

## **STAKEHOLDER FEEDBACK ON THE MSA MARKET CONCENTRATION METRICS REPORT (NOVEMBER 2006)**

The MSA wishes to thank those stakeholders for the feedback provided on its work on market concentration metrics. In this paper we provide a summary of the feedback around the metrics provided in the report and to the questions posed to stakeholders (summarized in Table 1 below). As well as providing an annotated summary for other participants we have also attempted to provide additional clarification where appropriate.

**Table 1: Specific Questions posed to Stakeholders**

1. other suggested metrics
2. whether existing metrics can be enhanced (e.g. would metrics be enhanced if generators provided information on long term capacity commitments);
3. whether the accuracy of metrics would be significantly enhanced if the MSA requested data on control directly from participants
4. whether transparency would be well served if the MSA presented the details of its calculations and/or disclose the actual market shares of each participant.

In addition, some stakeholders provided interesting feedback on the use to which metrics could be put (for example, one stakeholder expressed a preference for a multi-screen approach with the flexibility to provide evidence to rebut presumptions of market power along the lines of the FERC model). While we are appreciative of any feedback, broader issues of how to deal with market power were outside the scope of the November report so we have not provided direct comments.

The report is organized into five sections, as follows:

- Section 1: Interpretation issues
- Section 2: Methodological issues
- Section 3: Herfindahl-Hirschman Index (HHI) issues
- Section 4: Residual Supply Index issues
- Section 5: System Marginal Price Setting share

# 1 INTERPRETATION ISSUES

## **ATCO**

We Concur with the MSA that market concentration is an important contributor to a workably competitive market. Accordingly, market concentration indices can assist in coming to a view as to whether or not the market is workably competitive and we support your efforts in assembling them.

## **Enmax**

ENMAX agrees with the MSA that, within certain bounds, concentrated markets can remain competitive. ENMAX also agrees that “no one metric provides a complete picture” and that metrics “do not provide insight into participant behaviour.” We believe these statements are conceptually very important in developing a context for interpreting market metrics.

## **TransAlta**

We are concerned, however, that the focus on concentration ratios obscures the fundamental issue, which is how to identify not market power itself, but rather whether the abuse of market power has occurred.

## **TransCanada**

The Paper indicates that the MSA views concentration metrics to be of pivotal importance to the development and maintenance of a fair, efficient and openly competitive market. While concentration metrics provide interesting information to the market, TransCanada would be concerned if the metrics were used to trigger “additional safeguards, rules and/or surveillance and enforcement tools” as suggested by the paper. Concentration metrics do not capture the “incentive for market power manipulation” are therefore irrelevant in triggering further rules or sanctioning action. Based on the comments outlined in The Paper about how none of the metrics outlined are sufficient for market power analysis, it seems like the MSA would agree with this conclusion as well.

## **EPCOR**

EPCOR appreciates the time and effort the MSA has invested in researching and publishing the Report and framing a discussion on concentration and competitiveness in Alberta’s electricity market. EPCOR believes that the upcoming industry consultation on principles of a “fair, efficient and openly competitive” (“FEOC”) market is an important step forward in providing additional certainty and stability to the Alberta electricity market. Stability and certainty are critical to foster future investment in generation. The discussion is timely but must be based on relevant, meaningful and accurate measures. The Report is a constructive start to this discussion.

**MSA Comments:** We are encouraged by the overall response to the report from participants that appeared to view the report as constructive. Two participants also expressed the view that concentration did potentially impact the ability of the market to remain workably competitive.

TransAlta expressed the view that the focus on concentration metrics obscured the more fundamental issue on how to identify when market power abuse had occurred. This question was the focus of the MSA’s July 26, 2005 paper entitled ‘Undesirable conduct and market power’. On a similar theme, TransCanada expressed concern relating to concentration metrics triggering additional safeguards on the basis that such metrics failed to account for the ‘incentive for market power manipulation’. In the July paper the MSA noted that ‘we do not find a definition that links market power solely to the size of participants (e.g. as

measured by capacity share) to be complete. However, the MSA recognizes that larger market participants may possess market power more often than smaller participants and should naturally expect to be the focus of a larger proportion of the MSA's surveillance activities.' That continues to be our view. In addition, we offer the commentary that in assessing the efficacy of any approach to market power some participants have in the past expressed preference for simplicity, certainty and transparency over more complex and, perhaps, more accurate approaches.

#### **TransAlta**

Regardless of the level of concentration, markets should be deemed competitive provided prices do not exceed the long run marginal costs of a new peaking plant for a period of time significantly longer than it would take to actually plan and place such a plant in service.

**MSA Comments:** The MSA does not agree with this view. We do concur with sentiment of TransAlta's view expressed later in their comments of the importance of price in providing the necessary signal for new investment. However, it is important that prices are reflective of scarcity, market fundamentals and competitive forces (i.e. price fidelity) and that conduct which damages this link is detrimental to competition. We also note that in our view, inappropriate behaviour may result in price being suppressed as well as increased and some of the MSA's guidance has been directed specifically at rectifying such situations (e.g. uneconomic import flows). Just as a high price is not necessarily indicative of a competitive problem or market power abuse, one below long run marginal cost is not necessarily indicative of its absence.

## **2 METHODOLOGICAL ISSUES**

### **2.1 Clear Market definition**

#### **TransAlta:**

We believe that the report overlooks some basic methodological issues. The report does not address the terms in which the MSA actually defines the Alberta market - what is its geographic extent, what product is being considered, what time period is being assessed, and so forth. Clear market definition is essential before the potential market power of any participant is considered.

**MSA Comments:** On page 5 of our report we specify the assumptions made in the construction of the various estimates of HHI, including the time period under consideration. For further clarity we have given, in Appendix A, a list of the assets included in our analysis and that our focus is on offer control. In the first paragraph of Appendix B we also include further discussion on appropriate market definition for HHI. In Appendix C we provide a summary of RSI and related definitions that have been proposed or used in a number of jurisdictions. Assumptions on the definition of RSI used in our report and the time period being assessed are given on page 10.

## **2.2 Inclusion of intertie capacity in concentration indices**

### **TransAlta**

The report does not address how the MSA proposes to treat capacity on the interties into Alberta, or how it proposes to treat demand response. Both have a significant impact on the actual ability of market participants to exercise market power. Any attempt to calculate concentration ratios must take both into account.

### **EPCOR**

Import capability should be included in the calculation to properly reflect the complete market. Interties provide capacity available to compete with Alberta generation capacity. Including import capacity in the calculation would decrease the HHI.

### **TransCanada**

TransCanada, however, is concerned that the HHI calculation conducted by the MSA was based on assumptions that may lead to misleading results and premature conclusions. For example, the interties were not included in the analysis though there is real capacity available at the border to compete with Alberta generators.....

### **ATCO**

The interties can supply a significant portion of the market and the quality of the [HHI] indices would be improved if they were included.

**MSA Comments:** Intertie capacity has not been included in the calculation of HHI. While conceptually appropriate to do so would have required us to make decisions on whether firm transmission rights constitute ‘control’ and the method of determining capacity (e.g. average ATC). We also offer the observations that import ATC on the tieline with BC has reduced (both as a percentage of capacity and in real terms) over the period from 2001 to 2007 and therefore may contribute to a conclusion that concentration has been increasing. Based on Stakeholder feedback we will give this issue further thought prior to revisiting these metrics.

On page 10 of the Market Concentration Metrics report we note that the estimates of RSI do include hourly availability on the interties but that this has not be assigned to any particular participant’s control. Including demand response is challenging from the perspective that it is not required for loads to declare whether they are price responsive or whether they have contracted with generators to be interruptible (or the equivalent).

## **2.3 Would metrics be enhanced if long term capacity commitments were considered?**

### **TransAlta**

As the MSA alludes to in the report, contract positions matter. Market participants which have balanced or net short positions have little or no incentive to attempt to drive up prices. Market participants should have the option of voluntarily, and on a confidential basis, providing the MSA with their ongoing contract positions. Doing so will allow the MSA to take such positions into account when considering market concentration. Indeed, the MSA should not apply metrics such as the pivotal supplier test without a strong understanding of underlying contract positions in the market. TransAlta questions

whether the pivotal supplier test should be deployed at all, given the substantial methodological difficulties the pivotal supplier test involves.

**ATCO – regarding HHI and physical v. open positions**

The HHI indices have been calculated based on physical assets rather than open positions. This is normal practice and ATCO Power considers that in evaluating the structural composition of the market (as is typical application for these indices when evaluating mergers and acquisitions), physical assets would seem to be a relevant measure of concentration

On a day to day basis, they would appear to be less relevant than open positions. We recognize however, the difficulty in attempting that calculation and accordingly can only offer the observation that it would likely result in significantly reduced values.

**ATCO – regarding RSI and physical v. open positions**

Recognizing the physical constraints that accompany many generators such as minimum dispatch levels, requirements to supply co-gen hosts and contracted physical obligations would enhance the index. As with HHI, analysis of open positions, though impractical to accomplish, would speak much more directly to incentives.

**EPCOR**

EPCOR notes that the MSA's market concentration calculations are based on gross capacity control, as opposed to capacity control net of long term capacity commitments. The MSA has specifically asked for feedback on whether or not the existing metrics would be enhanced by the provision of long term capacity commitment information. Key in assessing the impact of market concentration and market power is determining the potential impact on market participants, which requires an examination of the amount of load that is actually exposed to the spot energy market. In Alberta, all small commercial and residential customers are insulated from the spot market through retail contracts or regulated rates. Large commercial and industrial customers are more sophisticated participants in the market, who have the ability to hedge their electricity needs and, therefore, protect themselves from volatility in the spot market.

Due to concerns regarding confidentiality of commercial information and negative impacts on competition if such information became public, EPCOR is strongly opposed to providing net position information. The impact of including long term capacity commitments in the calculations would be to significantly decrease the HHI and increase the RSI results. The MSA should consider aggregate spot market exposure statistics and the significant directional impact this refinement would have on market concentration numbers, without compromising confidentiality and competition through participant disclosure of the actual information.

**TransCanada**

..... While measuring contracted capacity may be on the verge of invasive and may be difficult to evaluate given that amounts of physical and financial swaps that occur in large trading shops, focusing on these metrics for clues is more relevant than looking at concentration data. Perhaps the MSA can conduct an analysis on "delivery to spot" from both a supplier and load angle to assess the ability of a supplier to impact the market and the risk to the loads should such occur. This data would be useful in determining whether there is even an issue that warrants further mitigation.

**MSA Comments:** Most comments seemed to reflect that contract positions matter in looking at the motivation to exercise market power. Some comments also indicated that the MSA gaining a greater understanding of contract positions was more important than focusing on concentration. Suggestions varied from

voluntary disclosure to strong opposition to disclosure with an alternate approach looking at aggregate 'delivery to spot'. We thank participants for their feedback. We believe how best to proceed in this area warrants further consideration. Some participants have suggested that because few consumers are not exposed to the hourly price that the MSA's focus on concentration and market power in the hourly market is unnecessary. The MSA disagrees. **Insofar as the hourly price is the root of all pricing in the market its fidelity is of paramount importance to all participants and all time horizons.**

#### **2.4 Increased disclosure on market shares**

##### **EPCOR**

The MSA also raised the issue of whether or not "transparency would be well served if the MSA presented the details of its calculations and/or disclose the actual market shares of each participant. Doing so could entail the naming of particular participants and potentially release non-public information concerning the control of assets." While EPCOR supports transparency and increased disclosure of information, in principle, it is crucial that any potential benefits be carefully weighed against the increased risk such disclosure may impose upon market participants. EPCOR believes that when assessing the potential to release such information, it is important to recognize that the release of such information could jeopardize market participants' access to fairness and open competition. Advantages market participants have acquired as a result of superior performance should not be negated due to concerns with open access to information. Doing so would impair the efficient operation of the market, by removing efficiencies gained through superior performance. Further, publication of such information could be in breach of commercial agreements market participants hold with partners.

##### **TransAlta**

Market participants need to have the right, on a confidential basis and on request, to see how the MSA is performing calculations that involve that market participant. The MSA need not divulge information about other market participants, but it should at a minimum be able to tell any market participant what capacity that market participant is being deemed to control, and what the MSA views as being the total market or total market demand.

**MSA Comments:** We see some merit in the argument presented by EPCOR that where a participant has acquired an advantage due to superior performance that should not be negated by open access to information. However, in the case of releasing information on who controls which assets we believe there is little case to support a defence of 'superior performance' i.e. in open competition it is reasonable to know who your competitors actually are. TransAlta has also suggested that market participants need a right to confidential disclosure. Granting this request would impose significant difficulties for the MSA both administratively and in determining whether requested information could be released without breaching confidentiality. As an alternative, we note that participants are free to submit alternate analysis to the MSA for consideration or where additional clarification is required it may be possible to provide this in general terms at a meeting.

## **2.5 Treatment of hydro resources**

### **TransAlta**

Run of river hydro should be treated in a fashion similar to wind; for the purposes of assessing market power, participants which own run of river hydro should not be deemed to "control" capacity at such stations. Furthermore, capacity at hydro stations with storage capacity should be adjusted to reflect seasonal capacity and historical load factors.

**MSA Comments:** The MSA agrees there is an argument that run of river hydro should be treated in a similar fashion to wind, although run of river projects are relatively small in comparison to overall generation capacity. Accounting for hydro with storage is more complicated. The report considers one simple option by considering the HHI of only coal and gas generation. We are open to the consideration of other approaches if a case can be made they are both preferable and tractable.

## **2.6 Information on control already given to the AESO**

### **TransAlta**

MSA is correct to focus on bidding control as the key to determining a market participant's ability to influence overall price determination in Alberta. In Alberta, market participants already have an obligation to inform the AESO on a confidential basis of the amount of capacity they directly control. Thus the MSA only needs to ensure that participants are aware of and comply with the existing rules.

**MSA Comments:** The MSA is currently undertaking a project to examine Offer Control and Information Sharing.<sup>1</sup> Although the MSA is generally aware of who controls the offers of the various assets in the market, it is not known with a degree of certainty and precision that is appropriate.

## **3 HERFINDAHL HIRSCHMAN INDEX**

### **3.1 HHI metrics based on fuel type**

#### **ATCO**

The report also provides novel HHI calculations based on fuel type. We note that the Alberta electricity market is a unified single price market in which all types of generation are in competition with one each other and so we question the value of this approach.

#### **TransCanada**

While it is interesting to disaggregate the HHI index as the MSA has, conclusions based on this analysis are difficult to make. For example, not only does the data not demonstrate an extraordinary concentration of baseload capacity, but even if it did, there is no issue with this as long as there are no barriers to entry or market collusion and to suggest that a concentration of baseload assets is [a] need to worry is misleading. In addition, categorizing various ways to measure market share can be misleading. Alberta is one market and generates one market price. In fact, any unit regardless of fuel source or geographical location is capable of setting price in the real time market. It is necessary, regardless of the specific metrics chosen, to measure the market as a whole and include all generation in the sample.

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<sup>1</sup> See [http://www.albertamsa.ca/files/Public\\_Notice\\_112006.pdf](http://www.albertamsa.ca/files/Public_Notice_112006.pdf)

## **ENMAX**

HHI calculated by fuel type is somewhat unusual in an energy-only market where multiple fuels are in play, especially on-peak. This approach does not recognize that, even within fuel types, widely divergent operating costs exist that will influence how and when capacity is offered. A more appropriate delineation would be off-peak and on-peak day-ahead offered capacity.

## **EPCOR**

The Report assesses HHI based on fuel type and explains that these calculations “provide insight into the potential for competition in various parts of the merit order.” EPCOR believes that caution should be applied when interpreting these results. Market concentration can exist in different parts of the merit order, but the calculation has limitations because it is difficult to determine how to appropriately partition the merit order.

**MSA Comments:** HHI metrics based on fuel type have been in use in other jurisdictions for a number of years. Further, these metrics are viewed as providing a simple way of gathering further insight in the market. For example, ISO New England have expressed the view that:

*Measuring concentration of ownership along sections of the system’s aggregate supply curve provides additional useful information about market structure. Fuel type is used to identify roughly contiguous sections of the supply curve, and the HHI is then calculated by fuel (asset) category. Since generating units that burn the same fuel type have similar per-MWh costs, they often compete to be the marginal unit at similar load levels. Hence, fuel-type HHIs can help signal high concentration in specific load ranges.<sup>2</sup>*

Regarding, ENMAX’s commentary for an on / off-peak delineation in day ahead offers we note that following the implementation of the ‘Must-offer’ requirement at t-2 (as contemplated in the Quick Hits package) day-ahead offers may no longer be the norm and such a metric may lose any power. Other alternatives are possible, for example considering offers only in a portion of the supply curve but none seem clearly superior.

### **3.2 Treatment of the Balancing Pool in the assessment of HHI**

#### **TransCanada**

..... while the Balancing Pool assets were on occasion in the hands of many, at key points in time including at present, the BP held ownership of a sizeable part of the market share. In addition, offer strategies for the collaboration of BP energy were not typically cost based. In fact the assets at one point were managed by a third party marketing group which used market based pricing to offer energy on a competitive basis.....

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<sup>2</sup> Annual Markets Report May-December 2002, ISO New England Inc. p.36, [http://www.iso-ne.com/markets/mkt\\_anlys\\_rpts/annl\\_mkt\\_rpts/2002/2002\\_Annual\\_Market\\_Report\\_Final.pdf](http://www.iso-ne.com/markets/mkt_anlys_rpts/annl_mkt_rpts/2002/2002_Annual_Market_Report_Final.pdf)



TransCanada further suggests that with changes to the assumptions on Balancing Pool ("BP") assets that the concentration levels have not significantly changed since the original auction.

**MSA Comments:** Over the period since 2001, there have been a significant number of changes in the ownership and control of assets managed by the Balancing Pool. Assigning control to strip holders does not take into account the inherent restrictions present in some aggregation agreements. A variety of assumptions could be made but in presenting the results of our analysis we opted for a simple and easy to explain treatment. For example, including the Balancing Pool would add approximately 46 points to the estimate of overall HHI in 2007<sup>3</sup> and given the relatively 'diverse' ownership among strip holders in January 2006 and January 2005 the estimates for those years would be unchanged. Treatment of the Balancing Pool assets did not attract feedback from most of the Stakeholders providing comment but potentially we could provide further estimates consistent with different assumptions.

#### **4 RESIDUAL SUPPLIER INDEX (RSI)**

##### **4.1 Total declared energy v. volumes offered in the merit order**

###### **EPCOR**

In performing these tests, total declared energy (TDE) and volumes offered in the merit order were used. For the same reasons discussed in the HHI section above, EPCOR submits, and the MSA appears to agree, that it is appropriate to use TDE data which better reflects a participant's ability to exercise market power, not offered volumes which merely reflect historical data. If the analysis is restricted to the calculation based on TDE, only one participant is a pivotal supplier and only 25% of the time.

###### **ATCO**

In order to be meaningful, an RSI Calculation should at a minimum, be based on available supply rather than offered energy (which can fluctuate with price) and should incorporate price sensitive load.

**MSA Comments:** Most participants preferred the metric based on TDE values. As noted in footnote 8 of the report the distinction between supply based on TDE and offered energy will be removed if contemplated rule changes (i.e. the must offer requirement) goes ahead. Incorporating price sensitive load is problematic due to the difficulty in obtaining a reliable hourly estimate. We also note that, in response to EPCOR's observation, both TDE and offered volumes reflect historical data.

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<sup>3</sup> Since Genesse 1 and 2 constitute approx 6.8% of the market this would contribute 6.8<sup>2</sup> points to HHI.

## 4.2 Interpretation of ‘nearly’ pivotal

### TransCanada

...TransCanada is concerned that the MSA has modified the original RSI metric for its own purposes including references to ‘nearly pivotal’ even though this is not consistent with the metric.

### ATCO

We also note the introduction of the ‘nearly pivotal’ standard which we understand to apply to those suppliers that would be unable to control price even if they withdrew all of their capacity from the market. We suggest that a more meaningful standard might [be] “clearly pivotal” and would identify the frequency that some suppliers have an RSI significantly <1 and might therefore control price while still maintaining sufficient volume to benefit from the excess.

### EPCOR

The Report presents a variant of the Residual Supplier Index (“RSI”). The RSI is a relatively new index and there are no guidelines established for its use. The meaning of a RSI less than one is clear, both mathematically and practically. The Report refers to “nearly pivotal” suppliers as having a RSI less than 1.1 and also that an RSI of 1.3 is a significant threshold. EPCOR is not aware of any basis for these RSI thresholds and would appreciate if the MSA could indicate the basis for the conclusions presented in the Report.

**MSA comments:** Values of RSI close to the pivotal value have been seen as important in other jurisdictions. For example, the California ISO has noted that ‘market power can be prevalent with an RSI of 1.1 due to estimation error and the potential for tacit collusion among suppliers’.<sup>4</sup> No special significance is attributed to a value of 1.3.

## 5 SYSTEM MARGINAL PRICE SETTING SHARE

### ATCO

ATCO Power sees no value in tracking this information and cautions against doing so. In the Alberta market a variety of participants view it as beneficial to not offer price. This behaviour is detrimental to the stability of the market and is potentially enforced by scrutinizing price setters. Additionally, this analysis provides no indications of the degree to which price setters are constrained by competitive forces.

### ENMAX

A possible approach to price setting would be to design a *relative* metric which would compare actual price-setting to price-setting that would have occurred using a theoretical merit order (cost basis). Large deviations could then be analyzed in order to understand the underlying market dynamics.

### EPCOR

The Report identifies the percentage of the time that each market participant sets the system marginal price. The analysis does not take into account duration of the price-setting, the supply/demand balance, the level of the system marginal price, or on-peak vs. off-peak price-setting. These components can have a significant impact on interpretation of these results. EPCOR notes the MSA’s observation that “high price setting shares for some participants may be indicative of other participants avoiding being

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<sup>4</sup> 2005 Annual Report: Market Issues and Performance, Department of Market Monitoring, California Independent System Operator, p.ES-15, <http://www.caiso.com/17d5/17d59ec745320.pdf>

on the margin where the probability of being dispatched up or down is higher.” This is an important observation and speaks to the potential disconnect between these results and any interpretation of the intent of the price-setting participants’ actions.

### **TransCanada**

TransCanada is most concerned about the use of price setting share as a metric for “concentration”. In an equilibrium market, all Participants impact the resulting price and yet only the Participant on the margin actually sets the price. Since the MSA began placing enhanced “public scrutiny” on price setting share, more offers than ever before has been submitted as zero dollars in an effort to continue to self-dispatch and avoid the exposure associated with competition to set the System Marginal Price. This result is a concern in a competitive market as it creates an ineffective bipolar merit order. In The Paper, the MSA summarize that “a few participants tend to set price the majority of the time and that in some cases the share of price setting is disproportionately larger than a participant’s control of capacity.” (Page 13) While this suggests that there be a concentration or control issue, the MSA goes on to suggest that “High price setting shares for some participants may be indicative of other participants avoiding being on the margin...” (Page 13). TransCanada is concerned that this metric is even included in an analysis on concentration as it is related to overall market behaviour and not individual market share.

**MSA Comments:** The choice to include three different concentration metrics (HHI, RSI and SMP setting share metric) was made to acknowledge that no one metric provides a complete description of the market and each metric sheds light upon a very different aspect of the market. We would encourage stakeholders to think broadly about what metrics are useful in making a determination of the overall health of the market. Most comments appear to agree with our observation that high price setting shares by some may be indicative of other participants seeking to avoid dispatch risk. We will examine Enmax’s suggestion of an alternate metric more closely but have in the past been cautious in employing metrics related to ‘cost’. In response to TransCanada’s observation that more offers than ever have been submitted at zero our preliminary analysis does not indicate a clear upward trend in the zero offers of coal, gas or hydro generation and it is our intention at this time to report on this more fully (as in previous years) in our annual Year in Review.