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MSA REPORT

MSA Trading Practices Guideline

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MARKET SURVEILLANCE ADMINISTRATOR

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1 INTRODUCTION

Issues related to the inappropriate use of information including matters such as insider trading and providing false information have taken centre-stage in the North American energy industry since 2001. The Federal Energy Regulatory Commission (FERC) has instituted standards of conduct[1] to manage the dissemination and use of information between a regulated utility and its energy affiliates and other regional pool markets such as PJM have instituted a web-based system to allow unprecedented public access to system information.

The Market Surveillance Administrator (MSA) is taking a proactive approach to the use of information in Alberta's marketplace to ensure the continued development of a *fair, efficient, and openly competitive* market. The fundamental issue addressed by this report is the asymmetry around outage and derate information (collectively outage information). That is, certain participants have access to information not generally available to other market participants.

The intent of the report is to focus on trading practices in the forward market. In this regard, the report outlines the MSA's Trading Practice Guideline (TPG) with respect to the use of outage information for trading purposes and discusses our views pertaining to information asymmetry.

1.1 MSA Trading Practices Guideline

The *potential* for trading on future outage information that is not in the public domain creates the *perception* and/or *reality* of unfairness in the forward market. Such behaviour or its *potential* impairs the development of forward market liquidity and is detrimental to the evolution of Alberta's wholesale and retail power markets. Therefore, the MSA is establishing the following Trading Practices Guideline:

> ***Market participants must not trade on the basis of known but not public information about the status of supply, load or transmission assets that can reasonably be expected to have a material impact on market price. Trading shall be understood to include any type of financial or physical transaction or operational strategy designed to extract value from known but not public information about the status of supply, load or transmission assets.***

The TPG will be supported by an implementation proposal - **"Trading Practices in Alberta's Forward Market – Seeking Solutions."** which will be available on the MSA's website by the end of February, 2004. As part of the implementation process, the MSA will introduce an interim scheme for the disclosure of outage information to become effective on March 8, 2004.

Authority for the MSA's Guideline is based on Section 49 of the Electric Utilities Act (EUA). Section 49(1) sets out the MSA's mandate while s. 49(4) deals with the MSA's jurisdiction to establish guidelines to further the *fair, efficient, and openly competitive* operation of the market.

[1] FERC Order 2004, November 25, 2003.

1.2 Applicability

The TPG will apply to any market participant who has preferential access to outage information on assets that have the ability to materially affect forward market prices. The TPG will apply to participant trading activities in the physical and financial forward markets; however, the TPG will be adjusted as necessary based on measurement of its efficacy over time, the natural evolution of the market, and changes to market design and rules.

2 BACKGROUND

In the real time market Pool prices respond to unit outages; therefore, advanced knowledge of such outages puts a participant at a material advantage over other participants in the forward market. This information advantage for some participants discourages others from entering the forward market. This section provides background information to explain why the MSA is taking the position that it is unacceptable to trade on information about asset outages that is not yet public.

It must be noted that the TPG is not focused on information gathered through legitimate means, such as market intelligence. Such information, inherently, is less than certain and thus its use is far from risk free. The TPG is focused on outage information which is *known* on a preferential basis by parties who own or control assets.

Trading in the forward market constitutes an important component of the energy market in the Province and the declining trend in market liquidity is of concern. The *potential* for and negative *perception* around the use of outage information is exacerbated by the level of information asymmetry that exists in the Alberta market, i.e., some market participants have a significantly greater view of unit availability than the market at large. The combination of these factors creates the *perception* amongst current and potential participants that the forward market is unfair, has a high level of uncertainty, and reduces the ability of most participants to manage risk, particularly among those who do not have access to the information. The MSA believes that information asymmetry and the *potential* for trading on outage information are contributors to poor market liquidity in the forward market.

The development of a functioning, robust forward market is a key element of *fair, efficient, and openly competitive* wholesale and retail electricity markets. It provides an instrument for generators or contract owners to sell their future production as well as a means for retailers both large and small to secure supply. A robust market will attract speculators and provide large consumers with the opportunity to control their future input costs at a reasonable margin beyond what can be achieved solely in the wholesale market. Speculators are also important to the forward market as they further add to liquidity. Finally, visible pricing in a forward market is valuable in sending price signals to market participants about the state of the market's supply/demand balance. The short and long run effect of this signal positively impacts system reliability.

2.1 Example of a Typical Outage Event

In an energy-only market such as Alberta's, a change in asset availability due to outages can have a significant impact on the level of Pool prices. The steep slope at the tail end of a typical supply curve provides the asset operating participant – either load or supply –

with the *potential* to extract significant value from the knowledge of a pending outage or return to service. **Figure 1** is a recent example and indicates that the difference in Pool price between approximately 8,223 MW and 8,429 MW of supply is more than $250/MWh. **Figure 1** shows that a relatively small change in capacity offered– a difference of 206 MW which is below the size of most coal units in Alberta - can have a significant impact on Pool price. The effect of an outage is to move the supply offer curve to the left, thus increasing Pool price. A return to service would have an opposite but similar magnitude effect.

Figure 1

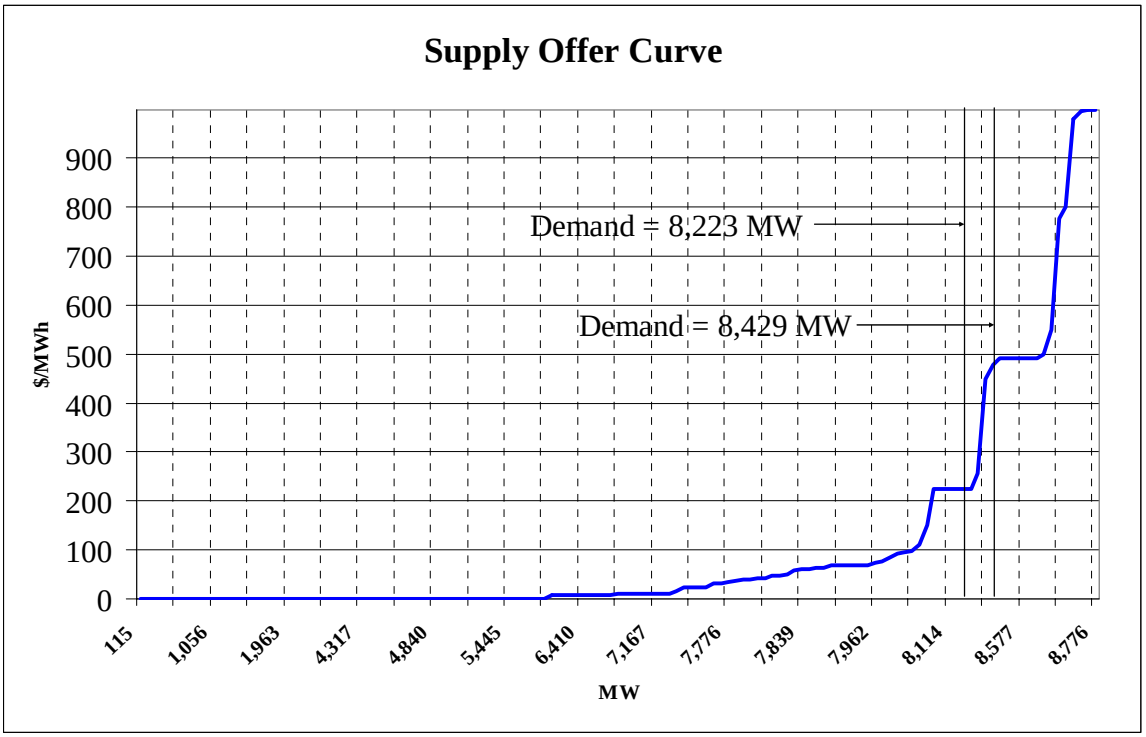
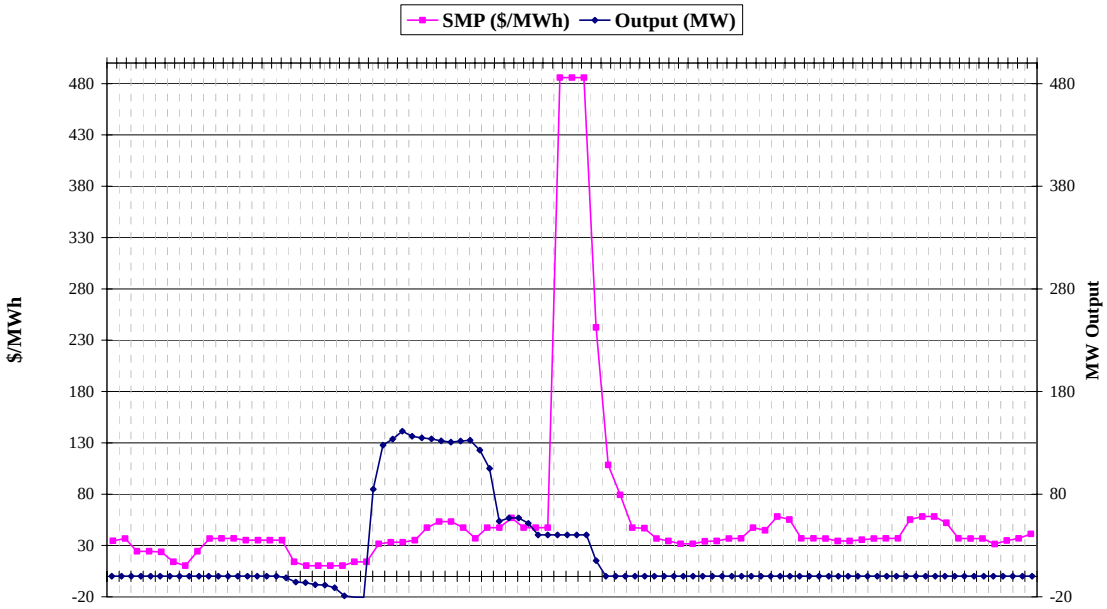


Figure 2 illustrates this relationship for an actual outage event that occurred at a major coal-fired facility in the fall of 2003. **Figure 2** indicates that as the coal unit ramps down and the System Controller has worked through the merit order, System Marginal Price (SMP) spikes at $480/MWh.[2] In an energy only market such as we have in Alberta, price spikes pay for peaking capacity and are a predictable by-product of a large unit outage. In this market design, the price spike causes the peaking unit to come on and funds its operation.

Figure 2

Coal Plant Outage and Price Spike Example

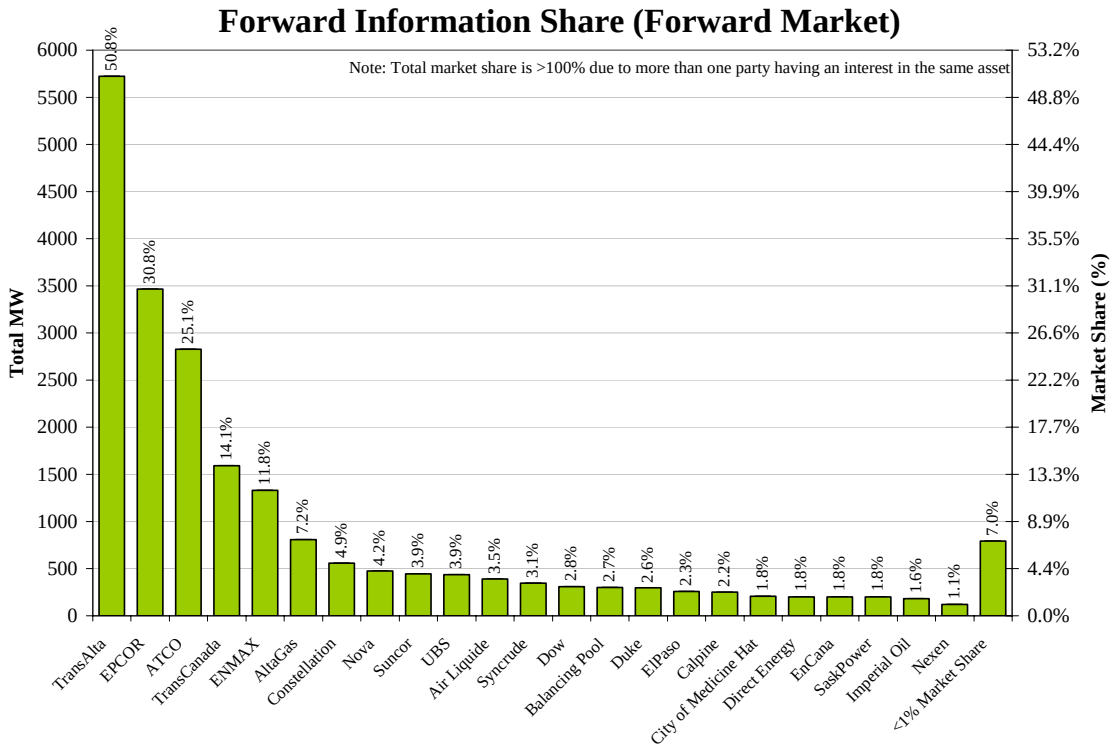


Knowledge about an impending outage has financial value to those parties who have the information and a potential cost to those who don't. What is inappropriate about this situation is the *potential* for a party with non-public information to take advantage of an outage event. In the example illustrated in **Figure 2**, the plant had been off-line for maintenance and was scheduled to come on line for several hours for testing purposes and then ramp down. Coincidentally, the asset owner engaged in forward market trading activity several hours before the plant was taken off-line. In addition to the potential financial gains that an asset owner might realize when acting on outage information, they may also affect market efficiency by impairing the rest of the market's ability to react to the outage. Regardless of whether parties actually trade on inside information, the *possibility* that they might do so creates a harmful *perception.*

[2] SMP is the price in $/MWh determined for each minute of a settlement interval in accordance with AESO Rules.

In Alberta, the dispersion of control concerning physical assets is good; however, the dispersion of knowledge about unit outages is not. **Figure 3** illustrates the asymmetry of market participants' access to generating asset information. A small number of participants know the most about the current and future status of a significant percentage of Alberta's generating units. The MSA acknowledges that some consider that information is a right of ownership. The unfairness arises when private information is used to extract financial value from a public market. Other participants do not have access to this information and it is not reasonably possible for them to derive it.

Figure 3



The Alberta market already has a precedent for restricting the use of market information which is asymmetrically held, namely, the Code of Conduct Regulation. The Regulation constrains the use of confidential customer information for marketing purposes by the affiliated retailers of a regulated service provider.

The information asymmetry issue might be considered analogous to insider trading in securities markets. That is, certain participants have access to outage information which allows them to predict price movements with a higher level of certainty. Both motive and opportunity exist for a small subset of market participants *potentially* to take financial advantage of outages. The MSA is aware of a number of concerns that have been expressed by market participants in this regard. The use of outage information for trading has been one of the factors contributing to a decline in forward market liquidity.

2.2 Impact of Outage Timing

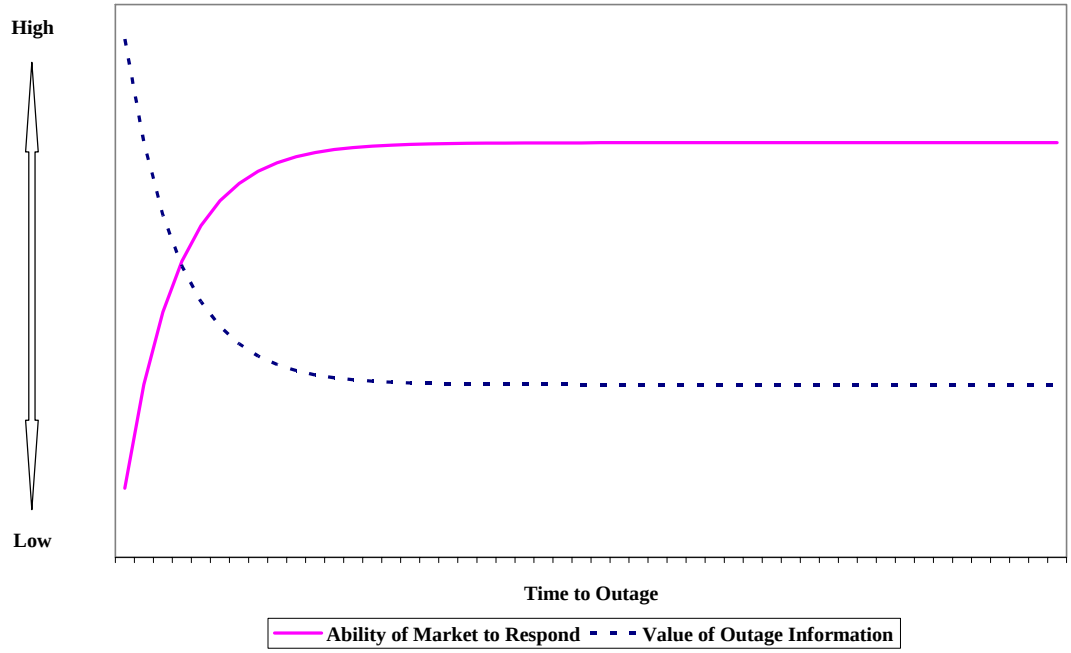
There is an important relationship between the timing of an outage and its financial value in the forward market. Plant outages such as a maintenance turn-around 8 to 12 months

from now have little financial value today because market participants have the opportunity to adjust their own generation (and consumption) activities to compensate. As the lead-time to an outage decreases, it becomes more difficult for the market to react in terms of re-stating offers or bids for generation and load, respectively. The situation becomes acute for forced outages as the market has virtually no opportunity to react thus resulting in a significant price spike when the outage occurs. While the TPG cannot alter the fate of machines, the MSA recognizes that forced outages frequently have an element of discretion as to timing. The TPG will apply to the exercise of this discretion insofar as it relates to trading activity.

Figure 4 illustrates the relationship between the markets ability to respond to an outage and its financial value.

Figure 4

Characteristics of Outages



Some market participants have expressed the concern that short notice changes to the timing of an outage create considerable difficulty in terms of risk management. The TPG being advanced in this report should help in two ways. First, improved liquidity once established will make the adjusting of hedge positions more feasible and less expensive. Second, the effect of the Guideline will be to dampen any inclination (if there ever was any) to adjust outage schedules for reasons that might violate the intent of the TPG.

2.3 Factors that Discourage Forward Market Development

There are many factors, in addition to information asymmetry, that impact the operation and development of the forward market. Some of these factors include: size of the market in terms of the number of generators and large load customers; size of the market compared to other jurisdictions; credit issues; an inelastic demand curve; weak

interconnection to other markets in terms of inter-tie and transmission capacity; and the "lumpiness" of generating capacity, particularly with respect to coal plants.

All of these factors contribute in varying degrees to the low level of forward market liquidity. The primary difference between the previously mentioned factors and information asymmetry is that they tend to be external or uncontrollable factors. Many of these factors are inherent to the physical attributes of our system; however, inappropriate trading on outage information is a controllable issue.

2.4 Factors that Encourage Forward Market Development

The purpose of forward markets is to efficiently share risk between those who have it and would like to shed it and those who are willing to take it on at a fair price. Forward markets are populated by producers, consumers, retailers and speculators. A number of factors encourage the development of a viable forward market. Some of these factors include:

- Appropriate transaction costs encourage frequent trading;
- Manageable price volatility in the underlying commodity;
- A market requires both hedgers and speculators;
- A sufficient level of trading (liquidity) must occur amongst market participants before speculators can be attracted to a market; and
- Availability and access to market information.

Perfectly competitive markets are informationally efficient, that is, information is costless and received simultaneously by all participants. In practice, however, we are not aware of any perfectly competitive markets. An appropriate analogue for efficiency in the energy market is the notion of capital market efficiency as it relates to an imperfectly competitive market.

Capital market efficiency can be expressed as:

- **Weak-form efficiency**. No investor can earn excess returns by developing trading rules based on historical price or return information. In other words, the information in past prices or returns is not useful or relevant in achieving excess returns.
- **Semi-strong efficiency.** No investor can earn excess returns from trading rules based on any publicly available information.
- **Strong-form efficiency.** No investor can earn excess returns using any information, whether publicly available or not.[3]

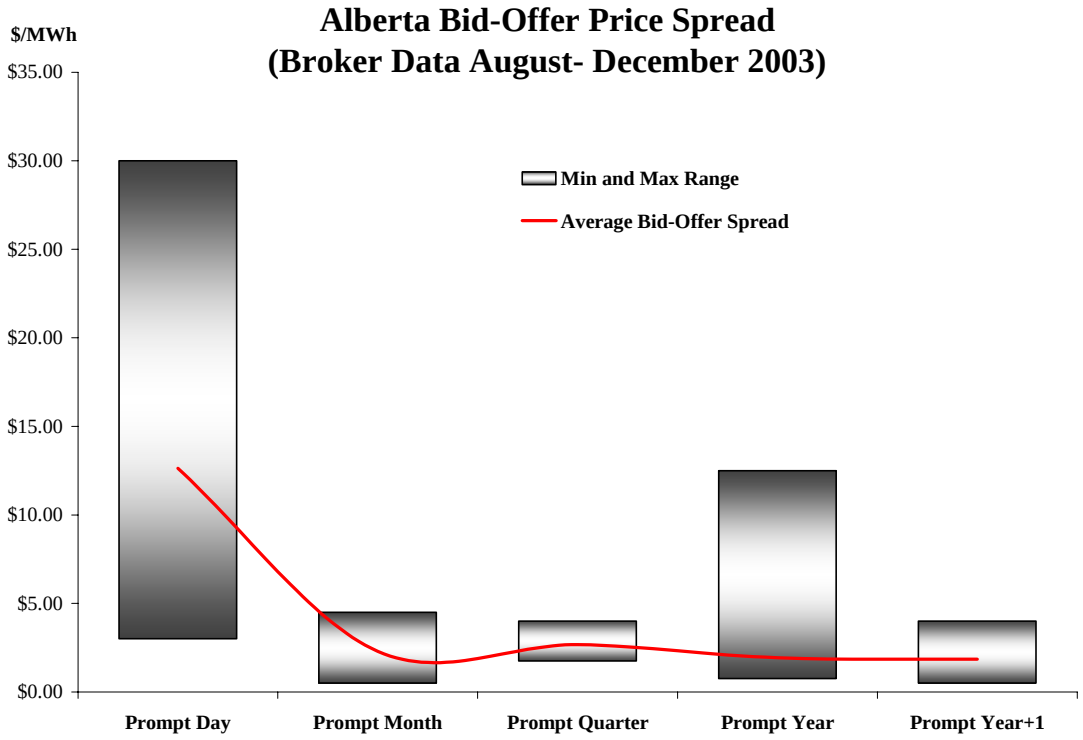
Information asymmetry reduces the efficiency of the forward market. If information about outages does not change forward prices then the market can be said to be efficient with respect to that information. The optimal way to achieve a higher level of efficiency in the Alberta market is to increase the availability of outage information to all market

[3] Copeland, Thomas E. and J. Fred Weston, "Financial Theory and Corporate Policy", Third Edition, Addison-Wesley Publishing Company, 1988, Page 332.

participants. The MSA will discuss this further in its next report - **"Trading Practices in Alberta's Forward Market – Seeking Solutions."**

Figure 5 illustrates price spreads for next day trades and trades with a longer time horizon. Typically, next day forward price spreads are in the order of $3 to $30 per MWh whereas in other markets like the Mid Columbia trading point in Washington State the short-term price spread is typically in the $2 to $4 range and term markets are $0.50 to $1.00, depending on market conditions. The price differential decreases farther out in time as the uncertainty about future asset status become equal for all participants.

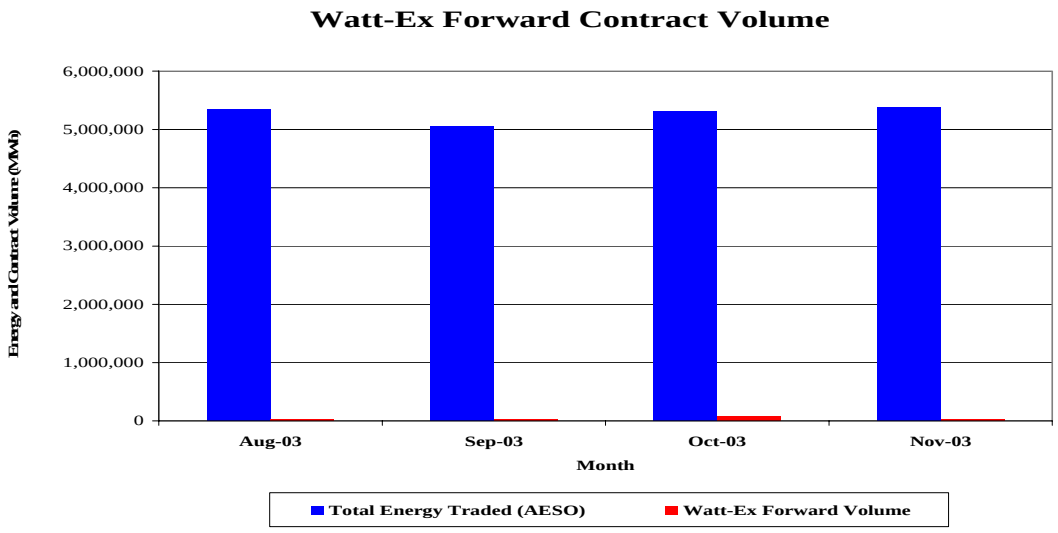
Figure 5



The effects of information asymmetry can be clearly seen in the small number of participants transacting in the forward markets and in next day and future period bid/ask price spreads. In the broker markets, there are currently only 5 to 8 active participants in the short-term forward market with only 8 to 12 players in the long-term forward market. This compares to 33 participants who own or dispatch generating units and 233 participants in the Power Pool.

In addition to the low number of market participants forward market activity in Alberta is relatively small when compared to Pool volumes. **Figure 6** indicates that the total volume of energy traded for contracts on the Watt-Ex forward market compared to Pool volumes. Even if we assume similar volumes for NGX and the two brokers that cover the Alberta market, the relationship of forward traded volumes to Pool volumes is still microscopic.

Figure 6



In contrast, **Figure 7** illustrates the volume relationship between NYMEX gas futures contracts and U.S. gas consumption. The future contract market is significantly larger than the physical market for natural gas.

Figure 7

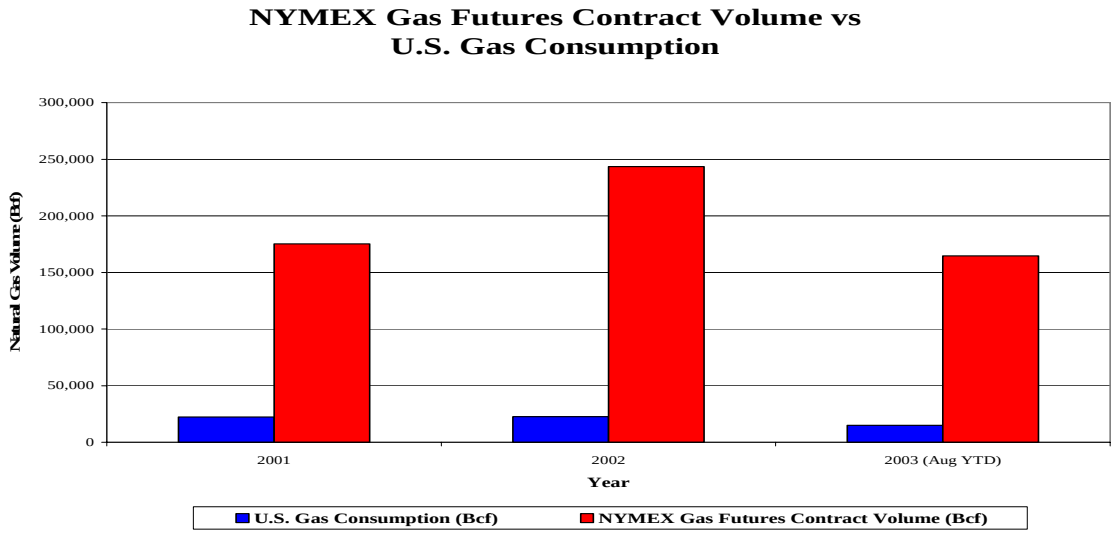


Figure 8 illustrates the frequency of trading activity for the Watt-Ex forward market. There are a significant number of days during which no trades occur. **Figure 9** shows the frequency of trading activity for natural gas contracts on the NGX market. The NGX market is generally considered by natural gas traders to be a robust, liquid market.

Figure 8

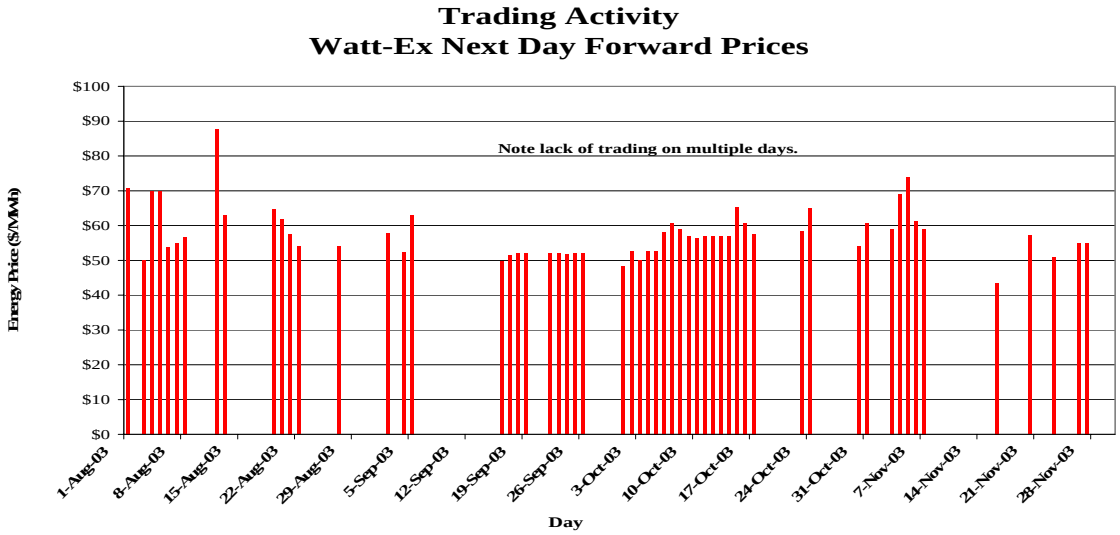
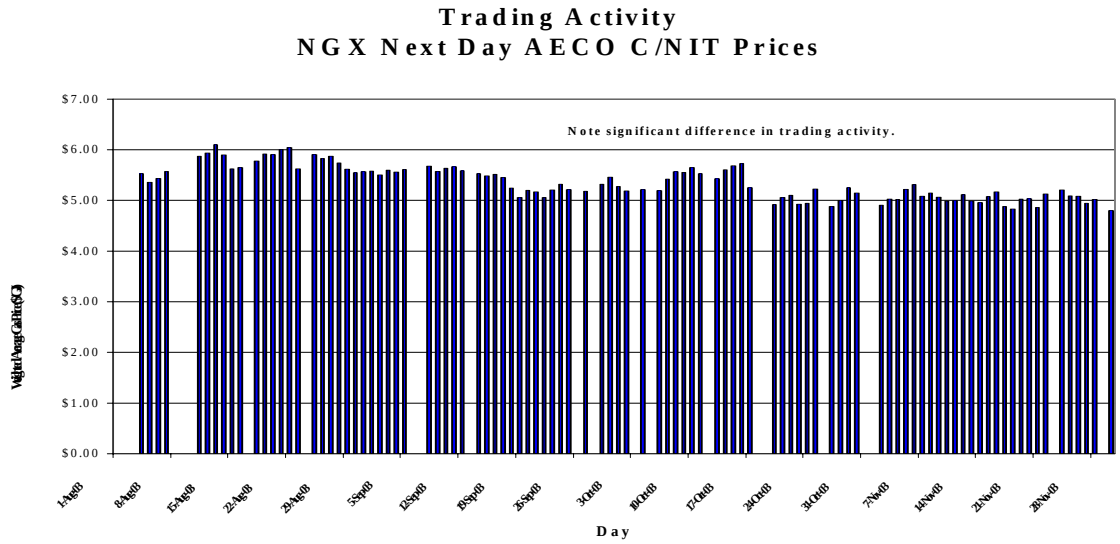


Figure 9



The lower frequency of trading shown in **Figure 8** is due, in part, to the uncertainty around unit outages.

3 CURRENT STATUS

Information asymmetry manifests itself in a bi-lateral manner creating unfairness between two parties to a transaction; one "in-the-know" and one who is not. As mentioned previously, even if parties are not actually trading on inside information, the *possibility* of this creates a harmful *perception* which should be addressed. More importantly, the cumulative impact of this unfairness is that the forward market has simply ceased to trade in meaningful volumes at reasonable bid/ask price spreads. Absent some externally imposed change, there is little prospect for spontaneous improvement in the near term.

Over a long period of time the problem may well resolve itself. As the market grows in size and diversity, we will have more generators, each of which becomes a smaller and smaller fraction of the market. The presence or absence of any one generator becomes less significant when compared to the total size of the market and the number of participants. Therefore, outage information will have less value in that knowledge of it will not impose a material asymmetry on the forward market.

However, the existence of this issue is an impediment to the forward market's evolution and the market cannot afford to wait for this issue to fix itself. The MSA believes the most appropriate solution is to take steps now to "level the playing field" amongst market participants. The TPG is directed at *misuse of outage information* not available to the market and is a critical first step. Further, disclosure of accurate and timely outage information to meet the intent of the TPG will serve to *increase the availability of outage information* to the market at large. Improving the availability of outage information will help "level the playing field" and increase market efficiency by giving market participants the information they need to plan, to assess and manage risk, to trade, and to make investment decisions.

The MSA has a historical view of outages which it reviews on a quarterly and annual basis for the purposes of monitoring unit availability. On a real-time basis, the MSA has a limited view of outages which it derives from the unit bid/offers submitted to the System Controller, the AIES Event Log, and follow-up conversations with market participants after outages occur. The planned outage information submitted to the AESO and the AEIS Event Log are of limited value to the MSA as the information is voluntary and non-binding and may not be sufficiently accurate for regular monitoring purposes.

4 CONCLUSION

Alberta has a well-contested competitive spot market operated by the AESO. Well functioning electricity wholesale and retail markets need a liquid forward market. The MSA believes this initiative will result in the appropriate balance between the rights and needs of the asset owner respecting outage information and those of the market at large to ensure Alberta's market place continues to develop in a *fair, efficient, and openly competitive* manner.

Those who presently benefit from information asymmetry may have a strong aversion to "leveling the playing field." They may suggest that they have paid for this benefit and that trading on outage information has a legitimate business purpose. However, the

unfairness overlooked is the expectation of harvesting the benefit of "private information" from public markets at the expense of other market participants. Ultimately, the effect of trading on outage information is to reduce participant confidence in the public market. The MSA intends to be proactive in avoiding such harm.

We believe that the TPG combined with disclosure of outage information will have a material and beneficial impact on market confidence, measurably increased forward liquidity, and measurably reduced forward bid/ask spreads. The Guideline may also help to improve physical system reliability. The MSA will track the efficacy of the TPG against these impacts. Should market rules or design change in ways that render the TPG less effective or irrelevant or if it fails to have measurable benefits it will be either adjusted or eliminated. The MSA expects willing adoption of the TPG and will work with the industry to ensure that the Guideline's intent and enforcement strategies are clearly understood and that methods for ensuring compliance are in place. Investigations, which substantiate breaches of the TPG, will be dealt with through the mechanisms provided for in the EUA, including the possibility of a Tribunal Hearing.

5 IMPLEMENTATION

In its next report "**Trading Practices in Alberta's Forward Market – Seeking Solutions,"** the MSA will outline its proposal for implementing procedures for the disclosure of outage information in the context of the TPG. The report will deal with matters such as compliance, enforcement, performance metrics, and effective dates. The MSA will solicit input on the implementation plan from stakeholders most likely through written submissions and facilitated workshops. We expect to conclude this work during March. As part of the implementation process, the MSA will introduce an interim means of meeting the intent of the TPG during the stakeholder consultation period. **The interim scheme will be effective March 8, 2004.**

For further information on the Trading Practices Guideline, readers are invited to contact one of the MSA staff members.

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