

## **ATTACHMENT 2**

## LEGAL NOTICE

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## REVISION SUMMARY

September 7 - This report was revised to correct a double-counting of insurance costs in the case of the NYC Demand Curve with property tax abatement. That Demand Curve was developed with carrying charges using implicit property taxes. Those carrying charges also included insurance costs which were then also added to the model as a line item. All other cases were not developed using carrying charges with implicit property taxes and are unaffected. The result is a reduction in the gross and net CONE of approximately \$ 8 per kW year for the NYC case with property tax abatement.

November 15 - Revisions were made to the report due to the LMS100 CO emissions issue.

- Table I-1, p10 updated annual fixed costs and net costs for NYC and LI regions.
- pp12-13 Updated demand curve charts for NYC and LI regions.
- Table II-1, p17 revised to change cost ranges on LMS100. Also corrected the \$/kW cost for the LM6000PG model.
- Table II-2, p20 with text changes on pp 20-22. Updated max operating hours and text for LMS100 cases.
- Table II-3, p 26-27 updated capital costs for LMS100 cases
- Table II-6, p 31-32 updated CO catalyst cost component of variable O&M for LMS100 cases.

- pp77, 80 updated amortization period for LI region.
- Table A-2, pgs 92, 93, 97, 98 updated costs for capital, fixed and variable O&M for LMS100 cases.
- Table A-3, p100 updated capital cost breakdown for LMS100 cases
- Table A-10, p107 updated comparison of 2010 DCR LMS100 costs with 2007 DCR
- Table A-11, p108, updated NYC LMS100 cost breakdown
- Table A-12, p109 updated LI LMS100 cost breakdown Table II-4, p28 revised the NYC maintenance staff and LHV operating staff to correspond to the numbers used to develop the fixed O&M costs used by NERA.
- Tables A-5 through A-7, pp102-104, these tables were never updated from the draft issued to the ICAP working group for comment in early July. A number of changes were made since that time, including Oxidation catalyst on LM6000; revised social justice costs in some cases; NYC site remediation costs; and revised ERC costs.

**Table I-1**

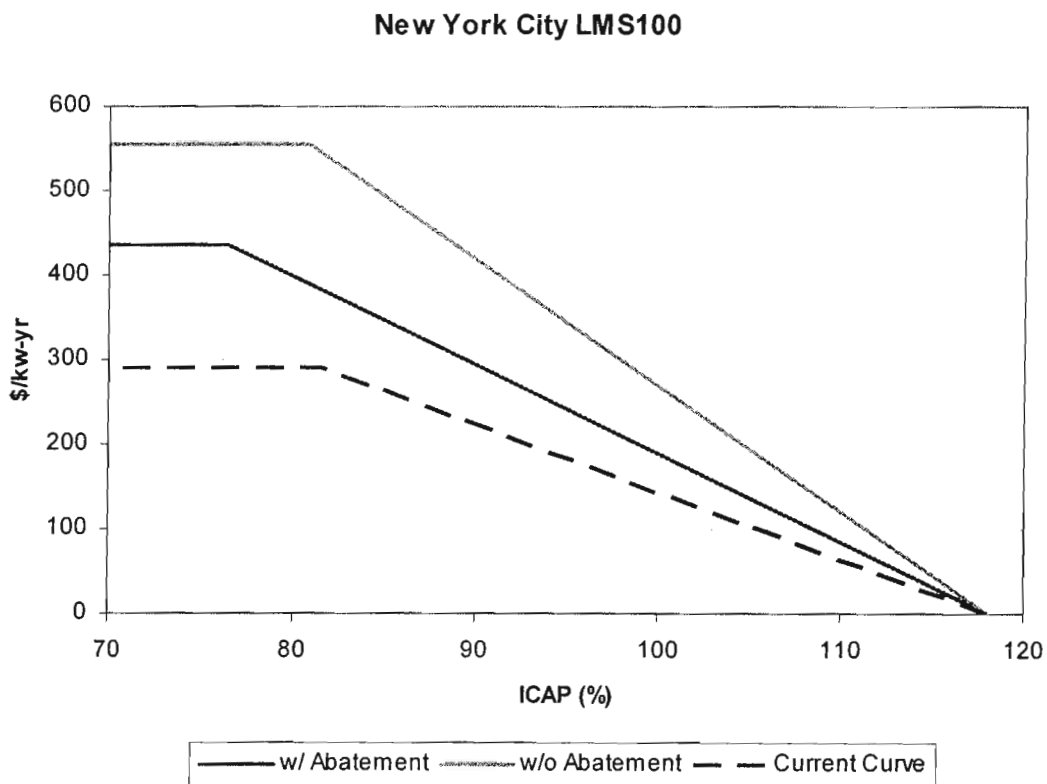
Demand Curve Values at Reference Point:						
Values for Capacity Years 2011/2012						
	<i>2007 DC Value for 2010/2011</i> <i>2010 dollars/kW-year</i>			<i>2010 Update for 2011/2012</i> <i>2011 dollars/kW-year</i>		
	Annual Fixed Cost	Energy and AS Net Revenues	Net Costs	Annual Fixed Cost	Energy and AS Net Revenues	Net Costs
ROS Frame 7	107.33	10.87	<b>96.46</b>	122.47	27.44	<b>95.03</b>
ROS Frame 7 (w/ Deliverability)				149.42	27.44	<b>121.98</b>
NYC LMS100 (w/revised Abatement)	218.55	75.41	<b>143.15</b>	<u>290.60</u> <del>286.65</del>	101.67	<u>188.94</u> <del>184.99</del>
NYC LMS100 (w/o Abatement)				<u>369.60</u> <del>364.64</del>	101.67	<u>267.94</u> <del>262.98</del>
LI LMS100	194.05	104.56	<b>89.47</b>	<u>285.36</u> <del>280.91</del>	168.77	<u>116.60</u> <del>112.14</del>

We present the values above in 2010 dollars for the current curve and 2011 dollars for the updated curve as the curves are stated on that basis. As can be seen above the Demand Curves are reasonably stable absent potential changes for deliverability and in NYC for the tax abatement program established since the last Demand Curve reset, which has a lower impact than the previous abatement program. This result is attributable to a combination of factors including:

1. an increase in construction and equipment costs somewhat beyond that assumed in the prior reset; and,
2. offsetting increases in energy and ancillary services net revenues resulting from market experience over the past three years.

Note that the table above provides options with respect to inter zonal deliverability and the NYC property tax abatement. In particular we have been requested by NYISO to provide updated Demand Curves with and without inter zonal deliverability and with and without NYC property tax abatement.

reduction in capacity compensation, we believe this would be viewed as opportunistic, would significantly increase the risk perceived by entrants and significantly raise the levelized costs of entry. However, quantification of these effects is difficult and uncertain and while any revision to the shape and slope would need to account for these effects, such accounting would be largely guesswork at this time. To the extent that a change in the shape and or slope is desirable, such a change is best made when there is not a chronic surplus and when the impact of the change is more likely to be neutral.

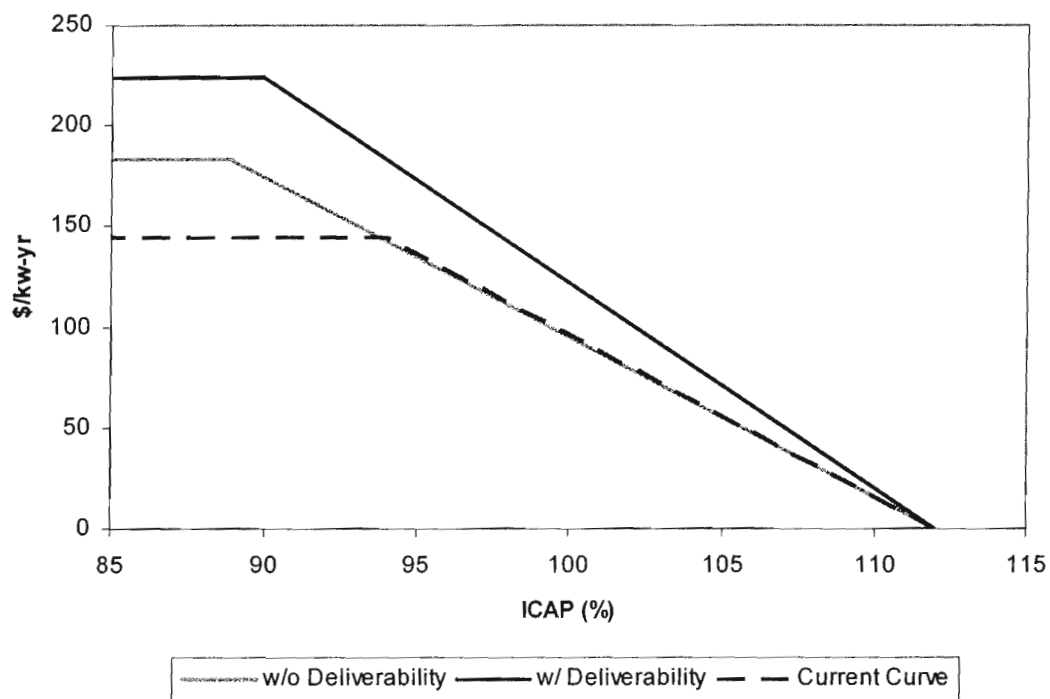


Attachment S (Zone J, Zone K and all Zones other than J and K collectively as a single region). Currently new units north and west of UPNY/SENY could not deliver to Zones G to I and hence could not participate in the capacity market for ROS without obtaining deliverability. The NYISO has determined that the cost of deliverability is an investment of \$178 per kW. This is roughly 20% of the non-deliverability investment in a Frame 7 in the Capital region. The model has been constructed to add deliverability as a separate line item and we report NYCA results both with and without deliverability. We have been advised by NYISO that the decision on how deliverability will be reflected in the reset Demand Curves is under consideration by NYISO. Note that we assume deliverability costs to be financed by the peaking unit owner and recovered over the life of the peaking unit. The cost impact of deliverability would be lower if these costs were financed by a regulated transmission owner and recovered over a longer, say 40 year, period.

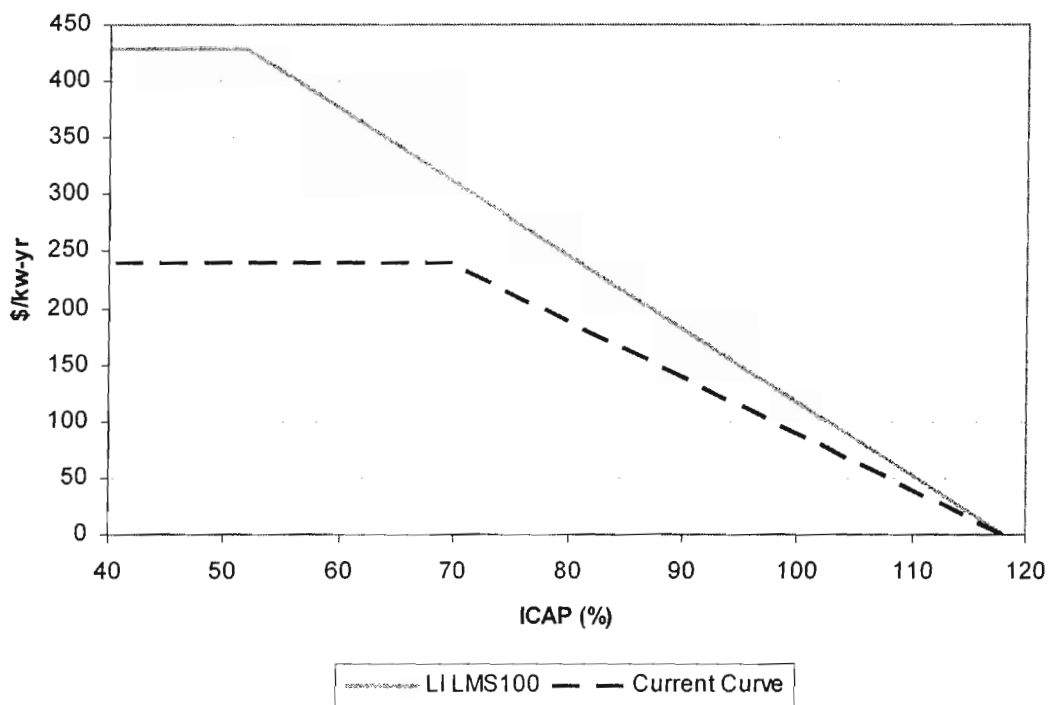
## E. Analysis of Results

The complexity of the model we use is required to tie together the shape and slope of the Demand Curve and to produce a reference value consistent with the risk implied by such shape and slope. The Demand Curves are implemented to solve the binary nature (i.e., clearing at the highest allowed price or at a zero price) of market results obtained from a vertical Demand Curve. The risks of investing with a vertical Demand Curve are extreme and difficult to quantify. While judgment is required in developing assumptions to the model that ties together the shape and slope of the Demand Curve to the amortization period, the results can be analyzed for reasonableness. The implied amortization period for ROS using a real levelized carrying charge that escalates at 2.4% per year is 19.5 years. The implied amortization period is 15.5 years for NYC and 14.5 years for LI. We note that the FERC approved PJM Demand Curves that use a nominal levelized carrying charge based on an amortization period of 20 years. That translates to a real levelized carrying charge at 2.4% inflation using an amortization period of between 15 and 16 years. Hence, the results are certainly within the reasonable range. The results are also at the point where the amortization life is beginning to have a diminished impact. For reference, the ROS carrying charge at 10 years is 19.19%. The function begins to flatten at 15 years where the value is 15.46%, but is sharply sloped prior to that point and more gradually sloped after that point, much like a mortgage. At 20 years the carrying charge is 13.57% and it declines to 11.84% at 30 years and 11.41% at 35 years. Were the investment financed by a regulated entity, customers would likely pay the 35 year

### Rest of State (Capital) Frame 7



### Long Island LMS100



deviation, the demand curve will be under-compensatory and sufficient capacity may not develop. Similarly if there is an overstatement of the average level of excess, a steep slope will exaggerate the required increase in demand at reference. Steeper slopes increase risk and uncertainty for both the buyer and seller. Steeper slopes can also be counterproductive if a little excess in additions or a decline in growth leads to clearing at prices well below the reference point. At such prices, retaining existing plants may be difficult as the economics of mothballing and retirement could become attractive for older marginal plants. To the extent that such scenarios occur, any decrease in payments that would arise from a steeper slope may well be offset by retirements or mothballing. The same applies to Special Case Resources: in 2009 there were over 2500 MW of Special Case Resources. Capacity excess levels in 2009 were on average in excess of 9, 13 and 14 percent in ROS, NYC and LI, respectively. Changes in the slope and shape which reduce the capacity price at these excess levels would be expected to lower Special Case Resource participation.

Most importantly we look at the rationale underlying the Demand Curve construct. The Demand Curve is designed to induce new capacity when required by supplementing the shortfall in the energy market and providing a reasonably predictable stream of revenue to new generators based on the entry costs of a new peaking unit. The payment is set exactly to that level at the target capacity level and to a linearly higher level at lower capacity values and a linearly lower value at higher capacity levels. As the value of capacity on either side of the target is not linear but exponential, the Demand Curve was clearly not constructed to approximate the value of capacity, but to reduce the volatility of capacity payments and to provide a framework for encouraging investment. Although it may be possible to change the slope and still provide proper investment signals, it would also need to be recognized that steeper slopes increase risk and entry costs. The slopes in the current Demand Curves are reasonable as they result in implied amortization periods just over 19, 15 and 14-15 years in NYCA, NYC and LI, respectively, resulting in sustainable market system. Note that despite the more gradual slope in NYC and LI, the risk evidenced by the implied amortization period is actually greater due the size of the respective markets. We hesitate to recommend slopes that yield shorter implied amortization periods. Much like a mortgage payment, the annual cost begins to flatten out at 15 years and by 20 years is in a gradual trajectory toward its lowest point. Hence, slopes that yield amortization periods of 15 to 20 years are as steep as is advisable if the point to develop a reasonable cost of entry and a sustainable market system. We noted above that