

## **APPENDIX B**

### **Revised Baseline – February 19, 2004**

On March 17, 2003, Staff of the Department of Public Service, in consultation with NYSERDA, provided to the parties to Case 03-E-0188 an estimate of what percentage of the electric energy purchased in New York State is derived from renewable resources. That estimate was used as the "baseline" in our New York Renewable Portfolio Standard Cost Study Report issued on July 28, 2003. The baseline is important because it is used to establish the incremental number of resources needed to reach the 25% target in year 2013.

In response to comments received on the July 28, 2003 Report, we have revised the baseline to incorporate the following changes:

1. The raw tracking data from the NYSDPS environmental disclosure database (previously for the year ending March 31, 2002) has been updated to calendar year 2002 data, the most recent available full year of data.
2. A small amount of attrition has been factored in for expiring above-market energy contracts for certain less-than-10-MW hydroelectric facilities.
3. Upgrades underway at the New York Power Authority's Niagara and St. Lawrence hydroelectric plants have been incorporated into the baseline, including credit for the one unit per plant that is out of service each year until the upgrades are completed.
4. An estimate of additional renewable resources that are likely to be added to the resource mix in New York as a result of "green marketing" programs has been added.
5. An estimate of additional renewable resources that are likely to be added to the resource mix in New York as a result of the Executive Order 111 mandate to State Agencies has been added.

The result of these changes is to raise the year 2005 baseline from 28,896,189 MWhs or 17.48%, to 33,620,339 MWhs or 20.34%. The incremental amount of renewable resources needed to reach the 25% goal drops from 7.52% to 4.66%. The tables that follow show the data and calculations that produce the revised baseline estimate of what percentage of the electric energy purchased in New York State is derived from renewable resources.

## Cost Study II Adjustments to the Baseline for Year 2005

	<u>MWhs</u>	<u>Statewide %</u>	<u>Increment Needed to Reach 25% Goal</u>
Old Baseline - Year 2005 (Cost Study I):	28,896,189	17.48%	7.52%
 <b><u>Adjustments in Cost Study II</u></b>			
Update of Baseline to Year 2002 Actuals:	1,891,683	1.14%	
Attrition of Above-Market Hydro Contracts:	(34,727)	-0.02%	
Addition of NYPA Hydro Upgrades and Placing Back In Service the NYPA Unit that has been annually out for the Upgrade:	2,268,144	1.37%	
Addition of Green Marketing Forecast:	347,985	0.21%	
<u>Addition of Executive Order 111 Resources:</u>	<u>251,065</u>	<u>0.15%</u>	
 New Baseline - Year 2005 (Cost Study II):	 33,620,339	 20.34%	 4.66%

## **RAW TRACKING DATA**

Revised Baseline Year – Calendar Year 2002

SOURCE: NYS DPS TRACKING DATA FROM ENVIRONMENTAL DISCLOSURE DATABASE

<b>Generation Source</b>	<b>Mega-Watt-Hours</b>	<b>Percentage of Total</b>
Biomass	1,035,238	0.66%
Coal	26,220,305	16.68%
Fuel Cells	0	0.00%
Gas	42,856,380	27.26%
Hydro	28,715,996	18.26%
Nuclear	44,880,199	28.54%
Oil	11,754,698	7.48%
Solar	0	0.00%
Solid Waste	1,673,090	1.06%
Tidal	0	0.00%
Wind	105,766	0.07%
<b>TOTAL</b>	<b>157,241,672</b>	<b>100.00%</b>

## **ADJUSTMENTS TO RAW TRACKING DATA**

SOURCE: NYS DPS AND NY SERDA ESTIMATES

Estimated annual output of:

Additional Wind (Built or Fully Operating Since March 2002)	50,498 MWhs
Photovoltaics (Capacity: 3,961.8 kW)	5,400 MWhs
Fuel Cells (Capacity: 6,267 kW)	38,429 MWhs

## **BASELINE ELECTRIC GENERATION SOURCES**

Revised Baseline Year – Calendar Year 2002  
Adjusted to Include PV, Fuel Cells & Additional Wind Resources

SOURCE: NYSDPS TRACKING DATA FROM ENVIRONMENTAL DISCLOSURE DATABASE  
AND NYSDPS AND NYSERDA ESTIMATES

<b>Generation Source</b>	<b>Mega-Watt Hours</b>	<b>Percentage of Total</b>
Biomass	1,035,238	0.66%
Coal	26,220,305	16.67%
Fuel Cells	38,429	0.024%
Gas	42,856,380	27.24%
Hydro	28,715,996	18.25%
Nuclear	44,880,199	28.53%
Oil	11,754,698	7.47%
Solar	5,400	0.003%
Solid Waste	1,673,090	1.06%
Tidal	0	0.00%
Wind	156,264	0.10%
<b>TOTAL</b>	<b>157,335,999</b>	<b>100.00%</b>

## **BASELINE RENEWABLES (INCLUDING 1/2 SOLID WASTE)**

<b>Generation Source</b>	<b>Mega-Watt Hours</b>	<b>Percentage of Total</b>
Biomass	1,035,238	0.66%
Fuel Cells	38,429	0.024%
Hydro	28,715,996	18.25%
Solar	5,400	0.003%
Solid Waste	836,545	0.53%
Tidal	0	0.00%
Wind	156,264	0.10%
<b>TOTAL</b>	<b>30,787,872</b>	<b>19.57%</b>

## IMPORTS

Baseline Year - April 2001 - March 2002  
Adjusted to Include PV, Fuel Cells & Additional Wind Resources

SOURCE: NYSDPS TRACKING DATA FROM ENVIRONMENTAL DISCLOSURE DATABASE  
AND NYSDPS AND NYSERDA ESTIMATES

### **GEOGRAPHIC CONSIDERATIONS**

#### **IMPORTS**

Generation Source	Imports		Imports Wheeled Out of NYS	Total Imports
	Consumed In NYS	Percentage of Total		
Biomass	156,964	1.04%	32,324	189,288
Coal	4,818,503	31.87%	866,316	5,684,819
Fuel Cells	0	0.00%	0	0
Gas	1,217,763	8.05%	310,914	1,528,677
Hydro	4,086,899	27.03%	1,461,435	5,548,334
Nuclear	4,357,688	28.82%	692,524	5,050,212
Oil	423,286	2.80%	164,371	587,657
Solar	0	0.00%	0	0
Solid Waste	57,581	0.38%	12,178	69,759
Tidal	0	0.00%	0	0
Wind	0	0.00%	4,820	4,820
TOTAL	15,118,684	100.00%	3,544,882	18,663,566
<i>Imports</i>	<i>81.01%</i>		<i>18.99%</i>	<i>100.00%</i>
<i>Renewables Imports</i>	<i>28.07%</i>		<i>42.27%</i>	<i>30.77%</i>
<i>Renewables Imports w/WTE</i>	<i>28.45%</i>		<i>42.62%</i>	<i>31.14%</i>

**Note: Much of the data used for imports is not unit specific (tracked to the actual generator unit) like the NYS generation data. Consistent with the Environmental Disclosure program, in the absence of unit-specific data, a default generation source type is assigned to each MWH of such imports based on the regional capacity mix of the import system and other information available to the Environmental Disclosure Administrator. The defaults assigned are the best estimate of NYSDPS Staff as representative of the time period of the data.**

## **NYS GENERATION & EXPORTS**

Baseline Year - April 2001 - March 2002

Adjusted to Include PV, Fuel Cells & Additional Wind Resources

SOURCE: NYSDPS TRACKING DATA FROM ENVIRONMENTAL DISCLOSURE DATABASE  
AND NYSDPS AND NYSERDA ESTIMATES

### **NYS GENERATION & EXPORTS**

<u>Source</u>	<u>NYS Generation Consumed In NYS</u>	<u>Percentage of Total</u>	<u>NYS Generation Exported</u>	<u>Total NYS Generation</u>
Biomass	863,790	0.62%	20,805	884,595
Coal	18,920,499	13.69%	567,867	19,488,366
Fuel Cells	38,429	0.028%	0	38,429
Gas	40,129,009	29.03%	703,754	40,832,763
Hydro	22,868,553	16.55%	1,446,053	24,314,606
Nuclear	39,790,998	28.79%	339,475	40,130,473
Oil	14,027,787	10.15%	349,095	14,376,882
Solar	5,400	0.004%	0	5,400
Solid Waste	1,450,849	1.05%	7,227	1,458,076
Tidal	0	0.00%	0	0
Wind	121,939	0.09%	1,971	123,910
<b>TOTAL</b>	<b>138,217,253</b>	<b>100.00%</b>	<b>3,436,247</b>	<b>141,653,500</b>
<i>Generation</i>	<i>97.57%</i>		<i>2.43%</i>	<i>100.00%</i>
<i>Renewables Generation</i>	<i>17.29%</i>		<i>42.75%</i>	<i>17.91%</i>
<i>Renewables Generation w/WTE</i>	<i>18.34%</i>		<i>42.96%</i>	<i>18.94%</i>

## HYDROPOWER RESOURCE ATTRITION

Average Annual Attrition Rate of Small Hydropower Contracts:	2.04%
Above-Market Hydropower Contracts 10MWs and Less:	185 MWs
Average Annual Attrition:	3.78 MWs
Small Hydro Capacity Factor:	0.35
Average Annual Attrition:	11,576 MWhs

## HYDROPOWER RESOURCE ADDITION

Year:	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>
Niagara:	1,432,708	189,033	189,033	189,033	0	0
St. Lawrence:	439,030	9,170	9,170	9,170	9,170	9,170
Total:	1,871,738	198,203	198,203	198,203	9,170	9,170

Year:	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>
Niagara:	0	0	0	0	0
St. Lawrence:	9,170	9,170	9,170	9,170	9,170
Total:	9,170	9,170	9,170	9,170	9,170

Note: The 2003 figure also includes credit for the one unit per plant that is out of service each year until the upgrades are completed and was therefore not reflected in the baseline.

## CALCULATION OF BASELINE

	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>
2002 Base:	30,787,872	30,787,872	30,787,872	30,787,872	30,787,872	30,787,872
Resource Attrition:	-11,576	-23,151	-34,727	-46,303	-57,879	-69,454
Resource Addition:	1,871,738	2,069,941	2,268,144	2,466,347	2,475,517	2,484,687
<b>Baseline:</b>	<b>32,648,035</b>	<b>32,834,662</b>	<b>33,021,289</b>	<b>33,207,916</b>	<b>33,205,511</b>	<b>33,203,105</b>

	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>
2002 Base:	30,787,872	30,787,872	30,787,872	30,787,872	30,787,872
Resource Attrition:	-81,030	-92,606	-104,181	-115,757	-127,333
Resource Addition:	2,493,857	2,503,027	2,512,197	2,521,367	2,530,537
<b>Baseline:</b>	<b>33,200,699</b>	<b>33,198,294</b>	<b>33,195,888</b>	<b>33,193,482</b>	<b>33,191,076</b>