



The IESO Administered Markets November 2006 – April 2007

Market Surveillance Panel's
10th Monitoring Report
Presentation to the Stakeholder
Advisory Committee
August 22, 2007

Agenda

- Recommendations to IESO
- Winter 2006/2007 – Key Findings
 - Price, Demand/Supply Indicators
 - High-Priced and Low-Priced Hours

Recommendations to IESO

Panel has made ten recommendations in the report focused primarily on efficiency improvements:

- Eight of the ten are directed at the IESO with the purpose of enhancing efficiency and / or reducing uplifts
- One is a coordination issue directed at the IESO and OPA relating to Dispatchable Load, OR and Demand Response programs
- One is a consistency issue directed at the IESO regarding the Segregated Mode of Operations at two facilities near the ON/PQ border

Recommendations to IESO

Recommendation 1-1 (pp. 25-28)

Given the persistent large number of intertie failures not under a market participant's control, the Panel urges the IESO to continue to review this issue with New York ISO to better understand why there are such high failure levels and determine whether there are solutions which could reduce such failures to the benefit of both markets.

Recommendation 2-1 (pp. 86-90)

The Panel recommends the IESO review the time lags which it currently employs for replenishing the OR requirements following a contingency. Replenishment as quickly as possible would be consistent with the treatment of other operating reserve or energy obtained through out-of-market control actions and similar to the NYISO practice. This would result in prices which more accurately reflect the loss of supply and encourage market participants to respond as quickly as possible.

Recommendation 2-2 (pp. 97-100)

The Net Interchange Scheduling Limit of 700 MW has been in effect since the market opened. In the light of 5 years' experience with market-based trading, the NISL's potential to limit efficient trade and changes in both the number of generators and their combined ramp capability, the Panel encourages the IESO to review whether the 700 MW limit could be increased.

Recommendation 2-3 (pp. 100-106)

The Panel recommends the IESO should explore improvements to the load predictor tool in order to reduce forecast errors associated with sudden changes in dispatchable load consumption, and the resulting dispatch inefficiencies.

Recommendations to IESO

Recommendation 3-1 (pp. 108-113)

The Panel encourages the IESO and OPA to continue to improve coordination between dispatchable load and demand response programs in order to promote the efficient use of dispatchable loads' OR capability.

Recommendation 3-2 (pp. 114-121)

The Panel recommends the IESO review the DACP in order to reduce the costs and improve the effectiveness of the Generator Cost Guarantee. Three-part bidding with 24 hour optimization, similar to the NYISO methodology, may be one such approach. We further recommend as an interim alternative that the IESO consider mechanisms which allow the full magnitude of domestic generator costs to be taken into account in DACP scheduling decisions.

Recommendation 3-3 (pp. 121-123)

In parallel with the recommended review of the DA-GCG, the Panel believes that it would be useful for the IESO to review the interface between the SGOL and DA-GCG as well as mechanisms for considering the full amounts of SGOL cost reimbursements in scheduling decisions.

Recommendation 3-4 (pp. 124-127)

The Panel recommends the IESO review off-peak conditions to determine if the RT-IOG and DA-IOG programs are providing an improvement in reliability commensurate with the payments being made. The IESO should consider discontinuing off-peak IOG payments where these no longer appear to provide corresponding reliability benefits.

Recommendations to IESO

Recommendation 3-5 (pp. 127-129)

The Panel recommends the IESO review the treatment of energy exported through Segregated Mode of Operation with a view to including this energy in the determination of RT-IOG offsets for implied wheeling.

Recommendation 3-6 (pp. 129-153)

The Panel recognizes that adopting locational pricing would be a fundamental design change; however, we encourage the IESO to assess the efficiency benefits and costs of such an approach to provide a sound analytic basis for the consideration of future policy decisions.

Impact of Nodal Pricing on Efficiency and Investment

- The spot market continues to have a central role to play in ensuring that consumption, investment and dispatch decisions in hybrid market are efficient.
- The Panel continues to believe a change to locational pricing would be a spur to economic efficiency and market-based investment at relatively low costs to consumers.
- The Panel has extended its previous analyses to estimate some of the potential efficiency gains of a nodal pricing regime

Impact of Nodal Pricing on Efficiency and Investment

- *Dynamic Efficiency* - Observed nodal prices appear to provide sufficient net revenue to prompt investment in many parts of the Province vs net revenue shortfall under the uniform pricing world
- *Allocative Efficiency* - consumption efficiencies related to elimination of inefficient exports are estimated at \$50M in 2006
- *Wealth Transfer Effect* - taking into account the Global Adjustment and the OPG rebate - likely upper bound on price increases is much less than \$1/MWh (in the range of \$0.50/MWh if revenues accrued to OPG are used to reduce stranded debt charges)
- These findings are subject to the assumptions and limitations of the model but 'directionally' correct

Winter of 2006 / 2007 – Key Findings

- Market worked well according to its design
- Hourly prices reflected underlying supply and demand forces
- No evidence of abuse of market power or gaming

Price Indicators

- Average prices lower than a year ago by \$7/MWh (12%)
- Key driver is natural gas prices which receded on average 14%
- After the Global Adjustments (and OPG Rebates) effective price to consumers is only \$1/MWh lower
- Ontario HOEP is the lowest 6 month price compared to surrounding markets: NY, PJM, MISO and New England
- OR prices also continuing to decline

Demand Indicators

- Ontario demand virtually unchanged
 - Wholesale load continues to drop (principally due to wood processing facilities in the Northwest)
- New record winter hourly Market Demand of 25,961 MW in February
- Exports declined by 1.8 TWh (25%) as arbitrage opportunities between markets lessened.
 - Long-term trade flows may be altering as a result of rising MISO prices and reduced arbitrage opportunities between New York and MISO.

Supply Indicators

- Supply cushion has been progressively increasing since 2003 with new generation
- Forced outage rates have declined continuously since 2003
- Nuclear forced outage rates appear to be leveling off
- Imports declined by 0.8 TWh (22%) as arbitrage opportunities between markets lessened.
 - Long-term trade flows may be altering as a result of reduced arbitrage opportunities between New York to Ontario and MISO to Ontario.

Uplift Indicators

- Market uplifts continue to fall, dropping by 20 per cent or \$44 million compared to the previous winter
 - OR uplifts and losses showing the biggest reduction


High-Priced Hours

- Only 1 hour with HOEP > \$200/MWh
 - Resulted from a derating to Beck GS due to ice flows
 - Led to recommendation related to OR replenishment
- Factors previously identified by the Panel continue to explain price spikes
 - Real-time demand higher than pre-dispatch forecast
 - Generating units available in pre-dispatch fail to deliver in real-time
 - Imports fail real-time delivery

Low-Priced Hours

- 189 hours < \$20/MWh
 - Increase from 110 hours in the previous period
 - 3 hours with negative prices
- Factors previously identified by the Panel continue to explain low prices
 - Low market demand
 - Abundant baseload supply
 - Demand forecast errors
 - Failed exports

Questions?




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Reference Slides

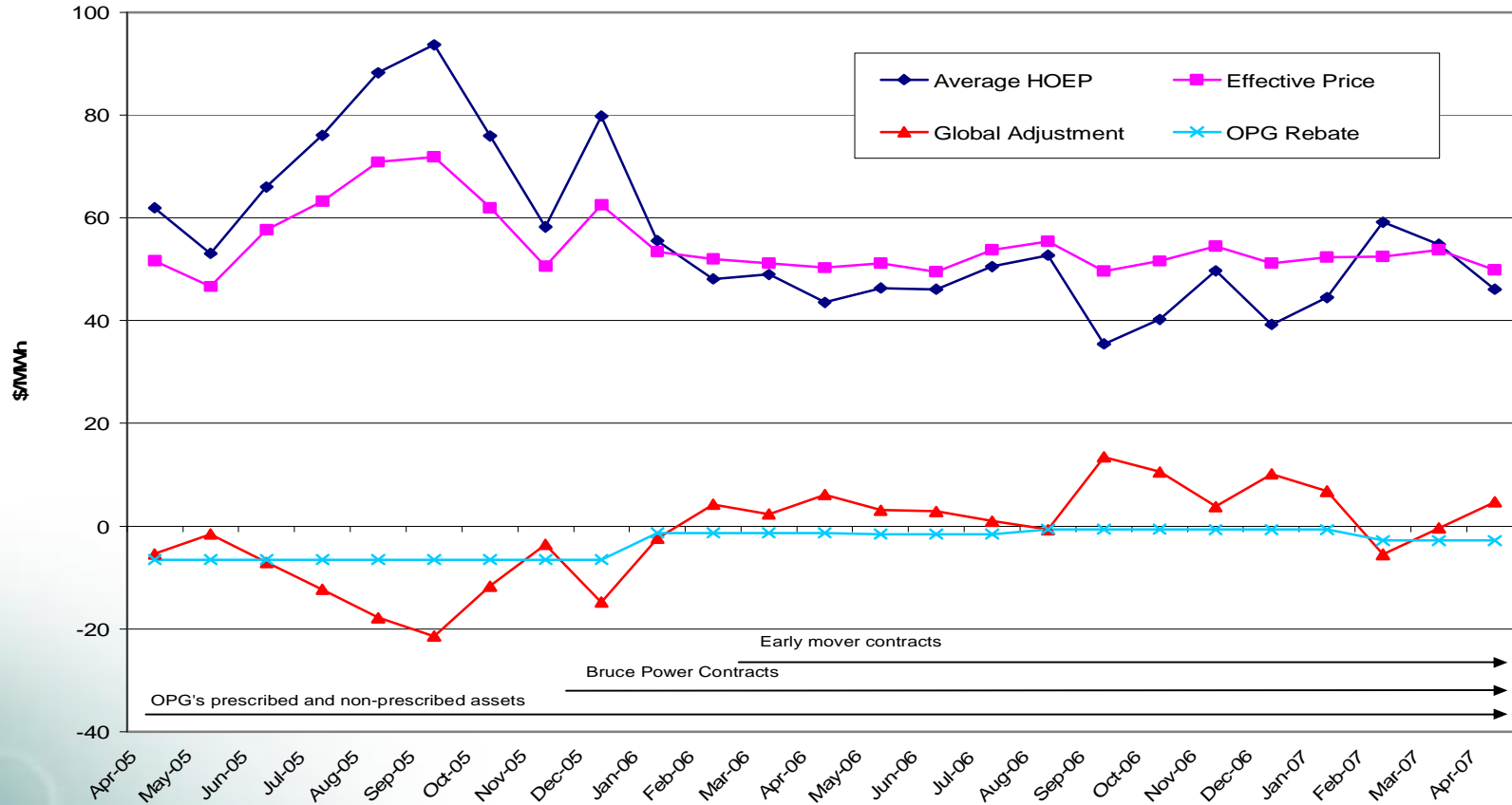


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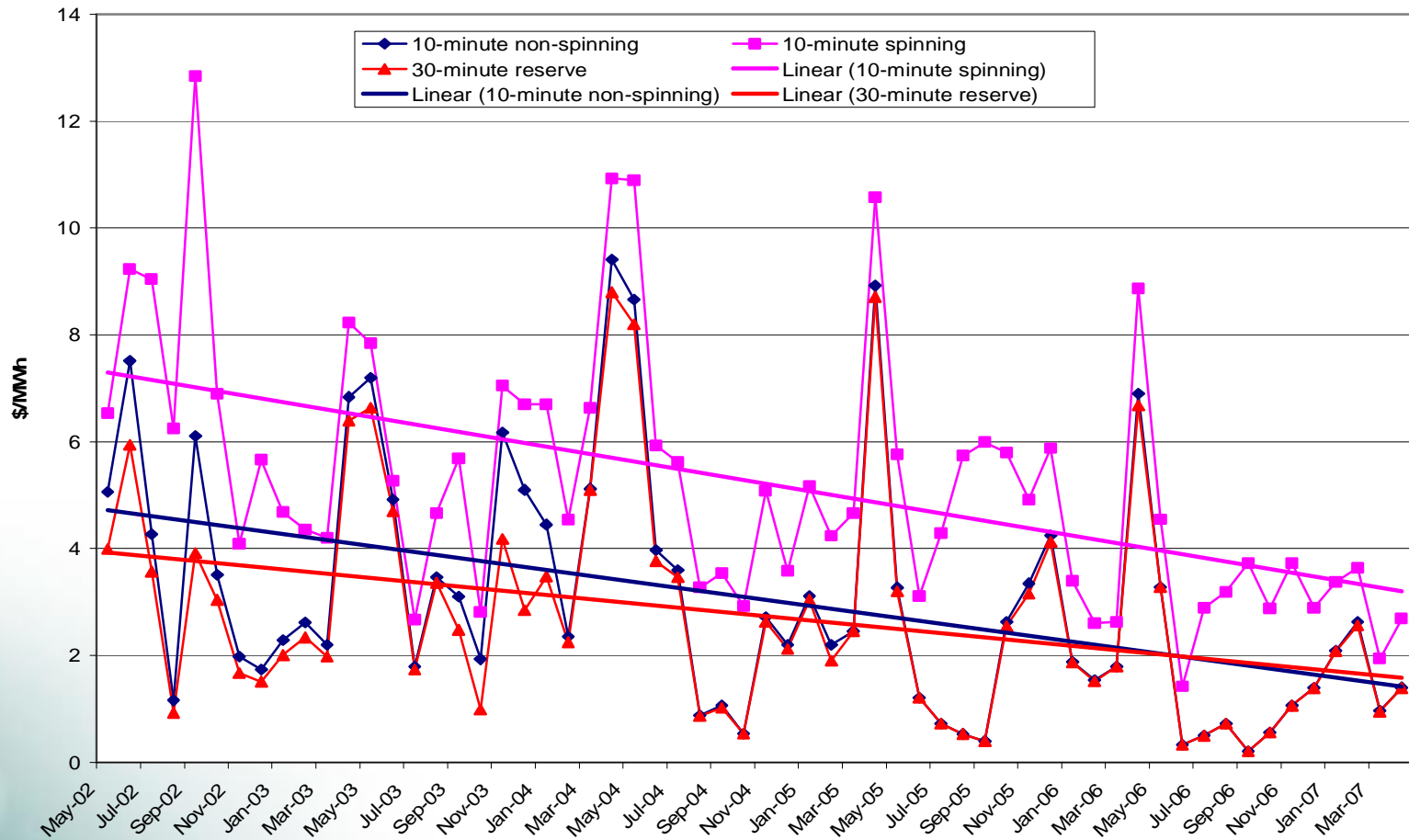
Monthly HOEP versus Effective HOEP



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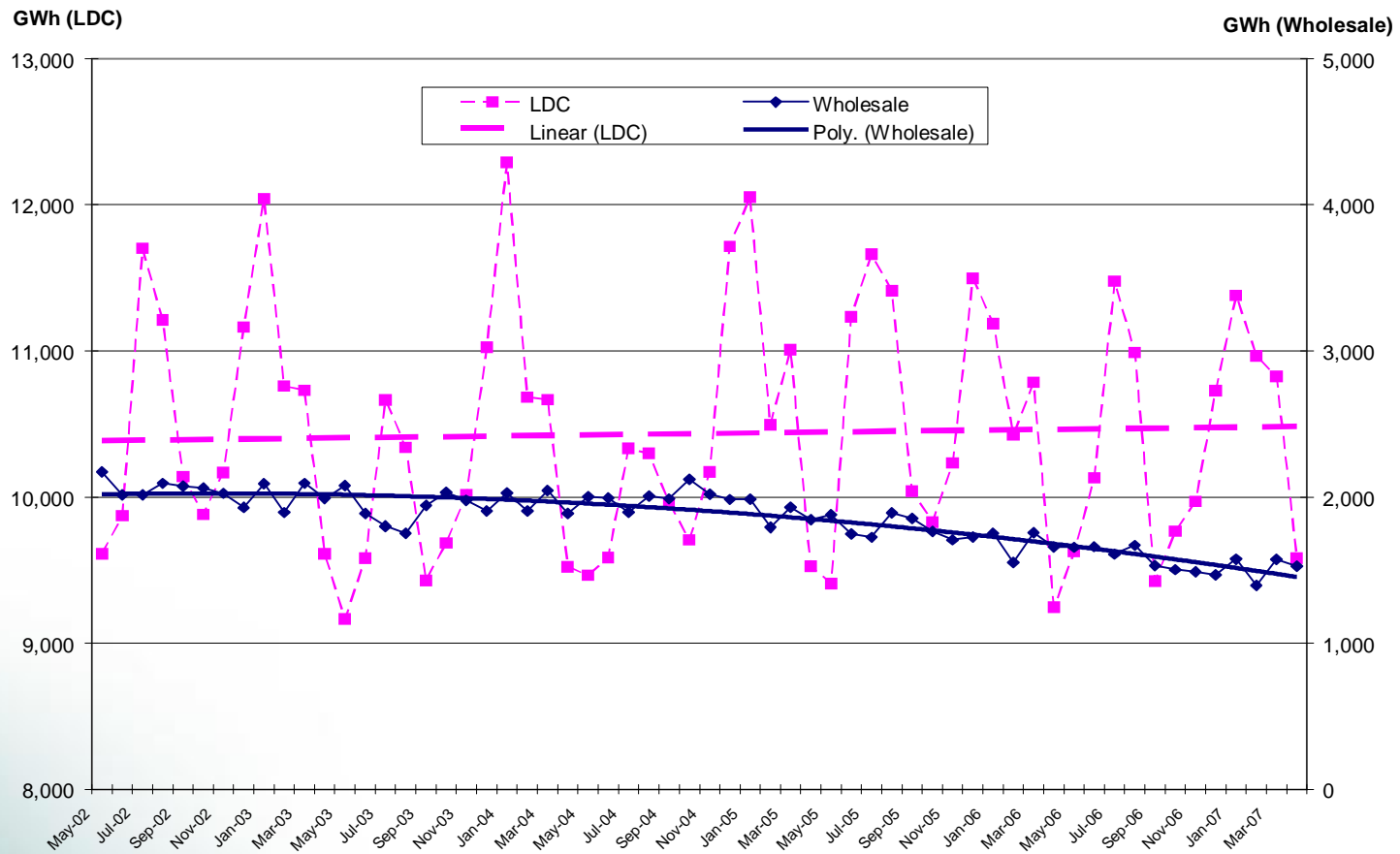
OR Prices



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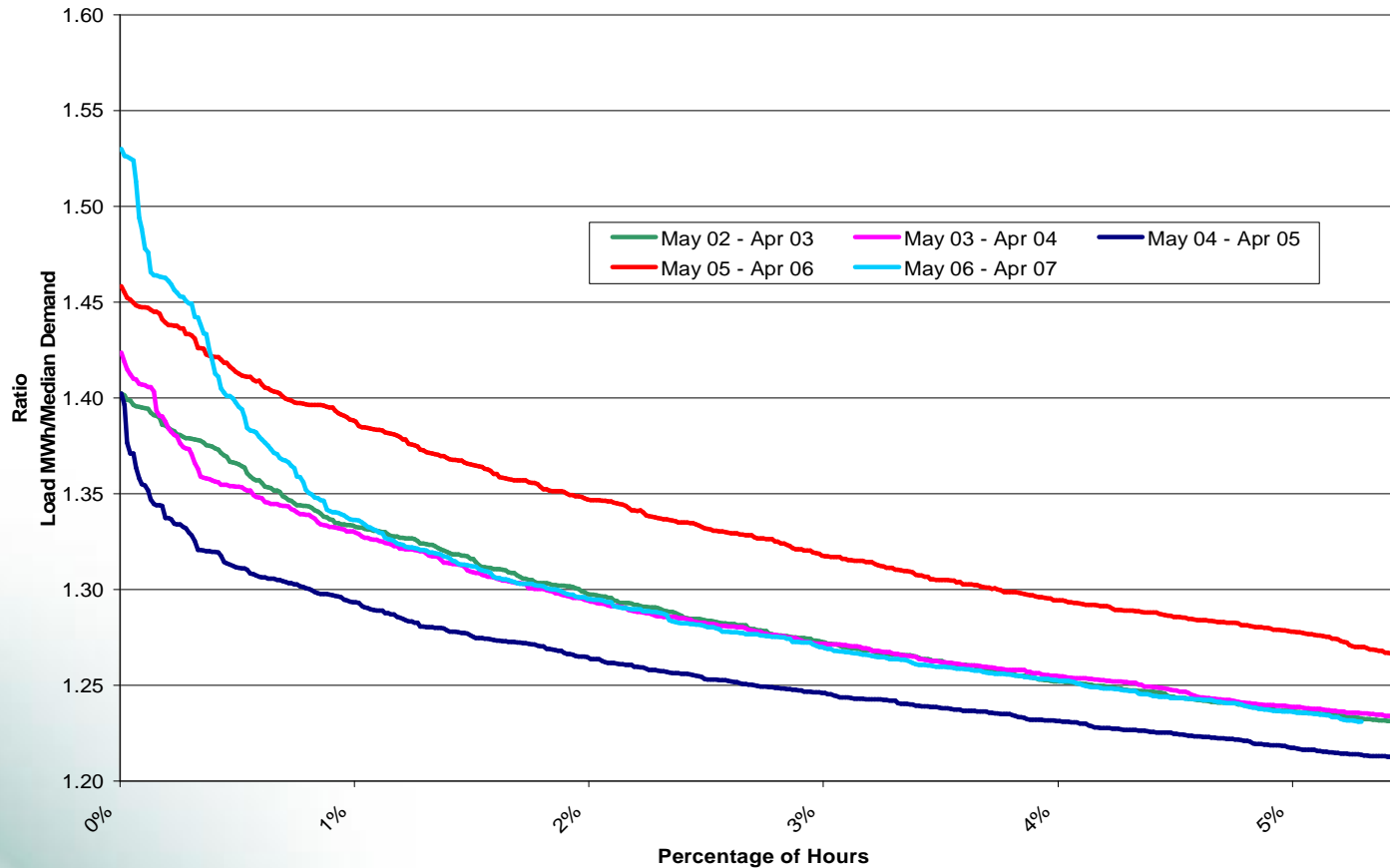
Issue - Wholesale Load Declining



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Issue - Peak Load Increasing

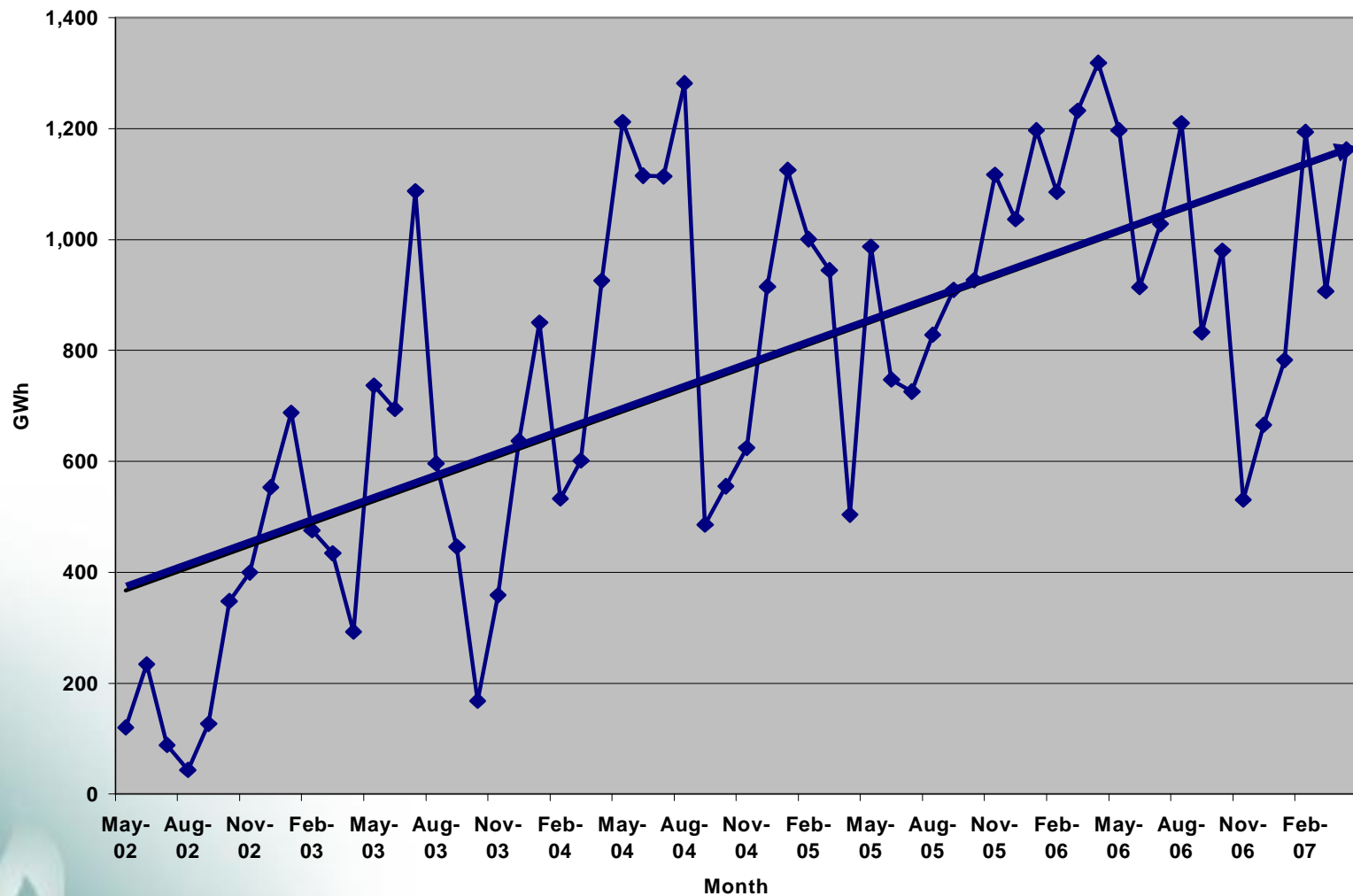


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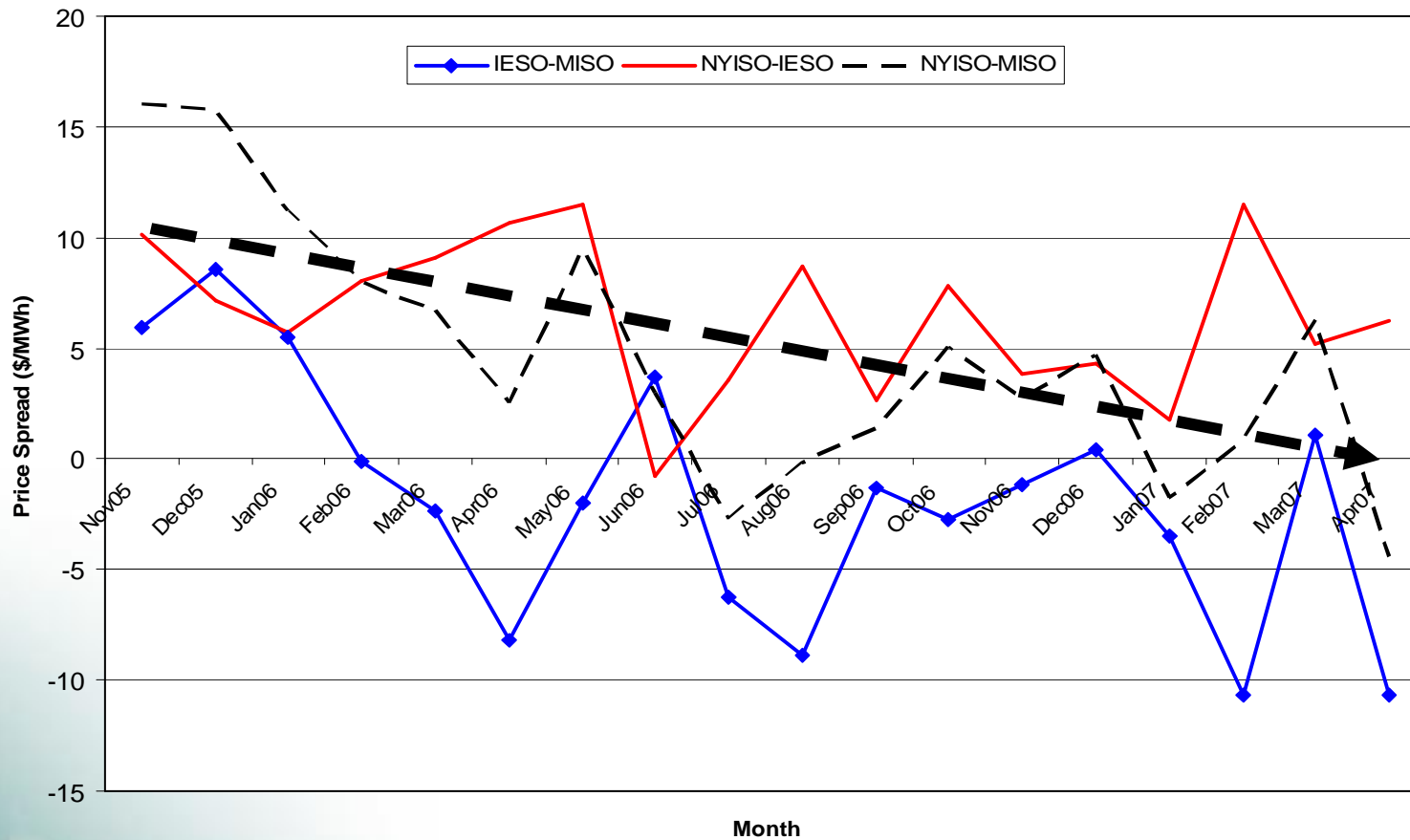
Monthly Exports



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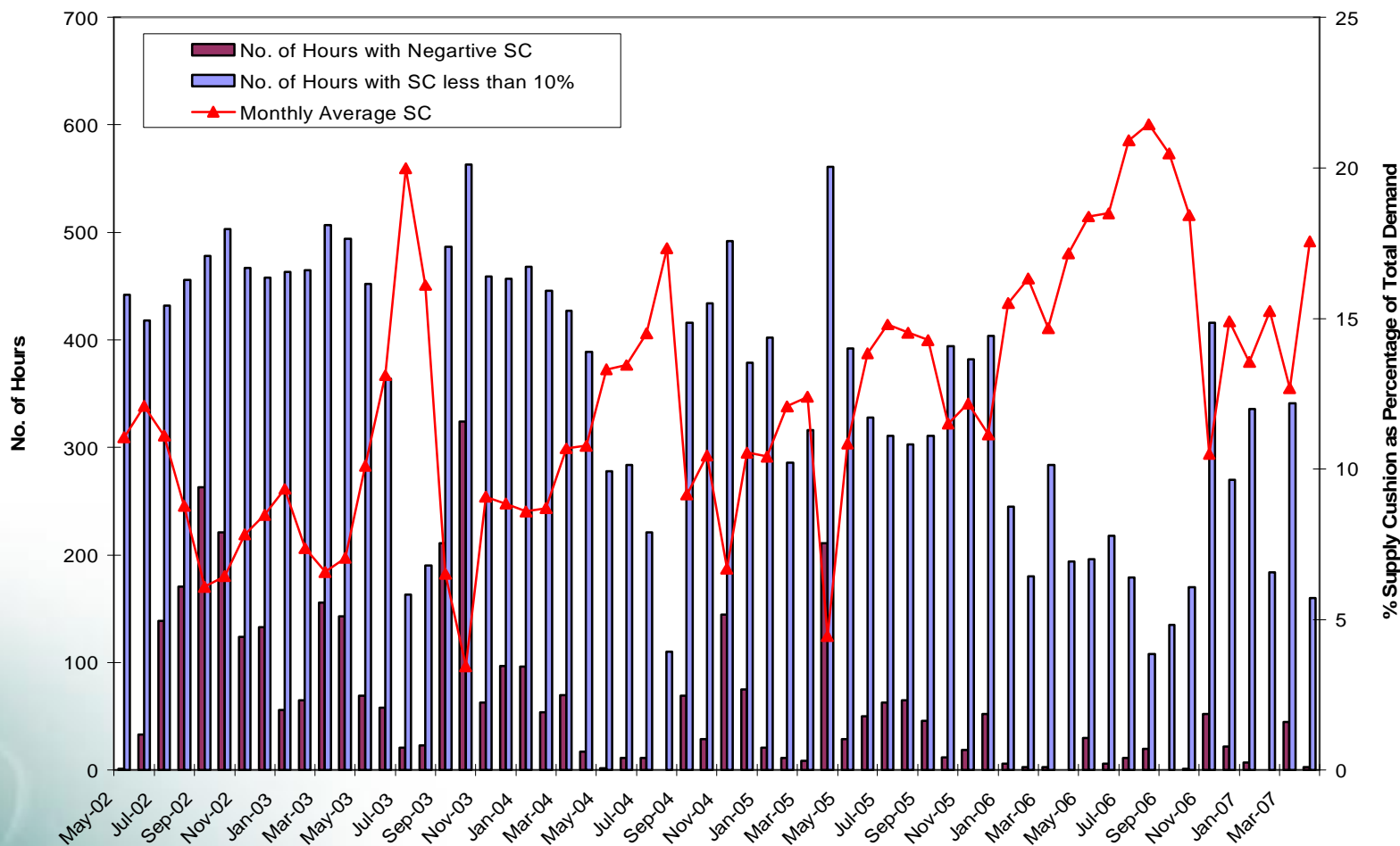
IESO / NYISO / MISO Price Spreads



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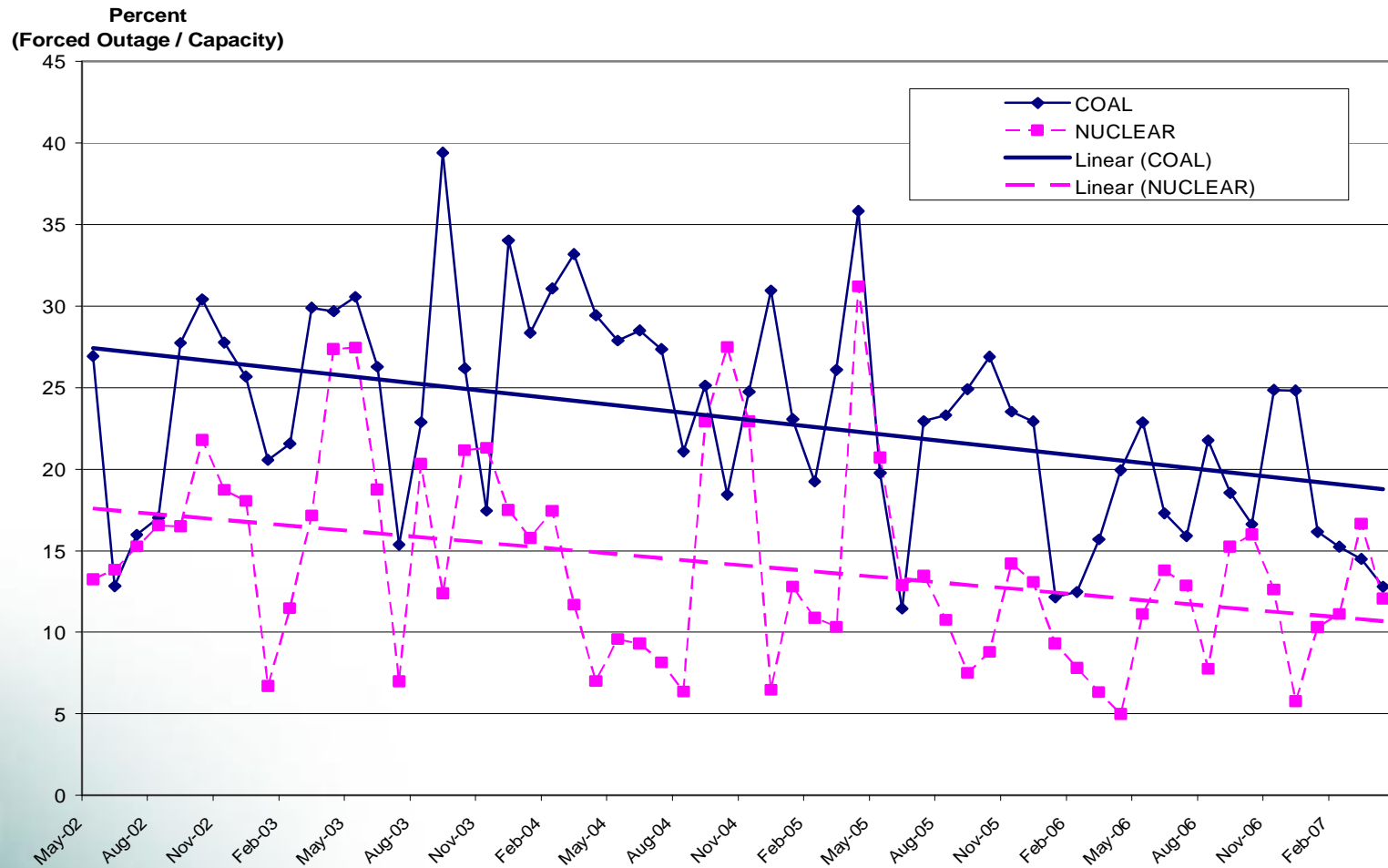
Improved Supply Cushion Conditions



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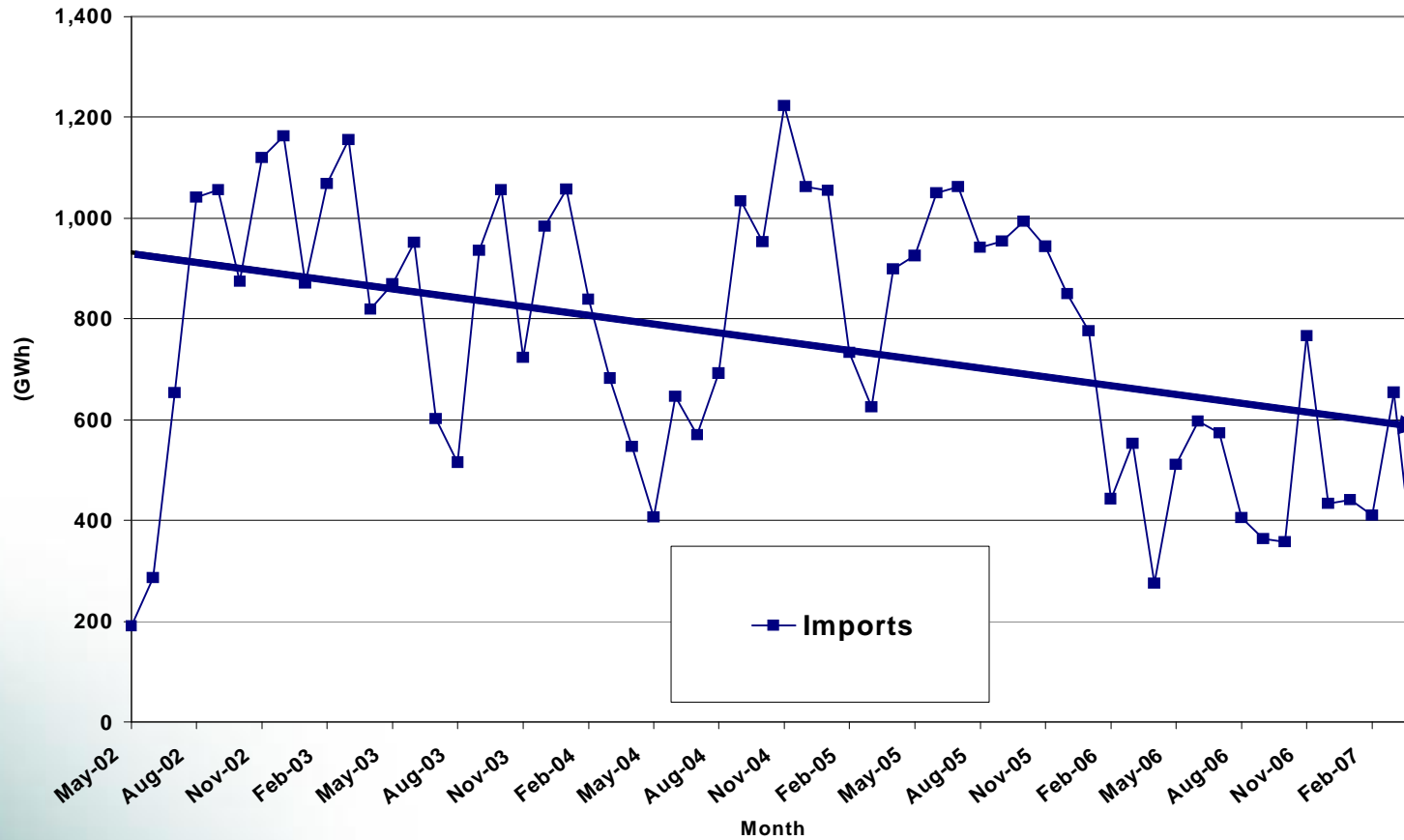
Forced Outages Relative to Total Capacity by Fuel Type



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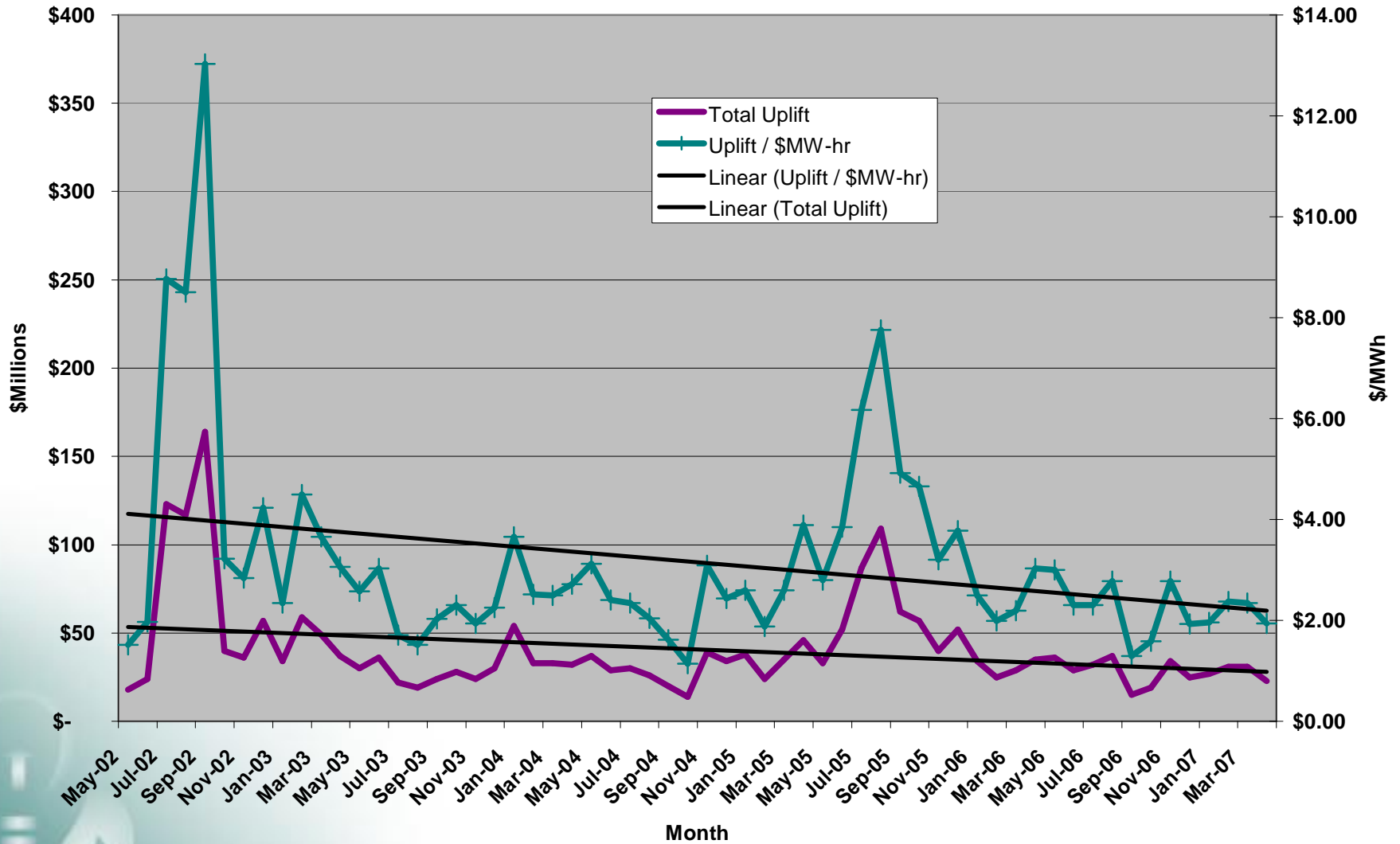
Monthly Imports



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Market Uplifts



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