

2013-2014 NYCA IRM Requirement Study

Base Case Model Assumptions

Load Parameters

Parameter	2012 Model Assumptions	2013 Model Assumptions Recommended	Basis for Recommendation	Model Change	Possible Impact
Peak Load	October 1, 2011 forecast NYCA: 33,335 MW NYC: 11,607 MW Long Island: 5521 MW	October 1, 2012 forecast NYCA: XX MW NYC: XX MW Long Island: XX MW	Forecast based on examination of 2012 weather normalized peaks. Top three external Area peak days aligned with NYCA	N	
Load Shape	2002 Load Shape	xxxx Load Shape	Chosen to better approximate the 'typical' load shape.	Y	
Load Forecast Uncertainty	Zonal model updated to reflect current data	Zonal model updated to reflect current data	Based on collected data and input from LIPA, Con Ed, and NYISO. Method and values accepted by LFTF (See attachment A)	N	

2013-2014 IRM Study Assumption Matrix

Capacity Parameters - Generation

Parameter	2012 Model Assumptions	2013 Model Assumptions Recommended	Basis for Recommendation	Model Change	Possible Impact
Existing Generating Unit Capacities	2011 Gold Book values. Use min (DMNC vs. CRIS) capacity value	2012 Gold Book values. Use min (DMNC vs. CRIS) capacity value	2012 Gold Book publication	N	
Proposed New Units	Total new capacity = 1413 MW. See Tables A-5 and A-6 of the 2012 IRM Report	See Attachment B	Units built since the 2011 Gold Book and those non-renewable units with Interconnection Agreements signed by August 1, 2012. Renewable units based on RPS agreements and ICS input	N	
Retirements	351 MW of retirements. See Appendix E of the 2012 IRM Report	See Attachment B	Newly adopted Policy 5 guidelines on retirement disposition in IRM studies	N	
Forced and Partial Outage Rates	Five-year (2006-2010) GADS data	Five-year (2007-2011) GADS data. Those units with less than five years – use representative data	Most recent five-year period. Includes proxy data for unit(s) that are deemed suspect as part of the GADS screening process	N	
EFORd	Transition rates representing the Equivalent Forced Outage Rates (EFOR) were derived using NYISO developed software	Transition rates representing the Equivalent Forced Outage Rates (EFOR) during demand periods were derived using GADS Open Source software	White Paper indicates that using the new software creates transition rates more closely aligned with the EFORd of the units	Y	

2013-2014 IRM Study Assumption Matrix

Planned Outages	Based on schedules received by the NYISO and adjusted for history	Based on schedules received by the NYISO and adjusted for history	Updated schedules	N	
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Capacity Parameters – Generation (*continued*)

Parameter	2012 Model Assumptions	2013 Model Assumptions Recommended	Basis for Recommendation	Model Change	Possible Impact
Summer Maintenance	Nominal 50 MWs – divided between upstate and downstate	Nominal 50 MWs – divided equally between upstate and downstate	Review of most recent data	N	
Combustion Turbine Derates	Derate based on temperature correction curves provided	Derate based on temperature correction curves provided	Operational history indicates the derates are in-line with manufacturer's curves	N	
Wind Resources	Wind Capacity – 1648 MWs Derived from hourly wind data resulting in an average Summer Peak Hour availability of ~11%	Wind Capacity – xx MWs Derived from hourly wind data resulting in an average Summer Peak Hour availability of ~yy%	Based on collected hourly wind data. Summer Peak Hour capacity factor based on June 1 – Aug 31, hours HB14 – HB18.	N	
Wind Shape	2002 Wind Generation Profile	2002 Wind Generation Profile	A sensitivity will be performed using MARS probabilistic feature.	N	
Solar Resources	Solar Capacity – 38.5 MW	Solar Capacity – xx MW. Unit output checked against actual hourly solar data for a different year. See Attachment B-2	Based on collected hourly solar data. Summer Peak Hour capacity factor based on June 1 – Aug 31, hours HB14 – HB18	N	
Non-NYPA Hydro Resources	Derate by 45%	Derate by xx%	Review of unit production and hydrological conditions including recognized forecasts (i.e. NOAA)	N	

2013-2014 IRM Study Assumption Matrix

Capacity Parameters – Import and Exports

Parameter	2012 Model Assumptions	2013 Model Assumptions Recommended	Basis for Recommendation	Model Change	Possible Impact
Capacity Purchases	Grandfathered amounts: ISONE – 50 MW PJM – 1080 MW HQ – 1090 MW All contracts model as equivalent contracts	Grandfathered amounts: ISONE – 50 MW (through 12/2013) PJM – 1080 MW HQ – 1090 MW All contracts model as equivalent contracts	Grandfathered Rights, ETCNL, and other FERC identified rights	N	
Capacity Sales	Long Term firm sales (279 MW)	Long Term firm sales (xxx MW)	These are long term federally monitored contracts	N	
UDRs	Amounts are confidential	UDRs on HTP Line	Contracted amounts of capacity are confidential and are included as capacity internal to the NYISO	N	
Capacity Wheels	None modeled	None modeled. Sensitivity Case to be run	The ISO Tariff is silent about capacity wheels though NYCA	N	

2013-2014 IRM Study Assumption Matrix

Topology Parameters

Parameter	2012 Model Assumptions	2013 Model Assumptions Recommended	Basis for Recommendation	Model Change	Possible Impact
Interface Limits	All changes reviewed and commented on by TPAS	All changes reviewed and commented on by TPAS See Attachment E	Based on 2012 Operating Study, 2012 Operations Engineering Voltage Studies, 2012 Comprehensive Planning Process, and additional analysis including interregional planning initiatives	N	
New Transmission	None	HTP – Hudson Transmission Project – scheduled for 2013 operation	Based on TO provided models and NYISO review	Y	
Cable Forced Outage Rates	All existing Cable EFORs updated for NYC and LI to reflect five-year history	All existing Cable EFORs updated for NYC and LI to reflect five-year history	Based on TO analysis	N	

2013-2014 IRM Study Assumption Matrix

Emergency Operating Procedure Parameters

Parameter	2012 Model Assumptions	2013 Model Assumptions Recommended	Basis for Recommendation	Model Change	Possible Impact
Special Case Resources	July 2012 – 2192 MW based on registrations and NYISO growth rate forecast. Monthly variation based on historical experience	July 2013 – xxx MW based on registrations and NYISO growth rate forecast. Monthly variation removed due to multiplier effect	Those sold for the program discounted to historic availability. Summer values calculated from July 2012 registrations Potential sensitivity for alternate performance calculation	N	
EDRP Resources	July 2012 – 148 MW registered model as 95 MW in July and August. Proportional to monthly peak load in other months Limit to five calls per month	July 2013 – xxx MW registered model as yy MW in July and August. Proportional to monthly peak load in other months Limit to five calls per month	Those sold for the program discounted to historic availability. Summer values calculated from July 2012 registrations	N	
Other EOPs	735 MW of non-SCR/non-EDRP resources	xxx MW of non-SCR/non-EDRP resources See Attachment D	Based on TO information, measured data, and NYISO forecasts	N	

2013-2014 IRM Study Assumption Matrix

External Control Areas Parameters

Parameter	2012 Model Assumptions	2013 Model Assumptions Recommended	Basis for Recommendation	Model Change	Possible Impact
PJM	Four Area representation	Load and Capacity data provided by PJM/NPCC CP-8 Data may be adjusted per NYSRC Policy 5 See Attachment E	Additional level of review (prior to Policy 5 changes) performed by the NPCC CP-8 WG	N	
ISONE	Thirteen Area representation	Load and Capacity data provided by ISONE/NPCC CP-8 Data may be adjusted per NYSRC Policy 5 See Attachment E	Additional level of review (prior to Policy 5 changes) performed by the NPCC CP-8 WG	N	
HQ	Single Area representation	Load and Capacity data provided by HQ/NPCC CP-8 Data may be adjusted per NYSRC Policy 5 See Attachment E	Additional level of review (prior to Policy 5 changes) performed by the NPCC CP-8 WG	N	
IESO	Single Area representation	Load and Capacity data provided by IESO/NPCC CP-8 Data may be adjusted per NYSRC Policy 5 See Attachment E	Additional level of review (prior to Policy 5 changes) performed by the NPCC CP-8 WG	N	
Reserve Sharing	All NPCC Control Areas indicate that they will	All NPCC Control Areas indicate that they will share	Per NPCC CP-8 WG	N	

2013-2014 IRM Study Assumption Matrix

	share reserves equally among all members	reserves equally among all members			
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Miscellaneous Parameters

Parameter	2012 Model Assumptions	2013 Model Assumptions Recommended	Basis for Recommendation	Model Change	Possible Impact
MARS Model Version	Version 3.12	Version 3.xx	Per benchmark testing and ICS recommendation	N	
Environmental Initiatives	None for Base Case	Xxx estimated impacts based on review of existing rules and retirement trends	An analysis of air and water pollution rules, Retirement trends, and Economic conditions	N	