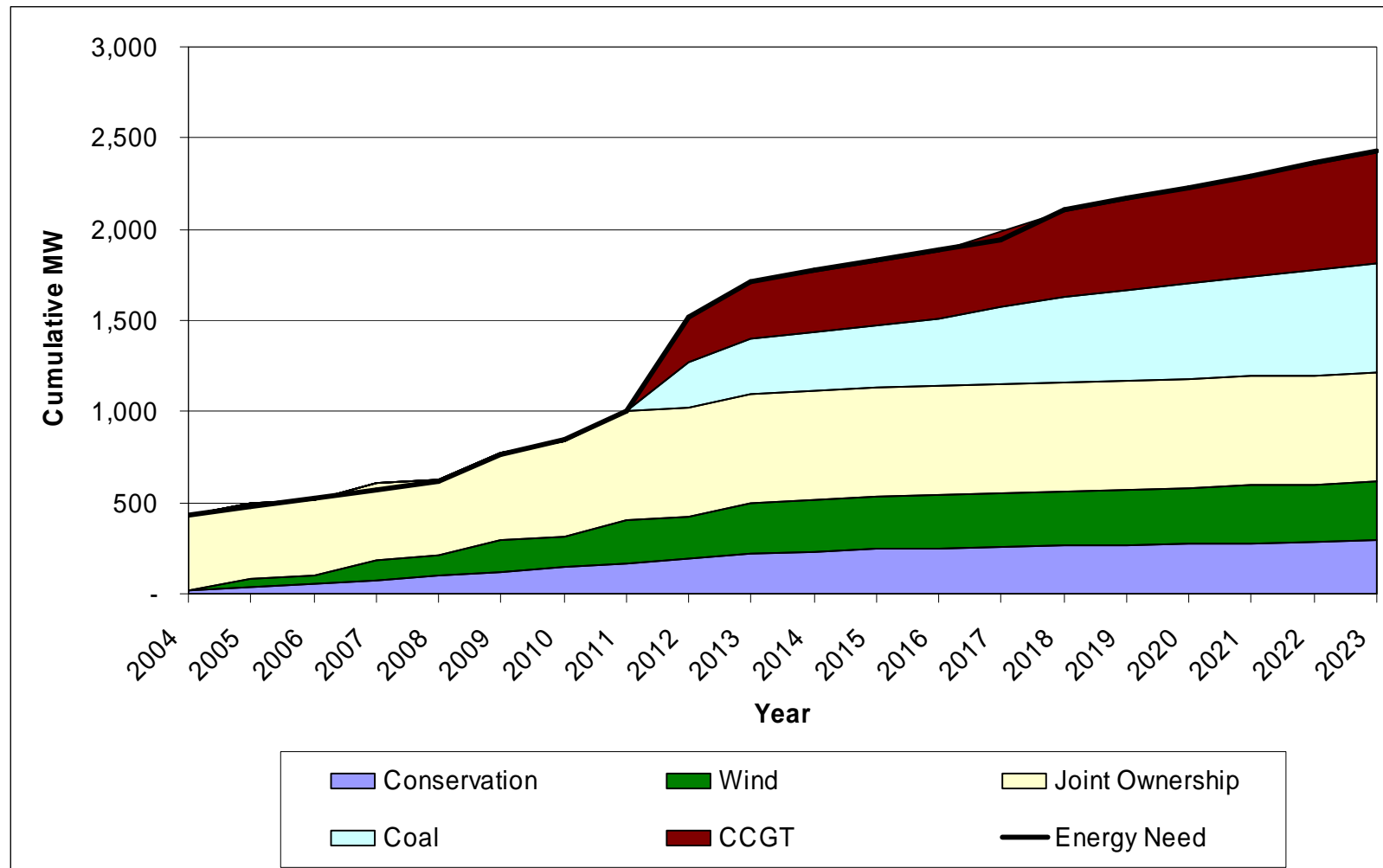


- Historical summer spreads between on and off peak below \$23 in years excluding 2000

Long Run Impact of Price Caps



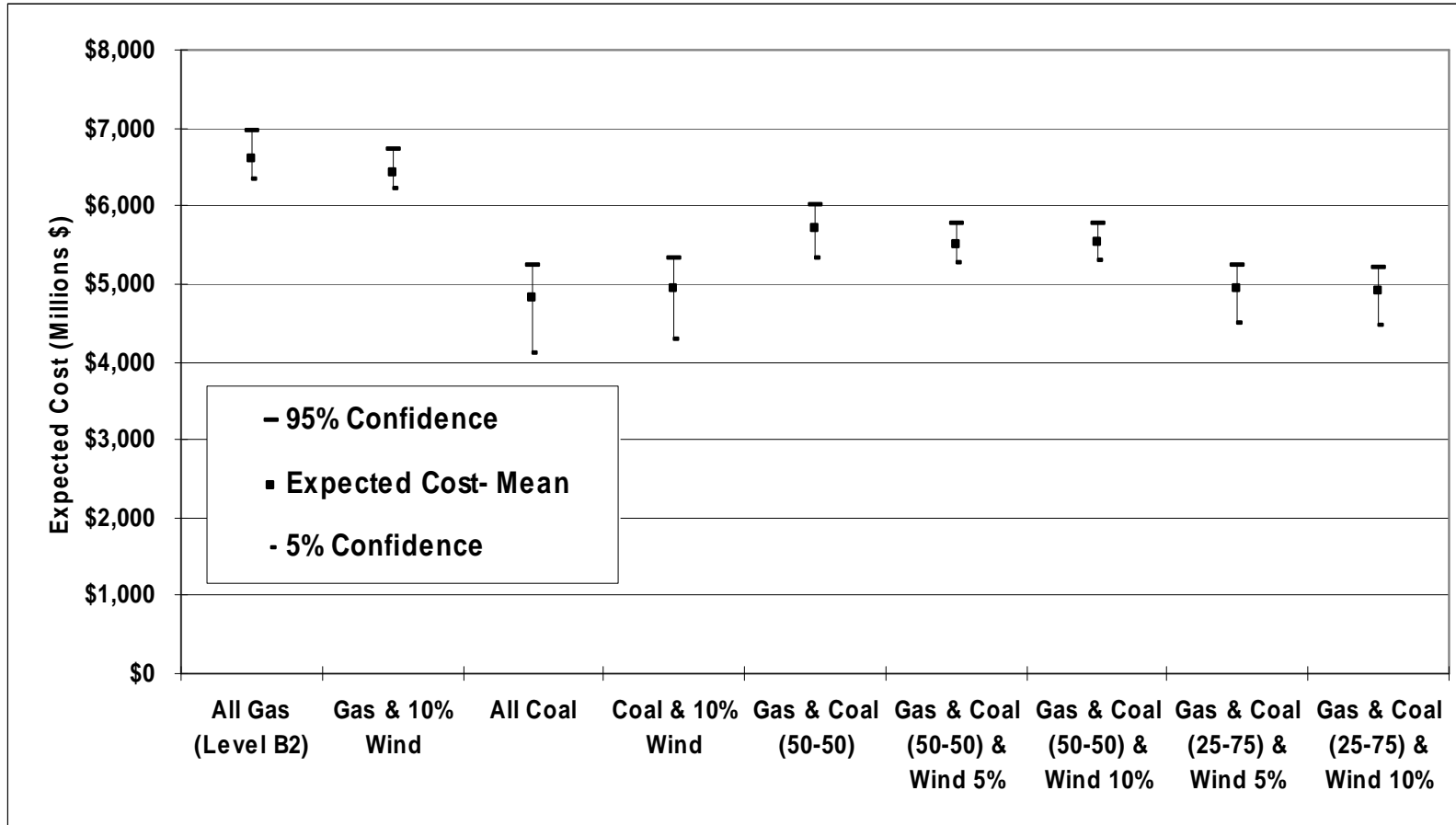
August 2003 LCP Resource Strategy



Resource Portfolios

- Keep the Conservation program
- Remove the Shared Gas Resource (seasonal) as not realistic alternative
- Consider 9 generic portfolios
 - ◆ All Gas
 - ◆ Gas + 10% wind
 - ◆ All Coal
 - ◆ Coal + 10% wind
 - ◆ 50/50 Coal/Gas + 0% wind, 5% wind, 10% wind
 - ◆ 75/25 Coal/Gas + 5% wind, 10% wind

Resource Portfolio Results



Portfolio Screening Model - Stage II

- Aurora 6 Prices with \$250/MWH cap
- Generic Resources (to fill the need beyond each test portfolio)
 - ◆ 10% wind by 2013
 - ◆ 50% coal and 50% gas for remainder