

# Issue #9: Peak vs. Average

## Additional Analysis: Action Item 50-1

MPWG 51 – August 19, 2008



- Review of Action Item 50-1
- Hourly HOEP Impacts
- Impact of 'Off-Coal' Program (on Price Impact analysis of using an Average Forecast)
- Assessment of Emergency Purchases

- Hourly HOEP Impacts
- Assessment of the impact of the government 'off-coal' program on existing Price Impact analysis
- Assessment of the conditions under which the IESO has historically purchased emergency energy and whether such conditions may be more likely if there was a change to using average demand forecast in pre-dispatch

- **Hourly HOEP Impacts**
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- Consumers requested detailed hourly HOEP impacts
  - to assess overall cost and corresponding effective HOEP increases for specific consumption patterns
- Hypothesis: ‘Off-peak’ consumer expected to face higher increases in overall energy costs than ‘on-peak’ consumer
  - due to expectation that Average Demand Forecast would be used primarily in non ramp-up hours<sup>1</sup>

<sup>1</sup>Ramp-up hours assumed to be 6-9 and 16-19 in IESO Report, ["Peak versus Average in Pre-Dispatch: Results of Analyses"](#)

- Hourly average HOEP impacts provided in Tables 1 and 2 of Additional Analysis report
- Using consumer developed method, the IESO applied stylised load shapes to hourly HOEP data (Table 2)<sup>2</sup> to determine impact
- Conclusion: Consumption patterns impact relative cost and price increases
  - ‘Off-peak’ consumer likely to face relatively higher increases than ‘on-peak’ consumer

<sup>2</sup>Table 2 data consists of hourly HOEP changes in non ramp-up hours (all hours except 6-9 and 16-19)

## Key Assumptions/Considerations:

- Average used in ‘non ramp-up’ hours
- Magnitude of overall cost and price impacts depend on respective magnitude of off-peak and on-peak consumption
- Stylised load shapes not a representation of any specific consumer group → they are used to indicate that different load shapes face different cost and price impacts

- Hourly HOEP Impacts
- **Assessment of the impact of the government 'off-coal' program on existing Price Impact Analysis**
- Assessment of the conditions under which the IESO has historically purchased emergency energy and whether such conditions may be more likely if there was a change to using average demand forecast in pre-dispatch

- Hypothesis: Implementation of 'off-coal' program may impact the estimated price change in moving from a Peak to Average demand forecast
- Analyse the impact of 'off-coal' on the slope of the system supply curve
  - slope of the supply curve determines magnitude of price change for a given level of demand
- 3 general scenarios:
  - Slope remains relatively unchanged → current 'price impacts' analysis holds
  - Slope becomes steeper (supply less elastic) → current analysis potentially under-forecasts price impact of moving to Average
  - Slope becomes flatter (supply more elastic) → current analysis potentially over-forecasts price impact of moving to Average

- Analysis should be based on the proposed supply mix and timelines documented in the OPA's IPSP
- Assumptions regarding reduced coal-fired emissions/generation (2009-2014) should also be considered
  - Assume a 'Price Adder' to current coal offers
- Conduct further 'price impact' analysis
- Results expected for MPWG by October 2008

- Hourly HOEP Impacts
- Assessment of the impact of the government 'off-coal' program on existing Price Impact Analysis
- **Assessment of the conditions under which the IESO has historically purchased emergency energy and whether such conditions may be more likely if there was a change to using average demand forecast in pre-dispatch**

- Evaluation of the potential risk for more emergency purchases already done in *Reliability Assessment of IESO Report*:  
*"Peak versus Average in Pre-Dispatch: Results of Analyses"*
- Report determined that for reliability purposes Peak Forecast would be retained for certain selected hours (see above Report, pages 5-6)
- In all remaining hours, it was determined that the risk of adverse reliability impacts of using an Average Forecast would be manageable

## Emergency Purchases: Additional Historical Analysis

- 40 hours with Emergency Purchases since January 2003 (excluding August 2003 blackout)
- 19 of 40: within “roughly” identified ramp-up hours of 6-9 and 16-19
- 35 of 40: supply cushion well below 5% threshold

Remaining 5 hours belong to a localised supply shortfall event in the Northwest zone. Use of Average Forecast instead of Peak would not have exacerbated this local area event.

## Conclusion:

Likelihood of Emergency Purchases should not increase as a result of the proposed implementation of an Average Demand Forecast in the specified hours.