

Global Adjustment Success

The Global Adjustment (GA) mechanism has been in full swing this summer and so far it has shown some very positive signs of success. This is the first summer where the program has been fully active with a widespread level of participation from many Class A Consumers.

We all know the impact of GA is significant and becoming increasingly more important as the GA figures rise over the next few years. It was forecast to be \$200,000/MW annually for 2011 and grow to almost \$400,000/MW by 2015. Based on the actual GA costs-to-date for 2011, we find the forecast is holding true if not accelerating slightly (more on this later). The GA is calculated on your average load during the top 5 peak periods within a 12-month base Period. **As a result, for every 1 MW average that is either reduced or displaced during the five peak hours of the current base period will result in a savings of \$250,000 in 2012.**

With GA forecast to increase significantly, reducing load during the peak times is no longer optional to customers. In fact, in many cases it has become critical to the success of their business.

There are two challenges that customers face in reducing their GA costs. The first is having a solid curtailment strategy in place be able to cut load during those peaks while having internal resources integrated into the process so that everyone is involved in the plan. The second is knowing when the peaks are to occur. Establishing the peak thresholds and knowing when they will occur can be extremely difficult, especially when you have various factors that will come into play during the peak hours (i.e. DR3 and other Class A Consumers reducing demand).

Several Class A Consumers have turned to the NRG Matters PANs service to notify them of hours that have a high probability of becoming one of the top five peak hours. **During the past summer, these subscribers have benefited by receiving notifications which have resulted in predicting the peaks with 100% accuracy. Companies relying on DR3 curtailment activations alone missed four of the five peaks.** The PANs service and Sygration Dashboard have been an effective combination in providing customers much of the crucial information required to manage their peaks.

Date	Yellow (hrs)	Orange (hrs)	Red (hrs)	DR3 called
July 11	5hrs. HE 14-18	4hrs. HE 14-17	3hrs HE 15-17	Yes, but not a peak
July 12	6 hrs. HE13-18	4hrs. HE 14-17	1hrs HE 17	Yes, but not a peak
July 18	5 hrs. HE 13-17	5hrs HE 13-17	4hrs HE 14-17	No call
July 19	4 hrs. HE 14-17	4hrs HE 14-17	3hrs HE15-17	No call
July 20	4hrs HE 15-18	3hrs HE 15-17	3hrs HE 15-17	No call
July 21	8hrs HE 12-18	6hrs HE 13-18	4hrs HE 15-18	Call HE approx. 16-20
July 22	6 hrs. HE 12-17	6hrs HE 12-17	4hrs HE 14-17	Call HE approx. 14-18
Total	38 Hours	32 Hours	22 Hours	

Ontario Demand

The table on this page illustrates the current 5 daily system peaks used in calculating the GA costs. The values used to calculate the GA are based on the 5 highest AQEW peaks during the base period. The hours are listed as EST times. The AQEW is published 20 business days after the trade date. The final values for Ontario Load factors in the energy from embedded generators, which is not provided until the end of the base period.

Top Five Ontario Demand Peaks from May 1, 2011 to April 30, 2012				
Rank	Date	Hour Ending	Ontario Demand (MW)	AQEW (MW)
1	July 21, 2011	16	25,450	24,707
2	July 20, 2011	17	24,471	23,720
3	July 18, 2011	16	23,892	23,154
4	July 19, 2011	17	23,236	22,517
5	July 22, 2011	12	23,094	22,401
Average				23,300

Source: <http://www.ieso.ca/imoweb/peaktracker>

Ontario Demand is available on an hour-to-hour basis from the IESO website. It is published in real-time and has only been verified to a rudimentary degree. It is not the figure used to determine peak hours in the GA calculation.

Allocated Quantity of Energy Withdrawn (AQEW) represents more precise, verified peak system demands for the five peaks. The AQEW is published 20 business days after the trade date. Only the highest demand hour of the day is used in determining the peak and used in calculating the demand factor, even if the difference between hours is less than 1 MW.

Global Adjustment Amounts

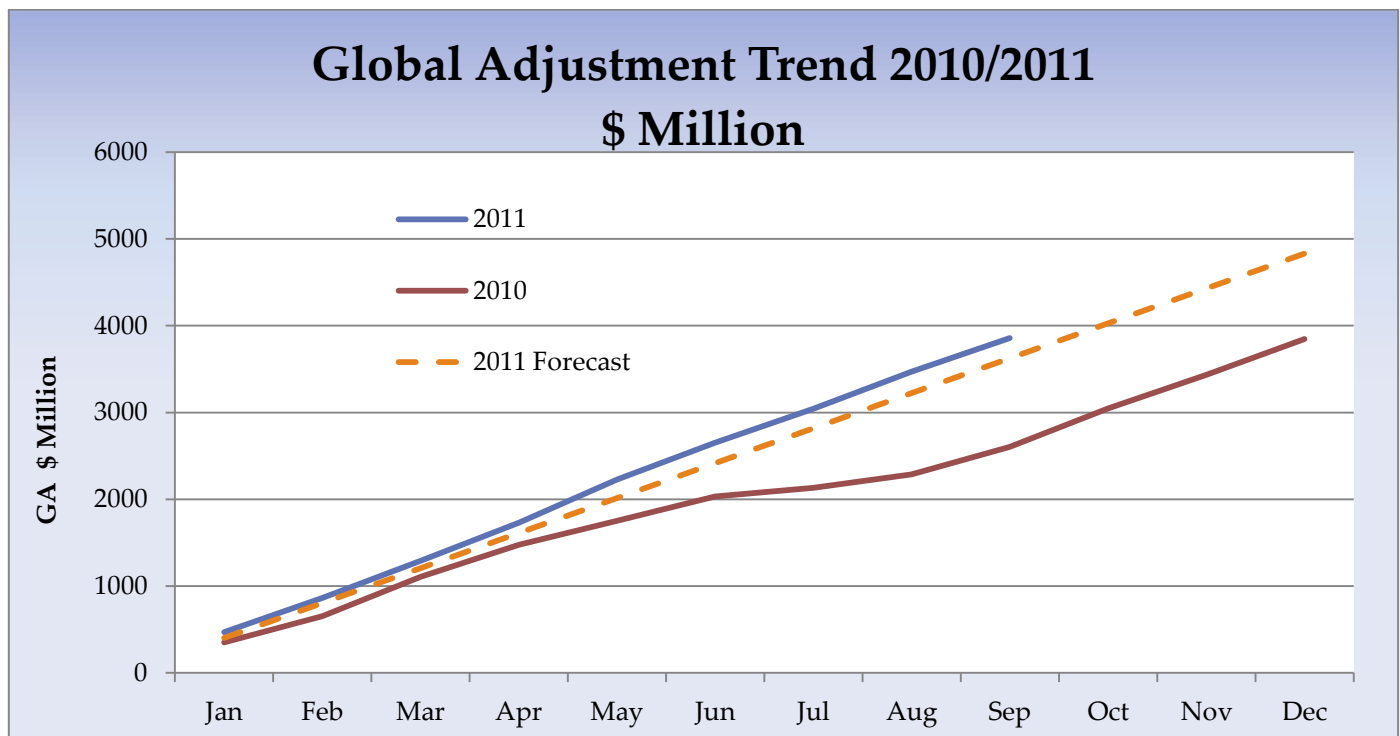
For customers who have been classified as Class A Consumers, those having loads over 5 MW, their global adjustment costs are calculated based on the percentage of their demand contribution with respect to the overall provincial demand during the five peak hours in the monitoring base period. By reducing your demand during these 5 highest peak times you can significantly reduce the Global Adjustment charges on your bill for the next year.

The table below is a forecast of the Global Adjustment submitted to the Ontario Energy Board in 2010 by the Canadian Manufacturers and Exporters (CME), and was compiled by Aegent Energy Advisors. Also shown are the actual GA costs published by the IESO for the 9-month period ending September 30, 2011, and which indicates that the original forecast has been realistic thus far. The forecast average annual GA

for 2011 was originally expected to be \$4,833 M for the entire year, or \$403M/month. Currently, the actual GA is averaging slightly higher at \$426M/month.

Year	2010	2011	2012	2013	2014	2015
Current Global Adjustment (2010)	\$ 3,848	\$ 3,848	\$ 3,848	\$ 3,848	\$ 3,848	\$ 3,848
Feed-in-Tariff (FIT)		\$ 481	\$ 963	\$ 1,444	\$ 2,646	\$ 3,848
Renewable Energy Standard Offer Program (RESOP)		-	\$ 110	\$ 220	\$ 330	\$ 330
Renewables (other)		-	\$ 7	\$ 36	\$ 66	\$ 96
Bruce Power (existing)		\$ 14	\$ 29	\$ 43	\$ 58	\$ 74
Bruce Power (new)		-	\$ 377	\$ 404	\$ 443	\$ 461
OPG		\$ 234	\$ 304	\$ 166	\$ 166	\$ 237
Natural Gas Generation Suppliers		\$ 57	\$ 86	\$ 111	\$ 111	\$ 192
Non-Utility Generators (NUGs)		\$ 94	\$ 197	\$ 158	\$ 258	\$ 170
Conservation and Demand Management (CDM)		\$ 105	\$ 187	\$ 226	\$ 265	\$ 267
Total Annual Global adjustment (\$Million)	\$ 3,848	\$ 4,833	\$ 6,108	\$ 6,656	\$ 8,191	\$ 9,523
Source Aegent Energy Advisors: http://www.rds.oeb.gov.on.ca/webdrawer/webdrawer.dll/webdrawer/rec/212072/view/						
Actual Cost (For 2011, using YTD to Sept 30)	\$ 3,848	\$ 3,834				
Class A Consumers:						
Estimated Peak MW	24,400	24,400	23,800	24,400	24,400	24,400
Cost Per Average MW of Top-5 Peak Hours	\$ 157,693	\$ 198,061	\$ 256,626	\$ 272,775	\$ 335,684	\$ 390,275

The following graph depicts the GA trend for 2011 compared to 2010. We also note the 2011 trend to be very linear when compared to 2010.



When comparing the average top 5 peaks for 2010 against 2011, you will find the peak for 2011 to be lower than last year. That is in part because the 2010 value includes 295 MW of additional embedded generation, which is yet to be included in the final peak analysis since it has not yet been published by the IESO. While we expect the final peak value to increase slightly, we still expect this year's peak to be approximately 3% less than last year.

Average Peak 2010	24,422 MW (Includes 295MW of Embedded Generation)
Average Peak 2011	23,300 MW (Excludes Embedding Generation)

This difference puts upwards pressure on the GA cost for 2011. The total GA dollars has increased significantly, while the load in which this cost is spread over has decreased. This means the average cost per MW goes up for GA.

The GA costs are rising quicker than forecast. **Customers that were able to curtail loads in 2011 will have saved about \$250,000 per MW in next year's GA cost calculations. Knowing when to curtail has not been an easy task for many consumers; especially those that relied entirely on their DR3 activations to avoid the peak hours.**

Peak Advisory and Notification Service (PANs)

Knowing when to cut load can be a challenge for many customers. Understanding the complexity of the peaks and the key contributors to what causes a peak is not a simple exercise, especially when you are juggling operational issues and production schedules. Let's face it, how many people actually understand the grid variables available to us through the IESO web site. It is not easy even for a seasoned professional. Knowing what to look for to predict the peaks is a challenge.

NRG Matters and Sygration have simplified this process for you in a cost effective way that is hard for you to ignore. They offer a service that notifies you of the potential peak times and provides you with the tools necessary to understand what is happening on the grid so that you can make intelligent decisions regarding your production operations.

Through the **NRG Matters' Peak Advisory Notification Service "PANs" and the Sygration Dashboard**, we will advise you when the top 5 peaks will likely occur and give you the tools to monitor and quickly detect changes in the forecast demand.

You will receive three types of alert notices

1. Month ahead alert – establishes the peak thresholds looking forward, and tells you what you can expect for the month ahead. Issued at the beginning of the month
2. Day ahead notice – give you a day notice prior to a possible peak day. Issued the day before a peak day
3. Same day notice – confirms the day ahead notice with expected peak times and duration of the peaks

The **Day Ahead** and **Same Day** notice will provide you with three categories of hours each depicting your tolerance for risk. These three categories are:

1. **Slow responding** - Yellow category– highest amount of alerts hours – for customers who can afford to turn off loads for longer periods of time. (i.e. Use of a building automation systems or reduction in production output)
2. **Moderate responding** - Orange category – An orange band showing the next level of alert hours - for customers who have a less tolerance for long curtailment strategies.
3. **Fast responding** - Red category – A red band showing the minimal amount of alert hours – for customers who can only curtail short periods of time or have standby generation

During the summer of 2011, seven Day-Ahead and Same Day notices were sent out for a total of 38 hours (yellow) of activations alerts. During the slow responding alerts PANs was able to predict 100% of the peaks. This compared to DR3 activations were they were able to hit the peaks only 20% of the time. When you compare the 38 hours of alerts from the PANs service and the value of GA, to the 100 or 200 hours of required commitment from the DR3 contracts, you discover you cannot rely on the DR3 program for your GA activation alerts.

Summary for 2011

Slow Response Alerts (Yellow)	Total 38 Activation Hours	Hit all 5 Peaks
Moderate Response Alerts (Orange)	Total 32 Activation Hours	Hit All 5 Peaks
Fast Response Alert (Red)	Total 22 Activation Hours	Hit 4 of 5 Peaks
DR3 Activations	100-200 Activation Hours, depending on Contract	Hit 1 of 5 peaks

Peak Advisory Notification Service - 2011 Results as of September 30, 2011										
Charts below show Day-Of Alerts sent to PANS subscribers in anticipation of possible Peak Hours.										
x - Peak Hour										
Top 5 Peak Hours	HE12	HE13	HE14	HE15	HE16	HE17	HE18	HE19	PANS Results	DR3 Activations
July 18, 2011 HE16					X				Hit	None (Miss)
					X				Hit	
					X				Hit	
July 19, 2011 HE17						X			Hit	None (Miss)
						X			Hit	
						X			Hit	
July 20, 2011 HE17						X			Hit	None (Miss)
						X			Hit	
						X			Hit	
July 21, 2011 HE16					X				Hit	Active HE15-18 (Hit)
					X				Hit	
					X				Hit	
July 22, 2011 HE12	X								Hit	Active HE16-19 (Miss)
	X								Hit	
	X								Miss	
PANS Alert Hours:	Slow Response		Moderate Response			Fast Response				
Additional Non-Peak Days										
July 11, 2011										
July 12, 2011										

The customers who relied exclusively on DR3 activation notices to curtail their loads would have missed 4 of the 5 peaks for the year. With the total GA cost of approximately \$250,000/MW, they are likely regretting their. Can you afford to make this mistake?

Find your peace of mind knowing that you will not miss the top peaks, while not overly reacting and unnecessarily impacting your operation with countless hours of curtailment. **Know when to cut and for how long by subscribing to the PANS / Sygration solution.**

To find out more about this service please call us today to schedule a demonstration and see how the **PANS/Sygration solution** can help your business.

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