

STATE OF CONNECTICUT  
DEPARTMENT OF PUBLIC UTILITY CONTROL

DPUC Investigation of Measures  
To Reduce Federally Mandated  
Congestion Charges

Docket No. 05-07-14PH02  
December 5, 2006

Connecticut Department of  
Public Utility  
Control  
Request for Proposals  
to reduce impact of FMCCs

**DECEMBER 5, 2006 ADDENDUM**  
**UPDATED LOAD FORECAST**

## 1 Introduction and overview

As per Section 5.5.1.3 of the RFP (*see* page 51 of the RFP issued on September 15, 2006 or the “RFP”), the demand assumptions to be used in the Bid Evaluation rely on ISO-NE’s projections for demand under the reference case (50/50) and high and low economic cases.<sup>1</sup> These forecasts were published by ISO-NE as part of Regional System Plan (RSP) 2006. ISO-NE’s forecast extends for ten years, while the Bid Evaluation will look over a longer time period in order to accommodate contract terms of up to fifteen years. For each year after 2015, the estimated annual average load growth rate from ISO’s load projection between 2006 and 2015 was applied to determine the projected demand levels in this period.

Using this constant load growth rate over the long term (2016 through 2021) does not capture the underlying year-on-year declining growth trend in the ISO-NE’s projected peak demand growth rate. Consequently, the demand forecast was revised after 2015 to incorporate a declining growth rate. There were no changes in the demand forecast over the next ten years. The changes in peak demand forecasts after 2015 do change the Installed Capacity Requirement (ICR) and Local Sourcing Requirement (LSR), which impacts the total deficit in capacity in the long term, as presented in the Needs Assessment and in the Section 2.2 of the RFP.

This document presents the updated demand forecasts (i.e. updated Figure 17 of the RFP) and briefly summarizes the resulting changes in Needs Assessment (i.e. updated Figure 1 of the RFP) for potential bidders. This document should be read in conjunction with the September 15, 2006 RFP.

## 2 Demand Forecast

Figure 1 on the next page presents the updated demand forecast for the reference, high, and low economic cases, effectively replacing Figure 17 on page 52 of the RFP. The demand forecast was not modified for the initial nine years (2007 through 2015), as those figures are based on ISO-NE projections.<sup>2</sup> The lower demand growth rate discussed above reduces peak demand and total energy projections across New England and in each of the RSP regions only after 2015.

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<sup>1</sup> The September 15, 2006 RFP and related addendums and documents are posted on the RFP website - <http://www.connecticut2006rfp.com/index.php>.

<sup>2</sup> Figure 1 contains a correction to the table summaries in the RFP in relation to the forecast for the ISO-NE control area through 2015. The ISO-NE numbers in Figure 17 in the RFP were based on a summation of the sub-regional forecast from the draft RSP for the Reference Case. The ISO-NE forecasts for the RSP zones do not sum precisely to the control area forecast. Therefore, the original Figure 17 had annual peak demand and energy figures that are 5 MW to 25 MW higher than in our presentation below for the initial ten years, 2007-2015, for New England. The demand projections for Connecticut are unaffected by the accounting. Furthermore, in the Bid Evaluation modeling and in the Needs Assessment we do not use the sum of the RSP zone demand forecasts but the specific numbers for the control area forecast, consistent with that is presented below, hence, the correction is for clarification purposes only and does not affect any of the analysis.

**Figure 1. Projected demand for New England and Connecticut<sup>3</sup> under ISO-NE's reference case (50/50), high economic case, and low economic case, 2007 - 2021**

| <u>Reference case</u>     |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
|---------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                           | 2007    | 2008    | 2009    | 2010    | 2011    | 2012    | 2013    | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    | 2020    | 2021    |
| <b>ISO-NE</b>             |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| Peak demand (MW)          | 27,355  | 27,900  | 28,540  | 29,185  | 29,885  | 30,515  | 31,020  | 31,480  | 31,895  | 32,274  | 32,609  | 32,922  | 33,207  | 33,477  | 33,725  |
| Energy (GWh)              | 133,975 | 135,775 | 138,020 | 140,330 | 142,790 | 145,160 | 147,225 | 149,185 | 151,085 | 152,933 | 154,721 | 156,465 | 158,178 | 159,863 | 161,531 |
| Growth in peak demand     |         | 2.0%    | 2.3%    | 2.3%    | 2.4%    | 2.1%    | 1.7%    | 1.5%    | 1.3%    | 1.2%    | 1.0%    | 1.0%    | 0.9%    | 0.8%    | 0.7%    |
| <b>CT (rest of CT)</b>    |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| Peak demand (MW)          | 3,630   | 3,695   | 3,780   | 3,865   | 3,955   | 4,050   | 4,115   | 4,175   | 4,230   | 4,280   | 4,327   | 4,369   | 4,408   | 4,443   | 4,475   |
| Energy (GWh)              | 17,105  | 17,320  | 17,600  | 17,915  | 18,235  | 18,565  | 18,825  | 19,080  | 19,310  | 19,526  | 19,725  | 19,909  | 20,080  | 20,237  | 20,382  |
| Growth in peak demand     |         | 1.8%    | 2.3%    | 2.2%    | 2.3%    | 2.4%    | 1.6%    | 1.5%    | 1.3%    | 1.2%    | 1.1%    | 1.0%    | 0.9%    | 0.8%    | 0.7%    |
| <b>SWCT</b>               |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| Peak demand (MW)          | 3,650   | 3,720   | 3,805   | 3,895   | 3,990   | 4,070   | 4,125   | 4,175   | 4,225   | 4,273   | 4,320   | 4,365   | 4,409   | 4,452   | 4,493   |
| Energy (GWh)              | 17,190  | 17,415  | 17,715  | 18,040  | 18,370  | 18,650  | 18,860  | 19,065  | 19,250  | 19,424  | 19,583  | 19,731  | 19,868  | 19,994  | 20,111  |
| Growth in peak demand     |         | 1.9%    | 2.3%    | 2.4%    | 2.4%    | 2.0%    | 1.4%    | 1.2%    | 1.2%    | 1.1%    | 1.1%    | 1.0%    | 1.0%    | 1.0%    | 0.9%    |
| <u>High economic case</u> |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| <b>ISO-NE</b>             |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| Peak demand (MW)          | 27,579  | 28,513  | 29,418  | 30,327  | 31,294  | 32,185  | 32,954  | 33,678  | 34,355  | 34,993  | 35,588  | 36,145  | 36,666  | 37,152  | 37,605  |
| Energy (GWh)              | 136,655 | 140,393 | 143,967 | 147,581 | 151,339 | 154,988 | 158,342 | 161,586 | 164,752 | 167,829 | 170,824 | 173,737 | 176,571 | 179,328 | 182,010 |
| Growth in peak demand     |         | 3.4%    | 3.2%    | 3.1%    | 3.2%    | 2.8%    | 2.4%    | 2.2%    | 2.0%    | 1.9%    | 1.7%    | 1.6%    | 1.4%    | 1.3%    | 1.2%    |
| <b>CT (rest of CT)</b>    |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| Peak demand (MW)          | 3,646   | 3,756   | 3,865   | 3,978   | 4,096   | 4,215   | 4,307   | 4,395   | 4,477   | 4,554   | 4,626   | 4,694   | 4,757   | 4,816   | 4,871   |
| Energy (GWh)              | 17,387  | 17,801  | 18,221  | 18,662  | 19,104  | 19,564  | 19,950  | 20,326  | 20,695  | 21,055  | 21,408  | 21,752  | 22,088  | 22,415  | 22,735  |
| Growth in peak demand     |         | 3.0%    | 2.9%    | 2.9%    | 3.0%    | 2.9%    | 2.2%    | 2.0%    | 1.9%    | 1.7%    | 1.6%    | 1.5%    | 1.3%    | 1.2%    | 1.1%    |
| <b>SWCT</b>               |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| Peak demand (MW)          | 3,666   | 3,778   | 3,891   | 4,008   | 4,130   | 4,240   | 4,320   | 4,395   | 4,466   | 4,533   | 4,596   | 4,655   | 4,710   | 4,762   | 4,811   |
| Energy (GWh)              | 17,476  | 17,902  | 18,335  | 18,790  | 19,246  | 19,657  | 19,992  | 20,314  | 20,629  | 20,934  | 21,231  | 21,519  | 21,798  | 22,069  | 22,331  |
| Growth in peak demand     |         | 3.1%    | 3.0%    | 3.0%    | 3.0%    | 2.7%    | 1.9%    | 1.7%    | 1.6%    | 1.5%    | 1.4%    | 1.3%    | 1.2%    | 1.1%    | 1.0%    |
| <u>Low economic case</u>  |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| <b>ISO-NE</b>             |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| Peak demand (MW)          | 27,133  | 27,279  | 27,641  | 28,029  | 28,466  | 28,833  | 29,071  | 29,269  | 29,415  | 29,532  | 29,627  | 29,705  | 29,769  | 29,822  | 29,866  |
| Energy (GWh)              | 131,295 | 131,143 | 132,054 | 133,132 | 134,330 | 135,451 | 136,252 | 136,968 | 137,582 | 138,133 | 138,621 | 139,057 | 139,447 | 139,798 | 140,114 |
| Growth in peak demand     |         | 0.5%    | 1.3%    | 1.4%    | 1.6%    | 1.3%    | 0.8%    | 0.7%    | 0.5%    | 0.4%    | 0.3%    | 0.3%    | 0.2%    | 0.2%    | 0.1%    |
| <b>CT (rest of CT)</b>    |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| Peak demand (MW)          | 3,610   | 3,635   | 3,688   | 3,749   | 3,813   | 3,878   | 3,915   | 3,949   | 3,974   | 3,995   | 4,011   | 4,024   | 4,034   | 4,042   | 4,048   |
| Energy (GWh)              | 16,822  | 16,825  | 16,978  | 17,170  | 17,356  | 17,557  | 17,683  | 17,809  | 17,911  | 18,003  | 18,082  | 18,151  | 18,211  | 18,264  | 18,309  |
| Growth in peak demand     |         | 0.7%    | 1.5%    | 1.7%    | 1.7%    | 1.7%    | 1.0%    | 0.9%    | 0.6%    | 0.5%    | 0.4%    | 0.3%    | 0.3%    | 0.2%    | 0.2%    |
| <b>SWCT</b>               |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| Peak demand (MW)          | 3,629   | 3,657   | 3,714   | 3,778   | 3,845   | 3,899   | 3,926   | 3,950   | 3,964   | 3,974   | 3,981   | 3,986   | 3,990   | 3,992   | 3,994   |
| Energy (GWh)              | 16,908  | 16,921  | 17,084  | 17,288  | 17,486  | 17,641  | 17,719  | 17,799  | 17,854  | 17,901  | 17,938  | 17,969  | 17,993  | 18,014  | 18,030  |
| Growth in peak demand     |         | 0.8%    | 1.6%    | 1.7%    | 1.8%    | 1.4%    | 0.7%    | 0.6%    | 0.4%    | 0.3%    | 0.2%    | 0.1%    | 0.1%    | 0.1%    | 0.0%    |

### 3 Impact on needs assessment

Section 2.2 of the RFP (see pages 12-15 of the RFP) summarizes the Needs Assessment for Connecticut, as detailed in the revised August 25, 2006 Needs Assessment.<sup>4</sup> As stated above, the clarifying changes to the demand forecast for the first nine years, 2007 through 2015, do not affect the Needs Assessment presented for Connecticut. However, incorporating the updated growth trends in peak demand forecast in the longer term, does impact the total

<sup>3</sup> Connecticut's statewide demand forecast is composed of the 'rest of CT' and 'SWCT' sub-regions documented in Figure 1 above.

<sup>4</sup> The revised Needs Assessment report (August 25, 2006) and related documents are posted on the RFP website - <http://www.connecticut2006rfp.com/index.php>.

magnitude of the shortfall in generating capacity vis-à-vis the projected procurement target in the Forward Capacity Market (FCM) in the outer years of the forecast time horizon, because the lower demand growth expectations decrease the levels of ICR and LSR. As described in detail in the Needs Assessment and RFP, the ICR and LSR is based on the peak demand forecasts, adjusted for the planning reserve margin and other components.<sup>5</sup>

In summary, the lower demand growth rate in the longer term reduces the cumulative investment needs for Greater Connecticut, as documented in the figure below.

**Figure 2. Summary of cumulative investment needs for Greater Connecticut assuming optimization of complementarity between product markets (MW)**

|                            | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017  | 2018  | 2019  | 2020  | 2021  |
|----------------------------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|
| <b>Greater Connecticut</b> |      |      |      |      |      |      |      |      |      |      |       |       |       |       |       |
| Scenario 1                 | 629  | 629  | 625  | 626  | 626  | 623  | 624  | 623  | 623  | 624  | 624   | 624   | 687   | 792   | 891   |
| Scenario 2                 | 629  | 626  | 626  | 624  | 623  | 625  | 625  | 625  | 625  | 624  | 624   | 624   | 687   | 792   | 891   |
| Scenario 3                 | 629  | 625  | 623  | 629  | 625  | 629  | 624  | 624  | 624  | 625  | 621   | 624   | 625   | 625   | 629   |
| Scenario 4                 | 629  | 631  | 631  | 631  | 633  | 693  | 716  | 723  | 812  | 974  | 1,126 | 1,285 | 1,418 | 1,559 | 1,692 |

= Investment needs driven by LFRM  
 = Investment needs driven by FCM  
 = Investment needs changed from the August 25, 2006 Needs Assessment because of change in peak demand forecast

There are no changes under scenario 3 (the Accelerated Entry with Low Economic Growth Demand Case), as compared to Figure 1 of the RFP and revised August 25, 2006 Needs Assessment report. However, with the lower peak demand levels in the long term, the cumulative investment need by 2021 is reduced by 518 MW for the Connecticut as a whole under scenario 1 (the Modified Market Outcome with Reference Demand Case) and scenario 2 (the Delayed Entry with Reference Demand Case), and by 791 MW under scenario 4 (the Delayed Entry with High Economic Growth Demand and Tighter Environmental Restrictions Case).

<sup>5</sup> See the "Briefing Note on LSR Methodology revised August 25 Needs Assessment" on the RFP website - [http://www.connecticut2006rfp.com/other\\_docs.php#1](http://www.connecticut2006rfp.com/other_docs.php#1) for a detailed discussion on the methodology to compute LSR.