

## **Narrative Summary**

### **Time-of-Use Pilot Program Pricing Proposal Detailed Rate Calculations Updated April 27, 2011**

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#### **INTRODUCTION:**

On February 19, 2010, the Company filed a Default Service rate calculation including a narrative and schedules for the Residential time-of-use Pilot Program with the Commission. As required by the Settlement Agreement and Commission approval of the Pilot Program in Docket DE 09-137, the calculations provided an analysis of the most recent Locational Marginal Price (LMP) data for the ISO-NE, calculated the relative on-peak, off-peak and critical peak time period LMP values and applied them to the corresponding residential class data to determine the ratios for on-peak, off-peak and critical peak to be applied to the Default Service Rates for the upcoming summer period. In addition, the calculation added a factor for the demand-related ISO-NE costs to the critical peak period hours as provided for in the settlement.

Subsequent events resulted in the delay in implementation of the program from the summer of 2010 to the summer of 2011. On March 23, 2011, the Company filed its proposed TOU Default Service rates for the summer of 2011, utilizing the ratios previously calculated for on-peak, off-peak and critical peak period differentials in developing the rates. After consultation with Commission Staff, the Company agreed to update the calculations for the latest available ISO-NE LMP and demand cost information. The resulting calculations are also applied to the approved Default Service rates applicable for the period beginning May 1, 2011, to provide the specified TOU Pilot Program rates that will apply during the Pilot Program in the months of June, July and August 2011.

On February 15, 2011, the Commission also approved a limited CPP pricing pilot program for the Company's commercial and industrial (C&I) customers. The updated calculation of the C&I CPP rate is also provided in the attached schedules.

#### **EXPLANATION OF CALCULATIONS:**

##### **ENERGY -**

Attachment 1 shows the Company appropriate load zone locational marginal pricing for June through August 2009. This data has been compiled to determine the ratio of the average price during the on peak period to the average price during the off peak period. For FG&E the ratio is 1.6736 and for UES the ratio is 1.6778.

Attachment 2 shows the development of the TOU/CPP Default Service pricing. Firstly, the metered kWh for the residential class is determined based on customer class load profile data for 2010 and is shown for the on peak period, the off peak period, and 6 days determined as proxy days for a critical peak period in 2010. These were simply the 6 days for which the highest loads occurred during June through August 2010 for the Company.

The residential load profile data is shown in Attachment 3 and shows the on peak period and the proxy critical peak period days (shaded). Also shown in the rate calculation are the percentages of kWh in each of the rate periods. Next, the maximum hourly residential kW load is shown.

#### DEMAND -

The cost of marginal generation capacity has been estimated in the following manner. The Company begins by determining the ISO-FCM clearing price applicable to the upcoming period (from FCA-2). That price is \$3.60 per KW per month, which represents the price at which a resource agrees to assume a Capacity Supply Obligation. However, numerous variables, including the resource's performance and availability, will impact the actual revenue received, and in turn the net cost to be covered by load servers. Under the TOU program, the Company is estimating the demand cost to serve load, or what ISO would call a Capacity Load Obligation (CLO). At a basic level, the charge is simply the peak load times the regional capacity clearing price. However, the CLO is based on the relative proportion of customer peak load values, or ICAP tags, to the capacity zone peak, and in turn to the pool peak value. ISO-NE plans for additional capacity over and above expected peak day requirements when they set FCA targets in order to provide for reserve margins sufficient to satisfy their reliability requirements. Thus the volumes sought and qualified in the FCAs, and subsequent reconfiguration auctions, reflect these reserves.

Provisions for ancillary services charges (and occasional credits) also should be factored in. Ancillary services may be charged by ISO-NE to load serving entities for forward and real time reserves, regulation, first contingency and second contingency net commitment period charges, inadvertent energy and emergency energy, auction reserve rights and various administrative charges.

The specific calculations provided for in the ISO-NE billing of capacity and ancillary services are quite complicated. In addition, there are frequent subsequent adjustments for billing components in various prior time periods. Unitil had some exposure to the ISO-NE billing process in the context of its Transition Capacity Market in the post-restructuring environment, and based on that experience estimates that the additional charges reflecting reserve capacity requirements and other non-Energy charges often ranged from 20% to 40% of the stated monthly capacity clearing price. However, the Transition Capacity Market ended as of July 1, 2010, and the Company is no longer directly exposed to the ISO-NE billing and settlement process, as it procures all-requirements Default Service where the supplier assumes these responsibilities.



Based on the Company's prior experience, we recommend the use of an average 30% estimate for capacity reserves, ancillary services and other adjustments to non-Energy costs for purposes of TOU Default Service pricing. The resulting value is therefore  $\$3.60 \times 1.3 = \$4.68$  per KW per month.

Finally, distribution losses are applied to the \$4.68 price. This value is then multiplied by 3 (the number of months of the program) and then multiplied again by the maximum kW load to determine the total additional cost of marginal generation capacity. This cost is then divided by the total kWh in the proxy critical peak period to get the \$/kWh for the Critical Peak Price adder, as shown in Attachment 2.

#### REVENUE NEUTRALITY -

The final step in the rate calculation is to finalize the TOU Pilot default service pricing based on the actual summer Default Service Power Supply Rate of \$0.07094 per kWh. The revenue amount based on this price is shown in Attachment 2. To determine the pricing, initially the on peak and critical peak prices are set equal and then the on peak price is set based on the ratio determined above (1.6736 or 1.6778) times the off peak price in order to achieve the target revenue amount. The on-peak price is set at this level.

Next, the CPP adder is applied to the CPP kwh to determine the additional revenue. This additional revenue is then offset by reducing the on-peak and off-peak prices. This maintains the calculated ratio of on-peak and off-peak prices.

Finally, the Renewable Portfolio Standard Charge of \$0.00180 per kWh is added to all three price components.

#### C&I CPP RATE CALCULATION –

The C&I rate calculation is a simplified calculation as it only utilizes the hours for the critical peak period and all other hours. The calculation follows a similar calculation process, as demonstrated on the attached Schedules 4 and 5.