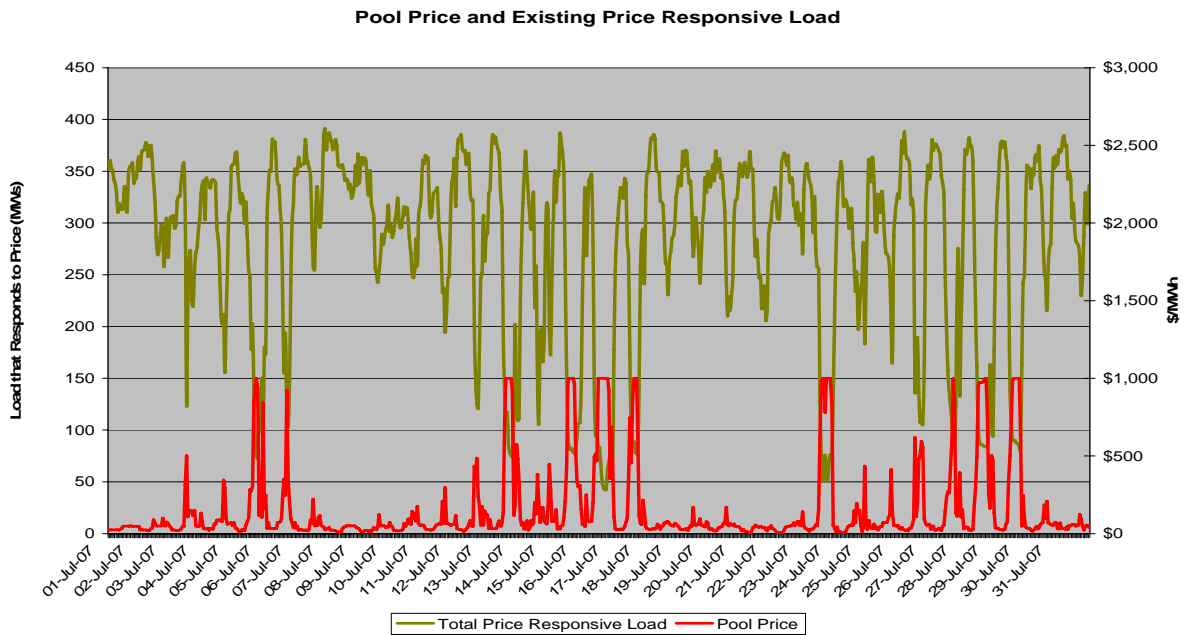


Response to DRWG Questions

This document provides responses from BECL and Associates Ltd. (BECL) to the two questions posed by the AESO as part of the DRWG Terms of Reference review.

Q1: How can load be enabled and encouraged (incented) to participate in Alberta's electricity markets?

Demand response is not a primary business activity for loads. Typically, loads will not have the resources and capability to participate in a demand response program. Historical data indicates that pool prices and volume of price responsive load are negatively correlated as demonstrated by the chart below of 2007 activity.



This data suggests at least three major issues:

- Price responsive loads compensation has not provided the appropriate financial incentive for loads to continue curtailment resulting in high pool price during times of low price responsive activity.
- Forecast errors in demand and supply result in poor indicators for price responsive load activity.
- Price responsive load can not respond quickly to price spikes.

To encourage loads to participate in Alberta's electricity markets and specifically to participate in demand response programs, it will be important that demand response programs recognize the constraints and needs of loads. A successful demand response program should provide:

- Adequate notice of a pending curtailment;
- Reasonable financial returns in addition to covering the costs related to development of demand response capability and participation in a demand response program;
- A clear understanding of the expectations on curtailment frequency and timeframes along with the consequences for non-performance; and
- Program rules and procedures that are easy to follow and understand.

Providing an adequate return for loads participating in demand response programs does not mean that loads should be paid more than generators. Loads participating in a demand response program should compete for dispatch just like generators and should be dispatched only when the demand response capacity is the lowest cost resource available to meet the AESO's requirements.

Generators may argue that committing to dispatching load for a minimum duration is not consistent with the principles of a fair, efficient, open and competitive market place. Accepting an offer from a load with a specified duration is not a lot different than recognizing that some generating assets required more than one hour for start-up i.e. the Long Lead Time Energy Dispatch procedure.

Q2: How to acquire sufficient voluntary demand response to maintain system reliability over the next X years in a manner consistent with the legislation and regulation?

The following is a description of two possible demand response programs based on the principles described above.

Hourly Program

The Hourly Program is in some aspects similar to what some loads are currently doing by voluntarily curtailing demand when prices rise. The program would be a voluntary in the sense that a load would not have an obligation to submit offers but if a load made an offer and it was accepted by the AESO, the offer would be binding. The offer would consist of three parts; a load reduction price, a quantity and the duration of the load reduction. If the offer is accepted load would be obligated to reduce its demand by the offered quantity for the specified duration.

This hourly demand response is dispatched by the AESO system operator subject to a minimum notice period, say one hour. This provides load with flexibility to offer a price, quantity and duration with the assurance they will be provided with a minimum amount of notification and sufficient revenue to cover any costs related to curtailment of their operation.

This program would require a reasonable but not onerous amount effort on the part of the load for administration, offer preparation, submission and settlement. The program is intended to be a low risk means for load to become more acquainted with demand response programs. The expectation is that as load becomes more familiar with demand response, they may be willing to participate in the higher levels programs in the future.

Demand Response Contracts

The demand response contracts could have a term from a day-ahead up to one year. AESO contracts for demand response capability with loads that can provide a commitment beyond the real time but for less than one year. This type of program would reduce the risk for load, especially for load new to this program, while providing the AESO with flexibility to handle daily and seasonal supply risks and short term transmission congestion and minimizing the AESO's risk in over contracting

The provisions of the Short Term Demand Response Contracts could be based on the following:

1. Term – minimum one month to a maximum of one-year
2. Selecting Participating Loads - Loads interested in participating in the Short-Term Demand Response Program would submit an application to the AESO defining the:
 - a. potential quantity of demand response the Load is prepared to commit to;
 - b. the term of participation, i.e one month, three months etc;
 - c. the duration of the response period;
 - d. the frequency that the Load is willing be to call for a demand response; and,
 - e. the Availability Payment the Load requires.

The AESO would select from the applications those loads which will meet its requirements for demand response.

3. Availability Payments – the Availability Payment the specified by a load (similar to an option premium) would a payment made by the AESO to the load, if the load was accepted and qualified, to cover the costs expected to be incurred by a load to meet the requirements of the AESO for a Qualifying Load.
4. Qualifying Loads – Selected Loads would be required to meet certain standards and requirements in order to participate in the program and would be given a period of time after selection to meet those standards and requirements. Only qualified loads will receive a Short Term Demand Response Contract.
5. Commitment – A load agrees to reduce demand by the specified quantity for a specified number of hours each time the AESO instructs the Load to reduce, subject to a minimum notice period.

6. Response Trigger – the event or situation that would cause the AESO to call for demand response by Loads with Short Term Demand Response Contracts.
7. Notice period – the AESO agrees to provide a minimum amount of notice prior to the start of a demand reduction.
8. Response Payment – Contracted Loads would be paid the hourly amount specified by the AESO for every hour that the load was dispatched by the AESO. The response payment could be set as a portion of the hourly market price prevailing during the hours that a load was dispatched. Setting the hourly payment at something less than the hourly market price recognizes the value of the Availability Payment.

In order to maintain long term system reliability, Demand Response Contracts could be awarded by the AESO for beyond one year with the same terms and conditions as those outlined above.