

2005Q4 Reliability Outlook

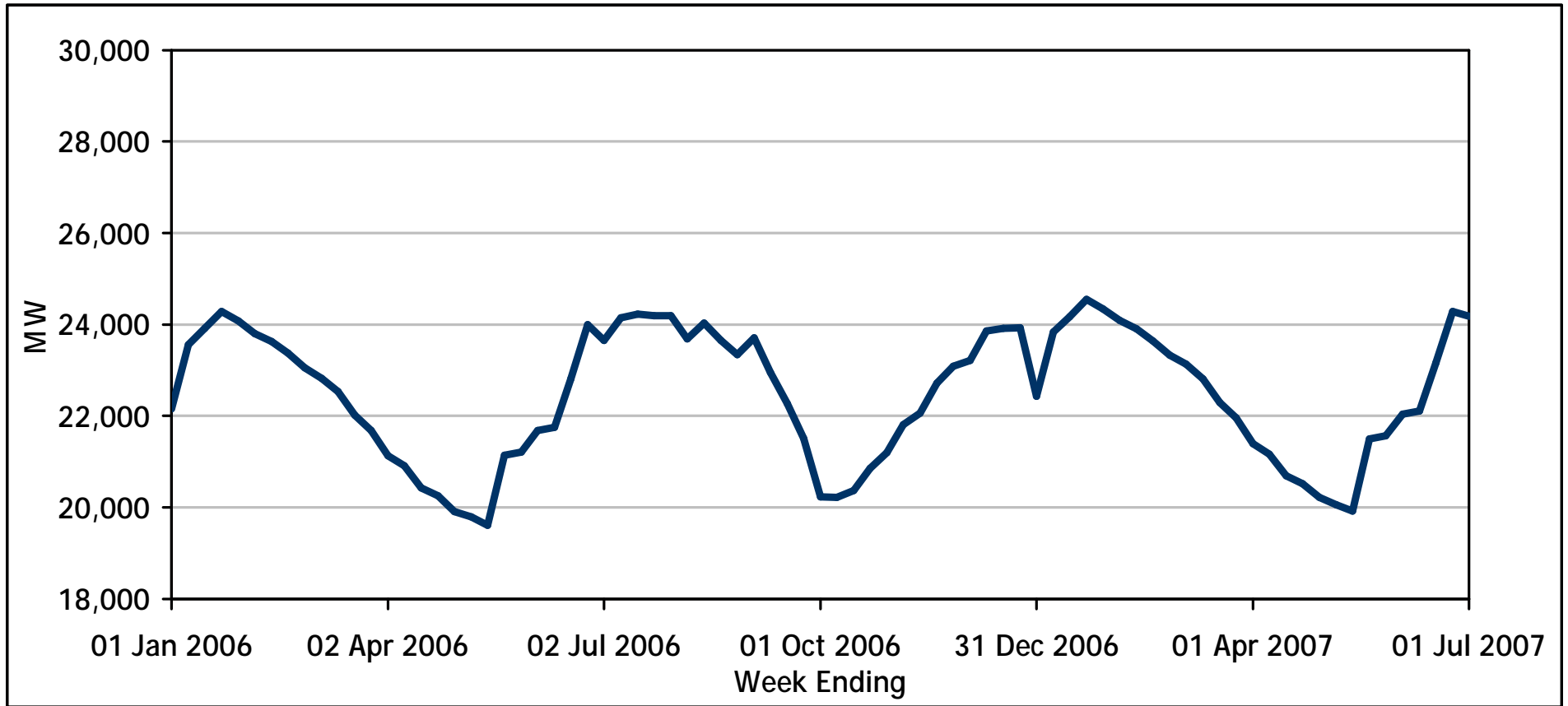
January 18, 2006

Greg Hine IESO

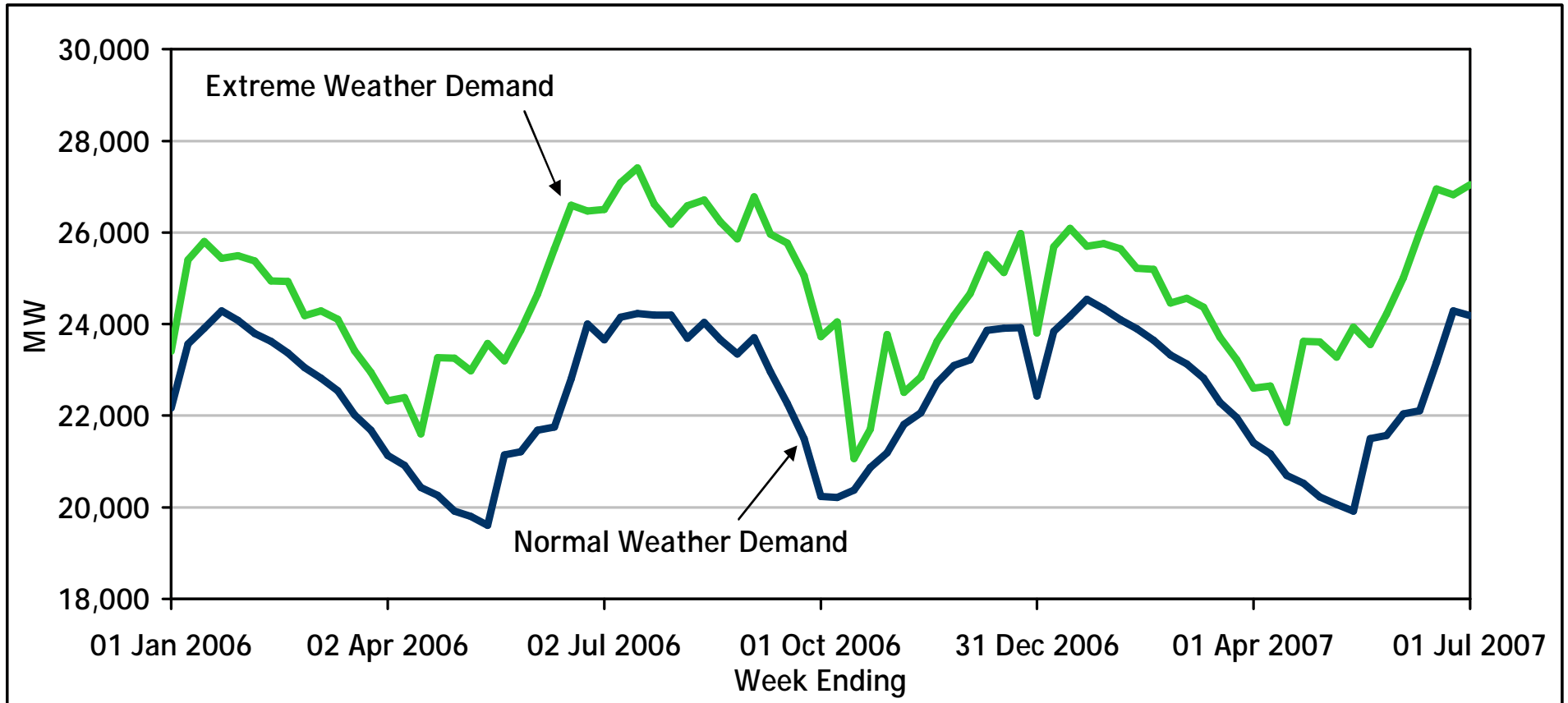


- **Outlook for 2006**
 - Demand
 - Resources
 - Uncertainties Risks
 - Reserve Above Requirements
- **Managing Reliability Risks**
 - 18-Month Outlook Reports
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Ontario Demand Forecast Normal Weather Weekly Peak Hour

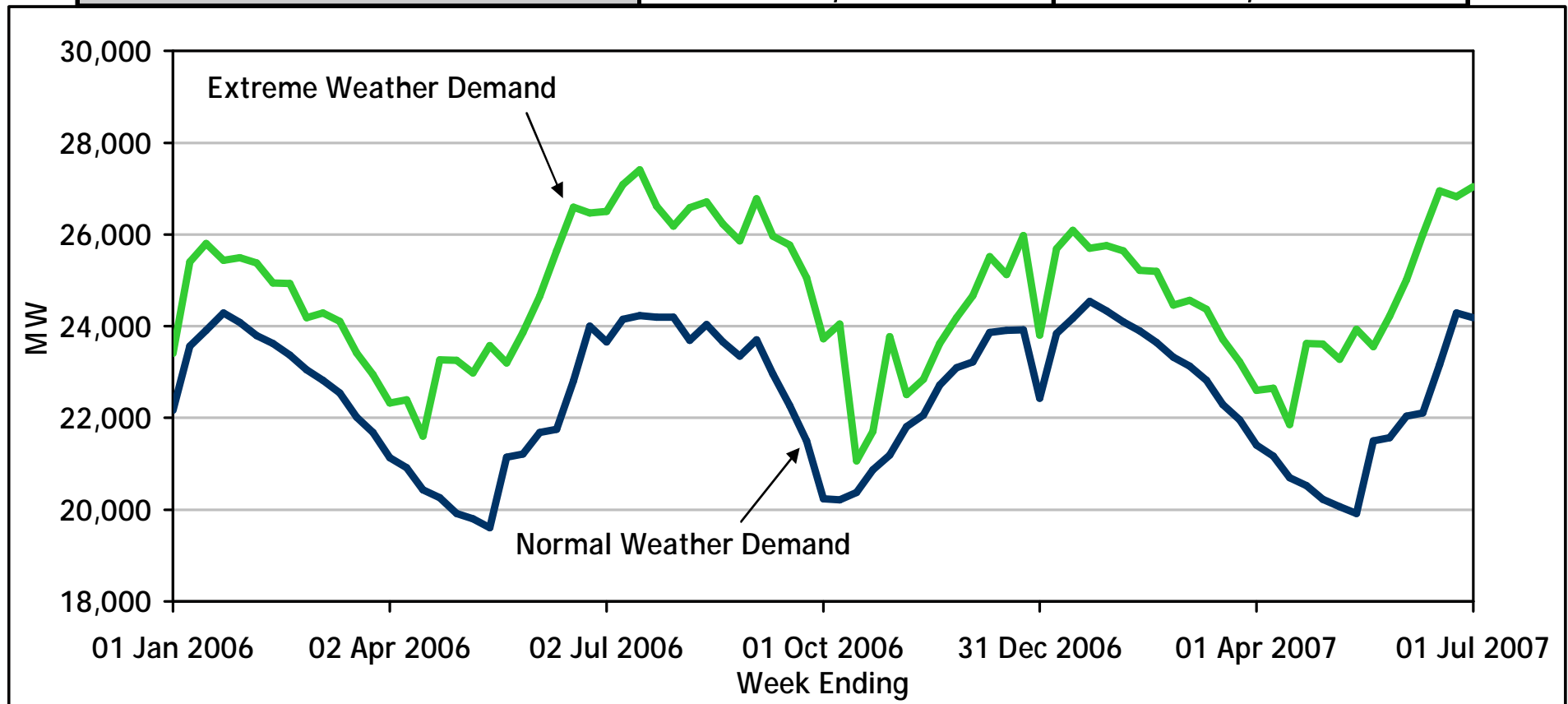


Ontario Demand Forecast Weekly Peak Hour

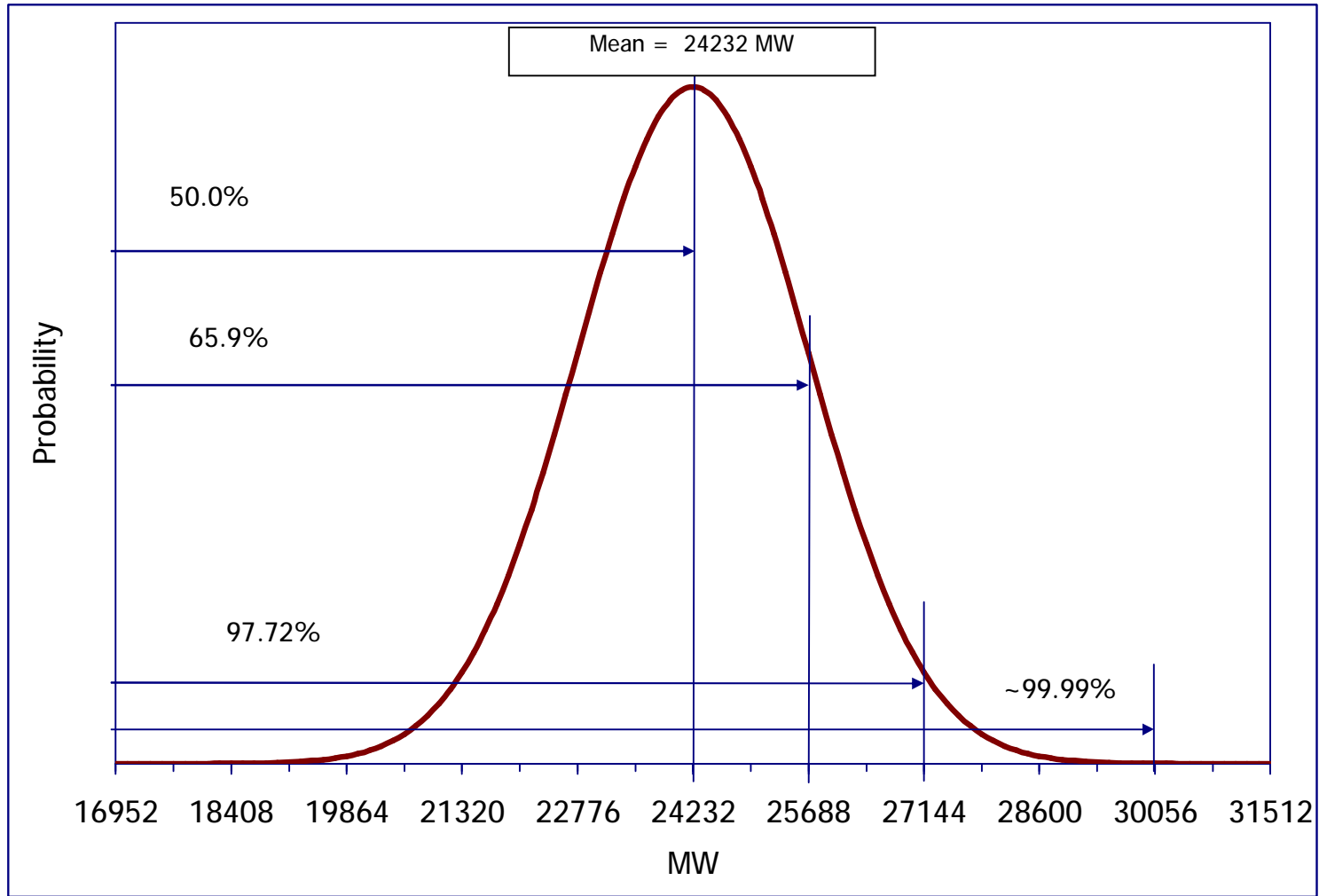


Ontario Demand Forecast Weekly Peak Hour

Season	Normal Weather Peak (MW)	Extreme Weather Peak (MW)
Winter 2006	24,285	25,802
Summer 2006	24,232	27,407
Winter 2007	24,547	26,088



Probability Distribution of Weekly Peak Demand

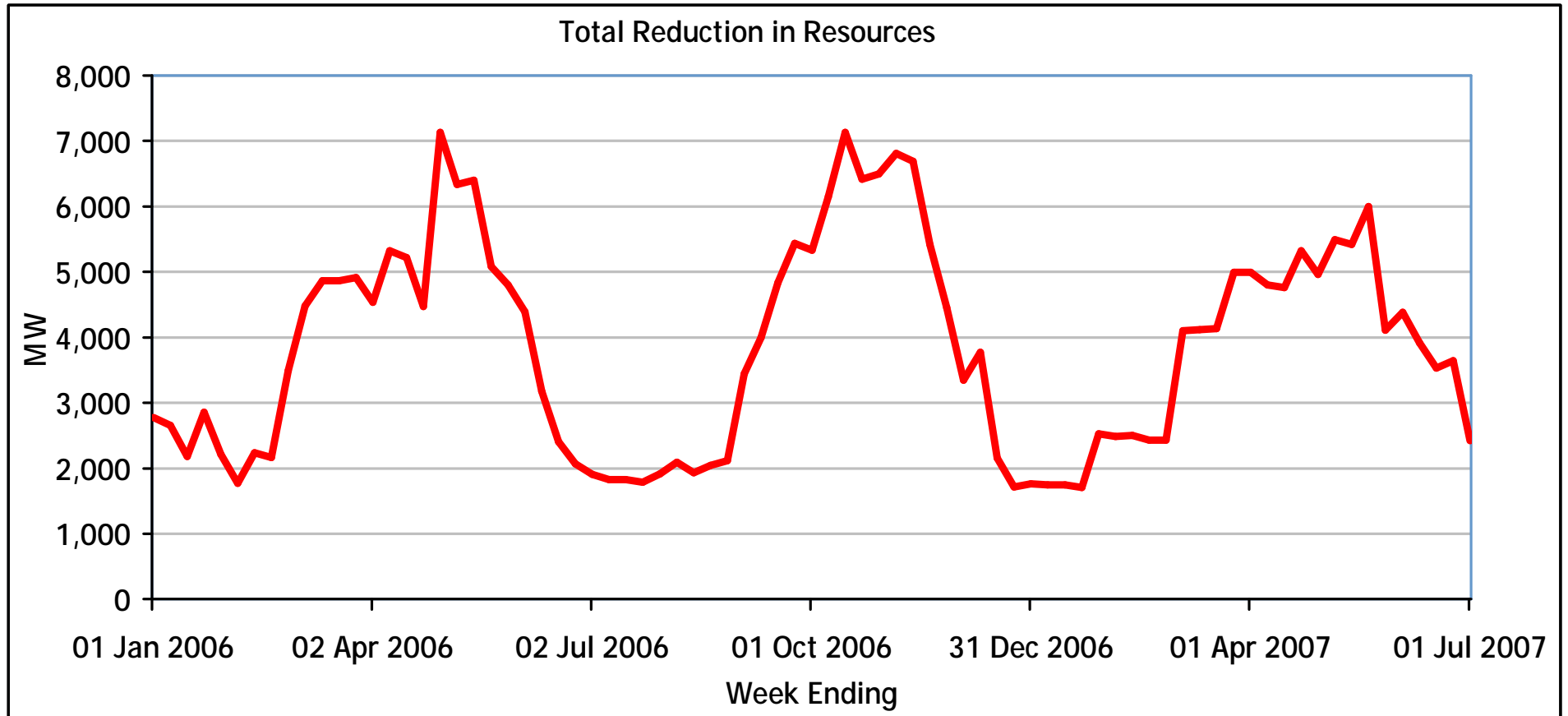


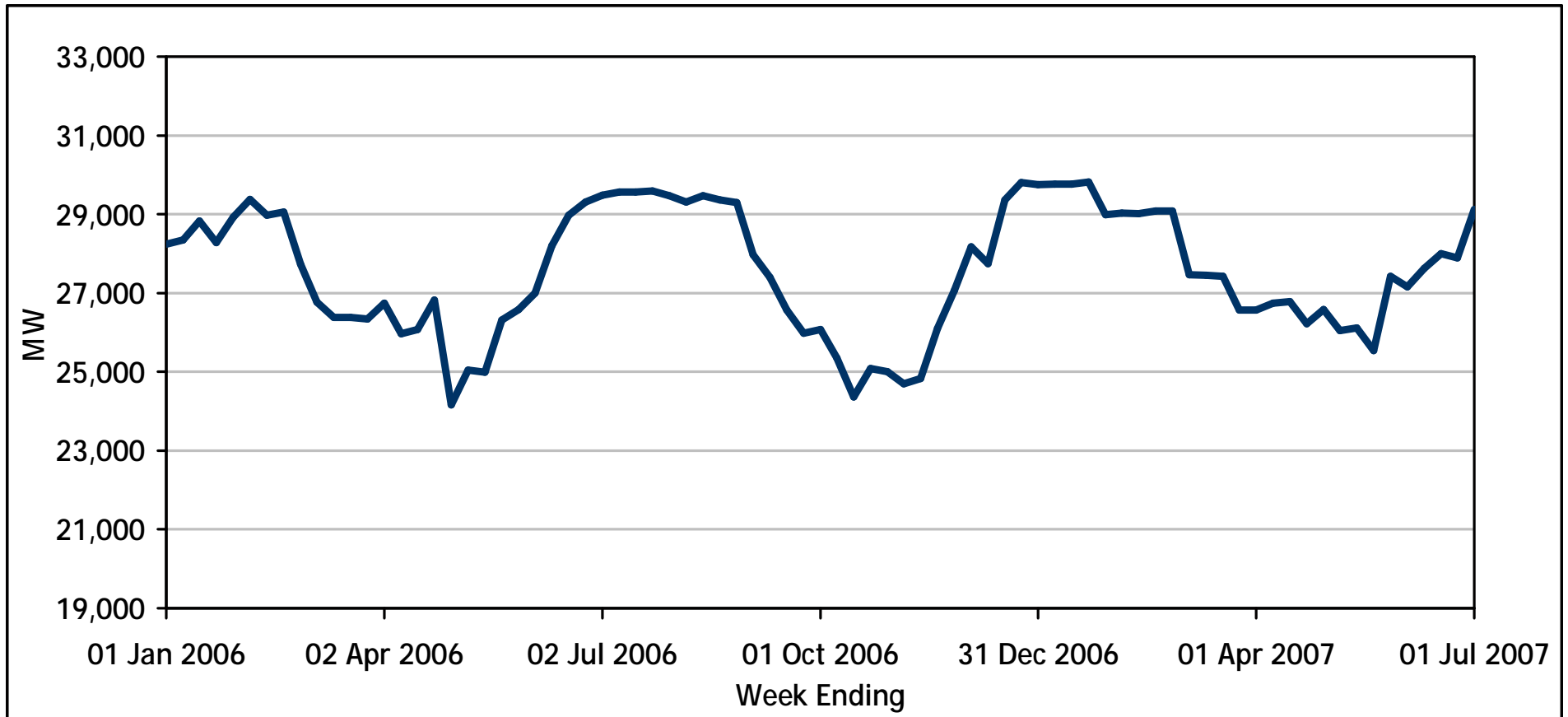
Fuel Type	Total Capacity (MW)	Number of Stations
Nuclear	11,397	5
Coal	6,434	4
Oil / Gas	4,976	20
Hydroelectric	7,756	67
Miscellaneous	68	3
Total	30,631	99

Pickering Nuclear Unit 1 515 MW

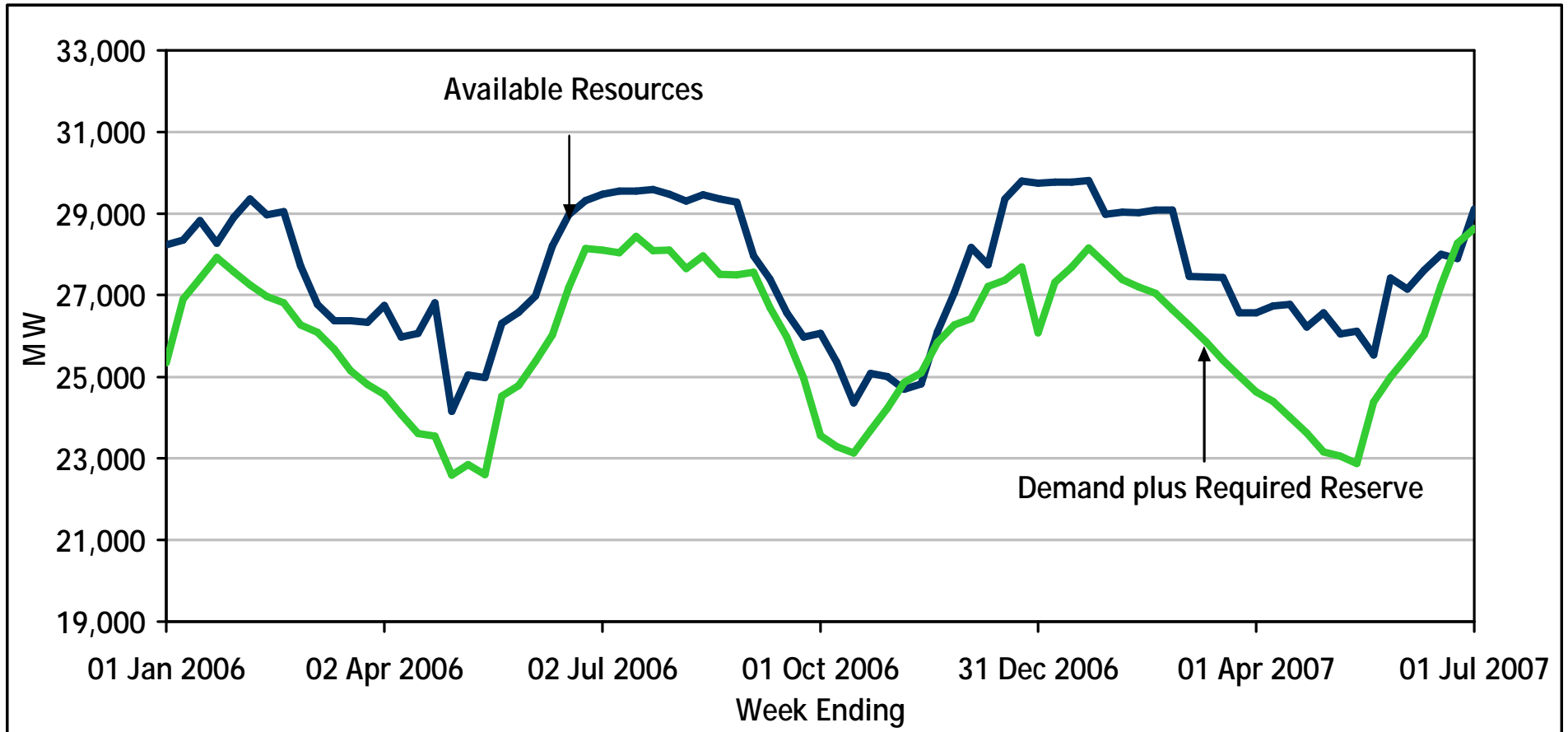
Additional Generation Projects

Proponent/Project Name	Zone	Fuel Type	Capacity MW	Connection Applicant's Estimated I/S Date
Essex Power	West	Oil	3	2006-Q1
Greater Toronto Airports Authority	Toronto	Gas	117	2006-Q1
Melancthon Grey Wind Project	Southwest	Wind	68	2006-Q1
Kingsbridge Wind Power Project	Southwest	Wind	40	2006-Q1
Erie Shores Wind Farm	Southwest	Wind	99	2006-Q2
Loblaws Properties	distributed	Demand	10	2006-Q2
Nuclear Uprate	N/A	Nuclear	16	2006-Q3
Prince Wind Farm	Northeast	Wind	99	2006-Q3
Nuclear Upgrade	N/A	Nuclear	16	2006-Q4
Blue Highlands Wind Farm	Southwest	Wind	50	2007-Q1
Total			518	



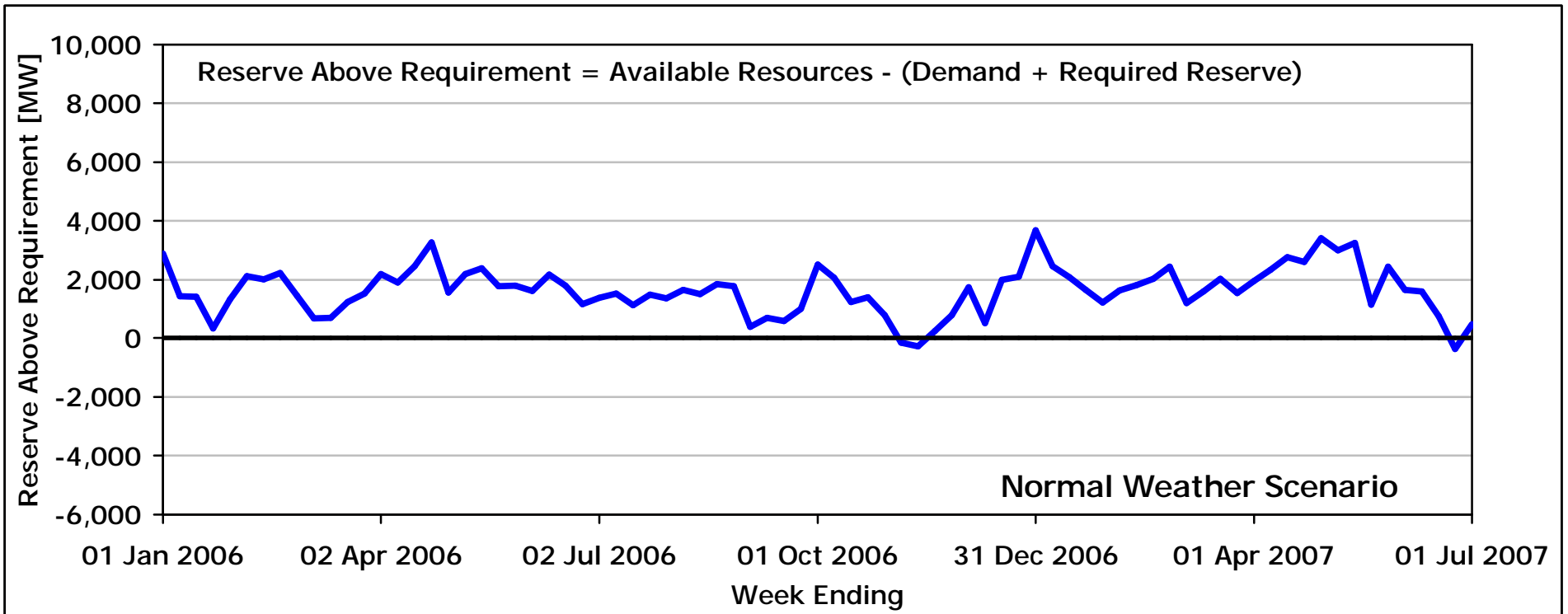


Available Resources Required Resources



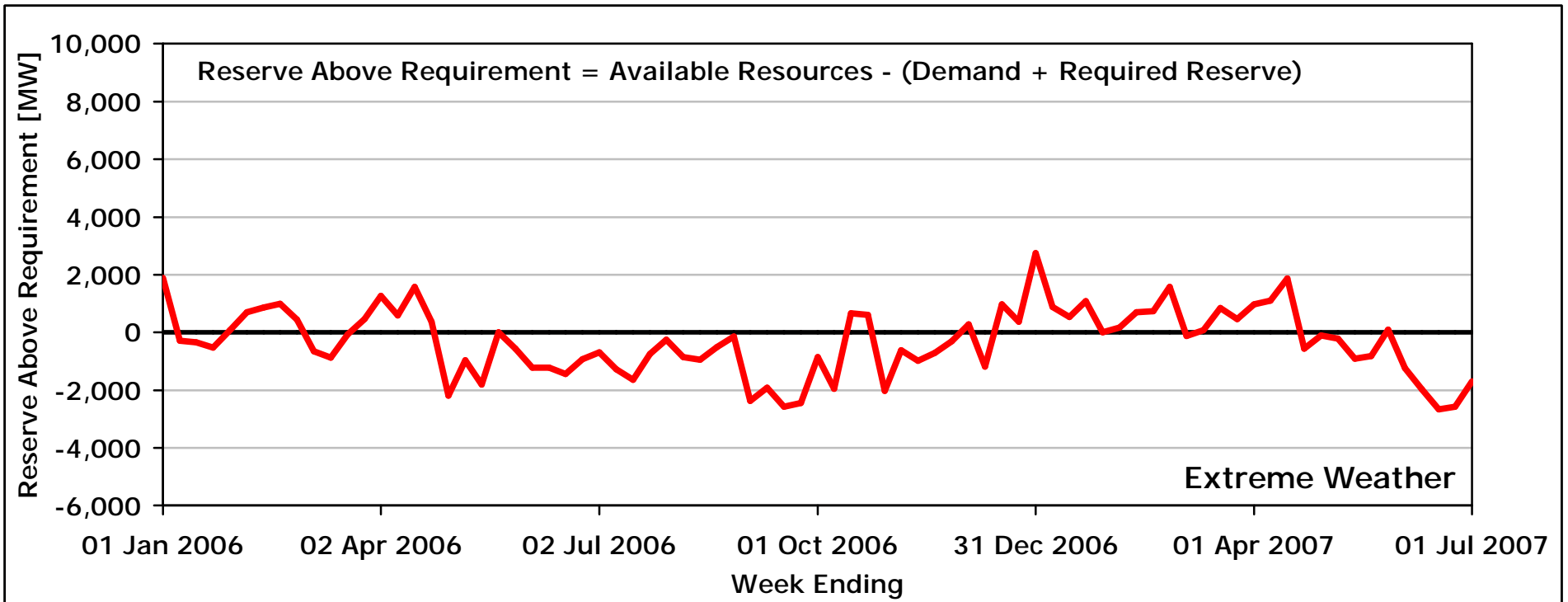
Reserve Above Requirement

Normal Weather Scenario



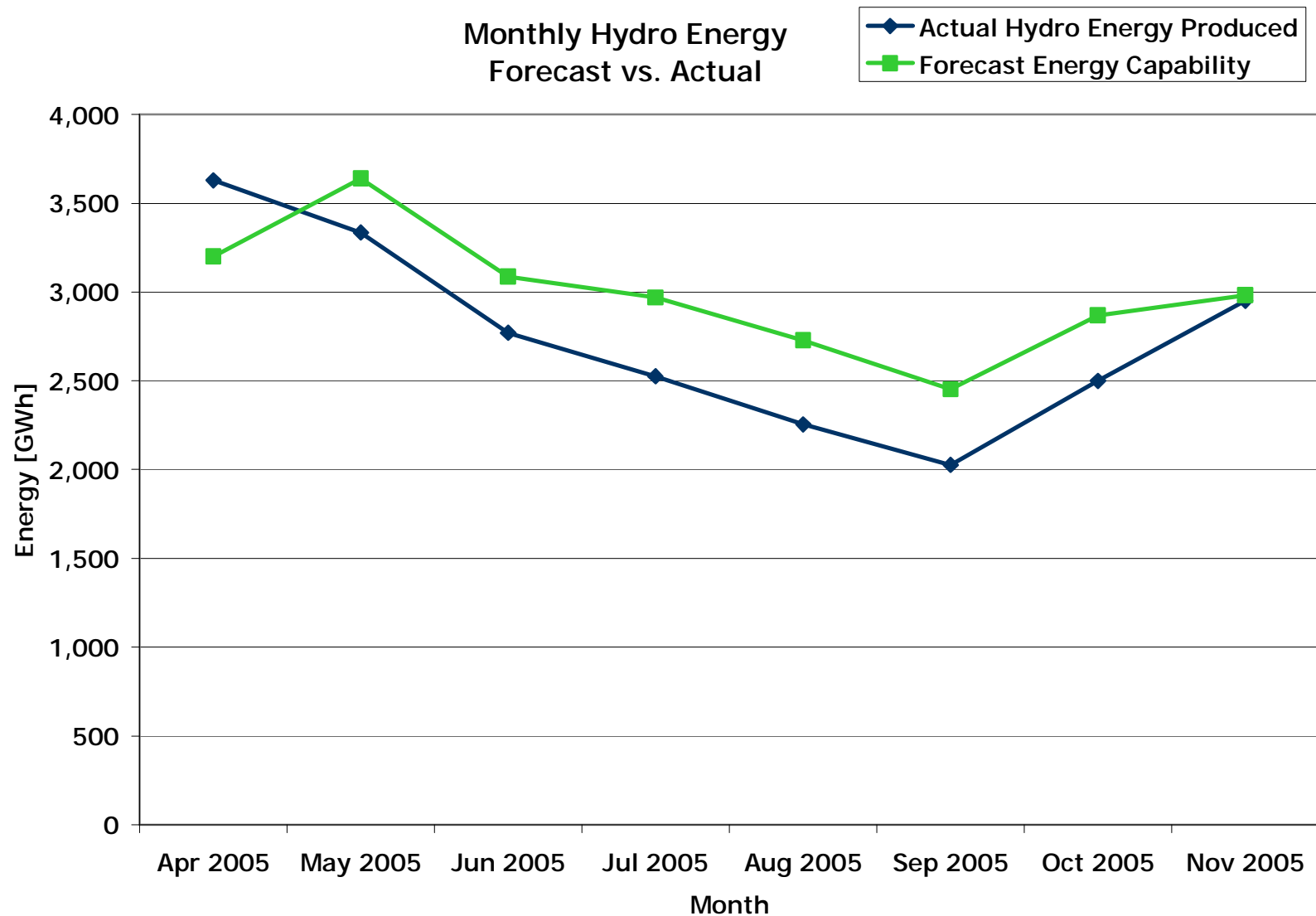
Reserve Above Requirement

Extreme Weather Scenario

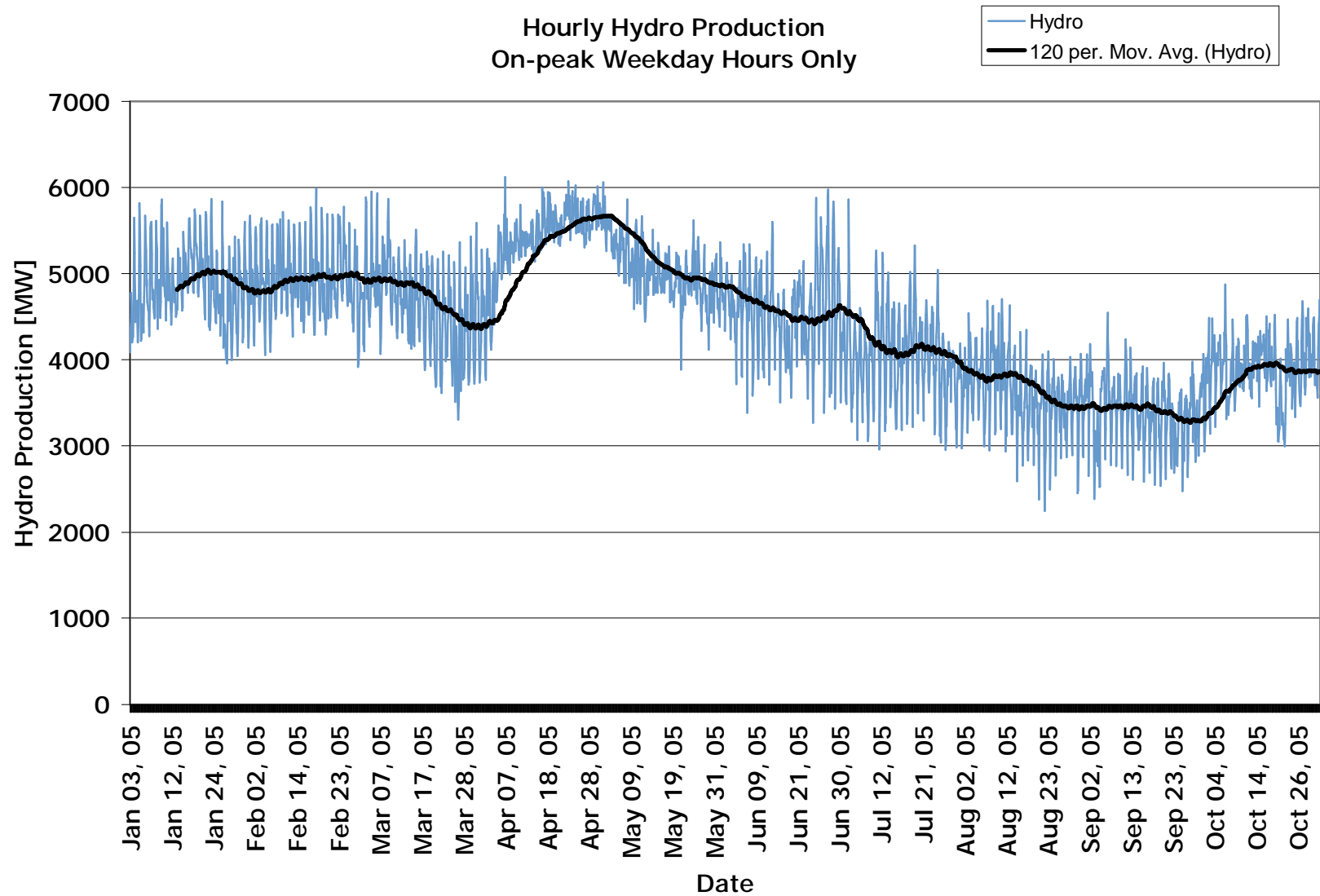


- **Load Forecast**
- **Generator output**
- **Natural gas prices**
- **Hydro electric capability**
- **Import Failures**

Hydraulic Generation: Monthly Energy

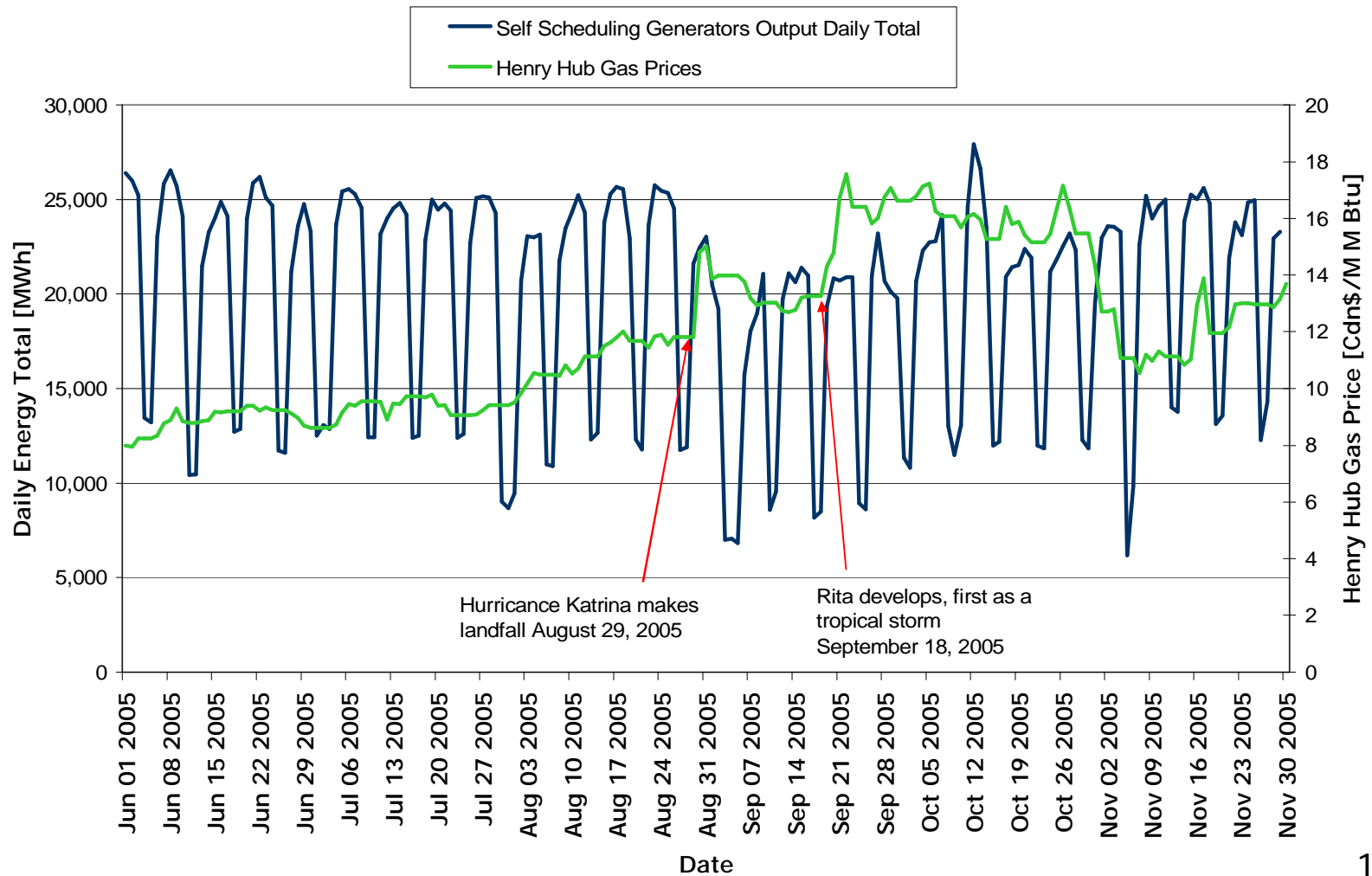


Hydraulic Generation: Hourly On-peak Output



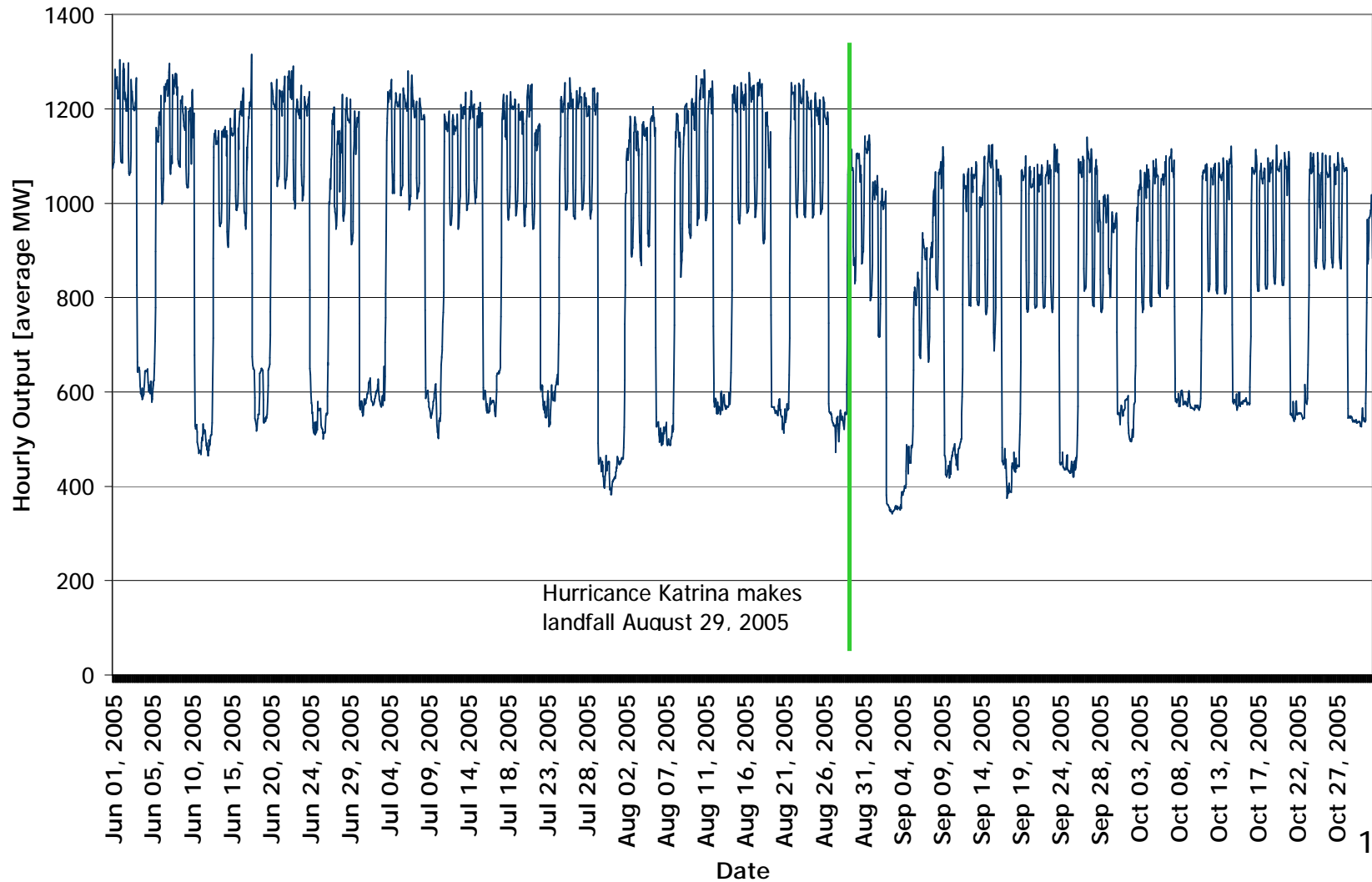
Self Scheduling Generation: Daily Energy

Self Scheduling Generation and Henry Hub Natural Gas Prices

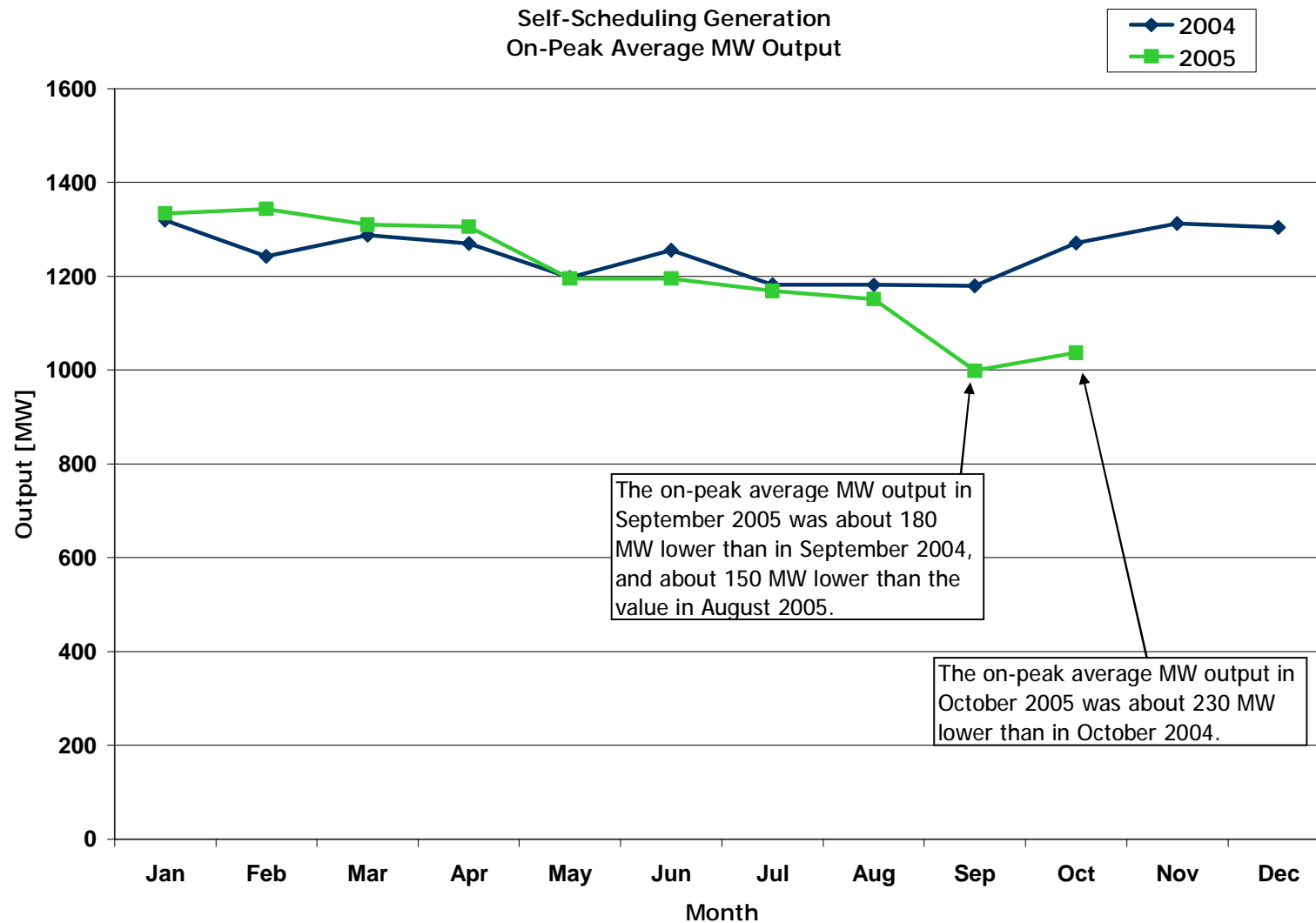


Self Scheduling Generation: Hourly Output

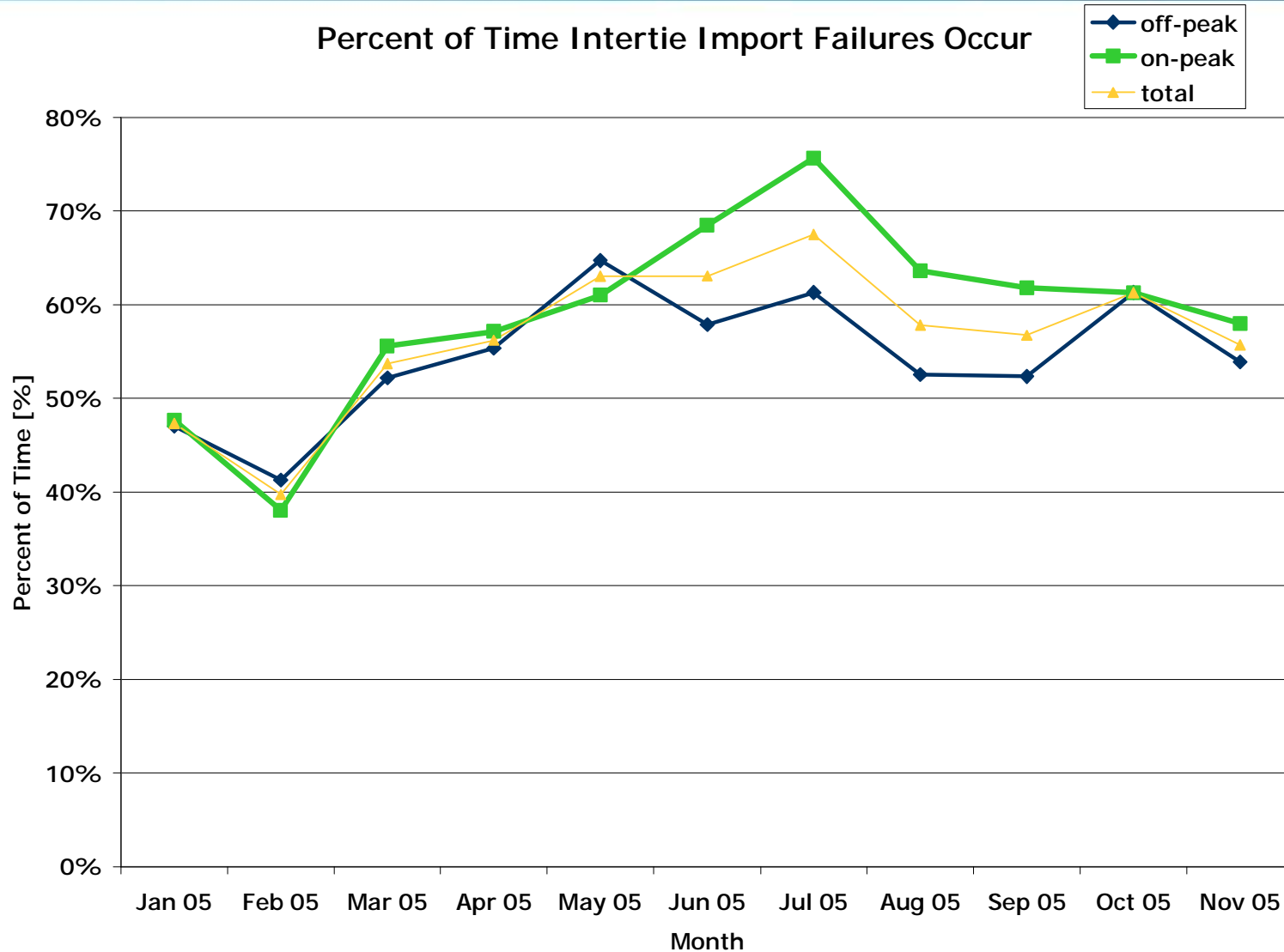
Self Scheduling Generator Output



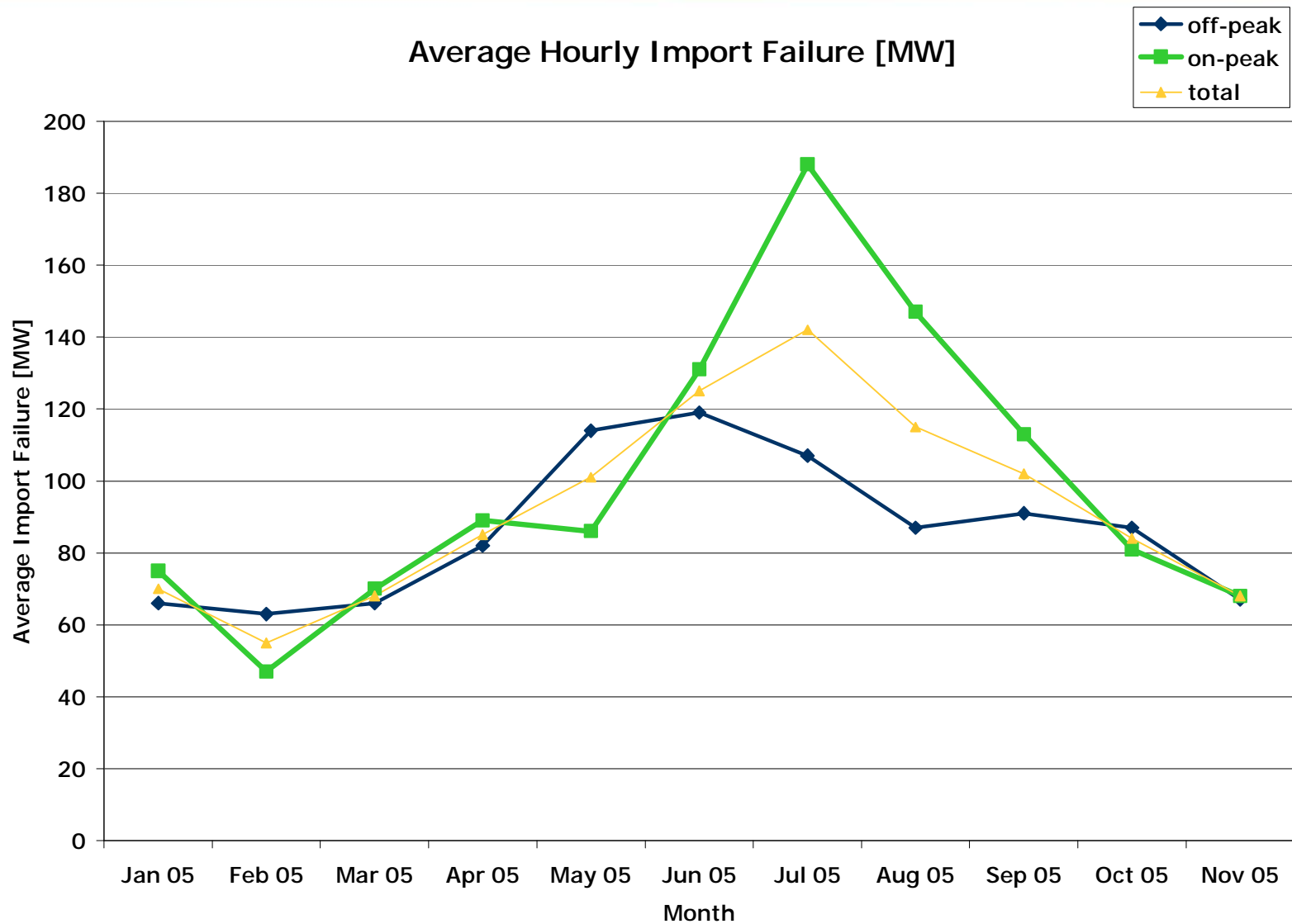
Self Scheduling Generation: On-peak Hourly Average Output



- **Imports are selected an hour before they are to flow**
- **Selected imports that are not chosen in an adjacent market do not flow; these are called import failures**
- **Import failures:**
 - are equivalent to suddenly losing a large generator;
 - happen at the last minute;
 - occurred almost every day this summer;
 - aggravated energy shortage; and
 - consistently contributed to the need to enter an emergency operating state in summer 2005
- **New York will curtail Ontario's hourly transactions to protect their day ahead transactions**



Import Failure Magnitude



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Emergency Control Actions

- **Public Appeals**
- **Purchase emergency power**
- **Voltage reductions**
- **Environmental variances**
- **Operate transmission to emergency condition limits**
- **Activate Emergency Demand Response Program**
- **Load shedding**

Reliability Demand
Response Program (RDRP)



- **The Ontario power system cannot consistently be in an emergency operating state as it was in summer 2005**
- **There are a number of initiatives we are developing and intend to put in place by summer 2006 to improve reliability and mitigate risk**

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- **Resolve generation dispatch issues (e.g. aggregation, frequency of dispatch)**
- **Make full use of phase shifters with Michigan**
- **Allow imports to be scheduled day ahead like all of the markets surrounding Ontario**
- **Commit units day ahead like all of the markets surrounding Ontario**
- **Implement a Demand Response Program like the markets surrounding Ontario**

- **RDRP**
 - Give more certainty that an IESO request will be followed
 - Proposed program design (Nov)
 - Open stakeholder workshop (Dec)
 - Survey to assess market interest (in Jan)
- **Day Ahead Import Scheduling**
 - More stringent screening guidelines during supply tight days when reliability may be at risk.
 - Real-time transaction failure charges proposed
- **Day Ahead Commitment Process**
 - To come into service on or before June 1, 2006
 - Authorization to utilize will expire on November 30, 2006
 - Resume and advance work with stakeholders on the Day-Ahead Market