

2016-2017 IRM Study Assumption Matrix

Base Assumptions V0.2

2016-2017 NYCA IRM Requirement Study Base Case Model Assumptions

Load Parameters

Parameter	2015 Model Assumptions	2016 Model Assumptions Recommended	Basis for Recommendation	Model Change	Possible IRM Impact*
Peak Load Forecast (Preliminary Base Case – Parametric & Sensitivities)	2014 Gold Book NYCA: 34,066 MW NYC: 12,050 MW LI: 5,543 MW G-J: 13,387 MW	2015 Gold Book NYCA: xx MW NYC: xx MW LI: xx MW G-J: xx MW	Gold Book Forecast is used for Preliminary Base Case parametric study and sensitivity cases	N	
Peak Load Forecast (Final Base Case)	October 2014 NYCA: 33,587 MW NYC: 11,990 MW LI: 5,522 MW G-J: 16,387 MW	2015 October Load Forecast for IRM	Forecast based on examination of 2015 weather normalized peaks. Top three external Area peak days aligned with NYCA	N	
Load Shape (Multiple Load Shape)	Bin 1: 2006 Bin 2: 2002 Bins 3-7: 2007	TBD	NYISO Recommendation per white paper	N	
Load Forecast Uncertainty	Attachment A	Attachment A shows both last year's and this year's LFU	Zonal Model to reflect current data with input from Con Ed and LIPA.	N	

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Capacity Parameters - Generation

Parameter	2015 Model Assumptions	2016 Model Assumptions Recommended	Basis for Recommendation	Model Change	Possible IRM Impact*
Existing Generating Unit Capacities	2014 Gold Book values. Use min (DMNC vs. CRIS) capacity value	2015 Gold Book values. Use min (DMNC vs. CRIS) capacity value	2015 Gold Book publication	N	
Proposed New Units (Non-Renewable)	743.0 MW of new non-wind resources (see Attachment B)	MW of new non-wind resources (see Attachment B)	Retired units returning to service	N	
Retirements and Mothballed units	111.7 MW retirements or mothballs reported	MW retirements or mothballs reported See Attachment B3	Policy 5 guidelines on retirement or mothball disposition in IRM studies	N	
Forced and Partial Outage Rates	Five-year (2009-2013) GADS data for each unit represented. Those units with less than five years – use representative data.	Five-year (2010-2014) GADS data for each unit represented. Those units with less than five years – use representative data. See attachments C and C1	Transition Rates representing the Equivalent Forced Outage Rates (EFORd) during demand periods over the most recent five-year period (2010-2014)	N	
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	
Summer Maintenance	Nominal 50 MWs – divided equally between upstate and downstate	Nominal xx MWs – divided equally between upstate and downstate	Review of most recent data	N	

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Capacity Parameters – Generation (continued)

Parameter	2015 Model Assumptions	2016 Model Assumptions Recommended	Basis for Recommendation	Model Change	Possible IRM Impact*
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	
Proposed New Wind Units	No new qualifying wind for study year identified See Attachment B1	Yy MW of new qualifying wind for study year See Attachment B1	Renewable units based on RPS agreements, interconnection Queue and ICS input	N	
Wind Resources	Wind Capacity - 1457.1 MWs. A new 88.5 MW unit came on line.	Wind Capacity – zzz.z MWs.	ICAP participating Wind Modeled	N	
Wind Shape	Actual hourly plant output of the 2013 calendar year. Summer Peak Hour availability of 14%	TBD	Composite Wind shape from years 2012-2014	N	
Solar Resources	31.5 MW of solar modeled per 2013 production data summer capacity factor of 47.3%.	xx.x MW of solar modeled per 2014 production data summer capacity factor of yy.y%.	Summer Peak capacity factor based on 2014 hourly production data: June 1 – Aug 31, hours HB14 – HB18	N	
Small Hydro Resources	Derate by 45%	Derate by aa%	Review of historic unit production.	N	
Large Hydro	Probabilistic Model based on 30 years of operational data	TBD	Historical data submitted via GADS	N	

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Transactions – Import and Exports

Parameter	2015 Model Assumptions	2016 Model Assumptions Recommended	Basis for Recommendation	Model Change	Possible IRM Impact*
Capacity Purchases	Grandfathered amounts: PJM – 1080 MW HQ – 1090 MW All contracts model as equivalent contracts	Existing Rights: PJM – 1080 MW HQ – 1090 MW All contracts model as equivalent contracts	Grandfathered Rights, ETCNL, and other awarded rights.	N	
Capacity Sales	Long Term firm sales Summer 281.8 MW	Long Term firm sales Summer yyy.y MW	These are long term federal contracts	N	
New UDRs	No new UDR projects	TBD	Existing UDR elections are made by August 1 st and will be incorporated into the model	N	

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Topology Parameters

Parameter	2015 Model Assumptions	2016 Model Assumptions Recommended	Basis for Recommendation	Model Change	Possible IRM Impact*
Interface Limits	All changes reviewed and commented on by TPAS	All changes reviewed and commented on by TPAS See Attachment E	Based on 2015: Operating Study, Operations Engineering Voltage Studies, Comprehensive Planning Process, and additional analysis including interregional planning initiatives	N	
New Transmission	None Identified	TBD	Based on TO provided models and NYISO review	N	
Cable Forced Outage Rates	All existing Cable EFORs updated for NYC and LI to reflect most recent five-year history	All existing Cable EFORs will be updated for NYC and LI to reflect most recent five-year history	Based on TO analysis	N	

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Emergency Operating Procedure Parameters

Parameter	2015 Model Assumptions	2016 Model Assumptions Recommended	Basis for Recommendation	Model Change	Possible IRM Impact*
Special Case Resources	July 2014 – 1132 MW based on registrations and modeled as 742 MW of effective capacity. Monthly variation based on historical experience (no Limit on number of calls)	July 2015 – eeee MW based on registrations and modeled as fff MW of effective capacity. Monthly variation based on historical experience (no Limit on number of calls)	Those sold for the program discounted to historic availability. Summer values calculated from July 2015 registrations (see attachment F).	N	
EDRP Resources	July 2014 86 MW registered model as 14 MW in July and proportional to monthly peak load in other months. Limit to five calls per month	July 2015 cc MW registered model as dd MW in July and 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 2015 registrations and forecast growth.	N	
Other EOPs	713 MW of non-SCR/non-EDRP resources	bbb MW of non-SCR/non-EDRP resources See Attachment D	Based on TO information, measured data, and NYISO forecasts	N	

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External Control Areas Parameters

Parameter	2015 Model Assumptions	2016 Model Assumptions Recommended	Basis for Recommendation	Model Change	Possible IRM Impact*
PJM	Load and Capacity data provided by PJM/NPCC CP-8 Data may be adjusted per NYSRC Policy 5 Include PJM Annual & Extended Demand Response Program MW [Extended: 4112 MW; Annual: 1505 MW; Total MW: 5617]	TBD See Attachment E	Initial review performed by the NPCC CP-8 WG prior to Policy 5 changes. White paper on external EOPs		
ISONE	Load and Capacity data provided by ISONE/NPCC CP-8 Data may be adjusted per NYSRC Policy 5	Load and Capacity data provided by ISONE/NPCC CP-8 Data may be adjusted per NYSRC Policy 5 See Attachment E	Initial review performed by the NPCC CP-8 WG prior to Policy 5 changes.	N	
HQ	Load and Capacity data provided by HQ/NPCC CP-8 Data may be adjusted per NYSRC Policy 5	Load and Capacity data provided by HQ/NPCC CP-8 Data may be adjusted per NYSRC Policy 5 See Attachment E	Initial review performed by the NPCC CP-8 WG prior to Policy 5 changes.	N	
IESO	Load and Capacity data provided by IESO/NPCC CP-8 data may be adjusted per NYSRC Policy 5	Load and Capacity data provided by IESO/NPCC CP-8 data may be adjusted per NYSRC Policy 5 See Attachment E	Initial review performed by the NPCC CP-8 WG prior to Policy 5 changes.	N	
Reserve Sharing	All NPCC Control Areas	All NPCC Control Areas and	Per NPCC CP-8 WG	N	

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	and PJM interconnection indicate that they will share reserves equally among all members	PJM interconnection indicate that they will share reserves equally among all members			
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Miscellaneous Parameters

Parameter	2015 Model Assumptions	2016 Model Assumptions Recommended	Basis for Recommendation	Model Change	Possible IRM Impact*
MARS Model Version	Version 3.18	Version 3.19 ¹	Per benchmark testing and ICS recommendation	N	
Environmental Initiatives	No estimated impacts based on review of existing rules and retirement trends	TBD	Review of existing regulations and rules.	N	

¹ Assumes this version is completed in the February timeframe.

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