



Quarterly Report: April - June 2012 (Q2/12)

August 20, 2012

The Market Surveillance Administrator is an independent enforcement agency that protects and promotes the fair, efficient and openly competitive operation of Alberta's wholesale electricity markets and its retail electricity and natural gas markets. The MSA also works to ensure that market participants comply with the Alberta Reliability Standards and the Independent System Operator's rules.

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Executive Summary

General Market Outcomes

The average pool price for Q2/12 was \$40.03/MWh (Table A.1). This is about one third less than in Q1/12 (\$60.12/MWh) continuing the quarter-over-quarter declines since Q3/11. AECO-C prices were below \$2/GJ for the quarter (Figure A.2). Market heat rates have remained at high levels, around 20 GJ/MWh for the quarter, a significant reduction from Q1/12 (~30 GJ/MWh).

The volatility of pool prices, whether measured by standard deviation or coefficient of variation, continued to be high in Q2/12 and 63% of the value of pool prices was in the top 10% of hours.

Pool prices in Alberta were above those of our neighbours and we imported over 1,000,000 MWh. The BC intertie's import capability was used about 75% over the quarter – a high level of utilization. The Saskatchewan intertie was used to a lesser extent in part as the MISO prices did not present such a clear economic opportunity. Prices in Mid C have been very low due to high runoff to the hydro plants in that region.

Plant actual availability in Q2/12 at 8953 MW (excluding wind) was lower than in Q1/12 (9335 MW), but up 441 MW over the same quarter last year. Total fleet generation, including wind, was 14,915 GWh, down appreciably from Q1/12 due to the lower load in the province and the higher import volumes.

There has been an upward trend in prices of operating reserves starting in late May. The MSA will continue to monitor the situation to see if the high prices persist and to understand what the main drivers are.

Forward trading in Alberta continued with moderate volumes through Q2/12 as indicated in Figure E.1. Volumes were higher than Q1/12 and Q2/12, but still at relatively low levels.

Monitoring Indicia

The supply cushion – pool price relationship was again used to screen hourly market outcomes for the quarter. A total of 81 high outliers were identified for Q2/12, similar to the number of prior quarters. Some 60 low outliers were identified, of which 38 were hours where pool price cleared at zero dollars.

Analysis of the 81 high outliers revealed that most occurred in June, a month where the supply cushion duration curve indicated there were fewer opportunities to successfully withhold compared with April and May. The analysis further indicated that it was the participation of an additional firm in the withholding in June that contributed to the impact on pool price. The firm in question had been relatively absent in the output analysis for April and May high outliers.

Supply Surplus Events

Some 38 hours in Q2/12 yielded zero dollar pool prices, more than in any previous quarter. In such cases, the ISO invokes its Supply Surplus rules. In most cases, it was found that curtailment of imports, either ahead of the hour or within the hour, was sufficient to manage the situation.

In one event, additional steps were required. These included dispatching down flexible \$0 priced blocks and directing down wind farms, all on a pro-rata basis. It appears that most participants responded to these instructions. Overall, the procedure seems to have worked in terms of managing the supply surplus events.

However, the MSA still believes that the most effective solution to the supply surplus events is to allow negative priced offers. Whilst still maintain reliability, negative pricing allows market participants to properly reflect their individual price preferences yielding a more efficient outcome.

LSSi Preliminary Assessment

The use of LSSi in Q2/12 was quite frequent when pool prices were moderate and some 82,000 MW of incremental imports occurred in Q2/12 at an average overall cost to load of some \$106/MWh. The use of LSSi to facilitate competition in this way is an enhancement to the market. However, a more detailed examination of the use of LSSi in Q2/12 revealed that the product is generally not offered to the ISO, and thus not available to be used, when pool prices are high and the value of the service is the greatest. A significant portion of the LSSi providers is price responsive load that curtails consumption at elevated pool prices and cannot then continue to provide LSSi.

It is recommended that ISO undertake more analysis before contracting more LSSi with the current design.

Settlement Agreement Filed with the AUC

On November 4, 2011, the MSA and TransAlta filed a settlement agreement with the AUC where it is currently under consideration as Application No. 1607868. The settlement alleges that TransAlta breached section 6 of the Alberta Electric Utilities Act during 31 separate hours during 8 days in November 2010.

The decision by the Commission (2012-182) was released July 3, 2012 and the proposed settlement was approved.¹ The MSA is pleased with the outcome and will consider the decision in detail to help inform us to prepare any future proposed settlements, should that be necessary.

Market Share of Offer Control

In accordance with Section 5 of the Fair, Efficient and Open Competition Regulation, the MSA must, at least annually, publish certain metrics relating to the market shares of offer control in the Alberta wholesale electricity market. On June 11, 2012 the MSA published its assessment for 2012.² The market shares have not changed dramatically in the past year.

MSA Feedback

In Q2/12 the MSA posted three items under its Feedback banner. The first two related to trading on outages of various types.

On May 18, 2012, the MSA posted feedback on the timing of discretionary outages at PPA units.³ The MSA used this feedback to inform the market that in the case of PPA unit owners taking account of their broader portfolio in timing the outages of the PPA units, such actions would not be consistent with their obligations under section 6 of the EUA. The MSA will pursue enforcement action in any such cases that come to its attention.

State of the Market Assessment

The MSA's work on the state of the market is in full swing. On June 3, 2012, the MSA published a report entitled "Supply Cushion Methodology and Detection of Events of Interest".⁴ The associated data files were posted on June 29, 2012.⁵ Over the next few months, several more reports will be posted – stay tuned.

¹ AUC decision 2012-182 <http://www.auc.ab.ca/applications/decisions/Decisions/2012/2012-182.pdf>

² MSA, Market Share of Offer Control,

<http://albertamsa.ca/uploads/pdf/Archive/2012/Market%20Share%20Offer%20Control%202012.pdf>

³ <http://albertamsa.ca/uploads/pdf/Archive/2012/Notice%20re%20Feedback-Timing%20of%20Discretionary%20Outages-PPA%20Units%20051812.pdf>

⁴ http://albertamsa.ca/uploads/Supply_Cushion_Data/Supply_Cushion_and_Outliers_120604.pdf

⁵ <http://albertamsa.ca/index.php?page=notice-to-market-participants-and-stakeholders>

Code of Conduct Enquiry

On June 15, 2012, the MSA received a referral related to mail outs to customers offering in-home services and/or insurance relating to electrical and plumbing repairs. The mail out envelopes had the logo of a wires owner and some also contained a letter from a senior official at the wires owner. The potential issues at hand under the *Electricity Code of Conduct Regulation* relate to protection of customer information and cross subsidy.

The MSA interviewed relevant senior officials at the wires company about the concerns. The wires owner did not provide a list of customers to the in-home service provider. The in-home service provider created its own list through commercial sources. All the costs associated with creating the mail out list and the associated marketing materials were paid for by them – the wires owner’s customers did not pay any costs. The MSA is satisfied that there is no breach of the *Electricity Code of Conduct Regulation*.

1 General Comments on Market Outcomes

The average pool price for Q2/12 was \$40.03/MWh (Table A.1). This is about one third less than in Q1/12 (\$60.12/MWh), continuing the quarter-over-quarter declines since Q3/11. The year-over-year comparison shows that Q2/12 prices were down about 25% from Q2/11. AECO-C prices were below \$2/GJ for the quarter (Figure A.2). Market heat rates have remained at high levels, around 20 GJ/MWh for the quarter, a significant drop from Q1/12 (~30 GJ/MWh).

The volatility of pool prices, whether measured by standard deviation or coefficient of variation, continued to be high in Q2/12. The pool price duration curve for Q2/12 lies below those for Q1/12 across the complete range (see Figure A.1). In Q2/12, 63% of the value of pool prices was in the top 10% of hours.

Figure D.2 shows that prices in Alberta were above those of our neighbours. This price differential encouraged imports to flow to Alberta and over the quarter we imported in excess of 1,000,000 MWh. The BC intertie's import capability was used about 75% over the quarter – a high level of utilization. The Saskatchewan intertie was used to a lesser extent in part as the MISO prices did not present such a clear economic opportunity. Overall, imports to Alberta were 1,176,000 MWh, equivalent to an average of some 540 MWh. This is substantially higher than Q1/12 (320 MWh) and reflects the general collapse of Q2/12 prices in Mid C due to high runoff to the hydro plants in that region.

The only new capacity of note added to the system in Q2/12 was in wind where total capacity is now 939 MW. Plant actual availability in Q2/12 at 8,953 MW (excluding wind) was lower than in Q1/12 (9,335 MW), but up 441 MW over the same quarter last year. Total fleet generation, including wind, was 14,915 GWh, down appreciably from Q1/12 due to the lower load in the province and the higher import volumes.

Operating reserve prices are shown in Appendix C. It can be seen that there has been an upward trend in prices starting in late May. The MSA will continue to monitor the situation to see if the high prices persist and to understand what the main drivers are.

Forward trading in Alberta continued with moderate volumes through Q2/12 as indicated in Figure E.1. Volumes were higher than Q1/12 and Q2/11, but still at relatively low levels. The number of active market participants remains essentially unchanged (Figure E.3).

2 Monitoring Indices

Monitoring indices are data summaries the MSA uses to flag apparent anomalous market outcomes or report on the competitive health of the market for further assessment now, or in the future.

The detailed derivation of the supply cushion for each hour was described in the MSA's Q3/10 report. Data for the period February 1, 2008 through June 30, 2010 was used to establish a statistical baseline for the relationship between the supply cushion and pool price. For a given hour, the supply cushion is the volume of energy available to the system controller but not called upon to meet load. The supply cushion measures market tightness and would be expected to be strongly related to pool price. This relationship is a prime metric to enable the MSA to identify anomalous hours. It does not speak to the possible reasons for the anomaly, but it does flag the hour as being unusual.

In the Q1/11 report, we described a detailed methodology for analysis of the undispached MW in the merit order. This is termed an output gap analysis. In the cases where market prices are higher than the short-run costs of the generators, it is an analysis of economic withholding. To be clear, as explained in the MSA's *Offer Behaviour Enforcement Guidelines*, economic withholding by individual market participants is not proscribed under Alberta's market construct. However, identification and reporting of its occurrence contributes to stakeholders' understanding of market outcomes and also provides a record for the longer term assessment of the health of the market.

For this quarterly report, we have not undertaken any detailed analysis of hours that were flagged as being statistically unusual. In part, this is due to the results of previous analysis which have shown that most of these events are caused by similar patterns of withholding by one or more market participants when supply cushion is less than about 1,000 MW. The MSA is focusing its analytical efforts into a longer-term analysis of these patterns as part of its state of the market assessment which we plan to complete later this year.

2.1 Supply Cushion Analysis – Q2/12

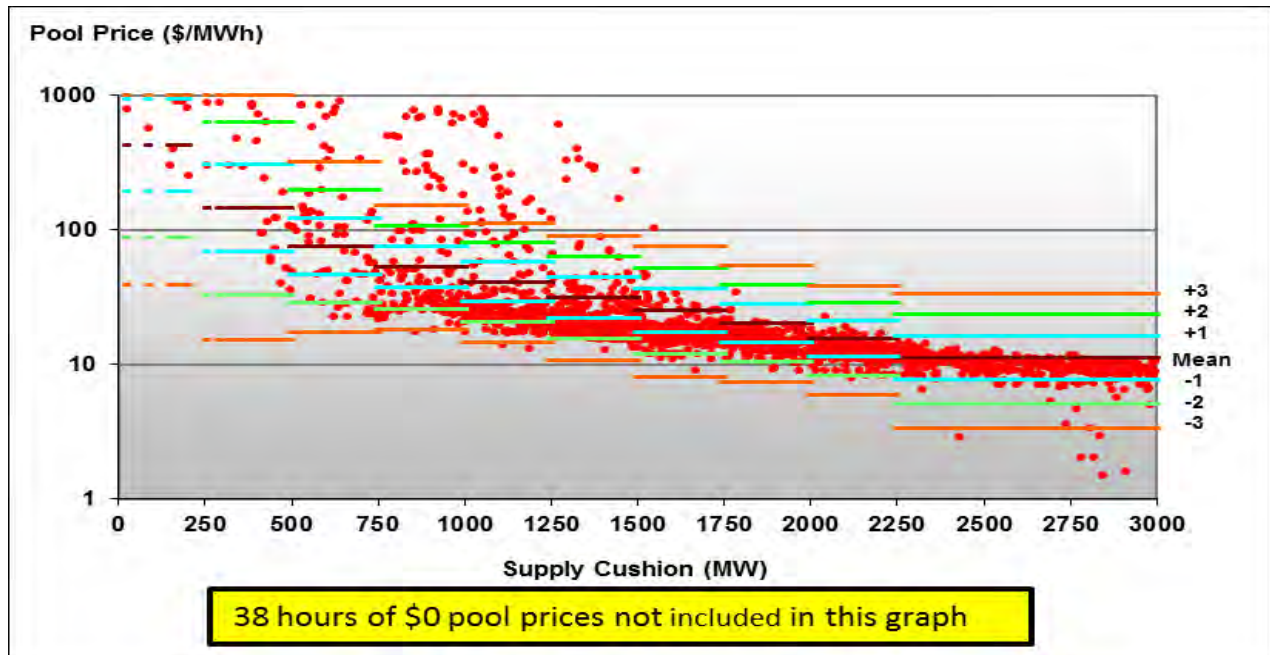
In Q2/12, a total of 81 hours were observed when the pool prices were higher than 3 standard deviations above the mean established using the historical data.⁶ The prices above +3 standard deviations were concentrated in the hours when the supply cushion was in the range of 500 MW to 1,500 MW (See Figure 2.1). Of the 806 hours when the supply cushion was between 500 MW and 1,500 MW, there were 80 hours in which the pool prices were above +3 standard deviations, accounting for 10% of the total number of hours in this supply cushion range. In this regard, the data observed in Q2/12 are in line with recent quarters.

Appendix F presents more details of the 81 hours >3 StD identified above.

What is unusual about the outcomes for this quarter is the amount of low-price hours that are less than 3 standard deviations below the mean. There were a total of 60 hours in Q2/12 including 38 hours where pool price was \$0.0/MWh. This is the highest number of zero dollar pool price hours in a quarter and we assess the conditions prevailing at the time and the Supply Surplus procedures followed by the ISO in Section 2.3. Most of the other low priced hours were on occasions when the system was close to Supply Surplus.

⁶ For details on how the mean and standard deviations were calculated with the historical data, refer to MSA Quarterly Report for Q3/10. The numerical values are reported in the Q3/11 Quarterly Report.

Figure 2.1: Q2/12 Supply Cushion v. Pool Price (Confidence Bands Based on Historic Data)



	≤ 250	>250 ≤ 500	>500 ≤ 750	>750 ≤ 1000	>1000 ≤ 1250	>1250 ≤ 1500	>1500 ≤ 1750	>1750 ≤ 2000	>2000 ≤ 2250	>2250	Total
$\geq +3$	0	0	14	27	29	10	1	0	0	0	81
$<+3$ & ≥ -2	0	5	1	3	8	6	0	0	0	0	23
$<+2$ & ≥ -1	0	3	12	10	6	4	3	1	1	0	40
$<+1$ & $\geq \text{mean}$	6	5	12	4	7	31	19	4	22	73	183
$<\text{mean}$ & ≥ -1	3	7	10	27	25	67	122	119	139	377	896
<-1 & ≥ -2	0	0	10	29	57	13	5	5	4	4	127
<-2 & ≥ -3	0	5	13	52	122	193	151	123	73	39	771
<-3	0	0	0	2	2	0	0	1	0	55	60
Total	9	25	72	154	256	324	301	253	239	548	2181

2.2 Output Gap Analysis – Q2/12

The output gap analysis calculates the market supply cushion by market participant, identifying the proportion of the supply cushion that is attributable to each market participant in a given hour. The theory and its application in our work were fully described in the MSA’s Q1/11 report. There has been ongoing work with stakeholders as part of the state of the market assessment aimed at improving the way that the supply cushion values are estimated and assessed. The results herein are based on the same methodology as used over the past year.

As for other quarters, due to the high number of identified hours, we have not done the manual adjustment of the assignment of control by market participant. Table 2.1 shows the results of the unadjusted analysis for the Q2/12 events.

Table 2.1: Output Gap Analysis – Q2/12

Month	Count of Events	Average Price	Average SC	Average Share of Supply Cushion by Participant						Average HHI
				A	B	C	D	E	Other	
Apr-12	6	\$443.51	779	0%	11%	46%	22%	14%	6%	3,148
May-12	10	\$635.80	745	3%	14%	65%	15%	2%	2%	5,028
Jun-12	65	\$367.78	1,038	27%	18%	34%	10%	3%	8%	2,616
Q2/12	81	\$406.47	982	22%	17%	39%	12%	4%	7%	2,954

The most significant feature of Table 2.1 is the distribution of outlier hours across the quarter. Of the 81 high priced hours identified as >3 StD above the mean, 65 occurred in June – the same month that yielded 32 zero dollar hours (out of 38 in the quarter). Figure 2.2 shows the supply cushion duration curves for the three months of Q2/12. It can be seen that June had the most hours of high supply cushion that would tend to produce more zero dollar prices. Interestingly, June had the least number of hours with low supply cushion yet yielded the highest average price in the quarter (April \$41.69/MWh, May \$29.36/MWh, June \$49.30/MWh). The distribution of market shares by participant for the events in each month are shown in Figures 2.3, 2.4 and 2.5. One of the more notable features of these figures is the near absence of Firm ‘A’ in April and May and its significant presence in June. This was a contributing factor to the higher prices at high values of supply cushion in that month.

Figure 2.2: Supply Cushion Duration Curves

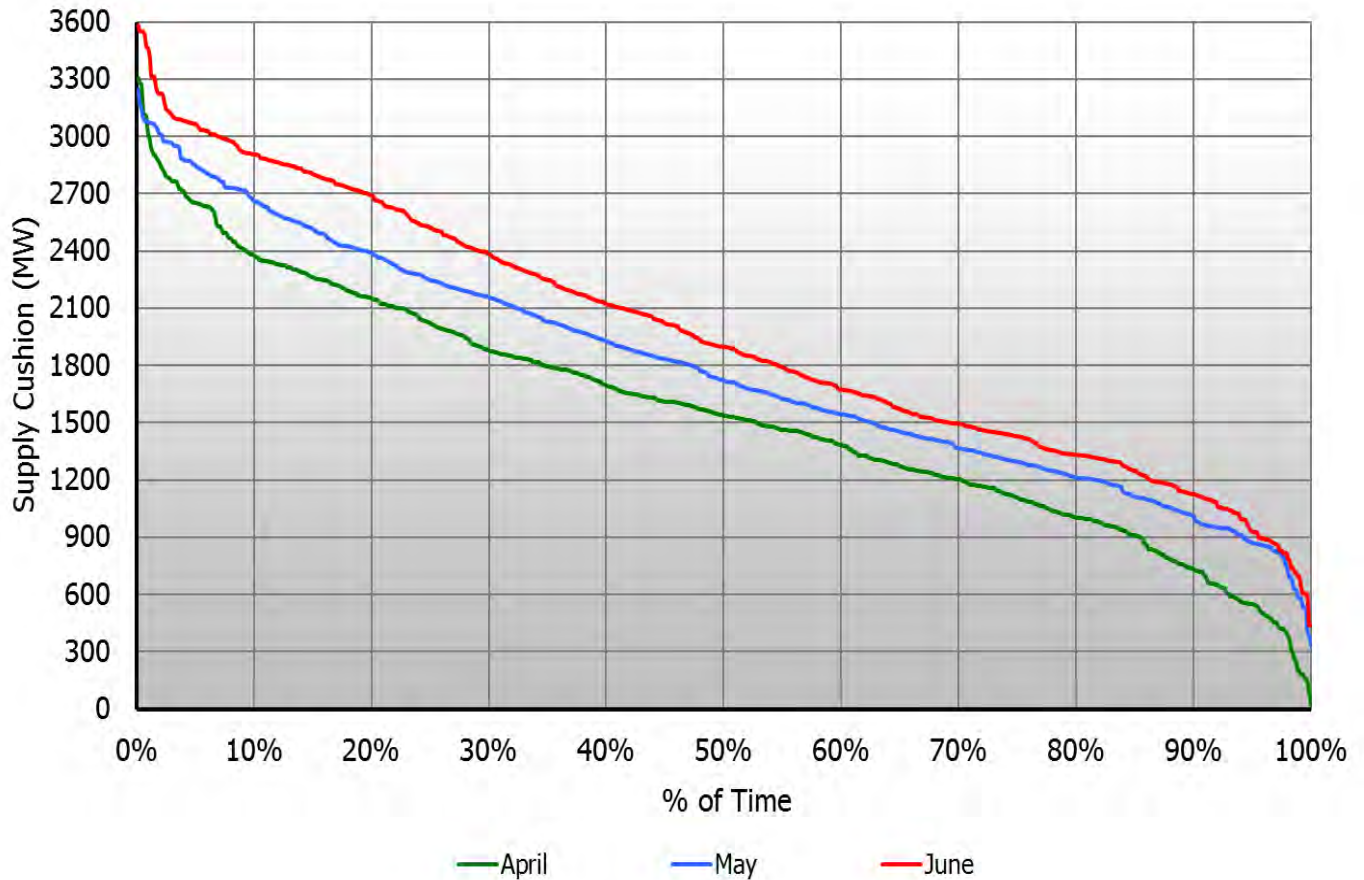


Figure 2.3: Output Gap Analysis - April 2012

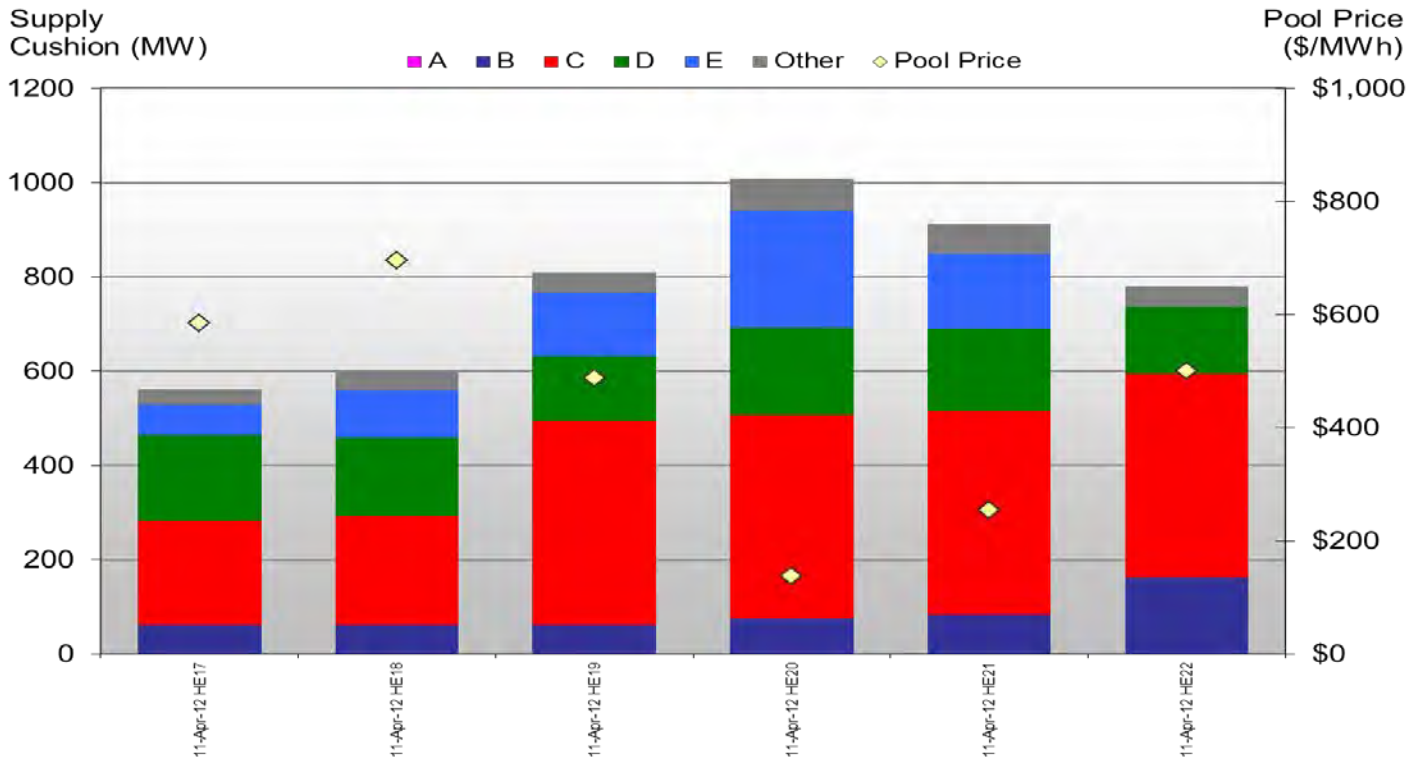


Figure 2.4: Output Gap Analysis - May 2012

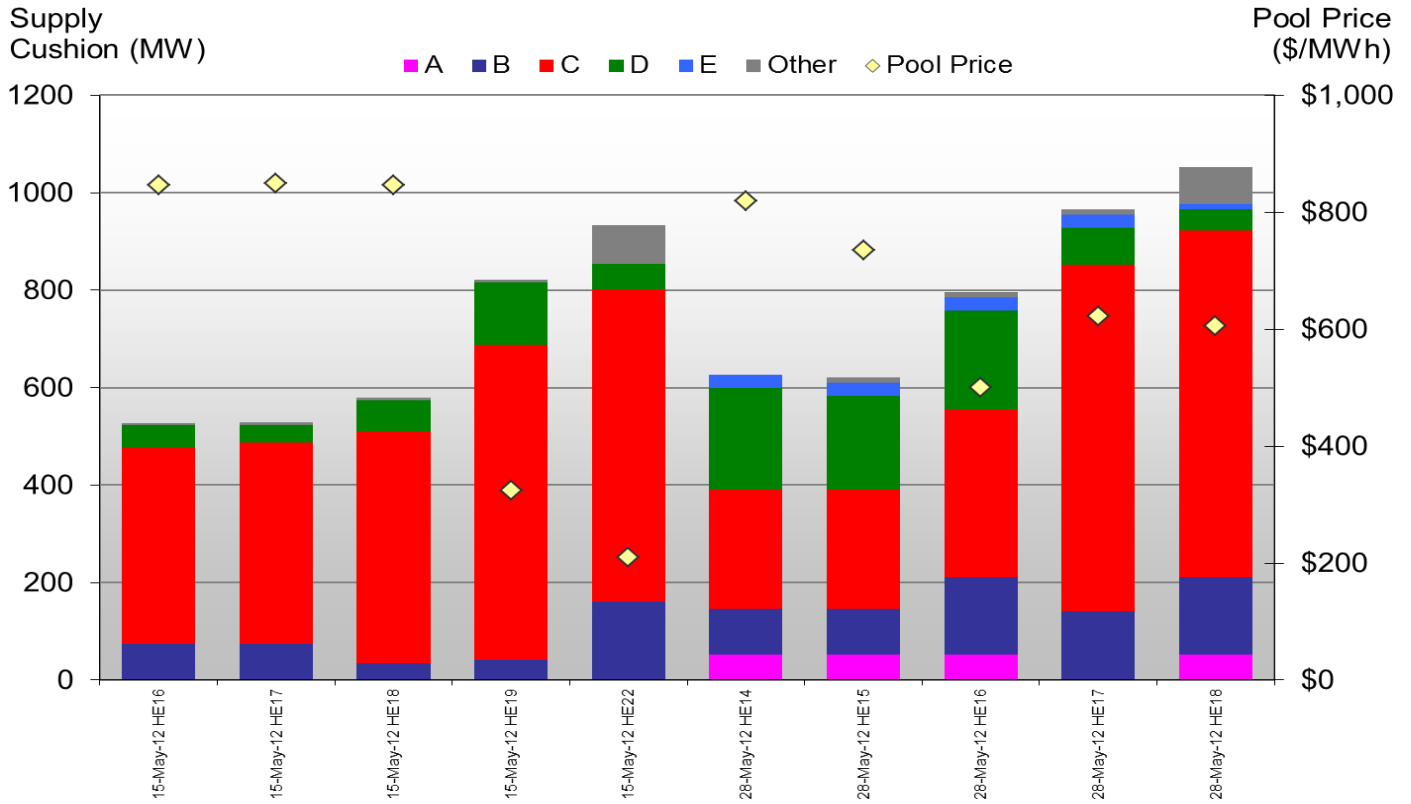
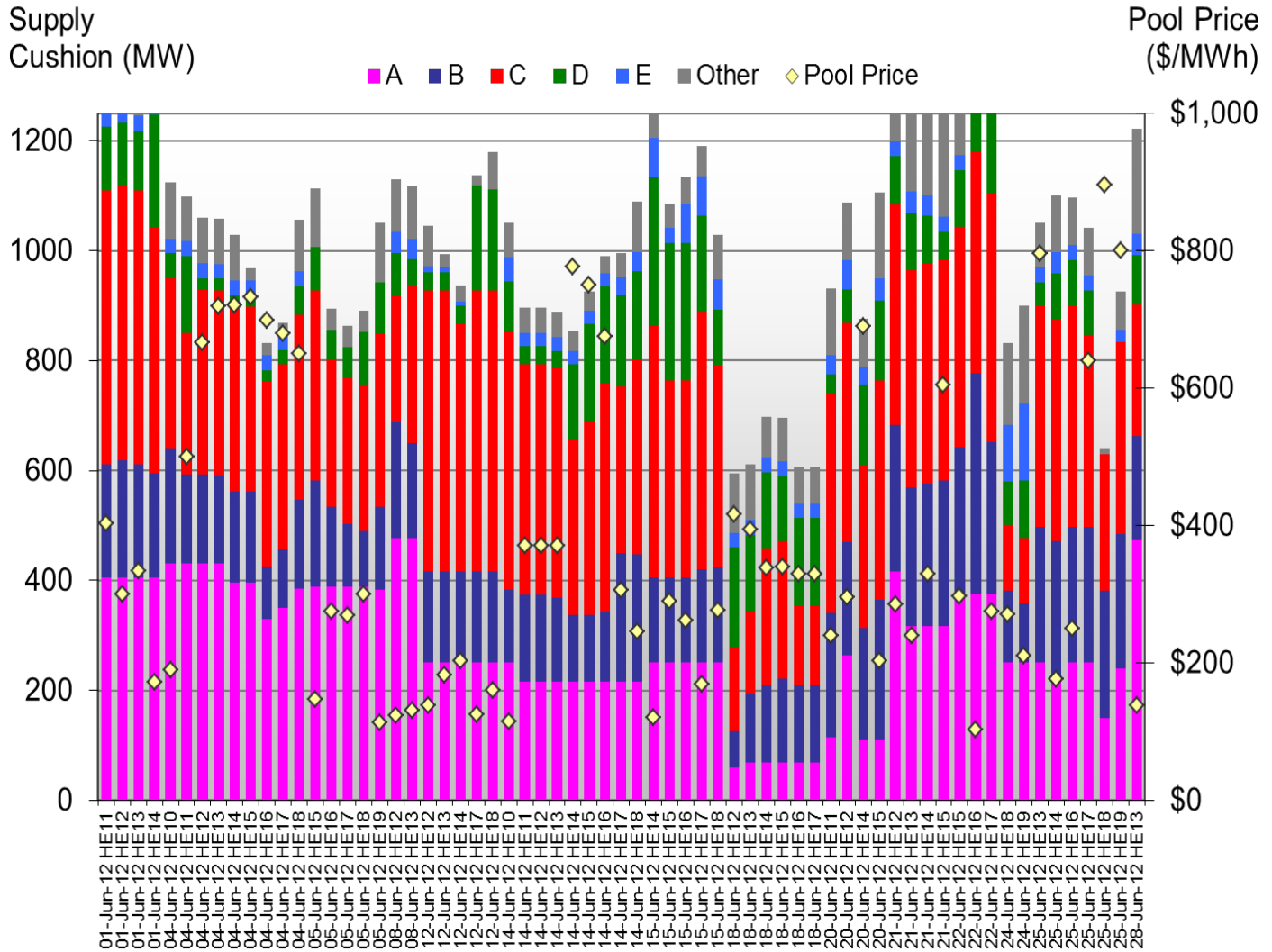


Figure 2.5: Output Gap Analysis – June 2012



2.3 Supply Surplus Events

During Q2/12, there were thirteen separate supply surplus events, with a total duration of 52.5 hours and which resulted in 38 zero dollar hours. The highest number of zero dollar pool prices that have occurred in a quarter in the Alberta electricity market. The average supply cushion of the 38 zero dollar hours was over 3,000 MW. Most of the hours occurred in June (32).

The ISO has special protocols to manage situations where System Marginal Price (SMP) is \$0, or is anticipated to be \$0. These are described in ‘Section 202.5 - Supply Surplus’ of ISO Rules. The procedure involves actions by the ISO for the current hour when SMP is \$0 or for the next hour when SMP is anticipated to be \$0. The current protocols were modified earlier this year.

If ISO forecasts SMP = \$0 in the next hour, imports will be curtailed using a last in first out procedure. The volume to be curtailed is targeted to be sufficient that SMP still will remain \$0, but no further action will be required in the next hour if everything goes according to the forecast.

In real time, should SMP become \$0 then, in order, the ISO will:

- Curtail any imports if the curtailment can be achieved within the hour;
- Allow exports within (T – 2) hours;
- Allow restatements down of generators within (T – 2) hours;

- Issue pro-rata dispatches to flexible blocks and pro-rata directives to wind farms;
- Direct any inflexible blocks down to their minimum stable generation level; and
- Direct units down as necessary to ensure reliability.

The Supply Surplus events of Q2/12 provide some ability to observe the application of the recently modified procedures used by the ISO. Table 2.2 provides a summary of the events. Clearly, SMP (and pool prices) were very low throughout these events, consistent with the market fundamentals.

Table 2.2: Summary of Supply Surplus Events in Q2/2012

SS Start	SS End	SMP Min	SMP Max	SMP Average	Duration (h)
5-13-12 1:39	5-13-12 7:24	0.00	7.53	2.31	5.8
5-13-12 23:21	5-14-12 5:37	0.00	7.01	0.05	6.3
5-17-12 1:05	5-17-12 5:07	0.00	7.01	4.47	4.0
6-9-12 1:22	6-9-12 8:42	0.00	8.21	0.07	7.3
6-9-12 23:35	6-10-12 9:07	0.00	3.33	0.02	9.5
6-12-12 4:21	6-12-12 5:01	0.00	0.00	0.00	0.7
6-15-12 2:01	6-15-12 3:02	0.00	8.75	0.03	1.0
6-16-12 5:47	6-16-12 7:01	0.00	0.00	0.00	1.2
6-17-12 2:42	6-17-12 2:55	0.00	8.75	0.71	0.2
6-18-12 2:31	6-18-12 5:49	0.00	8.75	0.04	3.3
6-22-12 3:47	6-22-12 5:57	0.00	8.59	2.45	2.2
6-27-12 0:41	6-27-12 6:27	0.00	0.00	0.00	5.8
6-28-12 0:31	6-28-12 5:47	0.00	9.15	0.06	5.3

In examining the various actions that the ISO took during these events, it was evident that in almost all cases, the supply surplus event was managed by a combination of import curtailments made prior to the hour plus occasional within-hour import curtailments. Import volumes were generally high in part due to the use of LSSi (see next section).

Import curtailments done ahead of the hour are subject to forecast errors. If ISO over curtails, then SMP will become non-zero and a curtailed importer might feel that a market opportunity was lost. Similarly, under curtailment would lead to a greater likelihood of further real-time curtailments.

The Supply Surplus event of May 13/14 2012 is noteworthy in that ISO had to take additional steps of the supply surplus procedure to manage the situation. In HE24 on May 13, ISO experienced a supply surplus event and curtailed the schedule by 152 MW to 293 MW. At the top of the hour, the remaining 293 MW was fully curtailed to zero. Imports were partially restored in HE06 at 170 MW, and fully restored in subsequent hours. The additional actions on the part of ISO are listed in Table 2.3.

Table 2.3: Supply Surplus Event of May 13/14, 2012

Date	HE	Minute	SMP	Pool Price	Additional Actions
13-May	24	0	5.01	0.42	
		5	0		Exports and Voluntary restatements allowed within (T-2).
14-May	1	0	0	0	200 MW of energy dispatched/directed down on flexible \$0 blocks and wind farms
	2	0	0	0	
	3	0	0	0	
	4	0	0	0	200 MW of energy dispatched/directed up on flexible \$0 blocks and wind farms
	5	0	0	0	
	6	0	0	2.92	
		35	7.01		
	7	0	7.01	9.85	

In assessing the responses by participants, there was no evidence of either intra hour exports occurring or of participants making voluntary down restatements. This is probably not a surprising result. The low pool prices are seemingly attracting significant imports at the time, not exports. In the prime hydro runoff period in Mid C, prices can, and do, go negative. It is possible that an importer sinking to Alberta for a \$0 pool price is still profitable. Again, for the down restatements, firms in a position to reduce their offered energy at \$0 likely have already done so. This result does not invalidate the inclusion of the steps in the administrative procedure, but demonstrates that there may not often be much response.

ISO issued two separate 100 MW dispatches/directives. At the time, there were 31 assets with flexible \$0 blocks and 15 wind farms. ISO tools calculate the actual volumes required per asset and farm. In checking the responses of the participants dispatched down (or directed down in the case of wind farms as they do not in general offer into the merit order), there was a good response overall. Most affected participants responded appropriately. One of the MSA's concerns with the procedures set forth in the Supply Surplus rules is that participants might not respond appropriately (or might not be able to respond appropriately) to dispatches and directives for small numbers of MW. In this case, the concern appears to be unwarranted.

The MSA has advocated for a different mechanism to manage these Supply Surplus conditions by allowing generators to offer at negative prices, something not currently allowed. By not allowing negative priced offers, the merit order loses its ability to use price as the mechanism to show willingness to pay to produce. For example, many wind farms have Renewable Energy Credit (REC) sales that provide income outside the pool based on production. If necessary, they would pay to produce to the point where pool price fell to a value that completely offset the amount of REC income. In the existing procedure, they are treated the same as all flexible \$0 blocks in the pro-rata dispatching down when it is necessary. Not all wind farms have the same REC sale agreements and thus would have different offer price preferences. Wind farms are only one example and other generation sources would have their own price preferences. A large coal-fired unit with significant start-up costs might be prepared to pay a significant premium (for a short period) to avoid being dispatched off the system. Hence, while the existing ISO procedure was effective in managing the supply surplus events from a reliability perspective, it was likely not efficient from a market perspective since it could not properly take account of these factors. Allowing negative offers would still provide a reliable process and also one that would be more efficient.

2.4 Load Shed Service (LSSi)

Section 16 of the *Transmission Regulation (AR 86/2007)* requires the ISO to restore the path rating of interties that existed on August 12, 2004. Over the years, the capability in both directions of the BC intertie had denuded.

In late 2011, the ISO implemented the use of LSSi to help increase import Available Transfer Capability (ATC) on the BC intertie. Through a competitive process several suppliers were contracted in 2011 and late in the year the AESO began to use the service. Providers of LSSi enable more imports to flow as they will be tripped off very rapidly in response to the drop in frequency in the unlikely event of an intertie trip. This preserves the security of the system. The general idea is that when more imports are offered than import ATC offered, LSSi will be dispatched by the System Controller which causes the dispatched loads to be 'armed'. The 'armed' loads enable more imports to flow.

The contracted volumes of LSSi totaled more than 400 MW which would enable import ATC to be about 700 MW over most load conditions in Alberta. LSSi of 400 MW could increase imports by about 200 MW. The maximum offered LSSi in Q2/12 was 280 MW and that amount would enable about 125 MW of extra imports, depending on the load level in the province. System studies are used to determine the reliable safe level of incremental import for a given armed volume of LSSi and the ratio is not a simple one-to-one.

Compensation to the suppliers is a three-part fee:

- Availability payment - \$5/MWh
- Arming payment – varies by provider
- Trip payment - \$1000/MWh – in the event that an armed is curtailed following a trip of the BC intertie

As an ancillary service, load pays for the LSSi service on a per MWh basis.

LSSi simply provides more access to importers desiring to flow into Alberta. In recent times, the BC intertie has frequently seen ATC fully utilized about 70% of the time (see Figure D.1 in Appendix D). Increased flow on the intertie may have important efficiency effects. It may allow MW from generators outside Alberta with lower production costs to displace higher cost production in Alberta (increasing productive efficiency). It may result in an increase in competition for in-province generators and reduce the benefit of economic withholding. However, as noted above, the provision of LSSi imposes an unavoidable cost on all loads.

There also may be more subtle efficiency effects. Some of the potential concerns with the design of this service are that offers are not mandatory and some of the providers are also loads that respond to high pool prices by curtailing their consumption. Hence, in a high pool price environment it is possible that some of the providers would not be offering LSSi having already curtailed their consumption and thus not be available. The rules around LSSi also allow loads to curtail provision of LSSi at 25 minutes to the settlement interval. This is likely after some importers have scheduled flows and therefore may impose a cost on importers if ATC is subsequently reduced.

In this quarterly report, we look briefly at the performance of LSSi in the Alberta market. The costs paid to the LSSi providers are summarized in Table 2.4. It can be seen that the costs have increased over the quarter as more of the offered LSSi was armed to allow more imports to flow. Arming payments, comprising some 80% of the total, form the bulk of the payments. There were no trip payments in Q2/12.

Table 2.4: LSSi Costs in Q2/12

	Availability Payment		Arming Payment		Total
	MW 10**3	\$000	MW 10**3	\$000	
April	109	544	55	1,812	2,357
May	122	611	58	2,188	2,798
June	109	545	81	2,971	3,516
Total (Q2/12)	340	1,700	194	6,971	8,671

Figure 2.6 shows the offered LSSi volumes versus pool price. It is apparent that much more LSSi is offered at lower pool prices than at higher pool prices. As noted, many of the sellers are also price-responsive loads who reduce consumption in the face of high pool prices and are thus not able to offer LSSi at that time. Note that to be useful to the ISO, the minimum amount of total armable LSSi must be around 40 to 55 MW depending on the Alberta Internal Load (AIL).

Figure 2.7 shows the armed LSSi volumes versus pool price. Virtually no hours with high pool prices have any armed LSSi. This is due to the low offered volumes at high pool prices. Taken together, Figures 2.6 and 2.7 confirm that most of the sellers of LSSi are not available to the ISO at high pool prices in useful amounts. Accordingly, LSSi does not seem to provide any incremental benefit to competition in high price hours. Figure 2.8 shows the incremental import volumes enabled through the use of LSSi versus pool price. A total of some 82,000 MWh of incremental imports were enabled by the use of LSSi although it can be seen that most of these were at lower pool prices. With a total cost of LSSi in Q2/12 of \$8,671,000, that translates to a cost of about \$106/MWh.

Figure 2.9 shows the import offers at (T-2) hours versus pool price. In normal conditions, with maximum availability of LSSi to arm the ATC is about 700 MW, somewhat less at lower values of AIL. Hence offers above ~ 700 MW in Figure 2.9 would never be feasible.⁷ If no LSSi is offered to the market, in normal conditions, the maximum ATC varies with AIL as shown on Table 2.5.

Table 2.5: Maximum ATC vs. AIL (no LSSi) in Normal Conditions

Alberta Internal Load (MW)	Maximum Available Transfer Capability (MW)
<6300	350
6300 – 6599	375
6600 – 6899	400
6900 – 7199	425
7200 – 7499	450
7500 – 7799	475
7800 – 8099	500
8100 – 8399	525
>8400	550

⁷ If exports are scheduled, then more import offers may flow.

Figure 2.10 shows the import volumes offered at (T-2) hours that ultimately did not flow. There are a number of reasons for this, including:

- Lack of access to transmission from the energy source to BC or to Alberta;
- Lack of access to energy (although the AESO does not generally recognize this as a bona fide reason not to flow);
- Curtailments such as those required in supply surplus conditions; and,
- Lack of sufficient ATC, due to lack of offered LSSi (imports in excess of ATC with maximum LSSi can never flow).

The relative contribution of each source is difficult to assess, but Figure 2.6 clearly shows that in the cases where pool prices are high, LSSi is unlikely to be available to allow increased imports and mitigation of those pool prices.

Summary

The assessment herein is of a preliminary nature and should be treated accordingly.

LSSi is generally not offered and thus not available to be armed in useful amounts (> ~50 MW) when pool prices are high. Most of the sellers are price responsive loads and have curtailed so that they are unable, or unwilling, to offer LSSi. A product like LSSi may have important benefits to efficiency. Lack of availability of LSSi at high pool prices is a concern in that competition is not enhanced at times when in-province generators are economically withholding. Beyond competitive benefits, but for the same reason, it also appears LSSi would unlikely to have much impact on reliability.

At lower pool prices, extensive use has been made of available LSSi to enable some 82,000 MWh of additional imports to occur at an average overall cost of \$106/MWh. Enabling import offers to flow in real time fosters competition and is an enhancement to the market. Average pool price for the hours where LSSi was used in Q2/12 was \$19.79/MWh compared with \$68.92/MWh for the hours where it was not used.

It is understood that ISO is contemplating contracting for more LSSi in the near future. The MSA recommends the AESO consider the experience with LSSi to date to ensure the efficiency gains that result outweigh the costs.

Figure 2.6: Offered LSSi Volumes

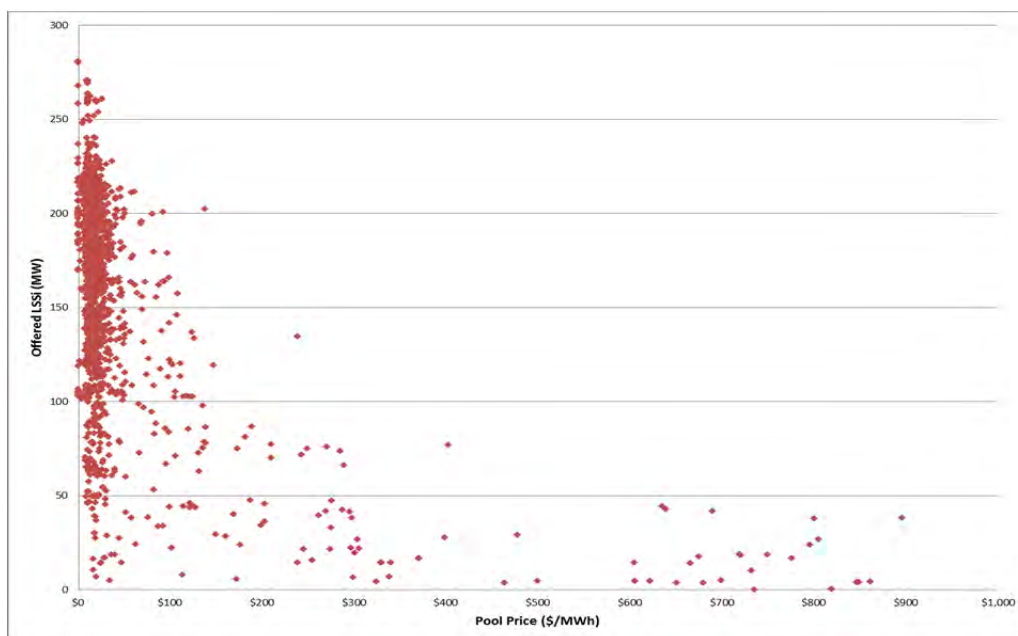


Figure 2.7: Armed LSSi Volumes

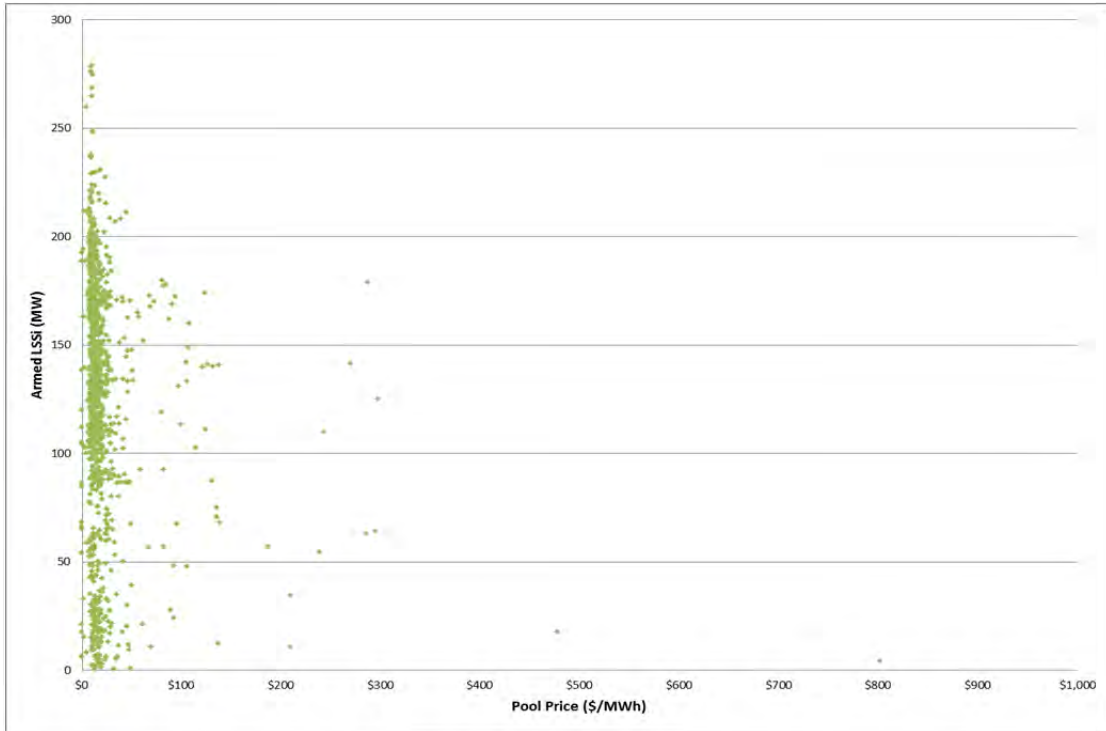


Figure 2.8: Incremental Imports Using LSSi

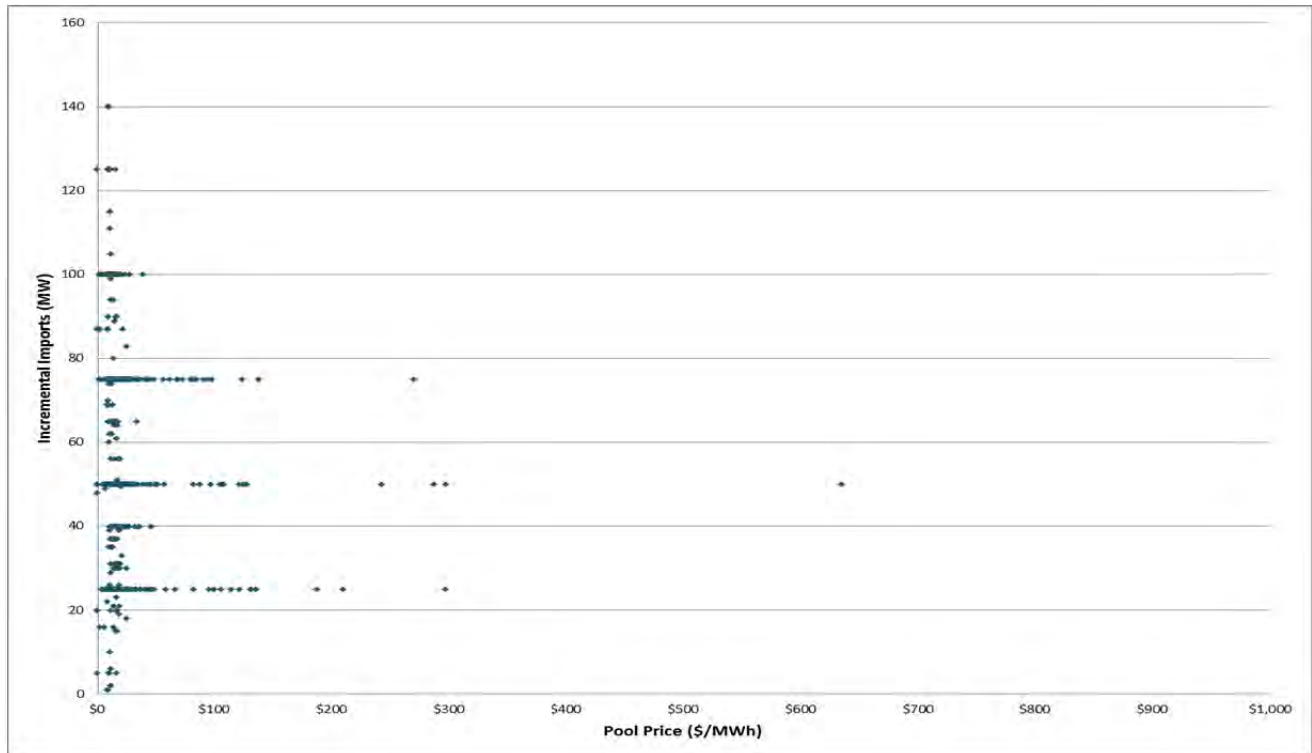


Figure 2.9: Import Offers at (T-2) Hours Including External Reserves

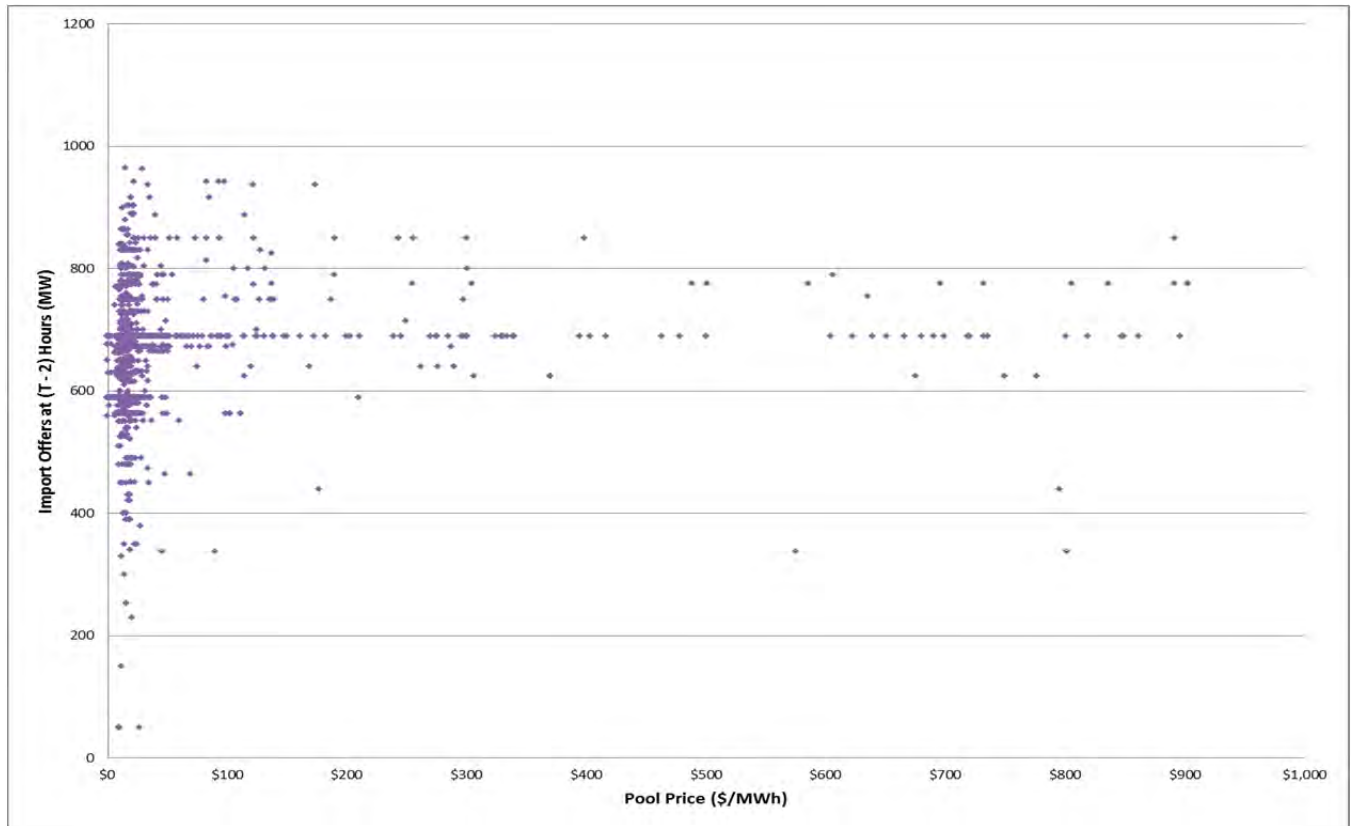
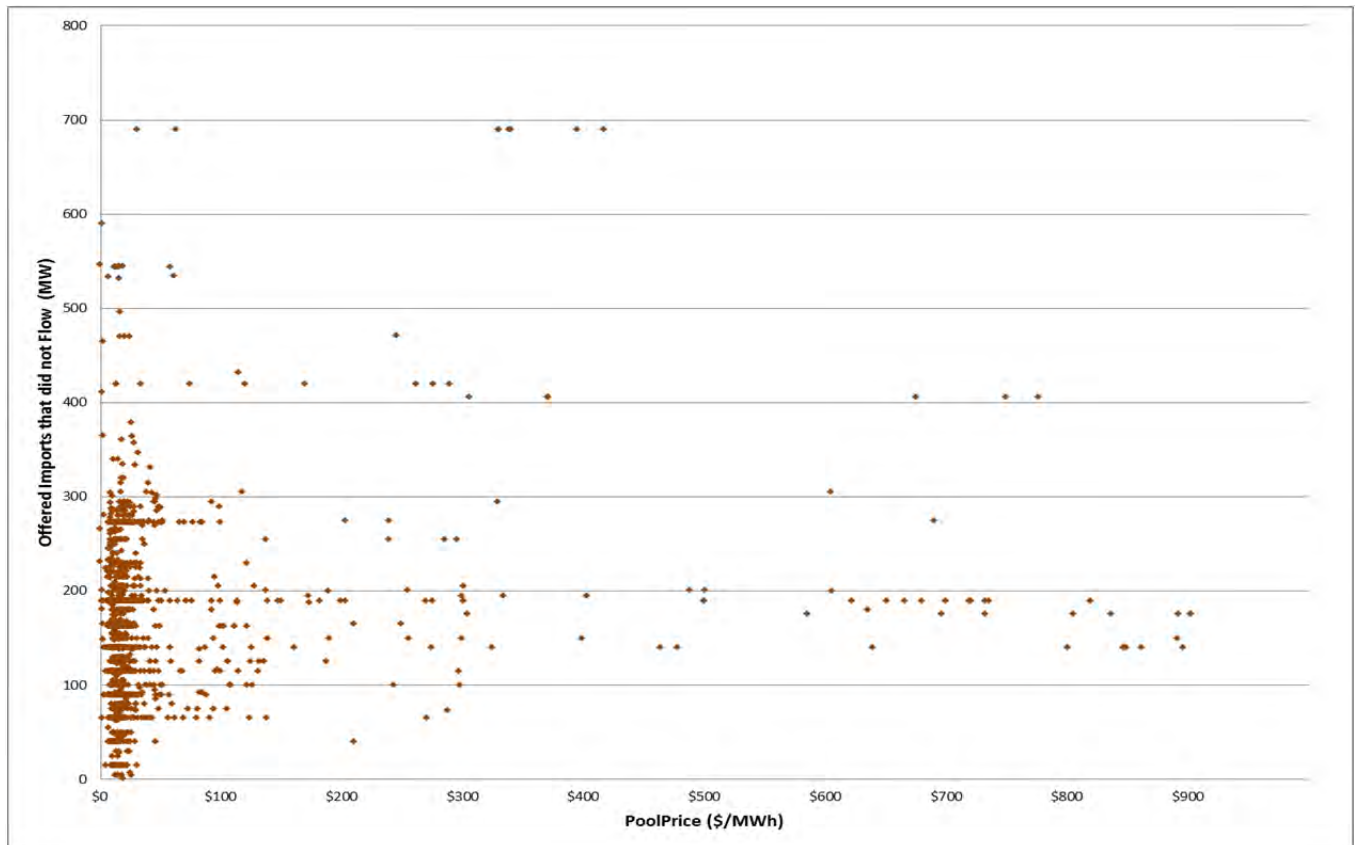


Figure 2.10: Offered Imports That Did Not Flow



3 Compliance

3.1 ISO Rules Compliance

Table 3.1 provides an update of the MSA's ISO rules compliance activities as of the end of Q2/12. During the first six months of 2012, the MSA issued 27 notices of specified penalty. In 152 other cases, the MSA chose to forbear, while 31 other matters remained under review. Of note, 26 of the 31 matters under review were referred or self-reported to the MSA during the month of June. For comparison, in the first 6 months of 2011, the MSA had issued 28 notices of specified penalty, 100 forbearances and had 12 files under review. One hundred and ninety-six new files were opened in the first half of 2012 which is approximately fifty percent more than the 131 files opened during the first half of 2011.

Table 3.1: Compliance Files (as of end of Q2/12)

	Under Review	Notice of Specified Penalty	AUC Administrative Proceedings	Forbearance
3.5.3	3	6		13
3.6.3	2	1		1
6.3.3	5	1		47
6.5.3	1	3		14
6.6	9	7		31
9.1.5	1			
302.5				1
OPP 003.2				1
OPP 102	6	8		41
OPP 401	1			1
OPP 404	2	1		1
OPP 603	1			
OPP 1305				1
Total	31	27		152

The contravention dates of the 27 notices of specified penalty issued during the first half of 2012 ranged from June 2011 through May 2012. Twenty-one of these notices of specified penalty were issued in cases where a suspected contravention was referred by the AESO. Six notices of specified penalty were issued in cases where a non-compliance matter was self-reported but the self-report did not satisfy the MSA's criteria to forbear. All six of these matters were deemed to be of a more serious nature.

Table 3.2: Q2/12 Compliance Files by Month of Contravention

	Rule	2011							2012						Total	
		Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun		
Under Review	3.5.3							2					1		3	
	3.6.3												1	1	2	
	6.3.3													5	5	
	6.5.3													1	1	
	6.6												8	1	9	
	9.1.5										1				1	
	302.5															
	OPP 003.2															
	OPP 102							2				1		3	6	
	OPP 401												1		1	
	OPP 404													2	2	
	OPP 603													1	1	
OPP 1305																
Total							2	2			1	1	11	14	31	
NSP	3.5.3			1	1	3	1								6	
	3.6.3								1						1	
	6.3.3											1			1	
	6.5.3						3								3	
	6.6			1		2			3	1					7	
	9.1.5															
	302.5															
	OPP 003.2															
	OPP 102		4	2	2											8
	OPP 401							1								1
	OPP 404															
	OPP 603															
OPP 1305																
Total		4	4	3	5	5		4	1			1			27	
Forbearance	3.5.3						1	2	2		3	4	1		13	
	3.6.3									1					1	
	6.3.3							3	7	1	10	15	11		47	
	6.5.3	1					2	4	4	1	2	3	1		14	
	6.6					1	1	4	5	7	6	5	2		31	
	9.1.5															
	302.5										1				1	
	OPP 003.2							1							1	
	OPP 102		5	3	5	1	3	7	5	6	4	2			41	
	OPP 401												1		1	
	OPP 404						1								1	
	OPP 603															
OPP 1305							1							1		
Total	1	5	3	5	2	8	18	23	15	27	29	16		152		

3.1.1 Emerging Trends

As noted, during the first half of 2012 the MSA has received 168 self-reports - a substantial increase from the 96 received in the first half of 2011. During Q2/12, 116 self-reports were received which was a substantial increase from the 52 received during Q1/12. The MSA continues to encourage self-reporting and sees this practice as evidence of a well-functioning compliance program. The MSA also believes an effective compliance program not only identifies and reports, but also analyzes the root cause, particularly if non-compliance is recurring, to mitigate future non-compliance.

Seventy-eight percent of notices of specified penalty can be attributed to three ISO Rules: OPP 102 (30%), 6.6 (26%), and 3.5.3 (22%). OPP 102 requires pool participants to respond to ADaMS energy market dispatches within the required time as described in OPP 003.2. For intra-Alberta generation, the time to accept or reject the energy dispatch is two minutes. In several cases reviewed by the MSA, market participants reported that the audible alarm feature in ADaMs was inadvertently turned off or not turned

back on upon shift change. In other cases, intermittent issues with connectivity to ADaMS resulted in certain dispatches timing out prior to the two minute threshold. MSA compliance enforcement together with AESO compliance monitoring worked with one market participant to help determine the source of recurring timed-out dispatches. As a result of these efforts, AESO has undertaken to implement two enhancements in the next release of its dispatch tool (DT) during Q3/12: 1) modification of ADaMS user account settings allowing users to select persisting alarm defaults settings. If an ADaMS user is logged out of the system, alarm settings will return to a user specified default setting upon logging back on; 2) addition of text to the Notes field in the ADaMS dispatch history to indicate when a dispatch instruction has timed out due to a connectivity problem rather than inaction by the end user causing the two minute threshold to be exceeded.

3.2 Alberta Reliability Standards

During the first half of 2012, the MSA opened 14 new Alberta Reliability Standards (ARS) matters. These fourteen matters included self-reports and AESO referrals. The referrals that have been received thus far during 2012 remain under review as of quarter-end. The AESO's process following a reliability audit is to refer all suspected contraventions. Thus, a referral could include previously self-reported contraventions along with other contraventions that were not previously reported. In respect of previously self-reported contraventions, if the MSA has previously extended forbearance and audit procedures did not identify any material misrepresentation concerning the self-reported matter or applicable mitigation plan, no further action will be taken and the audit results will be added to the existing file for completion. New or unreported contraventions contained within a referral would result in the opening of a new MSA file. Given that all suspected contraventions, whether self-reported or not, are included in a referral, the MSA's reliability compliance metrics will generally not align with reliability compliance metrics presented by the AESO.

Table 3.3: Q2/12 Alberta Reliability Standards Compliance Matters

Reliability Standard	Count
CIP-001-AB-1	3
FAC-003-AB-1	4
PRC-001-AB-1	5
PRC-004-AB-1	1
TOP-005-AB01	1
Total	14

4 MSA Activities

4.1 Settlement Agreement

On November 4, 2011, the MSA and TransAlta filed a settlement agreement with the AUC filed as Application No. 1607868. The settlement alleged that TransAlta breached section 6 of the Alberta Electric Utilities Act during 31 separate hours during 8 days in November 2010. Details may be found at the Commission's website at www.auc.ab.ca by searching for application 1607868.

On January 19 and 20, 2012 the AUC held an oral hearing on certain procedural aspects relevant to the proposed settlement. The main proceeding was held on March 14, 2012 with argument and reply argument completed by early April.

The decision by the Commission was released July 3, 2012 and the proposed settlement was approved.⁸ The MSA is pleased with the outcome and will be guided by the decision in future applications.

4.2 Market Share of Offer Control

In accordance with Section 5 of the *Fair, Efficient and Open Competition Regulation*, the MSA must, at least annually, publish certain metrics relating to the market shares of offer control in the Alberta wholesale electricity market. On June 11, 2012, the MSA published its assessment for 2012.⁹ The market shares have not changed dramatically in the past year.

4.3 MSA Feedback

On April 13, 2012, the MSA posted feedback concerning a question posed by a market participant. The question related to the trading of information on outages at wind farms. The feedback noted that the AESO's wind forecasts include the effect of outages over the upcoming six days and hence the outage information is deemed to be public for this period. Beyond six days out, there is currently no mechanism in place by the AESO to make the outages public and hence participants cannot trade on such information.¹⁰

On May 2, 2012, the MSA posted feedback concerning several questions posed by a market participant, again related to trading and outages.¹¹ The feedback indicated that if the outages are not published by AESO through an exemption under section 4(6) of the *Fair, Efficient and Open Competition Regulation*, then the MSA would not investigate or take enforcement action.

On May 18, 2012, the MSA posted feedback on the timing of discretionary outages at PPA units.¹² When the MSA issued its *Offer Behaviour Enforcement Guidelines*, the cover letter indicated that the MSA did not have a firm view on owners of PPA units taking discretionary outages to the benefit of their broader portfolio. The plan was to engage stakeholders through a formal consultation on the matter. That process was suspended when the MSA began an investigation into a substantively similar matter. That investigation has not yet concluded. The MSA used this feedback to inform the market that in the case of PPA unit owners taking account of their broader portfolio in timing the outages of the PPA units would

⁸ AUC decision 2012-182 <http://www.auc.ab.ca/applications/decisions/Decisions/2012/2012-182.pdf>

⁹ MSA, Market Share of Offer Control,

<http://albertamsa.ca/uploads/pdf/Archive/2012/Market%20Share%20Offer%20Control%202012.pdf>

¹⁰ <http://albertamsa.ca/uploads/pdf/Archive/2012/MSA%20Feedback%20-%20Wind%20Outage%20041312.pdf>

¹¹ <http://albertamsa.ca/uploads/pdf/Archive/2012/MSA%20Feedback%20-%20Trading%20on%20exempted%20outage%20information%20May%20202012.pdf>

¹² <http://albertamsa.ca/uploads/pdf/Archive/2012/Notice%20re%20Feedback-Timing%20of%20Discretionary%20Outages-PPA%20Units%20051812.pdf>

not be consistent with their obligations under section 6 of the EUA. The MSA will pursue enforcement action in any such cases that come to its attention.

4.4 State of the Market Report

The MSA's work on the state of the market is in full swing. On June 3, 2012, the MSA published a report entitled "Supply Cushion Methodology and Detection of Events of Interest".¹³ The associated data files were posted on June 29, 2012.¹⁴ Over the next few months, several more reports will be posted – stay tuned.

4.5 Code of Conduct Enquiry

On June 15, 2012, the MSA received a referral from the AUC requesting us to look at a matter from the perspective of the *Electricity Code of Conduct Regulation* to ensure all was in order. The referral related to mail outs to customers offering in-home services and/or insurance relating to electrical and plumbing repairs. The firm involved is a significantly sized publicly traded company with some 10 million customers in the UK and USA. The mail out envelopes had the logo of a wires owner and some also contained a letter from a senior official at the wires owner. The potential issues at hand under the *Electricity Code of Conduct Regulation* relate to protection of customer information and cross subsidy. Otherwise, there is no issue at all if there is some form of commercial arrangement between the two firms.

The MSA interviewed relevant senior officials at the wires company about the concerns. The wires owner did not provide a list of customers to the in-home service provider. The in-home service provider created its own list through commercial sources. All the costs associated with creating the mail out list and the associated marketing materials were paid for by them – the wires owner's customers did not pay any costs.

The MSA is satisfied that there is no breach of the *Electricity Code of Conduct Regulation* and informed both the AUC and the wires owner accordingly.

¹³ http://albertamsa.ca/uploads/Supply_Cushion_Data/Supply_Cushion_and_Outliers_120604.pdf

¹⁴ <http://albertamsa.ca/index.php?page=notice-to-market-participants-and-stakeholders>

Appendix A: Wholesale Energy Market Metrics

Table A.1: Pool Price Statistics

Month	Average Price ¹	On-Pk Price ²	Off-Pk Price ³	Std Dev ⁴	Coeff. Variation ⁵
Apr-12	41.69	57.63	21.78	110.95	266%
May-12	29.46	42.31	11.66	86.56	294%
Jun-12	49.30	76.13	12.58	120.81	245%
Q2-12	40.03	58.49	15.42	107.14	268%
Jan-12	84.54	126.46	31.37	200.35	237%
Feb-12	43.67	51.67	32.85	66.49	152%
Mar-12	51.08	67.98	27.61	118.24	231%
Q1-12	60.12	82.25	30.59	141.94	236%
Apr-11	52.23	70.33	27.48	85.53	164%
May-11	32.27	43.92	17.50	51.29	159%
Jun-11	71.85	111.05	18.20	188.90	162%
Q2-11	51.90	75.10	20.97	123.77	238%

1 - \$/MWh

2 - On-peak hours in Alberta include HE08 through HE23, Monday through Saturday

3 - Off-peak hours in Alberta include HE01 through HE07 and HE24 Monday through Saturday, and HE01 through HE24 on Sundays

4 - Standard Deviation of hourly pool prices for the period

5 - Coefficient of Variation for the period (standard deviation/mean)

Figure A.1: Pool Price Duration Curves

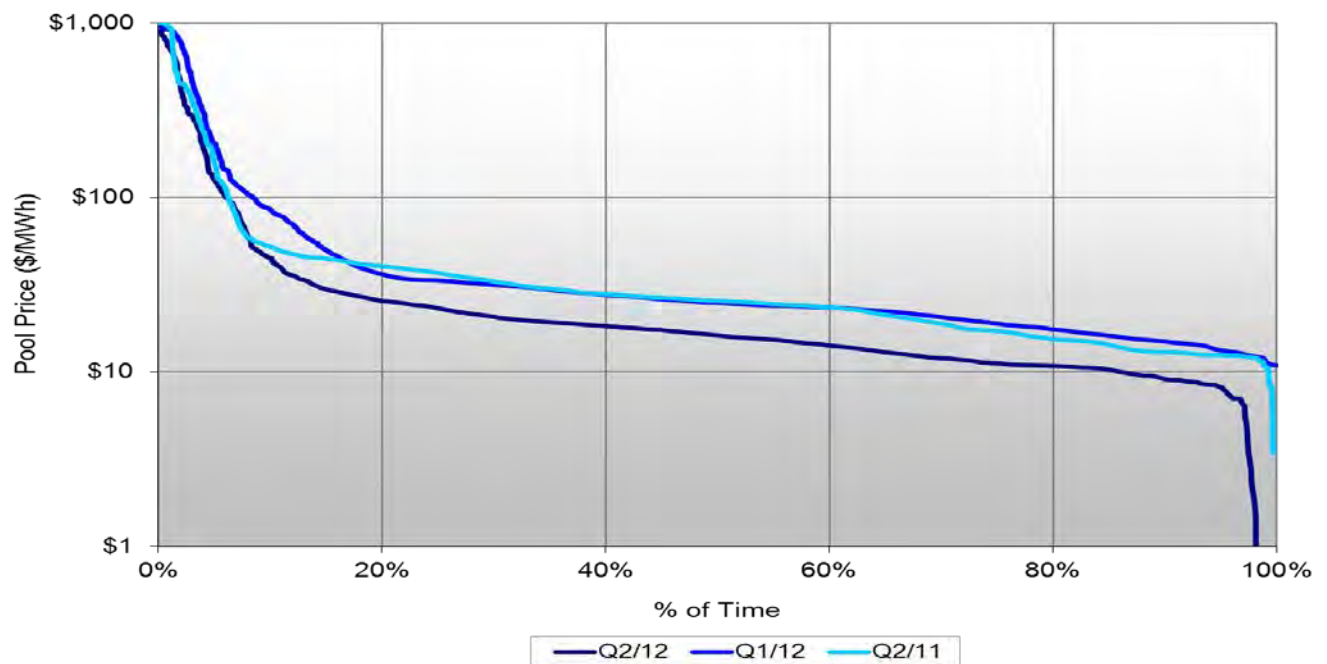
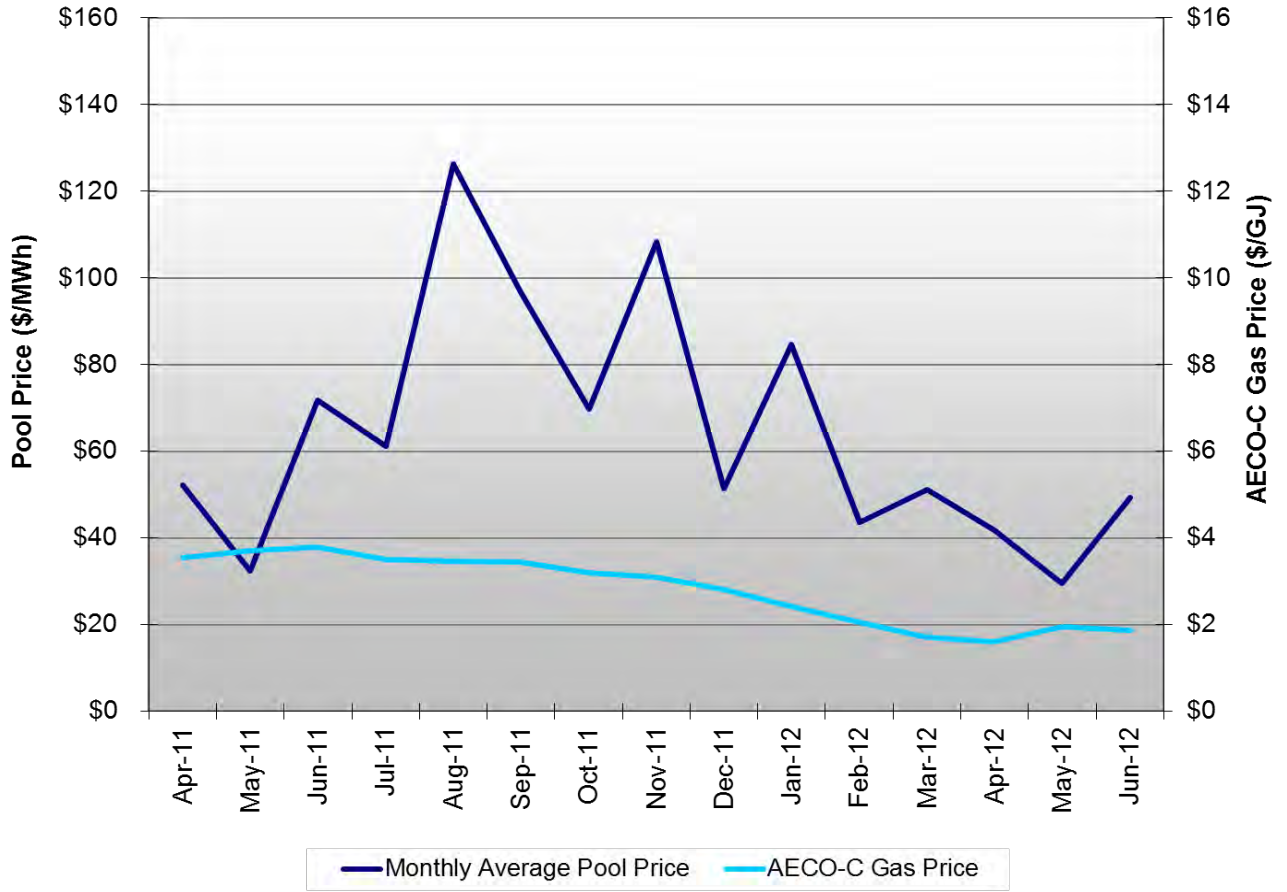


Figure A.2: Pool Price and AECO Gas Price

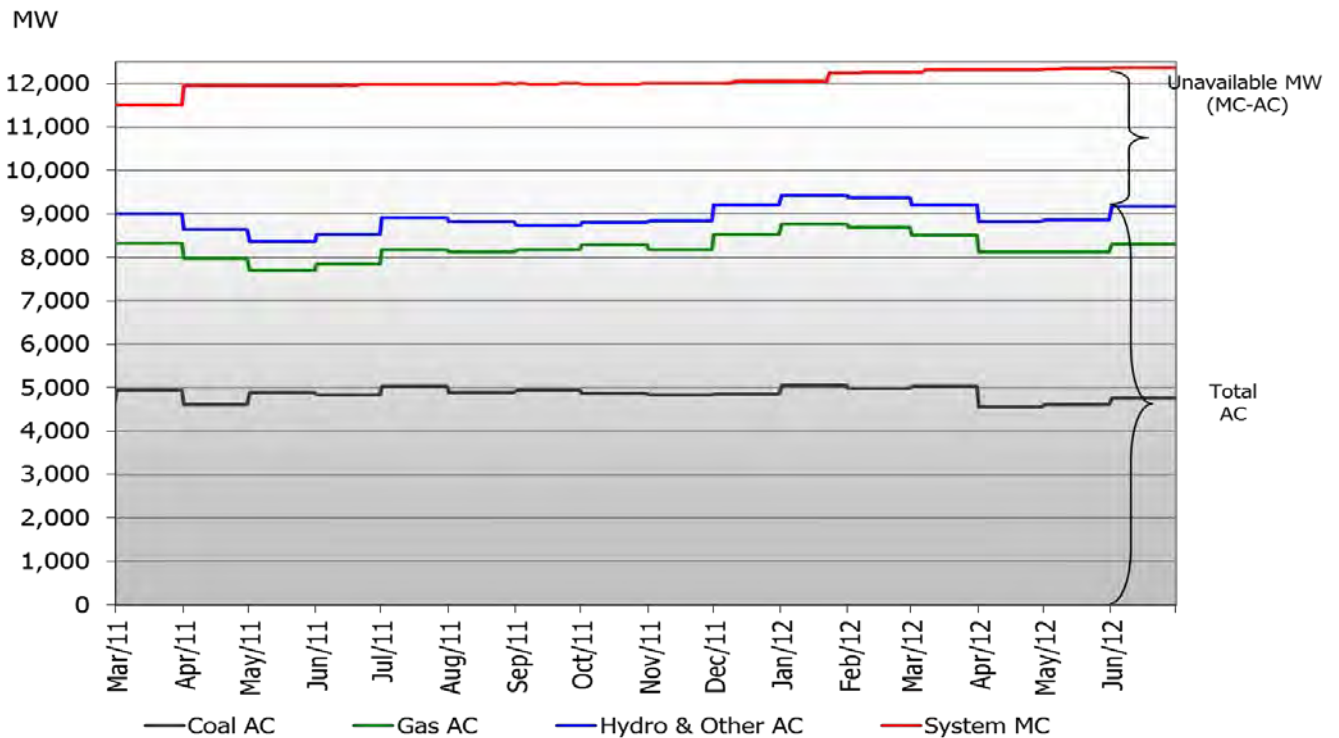


Appendix B: Supply Availability Metrics

Table B.1: Availability and Capacity Factors

Fuel Type	Quarter	Average MC	Average AC	Availability Factor	Generation	Capacity Factor
		[A]	[B] MW	[C]=[B]/[A]	[D]	[E] = ([D]x1000)/([A]xhrs)
		(MW)	(MW)	(%)	(GWh)	(%)
All Fuels <i>(excl. Wind)</i>	Q2/12	12,345	8,953	73%	14,323	53%
	Q1/12	12,229	9,335	76%	16,270	61%
	Q2/11	11,952	8,512	71%	14,403	55%
Coal	Q2/12	6,271	4,646	74%	8,312	61%
	Q1/12	6,249	5,022	80%	10,029	73%
	Q2/11	6,235	4,775	77%	9,129	67%
Natural Gas	Q2/12	5,037	3,537	70%	5,184	47%
	Q1/12	4,977	3,637	73%	5,774	53%
	Q2/11	4,796	3,066	64%	4,615	44%
Hydro & Other	Q2/12	1,037	770	74%	827	37%
	Q1/12	1,003	676	67%	468	21%
	Q2/11	921	671	73%	659	33%
Wind	Q2/12	939	n/a	n/a	592	29%
	Q1/12	865	n/a	n/a	814	43%
	Q2/11	777	n/a	n/a	534	31%

Figure B.1: Available Capacity (AC) vs Maximum Capacity (MC)



Appendix C: Operating Reserves Market Metrics

Figure C.1: NGX Active Reserves Weighted Average Trade Index

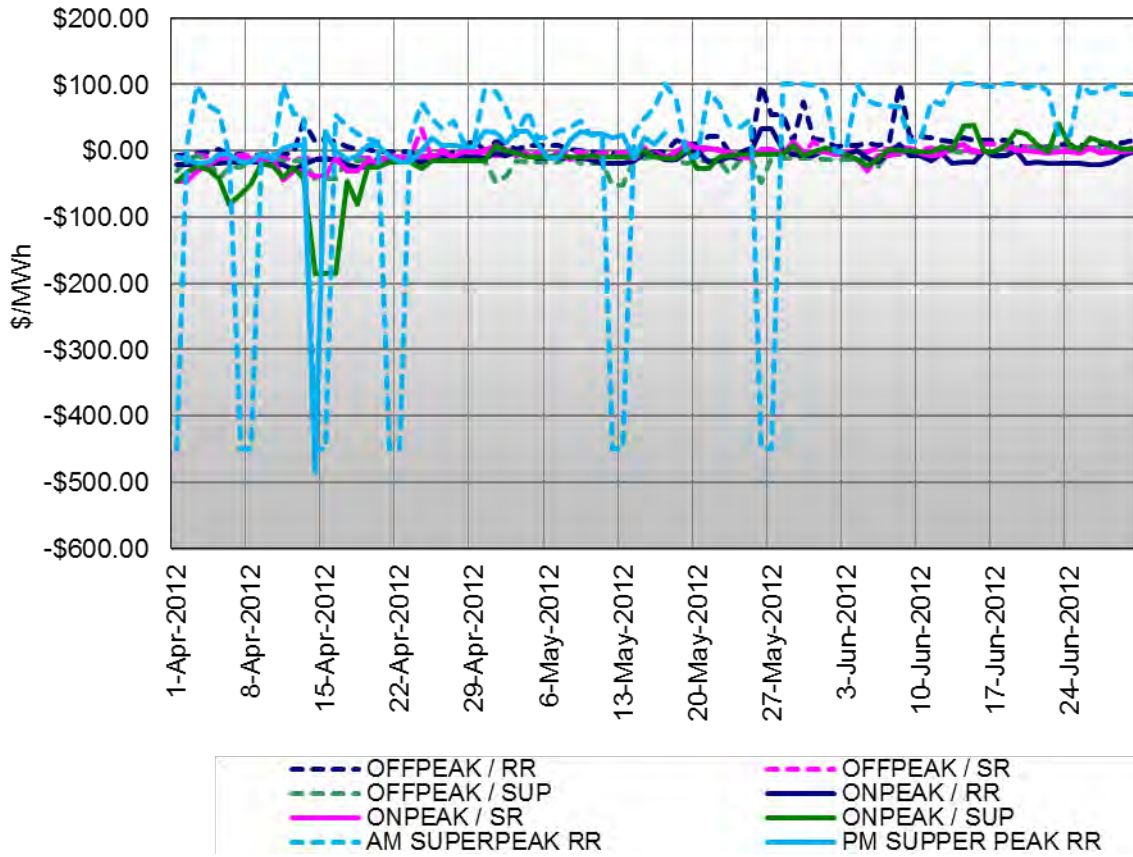
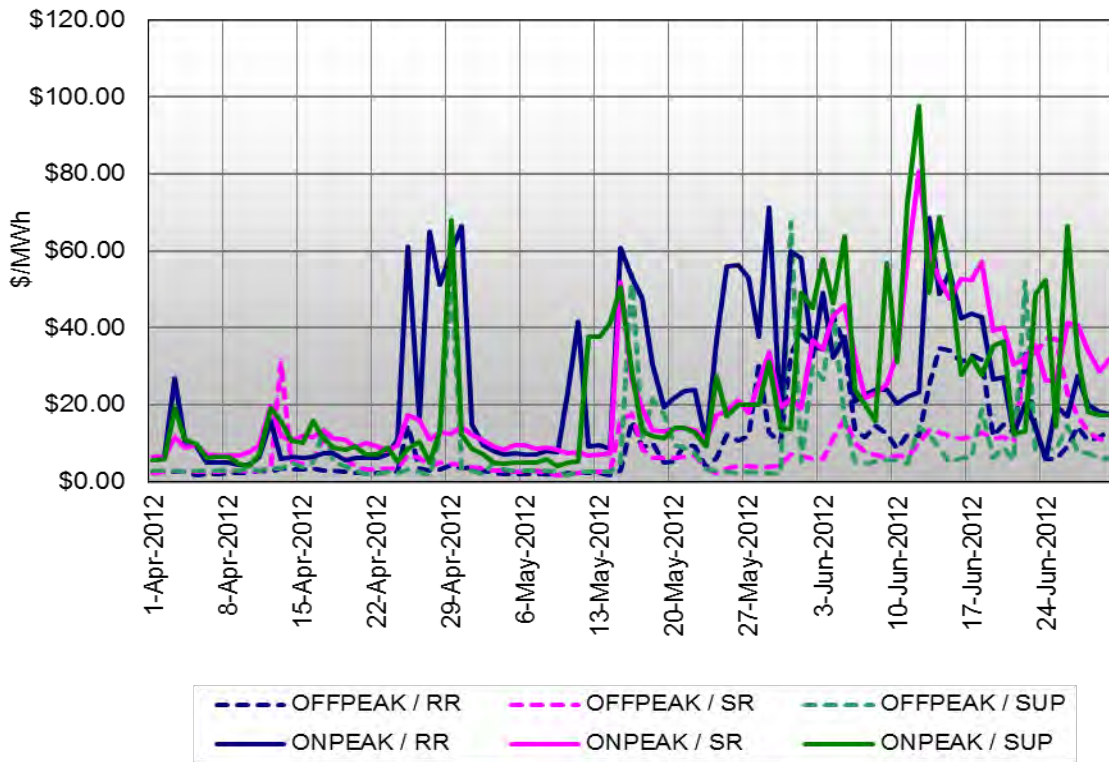
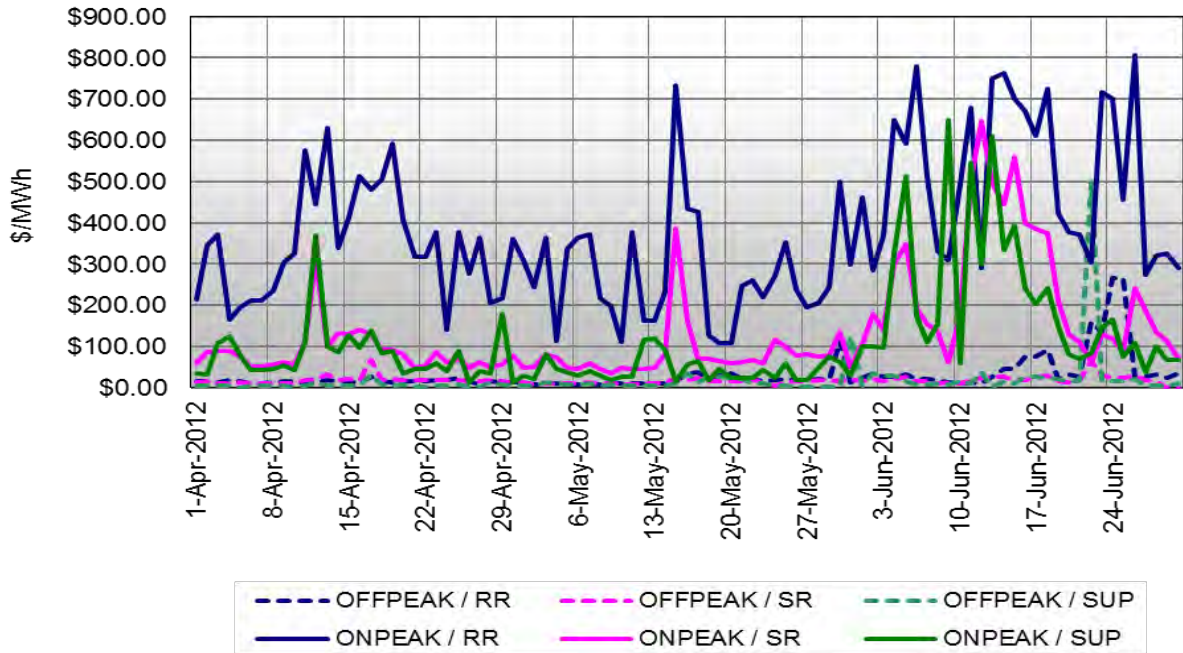


Figure C.2: Standby Reserve Prices

Standby Reserves Average Premium Price



Standby Reserves Average Activation Price



Appendix D: Intertie Metrics

Figure D.1: Intertie Utilization – Q2/12

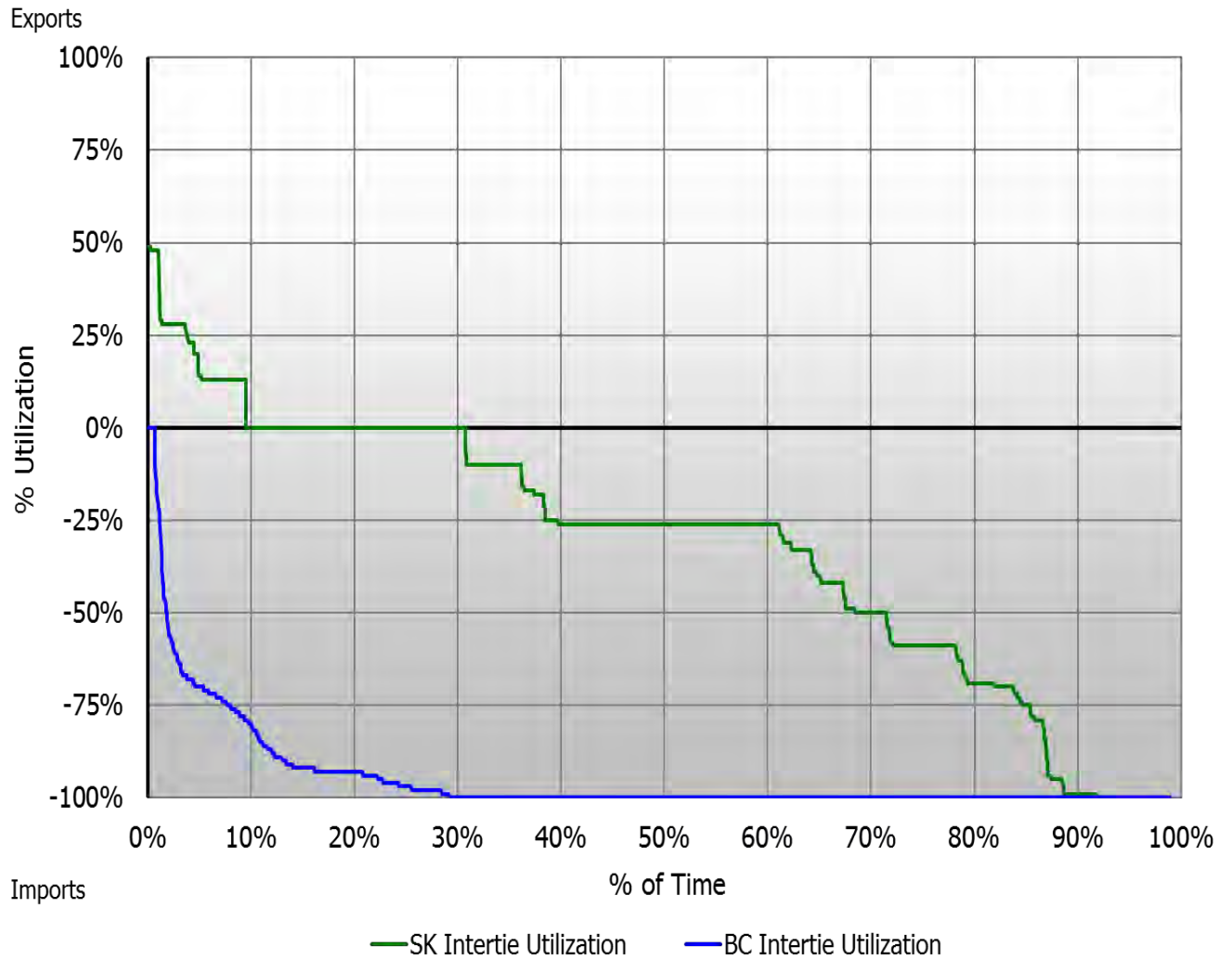


Figure D.2: On-Peak Prices in Neighbouring Markets

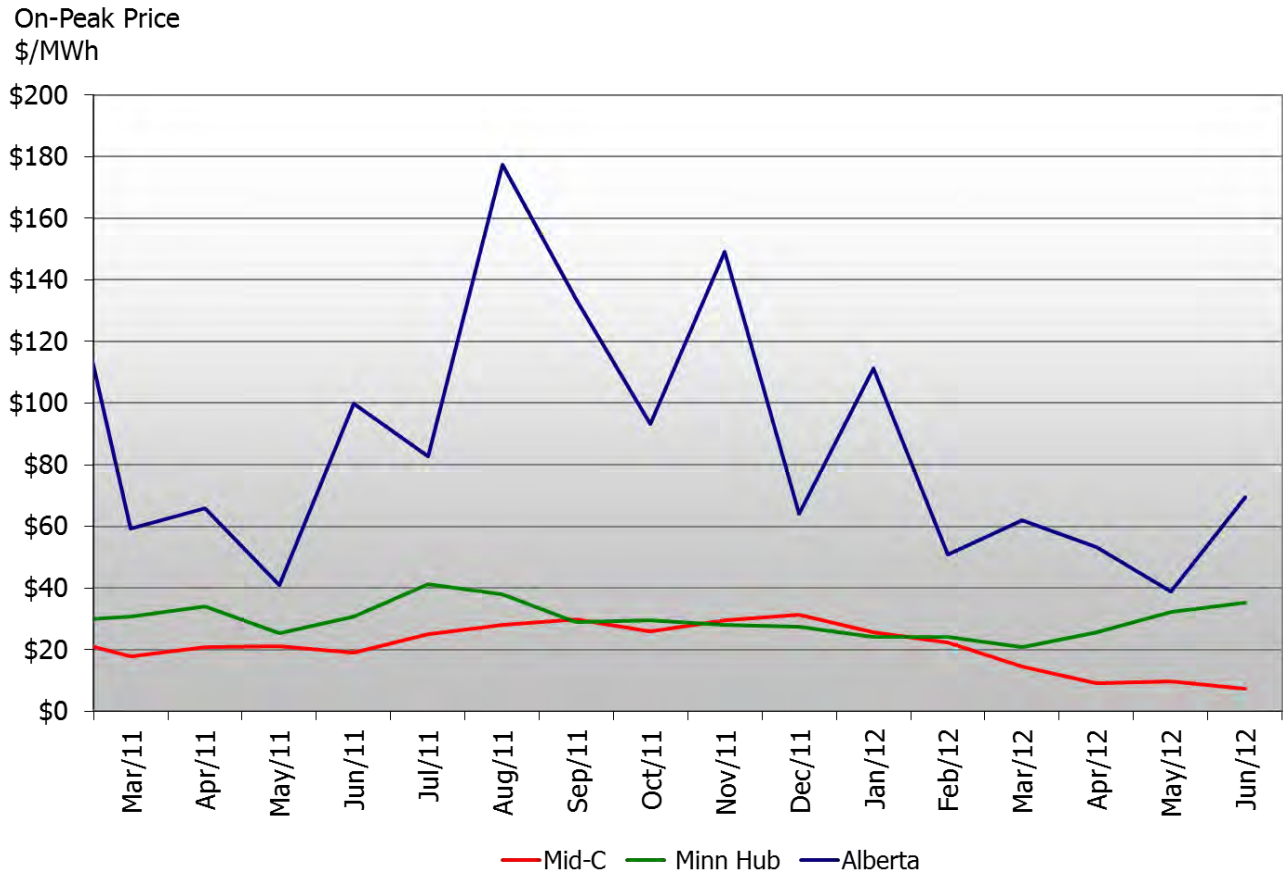


Figure D.3: Off-Peak Prices in Neighbouring Markets

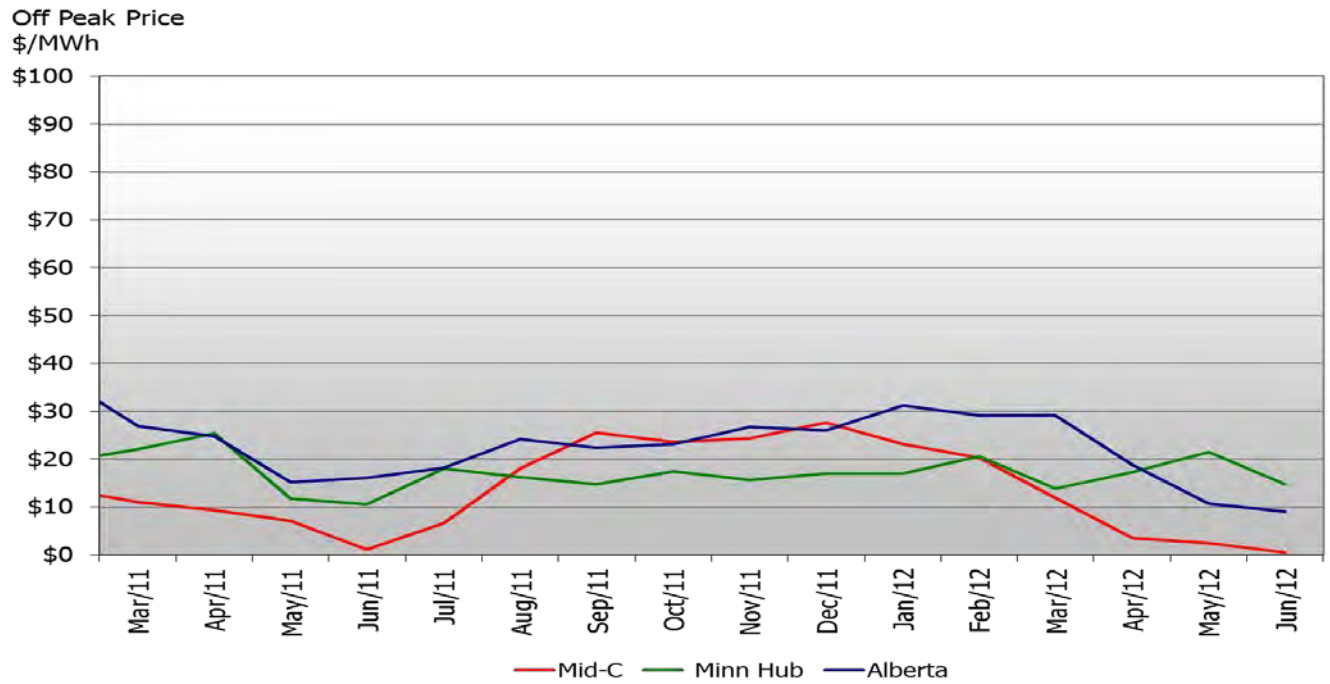
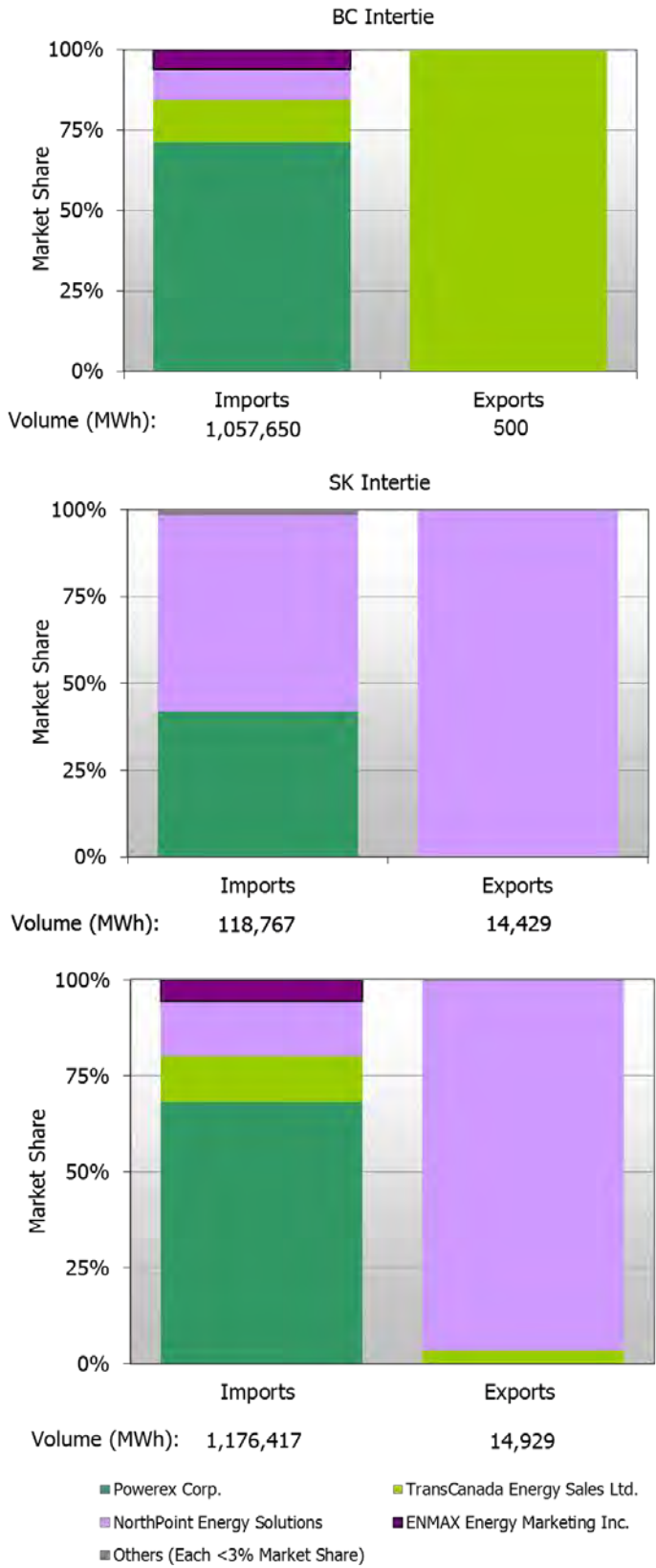


Figure D.4: Intertie Market Shares – Q2/12



Appendix E: Forward Market Metrics

Figure E.1: Volume by Trading Month

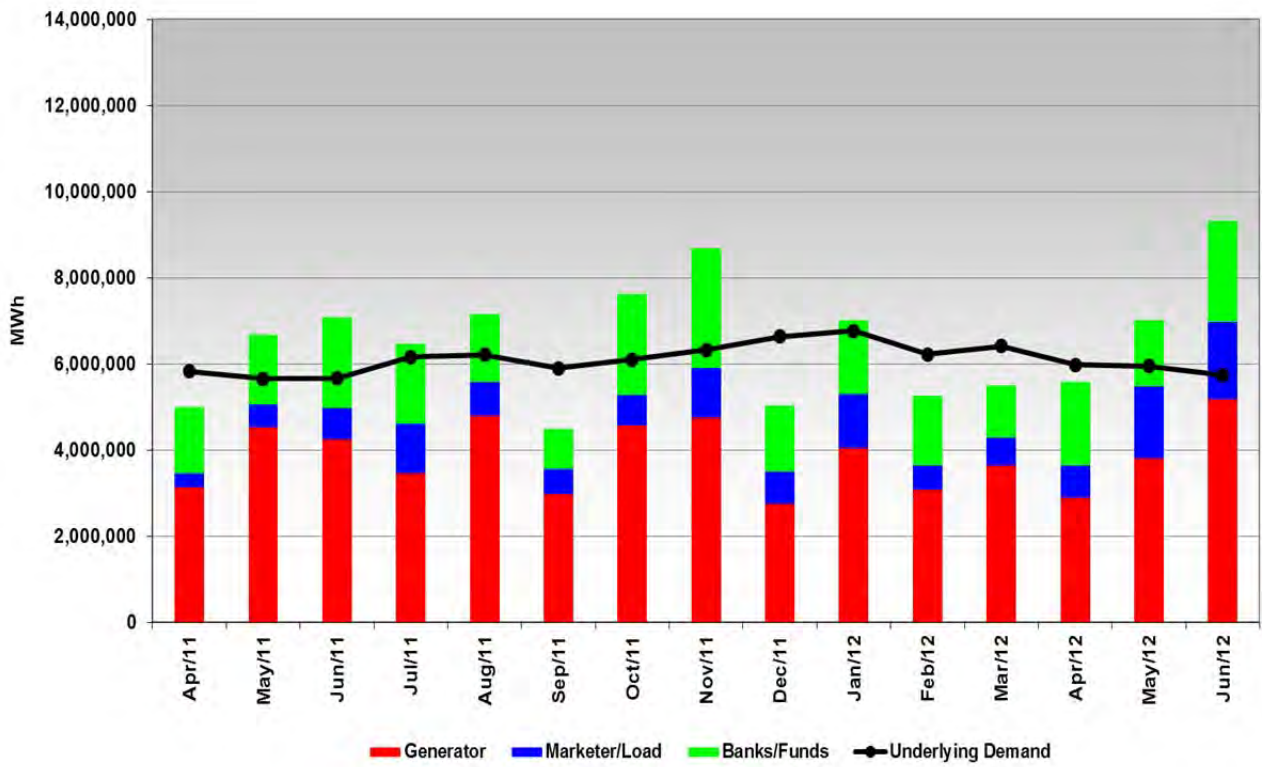


Figure E.2: Market Shares by Participant Type

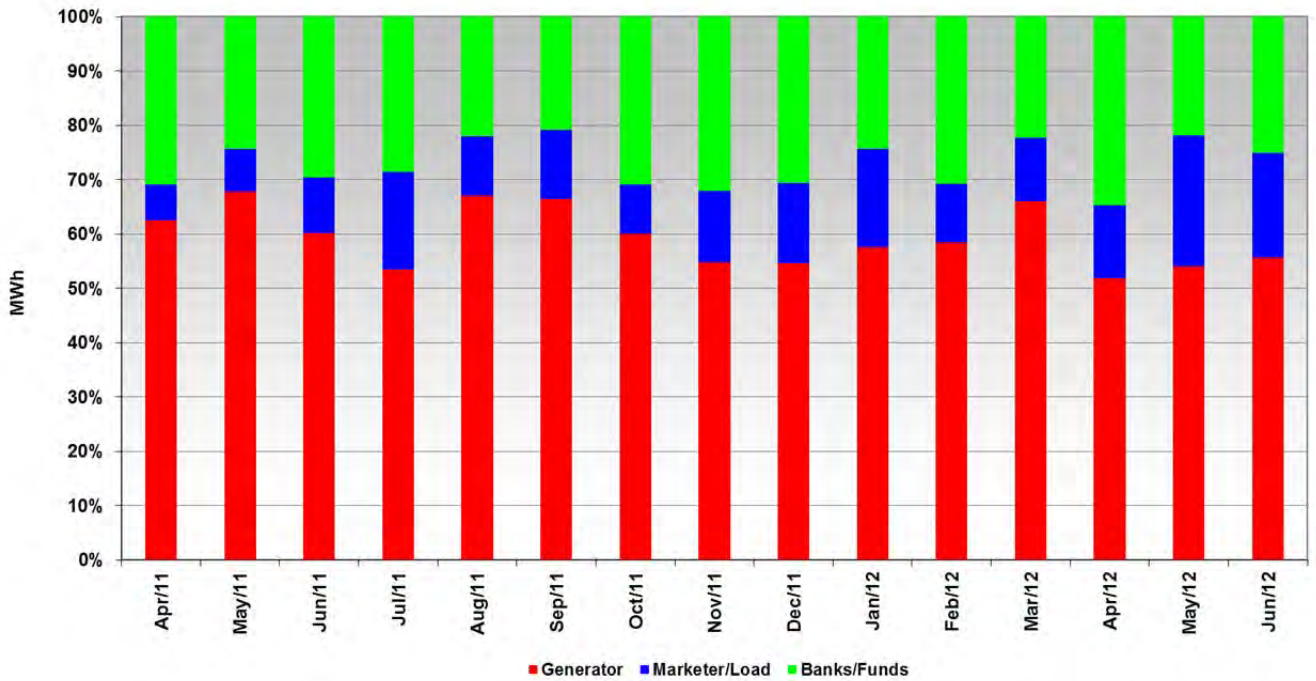
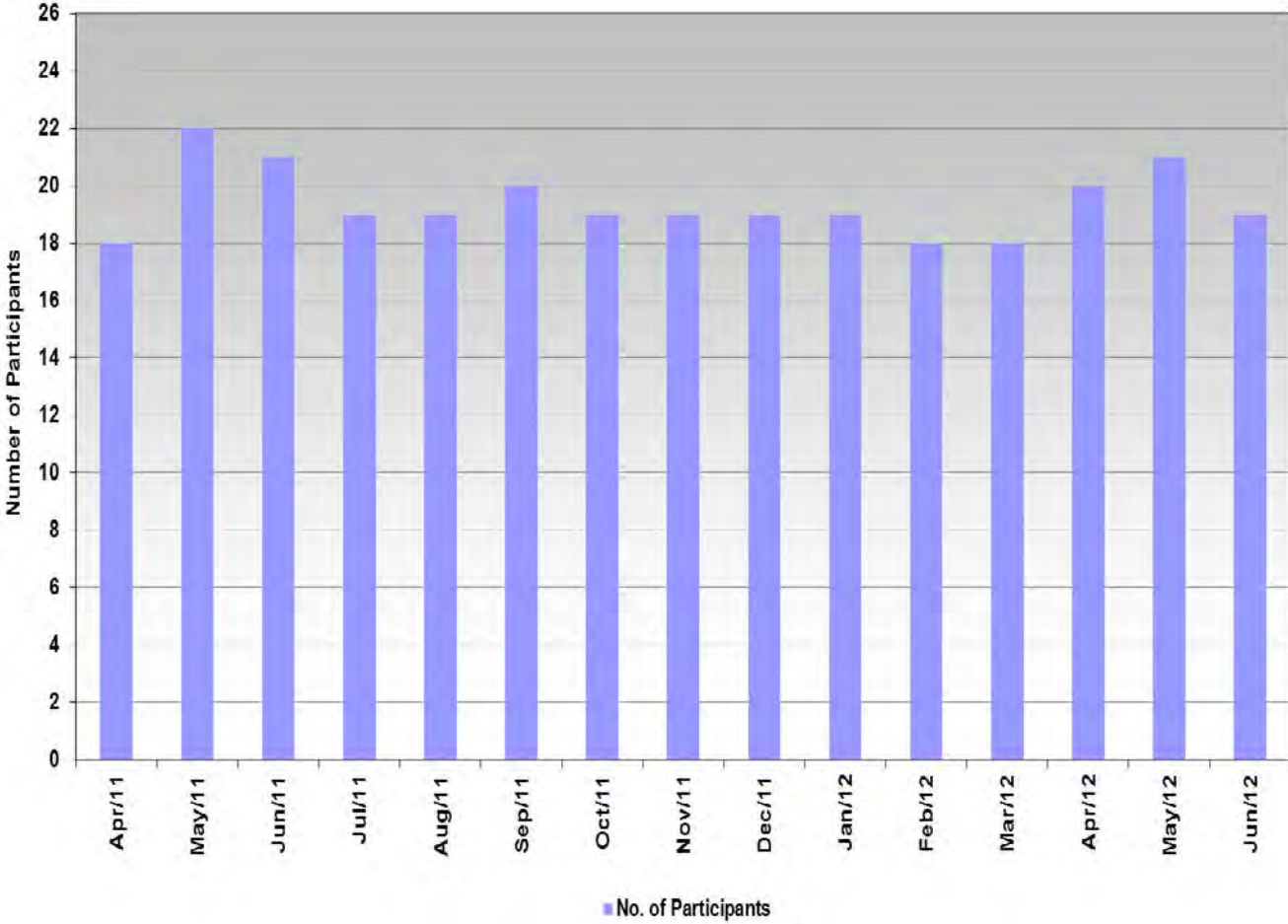


Figure E.3: Number of Active Market Participants



Appendix F: Hours >3StD in Q2/12

Date	HE	Pool Price(>=3)	Demand	MC	AC	Dispatched MW	Supply Cushion	BC Net Import	SK Net Import	Wind	% of Supply Cushion					
											A	B	C	D	E	Other
2012-04-11	17	585.00	8578	12320	8359	7931	561	524	153	75	0%	11%	39%	32%	12%	6%
2012-04-11	18	695.83	8553	12320	8342	7882	601	524	153	81	0%	10%	38%	28%	17%	7%
2012-04-11	19	487.92	8374	12320	8442	7784	809	499	153	102	0%	8%	54%	17%	17%	5%
2012-04-11	20	137.00	8307	12320	8435	7607	1008	499	153	178	0%	7%	43%	18%	25%	7%
2012-04-11	21	254.60	8459	12320	8447	7709	912	499	153	177	0%	9%	47%	19%	17%	7%
2012-04-11	22	500.72	8489	12320	8428	7828	780	499	153	111	0%	21%	56%	18%	0%	6%
2012-05-15	16	846.87	8706	12348	8258	7942	528	550	152	211	0%	14%	76%	9%	0%	1%
2012-05-15	17	848.77	8751	12348	8213	7986	529	550	153	232	0%	14%	78%	7%	0%	1%
2012-05-15	18	846.62	8710	12348	8246	7861	580	550	153	249	0%	6%	82%	11%	0%	1%
2012-05-15	19	324.00	8529	12348	8277	7660	822	550	153	260	0%	5%	78%	16%	0%	1%
2012-05-15	22	210.27	8508	12348	8336	7578	933	525	153	276	0%	17%	69%	6%	0%	8%
2012-05-28	14	818.57	8531	12348	8351	7969	626	500	153	16	8%	15%	39%	33%	4%	0%
2012-05-28	15	735.23	8476	12348	8430	7983	621	500	153	18	9%	15%	39%	31%	4%	2%
2012-05-28	16	500.00	8462	12348	8533	7896	796	500	153	35	7%	20%	43%	26%	3%	1%
2012-05-28	17	621.99	8482	12348	8704	7830	966	500	153	47	0%	15%	74%	8%	3%	1%
2012-05-28	18	605.64	8425	12348	8524	7839	1052	500	153	41	5%	15%	68%	4%	1%	7%
2012-06-01	11	402.81	8429	12369	8843	7722	1328	495	96	253	30%	16%	37%	9%	2%	6%
2012-06-01	12	299.42	8405	12369	8810	7694	1361	495	128	260	30%	16%	37%	9%	3%	6%
2012-06-01	13	333.67	8417	12369	8806	7680	1331	495	128	298	30%	16%	37%	8%	2%	6%
2012-06-01	14	172.33	8481	12369	8812	7577	1445	495	148	394	28%	13%	31%	14%	3%	11%
2012-06-04	10	188.86	8343	12363	8835	7755	1125	500	28	26	38%	19%	27%	4%	2%	9%
2012-06-04	11	500.00	8402	12363	8806	7837	1099	500	77	43	39%	15%	24%	13%	2%	7%
2012-06-04	12	665.68	8463	12363	8794	7829	1059	500	79	55	41%	15%	32%	2%	3%	8%
2012-06-04	13	718.79	8476	12363	8763	7817	1058	500	97	63	41%	15%	32%	2%	3%	8%
2012-06-04	14	720.00	8523	12363	8769	7872	1028	500	119	82	39%	16%	33%	2%	3%	8%
2012-06-04	15	732.15	8563	12363	8765	7874	968	500	86	88	41%	17%	35%	2%	3%	2%
2012-06-04	16	698.89	8592	12363	8742	8018	832	500	87	104	40%	11%	41%	3%	3%	3%
2012-06-04	17	679.81	8622	12363	8796	7910	868	500	0	133	40%	12%	39%	3%	3%	3%
2012-06-04	18	650.59	8555	12363	8801	7766	1056	500	0	216	36%	15%	32%	5%	3%	9%
2012-06-05	15	147.16	8552	12369	8654	7821	1113	500	153	186	35%	17%	31%	7%	0%	10%
2012-06-05	16	275.05	8541	12369	8661	7893	894	500	153	145	43%	16%	30%	6%	0%	4%
2012-06-05	17	269.69	8566	12369	8650	7919	863	500	153	143	45%	13%	31%	6%	0%	4%
2012-06-05	18	300.46	8555	12369	8634	7928	890	500	152	152	44%	11%	30%	11%	0%	4%
2012-06-05	19	113.56	8355	12369	8628	7701	1050	500	153	158	36%	14%	30%	9%	0%	10%
2012-06-08	12	123.72	8568	12369	8717	7953	1130	625	107	91	42%	19%	20%	7%	4%	8%
2012-06-08	13	131.17	8484	12369	8715	7784	1117	575	107	137	43%	16%	25%	4%	3%	9%

Date	HE	Pool Price(>=3)	Demand	MC	AC	Dispatched MW	Supply Cushion	BC Net Import	SK Net Import	Wind	% of Supply Cushion					
											A	B	C	D	E	Other
2012-06-12	12	138.72	8667	12369	9085	7843	1046	500	107	234	24%	16%	49%	3%	1%	7%
2012-06-12	13	181.71	8754	12369	9120	7892	994	500	107	217	25%	17%	51%	3%	1%	3%
2012-06-12	14	202.85	8794	12369	9114	7974	937	500	144	243	27%	18%	48%	4%	1%	3%
2012-06-12	17	125.11	8762	12369	9165	7932	1137	550	153	194	22%	15%	45%	17%	0%	2%
2012-06-12	18	160.79	8663	12369	9181	7872	1179	550	153	229	21%	14%	43%	16%	0%	6%
2012-06-14	10	114.21	8270	12369	9180	7603	1051	152	145	188	24%	13%	45%	9%	4%	6%
2012-06-14	11	370.11	8359	12369	9148	7720	897	178	152	122	24%	18%	47%	4%	3%	5%
2012-06-14	12	370.11	8427	12369	9148	7735	897	178	152	114	24%	18%	47%	4%	3%	5%
2012-06-14	13	370.11	8428	12369	9145	7762	888	178	153	126	24%	17%	47%	3%	3%	5%
2012-06-14	14	776.25	8438	12369	9174	7782	853	178	153	100	25%	14%	37%	16%	3%	4%
2012-06-14	15	749.57	8423	12369	9208	7779	926	178	153	115	23%	13%	38%	19%	3%	4%
2012-06-14	16	675.19	8435	12369	9263	7747	990	178	153	107	22%	13%	42%	18%	2%	3%
2012-06-14	17	305.78	8473	12369	9309	7778	996	178	152	150	22%	23%	30%	17%	3%	4%
2012-06-14	18	244.94	8444	12369	9328	7712	1089	178	152	188	20%	21%	32%	15%	3%	8%
2012-06-15	14	120.00	8573	12369	9458	7704	1250	220	152	224	20%	12%	37%	22%	6%	4%
2012-06-15	15	289.14	8543	12369	9430	7827	1085	220	153	143	23%	14%	33%	23%	2%	4%
2012-06-15	16	261.43	8438	12369	9431	7785	1133	220	153	72	22%	14%	32%	22%	6%	4%
2012-06-15	17	168.95	8394	12369	9349	7714	1191	220	153	47	21%	14%	39%	15%	6%	5%
2012-06-15	18	275.88	8372	12369	9428	7774	1028	220	153	49	24%	17%	36%	10%	5%	8%
2012-06-18	12	416.27	8605	12369	9356	7959	594	0	121	79	10%	11%	25%	31%	5%	18%
2012-06-18	13	394.50	8596	12369	9406	7963	612	0	121	51	11%	20%	25%	23%	4%	17%
2012-06-18	14	338.59	8635	12369	9406	7962	698	0	120	108	10%	20%	36%	20%	4%	11%
2012-06-18	15	339.67	8640	12369	9289	7995	696	0	152	102	10%	22%	36%	17%	4%	11%
2012-06-18	16	330.00	8618	12369	9288	7958	605	0	153	72	11%	23%	24%	26%	4%	11%
2012-06-18	17	330.00	8644	12369	8862	7920	605	0	153	135	11%	23%	24%	26%	4%	11%
2012-06-20	11	239.21	8421	12369	8738	7907	931	395	106	29	12%	24%	43%	4%	4%	13%
2012-06-20	12	295.41	8488	12369	8923	7920	1087	395	106	32	24%	19%	37%	6%	5%	10%
2012-06-20	14	690.10	8518	12369	8895	8039	876	375	106	18	12%	23%	34%	17%	4%	10%
2012-06-20	15	202.60	8480	12369	8894	7875	1105	375	152	12	10%	23%	36%	13%	4%	14%
2012-06-21	12	285.02	8679	12369	9480	8251	1374	435	106	2	30%	19%	29%	6%	2%	13%
2012-06-21	13	238.83	8704	12369	9438	8008	1294	415	106	6	24%	20%	31%	8%	3%	14%
2012-06-21	14	329.19	8757	12369	9334	8170	1296	395	144	9	24%	20%	31%	7%	3%	15%
2012-06-21	15	604.15	8757	12369	9519	8089	1271	385	152	11	25%	21%	32%	4%	2%	16%
2012-06-22	15	296.86	8828	12369	9451	8255	1373	535	106	72	27%	20%	29%	8%	2%	14%
2012-06-22	16	102.00	8743	12369	9427	8059	1548	510	106	82	24%	26%	26%	8%	2%	14%
2012-06-22	17	274.12	8686	12369	9427	8095	1493	510	106	78	25%	19%	30%	13%	2%	12%

Date	HE	Pool Price(>=3)	Demand	MC	AC	Dispatched MW	Supply Cushion	BC Net Import	SK Net Import	Wind	% of Supply Cushion					
											A	B	C	D	E	Other
2012-06-24	18	269.99	8551	12369	9016	7978	831	585	15	13	30%	16%	14%	10%	12%	18%
2012-06-24	19	209.66	8398	12369	9014	7785	899	510	15	14	28%	12%	13%	12%	15%	20%
2012-06-25	13	795.31	9032	12369	9809	8426	1050	400	106	11	24%	24%	38%	4%	3%	8%
2012-06-25	14	176.67	9050	12369	9751	8337	1101	400	106	20	20%	23%	37%	8%	4%	9%
2012-06-25	16	249.49	9130	12369	9693	8393	1097	510	132	67	23%	23%	37%	8%	2%	8%
2012-06-25	17	639.07	9091	12369	9304	8438	1042	510	75	12	24%	24%	33%	8%	3%	8%
2012-06-25	18	895.95	8976	12369	9255	8308	640	510	0	28	23%	36%	39%	0%	0%	2%
2012-06-25	19	800.39	8688	12369	9309	7980	926	510	0	75	26%	27%	38%	0%	2%	8%
2012-06-28	13	137.70	9001	12369	9523	8424	1222	586	0	29	39%	15%	20%	7%	3%	16%

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Market Surveillance Administrator

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Decision 2012-182 Application for Approval of a Settlement Agreement between the Market Surveillance Administrator and TransAlta Energy Marketing Corporation

<http://www.auc.ab.ca/applications/decisions/Decisions/2012/2012-182.pdf>



The Market Surveillance Administrator is an independent enforcement agency that protects and promotes the fair, efficient and openly competitive operation of Alberta's wholesale electricity markets and its retail electricity and natural gas markets. The MSA also works to ensure that market participants comply with the Alberta Reliability Standards and the Independent System Operator's rules.