

CONNECTICUT SITING COUNCIL

ISO Late Filed Exhibit 1

Company: ISO New England Inc.

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Docket No. F-2007

Witness: Robert Burke

Update on the Status of Demand Response Providing Reserves

ISO New England is conducting a Demand Response Reserves (DRR) pilot program to determine if the Demand-Response resources in New England could be reasonably expected to respond to more frequent activations and to evaluate their performance. Currently, Demand-Response resources are activated only when ISO implements certain steps of Operating Procedure No. 4, *Actions During A Capacity Deficiency*.

The DRR Pilot consists of two distinct subprojects with concurrent timelines to meet its objectives and address two specific goals:

1. To determine the ability of demand resources to respond to reserve-activation events compared with off-line and on-line generation resources; and
2. To evaluate lower-cost, two-way communication alternatives to the current combination of SCADA (supervisory control and data acquisition) and Electronic Dispatch Remote Intelligent Gateway technology that is presently required to connect dispatchable resources to the ISO.

The experience gained in the DRR Pilot will help the ISO achieve the following long-term goals:

- Determine how and where to allow demand-response resources to participate in the wholesale electricity markets (including capacity and reserves) to the greatest extent possible.
- Ensure that the capacity, and reserve products provided by market resources (i.e., generation and demand-response assets) are functionally equivalent for meeting the needs of the system operators.
- Recognize the behavioral and technological differences between generation and Demand-Response resources to reduce barriers to entry and to encourage all potential resources to participate in as many of the markets as practicable.

The DRR Pilot was initiated on October 1, 2006 with approximately 50 resources totaling 22.6 MW. The winter season ran from October 1, 2006 through May 31, 2007. The performance of these resources is presently under review. For the summer 2007 season (June through September), there are 92 resources representing approximately 38.1 MW. These resources will be randomly activated during the summer season. Several types of Demand-Response resources are participating in the DRR Pilot, including weather-sensitive loads, non-weather-sensitive loads, emergency generation, and load-reduction resources.

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Update on the Status of Demand Response Providing Reserves (continued)

The results of the DRR Pilot will be used to determine the types of Demand-Response resources that can provide functionally equivalent, operating reserves using alternative telemetry. Based upon the results of the DRR Pilot, the ISO may recommend changes to the market rules to incorporate these resources.

In 2005, ISO implemented phase II of the Ancillary Services Markets project (“ASM II”), to allow asset-related demand to participate in the reserve market as Dispatchable Asset-Related Demand (DARD). However, in order to participate in the forward reserve market, a DARD had to be at least 5 MW and would be required to accept dispatch instructions from the ISO control center through the use of a Remote Intelligent Gateway. Typical Demand-Response resources would have had difficulty participating in the reserve market as currently designed since, unlike generation resources, Demand-Response resources are typically smaller, more numerous, more geographically dispersed, and may not be equipped with the necessary communications equipment. The average demand response resource provides less than 600 kW of demand reduction. Presently, there are approximately 1,800 assets in the ISO New England programs representing approximately 1,000 MW of demand reduction.

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ISO Late Filed Exhibit 2

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Docket No. F-2007

Witnesses: David Ehrlich
Stephen Rourke

Supplemental Response Regarding:

- (1) Reconciliation of ISO New England's Load Forecast With The Utilities' Forecasts;
and
- (2) An Evaluation of the ISO-NE Long-run Energy and Seasonal Peak Load Forecast Methodology, Benchmark Forecasts, February 2007 (administratively noticed)

1. Reconciliation of ISO New England's load forecast with the utilities' forecasts

Mr. Ashton expressed concern at the hearing that ISO does not reconcile its load forecast with the utilities' load forecasts. While ISO develops an independent forecast, ISO does communicate with the utilities when developing its forecast. Additionally, while the scope of the hearing was long-term forecasting for system planning purposes, for operational purposes ISO is in regular contact with the Local Control Centers (e.g. CONVEX) to track the loads on the system, including the load in Connecticut.

Forecasting for System Planning

ISO presents its forecast each year to the NEPOOL Load Forecasting Committee and the Planning Advisory Committee for review before the forecast is issued as final. While the ISO and utilities prepare separate forecasts, ISO understands that the utilities generally reference the ISO forecast for system planning purposes.

The growth rates in the ISO and utility company forecasts are about the same, although the ISO forecast is approximately 300 MW higher. The difference is explained in the manner in which ISO treats historical demand. The 300-MW difference is explained by the 2005 and 2006 events when ISO implemented Operating Procedure No. 4, *Action During a Capacity Deficiency* (OP4), which triggered activation of Demand-Response resources and consequently a reduction in demand. ISO adds those resources back into the historical peak loads, which makes the ISO forecast appear higher than the Sum of the Utility forecasts. The rationale for adding the demand reduction back into the historical peaks is that the reductions would not have occurred naturally and the peak would have been higher without the OP4-related actions.

When the demand reduction described above is excluded from the calculations, a gap appears between the ISO and utility forecasts. However, if the demand reduction is added back into the calculations and the Sum-of-Utility growth rate is applied to the ISO 2007 peak forecast, the gap between the ISO and the utility forecasts narrows to approximately 1%. See chart below.

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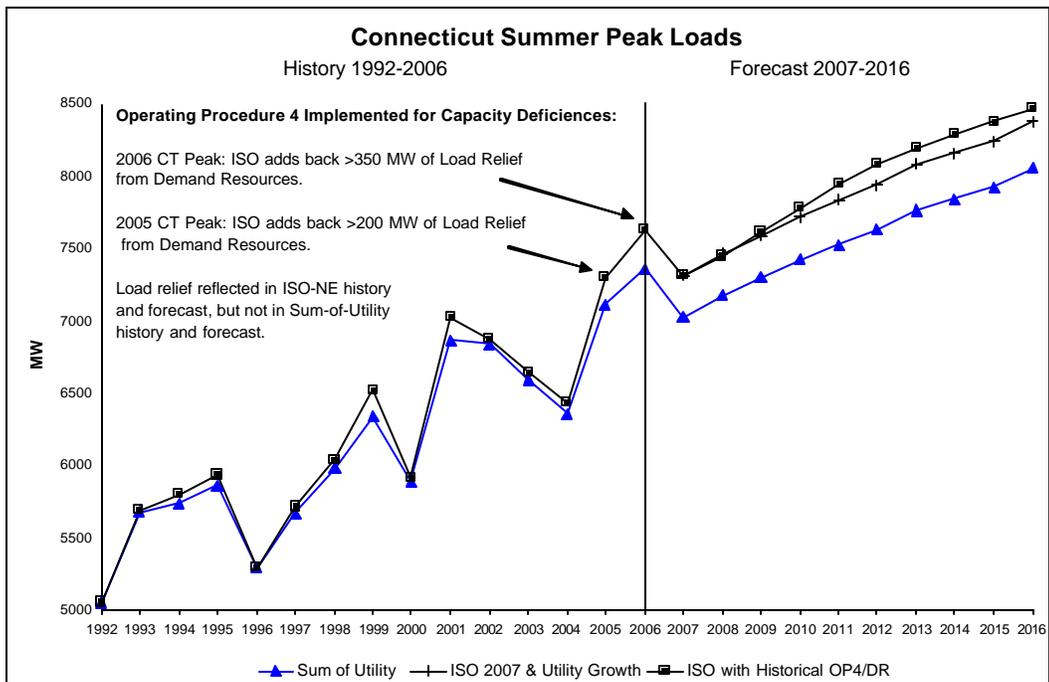
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Forecasting for System Operations

ISO and the utilities prepare forecasts for operational purposes, i.e. day-to-day operation of the bulk power system. ISO develops a forecast for New England for each hour of each operating day. ISO's New England system peak forecast is presented for each operating day in the ISO's Morning Report, which is posted on the ISO homepage: www.iso-ne.com. Additionally, ISO publishes a two-day forecast that projects hourly peak loads for New England, and a seven-day forecast that projects daily peak loads for New England.¹

¹ http://www.iso-ne.com/sys_ops/op_frctng/index.html

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ISO is in regular hour-to-hour coordination with the Local Control Centers (e.g. CONVEX) throughout the operating day to monitor loads for the subareas and key interfaces, including Connecticut.

In addition, ISO has partnered with the University of Connecticut's Electrical and Computer Engineering Department to investigate the use of new mathematical modeling techniques in the daily operational load forecasting process. This technology is very different from the long-range load forecast models discussed at the June 12 hearing, but it has a direct impact on operational readiness for the New England power system on a day-to-day basis. Currently, the UCONN model is being run in parallel to the existing operational forecast models to benchmark its accuracy against other load forecasting techniques. We anticipate that the new UCONN model will provide another valuable and highly accurate load forecasting tool for use by ISO New England in its daily operational planning process.

2. An Evaluation of the ISO-NE Long-run Energy and Seasonal Peak Load Forecast Methodology, Benchmark Forecasts, February 2007

During the hearing, Mr. Ashton asked about the labeling of Figure B.3 *Net Load per Household* on page 18 of the Benchmark document. After reviewing this item, ISO has determined that the y-axis of Figure B.3 should be labeled megawatt-hours (MWh) instead of kilowatt-hours (kWh). The following is a revised version of the Benchmark chart. In this case, Energy per Customer includes all residential, commercial, and industrial use.

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