

*Alberta Electric Utilities Act (EUA):
Section 6 Committee Phase II Report*



Submitted to the Minister of Energy

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By Section 6 Chair & Mediator,

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I. Background Section

Section 6 of the EUA requires that *“Market participants are to conduct themselves in a manner that supports the fair, efficient and openly competitive operation of the market.”*

In July and November of 2005, the Market Surveillance Administrator (MSA) shared with the market participants various behaviors and conduct that it considers as inconsistent with Section 6. At that time, the MSA set out a broad approach to reviewing market participant conduct, given the difficulty in trying to specify all behaviours and conduct that might be inconsistent with Section 6.

In November 2006, the MSA released a Market Concentration Metrics report, where the MSA indicated that the level of concentration of generation assets among a few key players has increased in recent years. Market participant comments on the MSA report included support by some and concerns by others about the methodology and conclusions.

Based on feedback from market participants to these MSA releases and from the first draft of revisions to the revised Market Surveillance Regulation, the Department of Energy and the MSA agreed that further clarifying Section 6 was necessary and would provide greater certainty for existing and new investment in Alberta’s electricity industry. The Department of Energy consulted with electric industry stakeholders on a plan to further clarify Section 6. On November 15, 2006 the Department released the Final Terms of Reference to Initiate Consultation on Principles for a Fair, Efficient and Openly Competitive market (*“Terms or Reference”*). The Terms of Reference stated that the development of the principles should *“assist in an approach to mitigate potential market power abuse in our electricity market, and provide certainty for contracting and investment in the Alberta electricity market”*

The actual consultation involves the formation of a Section 6 Committee, made up of a broad representation of electric industry stakeholders that will make recommendations to the Minister of Energy in two phases¹:

- A) Phase I: To initially recommend, by March 31, 2007, a set of ‘principles’ to further clarify Section 6 of the EUA.
- B) Phase II: To subsequently recommend, by June 30, 2007, how such ‘principles’ should be made binding on all market participants (e.g., through regulations, rules, guidelines, etc.), and which agencies (e.g. the MSA, Alberta Energy and Utilities Board or the Alberta Electric System Operator) will ensure compliance with these ‘principles’.

Deputy Minister McFadyen of the ADOE addressed the Committee at its first meeting on January 25, 2007 and indicated that, given the expiry of the PPA holding restrictions, there was a need to implement a new framework to ensure the continued protection of the sanctity of competition. The objective is to ensure the framework continues to provide for a fair outcome

¹ See Appendix B for ADOE invitation letter and full Terms of Reference.

for both suppliers and load. The Deputy Minister reaffirmed that the ADOE did not intend to proceed with the disposition of the Genesee PPA until this framework was in place.

The Deputy Minister also advised the Committee that the Minister and the ADOE will be greatly assisted by substantial stakeholder and agency consensus on key points as it develops this new framework.

II. Brief Description of Phase I and Phase II Processes

The Section 6 Committee is comprised of 24 agencies and organizations representing government, generators, suppliers, and load (See Appendix A for Committee member organizations and their representatives).

The Section 6 Committee is being chaired and mediated by an independent mediator, Dr. Jonathan Raab of Raab Associates, Ltd. Dr. Raab has extensive experience in mediation of electricity issues, and is a former regulator with a strong academic background.

The full Committee has met for 19 days over six months (seven days in Phase I and twelve days in Phase II) in Calgary and Edmonton². See Appendix C for the Committee's adopted groundrules.

In addition to the formal Committee meetings, many of the Committee members drafted various background materials and proposals on a range of topics for the Committee to consider, and groups of Committee members met regularly between meetings to develop proposals and background material for the Committee's consideration.

² The Committee also had two meetings in 2006 to provide ADOE with feedback on the Section 6 Committee process and to assist in selecting the Chair/Mediator.

III. FEOC Definitions (Section 6 language and Committee language on individual terms)

“Market participants are to conduct themselves in a manner that supports the fair, efficient and openly competitive operation of the market.” (Sec 6 EUA)

3.1 Existing EUA Definitions

The Committee determined that the following definitions, currently appearing in the EUA, would be helpful as it considered the tasks at hand:

*“**“Market”** means any type of market through or under which an offer, purchase, sale, trade or exchange of electricity, electric energy, electricity services or ancillary services takes place in relation to the production or consumption of electricity, electricity energy, electricity services or ancillary services.³”*

(EUA Section I (1) dd)

*“**“Market participant”** means any person that supplies, generates, transmits, distributes, trades, exchanges, purchases or sells electricity, electric energy, electricity services or ancillary services.”*

(EUA Section I (1) ee)

3.2 FEOC Definitions as they relate to Market Participant Conduct

The Committee unanimously agreed to the following FEOC definitions:

- (a) **“Fairness”** requires that all market participants are working on a level playing field (i.e., **“equality of opportunity”**). “Fairness” speaks to fair competition, not to the market outcome. Fairness is not the perceived “fairness” of prices.
- (b) **“Market Efficiency”** requires that transactions between willing counterparties are unimpeded. “Efficiency” relates to market efficiency, not to power system efficiency.
- (c) **“Openly Competitive”** requires that competition is unimpeded. “Openly competitive” relates to the opportunity to compete, not to the amount of competition.

³ The focus of the Section 6 Committee is on all markets, not only wholesale spot markets.

IV. Principles of Participant Conduct

The Committee unanimously⁴ agreed to the following Preamble, Principles of Participant Conduct, and Purpose Statements:

Preamble:

A ‘*Principle of Participant Conduct*’ is an identified act or practice of a market participant that supports the fair, efficient and openly competitive operation of the market. The efficiency of the market is directly affected by the response of competitors to profit incentives in the market. This is an important objective to protect open competition rather than competitors.

‘Principles of Participant Conduct’ are intended to provide clarity to market participants and implementing agencies on the meaning of Section 6 of the EUA. Acts or practices included in the ‘Principles of Participant Conduct’ are not exhaustive of all acts or practices which may be required to support a fair, efficient and openly competitive market.

Principles:

1. ***Governance: Market participants are responsible for having appropriate corporate governance to ensure compliance with the Market Rules⁵.***

Purpose⁶: Market participants and their employees are responsible to know and respond to the Market Rules and Principles of Participant Conduct and take into consideration the advice given in MSA Guidelines; and will adopt and maintain appropriate governance procedures, including maintenance of internal procedures and training sufficient to reasonably ensure that all trading and operational activity is properly executed, documented, and retained for a reasonable period of time.

2. ***Misleading or Fraudulent Activities: Market participants shall not engage in any activity aimed at misleading others or in fraudulent activities.***
3. ***Endangering the Power System: Market participants shall not engage in any behaviour that is intended to endanger the safety, security, or reliability of the power system.***
4. ***Information Integrity: All information released by a market participant, either to a designated government agency, or publicly, must be provided in an accurate, factual and***

⁴ Both the Market Surveillance Administrator and the Alberta Energy and Utilities Board have abstained from taking positions in this report, consistent with the Committee’s groundrule that allows agencies that may have potential jurisdictional conflicts to abstain.

⁵ Market Rules include laws, regulations, ISO Rules and ISO Operating Policies and Procedures.

⁶ The Committee agreed that some of the Principles were sufficiently self-explanatory and did not require “Purpose” statements. Hence not all the Principles have Purpose statements.

timely manner, not be knowingly false or misleading and must not contain any material omissions.

5. **Preferential Information Sharing**⁷: *Market participants shall not preferentially share proprietary information which may reasonably be expected to undermine or prevent competition.*
6. **Public Information Disclosure**: *The public dissemination of market information must be balanced by the value of proprietary business information to market participants and the market.*
7. **Anti-Competitive Behaviour**: *Market participants shall not behave in ways that seek to undermine or prevent competition (neither competitive responses nor competitive market entry) including practices that are collusive, predatory, exclusionary or disciplinary on a competitor or competitors.*
8. **Market Power Abuse**: *Market participants shall not abuse market power.*

Purpose: This principle is intended to govern market participant behaviour based on free and open competition such that market prices reflect market fundamentals.

9. **Circumvention Behaviour**: *Market participants shall not pursue strategies where the intent is to circumvent Market Rules or Principles of Participant Conduct.*

Purpose: Participants must comply with the EUA, regulations and ISO rules in a manner which is consistent with any expressed objects or purposes of those enactments. Participants should take into consideration the advice given in MSA guidelines

10. **Acting in Commercial Interest**: *Market participants are free to act in their commercial interest based on market incentives provided that they abide with the Market Rules and Principles of Participant Conduct, and take into consideration MSA guidelines.*

Purpose: Market participants are entitled to act in their own economic interest, within the context of good market behaviour consistent with the Market Rules and Principles of Participant Conduct and taking into consideration the advice given in MSA Guidelines. There is no requirement on market participants to create particular social or market outcomes.

⁷ Appendix D includes a series of additional issues and questions related to Principles 5 and 6 that several Committee Members developed for future discussion and consideration by the Section 6 Committee Members.

V. Alberta Market Power Mitigation Structure

The Section 6 Committee has been reviewing, analyzing, critiquing and editing a number of components of an overall structure that could be used to review and address market power (MP) in Alberta's wholesale electricity market.

The Committee did not come to a consensus on this issue, but congregated into three groups. The first group, comprised of Alberta Department of Energy, Alberta Electric System Operator, Alberta Direct Connect Consumer Association, Alberta Federation of Rural Electrification Association, Alberta Urban Municipalities Association, Utilities Consumer Advocate, Direct Energy, Alberta Energy Savings, BP Canada, EnCana and the Balancing Pool support the approach described below under Alternative A.⁸

The second group, comprised of ATCO Power, ENMAX, EPCOR, Independent Power Producers Society of Alberta, TransAlta, TransCanada, and Alta Gas could support Alternative A, but only with the modifications described under Alternative B at the end of this Chapter.

A third group, comprised of Constellation Energy, Agrium, and the Industrial Power Consumers Association of Alberta, does not support either Alternative A or B, but has submitted a different approach, Alternative C.⁹

The Committee, at this juncture, has also not defined any bright line test(s) or screen(s) regarding market power abuse, but members agree that greater specificity regarding when market power is abused is important for market participants and regulators alike. Committee members agree that a future forum should be convened to do this. They further agree that it should build on the Committee's market power mitigation framework described in this Report. The Committee (except for Direct Energy, BP Canada, Constellation Energy, and Alberta Energy Savings) has also agreed to attach an illustrative market power abuse test/screen, developed by ENMAX, which the Committee has only very briefly reviewed and discussed, but has not endorsed (See Appendix E).

Alternative A:

This alternative is supported by Alberta Department of Energy, Alberta Electric System Operator, Alberta Direct Connect Consumer Association, Alberta Federation of Rural

⁸ Note that several listed Committee members' support of this alternative is predicated on further review by outside experts and a successful trial period. The Balancing Pool supports the overall approach but prefers that the threshold in the Market Share Offer Control Test described below be 20% rather than 25%.

⁹ Imperial Oil, while understanding the Committee groundrule that only allows agencies that may have potential jurisdictional conflicts to abstain from taking positions on issues in this Report, takes the position that "Imperial Oil does not support any alternative [i.e., Alternatives A-C] in its current form."

Electrification Association, Alberta Urban Municipalities Association, Utilities Consumer Advocate, Direct Energy, Alberta Energy Savings, BP Canada, EnCana, and the Balancing Pool.

This structure is meant to recognize that there is no single parameter or action that can – or should – be imposed on the market. Instead, the structure attempts to provide a blend of actions and procedures that can provide clarity and efficacy for all stakeholders.

This alternative shows the structure in diagrams as well as providing explanations and examples of the components:

- Flowchart of the Market Power Mitigation Structure
- Description/Discussion of the Structure
- Description/Discussion of an Hourly Ex-Ante Green/Red Framework
- Consistent Offers
- Historical Green/Red data

The term “market power” refers to the ability of a firm to behave relatively independently of the market, to raise (or lower) prices materially above (or below) levels that would apply in a competitive market, and to sustain those prices for a material length of time. However, the possession of market power in and of itself does not constitute anti-competitive behaviour. “Market power abuse” refers to conduct by a firm possessing market power with the purpose and effect of substantially lessening competition, thereby preserving or increasing the firm’s market power.

It is generally accepted that evaluations of market power abuse must examine, inter alia and ex post, whether prices were moved substantially from competitive levels and whether those prices existed for a material length of time.

Attempts to manipulate prices through anti-competitive behaviour or the exercise of market power are prohibited.¹⁰

The Market Power Mitigation Structure outlined below is a product of numerous accommodations among Committee members during the Section 6 meetings. The Committee members supporting this alternative acknowledge that there is a potential risk of unintended consequences for consumers, market participants, or government representatives. It is therefore recommended that the mitigation structure be tested over a 6-month trial period prior to full implementation.

During the trial period,

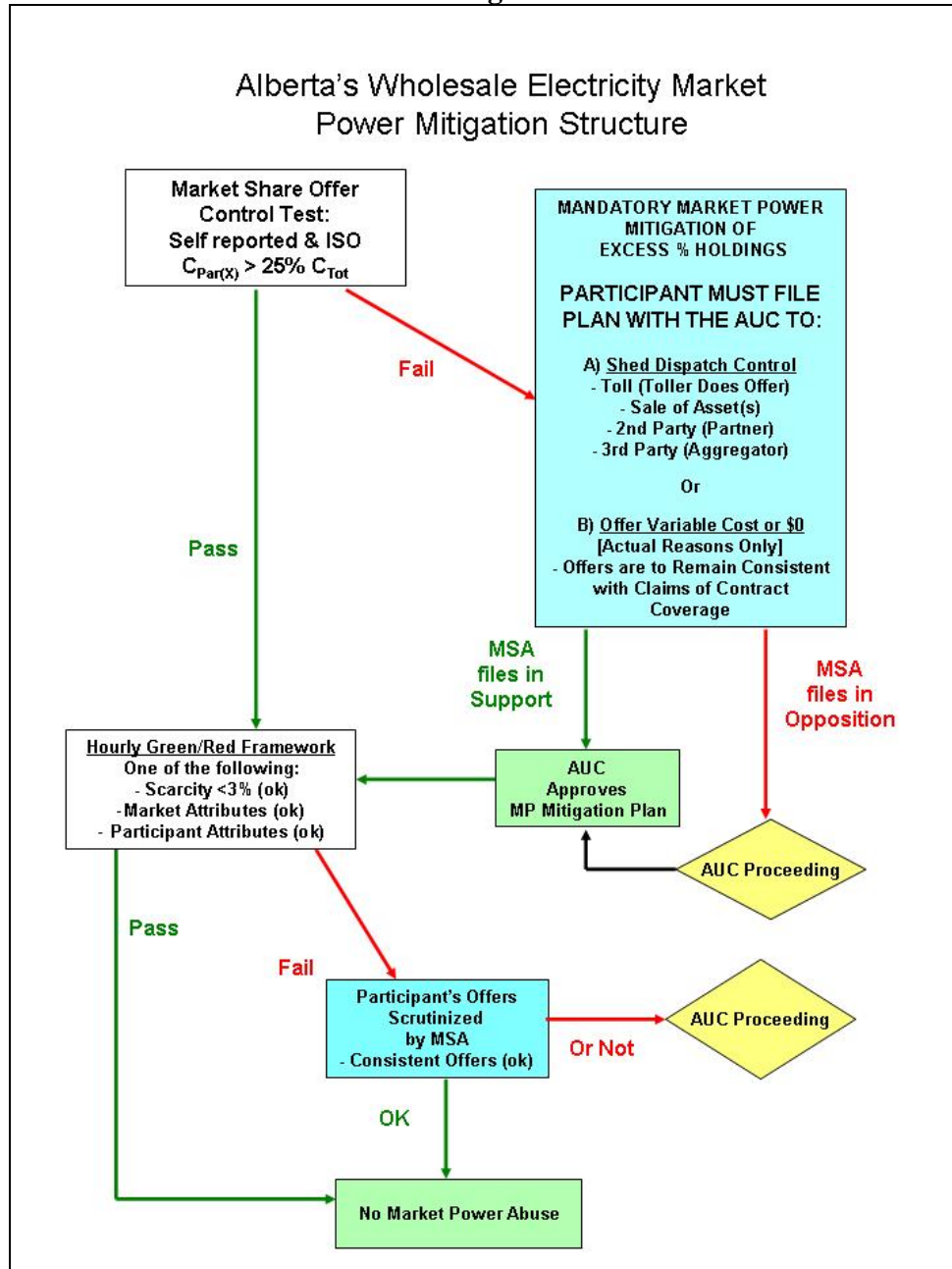
- a) Both the Market Share of Offer Control and the hourly red/green framework will be implemented and,
- b) The outcomes of the hourly red/green framework will serve to inform the decision as to the final specific thresholds for each component of that framework, and
- c) The outcomes of the hourly red/green framework will serve to inform the MSA but will not solely form the basis upon which the MSA would justify a decision to investigate a Market

¹⁰ EnCana believes that this should not automatically be considered a prohibited behaviour but rather should be listed in Appendix G and discussed along with the other potentially prohibited behaviours listed there.

Participant - the MSA will continue to use its existing processes and tests to investigate market power abuse.

At the conclusion of the test period and periodically consistent with normal market review, the MSA, after consulting with stakeholders, will set the threshold numbers in the red/green framework to assist the MSA in the performance of its mandate.

Flowchart of the Market Power Mitigation Structure



Description/Discussion of the Market Power Mitigation Structure

Screen 1) Market Share Offer Control Test

Market Participants (the Participant) are subject to a maximum offer control of 25 percent of the total installed generation capacity in Alberta.

Participant's offer control percentage will be determined on the basis of the sum (in MW) of all of the generating asset offers that the Participant is responsible to submit to the ISO in accordance with the ISO rules.

To the extent that a Participant's offer control exceeds 25 percent of the total installed capacity in Alberta, the market participant will be required to file a MP Mitigation plan with the Alberta Utilities Commission (AUC).

Formula for Market Share Test:

TOTAL CAPACITY = C_{TOT}

Where C_{TOT} = all generation installed in Alberta (except wind capacity)
+ All ATC import capacity on interties.

PARTICIPANT'S CAPACITY = $C_{PAR(X)}$

Where $C_{PAR(X)}$ = the total capacity of any Participant, "X", measured as the sum of all capacity where that participant controls the offers (excluding wind capacity)
+ Any import capacity controlled by that participant.

MARKET SHARE TEST =

If $C_{PAR(X)} > C_{TOT} * 0.25$

Then ==> Participant X fails the test and must submit a mitigation plan to the AUC to effectively mitigate his excess offer control holdings.

The Participant must select appropriate MP mitigation measures from the following list:

- A. Shed Dispatch Control
 - Toll (Toller Does Offer)
 - Sell off Asset
 - 2nd Party (Partner)
 - 3rd Party (Aggregator)

And/or

- B. Offer Mitigation
 - Offer Variable Costs or \$0
 - Offers consistent with claims of Contract coverage

After the Participant has filed their mitigation plan with the AUC, the MSA must file with the AUC either in support or opposition to the MP mitigation plan proposed by the Participant (based on the technical correctness and efficacy of the proposal):

- If the MSA supports the plan, then the AUC will approve the plan as filed (unless it decides on its own accord and consistent with its own jurisdiction to do otherwise)
- If the MSA opposes the plan, the AUC will convene a proceeding with the Participant and the MSA to determine a MP mitigation plan.

Should the AUC convene a proceeding on a MP mitigation plan under the Market Share Offer Control Test, the scope will be related only to the technical correctness and efficacy¹¹ of the filed plan. The hearing will be in camera with the MSA and the Participant. The AUC's decision, when rendered, will be published in a level of detail that balances market confidence with participant confidentiality.

Screen 2) Hourly Green/Red Framework

A market participant may, from time to time, and through no action of their own, find themselves in possession of market power. The exercise or abuse of market power is related to the behaviour of that participant when in possession of market power.

The following outlines an ex-ante approach to mitigate potential market power abuse in accordance with Principle 8 of the Phase I report.

Principle 8 of the Phase I report is as follows:

“Market Power Abuse – Market participants shall not abuse market power.”

The paper also states the purpose of Principle 8 to be as follows:

“This principle is intended to govern market participant behaviour based on free and open competition such that market prices reflect market fundamentals.”

This hourly framework is in addition to and complementary with the Market Share Offer Control Test contemplated by the wholesale electricity market power mitigation structure.

The hourly framework is structured around four basic premises:

1. The delineation of a “Green Zone”, in which a market participant is not in possession of market power, and therefore unable to exercise or abuse market power through its actions.
2. The delineation of a “Red Zone” in which at least one market participant is in possession of market power.

¹¹ “Efficacy” is defined here as the effective mitigation of the excess, as may be determined by the AUC.

3. The ability of market participants to choose and to seek to be in the Green Zone or the Red Zone.
4. Clearly defined additional simple rules that apply when market participants are in the Red Zone.

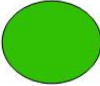








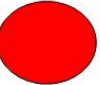


By definition, any market participant in the Green Zone does not possess market power and therefore cannot be “guilty” of violation of Principle 8. However, that does not mean that a participant in the Green Zone is exempt from any of the other FEOC principles or Market Rules, guidelines, etc.

A key component of the Green/Red framework is that it does not, on its own, impose the following:

- a. Limiting participant bids to cost plus xx%.
- b. Changing either the price cap or bid cap of any participant
- c. Preventing any participant from bidding the cap
- d. Preventing any participant from being the marginal unit (i.e. the notion that those with market power can't set price.)

There would be a layered approach to defining the Zones based on the following:

- a. Scarcity of supply
- b. Market attributes
- c. Participant attributes

	<u>Scarcity</u>	<u>Market</u>	<u>Participant</u>
Residual<3%			
HHI_M<1650			
HHI _M >1650 HHI_P<400 R>3%			
HHI _M >1650 HHI _P >400 R>3%			

Specifically, the Zones will be defined as follows:

a. Scarcity of residual supply.

All market participants are deemed to be in the Green Zone if the total residual supply is less than 3 percent.

b. Market attributes.

In real time, the Herfindahl-Hirschman Index (HHI) will be calculated as a function of “offer control” based on each participant’s portion of residual supply over total residual supply. (The HHI will be calculated as the sum of the squares of each market participant’s offer control relative to the total remaining residual supply.)

All market participants are deemed to be in the Green Zone when market conditions are conducive to fostering competitive response as measured by an HHI less than 1650.

c. Participant attributes

If the HHI exceeds the limit contemplated in b) above, an individual market participant will remain in the Green Zone if their offer control of residual supply is less than 20 percent of the total residual supply (= participant HHI<400).

Conversely, to the extent that HHI exceeds the limit contemplated in b) above, an individual participant will be in the Red Zone if their offer control of residual supply exceeds 20 percent of the total residual supply.

A participant that is in the Red Zone will have the following options:

Option 1 Return to the Green Zone. The Participant can adjust their attributes to return to the Green Zone at the end of the current T-2 lockdown period.

Option 2 Remain in the Red Zone. The Participant's offers would then likely be subject to additional scrutiny by the MSA.

Under Option 1, because a market participant's offers are frozen at T-2, a market participant can not adjust its offers for the hour in which it has been flagged Red. Market participant Red Zone offers for hours in which offers can not be adjusted will not be subject to MSA scrutiny with respect to market power abuse.

Under Option 2, the MSA will use the Green/Red screens as an aid to allocate its surveillance resources most efficiently and to aid in assessing circumstances in which market power may have been available to, and exercised by, a participant. A market participant will not be subject to further MSA scrutiny with respect to market power abuse if it can be demonstrated that its Red Zone offers are consistent with previous non-Red Zone offers, subject to ex-post verification by the MSA. Please see next section "Consistent Offers".

Based on its scrutiny of a participant under Option 2, and if it believes that it has a prosecutable case, the MSA may initiate a proceeding with the AUC. Actual determination of whether a participant has in fact held and abused market power, and what if any the consequences, shall be made by the AUC.

As part of the clarity of the open market, the statistics for the following market conditions, at a minimum, will be published:

1. The number of hours that the residual supply is less than 3 percent.
2. The number of hours that the residual market HHI is greater than 1650.
3. The number of participants whose offer control of residual supply is less than 20 percent of the residual supply in each hour when the residual market is under condition 2) above.
4. The number of participants whose offer control of residual supply exceeds 20 percent of the residual supply in each hour when the residual market is under condition 2) above.
5. The number of hours in which the Pool Price is set by Red Zone offers.

Please see “Historical Green/Red Framework Statistics” later in this chapter.

Re: Rationale for the Red/Green thresholds

The HHI = 1500 threshold was originally chosen as the threshold for flagging a market that is beginning to be concentrated. It is the generally accepted lower bound of a moderately concentrated market. The upper bound for this measure is 1800. 1650 was chosen as a compromise as it is midway between the boundaries for defining a moderately concentrated market. Since this screen is indicative of market conditions only, and is essentially a threshold to the participant specific screen, it is appropriately set below 2000, which would represent a “highly concentrated” market.

The HHI = 400 for an individual participant threshold was derived from HHI = 2000 representing a highly concentrated market, where significant potential exists for the exercise of market power. (As an example, HHI = 2000 would represent a market with 5 equally sized participants).

The 3 percent scarcity threshold was chosen for several reasons as follows:

- a. The 3 percent scarcity threshold translates to approximately 350 MW or roughly the size of the large baseload generators in the province. In physical terms, the scarcity threshold basically defines scarcity as a system that is still carrying appropriate reserves and a large unit available for supply adequacy purposes.
- b. 3 percent is also the upper bound for typical load forecast error, which ranges from 1 to 3 percent under normal circumstances. A forecast load in excess planned resources is an indicator of scarcity in any commodity. The resultant of unit outages leading to scarcity is simply a function of the non-storable nature of this commodity.
- c. 3 percent is also significant in a historic context as a threshold where vertically integrated utilities typically initiated supply adequacy procedures such as conservation, reduction or unit commitment to ensure that they could meet peak load.

Consistent Offers in Green/Red Framework

In the Red Zone, participants who do not opportunistically increase their offers in response to the short term tightening of supply (i.e. take advantage of periods of limited competition to increase profits without incurring dispatch risk) will not be considered to have abused market power.

The premise behind the consistent offers discussion is very clear:

1. A market participant can find themselves in possession of market power through no direct action or fault of their own.
2. If that market participant does not take any action while in possession of market power then it follows that the participant cannot have exercised or abused market power by definition because they did not act while in possession of market power.
3. Therefore, it is also reasonable to conclude that a participant in the red zone that maintains an offer strategy consistent with recent offers when the participant was in the green zone, can reasonably argue (ex-post to the MSA or in front of the AUC) that they did not exercise or abuse market power while in the red zone.

Indicators of Consistency

- a. Similar share of the residual stack during historical Green Zone periods adjusted for current conditions or,
- b. Offers within the normal range of previous Green Zone offers (similar absolute prices, contributions to fixed costs...) or,
- c. Consistent offer strategy that is independent of short term residual supply levels.

Proposal to Measure Consistency

1. Define the Relevant Period
 - Only participant Green Zone periods are eligible
 - Similar demand circumstances (e.g. On-peak, off-peak or hour by hour)
 - Similar participant physical portfolio position (e.g. no unusual circumstances – outages)
 - Statistically relevant sample size (e.g. over a minimum of previous 2 weeks)
2. Assemble Portfolio Offers During the Relevant Period
 - Compile all of the participant offers (price, quantity) for the period
 - For each increment of portfolio volume (e.g. 10MW or X%), determine the distribution of historical offer prices (\$/MWh).
3. Compare Current Red Zone Offers Against Historical Green Zone Offers
 - For each increment of portfolio volume, compare

- i. The participant's share of the current residual stack against the shares they would have held of the historical residual stacks under current conditions and,
 - ii. The current offer price against the historical price distribution.
4. Test for Offer Consistency
- A current portfolio offer will be considered to be consistent if:
 - i. The participant's share of the residual stack is within the greater of 50MW or 10% of the average share they would have had of the historical residual stacks under current conditions or,
 - ii. Each current incremental portfolio volume is priced within the greater of \$20/MW.h or 10% of the historical average and the current volume weighted average price is within 10% of the historical average or,
 - iii. Each current incremental portfolio volume contribution to fixed costs is within the greater of \$20/MW.h or 10% of the historical average and the current volume weighted average contribution to fixed costs is within 10% of the historical average or,
 - iv. The participant is able to demonstrate that his offers are based on a consistent strategy that is independent of short term residual supply levels.

Formulas and Historical Green/Red Framework Statistics

Assuming a must offer, must comply, T-2 environment, the Green Zones for T-0 will be calculated at T-2 as follows:

Green Zones

- a. Market attributes => HHI of residual supply <1650
- b. Participant attributes => HHI of residual supply for an individual participant $x > 400$
- c. Scarcity of supply => $(\text{Residual Supply})/(\text{Total Supply}) < 3\%$

Where:

Total Supply = A+B+C

Residual Supply = A+B+C-D

Offer control of residual supply for participant x = any quantity from x in $(A+B-D)$ ¹²

¹² Forecasted wind is included in the total supply. However, the concept of offer control of residual wind does not make sense or apply to the calculation of a participant's residual offer control.

		Intended calculation	Proxy used for historical data
A	Offered generation	All offers in the energy market merit order (EMMO) at T-2 ¹³	\sum Total declared energy (TDE) ¹⁴ submissions less \sum dispatched reserves and dispatched or directed TMR
B	Interties	Posted Import ATC at t-2	\sum Import ATC (from all interties) ¹⁵
C	Wind	Wind forecast at t-2	\sum Actual wind generation (SCADA)
D	Dispatched generation	Generation + Imports expected to be dispatched in the EMMO at t-0	\sum Actual generation (SCADA) + Actual Net Imports (SCADA) less \sum estimated energy associated with dispatched reserves and dispatched or directed TMR ¹⁶

¹³ “All offers at t-2” includes the available capability of hydro units. It does not include offers for Rossdale. It will be adjusted to reflect energy a) from units that have longer than a 2 hour lead time and that are not online at t-2 and b) from units providing TMR.

¹⁴ A TDE submission will be adjusted down to MCR where TDE > MCR. A TDE submission will be adjusted up to actual generation where actual generation > TDE. A TDE submission will be adjusted to 0 when the actual generation from long lead time units = 0. The TDE of non-price responsive or self dispatching ISDs will be adjusted to actual generation.

¹⁵ ATC does not necessarily represent available energy historically. In the review of historical data, we included an additional assumption that the actual interchange reflects all available energy if the pool price is greater than the MIDC price plus \$ 50.

¹⁶ Estimated energy associated with spinning reserves and supplemental reserves = 0 MWh. Estimated energy associated with regulating reserves is estimated to be half of the dispatched range.

Red Zone Statistics (historical review)

HHI >1500	2005	2006
1) The number of hours that the residual supply is less than 3 percent (uses 350MW for this history)	148	243
2) Number of hours that the residual market HHI is greater than 1500 (may include hours from 1) above).	892	1353
3) The number of participants whose offer control of residual supply is greater than 20 percent of the residual supply in each of the hours in 2).	0 firms: 45 hours 1 firm: 669 hours 2 firms: 178 hours 3 firms: 1 hours	0 firms: 74 hours 1 firm: 1115 hours 2 firms: 163 hours 3 firms: 1 hour
4) Number of hours in 2) in which pool price was set by Red Zone offers.	598	976

HHI >1650	2005	2006
1) The number of hours that the residual supply is less than 3 percent (uses 350MW for this history)	148	243
2) Number of hours that the residual market HHI is greater than 1650 (may include hours from 1) above).	730	1119
3) The number of participants whose offer control of residual supply is greater than 20 percent of the residual supply in each of the hours in 2).	0 firms: 32 hours 1 firm: 540 hours 2 firms: 158 hours 3 firms: 0 hours	0 firms: 60 hours 1 firm: 936 hours 2 firms: 122 hours 3 firms: 1 hour
4) Number of hours in 2) in which pool price was set by Red Zone offers.	500	815

Alternative B:

ATCO Power, ENMAX, EPCOR, IPPSA, TransAlta, TransCanada and Alta Gas (“the generator group”) are not able to support Alternative A in its current form and provide the following cautions and comments with respect to Alternative A.

The need for the Section 6 Committee process was primarily driven by comments from the ADOE and Deputy Minister with respect to perceived concerns about the potential for future market participant behaviour that is inconsistent with “fair, efficient and openly competitive,” including the abuse of market power. Throughout the Section 6 Committee process, market participants, including members of the generator group, asked repeatedly for, but did not receive, validation of these concerns, including why minimal changes to the current structure (e.g. market share of offer control restriction) would not be sufficient to satisfy concern with potential future problems. Despite the lack of a satisfactory response, the generator group companies participated in good faith in the Section 6 Committee process. Further, in the interests of attempting to find industry consensus and provide some regulatory stability, the generator group agreed to work within the framework proposed by the ADOE and AESO (the Market Power Mitigation Structure) outlined above in Alternative A.

The Market Power Mitigation Structure framework is the product of numerous concessions and accommodations among Committee members in an attempt to achieve consensus. It is not an approach that conforms to Principles 8 and 10 of the Principles of Participant Conduct, nor does it conform to or incorporate proven or accepted economic, legal or market design principles. Further, the imposition of this Market Power Mitigation Structure has the potential to dampen the investment signal for generation in Alberta, which could have long-term consequences for supply adequacy and costs to consumers. This fact, together with the novelty of the Structure creates a significant risk of serious unintended negative consequences for some or all consumers, market participants and government representatives. For these reasons, if the Market Power Mitigation Structure is put into effect in Alberta, the generator group recommends that the modifications proposed below be implemented. The generator group has rationale for each of these changes. Attached to the Report as Appendix I is a revised version of Alternative A with the changes proposed by the generator group incorporated.

A. Prohibition on Anti-Competitive Behaviour and the Exercise of Market Power

- 1. The wording “Attempts to manipulate prices through anti-competitive behaviour or the exercise of market power are prohibited” should be deleted.*

Rationale: The text proposed in Alternative A offends the Principles and approach agreed to by the Committee for the reasons set forth below.

Principle 7 of the Principles of Participant Conduct deals with the issue of anti-competitive behaviours, including attempt and intent. The Committee agreed that anti-competitive behaviours should be prohibited but agreed to defer discussions to further define anti-competitive behaviours and prohibited activities, including discussions surrounding attempt and intent. The

Committee also agreed to attach Appendix G as information to be considered during future discussions on this issue.

The Market Power Mitigation Structure was developed as an attempt to implement Principle 8 of the Principles of Participant Conduct, which states that “Market participants shall not *abuse* market power.” The proposed text prohibits the *exercise* of market power and is therefore in conflict with the Principles agreed to by the Committee. The exercise of supplier market power refers to suppliers individually profit maximizing by offering generation at prices between their variable cost and the price cap. This activity is consistent with a FEOC market and is also directly tied to Participants’ property rights and is consistent with Principle 10. It should not be prohibited.

The abuse of market power is defined two paragraphs earlier in the report: “*Market power abuse*” refers to conduct by a firm possessing market power with the purpose and effect of substantially lessening competition, thereby preserving or increasing the firm’s market power. The abuse of market power is already prohibited under Principle 8.

B. Trial Period

2. *The approach should be tested over a one year trial period prior to full implementation.*

Rationale: The fact that abuse of market power has not been present in Alberta’s electricity market to date supports a measured and cautious approach to implementation. Further, the development of the Structure has been based on a results-driven approach, not a principle-driven approach. The fact that there is little scientific or theoretical basis for the Structure or the thresholds proposed in Alternative A further supports a measured and cautious approach. Given the seasonal nature of Alberta’s electricity market, a one year trial period, as opposed to six months, is a suitable period of time to capture all operating conditions in the market.

3. *Parameters and metrics for determining success or failure during the trial period must be clearly defined in advance, in order to fairly measure the success or failure of the approach and to provide a reasonable guide to assessing the appropriateness of the specific thresholds for each component of the framework.*

Rationale: To have a test period without establishing the metrics or desired goals for the Structure in advance undermines the integrity of the trial period. It provides a reviewer the opportunity to cherry-pick metrics to show the results it chooses; this may lead to perceptions of bias and procedural unfairness.

4. *Upon completion of the trial period, the Committee should be reconvened to reconsider the thresholds arrived at through the Committee process. As an alternative, the MSA could apply to the AUC for approval to amend the thresholds and a public hearing could be held to consider the matter.*

5. *After implementation, the impacts of the framework and its levels must be reviewed regularly to ensure that the Structure may be amended or discontinued in the event it is not achieving its stated goals or is resulting in undesirable consequences. If any amendments are required,*

the MSA must apply to the AUC for approval to amend the thresholds and a public hearing must be held to consider the matter.

Rationale: Alternative A suggests providing the MSA the right to unilaterally change the thresholds after the trial period. It is entirely inappropriate to provide the MSA the ability to unilaterally alter what the Committee as a whole came up with over the course of a year of deliberations. Furthermore, the threshold levels illustrate the fundamental problem with the structure – there is no theoretical or economic basis for setting the green/red(yellow) thresholds. It is an arbitrary results-based exercise where one party is arbitrarily deciding how many hours should be reviewed. Further, placing the discretion to change the thresholds with the MSA, whose very mandate is to investigate behaviours based on the thresholds, creates potential jurisdictional conflict. Given the choice of investigating more or less, it is always in the MSA’s interest to investigate more. This is likely to distort signals to the market, place additional regulatory and administrative burden on participants, and is an inefficient use of resources.

The Committee should be reconvened to consider the threshold levels after an appropriate trial period. At a minimum, whenever amendments to the structure or thresholds are proposed, the MSA should use the AUC hearing process and that hearing should be public.

6. *During the trial period, the Market Share of Offer Control test will not be implemented¹⁷.*
7. *The hourly green/yellow framework will be implemented, but the outcomes shall not form the basis upon which the MSA would justify a decision to investigate a Market Participant. Instead, during the trial period, the MSA would use its existing processes and tests to investigate market power abuse.*

C. Screen 1) Market Share of Offer Control Test:

8. *The Market Share of Offer Control Test should be performed at the beginning of each calendar year and whenever there is a significant change in offer control in the market. Events that may cause a significant change in offer control include construction of a new generating asset, change in ownership or offer control of an existing generation asset, change to contract coverage arrangements, etc.*

Rationale: The Market Share of Offer Control Test is intended to be a long-term measure, not a short-term measure like the Hourly Green/Red Framework.

9. *Wind capacity should be included in the Market Share of Offer Control Test calculation.*

Rationale: The Market Share of Offer Control Test was intended to be based on total supply in the market or total installed generation. Wind generation is installed generation capacity and is, therefore, part of total supply. Although not dispatched, wind generation creates exposure to the market price when it is running just as any other form of supply does and thus cannot rationally

¹⁷ This sentence can be deleted and the Market Share of Offer Control Test can be applied during the trial period if the clarifications sought with respect to the Market Share of Offer Control Test (Screen 1), contained later in this document, are resolved.

be ignored in market share considerations. If wind is to be ignored, then all must-run or other generation with dispatch constraints should also logically be excluded.

10. Hydro capacity that is subject to a Power Purchase Arrangement (PPA) controlled by a participant should be excluded from the Participant's Capacity (CPAR(X)) calculation. The phrase "- hydro capacity subject to a PPA controlled by that participant" should be added to the end of the Participant's Capacity calculation.

Rationale: The PPAs are the legislated mechanisms by which the Alberta government mitigated market power concerns for certain assets and are fundamental to the design of the deregulated Alberta market. The thermal PPAs are inherently recognized in the mitigation model as the legislated mechanism that mitigates market power of PPA Owners; the Hydro PPA should be also expressly recognized in the mitigation model as the legislated mechanism that mitigates market power of Hydro PPA Owners. Forcing a Hydro PPA Owner through an AUC process to reaffirm this creates an unnecessary and inappropriate regulatory burden on the Owner and would be a waste of AUC time and resources.

11. The options listed for market power mitigation measures under the titles A. Shed Dispatch Control and B. Offer Mitigation, are not exhaustive. An additional "Other effective measures a participant may choose" bullet should be included in both lists.

Rationale: The Committee did not comprehensively discuss how various forms of dispatch constrained generation might be addressed in this framework. Many generators have "must-run" components or are otherwise constrained by site loads, steam hosts, water flows etc. Factors such as these should be contemplated in how dispatch control might effectively be shed or how offers might otherwise be mitigated.

*12. The grounds upon which the MSA can oppose a mitigation plan or the AUC should consider a mitigation plan should be limited in order to ensure the intent of the mitigation is clear. The term "efficacy" should be defined as the effective mitigation of any percentage of the participant's portfolio that cumulatively equals the percentage that $C_{PAR(X)}$ exceeds $C_{TOT} * 0.25$.*

Rationale: The Committee based the determination of possession of market power, specifically the Market Share of Offer Control Test, on total market share. The idea of examining market share in various parts of the merit curve was rejected by the Committee. Limiting the grounds upon which the MSA can oppose a mitigation plan to ensuring "the effective mitigation of any percentage of the participant's portfolio that cumulatively equals the percentage that $C_{PAR(X)}$ exceeds $C_{TOT} * 0.25$ " is consistent with the Committee's decision. Otherwise, the Market Share of Offer Control Test can be applied subjectively and differently from one market participant to another (i.e. the MSA can determine which MWs should be mitigated in a participant's portfolio), resulting in the potential for unequal treatment of market participants.

13. Should the MSA file in opposition to a Participant's proposed mitigation plan, the AUC will convene a proceeding, the scope of which will be limited to the technical correctness and capacity to mitigate the excess portion of a Participant's portfolio, as per the definition of

“efficacy” above. In the event that the proposed mitigation plan is not approved, a further mechanism is required.

Rationale: The proposal does not specify which portion of the portfolio will be considered to be in “excess”, nor does it consider how the participant will be compensated for accepting the associated mitigation. It should be noted that the Participant may find themselves in the position of having to file a mitigation plan through no action of their own (e.g.. PPA expiry or plant retirement). These issues go to Participants’ property rights and will require resolution within a broader legal context.

D. Screen 2) Market Hourly Green/Red Framework:

14. Change “Red” zone to “yellow” zone.

Rationale: The “Red Zone” should be called the “Yellow Zone” because public perception is that “yellow” means proceed with caution while “red” means stop, suggesting that some inappropriate action should be curtailed. Given that the hourly test proposed is not a test for market power abuse and that market participants can be flagged “red” without having done anything wrong, the association with “red” is inaccurate, misleading and unwarranted.

15. Increase the percentage under which all market participants are deemed to be in the Green Zone if the total residual supply is equal to or less than from 3.0 to 6.5 percent.

Rationale: The Scarcity Zone removes constraints on the market that may result from the Red/Green framework and allows the market to more effectively reflect current supply conditions without regard for offer consistency. Pre-supposing that wherever the Scarcity Zone is set, it will trigger pricing at the cap, would be to disregard the normal competitive market mechanics.

The AESO’s review of 2005 and 2006 showed that hours with pricing in excess of \$950/MWh formed the small minority of Scarcity hours. In 2005 <5% of the Scarcity Hours had prices in excess of \$950 and they were outnumbered by Scarcity Hours with prices below \$100. While up to 20% of the Scarcity hours in 2006 had prices approaching the cap, these were associated with extreme events that occurred during that year. The vast majority of Scarcity hours continued to have prices <\$500.

Constraining the market operation during periods when supply is tightening runs the risk of muting a supply adequacy signal. This is compounded by the price cap. Many North American reliability regions require that minimum internal reserves allow for loss of the first and second unit contingencies while still being able to meet expected peak load. In Alberta, this would be the loss of Genesee 3 (450 MW) and Sundance 6 (399 MW), resulting in scarcity defined as any hour in which less than 750 MW of capacity or residual (undispatched) supply. Assuming total capacity of 11,500 MW (after 2007 additions), 750 MW is approximately 6.5% of the total supply stack. At a minimum, the level should be set at the size of a typical new-build baseload unit in Alberta, i.e. 450MW or 4%.

16. *An hour should be declared to be in scarcity if any portion of that hour is forecast to have total residual supply equal to or less than 6.5 percent.*

Rationale: Scarcity conditions can occur within an hour but may not last for an entire hour. In order to ensure a high fidelity price signal and a robust signal for the need for generation investment, participants must be able to respond to scarcity condition. Declaring scarcity for the hour if any portion of that hour is forecast to be in scarcity achieves this goal.

17. *Increase the Herfindahl-Hirschman Index (HHI) under which all market participants would be deemed to be in the Green Zone when market conditions are conducive to fostering competitive response from 1650 to 1800.*

Rationale: An HHI_M equal to or less than 1800 is appropriate for the following reasons:

According to the US Department of Justice, from where the HHI measure is borrowed, a market with an HHI of between 1000 and 1800 is considered to be “moderately concentrated” and a market with an HHI in excess of 1800 is considered to be “concentrated.” The concern articulated during the Section 6 Committee discussions with respect to market power abuse has revolved around highly concentrated markets or markets where there is not sufficient generator-on-generator competition. Such market conditions are consistent with an HHI in excess of 1800. The US Department of Justice, arguably, does not even consider an HHI of 1800 as indicative of a “highly concentrated” market.

- An HHI of 1650 is conservative when compared to the US Department of Justice market concentration classifications. Given the unconventional and conservative approach of applying the test to only the residual portion of the market, it is inappropriate to also pick a conservative criterion. If a conservative HHI_M level is employed, a higher participant attribute number (i.e. > 20% offer control of residual supply) should be used.
- The statistics provided by the AESO for 2006 show that market HHI_M exceeded 1650 in 13% of all hours. This is an extremely high percentage of hours considering that 2006 was a year of adequate supply and there were no concerns from the MSA with respect to market power abuse. An HHI of 1650 is very restrictive and too conservative.

E. Consistent Offers in Green/Red Framework:

18. *Step 3 of the Proposal to Measure Consistency should be amended to read as follows:*

“3) Compare Current Red Zone Offers Against Historical Green Zone Offers

- *Compare the Participant’s share of the current residual stack against the shares they would have held of the historical residual stacks under current conditions and,*
- *For each increment of portfolio volume, compare the offer price against the historical price distribution.”*

Rationale: Correct a drafting error in the original version of the document.

19. *Step 4 of the Proposal to Measure Consistency states that a current portfolio offer will be considered to be consistent if it falls within various ranges identified in tests i to iii. "Within" should be changed to "no higher than".*

Rationale: The overall proposal already permits Participants to lower their offers in an attempt to reduce their percentage of the residual stack. It would be unreasonable for these reduced offers to then fall afoul of the consistency test. Further, consistency is being tested in the context of an exercise of supplier market power. Reduced offers (short of "dumping") should not be offensive in this regard.

20. *Step 4 of the Proposal to Measure Consistency establishes in test ii that a current portfolio offer will be considered to be consistent if "each incremental portfolio volume is priced within the greater of \$20/MWh or 10% of the historical average and the current volume weighted average price is within 10% of the historical average". The first reference to the historical average should be changed to the historical range and the range should be specified to exclude "outliers" unless a reasonable basis for their inclusion is provided. The same proposal is made for test iii.*

Rationale: The original proposal made by the Generator Group included a 100% band around the historical average. This was considered necessary to accommodate normal variations in offers that might occur for physical or competitive reasons and which would attract no adverse attention under Green market conditions. Similar offers should rationally be considered "consistent" under Red conditions. The current 10% proposal sets a much tighter band around the historical average that could unintentionally exclude many offers well within the range of historical Green offers and unreasonably constrain Participants' abilities to manage their portfolios. This proposal has unintentionally restricted offers because the concepts of "historical range of offers" and "historical average of offers", which are fundamentally different numbers, have been confused. If the target is the "historical range of offers", 10% is satisfactory but if the objective is the "historical average of offers" a higher band is required (i.e. 100%).

Concern has been expressed that use of a range might be subject to manipulation. It is proposed that by excluding "outliers" for which no reasonable justification can be provided, the range will be reflective of the Participant's normal, competitive offer strategy.

F. Formulas and Historical Green/Red Framework Statistics:

21. *The scarcity of supply calculation be performed at T-2.5 hours.*

Rationale: The AESO has all the information required to perform the scarcity of supply calculation in advance of T-2. Performing the calculation in advance of T-2 and allowing market participants to react to scarcity will result in a higher fidelity price signal and an improved investment signal.

22. *Footnote 12 addresses (A) Offered Generation and states: "...offers at T-2...will be adjusted to reflect energy a) from units that have longer than a 2 hour lead time and that are not online at T-2..." No adjustment should be made for these units.*

Rationale: Electing not to start is a form of offer control. Accordingly, units that would otherwise be capable of participating in the market should rationally be reflected both in the calculation of a Participant's Offer Control as well as the Total and Residual Supply. It would be unreasonable to determine that a Participant had market power and possibly impose sanctions on the basis that his competitor didn't consider it worthwhile to turn on his plant.

Alternative C:

Constellation Energy, Agrium, and IPCAA do not support Alternatives A or B.

The approach that these Committee members are proposing is designed to specifically address the prevailing concern about the structure of Alberta's electric power markets - that is - the growing concentration of control of in-Alberta generation assets.

This group maintains its proposal is based on the underlying assumption that the prospects for the exercise of unilateral market power and/or coordinated interaction amongst Suppliers will be greatly reduced when the number of actual and potential Suppliers is sufficient to undermine efforts of dominant suppliers to exercise market power (i.e. the potential for the exercise of market power is greatly reduced when the market is workably competitive).

It further describes that its proposal is built upon the procedures used by the Federal Energy Regulatory Commission (FERC) under Sections 205 and 206 of the Federal Power Act (FPA) which incorporates an ex ante structural analysis of the market to diagnose potential market power problems.

Similar to the FERC model, when concentration of generation assets is found to be problematic, it purports that its approach relies upon structural remedies to address directly the incentives and ability of Suppliers to reduce supply or to coordinate supply reductions with others. The goal for ex ante structural remedies is to create conditions that are conducive to competition and then to let the markets operate relatively free from regulation.

The various structural generation remedies do not necessarily involve sales or divestiture of generating facilities. For example, remedies may include forward sales of a generating unit's output to unrelated third parties if they can be structured properly. The sale of such output at prices that cannot be raised by subsequent decisions by the generating unit's owner effectively reduces generation concentration and the attendant unilateral market power of any one generation owner.

The specific mechanism for mitigating market power in Alberta's hourly wholesale electricity market proposed under Alternative C is described in greater detail in Appendix J.

While the FERC framework should address most market power issues in Alberta, it should be supported with a "hard" holding restriction and specific restrictions on the sale of the Genesee PPA (power purchase arrangement). Each of these enhancements is discussed below.

When Alberta decided to deregulate generation, a major hurdle to moving forward was market power because the market was dominated by three large generators. At least two expert studies were commissioned and received by the Alberta government, and those studies recommended, among other things, that the use of holding restrictions were an effective means of addressing market concentration issues in Alberta. Stakeholders also had studies done on this issue. These studies generally concluded that no one generator should own or control more than 15% - 20% of

the market. (Alberta implemented holding restrictions that were used for several years until, for reasons known only to the Alberta government these restrictions were allowed to lapse.) The supporters of Alternative C maintain that it is necessary to re-implement holding restrictions to protect the integrity of the market, and send a signal to new prospective generators that Alberta's market will be fair and open and that electricity trade will occur on a "level playing field".

In part because Alberta's hourly market is currently dominated by five major generators – TransAlta, TransCanada, ENMAX, EPCOR and to a lesser extent, ATCO Power – and few new players have come to Alberta, the supporters of Alternative C recognize the reality that these generators should have some room to grow. On the other hand, if Alberta is going to remain on a successful deregulation path, it must ensure competition will set prices, not other factors. To this end, a reasonable compromise is a "hard" holding restriction which prohibits any one player from owning or controlling more than 30% of Alberta's generation capacity.

Absent this holding restriction requirement, Alberta's generation capacity could be controlled by as few as two or three large generators as long as they met the requirements of the Alternative A red/green test, and file mitigation plans of some kind (not yet determined). It would not be a "workably competitive" market with only two or three generators. This fact was recognized by everyone, including the Alberta government, before deregulation was initiated. Holding restrictions are a simple, well-known and acceptable mechanism for addressing market concentration and they send a sound signal to other generators considering the Alberta market as a place to build and participate.

While there may be some truth to the fact that this could dampen the business opportunities and enthusiasm of existing generators, Alberta needs new generators to promote competition, the main purpose of deregulating. The number chosen herein (30%) reflects an attempt to not unfairly limit business opportunities for these generators. The supporters of Alternative C maintain that they have struck a reasonable balance, given the seriousness of market power and potential market power abuse in Alberta.

Currently the Genesee PPA (approximately 8% of Alberta's generation market) is controlled by the Balancing Pool (BP) in accordance with direction from previous restructuring rules, in part related to market power concerns. The BP will be auctioning this PPA in the near future. Absent restrictions, any of the current large generators could purchase this PPA and increase their presence on the market by 8%. The supporters of Alternative C argue that this would not be an effective result, nor would it be consistent with a competitive market. Additionally, it would not encourage the construction of new generation, which essentially everyone agrees is needed in Alberta. Neither the Alternative A nor B proposals contemplate restrictions on the sale of the Genesee PPA.

Therefore, in the interests of making Alberta's market more competitive and to encourage existing large generators to build instead of just buy, the sale of Genesee should be conditioned that any sale can not give a purchaser more than 20% of the market. This would limit the purchase by some of the large generators. Obviously, the BP should have an appropriate reserve

price so as to protect load customers (who are entitled to sale proceeds). If the PPA is not sold, it can continue to be generated by the Balancing Pool, as it has for the last few years.

VI. Responsibility/Implementation Recommendations

The terms of reference of the Section 6 Committee also require the Committee, in Phase II, to identify how the principles of market participant behaviour will be given force and effect. A specific Committee deliverable related to this charge is to recommend which agency would be responsible for which part of the framework, and where the framework pieces would be reflected in legislation, regulation or other written form.

With the new commission structure in Alberta, all adjudication activities move from the ISO and the MSA to the AUC. There will also be at least three regulations (AUC related, MSA and UCA) under the AUC Act that will have the normal regulation drafting process as well as be informed by at least two summer 2007 meetings of this Committee affording the opportunity for additional input. These meetings will inform where the different principles are codified, and how.

After the commission is constituted, there will be opportunities for generic commission hearings on issues such as publication rules, additional prohibited activities, AESO rule processes and other matters in this report.

Principles around procedural fairness as they affect agencies, market participants and other impacted parties are another key aspect of giving force and effect to the Section 6 work. While there are currently a set of investigation protocols and processes in place, the creation of the AUC and the work of the Section 6 Committee has provided us with a timely opportunity to review and improve the existing processes.

Phase II discussions on market power abuse mitigation and anti-competitive behaviours have highlighted the importance of this issue. It is clear that procedural fairness is a key piece of the market power mitigation abuse framework and the process for addressing “grey” anti-competitive behaviours.

To facilitate discussion and potential regulatory treatment of procedural fairness issues, additional meetings will be scheduled in the summer. While not part of the June 30 report, the output of those meetings will be factored into the regulation drafting process which will be happening during the summer and fall. Appendix H was prepared by several Committee members, and briefly discussed but not endorsed by the full Committee. The Committee did agree, however, that this will be part of those summer discussions along with whatever other material is brought forward by participants.

VII. Additional Recommendations and Activities

In Phase I, the Committee built a set of detailed principles related to Market Participant behaviours, following from the over-arching FEOC principle in Section 6 of the Act. These principles can and should readily be applied to all Market Participants and for the entire Alberta electricity market. The recommendations contained in the Phase II segment of the report build on the Phase I principles.

Due primarily to time constraints, the Committee was not able to fully explore and reach agreement on several Section 6 related areas of interest to Committee members. For many of the Committee members, their long-term support for recommendations made in other chapters of this Phase II Report are ultimately conditional on the successful resolution of some or all of these issues. These included:

- Issues related to the preferential sharing of information and public information disclosure.
- Market power mitigation mechanisms more directly related to long-term, ancillary services markets, and retail markets.
- Market power abuse tests for the wholesale and other markets.
- A comprehensive list of behaviours that would be considered to be “off-sides” with respect to a fair, efficient, and openly competitive market.
- Detailed screening criteria for policing and enforcing anti-competitive behaviours.
- Principles of procedural fairness.

All of the above issues were in various stages of development and discussion, and the appendices of this Report largely capture the working documents developed by Committee members for consideration by the entire Committee.

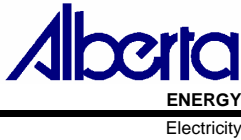
The Committee has agreed that all these issues should continue to be fleshed out and resolved as soon as possible and in the appropriate forum. Some of these issues will need to be resolved over the summer and fall so that they can be folded into the various rules and regulations that will be developed under the auspices of the AUC Act. Other issues will be more appropriate for other mechanisms, such as MSA guidelines.

Appendix A: Section 6 Committee Members (Representatives and Alternates)

Organization	Representative/Alternate
Agrium	Calvin Offereins
Alberta Direct Connect Consumer Association (ADC)	Jack Joys
	Colette Kearl (alternate)
Alberta Electric System Operator (AESO)	Kent McDuffie
Alberta Energy and Utilities Board (AEUB)	Bob Heggie
	Fino Tiberi (alternate)
Alberta Energy Savings	Ken Hartwick
	Barb Baker (alternate)
Alberta Federation of Rural Electrification Association (AFREA)	Brian Jackowich
AltaGas	Marshal Thompson
	Lynn Meyer(alternate)
ATCO Power	Carl Fuchshuber
Alberta Urban Municipalities Association (AUMA)	Larry Sirman
Balancing Pool	Gary Reynolds
	Doug Heath (alternate)
BP Canada	Steve Dowhanik
	Maryn Sigurdson (alternate)
	Norm Mills (alternate)
Constellation Energy	Bruce Roberts
Alberta Department of Energy (ADOE)	Kellan Fluckiger
Direct Energy	Clinton Roeder
	Damian Opel (alternate)
EnCana	Rod Crockford
	Judith Althaide (alternate)
ENMAX	Rob Hemstock
	Randy Stubbings (alternate)
EPCOR	Jim Oosterbaan
	Sian Barraclough (alternate)
	Bryan DeNeve (alternate)
Imperial Oil Resources	Sharon Kaiser
	Richard Gallant (alternate)
Industrial Power Consumers Association of Alberta (IPCAA)	Dan Macnamara
Independent Power Producers Society of Alberta (IPPSA)	Evan Bahry
Market Surveillance Administrator (MSA)	Martin Merritt
	Wayne Silk (alternate)
	Doug Wilson (alternate)
TransAlta	Sterling Koch
	Marcy Cochlan (alternate)
TransCanada	Karl Johannson
	Vince Kostaskey (alternate)
Utilities Consumer Advocate (UCA)	David Gray
	Ron Henderson (alternate)

Chair/Mediation & Support Staff	
Raab Associates, Ltd.	Jonathan Raab
Alberta Department of Energy (ADOE)	Gil Nault
	Peter Leier

Appendix B: Final Terms of Reference to Initiate Section 6 Consultation



Electricity

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Fax 780/427-8065
File No. 13613-02 ELEC

November 15, 2006

To: *Electric Utilities Act* Advisory Committee Members and Interested Parties

RE: Final Terms of Reference to Initiate Consultation on Principles for a Fair, Efficient and Openly Competitive Market

On October 4, 2006, the Department circulated a draft Terms of Reference to initiate a consultation on 'principles' for a fair, efficient and openly competitive market.

The Department views the development of 'principles' to further clarify Section 6 of the *Electric Utilities Act* (EUA) as an important first step in its commitment to provide clarity on Alberta's approach to a fair, efficient and openly competitive market. In addition, these 'principles' should assist in an approach to mitigate potential market power abuse in our electricity market, and provide certainty for contracting and investment in the Alberta electricity market.

As of the October 18, 2006, deadline date, the Department received comments from 15 stakeholders regarding the draft Terms of Reference for this "Section 6 Committee". Following careful consideration of these stakeholder comments, the Department has made a number of revisions to improve the committee structure, process and deliverables.

Based on stakeholder input, the membership in the Section 6 Committee will be expanded to allow broad stakeholder participation. The selection process for the independent chair/facilitator will now include input from the Section 6 Committee members. The timeline has been adjusted to allow for selection of the chair/facilitator and to provide more time for the Section 6 Committee to complete its work. The final report will now be delivered in two stages, starting with the recommended 'principles' that further clarify Section 6 and followed by the recommendations for implementation of, and compliance with, these 'principles'.

The finalized Terms of Reference, and a discussion of the stakeholder comments, are attached for your information.

The Department has set out the following next steps:

- Interested stakeholders may contribute to the list of non-partisan, knowledgeable people with group management/process skills, for consideration as a potential chair/facilitator, to Gil.Nault@gov.ab.ca, by 4:30 p.m. on Monday, November 20, 2006.
- Interested stakeholders desiring to be on the Committee must provide the name of their senior executive level participant for the Section 6 Committee, to Gil.Nault@gov.ab.ca, by 4:30 p.m. on Friday, November 24, 2006.
- The Department will compile a “short list” of candidates having the availability and credentials of a potential chair/facilitator, then convene a preliminary meeting of the Section 6 Committee in early December 2006.
- Based on feedback from that preliminary meeting, the Department will retain the chair/facilitator in December and ask that person to convene their first meeting of the Section 6 Committee in January 2007.

As per the June 26, 2006, letter from the Deputy Minister of Energy and the Executive Director of the Electricity Division, to the EUA Advisory Committee, until any new regulatory provisions come into effect:

“...the Department expects the MSA to monitor the electricity market in Alberta with heightened diligence, given the lack of a replacement for the now expired holding restrictions. We also expect the MSA to take whatever actions are appropriate and necessary with its current set of tools to ensure the highest level of integrity of the market based principles of fair, efficient and open competition.”

We look forward to your continued participation in this important initiative.

Yours truly,

original signed by

Kellan Fluckiger
Executive Director

Attachment

Terms of Reference

Electric Utilities Act Section 6 Committee

Purpose of the Section 6 Committee (the “Committee”)

- A. To initially recommend, by March 31, 2007, a set of ‘principles’ to further clarify Section 6 of the *Electric Utilities Act* (EUA) that requires market participants to “conduct themselves in a manner that supports the fair, efficient and openly competitive operation of the market.”
- B. To subsequently recommend, by June 30, 2007:
 - o how such ‘principles’ developed to support the fair, efficient and openly competitive operation of the market should be made binding on all market participants and thus be given ‘force and effect’ (e.g., through regulations, rules, guidelines, etc.), and
 - o which agencies (e.g. the Market Surveillance Administrator, Alberta Energy and Utilities Board or the Alberta Electric System Operator) will ensure compliance with these ‘principles’ by market participants.

Committee Representation

- The Committee will be open to electric industry stakeholders that have an interest in contributing to the clarification of Section 6 of the EUA.
- One representative of each company, organization and association may attend, including a representative from each of the Alberta Electric System Operator, Alberta Energy and Utilities Board, Balancing Pool, Department of Energy, Market Surveillance Administrator and the Utilities Consumer Advocate.
- Committee members must be at a senior executive level, no further down in the constituent organization than CEO (or equivalent), or a direct report to the CEO. No other substitutes, alternates or delegates will be allowed during the term of the Section 6 Committee’s work.
- In performing the work outlined in Part B, above, the Committee may elect to form a subcommittee of a single representative from each Committee member’s organization. This representative may be at a different level than the CEO or direct report. This subcommittee shall not be formed until the work under part A above is substantially complete. This subcommittee shall bring any recommendations regarding part B deliverables back to the Section 6 Committee for consideration.

Role of Committee Members

- Each Committee member will be expected to participate throughout the term of the Committee’s work.
- Each Committee member will be expected to contribute in the development and refinement of Committee work products. All views of each Committee member will be shared with all Committee members.
- Each Committee member must state their agreement or lack thereof, to any proposed ‘principles’ and other recommendations. Committee members will be strongly encouraged to seek agreement on the key ‘principles’ to be included in the final report, but will have the right to dissent or offer alternate views on any issue.

Remuneration

- There will be no remuneration or expenses paid to Committee members by the Department of Energy.

Chair / Facilitator of the Committee

- The Department of Energy will work with stakeholders to choose an independent chair/facilitator.
- The Department of Energy, at its expense, will retain the independent chair/facilitator.
- The chair/facilitator will have demonstrated facilitation experience. It is desirable for the chair/facilitator to have expertise in competitive markets and experience in dealing with issues and principles of fair, efficient and open competition in emerging and restructuring markets.
- The chair/facilitator may consult with others or additional third party consultants as required to complete the work of the Committee within the time frame set out. Funding for any additional consultants will be provided by members of the Section 6 Committee.

Role of Chair / Facilitator of the Committee

- The chair/facilitator will guide the discussions of the committee, and will set out any further procedural and operational rules for the Committee.
- The chair/facilitator will determine how each Committee member will provide input and otherwise indicate their position on any proposed ‘principles’ and other recommendations.
- The chair/facilitator will prepare a final written report to the Minister of Energy setting out:
 - the discrete issues identified by the Committee;
 - a brief summary of the discussions of the Committee on each issue, any material dissenting views, and any additional studies or work products commissioned by the Committee to analyze issues;
 - the ‘principles’ arrived at by the Committee;
 - recommendations on any further work required to translate the ‘principles’ to practical working regulations, rules, guidelines, etc. for the Alberta market; and
 - recommendations on which agencies will ensure enforcement and compliance with the ‘principles’.
- The chair/facilitator is expected to comment on the existence and function of such ‘principles’ in other jurisdictions and may provide in the report its own views on ‘principles’ and other recommendations, in addition to those where there may or may not be Committee agreement on ‘principles’ and other recommendations.

Final Report

- The final report is a report of the chair/facilitator to the Minister of Energy and will not require the approval of all Committee members. It must fairly indicate dissenting opinions.
- The chair/facilitator must circulate and consider the comments of Committee members on a draft of the final report before submitting it to the Minister of Energy.
- The chair/facilitator will deliver the first part of the final report to the Minister once the Committee has completed the recommendations outlined in part A above. The second part of the final report will provide the recommendations outlined in part B above.
- The complete final report of the chair/facilitator will be public, but the Minister of Energy will determine the timing and method of making the final report public.

Initial Process

- Interested stakeholders will advise the Department of Energy as to who their Committee members will be by Friday, November 24, 2006.
- The Department will convene a meeting of Committee members in December 2006 for the purpose of selection of the chair/facilitator. The department will then retain the chair/facilitator.
- The chair/facilitator will convene the next meeting of the Committee in January 2007.

Implementation

- The Minister will take the final report under advisement and will reply in a timely manner as to whether and how the report will be implemented.

Appendix C: Section 6 Committee Groundrules

Alberta EUA Section 6 Committee Process Goals, Deliverables, Roles and Responsibilities, Decision Making, and Reports

Drafted by Chair/Mediator: Dr. Jonathan Raab, Raab Associates, Ltd..
Adopted by Section 6 Committee at its second meeting

Committee Goals and Deliverables

1. To recommend a set of 'principles' to further clarify Section 6 of the *Electric Utilities Act (EUA)* that requires market participants to "conduct themselves in a manner that supports the fair, efficient and openly competitive operation of the market," (by March 31, 2007)
2. To develop specific standards, mechanisms, and processes through which these principles can be operationalized, including:
 - a. To recommend how such 'principles' developed to support the fair, efficient and openly competitive operation of the market should be made binding on all market participants and thus be given 'force and effect' (e.g., through regulations, rules, guidelines, etc.), (by June 30, 2007).
 - b. To recommend which agencies (e.g. the Market Surveillance Administrator, Alberta Energy and Utilities Board or the Alberta Electric System Operator, etc.) will ensure compliance with these 'principles' by market Participants, (by June 30, 2007).

Committee Membership

3. Formal membership in the EUA Section 6 Committee (Committee) process is voluntary but must be approved by the Alberta Department of Energy (ADOE).
4. Each formal member organization will designate a lead representative, and, at their discretion, an alternate to participate in the Committee in the lead's absence. However, the lead representative must be the organization's CEO or a direct report to the CEO (or equivalent).
5. Each formal member organization will have no more than one seat at the Committee table.¹⁸
6. Following the second meeting of the Committee (February 5), no new Committee Members will be allowed unless agreed to by all Committee members.

Members' Roles and Responsibilities

7. Members will make every attempt to attend all scheduled meetings, to be on time, and to review all documents disseminated prior to the meeting. Members who can not send a representative to a scheduled meeting should let ADOE senior staffer, Gil Nault know prior to the meeting (by voice 780.422.6061 or [Gil Nault \[gil.nault@gov.ab.ca\]](mailto:gil.nault@gov.ab.ca)). For substantive matters, contact chair/mediator Dr. Raab at 617.350.5544 or

¹⁸. However, ADOE and MSA will likely have one or more additional senior staffers in the room, but not at the Committee table, to assist the Committee and chair/mediator with the process as described further at the end of these ground rules.

Raab@RaabAssociates.org.

8. Members will be expected to participate in good faith in discussions including being truthful and communicative. Members also agree to act respectfully toward each other.
9. Members will not take positions in other Alberta forums that differ from their stated positions taken in this Committee.
10. It is the responsibility of the members to keep their organizations and constituencies up to speed on developments and issues concerning the Committee meetings.
11. Members will not speak on behalf of the Committee (e.g., to the press or at conferences) without the Committee's permission.
12. Members are encouraged to confer with representatives from other organizations and with the chair/mediator in between meetings.
13. If during the course of the Committee work, the members wish to make certain information confidential, the Committee will discuss developing a procedure for doing so.
14. Documents produced by Committee members for the Committee should be provided to the chair/mediator for circulation and posting on the Committee website at least 3 days prior to the next meeting.

Decision-making

15. The Committee will endeavor to make major substantive decisions by consensus of the member organizations, where consensus shall mean that every member organization is at least willing to live with a decision and chooses not to dissent. If unable to consent, a member will be expected to explain why and to try and offer a positive alternative. Members are responsible for voicing their objections and concerns.
16. Only the lead representative of a formal member organization, or an alternate in the lead's absence, will participate in formal decision-making.
17. Members of the Committee that need to confer with their principals or governing authorities on any Committee matter, will do so as expeditiously as possible and be given reasonable time to do so.
18. The chair/mediator's reports filed with the Alberta Minister of Energy will include text covering all areas of consensus, and a description of the alternatives preferred by member organizations in areas where consensus was not reached, if any. The descriptions of the alternative approaches on non-consensus issues, if any, will include the list of member organizations subscribing to the particular alternative. Members will have an opportunity to review and provide comments to the chair/mediator on both the consensus and non-consensus language in a draft of the report prior to finalization.
19. Abstention from either consensus or non-consensus issues is not allowed, with the possible exception of a government agency that may have a potential jurisdictional conflict on a particular issue.

Chair/Mediator's Role and Responsibilities:

20. Set out procedural and operational rules for the Committee.
21. Work with the Committee to effectively and efficiently progress discussions to be able to provide the deliverables set out under "Goals and Deliverables" above.

22. Determine how each Committee member will provide input and indicate their interests and positions on any proposed 'principles' and other recommendations that may be included in the final report.
23. Encourage each Committee member to state their agreement or lack thereof, to any proposed 'principles' and other recommendations,
24. Work with Committee members and encourage them to reach agreement on the key 'principles' and other recommendations,
25. Provide Committee members the right to dissent or offer alternate views on any issue.
 - a. Prepare an interim and final report to the Minister of Energy. The Interim Report will deliver the final draft principles and the Final Report will delineate all the recommendations of the Committee.¹⁹ The Interim Report will be delivered by March 31, 2007 and the Final Report by June 30, 2007, as described below (in Final Report Section)
26. The chair/mediator will schedule, organize and conduct all meetings of the Committee in a professional and non-partisan manner.
27. The chair/mediator will draft all agendas, high-level meeting summaries, and other documents as required, and distribute them to representatives in a timely fashion (e.g., meeting summaries within a week following a Committee meeting, and all other documents at least 3 days prior to the next meeting). All documents will be distributed via email first, and then posted to the Committee website <http://alberta.raabassociates.org/>
28. The chair/mediator will confer with representatives as needed throughout the term of the Committee.
29. The chair/mediator will be available to explain the Committee's process and work products to the Minister of Energy or other entities, as needed and requested.

¹⁹ The final draft principles of the Committee filed in the Interim Report may be fine tuned by the Committee toward the end of the process.

Final Report

30. The final written report will set out the discrete issues identified by the Committee;
 - a. A brief summary of the discussions of the Committee on each issue, any material dissenting views, and any additional studies or work products commissioned by the Committee to analyze issues;
 - b. The final ‘principles’ arrived at by the Committee;
 - c. Recommendations on any further work required to translate the ‘principles’ to practical working regulations, rules, guidelines, etc. for the Alberta market;
 - d. Recommendations on which agencies will ensure enforcement and compliance with the ‘principles’, and
 - e. Any other related recommendation which the Committee wishes to put forward.
31. The chair/mediator must circulate and consider the comments of the Committee members on a draft of the final report before submitting it to the Minister of Energy.
32. The final report is a report of the chair/mediator and will not require the approval of all the Committee members. The final report must fairly indicate Committee views including dissenting opinions
33. The chair/mediator may comment on the existence and function of such ‘principles’ in other jurisdictions and may provide in the final report its own views on ‘principles’ and other recommendations, in addition to those where there may or may not be Committee agreement on ‘principles’ and other recommendations.²⁰

ADOE’s Roles and Responsibilities

34. The Executive Director of the Electricity Division of the ADOE will be a member of the Committee and therefore will adhere to the “Committee Member Roles and Responsibilities” described above.
35. The Executive Director will also keep the Minister of Energy and Deputy Minister of Energy apprised of the progress of the Committee
36. Inquiries from the press regarding the Committee process should be addressed by the ADOE as the host/convener for the process. The ADOE will consult with the chair/mediator in crafting responses to the press, as time allows
37. In addition, ADOE, as the convener and host of the process will provide additional senior staffers which will have the following additional roles and responsibilities:
 - a. Oversee and administer the contract with chair/mediator.
 - b. Provide administrative, procedural and other support services for the Committee and the chair/mediator, as requested.

Other Government Agencies (MSA, AESO, EUB and Balancing Pool) Roles and Responsibilities

38. Other Government Agencies will be members of the Committee and adhere to the “Committee Member Roles and Responsibilities” described above.
39. Other Government Agencies will also provide research and other technical support

²⁰ Note: Although the chair/mediator has this right, it is not his expectation that he will be putting forward any recommendations of his own.

services for the Committee and the chair/mediator, as requested.

The above may be modified during the course of the Committee by the chair/mediator, but only after consultation with the Committee members.

Appendix D: Information Principles 5 and 6

This appendix includes a series of additional issues and questions related to Principles 5 and 6 that several Committee Members developed for future discussion and consideration by the Section Committee Members.

5. *Preferential Information Sharing--Market participants shall not preferentially share proprietary information which may reasonably be expected to undermine or prevent competition. (Committee except IPCAA)*

The existing ISO rule 1.10.2 a) includes the same requirement for no preferential sharing of 'non-public' information, but contemplates some circumstances under which information can be shared: agency agreements, other ISO rule provisions or following a specific request.

We ask the committee to consider how to consider the following questions:

Proprietary v. Non-public: Principle 5 includes the words 'proprietary' while ISO rule 1.10.2 a) refers to 'non-public'. The Committee may want to consider whether the rule should be made consistent with the principle.

Definition of acceptable sharing: Should a list of 'normally acceptable' information sharing be developed? The list, and corresponding appropriate level of information sharing, could consider what specific information can be shared, in what form information can be shared (disguise/aggregation), and when specific information can be shared (how much delay). The appropriate level of information sharing may depend on the different commercial arrangements in place (i.e. PPAs, JVs, agencies, etc.) and the degree of interest/ownership in the commercial arrangement (i.e. %). Consideration could be given to ISO automatic or default approval of information exchanged consistent with the 'normally acceptable' list, while information exchange not consistent with the 'normally acceptable' list could be treated on an individual or exception basis.

PPA Owner buyer arrangements and non PPA arrangements: PPA arrangements require information flows between owners and buyers. How should principle 5 relate to these flows? Should non PPA arrangements be allowed the same flows as contemplated under the PPA's or should different standards apply? In other words, should all relationships be harmonized? If so, how? If not, why not? Are PPA's a special case?

Circumvention behaviour: Consistent with principle 9 should request for approved information sharing be denied if it appears to be a circumvention of the rules to prevent inappropriate or unnecessary information sharing? Consider where one participant has a 1% share in a joint venture motivated by a desire to have information about the joint venture. Should there be a link between the economic materiality of the relationship for a participant and the information allowed to be shared with that participant?

Agency v. Sharing competitive information: When should an agency arrangement be used? Relevant factors might be:

- the agent must be providing a clear service for the principal
- only one agent for each service
- no contact between agents
- agents who are also market participants (e.g. offer other assets) may be subject to different controls.
- Parties who are agents for more than one principal need to demonstrate clear separation of information

Appealing an approved flow: Is there need for an appeals process? For example, one participant objects to the sharing of information between two other participants on grounds of not supporting FEOC or appealing against the decision to deny an approval?

Transparency (How much sunshine): ISO Rule 1.10.2 a) note that the ‘ISO will publish the names of parties receiving approval.’ This does not include publishing a description of the information being shared. Publishing some description of the information being shared may be helpful in increasing transparency, fairness (i.e. participants can see whether other participants have been approved sharing arrangements which they have been denied) but may compromise competition, fairness and efficiency created through commercial arrangements or due advantage acquired through the value of proprietary information.

Mergers and acquisitions: Does information exchanged prior to potential M&A activity need to be approved by the ISO/ MSA. Does it need an additional process not contemplated above?

Administration, Investigation and Enforcement of Principle 5: Who should administer and enforce agency/sharing competitive information agreements? The current rules provide for the ISO to take the lead on administering agency information sharing agreements in consultation with the MSA. The MSA has investigative powers as contemplated under the EUA that could be used to confirm whether agreements were being adhered to. Enforcement could be either with the ISO for a rule breach or at an MSA tribunal. Currently, agency/information sharing can be revoked. Should they automatically be reviewed & renewed on a regular basis? Should there be consideration given to investigation/enforcement on an exception or “complaint” basis to allow for greater efficiencies and to reduce unnecessary work at the ISO and MSA?

6. *Public Information Disclosure: The public dissemination of market information must be balanced by the value of proprietary business information to market participants and the market.*

Questions to consider:

Proprietary v. Non-public: Principle 6 includes the words ‘proprietary’ while ISO rule 1.10.2 a) refers to ‘non-public’. The Committee may want to consider whether the rule should be made consistent with the principle.

Balance and value: What criteria can the committee give on how to assess the ‘balance’ between the value to the market of public dissemination of information and the value to market

participants and the market of information remaining proprietary. While transparency and fairness may be enhanced by increased public dissemination, competition, fairness and efficiency may also be compromised by this very same public dissemination of proprietary information. Review of the current information flows to the public may help suggest relevant criteria.

Administration: Is the principle enhanced by any administrative framework (e.g. list of current or regular information disclosed) or by having a process to respond to participants desiring more or less information be made public?

**Appendix E: ENMAX Market Power Abuse Test/Screen
(Price Impact Test)**

**Screening for Market Power Abuse by Assessing
Participants' Influence on Market Prices:
The Price Impact Test**

**Submitted to the Section 6 Committee
June 8, 2007**

**Principal Author:
Randy Stubbings, ENMAX Corporation**

Introduction

The term “market power” refers to the ability of a firm to behave relatively independently of the market, to raise prices materially above levels that would apply in a competitive market, and to sustain those prices for a material length of time.²¹ However, the possession of market power in and of itself does not constitute anti-competitive behaviour. “Market power abuse” refers to conduct by a firm possessing market power with the purpose and effect of substantially lessening competition, thereby preserving or increasing the firm’s market power.

It is generally accepted that evaluations of market power abuse must examine, *inter alia*, whether prices were raised substantially above competitive levels and whether supra-competitive prices existed for a material length of time. The Price Impact Test (“PIT”) is designed to examine these two questions by comparing actual pool prices to the prices that would have been realized had a market participant’s offer behaviour been consistent with behaviour that might reasonably be expected of a new market entrant with a similar generation portfolio.

The PIT works effectively with other tests that the Section 6 Committee has (tentatively) established, namely the scarcity test and the market and participant HHI tests. It is an *ex post* test, which means that it involves neither offer mitigation nor speculation as to what a market participant might do in the future. The objective of the test is to provide some direction and guidance to participants as to when their behaviour might be construed as an exercise of market power, and simultaneously to give consumers and the MSA confidence that the observed prices are in keeping with a fair, efficient, and openly competitive market.

Overview of the Test

In summary, the PIT works as follows:

1. At the start of each year, the long-run marginal cost (“LRMC”) of each of several “proxy” units is calculated. Notionally a base-load unit, a mid-range unit, and a peaker will be used.
2. In each hour, the scarcity test, the market HHI test, and the participant HHI test are used to determine whether the participant under consideration is in the red zone.
3. In each hour, a “benchmark” price is computed. In green hours, the benchmark price is defined to be the actual pool price. In red hours, the benchmark price is defined to be the pool price that would have been realized had the participant priced the offers from each of its units at the LRMC of the corresponding proxy units.

²¹ Market power abuse may involve the use of predatory pricing to lower prices and drive out competitors. The focus in this paper is on prices that are materially higher than what a competitive market might be expected to yield.

4. The average benchmark price and the average actual price are computed for a test period (e.g., the past 30 days). If the difference between the two prices is small, it implies that the participant has not materially affected pool price through its offer behaviour in red-zone hours; the participant passes the PIT and is deemed not to have abused market power. If the participant fails the PIT, its offer behaviour may be subject to further review by the Market Surveillance Administrator.

Each of these steps will now be illustrated through an example. A 24-hour test, rather than a longer test, is used here strictly to keep the example manageable.

Step 1: Setting the Proxy Price

As noted above, the first step in the PIT is to identify a proxy for each of the real units in the province.²² While it would be reasonable to define a base-load proxy (e.g., a supercritical coal unit), a mid-range proxy (e.g., a combined-cycle gas turbine), and a peaker (e.g., a simple-cycle gas turbine), nothing in the PIT restricts the choices. Using a larger number of proxies may make the PIT more precise and allow a closer match between the characteristics of the real and proxy units, but this would be at the cost of additional complexity and would not necessarily yield better results.²³

The PIT requires that each of the proxy units have a price at which its capacity would be offered into the energy market. The appropriate offer price is the LRMC, which is the cost of providing an additional unit of production under the assumption that capacity expansion or replacement is required, and which represents the minimum long-run price at which firms will enter and remain in the market.

The LRMC for each unit type would be based on assumed debt/equity ratios, interest rates, required returns on equity, corporate income tax rates, capital costs, load factors, heat rates, fuel costs, and other factors. Notionally the LRMC for each plant type would be calculated by the MSA, in consultation with market participants, at the start of each year, though adjustments would be during the year to account for changes in fuel prices.²⁴ For the purposes of this paper, it will be assumed that the LRMC of the unit most closely matching the participant's unit is \$500/MWh.

Step 2: The Scarcity and HHI Tests

The scarcity and HHI tests are described elsewhere and therefore need not be described here. For the purposes of illustrating the PIT, it is assumed that the participant under consideration is in the red zone in the hours shown in red (and bold) in the following table. The columns labeled *Actual Price* contain the hourly market-determined pool prices for this hypothetical day. The derivation of the prices in the *Benchmark Price* columns is examined in the next step.

²² For units with no or limited dispatchability, such as wind turbines and run-of-river hydro units, it may not be appropriate to define a proxy unit. Such units are, by definition, permanently in the green zone.

²³ Since the PIT is intended to be *indicative* only, additional precision is likely to be of little benefit.

²⁴ The AUC would be the arbiter if consensus on the LRMCs could not be reached.

Table 1: Loads, Actual Prices, and Benchmark Prices

Hour	Load [MW]	Actual Price (P_A)	Benchmark Price (P_B)	Hour	Load [MW]	Actual Price (P_A)	Benchmark Price (P_B)
1	6696	23.49	23.49	13	7859	155.23	155.23
2	6519	17.61	17.61	14	7878	87.65	87.65
3	6448	23.43	23.43	15	7885	232.23	232.23
4	6444	24.26	24.26	16	7873	305.87	305.87
5	6454	24.26	24.26	17	7863	637.00	550.00
6	6456	24.81	24.81	18	8007	898.00	898.00
7	6791	32.58	32.58	19	7956	691.00	588.00
8	7276	39.96	39.96	20	7412	400.00	471.00
9	7594	69.71	69.71	21	7353	47.91	47.91
10	7683	76.20	76.20	22	7340	80.40	80.40
11	7816	88.77	88.77	23	7293	67.21	67.21
12	7859	127.55	127.55	24	6995	43.61	43.61
Weighted Average						186.45	180.89

Step 3: Calculating Hourly Benchmark Prices

In this step, a benchmark price is calculated for each hour of the test period. The difference between the benchmark price (P_B) and the actual pool price (P_A) is intended to be a measure of the influence on pool price of any market power exerted by the participant. In green hours, in which the influence of market power is deemed to be zero because there are opportunities for competitive response, the difference between the two prices should be zero; thus, $P_B = P_A$. In red-zone hours, the potential influence of market power is to be measured against the “perfectly competitive” alternative, so P_B is defined to be the price that would have been achieved had the participant’s offers been priced at the LRMC of the proxy units. To carry out the red-hour calculations:

- a. Start with the actual supply curve for the hour, which is made up of all of the offers from all of the participants. The supply curve for Hour 17 of the hypothetical day, with the participant’s sole offer of 100 MW at \$691/MWh highlighted, is shown in Figure 1(a). The pool price for the hour, which is determined by the intersection of the supply and demand curves,²⁵ was \$637/MWh.
- b. Change the price of each offer from the current participant to the LRMC of the corresponding proxy unit. The price change is shown in Table 2. Re-sorting the offers results in the “proxy” supply curve shown in blue in Figure 1(b).
- c. Compute the benchmark price for the hour by finding the intersection of the hourly demand curve (which has not changed) with the proxy supply curve, as shown in Figure 1(c). In Hour 17, the benchmark price is \$550/MWh.

²⁵ Because demand fluctuates throughout the hour, the intersection of the supply and demand curves changes. The moving intersection point determines the system marginal price (“SMP”) in sub-hourly intervals, and the pool price for the hour is calculated from the SMPs. This complication is easily accommodated in calculating the benchmark price because it involves nothing more than repeating the pool price calculation with the proxy supply curve.

The benchmark price calculations for the other red-zone hours (18-20) are shown in Figures 2, 3, and 4. In Hour 18, the benchmark price is the same as the actual price because both the actual and proxy offer blocks were sub-marginal. (The two prices would also have been the same had both the actual and proxy offers were supra-marginal.) In Hour 20, the benchmark price was higher than the actual pool price.

Table 2: Original and Proxy Supply Curves

Original Offers		Offers Following Proxy-Price Substitution	
Price [\$/MWh]	Block Size [MW]	Price [\$/MWh]	Block Size [MW]
...
88.77	43	88.77	43
450.00	95	450.00	95
462.50	37	462.50	37
467.00	30	467.00	30
471.00	64	471.00	64
		500.00	100
550.00	67	550.00	67
588.00	55	588.00	55
637.00	29	637.00	29
691.00	100		
792.99	2	792.99	2
800.00	9	800.00	9
998.01	16	998.01	16
999.00	5	999.00	5
999.98	5	999.98	5

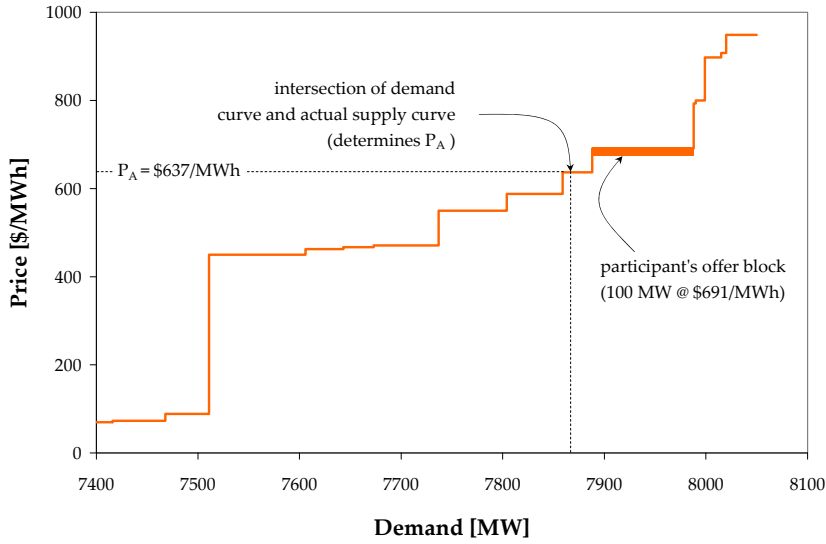


Figure 1(a): The calculation of the actual pool price for Hour 17 based on the actual supply curve, with the participant's offer block highlighted.

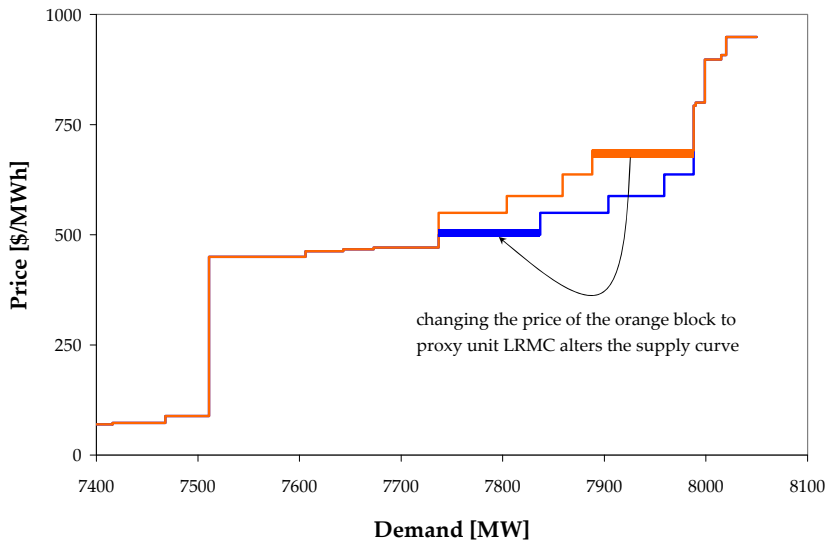


Figure 1(b): Changing the original offer price to the proxy unit's LRMC changes the original supply curve (orange) into a proxy supply curve (blue).

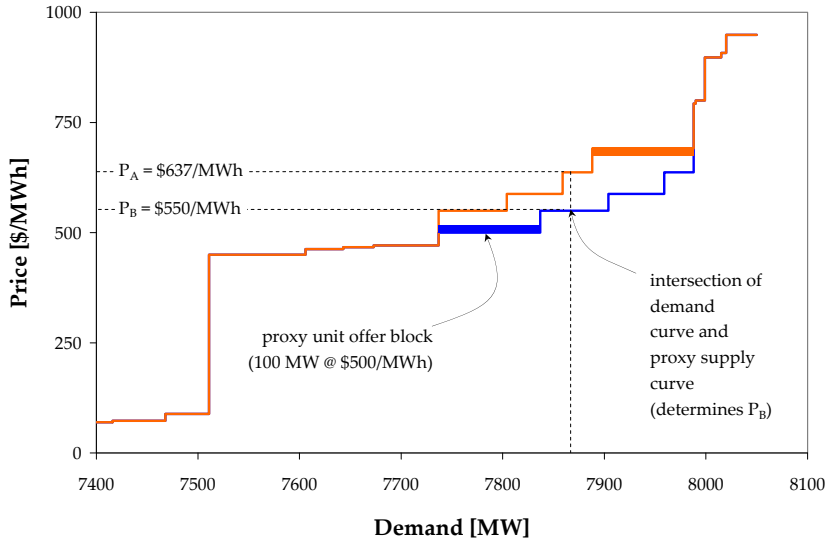


Figure 1(c): Calculating the benchmark price for Hour 17 based on the proxy supply curve.

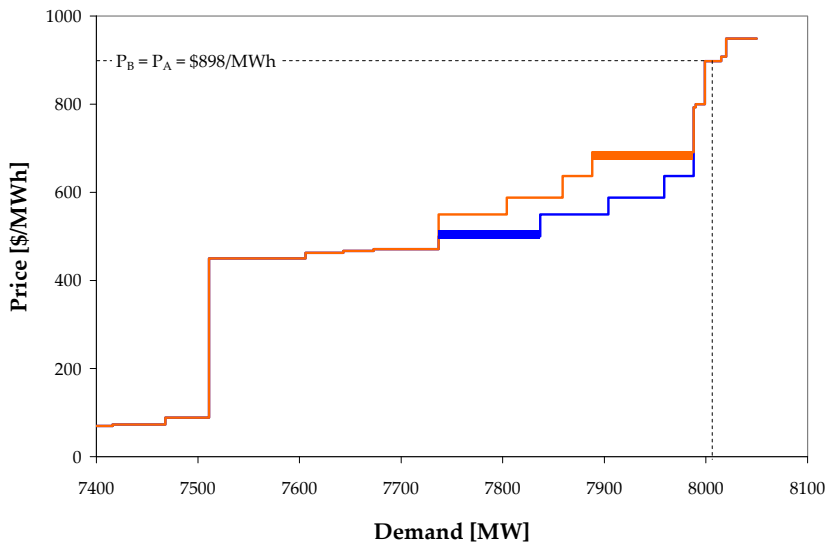


Figure 2: The actual and proxy pool prices in Hour 18. The two pool prices are the same because the actual and proxy offer blocks are both sub-marginal.

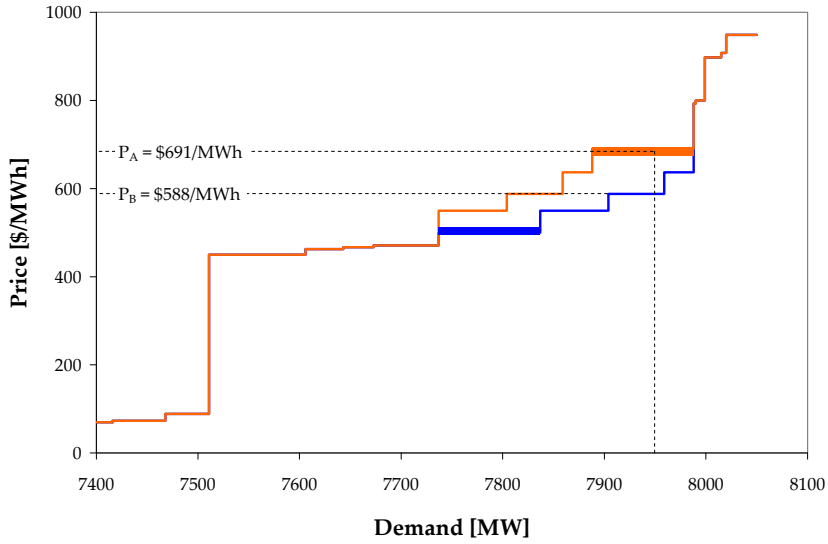


Figure 3: The actual pool price and the benchmark price in Hour 19.

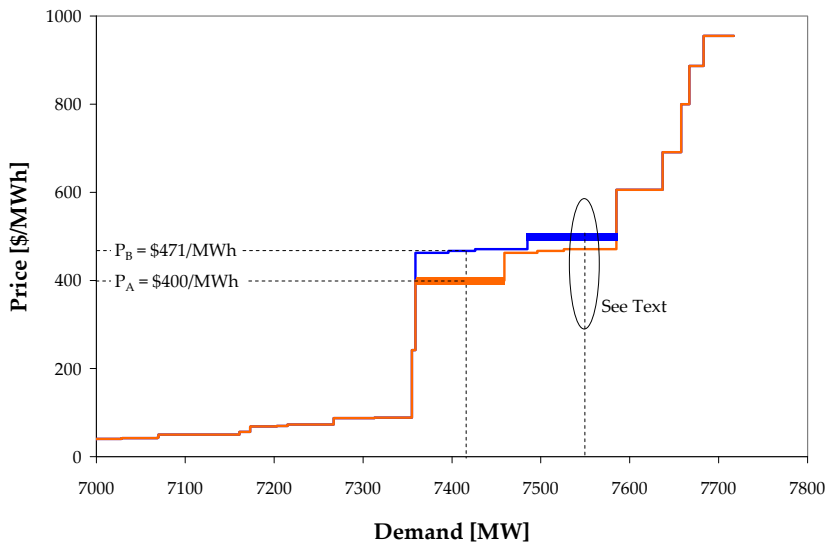


Figure 4: The actual pool price and the benchmark price in Hour 20. Note that, in this hour, the participant's offer behaviour lowered pool price relative to what it would have been with the proxy unit in place.

To keep the examples simple, the participant's offers consisted of single blocks. In reality, capacity is often offered in multiple blocks. No change is required to the PIT in such cases; all blocks are simply priced at the proxy unit's LRMC.

Based on the above results, a couple of observations can be made about the PIT:

- The benchmark price can be above (Figure 4), the same as (Figure 2), or below (Figure 1(c)) the actual pool price.
- The benchmark price may differ from the actual price whether the actual offer was marginal (Figure 3), sub-marginal (Figure 4), or supra-marginal (Figure 1(c)).
- While the price impact could be as large as the difference between the participant's original offer price and the proxy unit's LRMC, it is often much less (any figure).
- In any hour in which the original offer and the proxy unit's LRMC are either both sub-marginal or both supra-marginal, the price impact is zero. This can be seen from any of the charts, which show that there large regions of demand over which the actual and proxy supply curves coincide. This is important because there is no point assigning a price impact to a participant that offers at \$990/MWh instead of the proxy unit's LRMC of \$500/MWh when there is no pool price impact. In such a case, competition has taken care of the high offer by knocking it out of merit.

It may be noted that a benchmark based on simultaneously re-pricing *all* participants' red-zone offers at the corresponding LRMCs could function as an indicator of whether the market is achieving prices that are both competitive and high enough to attract necessary new investment.

Step 4: Calculation of the Price Impact

As shown in Table 1, the 24-hour, weighted-average pool price is \$186.45/MWh, while the weighted average benchmark price is \$180.89/MWh. Thus, the market participant's price impact over the 24 hours, relative to the theoretical offer strategy associated with a new unit of the same type, was $(186.45 - 180.89) = \$5.56/\text{MWh}$ or $5.56/180.89 = 3$ percent.

If the requisite calculations had been performed over a 30-day (instead of 1-day) period, and had they yielded the same small effect, the participant would be deemed to not have abused market power. On the other hand, failing the test does not imply that the participant is guilty of market power abuse. The participant may be able to demonstrate, to the satisfaction of the MSA and/or an AUC tribunal, that its offer behaviour was consistent with past practices (see the Consistency Test), that actual unit costs differ materially from the proxy unit's LRMC, or that there are other legitimate business reasons why the PIT was violated.

Setting Threshold Levels and Test Periods

There is no specific, theoretically correct answer to the questions of what levels and durations of price impacts can be considered material. Guidance can be taken from the Competition Bureau's merger enforcement guidelines, which suggest that a five percent

impact over one year is a sustained and material price change. Given the non-storable nature of electricity and the fact that real-time electricity prices are among the most volatile of all commodities, it would be appropriate to allow a 10 percent price impact over a year as a starting value, subject to later review by the AUC.

As noted above, the appropriate proxy-unit offer price is the LRM. However, because firms maximize economic profit in the short run by equating marginal revenue with *short-run* marginal cost, because there is a range of efficiencies (and hence short-run marginal costs) in the generation fleet, and because there are market cycles of relative over- and under-supply, firms will receive less than LRM in many hours. Consequently, in well-functioning markets, prices must also be allowed to rise above LRM in the short run. Indeed, the shorter the test period, the farther prices must be allowed to rise above LRM. It would not be unreasonable to allow prices in excess of 50% above competitive levels over very short periods such as 10 days. This implies that it may be appropriate to perform the PIT over several periods, as follows:

Test Period	Threshold Change in Pool Price
10 days	50%
30 days	30%
180 days	20%
one year	10%

(By way of comparison, there was discussion during the Section 6 meetings of a “harm threshold” of \$50 million prior to there being justification for agency intervention in the market. If we assume that 30% of the province’s 10,000 MW of load is not hedged (and is therefore exposed to real-time prices), that the load factor is 80%, and that the 10-day test is being used, the price impact threshold would be $(\$50M)/(240 \text{ hours} \times 3000 \text{ MW} \times 0.80) = \$87/\text{MWh}$. Based on a 2006 average price of about \$80/MWh, the market would have to be at \$167/MWh for the ten-day period for the harm threshold to be exceeded.)

It should be noted that, once the methodology of the test has been agreed, it would be straightforward for participants to perform their own benchmark calculations based on the true characteristics of their generation portfolio (rather than the proxy portfolio). The results of such calculations could inform their trading practices.

Injunctive Relief

It should be noted that, while a demonstration that the average benchmark price is close to the average pool price can support a participant’s claim that it is not abusing market power, it is also true that the observation of an extreme difference between the benchmark and actual prices could be used by the MSA as evidence that the participant’s behaviour might constitute market power abuse. In such circumstances, and assuming that other legal remedies are insufficient to prevent irreparable harm to other participants, it may be useful to grant the MSA the legal authority to pursue injunctive relief through the AUC to prevent the participant from continuing to operate in a way that is apparently producing the harm.

The AUC should use the tripartite test that is used by the courts²⁶ in Canada to determine whether or not to grant injunctive relief. The test is sequential in that each component must be satisfied; however, the second and third arms of the test are inextricably linked and must be considered together. The applicant bears the onus of establishing:

- (i) Serious Issue to Be Tried: A serious issue or question to be tried must be found to exist by the Court. The Court's basis for this finding must be common sense and an extremely limited review of the case on the merits. The Court should only go beyond the limited review if granting the injunction would in effect amount to a final determination of the action.
- (ii) Irreparable Harm: The harm that would result in the absence of the injunction would be irreparable, in that it could not be remedied if the eventual decision on the merits did not accord with the result of the application for injunctive relief. Irreparable harm is the nature, not the magnitude, of the harm and it is harm that cannot either be quantified in monetary terms or that is incurable.
- (iii) Balance of Convenience: The harm suffered by the applicant in the absence of the injunction must be greater than the respondent's harm if the injunction was issued. Determination of this component of the test requires consideration of the magnitude of irreparable harm as well as any harm to the public interest. In the case of a public authority, the onus of demonstrating irreparable harm to the public interest is less than a private applicant and the test will nearly always be satisfied upon simple proof that the authority is charged with promoting or protecting the public interest and the relief sought is in pursuit of that responsibility.

²⁶ *RJR-MacDonald v. Canada (Attorney General)*, [1994] 1 S.C.R. 311.

Appendix F: FEOC Characteristics

This appendix was prepared by several Committee members to give further guidance to regulators and market participants alike. The document in this final form was not discussed at length by the full Committee or adopted by them. The Committee did agree, however, that this is worthy of further discussion and review. The two places in brackets [] flag items that those who prepared the document did not agree on.

Characteristics that describe a fair, efficient and openly competitive market

Acts by market participants may be anti-competitive if they fail to support the fair, efficient and openly competitive market.

The following list of characteristics that describe a fair, efficient and openly competitive (FEOC) market. The list provides guidance for:

- A) Market participants on how to assess whether their conduct is supporting FEOC
 - B) The MSA on how to assess whether anti-competitive behavior has occurred
 - C) The ISO such that it can assess whether a rule has an adverse impact on FEOC
1. *High fidelity price signal:* A price signal that is reflective and responsive to changes in fundamentals such as fuel prices, outages, and supply-demand balance. Market prices should be determined through competition, free of non-market forces including rules or actions of agencies. It is equally important in an energy only market that prices are able to reflect conditions of scarcity and abundance. Absence of a high fidelity price signal suggests the market may be inefficient and/or not openly competitive.
 2. *Competitive response:* In a competitive market all firms should have the opportunity to succeed or fail based on their ability to compete. If a participant is able to profit from an innovative strategy, there should be an opportunity for a timely response from other market participants to contest this profit. Absence of such countervailing forces may suggest an inefficient and/or unbalanced market. Market participants have the right to retain advantages from superior performance.
 3. *Information rich environment:* Participants operating in an information rich environment are better placed to make rational and informed decisions that are consistent with the fair, efficient and openly competitive operation of the market. An efficient market has sufficient information for participants to compete. Information should not be a barrier to entry.
 4. *Balance between risk and reward:* In a competitive market there should be opportunities for profit for those willing to take risks. For reasons of equity and efficiency it is important that potential risk and reward are balanced. Market rules should not [inappropriately] hinder participants' ability to recover investment costs.
 5. *Level playing field:* A level playing field is a fundamental part of promoting confidence in a fair and openly competitive environment. The Trading Practices

Guideline (“TPG”) and the Code of Conduct Regulation (“Code”) are two examples related to ensuring a level playing field with regard to access to information. Any market participant should have equal opportunity to participate in the market. [A market participant should not enjoy unearned advantages over others.]

6. *Opportunity to compete:* Market participants (and potential participants) should have the opportunity to compete or contest in any part of the market without undue barriers or interference, whether structural or by a competitor.

Appendix G: Acts or Practices for Consideration as Additional Prohibited Activities

The following list includes practices or acts for consideration as potentially prohibited activities from various sources.²⁷ Acts or practices specifically listed under Principle 7, by consensus of the Committee, are already considered prohibited behaviours and have therefore not been included on the list.

There has been no consensus at the Committee with respect to the determination if these practices or acts are offside or not, and if offside, whether these practices are acts are always offside or if the determination must be made on a situational basis.

The Committee recommends that further work be undertaken to determine whether or not any of the practices or acts, listed below, can and should be included on a list of prohibited activities.

- PUCT 25.503 (g) (2) – A market participant shall not execute pre-arranged offsetting trades of the same product among the same parties, or through third party arrangements, which involve no economic risk and no material net change in beneficial ownership.
- PUCT 25.503 (g) (3) – A market participant shall not offer reliability products to the market that cannot or will not be provided if selected.
- PUCT 25.503 (g) (4) – A market participant shall not conduct trades that result in a misrepresentation of the financial condition of the organization.
- PUCT 25.503 (g) (7) – A market participant shall not engage in market power abuse.
- Physical/Economic Withholding
- Artificial Congestion
- Manipulation of an Index
- Infeasible Bids
- Selective Sharing of Proprietary Information Among Market Participants
- Dispatch Punishment
- Code of Conduct Violations
- Dispatch Economics (Clover Bar)
- Out of Market Payments/Agreements
- Monopoly Leveraging
- System Controller Dispatch and Price
- Political Interference on Pricing
- Passive Collusion
- Reserve signaling strategies
- Dispatch Frustration

²⁷ These included various submissions and discussions including at the April 19-20 meeting, from the Public Utility Commission of Texas *Substantive Rules – Chapter 25 Applicable to Electric Service Providers* Subchapter 25.503 and by Sterling Koch in his original submission on defining market power and market power abuse.

- Discriminatory Pricing
- Fidelity Rebates
- Price Maintenance

Appendix H: Principles of Procedural Fairness and Statutory Agency Roles & Responsibilities

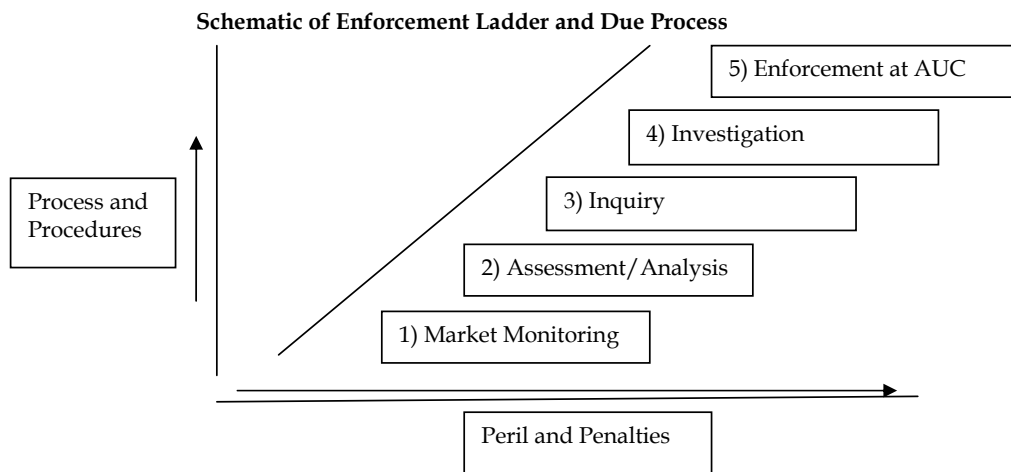
This appendix was prepared by several Committee members, and briefly discussed but not endorsed by the full Committee. The Committee did agree, however, that this will be part of those summer discussions along with whatever other material is brought forward by participants on this topic.

A. General

1. The agencies must have adequate powers, resources, and the capacity to perform their functions and exercise their powers in a competent, timely and efficient manner.
2. There must be a clear separation between the rule-making, investigation, and adjudicative functions, and clearly delineated avenues for appeal from all decisions of the adjudicator agencies.
3. The agencies must discharge their duties in accordance with the principles of natural justice. That is, those agencies must act fairly, in good faith, and without bias or conflict of interest. Adjudicating agencies, must not judge their own cases, and must allow each party adequate opportunity to express its case and respond to the case of its opposition, and must judge the case on the facts heard.
4. Agencies must have clearly documented transparent internal codes of conduct to ensure that individual employees or contractors do not have any ownership in publicly traded or privately held market participants which could affect their judgment.
5. The degree of procedural protection afforded to market participants, and the degree of administrative burden placed on agencies must correspond with the degree of risk to market participants at the various stages from monitoring through enforcement before the AUC.
6. The administrative burden placed on market participants should be as small as reasonable possible while still ensuring effective rule-making, investigation and enforcement.
7. All agencies must establish and publish performance metrics standards with respect to the performance of their mandates.

Conceptual Outline of Enforcement Ladder and Due Process

Principle of Correspondence: “As the degree of peril and penalty rises, so too does the due process”



Enforcement Ladder:

1. Market Monitoring – This is simply the MSA’s ongoing observations of the market’s behavior. Participants are oblivious to this.
2. Assessment/Analysis – The MSA has identified a behavior, an incident or a market feature that it is monitoring for the purpose of better understanding or to assess efficiency, repeatability or materiality. Participants may be asked for assistance.
3. Inquiry – The MSA wants more information from a participant about its behavior or some market feature. This information is likely required for it to confirm or discount its concerns, enabling the MSA to determine whether to go into an investigation of the behaviour or to treat the behaviour or market feature as a more general issue possibly requiring a guideline or other action. This may be the most challenging step in the ladder in terms of striking a balance between due process and expediency. Here the MSA seeks clarity or confirmation, and, for their part, participants may instinctively seek to ‘lawyer-up’ at first contact. The challenge here is that if participants believe most of the MSA’s concerns are easily addressed, and behaviours successfully explained away, how do we do so quickly?
4. Investigation – At this point, the MSA believes an investigation is warranted. Here, a formal process is expected to kick-in. This would include communicating to the participant that an investigation has been commenced and crafting specific information requests in a considered and efficient manner.

5. Enforcement – Should enforcement occur before the AUC, the market participant is afforded appropriate due process checks and balances. Participant rights will need to be defined, but the principle of full and complete due process is here.

B. Monitoring, Inquiry and Investigations

1. Investigation and enforcement processes must be clearly documented, consistent, and non-discriminatory.
2. At the inquiry level, market participants must be expeditious and forthcoming with information to allow for the simple and rapid disposition of matters, and the MSA must provide an indication as to the nature of the concern that prompted the inquiry.
3. Agencies investigating the conduct of any market participant must define the scope of the investigation and may only carry out an investigation where they have a reasonable basis to believe that a market participant may have engaged in misconduct. Agencies must be allowed to collect information from second and third parties who themselves are not the primary focus of the investigation.
4. Any participant subject to investigation must be notified, in writing, of the reasons for the investigation, the event(s) precipitating the investigation, and the basis of the alleged breach or misconduct, as applicable.
5. Agencies engaged in monitoring, inquiry or investigation functions must hold that information acquired in performance of those functions which can clearly be shown to have a materially harmful effect, if disclosed, in confidence and may only use the information for the purpose for which it was obtained.
6. Agencies will only make public the identity of market participants under investigation or subject to the court other Commission proceedings as provided for in the relevant legislation, regulations or Commission rules, processes and orders.

B. Monitoring and Investigations

7. Market monitoring and investigation processes must be clearly documented, consistent, and non-discriminatory.
8. Agencies investigating the conduct of any market participant must clearly define the scope of the investigation and may only carry out an investigation where they have a reasonable basis to believe that a market participant has engaged in misconduct.

9. Any participant subject to investigation must be notified, in writing, of the reasons for the investigation and the specifics of the event(s) precipitating the investigation, and the basis of the alleged breach or misconduct.
10. Agencies engaged in monitoring or investigation functions must hold all information acquired in performance of those functions in confidence and may only use the information for the purpose for which it was obtained.
11. Agencies must not make public the identity of market participants under investigation or subject to a Tribunal until the conclusion of the matter by the Tribunal, or until otherwise ordered by the Tribunal.

C. Adjudication

1. Adjudicators must be qualified to hear the matters at issue before them. This may be accomplished by spelling out necessary qualifications in the legislation or empowering the head of the adjudicator with latitude in populating the board or commission.
2. Unless otherwise specified in the Act or regulations, the burden of proof rests with the agency alleging misconduct.
3. The rules with respect to adjudication should provide a reasonable opportunity for a public proceeding and to enable all market participants to intervene in proceedings which may have a direct and material effect on their operations.²⁸
4. Adjudicators have the discretion to apply graduated enforcement responses to events of non-compliance.
5. Adjudicators should be empowered to hold generic hearings on issues of broad application to market participants. (This is of particular application to the Alberta Utilities Commission.) This should be combined with ability for the adjudicators to establish enforceable rules/regulations of broad application with respect to their decisions.
6. Settlements negotiated by an agency must be approved by an adjudicative agency and the terms of the settlement must be made public, while protecting any proprietary information of the participant.

²⁸ BP Canada argues that the following should be added to the end of Adjudication Principle #3: “Impacted stakeholders must have access to information determined by the AUC to be ineligible for confidential treatment and will retain the right to represent their own interests in proceedings addressing anti-competitive behaviours and the exercise of market power”.

Statutory Agency Roles & Responsibilities (Descriptive, not Exclusive)

DOE

- Responsible for public policy, not detailed implementation.

ISO

- Operates real-time power exchange. (s. 18 EUA)
- Responsible for market operations and operational dispatch. (s. 17(b) EUA)
- Responsible for monitoring compliance with ISO rules, mandatory reliability and maintenance standards and other matters in its mandate. Rules breaches are referred to the MSA for issuing “pre-approved” administrative sanctions, or for “enforcement” before the Commission.
- Responsible for investigation and enforcement of dispatch and operations rules.(s. 22 EUA)
- Any rules, decisions and sanctions can be appealed to AUC. (s. 25 EUA, referral to EUB)
- Adjudication for any disputed matters i.e. major non-compliance, will i.e. Level 2 or 3, should be before by the AUC. (new proposal)

MSA

Monitoring Function (mostly new, entitled “surveillance” in current EUA)

- Market behaviour
- Identify ineffective market rules and structures
- Produce annual and quarterly reports that review the market, consistent with the needs of the Alberta market framework.deliverables in other jurisdictions.²⁹

Investigation Function

- Investigate market behaviour, based on legislation, MSA regulation, FEOC principles and MSA guidelines. (s. 49, EUA)
- Enforcement before AUC.
- Negotiated MSA to refer investigation to AUC if breach of principles/guidelines is believed to have occurred. (s. 59, EUA)
- MSA may negotiate with affected market participant after investigation has been referred to AUC, but settlements to must be approved by the AUC. (s. 65, EUA)
- MSA may develop Guidelines setting forth how they will exercise their surveillance and investigatory mandate with respect to a specific issue, provided that: (s. 49(4) EUA, additional detail about this function provided)
 - Reasons and rationale for guidelines must be transparent and in writing;
 - There must be an established process to permit meaningful consultation with market participants on all proposed guidelines;
 - There must be a meaningful process to have appeal guidelines sanctioned by to a Tribunal or the Commission. Board, with no finite period of appeal;

²⁹ This sentence can be deleted and the Market Share of Offer Control Test can be applied during the trial period if the clarifications sought with respect to the Market Share of Offer Control Test (Screen 1), contained later in this document, are resolved.

- Guidelines should have no effect until the appeal is resolved.
- If necessary, upon approval of the AUC, guidelines could be turned into rules or regulations after a hearing process.

AUC

- Independent body for fair hearings on MSA investigations, ISO significant matters, and appeals on ISO rules, decisions and sanctions and MSA guidelines.
- Hearing body for MSA- and major-ISO referred matters, breaches of AUC rules, decision, orders, including determination of “guilt”, imposition of penalties and sanctions and approval of negotiated settlements.
- Approve negotiated settlements, which may be made at any time during the inquiry, investigation or enforcement process. Such settlements must be made public (consistent with appropriate consideration for business confidentiality) to satisfy transparency and fairness. (s. 65, EUA)
- Adjudicates utility matters. (Part 9, EUA – refers to EUB)
- Responsible for Retail Code of Conduct for gas and electricity. (currently Code of Conduct Regulation(Gas), MSA currently regulates under Code of Conduct Regulation (Electricity))

Appendix I: Alberta Market Power Mitigation Structure Alternative B

Deleted: (submitted by ATCO Power, ENMAX, EPCOR, TransAlta and TransCanada)

(This appendix illustrates the mapping of Alternative B as described in the body of the Report on top of Alternative A)

Deleted: ¶

This alternative is supported by [ATCO Power](#), [ENMAX](#), [EPCOR](#), [IPPSA](#), [TransAlta](#), [TransCanada](#), and [Alta Gas](#).

Deleted: and

This structure is meant to recognize that there is no single parameter or action that can – or should – be imposed on the market. Instead, the structure attempts to provide a blend of actions and procedures that can provide clarity and efficacy for all stakeholders.

Deleted: Alberta Department of Energy, Alberta Electric System Operator Alberta Direct Connect Consumer Association, Alberta Federation of Rural Electrification Association, Alberta Urban Municipalities Association, Utilities Consumer Advocate, Direct Energy, Alberta Energy Savings BP Canada, EnCana, Alta Gas, Imperial Oil, and the Balancing Pool

This alternative shows the structure in diagrams as well as providing explanations and examples of the components:

Deleted: .

- Flowchart of the Market Power Mitigation Structure
- Description/Discussion of the Structure
- Description/Discussion of an Hourly Ex-Ante Green/[Yellow](#) Framework
- Consistent Offers
- Historical Green/[Yellow](#) data

The term “market power” refers to the ability of a firm to behave relatively independently of the market, to raise (or lower) prices materially above (or below) levels that would apply in a competitive market, and to sustain those prices for a material length of time. However, the possession of market power in and of itself does not constitute anti-competitive behaviour. “Market power abuse” refers to conduct by a firm possessing market power with the purpose and effect of substantially lessening competition, thereby preserving or increasing the firm’s market power.

It is generally accepted that evaluations of market power abuse must examine, inter alia and ex post, whether prices were raised (or lowered) substantially above (or below) competitive levels and whether supra-competitive (or sub-competitive) prices existed for a material length of time.

~~Attempts to manipulate prices through anti-competitive behaviour or the exercise of market power are prohibited.³⁰~~

[The Market Power Mitigation Structure framework is the product of numerous concessions and accommodations among Committee members in an attempt to achieve consensus. It is not an approach that conforms to Principles 8 and 10 of the Principles of](#)

³⁰ Alta Gas believes that this should not automatically be considered a prohibited behaviour but rather should be listed in Appendix G and discussed along with the other potentially prohibited behaviours listed there.

Participant Conduct, nor does it conform to or incorporate proven or accepted economic, legal or market design principles. Further, the imposition of this Market Power Mitigation Structure has the potential to dampen the investment signal for generation in Alberta, which could have long-term consequences for supply adequacy. This fact, together with the novelty of the Structure creates a significant risk of serious unintended negative consequences for some or all consumers, market participants and government representatives. The fact that abuse of market power has not been present in Alberta's electricity market to date supports a measured and cautious approach to implementation. Further, the development of the Structure has been based on a results-driven approach, not a principle-driven approach.

Therefore, the Structure should be tested as follows:

1. The approach should be tested over a one year trial period prior to full implementation.
2. Parameters and metrics for determining success or failure during the trial period must be clearly defined in advance, in order to fairly measure the success or failure of the approach and to provide a reasonable guide to assessing the appropriateness of the specific thresholds for each component of the framework.
3. Upon completion of the trial period, the Committee should be reconvened to reconsider the thresholds arrived at through the Committee process. As an alternative, the MSA could apply to the AUC for approval to amend the thresholds and a public hearing could be held to consider the matter.
4. After implementation, the impacts of the framework and its levels must be reviewed regularly to ensure that the Structure may be amended or discontinued in the event it is not achieving its stated goals or is resulting in undesirable consequences. If any amendments are required, the MSA must apply to the AUC for approval to amend the thresholds and a public hearing must be held to consider the matter.
5. During the trial period, the Market Share of Offer Control test will not be implemented³¹.
6. The hourly green/yellow framework will be implemented, but the outcomes shall not form the basis upon which the MSA would justify a decision to investigate a Market Participant. Instead, during the trial period, the MSA would use its existing processes and tests to investigate market power abuse.

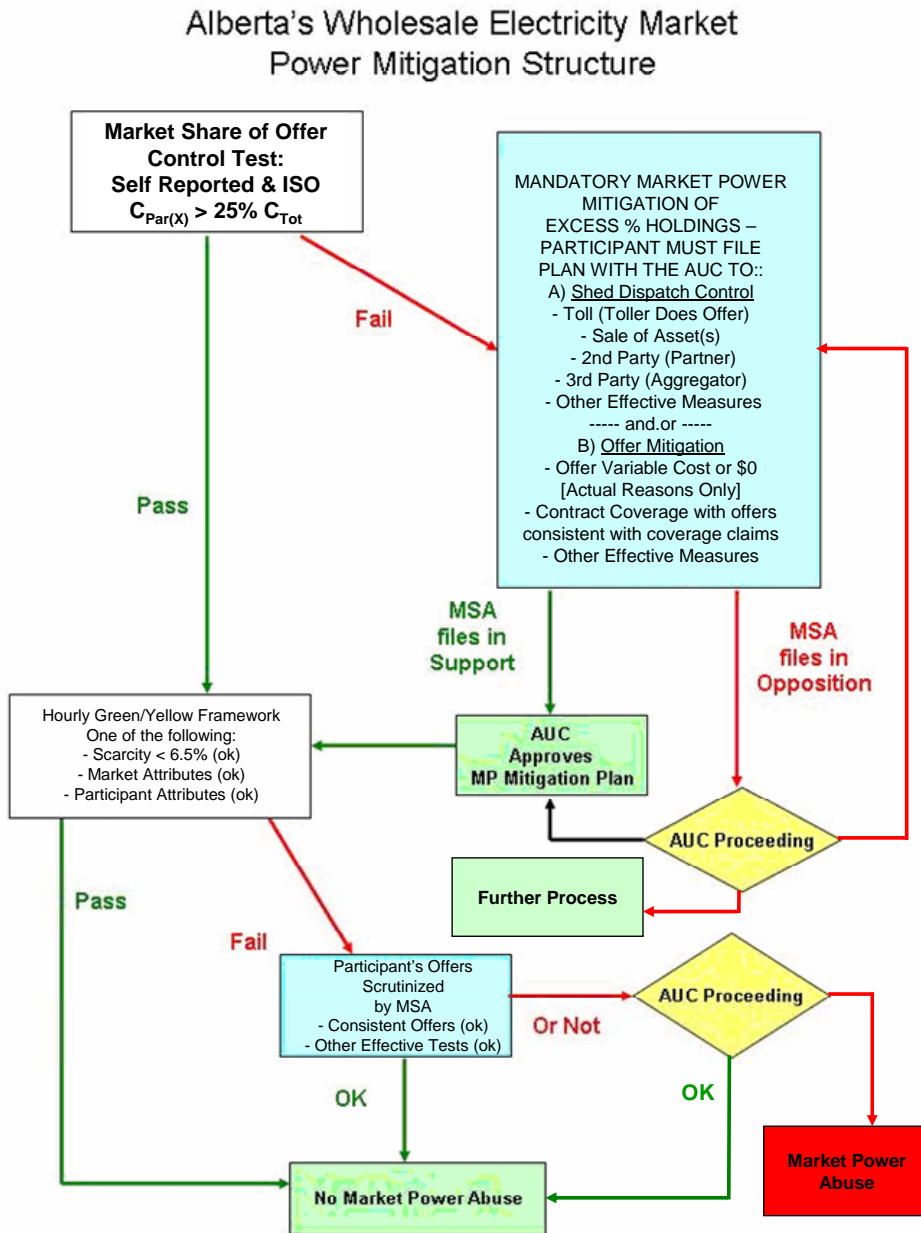
Deleted: The Market Power Mitigation Structure outlined below is a product of numerous accommodations among Committee members during the Section 6 meetings. The Committee members supporting this alternative acknowledge that there is a potential risk of unintended consequences for consumers, market participants, or government representatives. It is therefore recommended that the mitigation structure be tested over a 6-month trial period prior to full implementation. ¶

¶ During the trial period, ¶
a) Both the Market Share of Offer Control and the hourly red/green framework will be implemented and, ¶
b) The outcomes of the hourly red/green framework will serve to inform the decision as to the final specific thresholds for each component of that framework, and ¶
c) The outcomes of the hourly red/green framework will serve to inform the MSA but will not solely form the basis upon which the MSA would justify a decision to investigate a Market Participant - the MSA will continue to use its existing processes and tests to investigate market power abuse. ¶

¶ At the conclusion of the test period and periodically consistent with normal market review, the MSA, after consulting with stakeholders, will set the threshold numbers in the red/green framework to assist the MSA in the performance of its mandate. ¶

³¹ This sentence can be deleted and the Market Share of Offer Control Test can be applied during the trial period if the clarifications sought with respect to the Market Share of Offer Control Test (Screen 1), contained later in this document, are resolved

Flowchart of the Market Power Mitigation Structure



Description/Discussion of the Market Power Mitigation Structure

Screen 1) Market Share of Offer Control Test

Market Participants (the Participant) are subject to a Market Share of Offer Control of 25 percent of the total installed generation capacity in Alberta.

Deleted: maximum offer control

A Participant's Market Share of Offer Control percentage will be determined in accordance with the formula set forth below and will be calculated at the beginning of each calendar year and whenever there is a significant change in offer control in the market. Events that may cause a significant change in offer control include construction of a new generating asset, change in ownership or offer control of an existing generation asset, change to contract coverage arrangements, etc.

To the extent that a Participant's offer control exceeds 25 percent of the total installed capacity in Alberta, the market participant will be required to file a MP Mitigation plan with the Alberta Utilities Commission (AUC).

Deleted: Participant's offer control percentage will be determined on the basis of the sum (in MW) of all of the generating asset offers that the Participant is responsible to submit to the ISO in accordance with the ISO rules.¶

Formula for Market Share of Offer Control Test:

MARKET SHARE OF OFFER CONTROL TEST =

If $C_{PAR(X)} > C_{TOT} * 0.25$

Then ==> Participant X fails the test and must submit a mitigation plan to the AUC to mitigate a percentage of the Participant's Market Share of Offer Control equal to the percentage of the Participant's Market Share of Offer Control above 25%.

Where C_{TOT} = TOTAL CAPACITY = all generation installed in Alberta (except wind capacity)

- + All ATC import capacity on interties.

Where $C_{PAR(X)}$ = PARTICIPANT'S CAPACITY = the total capacity of any Participant, "X", measured as the sum of all capacity where that participant controls the offers (excluding wind capacity)

+ Any firm import capacity controlled by that participant

- hydro capacity subject to a PPA controlled by that participant.

The Participant must select appropriate MP mitigation measures from the following list:

B. Shed Dispatch Control

- Toll (Toller Does Offer)
- Sell off Asset
- 2nd Party (Partner)
- 3rd Party (Aggregator)

- [Other effective measures a Participant may choose](#)
- And/or

C. Offer Mitigation

- Offer Variable Costs or \$0
- [Contract Coverage – A participant can demonstrate adequate contract coverage or demonstrate that its offers are consistent with a claim of Contract Coverage.](#)
- [Other effective measures a participant may choose.](#)

Deleted: Offers consistent with claims of Contract coverage

After the Participant has filed their mitigation plan with the AUC, the MSA must file with the AUC either in support or opposition to the MP mitigation plan proposed by the Participant (based on the technical correctness and efficacy³² of the proposal):

- If the MSA supports the plan, then the AUC will approve the plan as filed (unless it decides on its own accord and consistent with its own jurisdiction to do otherwise)
- If the MSA opposes the plan, the AUC will convene a proceeding with the Participant and the MSA to determine a MP mitigation plan.

Should the AUC convene a proceeding on a MP mitigation plan under the Market Share of Offer Control Test, the scope will be related only to the technical correctness and efficacy of the filed plan. The hearing will be in camera with the MSA and the Participant. The AUC's decision, when rendered, will be published in a level of detail that balances market confidence with participant confidentiality. [If the AUC does not approve the market participant's mitigation plan, the market participant may choose to submit a new plan or seek recourse through another mechanism, to be determined.](#)

Screen 2) Hourly Green/[Yellow](#) Framework

A market participant may, from time to time, and through no action of their own, find themselves in possession of market power. The exercise or abuse of market power is related to the behaviour of that participant when in possession of market power.

The following outlines an ex-ante approach to mitigate potential market power abuse in accordance with Principle 8 of the Phase I report.

Principle 8 of the Phase I report is as follows:

“Market Power Abuse – Market participants shall not abuse market power.”

The paper also states the purpose of Principle 8 to be as follows:

³² “Efficacy” is defined here as the effective mitigation [of any percentage of the participant's portfolio that cumulatively equals the percentage by which \$C_{PAR\(X\)}\$ exceeds \$C_{TOT} * 0.25\$.](#)

Deleted: of the excess, as may be determined by the AUC.

“This principle is intended to govern market participant behaviour based on free and open competition such that market prices reflect market fundamentals.”

This hourly framework is in addition to and complementary with the Market Share Offer Control Test contemplated by the wholesale electricity market power mitigation structure.

The hourly framework is structured around four basic premises:

1. The delineation of a “Green Zone”, in which market attributes indicate that acceptable concentration levels or scarcity conditions exist. The “Green Zone” also indicates that a market participant is not in possession of market power, and therefore unable to exercise or abuse market power through its actions.
2. The delineation of a “Yellow Zone” in which market attributes indicate increased concentration and that the potential exists for some market participant to be in possession of market power.
3. The ability of market participants to choose and to seek to be in the Green Zone or the Yellow Zone.
4. Clearly defined additional simple rules that apply when market participants are in the Yellow Zone.

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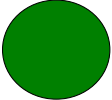
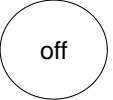
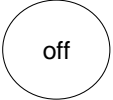
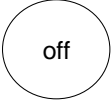

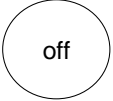
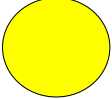
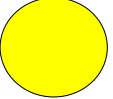
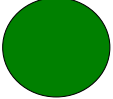
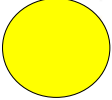
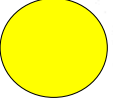
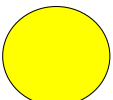
By definition, any market participant in the Green Zone does not possess market power and therefore cannot be “guilty” of violation of Principle 8. However, that does not mean that a participant in the Green Zone is exempt from any of the other FEOC principles or Market Rules, guidelines, etc.

A key component of the Green/Yellow framework is that it does not, on its own, impose the following:

- a. Limiting participant bids to cost plus xx%.
- b. Changing either the price cap or bid cap of any participant
- c. Preventing any participant from bidding the cap
- d. Preventing any participant from being the marginal unit (i.e. the notion that those with market power can’t set price.)

There would be a layered approach to defining the Zones based on the following:

- a. Scarcity of supply
- b. Market attributes
- c. Participant attributes

	<u>Scarcity</u>	<u>Market</u>	<u>Participant</u>
Residual < 6.5%			
HHI_M < 1800			
HHI _M > 1800 HHI_P < 400 R > 6.5%			
HHI _M > 1800 HHI _P > 400 R > 6.5%			

d.

Specifically, the Zones will be defined as follows:

a. Scarcity of residual supply.

All market participants are deemed to be in the Green Zone if the total residual supply is equal to or less than 6.5 percent. An hour will be declared to be in scarcity if any portion of that hour is forecast to have total residual supply equal to or less than 6.5 percent.

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b. Market attributes.

In real time, the Herfindahl-Hirschman Index (HHI) will be calculated as a function of “offer control” based on each participant’s portion of residual supply over total residual supply. (The HHI_M will be calculated as the sum of the squares of each market participant’s offer control relative to the total remaining residual supply.)

All market participants are deemed to be in the Green Zone when market conditions are conducive to fostering competitive response as measured by an HHI_M equal to or less than 1800.

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c. Participant attributes

If the HHI_M exceeds the limit contemplated in b) above, an individual market participant will remain in the Green Zone if their offer control of residual supply is equal to or less than 20 percent of the total residual supply (= participant $HHI_p < 400$).

Conversely, to the extent that HHI_M exceeds the limit contemplated in b) above, an individual participant will be in the Yellow Zone if their offer control of residual supply exceeds 20 percent of the total residual supply (= participant $HHI_p > 400$).

A participant that is in the Yellow Zone will have the following options:

Option 1 Return to the Green Zone. The Participant can adjust their attributes to return to the Green Zone at the end of the current T-2 lockdown period or may return to the Green Zone as a result of other market changes.

Option 2 Remain in the Yellow Zone. The Participant's offers would then likely be subject to additional scrutiny by the MSA.

Under Option 1, because a market participant's offers are frozen at T-2, a market participant can not adjust its offers for the hour in which it has been flagged Yellow. Market participant Yellow Zone offers for hours in which offers can not be adjusted will not be subject to MSA scrutiny with respect to market power abuse.

Under Option 2, the MSA will use the Green/Yellow screens as an aid to allocate its surveillance resources most efficiently and to aid in assessing circumstances in which market power may have been available to, and exercised by, a participant. A market participant will not be subject to further MSA scrutiny with respect to market power abuse if it can be demonstrated that its Yellow Zone offers are consistent with previous non-Yellow Zone offers, subject to ex-post verification by the MSA. Please see next section "Consistent Offers".

The Consistent Offers Test is but one of several tests that could be developed and applied as green/yellow screens. The Price Impact Test (Appendix E) is a possibility that the Committee has not yet approved but (except for Direct Energy, BP Canada, Constellation Energy, and Alberta Energy Savings) has agreed is worth further exploration, and there are others. As noted previously, the Committee has agreed that greater specificity regarding when market power is abused is important for market participants and regulators alike, and such specificity can be provided by well-designed tests.

Based on its scrutiny of a participant under Option 2, and if it believes that it has a prosecutable case, the MSA may initiate a proceeding with the AUC. Actual determination of whether a participant has in fact held and abused market power, and what if any the consequences, shall be made by the AUC.

As part of the clarity of the open market, the statistics for the following market conditions, at a minimum, will be published:

1. The number of hours that the residual supply is equal to or less than 6.5 percent.
2. The number of hours that the residual market HHI_M is greater than 1800.
3. The number of participants whose offer control of residual supply is equal to or less than 20 percent of the residual supply in each hour when the residual market is under condition 2) above.
4. The number of participants whose offer control of residual supply exceeds 20 percent of the residual supply in each hour when the residual market is under condition 2) above.
5. The number of hours in which the Pool Price is set by Yellow Zone offers.

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Please see “Historical Green/Yellow Framework Statistics” later in this chapter.

Consistent Offers in Green/Yellow Framework

In the Yellow Zone, participants who do not opportunistically increase their offers in response to the short term tightening of supply (i.e. take advantage of periods of limited competition to increase profits without incurring dispatch risk) will not be subject to MSA scrutiny. For example, a market participant will not be subject to further MSA scrutiny if it can be demonstrated that its Yellow Zone offers are consistent with previous non-Yellow Zone offers as set out below.

Deleted: considered to have abused market power.

The premise behind the consistent offers discussion is very clear:

1. A market participant can find themselves in possession of market power through no direct action or fault of their own.
2. If that market participant does not take any action while in possession of market power then it follows that the participant cannot have exercised or abused market power by definition because they did not act while in possession of market power.
3. Therefore, it is also reasonable to conclude that a participant in the Yellow zone that maintains an offer strategy consistent with recent offers when the participant was in the green zone, can reasonably argue (ex-post to the MSA or in front of the AUC) that they did not exercise or abuse market power while in the Yellow zone.

Indicators of Consistency

- a. Similar share of the residual stack during historical Green Zone periods adjusted for current conditions or,
- b. Offers within the normal range of previous Green Zone offers (similar absolute prices, contributions to fixed costs...) or,
- c. Consistent offer strategy that is independent of short term residual supply levels.

Proposal to Measure Consistency

1. Define the Relevant Period
 - Only participant Green Zone periods are eligible
 - Similar demand circumstances (e.g. On-peak, off-peak or hour by hour)
 - Similar participant physical portfolio position (e.g. no unusual circumstances – outages)
 - Statistically relevant sample size (e.g. over a minimum of previous 2 weeks)
2. Assemble Portfolio Offers During the Relevant Period
 - Compile all of the participant offers (price, quantity) for the period
 - For each increment of portfolio volume (e.g. 10MW or X%), determine the distribution of historical offer prices (\$/MWh).

3. Compare Current Yellow Zone Offers Against Historical Green Zone Offers
 - Compare the Participant’s share of the current residual stack against the shares they would have held of the historical residual stacks under current conditions and,
 - For each increment of portfolio volume, compare the offer price against the historical price distribution.”

4. Test for Offer Consistency

- A current portfolio offer will be considered to be consistent if:
 - i. The participant’s share of the residual stack is no higher than the greater of 50MW or 10% of the average share they would have had of the historical residual stacks under current conditions or,
 - ii. Each current incremental portfolio volume is priced no higher than the greater of \$20/MW.h or 10% of the historical range, excluding “outliers” unless a reasonable basis for their inclusion is provided, and the current volume weighted average price is within 10% of the historical average or,
 - iii. Each current incremental portfolio volume contribution to fixed costs is no higher than the greater of \$20/MW.h or 10% of the historical range, excluding “outliers” unless a reasonable basis for their inclusion is provided, and the current volume weighted average contribution to fixed costs is within 10% of the historical average or,
 - iv. The participant is able to demonstrate that his offers are based on a consistent strategy that is independent of short term residual supply levels.

Deleted: <#>For each increment of portfolio volume, compare¶
<#>The participant’s share of the current residual stack against the shares they would have held of the historical residual stacks under current conditions and,¶
<#>The current offer price against the historical price distribution.¶

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Formulas and Historical Green/Yellow Framework Statistics

Assuming a must offer, must comply, T-2 environment, the Green Zones for T-0 will be calculated at T-2 as follows:

Green Zones

- a. Scarcity of supply => $(\text{Residual Supply})/(\text{Total Supply}) \leq 6.5\%$, calculated at T-2.5 hours
- b. Market attributes => HHI_M of residual supply ≤ 1800 , calculated at T-2 hours
- c. Participant attributes => HHI_P of residual supply for an individual participant $x \leq 400$, calculated at T-2 hours

Where:

$$\text{Total Supply} = A+B+C$$

$$\text{Residual Supply} = A+B+C-D$$

Deleted: <#>Market attributes => HHI of residual supply <1650 ¶
<#>Participant attributes => HHI of residual supply for an individual participant $x > 400$ ¶
<#>Scarcity of supply => $(\text{Residual Supply})/(\text{Total Supply}) < 3\%$ ¶

Offer control of residual supply for participant x = any quantity from x in $(A+B-D)^{33}$

³³ Forecasted wind is included in the total supply. However, the concept of offer control of residual wind does not make sense or apply to the calculation of a participant's residual offer control.

		Intended calculation	Proxy used for historical data
A	Offered generation	All offers in the energy market merit order (EMMO) at T-2 ³⁴	\sum Total declared energy (TDE) ³⁵ submissions less \sum dispatched reserves and dispatched or directed TMR
B	Interties	Posted Import ATC at t-2	\sum Import ATC (from all interties) ³⁶
C	Wind	Wind forecast at t-2	\sum Actual wind generation (SCADA)
D	Dispatched generation	Generation + Imports expected to be dispatched in the EMMO at t-0	\sum Actual generation (SCADA) + Actual Net Imports (SCADA) less \sum estimated energy associated with dispatched reserves and dispatched or directed TMR ³⁷

³⁴ “All offers at t-2” includes the available capability of hydro units. It does not include offers for Rosedale. It will be adjusted to reflect energy from units providing TMR.

³⁵ A TDE submission will be adjusted down to MCR where TDE > MCR. A TDE submission will be adjusted up to actual generation where actual generation > TDE. A TDE submission will be adjusted to 0 when the actual generation from long lead time units = 0. The TDE of non-price responsive or self dispatching ISD’s will be adjusted to actual generation.

³⁶ ATC does not necessarily represent available energy historically. In the review of historical data, we included an additional assumption that the actual interchange reflects all available energy if the pool price is greater than the MIDC price plus \$ 50.

³⁷ Estimated energy associated with spinning reserves and supplemental reserves = 0 MWh. Estimated energy associate with regulating reserves is estimated to be half of the dispatched range.

Deleted: a) from units that have longer than a 2 hour lead time and that are not online at t-2 and b)

Yellow Zone Statistics (historical review)

HHI >1500	2005	2006
1) The number of hours that the residual supply is less than 3 percent (uses 350MW for this history)	148	243
2) Number of hours that the residual market HHI is greater than 1500 (may include hours from 1) above).	892	1353
3) The number of participants whose offer control of residual supply is greater than 20 percent of the residual supply in each of the hours in 2).	0 firms: 45 hours 1 firm: 669 hours 2 firms: 178 hours 3 firms: 1 hours	0 firms: 74 hours 1 firm: 1115 hours 2 firms: 163 hours 3 firms: 1 hour
4) Number of hours in 2) in which pool price was set by <u>Yellow</u> Zone offers.	598	976

HHI >1650	2005	2006
1) The number of hours that the residual supply is less than 3 percent (uses 350MW for this history)	148	243
2) Number of hours that the residual market HHI is greater than 1650 (may include hours from 1) above).	730	1119
3) The number of participants whose offer control of residual supply is greater than 20 percent of the residual supply in each of the hours in 2).	0 firms: 32 hours 1 firm: 540 hours 2 firms: 158 hours 3 firms: 0 hours	0 firms: 60 hours 1 firm: 936 hours 2 firms: 122 hours 3 firms: 1 hour
4) Number of hours in 2) in which pool price was set by <u>Yellow</u> Zone offers.	500	815

**Appendix J: Alternative C by
Constellation Energy, Agrium, and IPCAA**

**An Ex-Ante Mechanism for
Mitigating Generation Market Power
in Alberta's Hourly Wholesale Electricity Market**

A Proposal to the Section 6 Committee

June 27, 2007

Executive Summary

In order for competition to effectively achieve the goal of a more efficient electricity market, opportunity for the exercise of market power in Alberta's hourly wholesale electricity market must be mitigated to the greatest extent possible. The most productive means of doing this is to structure the market in such a way so as to avoid or minimize the potential for abuse from the outset rather than to try to correct market power problems after abuses have already occurred. The challenge for policymakers is to develop mechanisms that effectively constrain market power exercise while at the same time allowing market prices to signal scarcity conditions at times when scarcity conditions arise.

This paper outlines a proposal that incorporates an *ex-ante* approach for mitigating growing market power concerns in Alberta's hourly wholesale electricity market. The proposal is based on the underlying assumption that the prospects for the exercise of unilateral market power and/or coordinated interaction amongst Suppliers will be greatly reduced when the number of actual and potential Suppliers is sufficient to undermine efforts of dominant suppliers to exercise market power (i.e. the potential for the exercise of market power is greatly reduced when the market is workably competitive).

The proposal is built upon the procedures used by the Federal Energy Regulatory Commission (FERC) under Sections 205 and 206 of the Federal Power Act (FPA) which incorporates an *ex ante* structural analysis of the market to diagnose potential market power problems.

Similar to the FERC approach, the proposed process will provide a fair assessment of generation market power and will indicate the potential for generation market power where it may exist. This approach will establish a clear line between the level of capacity holdings that are deemed acceptable / non-problematic and those that signal potential problems, thereby limiting the MSA's authority to impose constraints on Suppliers' offer strategies.

The proposed process for determining and mitigating market power in Alberta's hourly wholesale electricity market is illustrated graphically on Figure 1 on page 10.

The pivotal supplier analysis evaluates the applicant in relation to market supply and demand; the market share analysis evaluates applicants' size in relation to others in the market. Taken together, the MSA will be able to measure both peak and off peak market power and the ability to exercise market power both unilaterally and in interaction with other sellers.

Failure of either screen sets up a presumption that generation market power exists. A Supplier may rebut the presumption with additional information via the detailed evaluation of its "unhedged" capacity. A Supplier may also choose to i) file a mitigation proposal tailored to its particular circumstances that would eliminate its ability to exercise

market power, ii) agree to implement a MSA prescribed compliance plan or iii) to adopt cost-based pricing.

It is important to note that under the proposed approach, Suppliers that are deemed to have market power are not prevented from investing in the market or from acquiring control of additional capacity via contract. Suppliers may, under certain circumstances, become subject to constraints on their bidding behaviors that are recommended by the MSA in an effort to proactively mitigate any concerns of / potential for market power abuse.

An Ex-Ante Process for Mitigating Generation Market Power

Overarching Philosophy - An Ounce of Prevention is Worth More than a Pound of Cure

Guarding consumers from the effects of market power exercise emanating from a potentially non-competitive electric power market is an important mandate for Alberta's MSA and is undoubtedly an area where an ounce of prevention is better than a pound of cure.

This paper outlines a proposal that incorporates an "*ex-ante*" approach for mitigating growing market power concerns in Alberta's Hourly Wholesale Electricity Market. The proposed process for determining and mitigating market power is illustrated graphically on Figure 1 on page 10.

The Advantages of Structural Remedies

Many market power experts believe that *ex ante* structural analyses are vital to diagnose potential market power problems. Moreover, structural analyses of wholesale electricity markets are critical to ensure that potential remedies are narrowly tailored to the market power problem that is being corrected.³⁸

The structure of a market refers to many features of the market such as the number and relative sizes of independent suppliers in the market (concentration), product differentiation, entry conditions, cost functions, and vertical integration. Prospects for the exercise of unilateral market power and/or coordinated interaction are reduced when the number of actual and potential suppliers is sufficient to provide the ability and incentives to undermine efforts of dominant suppliers to exercise market power. The probability that one or more suppliers will be pivotal is reduced when concentration is low or the supply elasticity is high for other suppliers.

The structure of a market that provides supply to particular customers is unlikely to be static because the variability of demand and supply conditions which shift during the day

³⁸See: Comments of the Staff of the Bureau of Economics and the Office of the General Counsel of the Federal Trade Commission before the United States of America Federal Energy Regulatory Commission – Docket No. EL01-118-000 January 7, 2002.

and across seasons of the year. Because demand and supply in any given period is largely independent of demand and supply in other periods in electric power markets (in large part because storing electric power is not widely practical with existing technologies), each such period of time constitutes a separate product market with an associated geographic market. Further, at any given period of time, different types of generators (baseload, mid-merit, or peaking generators) may be more or less influential in determining the wholesale spot market price applicable to a geographic cluster of customers. Within a specific time frame, the structure of ownership and control over a subcategory of generators (for example, mid-merit generators) may be as telling as more general measures of market concentration. Because the extent and shape of the relevant geographic market constantly changes, a structural remedy that is sufficient to address market power concerns in one period of time may be insufficient in other periods of time.

The goal for *ex ante* structural remedies in wholesale electric power markets is to create conditions that are conducive to competition and then let the markets operate relatively free from regulation. A principal source of concern about the horizontal structure of existing electric power markets is that concentration in generation assets may have accumulated. Structural remedies for horizontal market power in electricity markets can be used to address this potential problem. Structural remedies include, for example, divestiture of an incumbent generating firm's plants to more than one buyer, increased transmission capacity that allows efficient wheeling of power from additional independent suppliers outside the area, contractual forward sales of generation output (*e.g.*, vesting contracts), and reduced impediments to entry of new generators.

Structural generation remedies do not necessarily involve sales of generating facilities. For example, remedies may include forward sales of a generating unit's output to unrelated third parties if they can be structured properly. The sale of such output at prices that cannot be raised by subsequent decisions by the generating unit's owner effectively reduces generation concentration and the attendant unilateral market power of any one generation owner.

Structural remedies address directly the incentives and ability to reduce supply or to coordinate supply reductions with others. In contrast, behavioral remedies may be ineffective because of difficulties in detecting and documenting violations in real-time electric power markets. Offer caps and other price mitigating mechanisms which serve to constrain price offers in wholesale spot markets are generally not an attractive substitute for structural remedies. Offer caps and/or other forms of bid mitigation have several unavoidable shortcomings: (i) they may dampen entry incentives and (ii) they may pose an inherent regulatory risk to market participants that the constraints may further modified, which may ultimately reduce the incentive for new generation investment. As such, understanding the impact of various price mitigation mechanisms on the market dynamic is difficult at best, and infeasible and confusing to market participants at its worst.

Introduction to Ex Ante Market Power Mitigation Proposal

The approach presented here is designed to specifically address the prevailing concern about the structure of Alberta’s electric power markets – that is – the growing concentration of control of in-Alberta generation assets.

The proposal is based on the underlying assumption that the prospects for the exercise of unilateral market power and/or coordinated interaction amongst Suppliers will be greatly reduced when the number of actual and potential Suppliers is sufficient to undermine efforts of dominant suppliers to exercise market power (i.e. the potential for the exercise of market power is greatly reduced when the market is workably competitive).

The proposal is built upon the procedures used by the Federal Energy Regulatory Commission (FERC) under Sections 205 and 206 of the Federal Power Act (FPA) which incorporates an ex ante structural analysis of the market to diagnose potential market power problems.

Similar to the FERC model, when concentration of generation assets is found to be problematic, our approach relies upon structural remedies to address directly the incentives and ability of Suppliers to reduce supply or to coordinate supply reductions with others. The goal for *ex ante* structural remedies is to create conditions that are conducive to competition and then to let the markets operate relatively free from regulation.

Process Overview

1. Quarterly Reporting of Generation Capacity Control

On a quarterly basis, any Supplier with direct or indirect control of the offer strategy of an existing generation asset situated within the Alberta Interconnected Electrical System (AIES) will be required to file a report with the MSA setting out the Maximum Continuous Rating (MCR) of each generating unit under its control (including details of any particular energy/asset management agreement that transfers beneficial control³⁹).

Suppliers will be required to set out applicable “Seasonal Adjustment Factors” to be applied to the Maximum Continuous Rating to recognize the impact of non-ISO and other weather related conditions which vary seasonally that are expected to affect the seasonal real power capability. Each Supplier will also provide a summary of the aggregate or total generating capacity under its control expressed in terms of MCR.

2. Exemption for Suppliers with Small Positions

Suppliers with beneficial control of Generation Capacity with a total MCR of less than 500 MW and/or 4 percent of the total installed generation capacity in the AIES (whichever is greater) will be exempt from further market power analysis by the MSA.

³⁹ See Note 4 in Appendix A

Is $C_S < 500 \text{ MW}$ or $4\% * SUP_{Tot}$?⁴⁰

If => **No**, then Supplier is subjected to Indicative Screening Tests

If => **Yes**, then Supplier is not subjected to Indicative Screening Tests

Suppliers satisfying this requirement will be granted the unfettered ability to offer their capacity into the Alberta Hourly Wholesale Market at market-based rates.

3. Indicative Screens

The proposed approach establishes two screens for making a threshold assessment of generation market power — the “pivotal supplier analysis” and the “market share analysis.”

The two tests are viewed as “indicative screens” because there is no single market power test that is considered to be definitive. The “indicative tests” are meant to help distinguish between Suppliers that do not raise serious market power concerns and those that require closer scrutiny. The two screens are meant to complement each other by measuring market power during both peak and off-peak times.

If a Supplier fails either screen, there will be a rebuttable presumption that the Supplier possesses market power in generation. The Supplier may rebut the presumption by submitting to a more comprehensive market power study by the MSA.

Key elements of the proposed approach are described below.

Market Share Screen — the market share analysis considers the percentage of the total generating supply in a market that is owned and/or controlled by the Supplier during each of the four seasons of the year.

If the Supplier has more than a 15 percent market share of the total capacity in the market in any season, it is presumed to have market power.

Is $C_S > 15\% * SUP_{Tot}$?

No => Pass

Yes => Fail => Rebuttable assumption that Supplier has market power.

Pivotal Supplier Screen — the pivotal supplier screen determines whether a Supplier owns and/or controls generation that will be needed to serve load during peak demand conditions. In particular it asks whether the capacity owned and/or controlled by the Supplier is larger than the surplus supply (the difference between total AIES supply and

⁴⁰ All terms are defined in Appendix A

forecast of Total peak demand) in the AIES wholesale market area during the relevant quarter.

An applicant that is a pivotal supplier is presumed to have market power.

Is $C_S > SUP_{Tot} - TPD_{Tot}$?

No => Pass

Yes => Fail => Rebuttable assumption that Supplier has market power.

If a Supplier fails either screen, it is presumed to have generation market power and has the option of allowing the MSA to undertake a more detailed analysis of its generation portfolio in order to establish that it lacks generation market power.

4. Detailed Market Power Analysis

If a Supplier fails either the pivotal supplier screen or the market share screen it will be presumed to have market power. The applicant will then have the option of allowing the MSA to conduct a more thorough analysis of its generation portfolio to determine whether the presumed market power concerns are valid and require mitigation.

The MSA's analysis will assesses the competitiveness of a market by calculating each Supplier's "unhedged capacity" - generating capacity that has not been committed through physically contingent forward power sales to third parties or load following contracts⁴¹ and that can otherwise be used to deliver energy to the market at a competitive market price.

The Supplier's unhedged capacity will then used to determine its market share, a corresponding Herfindahl-Hirschman Index score for both the market and the Supplier to determine whether the Supplier has market power and/or is a pivotal supplier.

Detailed Pivotal Supplier Test

Is $C_{S(\text{unhedged})} > SUP_{Tot} - TPD_{Tot}$?

If No => Pass => Supplier's is free to offer capacity at market based rates.

If Yes => Fail => Pivotal Supplier / Market Power => constraints/mitigation required

Detailed Market Concentration Test

Is $HHI_{Market} > 1800$ and/or $HHI_{Supplier} > 400$

If No => Pass => Supplier's is free to offer capacity at market based rates.

⁴¹ See "Determination of a Supplier's Unhedged Capacity" in Appendix A

If Yes => Fail => Market Power => constraints/mitigation required

If the Supplier fails the more detailed analysis, or if it elects to forego that the more detailed analysis, it must within 60 days propose and then implement measures to mitigate its market power.

Ex-Ante Measures for Market Power Mitigation

If a Supplier fails one or both of the detailed tests and is found by the MSA to possess generation market power within the AIES, it will be required by the MSA to implement measures to mitigate its market power. In this regard the MSA will work in confidence with the Supplier in question to determine the appropriate measures required to mitigate prevailing market power concerns.

5. Voluntary Mitigation

A Supplier may voluntarily propose mitigation measures tailored to its particular market circumstances (e.g. via additional hedging). The MSA will review and negotiate the proposed measures with the Supplier in confidence. Once it has deemed the proposed measures to be satisfactory, the MSA will disclose to market participants the fact that the Supplier has voluntarily agreed to adopt measures to mitigate market power concerns.

If the mitigation measures proposed by the Supplier are deemed to be insufficient Suppliers may either propose case specific cost-based rates (with cost support for such rates) or opt to adopt default cost-based rates or other mitigation measures as prescribed by the MSA.

6. MSA Imposed Compliance Plan

If the MSA finds the proposed mitigation measures to be inadequate, it will have the power to recommend a compliance plan to the Supplier. Compliance plans will be designed to specifically mitigate market power concerns related to the Supplier's unique generation portfolio and may involve the implementation of cost-based rates. The compliance plan and related measures for mitigating market power will remain confidential.

The MSA will disclose to other market participants that it has recommended a compliance plan to the specific Supplier and indicate whether or not the Supplier has agreed to the recommended measures.

7. Supplier's Right to Refuse to Implement Recommended Mitigation Measures

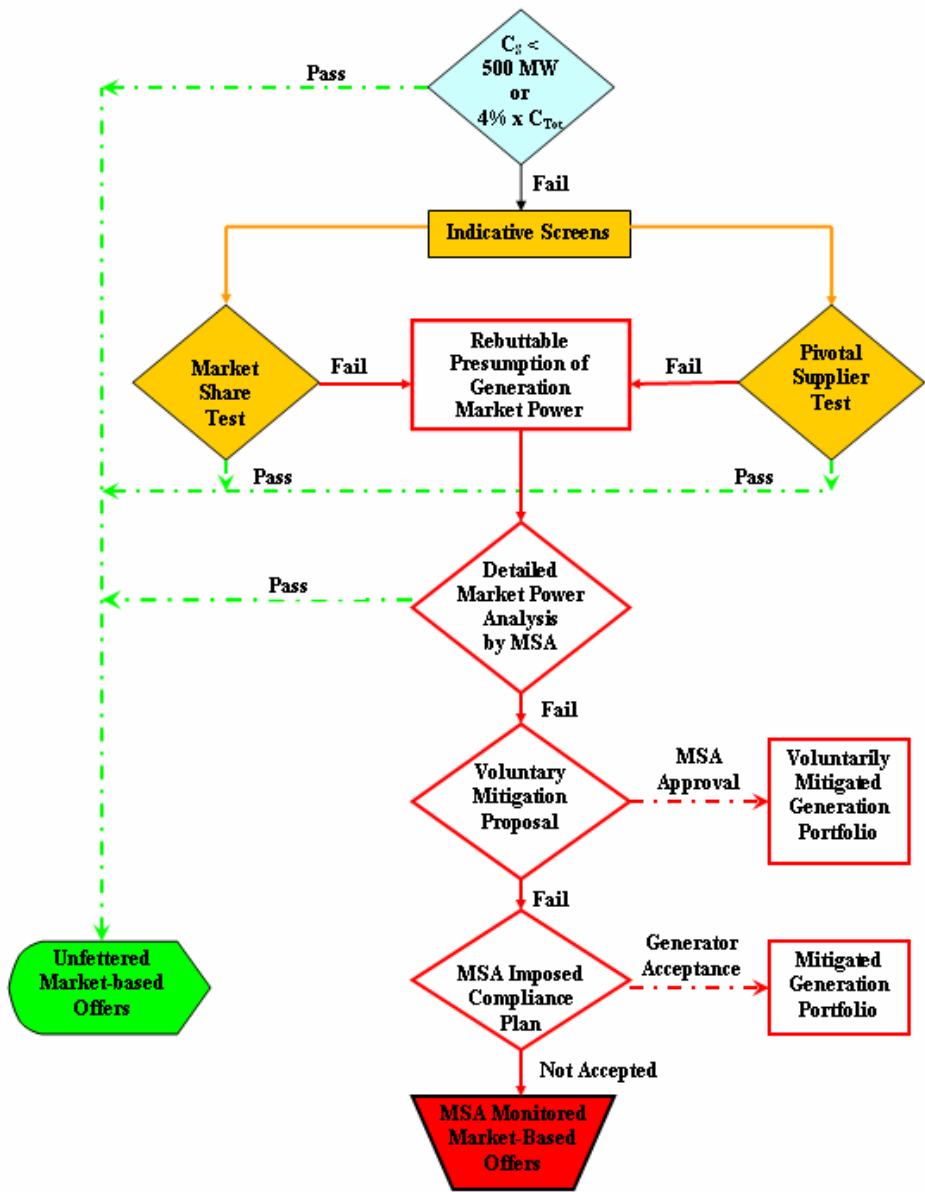
A Supplier may elect not to accept the MSA's compliance plan and instead continue to offer its generation capacity at "market based" prices. Under these circumstances, the Supplier's offers will be carefully scrutinized by the MSA on an ongoing basis.

Reverse Onus - Burden of Proof Placed on Supplier

If the MSA, following a period of monitoring and analysis, concludes that a Supplier's behaviours are symptomatic of and consistent with market power abuse, the MSA may trigger a tribunal to formally review and sanction the Supplier's behavior. During an ensuing tribunal the burden of proof will be clearly placed on the Supplier to explain why the behaviours and actions which have been drawn into question do not constitute market power abuse. In this event, the Supplier will be severely disadvantaged by the fact that it had been proactively notified and cautioned by the MSA about its market power position and the fact that it had deliberately chosen to rebuff all recommended mitigation measures.

Figure 1

Alberta's Hourly Wholesale Electricity Market
Quarterly Market Power Analysis



APPENDIX “A” – Definitions

Supply-side Definitions

$$C_S = \text{Supplier's Generation Capacity} = \sum_{i=1}^n SCR_{Si}$$

Where: SCR_{Pi} is the “Seasonally Adjusted” Capacity Rating for a given generation unit in MW whose offer strategy is controlled by Supplier “S”.

• Seasonal Adjusted⁴² = Maximum Continuous Rating in MW adjusted to recognize the impact of non-ISO conditions on MCR of installed capacity.

$$C_{Tot} = \text{Total Installed Generation Capacity} = \sum_{P=a}^z C_P$$

Where: C_{Tot} is the cumulative amount of seasonally adjusted generation capacity in MW controlled by all Suppliers whose capacity is situated within the area served by the Alberta Interconnected Electrical System.

The effect of transmission constraints is accounted for by calculating and including the market's import capacity using the Available Transmission Capability (ATC).

ATC_{BC} = Available Transfer Capability of the BC to Alberta (import) transmission interconnection as defined by the AESO.

• The Alberta-BC import and export available transfer capability (ATC), both calculated as the TTC minus the transmission reliability margin (TRM), are the transfer volumes that are available for commercial activity. TRM is usually 65 MW except under certain system conditions.

ATC_{Sask} = Available Transfer Capability of the Saskatchewan to Alberta (import) transmission interconnection as defined by the AESO.

PRL_{Tot} = Price Responsive Load

Where PRL is the total amount of interruptible load in MW as estimated by the AESO (based on historical observation of industrial load customers with the capability and propensity to bid in interruptible load which will respond to changes in the real time pool price with the effect of reducing overall demand on the AIES).

⁴² **Treatment of Hydroelectric Resources** —Suppliers will not be required to use the nameplate capacity on hydroelectric resources for the purpose of performing the market screens. Rather, Suppliers will be permitted to de-rate their hydroelectric capacity for this analysis by using a five-year average capacity factor to better capture availability of hydroelectric capacity.

SUP_{Tot} = Total Supply Available to the Alberta Interconnected System

Where: $SUP_{Tot} = \sum C_{Tot} + ATC_{BC} + ATC_{Sask} + PRL_{Tot}$

Determination of a Supplier's Unhedged Capacity

A Suppliers “unhedged capacity” will be determined by adding the total (seasonally adjusted) capacity of generation owned or controlled through contract⁴³ and physical or financial purchases less, among other things, long-term physically contingent forward power sales contracts that are specifically tied to generation owned or controlled by the seller and that assign beneficial ownership and control of the offer strategy of such capacity to the buyer.

Long-term firm load following contracts may be deducted to the extent that the Supplier has included in its total capacity a corresponding generating unit or long-term firm purchase that will be used to meet the obligation even if such contracts are not tied to a specific generating unit and do not convey operational control of the generation.

Demand-side Definitions

NPRL_{Tot} = Non-Price Responsive Load = Forecast of the maximum On-Peak Demand (in MW) emanating from Non-Price Responsive Load for the season or quarter year as forecast by the AESO.

Non-Price Responsive load is currently forecast by the AESO on a daily basis and is not bid-in by Participants.

OPR_{Tot} = Total Operating Reserve = The forecast of the required level of operating reserves required to support the expected total AIES peak load (in MW) during the season or quarter year.

- As a member of the Western Electricity Coordinating Council (WECC), the AESO is required to carry sufficient operating reserves to assist in the recovery of energy due to the unexpected loss of generation or an interconnection. The criteria for determining minimum operating reserves, contingency reserves plus regulating reserves are established by the WECC. The ISO may be subject to financial penalties if the criteria in this policy are violated. (Forecasts of minimum operating reserve levels are required by

⁴³ Contracts can confer the same rights of control of generation or transmission facilities as ownership of those facilities. In short, if a Supplier has control over certain capacity such that the Supplier can affect the ability of the capacity to reach the market, then that capacity should be attributed to the Supplier when performing the generation market power screens. The capacity associated with contracts that confer operational control of a given facility to an entity other than the owner must be assigned to the entity exercising control over that facility, rather than to the entity that is the legal owner of the facility.

the AESO in order to procure operating reserves from the ancillary service exchange or by other means).

TPD_{Tot} = Forecast of Total Peak Demand on the AIES (season / quarter year).

Where: $TPD_{Tot} = \sum NPRL_{Tot} + OPR_{Tot}$

The Herfindahl-Hirschman Index (HHI)

"HHI" means the Herfindahl-Hirschman Index, a commonly accepted measure of market concentration. It is calculated by squaring the market share of each firm competing in the market and then summing the resulting numbers. For example, for a market consisting of four firms with shares of thirty, thirty, twenty and twenty percent, the HHI is 2600 ($30^2 + 30^2 + 20^2 + 20^2 = 2600$).

The HHI takes into account the relative size and distribution of the firms in a market and approaches zero when a market consists of a large number of firms of relatively equal size. The HHI increases both as the number of firms in the market decreases and as the disparity in size between those firms increases.

Markets in which the HHI is between 1000 and 1800 points are considered to be moderately concentrated, and those in which the HHI is in excess of 1800 points are considered to be concentrated. Transactions that increase the HHI by more than 100 points in concentrated markets presumptively raise antitrust concerns under the Horizontal Merger Guidelines issued by the U.S. Department of Justice and the Federal Trade Commission. See *Merger Guidelines § 1.51*.