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OFFICE OF THE SECRETARIAN

April 27, 2011

VIA E-MAIL
Mr. David Stawick
Office of the Secretariat
Commodity Futures Trading Commission
Three Lafayette Centre
1155 21st Street, N.W.

Re:

Washington, D.C. 20581

Rule Certification. New York Mercantile Exchange, Inc. Submission# 11-155: Notification Regarding the Listing of Eight (8) New Electricity Futures Contracts on CME ClearPort® and the NYMEX Trading Floor

Dear Mr. Stawick:

The New York Mercantile Exchange, Inc. ("NYMEX" or "Exchange") is notifying the Commodity Futures Trading Commission ("CFTC" or "Commission") that it is self-certifying the listing of eight electricity futures contracts (specifications below) for trading on the NYMEX trading floor and for submission for clearing through CME ClearPort.

## **PRODUCT SPECIFICATIONS**

## Title, Rule Chapter and Commodity Code

| Contracts  | Code | Rule<br>Chapter |
|--|------|-----------------|
| Alberta Power Pool Extended Peak Calendar-Month Swap Futures     | AEX  | 606             |
| Alberta Power Pool Extended Off-Peak Calendar-Month Swap Futures | AEF  | 642             |
| Alberta Power Pool Peak Calendar-Month Swap Futures              | APP  | 783             |
| Alberta Power Pool Off-Peak Calendar-Month Swap Futures          | APF  | 841             |
| Alberta Power Pool Extended Peak Calendar-Day Swap Futures       | AXP  | 853             |
| Alberta Power Pool Extended Off-Peak Calendar-Day Swap Futures   | AFP  | 866             |
| Alberta Power Pool Peak Calendar-Day Swap Futures                | ALP  | 873             |
| Alberta Power Pool Off-Peak Calendar-Day Swap Futures            | ALF  | 874             |

# Listing Schedule

For the <u>Calendar-Month</u> (peak and off-peak) contracts, the first listed contract month shall be June 2011. The contracts will be listed for the current year plus the next five calendar years. A new calendar year will be added following the termination of trading in the December contract of the current year.

For the <u>Calendar-Day</u> (peak and off-peak) contracts, the first listed contract day shall be May 2, 2011. The daily contracts will list current month plus the next month.

#### Days and Hours

From the regular (non-extended) contracts, "Peak Days" shall mean a Monday through Saturday, excluding North American Electric Reliability Corporation holidays. "Peak Hours" shall mean Hour Ending 0800 through 2300 Mountain Prevailing Time (MPT). "Off-Peak Days & Hours" shall mean a Monday

through Saturday Hour Ending 0100 through 0700 and 2400 Mountain Prevailing Time (MPT), Sunday, including North American Electric Reliability Corporation holidays.

For the extended contracts, "Peak day" shall mean a Monday through Sunday, including North American Electric Reliability Corporation holidays. "Peak Hours" shall mean From Hour Ending 0800-2300 Mountain Prevailing Time (MPT). "Off-Peak Days & Hours" shall mean a Monday through Sunday Hour Ending 0100 through 0700 and 2400 Mountain Prevailing Time (MPT), including North American Electric Reliability Corporation holidays.

# **Contract Quantity**

<u>Peak monthly contract</u>: The contract quantity shall be 80 Megawatt hours (MWh) and is based on 5 megawatts for peak daily hours. Transaction sizes for trading in any delivery month shall be restricted to whole number multiples of the number of peak days in the month. Each futures contract shall be valued as the contract quantity multiplied by the settlement price.

<u>Extended Peak monthly contract</u>: The contract quantity shall be 80 Megawatt hours (MWh) and is based on 5 megawatts for peak daily hours on the extended schedule. Transaction sizes for trading in any delivery month shall be restricted to whole number multiples of the number of peak days on the extended schedule in the month. Each futures contract shall be valued as the contract quantity multiplied by the settlement price.

Off-peak monthly contract: The contract quantity shall be 5 Megawatts hours (MWh). Transaction sizes for trading in any contract month shall be restricted to whole number multiples of the number of off-peak hours in the month. Each futures contract shall be valued as the contract quantity multiplied by the settlement price.

<u>Extended Off-peak monthly contract</u>: The contract quantity shall be 5 Megawatts hours (MWh). Transaction sizes for trading in any contract month shall be restricted to whole number multiples of the number of off-peak hours on the extended schedule in the month. Each futures contract shall be valued as the contract quantity multiplied by the settlement price.

<u>Peak daily contract</u>: The contract quantity shall be 80 Megawatt hours (MWh) and is based on 5 Megawatts for peak daily hours. Transaction sizes for trading in any contract day shall be restricted to whole number multiples of the number of peak hours in the contract day. Each futures contract shall be valued as the contract quantity multiplied by the settlement price.

Extended Peak daily contract: The contract quantity shall be 80 Megawatt hours (MWh) and is based on 5 Megawatts for peak daily hours on the extended schedule. Transaction sizes for trading in any contract day shall be restricted to whole number multiples of the number of peak hours on the extended schedule in the contract day. Each futures contract shall be valued as the contract quantity multiplied by the settlement price.

Off-peak daily contract: The contract quantity shall be 5 Megawatt hours (MWh). Transaction sizes for trading any contract day shall be restricted to whole number multiples of the number of off-peak hours in the contract day. Each futures contract shall be valued as the contract quantity multiplied by the settlement price.

Extended Off-peak daily contract: The contract quantity shall be 5 Megawatt hours (MWh). Transaction sizes for trading any contract day shall be restricted to whole number multiples of the number of extended off-peak hours on the extended schedule in the contract day. Each futures contract shall be valued as the contract quantity multiplied by the settlement price.

# Prices and Fluctuations

Prices shall be quoted in Canadian dollars and cents per MWh. The minimum price fluctuation shall be CAD 0.01 per MWh. There shall be no maximum price fluctuation.

# Termination of Trading

Monthly contract: Trading shall cease the last business day of the contract month.

<u>Peak or extended peak daily contract</u>: Trading shall cease on the business day that is the peak or extended peak day. When the peak or extended peak day is not a business day, trading shall cease on the previous business day.

Off-peak or extend off-peak daily contract: Trading shall cease on the business day that is the off-peak or extended off-peak day. When the off-peak or extended off-peak day is not a business day, trading shall cease on the previous business day.

Fee Schedule for the Alberta peak futures contracts

| Exchange Fees |            |        |                   |            |     |  |
|---------------|------------|--------|-------------------|------------|-----|--|
|               | Member Day | Member | Cross<br>Division | Non-Wember | IIP |  |
| Pit           | N/A        | \$0.35 | \$0.37            | \$0.40     |     |  |
| Globex        | N/A        | N/A    | N/A               | N/A        | N/A |  |
| ClearPort     |            | \$0.35 |                   | \$0.40     |     |  |

| Proces           | sing Fees |                |
|------------------|-----------|----------------|
|                  | Member    | Non-<br>Member |
| Cash Settlement  | \$0.40    | \$0.40         |
| Futures from E/A | N/A       | N/A            |

| Additional Fees and Surcharges |        |  |  |
|--------------------------------|--------|--|--|
| EFS Surcharge                  | N/A    |  |  |
| Block Surcharge                | N/A    |  |  |
| Facilitation Desk Fee          | \$0.02 |  |  |

Fee Schedule for the Alberta off-peak futures contracts

| Exchange Fees |               |        |                   |                |     |
|---------------|---------------|--------|-------------------|----------------|-----|
|               | Member<br>Day | Wember | Cross<br>Division | Non-<br>Member | IIP |
| Pit           | N/A           | \$0.02 | \$0.03            | \$0.03         |     |
| Globex        | N/A           | N/A    | N/A               | N/A            | N/A |
| ClearPort     |               | \$0.02 |                   | \$0.03         |     |

|                  |        | Non-   |
|------------------|--------|--------|
|                  | Member | Member |
| Cash Settlement  | \$0.02 | \$0.03 |
| Futures from E/A | N/A    | N/A    |

| Additional Fees and S | Sundhanges |
|-----------------------|------------|
| EFS Surcharge         | N/A        |
| Block Surcharge       | N/A        |
| Facilitation Desk Fee | \$0.001    |

Pursuant to Section 5c(c) of the Commodity Exchange Act ("Act") and CFTC Rules 40.2 and 40.6, the Exchange hereby certifies that listing of the attached contracts complies with the Act, including regulations under the Act. There were no substantive opposing views to this proposal. These contracts will become effective on trade date May 2, 2011.

Should you have any questions concerning the above, please contact the undersigned at (212) 299-2207 or Brad Leach at (212) 299-2609.

Sincerely,

/s/ Felix Khalatnikov Dir & Assoc General Counsel

Attachments:

Contract Terms and Conditions

Cash Market Overview and Analysis of Deliverable Supply

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# Chapter 606

# Alberta Power Pool Extended Peak Calendar-Month Swap Futures

## 606.01 SCOPE

The provisions of these Rules shall apply to all contracts bought or sold on the Exchange for cash settlement based on the Floating Price.

## 606.02 FLOATING PRICE

The Floating Price for each contract month will be equal to the arithmetic average of all Alberta Power Pool Hourly Index peak prices provided for the contract month. For settlement of this contract, the prices provided by Alberta Electric System Operator will be considered final on the payment date stated in Rule 606.10 and will not be subject to any further adjustment.

#### 606.03 PEAK DAYS

"Peak Days" shall mean a Monday through Sunday, including North American Electric Reliability Corporation holidays.

#### 606.04 PEAK HOURS

"Peak Hours" shall mean From Hour Ending 0800-2300 Mountain Prevailing Time (MPT).

# 606.05 CONTRACT QUANTITY AND VALUE

The contract quantity shall be 80 Megawatt hours (MVVh) and is based on 5 Megawatts for peak daily hours. Transaction sizes for trading in any contract month shall be restricted to whole number multiples of the number of peak days in the contract month.

Each futures contract shall be valued as the contract quantity multiplied by the settlement price.

# 606.06 CONTRACT MONTHS

Trading shall be conducted in contracts in such months as shall be determined by the Exchange.

#### 606.07 PRICES AND FLUCTUATIONS

Prices shall be quoted in Canadian dollars and cents per MWh. The minimum price fluctuation shall be CAD 0.01 per MWh. There shall be no maximum price fluctuation.

# 606.08 TERMINATION OF TRADING

Trading shall cease on the last business day of the contract month.

## 606.09 FINAL SETTLEMENT

Delivery under the contract shall be by cash settlement. Final settlement, following termination of trading for a contract month, will be based on the Floating Price. The final settlement price will be the Floating Price calculated for each contract month.

#### 606.10 PAYMENT DATE

Five (5) business days following each contract month.

## 606.11 EXCHANGE FOR RELATED POSITION

# Chapter 642 Alberta Power Pool Extended Off-Peak Calendar-Month Swap Futures

## 642.01 SCOPE

The provisions of these Rules shall apply to all contracts bought or sold on the Exchange for cash settlement based on the Floating Price.

#### 642.02 FLOATING PRICE

The Floating Price for each contract month will be equal to the arithmetic average of all Alberta Power Pool Hourly Index prices provided for the contract month. For settlement of this contract, the prices provided by Alberta Electric System Operator will be considered final on the payment date stated in Rule 642.09 and will not be subject to any further adjustment.

## 642.03 OFF-PEAK DAYS AND HOURS

"Off-Peak Days & Hours" shall mean a Monday through Sunday Hour Ending 0100 through 0700 and 2400 Mountain Prevailing Time (MPT), including North American Electric Reliability Corporation holidays.

#### 642.04 CONTRACT QUANTITY AND VALUE

The contract quantity shall be 5 Megawatt hours (MWh). Transaction sizes for trading any contract month shall be restricted to whole number multiples of the number of off-peak hours in the contract month. The contract quantity will be adjusted by the transition in and out of the Daylight Savings Time.

Each futures contract shall be valued as the contract quantity multiplied by the settlement price.

# 642.05 CONTRACT MONTHS

Trading shall be conducted in contracts in such months as shall be determined by the Exchange.

#### 642.06 PRICES AND FLUCTUATIONS

Prices shall be quoted in Canadian dollars and cents per MWh. The minimum price fluctuation shall be CAD 0.01 per MWh. There shall be no maximum price fluctuation.

# 642.07 TERMINATION OF TRADING

Trading shall cease on the last business day of the contract month.

## 642.08 FINAL SETTLEMENT

Delivery under the contract shall be by cash settlement. Final settlement, following termination of trading for a contract month, will be based on the Floating Price. The final settlement price will be the Floating Price calculated for each contract month.

#### 642.09 PAYMENT DATE

Five (5) business days following each contract month.

#### 642.10 EXCHANGE FOR RELATED POSITION

# Chapter 783 Alberta Power Pool Peak Calendar-Month Swap Futures

## 783.01 SCOPE

The provisions of these Rules shall apply to all contracts bought or sold on the Exchange for cash settlement based on the Floating Price.

## 783.02 FLOATING PRICE

The Floating Price for each contract month will be equal to the arithmetic average of all Alberta Power Pool Hourly Index peak prices provided for the contract month. For settlement of this contract, the prices provided by Alberta Electric System Operator will be considered final on the payment date stated in Rule 783.10 and will not be subject to any further adjustment.

#### **783.03** PEAK DAYS

"Peak Days" shall mean a Monday through Saturday, excluding North American Electric Reliability Corporation holidays.

## 783.04 PEAK HOURS

"Peak Hours" shall mean Hour Ending 0800 through 2300 Mountain Prevailing Time (MPT).

#### 783.05 CONTRACT QUANTITY AND VALUE

The contract quantity shall be 80 Megawatt hours (MVVh) and is based on 5 Megawatts for peak daily hours. Transaction sizes for trading in any contract month shall be restricted to whole number multiples of the number of peak days in the contract month.

Each futures contract shall be valued as the contract quantity multiplied by the settlement price.

# 783.06 CONTRACT MONTHS

Trading shall be conducted in contracts in such months as shall be determined by the Exchange.

## 783.07 PRICES AND FLUCTUATIONS

Prices shall be quoted in Canadian dollars and cents per MWh. The minimum price fluctuation shall be CAD 0.01 per MWh. There shall be no maximum price fluctuation.

#### 783.08 TERMINATION OF TRADING

Trading shall cease on the last business day of the contract month.

#### 783.09 FINAL SETTLEMENT

Delivery under the contract shall be by cash settlement. Final settlement, following termination of trading for a contract month, will be based on the Floating Price. The final settlement price will be the Floating Price calculated for each contract month.

# 783.10 PAYMENT DATE

Five (5) business days following each contract month.

## 783.11 EXCHANGE FOR RELATED POSITION

# Chapter 841 Alberta Power Pool Off-Peak Calendar-Month Swap Futures

## 841.01 SCOPE

The provisions of these Rules shall apply to all contracts bought or sold on the Exchange for cash settlement based on the Floating Price.

# 841.02 FLOATING PRICE

The Floating Price for each contract month will be equal to the arithmetic average of all Alberta Power Pool Hourly Index off peak prices provided for the contract month. For settlement of this contract, the prices provided by Alberta Electric System Operator will be considered final on the payment date stated in Rule 841.09 and will not be subject to any further adjustment.

#### 841.03 OFF-PEAK DAYS AND HOURS

"Off-Peak Days & Hours" shall mean a Monday through Saturday Hour Ending 0100 through 0700 and 2400 Mountain Prevailing Time (MPT), Sunday, including North American Electric Reliability Corporation holidays.

#### 841.04 CONTRACT QUANTITY AND VALUE

The contract quantity shall be 5 Megawatt hours (MWh). Transaction sizes for trading any contract month shall be restricted to whole number multiples of the number of off-peak hours in the contract month. The contract quantity will be adjusted by the transition in and out of the Daylight Savings Time.

Each futures contract shall be valued as the contract quantity multiplied by the settlement price.

#### 841.05 CONTRACT MONTHS

Trading shall be conducted in contracts in such months as shall be determined by the Exchange.

#### 841.06 PRICES AND FLUCTUATIONS

Prices shall be quoted in Canadian dollars and cents per MWh. The minimum price fluctuation shall be CAD 0.01 per MWh. There shall be no maximum price fluctuation.

# 841.07 TERMINATION OF TRADING

Trading shall cease on the last business day of the contract month.

## 841.08 FINAL SETTLEMENT

Delivery under the contract shall be by cash settlement. Final settlement, following termination of trading for a contract month, will be based on the Floating Price. The final settlement price will be the Floating Price calculated for each contract month.

#### 841.09 PAYMENT DATE

Five (5) business days following each contract month.

## 841.10 EXCHANGE FOR RELATED POSITION

# Chapter 853 Alberta Power Pool Extended Peak Calendar-Day Swap Futures

# 853.01 SCOPE

The provisions of these Rules shall apply to all contracts bought or sold on the Exchange for cash settlement based on the Floating Price.

#### 853.02 DAILY FLOATING PRICE

The Daily Floating Price will be determined for each peak day. The Daily Floating Price for each contract day will be equal to the arithmetic average of all Alberta Power Pool Hourly Index peak prices provided for the contract day. For settlement of this contract, the prices provided by Alberta Electric System Operator will be considered final on the payment date stated in Rule 853.10 and will not be subject to any further adjustment.

#### 853.03 PEAK DAYS

"Peak Days" shall mean a Monday through Sunday, including North American Electric Reliability Corporation holidays.

## 853.04 PEAK HOURS

"Peak Hours" shall mean From Hour Ending 0800-2300 Mountain Prevailing Time (MPT).

## 853.05 CONTRACT QUANTITY AND VALUE

The contract quantity shall be 80 Megawatt hours (MWh) and is based on 5 Megawatts for peak daily hours. Transaction sizes for trading in any contract day shall be restricted to whole number of peak hours in the contract day.

Each futures contract shall be valued at the contract quantity multiplied by the settlement price.

# 853.06 CONTRACT DAYS

Trading shall be conducted in contracts in such days as shall be determined by the Exchange.

# 853.07 PRICES AND FLUCTUATIONS

Prices shall be quoted in Canadian dollars and cents per MWh. The minimum price fluctuation shall be CAD 0.01 per MWh. There shall be no maximum price fluctuation.

# 853.08 TERMINATION OF TRADING

Trading shall cease on the business day that is the peak day. When the peak day is not a business day, trading shall cease on the previous business day.

#### 853.09 FINAL SETTLEMENT

Delivery under the contract shall be by cash settlement. Final settlement, following termination of trading for a contract day, will be based on the Daily Floating Price. The final settlement price will be the Daily Floating Price calculated for each contract day.

# 853.10 PAYMENT DATE

Five (5) business days following each contract day.

# 853.11 EXCHANGE FOR RELATED POSITION

# Chapter 866 Alberta Power Pool Extended Off-Peak Calendar-Day Swap Futures

## 866.01 SCOPE

The provisions of these Rules shall apply to all contracts bought or sold on the Exchange for cash settlement based on the Floating Price.

#### 866.02 DAILY FLOATING PRICE

The Daily Floating Price for each contract day will be equal to the arithmetic average of all Alberta Power Pool Hourly Index off-peak prices provided for the contract day. For settlement of this contract, the prices provided by Alberta Electric System Operator will be considered final on the payment date stated in Rule 866.09 and will not be subject to any further adjustment.

## 866.03 OFF-PEAK DAYS AND HOURS

"Off-Peak Days & Hours" shall mean a Monday through Sunday Hour Ending 0100 through 0700 and 2400 Mountain Prevailing Time (MPT), including North American Electric Reliability Corporation holidays.

## 866.04 CONTRACT QUANTITY AND VALUE

The contract quantity shall be 5 Megawatt hours (MWh). Transaction sizes for trading in any contract day shall be restricted to whole number of off-peak hours in the contract day. The contract quantity will be adjusted by the transition in and out of the Daylight Savings Time.

Each futures contract shall be valued as the contract quantity multiplied by the settlement price.

# 866.05 CONTRACT DAYS

Trading shall be conducted in contracts in such days as shall be determined by the Exchange.

# 866.06 PRICES AND FLUCTUATIONS

Prices shall be quoted in Canadian dollars and cents per MWh. The minimum price fluctuation shall be CAD 0.01 per MWh. There shall be no maximum price fluctuation.

## 866.07 TERMINATION OF TRADING

Trading shall cease on the business day that is the off-peak day. When the off-peak day is not a business day, trading shall cease on the previous business day.

#### 866.08 FINAL SETTLEMENT

Delivery under the contract shall be by cash settlement. Final settlement, following termination of trading for a contract day, will be based on the Daily Floating Price. The final settlement price will be the Daily Floating Price calculated for each contract day.

#### 866.09 PAYMENT DATE

Five (5) business days following each contract day.

#### 866.10 EXCHANGE FOR RELATED POSITION

# Chapter 873

# Alberta Power Pool Peak Calendar-Day Swap Futures

# 873.01 SCOPE

The provisions of these Rules shall apply to all contracts bought or sold on the Exchange for cash settlement based on the Floating Price.

#### 873.02 FLOATING PRICE

The Daily Floating Price will be determined for each peak day. The Daily Floating Price for each contract day will be equal to the arithmetic average of all Alberta Power Pool Hourly Index peak prices provided for the contract day. For settlement of this contract, the prices provided by Alberta Electric System Operator will be considered final on the payment date stated in Rule 873.10 and will not be subject to any further adjustment.

#### 873.03 PEAK DAYS

"Peak Days" shall mean a Monday through Saturday, excluding North American Electric Reliability Corporation holidays.

## 873.04 PEAK HOURS

"Peak Hours" shall mean Hour Ending 0800 through 2300 Mountain Prevailing Time (MPT).

# 873.05 CONTRACT QUANTITY AND VALUE

The contract quantity shall be 80 Megawatt hours (MWh) and is based on 5 Megawatts for peak daily hours. Transaction sizes for trading in any contract day shall be restricted to whole number of peak hours in the contract day.

Each futures contract shall be valued as the contract quantity multiplied by the settlement price.

## 873,06 CONTRACT DAYS

Trading shall be conducted in contracts in such days as shall be determined by the Exchange.

## 873.07 PRICES AND FLUCTUATIONS

Prices shall be quoted in Canadian dollars and cents per MWh. The minimum price fluctuation shall be CAD 0.01 per MWh. There shall be no maximum price fluctuation.

# 873.08 TERMINATION OF TRADING

Trading shall cease on the business day that is the peak day. When the peak day is not a business day, trading shall cease on the previous business day.

# 873.09 FINAL SETTLEMENT

Delivery under the contract shall be by cash settlement. Final settlement, following termination of trading for a contract day, will be based on the Daily Floating Price. The final settlement price will be the Daily Floating Price calculated for each contract day.

## 873.10 PAYMENT DATE

Five (5) business days following each contract day.

# 873.11 EXCHANGE FOR RELATED POSITION

# Chapter 874 Alberta Power Pool Off-Peak Calendar-Day Swap Futures

#### 874.01 SCOPE

The provisions of these Rules shall apply to all contracts bought or sold on the Exchange for cash settlement based on the Floating Price.

#### 874.02 FLOATING PRICE

The Floating Price for each contract day will be equal to the arithmetic average of all Alberta Power Pool Hourly Index prices provided for the contract day. For settlement of this contract, the prices provided by Alberta Electric System Operator will be considered final on the payment date stated in Rule 874.09 and will not be subject to any further adjustment.

## 874.03 OFF-PEAK DAYS AND HOURS

"Off-Peak Days & Hours" shall mean a Monday through Saturday Hour Ending 0100 through 0700 and 2400 Mountain Prevailing Time (MPT), Sunday, including North American Electric Reliability Corporation holidays.

#### 874.04 CONTRACT QUANTITY AND VALUE

The contract quantity shall be 5 Megawatt hours (MWh). Transaction sizes for trading in any contract day shall be restricted to whole number of off-peak hours in the contract day. The contract quantity will be adjusted by the transition in and out of the Daylight Savings Time.

Each futures contract shall be valued as the contract quantity multiplied by the settlement price.

# 874.05 CONTRACT DAYS

Trading shall be conducted in contracts in such days as shall be determined by the Exchange.

#### 874.06 PRICES AND FLUCTUATIONS

Prices shall be quoted in Canadian dollars and cents per MWh. The minimum price fluctuation shall be CAD 0.01 per MWh. There shall be no maximum price fluctuation.

#### 874.07 TERMINATION OF TRADING

Trading shall cease on the business day that is the off-peak day. When the off-peak day is not a business day, trading shall cease on the previous business day.

## 874.08 FINAL SETTLEMENT

Delivery under the contract shall be by cash settlement. Final settlement, following termination of trading for a contract day, will be based on the Floating Price. The final settlement price will be the Floating Price calculated for each contract day.

## 874.09 PAYMENT DATE

Five (5) business days following each contract day.

## 874.10 EXCHANGE FOR RELATED POSITION

## **CASH MARKET OVERVIEW**

Alberta Electric System Operator<sup>1</sup> (AESO) is a not-for-profit entity and an independent system operator responsible for operation and planning of Alberta's interconnected power system. The AESO also facilitates Alberta's hourly wholesale electricity market, which, in 2009, had about 200 participants and approximately \$5 billion in annual energy transactions, and is accountable for the administration and regulation of the load settlement function. AESO also provides access to Alberta's interconnected power grid for generation and distribution companies and large industrial consumers of electricity. In so doing, the AESO contracts with transmission facility owners to acquire transmission services and, with other parties, to provide access to the system. The AESO ensures that the Alberta's Interconnected Electric System (AIES) is planned and operated in compliance with the North American Electric Reliability Corporation (NERC) and Western Electricity Coordinating Council (WECC) standards and the WECC Reliability Management System.

One of the main functions of the AESO is the real-time operation of the AIES. In doing so, AESO relies on the System Coordination Centre (SCC), which is staffed 24 hours per day, seven days a week, by a team of electricity system controllers. The SCC features advanced technology that provides the infrastructure for real-time electric system operations. The Energy Management System enables system controllers to dispatch electricity to meet demand and monitor the status of the provincial electric system. AESO relies on the Energy Trading System (ETS) which is critical technology system that facilitates the real-time wholesale electricity market. The ETS also receives electric metering data and performs financial settlement and billing functions for the wholesale market.

AESO operates a power pool that facilitates electricity flow from the suppliers to the load and also creates an hourly price index. In the Pool, electricity is purchased and sold as it is produced and consumed and the Pool is often referred to as the real time market or the spot market. In the Pool, generating units are dispatched as required based on a merit order ranked by offer prices from generators. The generating assets with lower offer prices are dispatched before those with higher offer prices, until the total dispatched volume equals the demand. The System Marginal Price (SMP) of the Pool is set by the offer of the last megawatt needed to satisfy the hourly demand of the system. The hourly Pool price is an

<sup>&</sup>lt;sup>1</sup> http://www.aeso.ca/market/153.html

after-the-fact calculation of the time weighted average of the SMPs in an hour. It serves as an index to settle electricity transactions that occurred in the Pool.

## 1. Power Pool

The power pool is a wholesale spot market through which generators and retailers/loads trade electricity. By virtue of electrical interconnections (called interties) with British Columbia and Saskatchewan, power can be both exported and imported to and from outside regions. A new intertie is being constructed to connect into Montana and is scheduled to be in service in later this year. In Alberta, all wholesale electrical energy must flow through the power pool. Two main characteristics of the Alberta electricity market are as follows:

- Production or generation must exactly match consumption or load at all times since electricity
  cannot be economically stored. This balancing act requires very close coordination of the
  electrical system components by the AESO in order to maintain system reliability.
- Once electrical energy is generated, one MWh is indistinguishable from another. The use of a common trading power pool obviates the need to try to track individual units of consumption back to a particular source of generation.

Each day, all generators submit their bids to the power pool for the following seven days. All available capacity must be offered – all capacity that is physically able to generate must be offered to the market. This is required under the AESO's 'Must Offer' Provisions 8. The AESO makes available a 7-day assessment of market circumstances regarding the volume of supply relative to anticipated demand. This is done by comparing the forecast of demand with the forecast of supply. Generators are free to make changes to their offer prices (but not their offered volumes) closer to real time as the market unfolds. Two hours before real time, all price changes must stop and the only allowable changes are those associated with operational issues at the units. This procedure is meant to provide some time separation between market activity and the physical delivery of energy to customers.

Loads may choose to make bids to the market but have not done so for several years. Most load acts as 'price taker' – meaning that it will pay whatever price the market dictates. A modest amount (200-300)

MW) of load does directly participate in the real-time market by monitoring conditions and choosing to reduce consumption in the face of high Pool prices. Since these loads do not make bids, they operate outside the market by responding to price without a dispatch. This is a rational choice for such loads. For instance, if the avoided costs by not consuming are greater than the profits to be derived by continuing to consume, then it makes sense to not consume. However, in practice, this is not a straightforward decision due to operational limitations on industrial processes and the lack of predictability of the hourly price.

## 2. Demand

Power pool demand is comprised 78% industrial and commercial, 18% residential and 4% agricultural. Demand or load varies depending on the time of the day and year. Chart 1 shows the average hourly demand during 2009. The load increases in the morning and in the evening while it decreases at night. There is also significant seasonality of demand within the year. Normally, spring and fall have the lowest average demand, summer has higher demand and winter has the highest levels of demand.

Average System Demand (MW) by Hour of the Day **Hour Ending** Source: http://ets.aeso.ca/

Chart 1

## 3. Supply

The system includes some 12,500 MW of capacity plus import capability from British Columbia and Saskatchewan as of June 2010. Table 1 below provides the Alberta generation mix. Historically, the coal-burning plants have been the main source providing a high level of baseload generation. Natural gas-fueled generation expanded significantly since 1996 and now provides more than 5,000 MW to the system. Hydro is the third largest category of supply although wind is expanding rapidly and will soon surpass it. In the case of hydro, water is generally not available in sufficient quantity to run the plants at full capacity. Wind generation is highly variable due to uncertain wind patterns.

Table 1: Alberta Generation Mix<sup>2</sup>

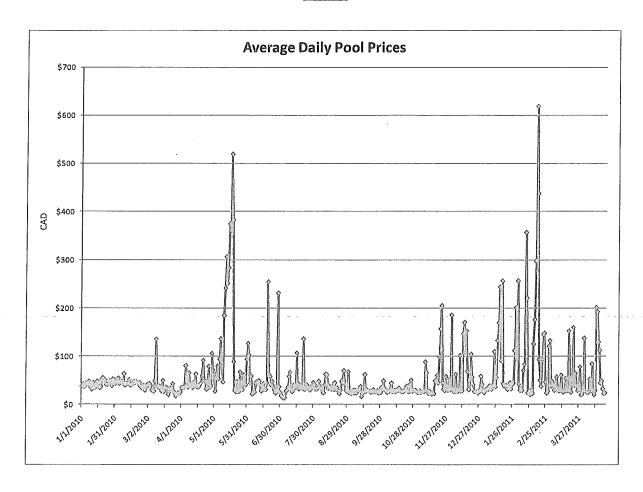
| Generation Type | Installed Capacity (MW) | Installed capacity (%) |  |
|-----------------|-------------------------|------------------------|--|
| Coal            | 5670                    | 45                     |  |
| Natural Gas     | 5070                    | 41                     |  |
| Hydro           | 870                     | 7                      |  |
| Wind            | 630                     | 5                      |  |
| Biomass         | 130                     | 1                      |  |
| Other           | 130                     | 1                      |  |
| Total           | 12500                   | 100                    |  |

#### 4. Prices

Chart 2 below illustrates Alberta Pool average prices for 2010. The range of hourly pool prices can vary in any given month. The daily average price is CAD 51 in 2010. Pool prices are influenced by the demand and supply factors

<sup>2</sup>http://albertamsa.ca/uploads/pdf/Archive/2010/Notice%20and%20Report%20Re%20Alberta%20Wholesale%20Electricity%20Market%20Report%20092910.pdf

Chart 2



# 5. Market Participants

| Retail Providers                 | Generation<br>Operators | Warketers                       | Financial<br>Participants | OTC brokers          |
|----------------------------------|-------------------------|---------------------------------|---------------------------|----------------------|
| Direct Energy Regulated Services | TransCanada<br>Power    | Transalta Energy<br>Marketing   | CitiGroup                 | ICAP                 |
| Capital Power                    | Transalta               | BP                              | JP Morgan                 | Prebon               |
| Enmax Energy                     | Epcor                   | Twin Cities Power               | Morgan Stanley            | One Exchange<br>Corp |
|                                  | ATCO                    | LDH Energy                      |                           |                      |
|                                  | Northpoint              | Constellation New Energy        |                           |                      |
|                                  | Enmax                   | Altagas                         |                           |                      |
|                                  | Suncor                  | NorthPoint Energy               |                           |                      |
| ·                                |                         | Nexen                           |                           |                      |
|                                  |                         | Direct Energy<br>Marketing Ltd. | -                         |                      |

## **ANALYSIS OF DELIVERABLE SUPPLY**

According to AESO, during 2009, the total system load was approximately 69,913,760<sup>3</sup> MWh. Accordingly, the average hourly demand was approximately 7,981 MW. Please note that data is reported hourly by AESO.

There are four basic types of futures contracts proposed under this submission: peak and extended peak, off-peak and extended off-peak. For each, the underlying unit is 5 megawatts per hour. The peak or extended peak contract is the financial equivalent of 5 MW per hour for each peak hour of a peak day or extended peak day—16 hours in total—leading to a contract size of 80 megawatt-hours (MWh).

There are restrictions placed on transaction sizes of the contracts. Transactions of the peak or extended peak contract must be conducted in multiples of the number of peak days or extended peak days in the contract month. This can range from 19-23 days for peak contract or 28-31 days for extended peak contract. The combination of contract size and these transaction conditions will provide market participants with futures contracts that satisfy the need for a lower unit and a monthly commercial contract structure. Transactions of the off-peak or extended off-peak contract are restricted to the total number of off-peak hours in the transaction month—approximately 390 hours for off-peak contract and 240 hours for extended off-peak contract, depending on the month. The combination of contract size and these transaction conditions will provide market participants with futures contracts that satisfy the need for a lower unit and a monthly commercial contract structure.

From the regular contract, "Peak Days" shall mean a Monday through Saturday, excluding North American Electric Reliability Corporation holidays. "Peak Hours" shall mean Hour Ending 0800 through 2300 Mountain Prevailing Time (MPT). "Off-Peak Days & Hours" shall mean a Monday through Saturday Hour Ending 0100 through 0700 and 2400 Mountain Prevailing Time (MPT), Sunday, including North American Electric Reliability Corporation holidays.

For the extended contract, "Peak day" shall mean a Monday through Sunday, including North American Electric Reliability Corporation holidays. "Peak Hours" shall mean From Hour Ending 0800-2300 Mountain

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<sup>3</sup> http://ets.aeso.ca/

Prevailing Time (MPT)."Off-Peak Days & Hours" shall mean a Monday through Sunday Hour Ending 0100 through 0700 and 2400 Mountain Prevailing Time (MPT), including North American Electric Reliability Corporation holidays.

Table 2 below shows the number of peak and off peak hours during 2010.

Table 2 Peak/Off-Peak Hours (2010)

| ·          | On-peak<br>hours | Off-peak<br>hours | Extended On-peak hours | Extended Off-peak<br>hours |
|------------|------------------|-------------------|------------------------|----------------------------|
| January    | 320              | 424               | 496                    | 248                        |
| February   | 320              | 352               | 448                    | 224                        |
| March      | 368              | 376               | 496                    | 248                        |
| April      | 352              | 368               | 480                    | 240                        |
| May        | 320              | 424               | 496                    | 248                        |
| June       | 352              | 368               | 480                    | 240                        |
| July       | 336              | 408               | 496                    | 248                        |
| August     | 352              | 392               | 496                    | 248                        |
| September  | 336              | 384               | 480                    | 240                        |
| October    | 336              | 408               | 496                    | 248                        |
| November   | 336              | 384               | 480                    | 240                        |
| December   | 368              | 376               | 496                    | 248                        |
| Total      | 4,096            | 4,664             | 5,840                  | 2,920                      |
| Percentage | 47%              | 53%               | 67%                    | 33%                        |

As stated above, the total system load was 69,913,760 MWh in 2009. The average monthly load is 5,826,147 MWh and the average daily load is 191,545 MWh.

The adjusted daily load is 90,026 MWh for regular peak and 128,335 MWh for extended peak (percentage of peak hours\*average daily load), which are equivalent to 1,125 NYMEX peak daily contracts and 1,604 NYMEX extended peak daily contracts. The proposed limit is 175 contracts for both peak daily and extended peak daily.

The adjusted monthly load is 2,738,289 MWH for regular peak and 3,903,518 MWH for extended peak (percentage of peak hours\*average monthly load), which are equivalent to 34,229 NYMEX peak monthly

contracts and 48,793 NYMEX extended peak monthly contracts. The proposed limit is 3,500 contracts for both peak monthly and extended peak monthly.

The adjusted daily load is 101,519 MWh for regular off-peak and 63,210 MWh for extended off-peak (percentage of off-peak hours\*average daily load), which are equivalent to 20,304 NYMEX off-peak daily contracts and 12,642 NYMEX extended off-peak daily contracts. The proposed limit is 1,250 contracts for both off-peak daily and extended off-peak daily.

The adjusted monthly load is 3,087,858 MWh for regular off-peak and 1,922,628 MWh for extended off-peak (percentage of off-peak hours\*average monthly load), which are equivalent to 617,572 NYMEX off-peak monthly contracts and 384,526 NYMEX extended off-peak monthly contracts. The proposed limit is 25,000 contracts for both off-peak monthly and extended off-peak monthly.