New ICAP Load & BTM:NG Calculations

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I
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DRAFT – FOR DISCUSSION PURPOSES ONLY

1 – Description of New Process

- Our current load and reconciliation reports have been modified to account for the NYISO's new Behind-The-Meter:Net Generation program.
- Any actual load from a BTM:NG resource is deducted from TD loads prior to performing weather adjustments and other calculations.
- Actual load-less-losses is now reported for each TD. This value is required to help assess the eligibility of BTM:NG resources in the following year.
- Once any current load of BTM:NG resources is excluded, load and weather adjustments for each TD occur as before.
- Once the Adjusted Actual Load is determined, it is used along with the actual load-less-losses to calculate a ratio, referred to as (1+WNF) for weather normalization factor.
- The ICAP forecast report has only one change – the BTM:NG resources for the following year are deducted from the coincident peak load forecasts and locality peak load forecasts of each affected TD.
- New reports for BTM:NG resources are provided, one at the TD level and one that reports individual resources.

New Load and Weather Reconciliation Report

2016 Load and Weather Adjustments	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
	NYISO DSS Actual MW Data					Transmission Owner Load Data						Reallocation of Losses								
8/8/2016, Hour Beginning 4 PM	Actual Load	BPS Losses	Muni Gen	Load + Losses	Percent Losses	Actual Load Less Losses	Actual Losses	Actual Load With Losses	Weather Adjustments	Demand Response	TOs' W/N MW With DR	W/N Losses	Station Power	Adj. W/N Load Less Losses	Percent Loss Allocation	Proportional Allocation of Losses	Adj. W/N Load Less Losses	2016 Adjusted Actual Load (MW)	2016 (1 +WNF)	2016 Adj Load Prior to Loss Adjustment
Version 2 - 10/10/2016																				
Central Hudson																				
Central Hudson LSE Load						1,012.6	28.9	1,041.5	62.0	2.0	1,105.5	30.7		1,074.8	3.27%	23.4	1,074.8	1,098.2		
Transmission District Load Served						1,012.6	28.9	1,041.5	62.0	2.0	1,105.5	30.7		1,074.8	3.27%	23.4	1,074.8	**1,098.2**	**1.0845**	**1,105.5**
Deduction for BTM:NG						3.0	0.1	3.1												
Transmission District Total Load	1,019.0	29.0	0.0	1,048.0	2.8%	1,015.6	29.0	1,044.6												
Consolidated Edison																				
Con-Ed LSE Load						11,915.0	110.0	12,025.0	1,436.5	3.0	13,464.5	123.2	0.0	13,341.3	40.65%	291.4	13,341.3	13,632.7		
Transmission District Load Served						11,915.0	110.0	12,025.0	1,436.5	3.0	13,464.5	123.2	0.0	13,341.3	40.65%	291.4	13,341.3	**13,632.7**	**1.1442**	**13,464.5**
Deduction for BTM:NG						25.0	0.2	25.2												
Transmission District Total Load	11,928.6	110.2	0.0	12,038.8	0.9%	11,940.0	110.2	12,050.2												
Long Island Power Authority																				
LIPA LSE Load						4,868.5	57.0	4,925.5	286.7	15.0	5,227.2	60.4		5,166.8	15.74%	112.80	5,166.80	5,279.6		
NYPA Load & Greenport Load			6.9			95.9	1.1	97.0	5.6	0.0	102.6	1.2		101.4	0.31%	2.20	101.40	103.6		
Freeport & Rockville Centre Load			25.0			122.0	1.4	123.4	7.2	0.0	130.6	1.5		129.1	0.39%	2.80	129.10	131.9		
Transmission District Load Served						5,086.4	59.5	5,145.9	299.5	15.0	5,460.4	63.1		5,397.3	16.44%	117.8	5,397.3	**5,515.1**	**1.0843**	**5,460.4**
Deduction for BTM:NG						10.0	0.1	10.1												
Transmission District Total Load	5,076.3	59.6	31.9	5,167.8	1.2%	5,096.4	59.6	5,156.0												
New York Power Authority																				
NYPA LSE Load						245.7	2.2	247.9	0.0	0.0	247.9	2.2		245.7	0.75%	5.4	245.7	251.1		
NYMPA Load						82.0	0.8	82.8	1.3	0.0	84.1	0.8		83.3	0.25%	1.8	83.3	85.1		
Transmission District Load Served						327.7	3.0	330.7	1.3	0.0	332.0	3.0		329.0	1.00%	7.2	329.0	**336.2**	**1.0259**	**332.0**
Deduction for BTM:NG						0.0	0.0	0.0												
Transmission District Total Load	327.7	3.0	0.0	330.7	0.9%	327.7	3.0	330.7												
New York State Electric & Gas																				
NYSEG LSE Load						2,844.4	54.4	2,898.8	114.1	21.0	3,033.9	56.9		2,977.0	9.07%	65.0	2,977.0	3,042.0		
NYPA Load						41.7	0.8	42.5	1.7	0.0	44.2	0.8		43.4	0.13%	0.9	43.4	44.3		
NYMPA Load						70.1	1.3	71.4	2.8	0.0	74.2	1.4		72.8	0.22%	1.6	72.8	74.4		
Transmission District Load Served						2,956.2	56.5	3,012.7	118.6	21.0	3,152.3	59.1		3,093.2	9.42%	67.5	3,093.2	**3,160.7**	**1.0692**	**3,152.3**
Deduction for BTM:NG						25.0	0.5	25.5												
Transmission District Total Load	2,978.3	57.0	0.0	3,035.3	1.9%	2,981.2	57.0	3,038.2												
National Grid																				
National Grid LSE						6,195.7	366.0	6,561.7	206.8	20.0	6,788.5	378.7	26.1	6,383.7	19.45%	139.4	6,383.7	6,523.1		
NYPA Load						106.0	6.3	112.3	3.5	0.0	115.8	6.5		109.3	0.33%	2.4	109.3	111.7		
NYMPA Load						212.7	12.6	225.3	7.1	0.0	232.4	13.0		219.4	0.67%	4.8	219.4	224.2		
Jamestown Load			57.7			71.0	4.2	75.2	2.4	0.0	77.6	4.3		73.3	0.22%	1.6	73.3	74.9		
Green Island Load						7.1	0.4	7.5	0.2	0.0	7.7	0.4		7.3	0.02%	0.1	7.3	7.4		
Transmission District Load Served						6,592.5	389.5	6,982.0	220.0	20.0	7,222.0	402.9	26.1	6,793.0	20.69%	148.3	6,793.0	**6,941.3**	**1.0529**	**7,195.9**
Deduction for BTM:NG						25.0	1.5	26.5												
Transmission District Total Load	6,558.3	391.0	57.7	7,007.0	5.6%	6,617.5	391.0	7,008.5												
Orange & Rockland Utilities																				
O&R LSE Load						980.0	13.9	993.9	145.0	15.0	1,153.9	16.1		1,137.8	3.47%	24.9	1,137.8	1,162.7		
Transmission District Load Served						980.0	13.9	993.9	145.0	15.0	1,153.9	16.1		1,137.8	3.47%	24.9	1,137.8	**1,162.7**	**1.1864**	**1,153.9**
Deduction for BTM:NG						6.0	0.1	6.1												
Transmission District Total Load	986.0	14.0	0.0	1,000.0	1.4%	986.0	14.0	1,000.0												
Rochester Gas & Electric																				
RG&E LSE Load						1,490.3	16.3	1,506.5	144.9	15.0	1,666.4	18.6		1,647.8	5.02%	36.0	1,647.8	1,683.8		
NYMPA Load						11.4	0.7	12.1	0.1	0.0	12.2	0.1		12.1	0.04%	0.3	12.1	12.4		
Transmission District Load Served						1,501.7	16.9	1,518.6	145.0	15.0	1,678.6	18.7		1,659.9	5.06%	36.3	1,659.9	**1,696.2**	**1.1295**	**1,678.6**
Deduction for BTM:NG						6.0	0.1	6.1												
Transmission District Total Load	1,509.3	17.0	0.0	1,526.3	1.1%	1,507.7	17.0	1,524.7												
Totals	**30,383.5**	**680.8**	**89.6**	**31,153.9**	2.2%	**30,372.1**	**678.2**	**31,050.3**	**2,427.9**	**91.0**	**33,569.2**	**716.80**	**26.1**	**32,826.30**	**100.00%**	**716.80**	**32,826.30**	**33543.1**	**1.1044**	**33,543.1**

Features of New Load Reconciliation Report, 1 of 2

2016 Load and Weather Adjustments	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	NYISO DSS Actual MW Data					Transmission Owner Load Data					
8/8/2016, Hour Beginning 4 PM	Actual Load	BPS Losses	Muni Gen	Load + Losses	Percent Losses	Actual Load Less Losses	Actual Losses	Actual Load With Losses	Weather Adjustments	Demand Response	TOs' W/N MW With DR
Version 2 - 10/10/2016											
Central Hudson											
Central Hudson LSE Load						1,012.6	28.9	1,041.5	62.0	2.0	1,105.5
Transmission District Load Served						1,012.6	28.9	1,041.5	62.0	2.0	1,105.5
Deduction for BTM:NG						3.0	0.1	3.1			
Transmission District Total Load	1,019.0	29.0	0.0	1,048.0	2.8%	1,015.6	29.0	1,044.6			
Consolidated Edison											
Con-Ed LSE Load						11,915.0	110.0	12,025.0	1,436.5	3.0	13,464.5
Transmission District Load Served						11,915.0	110.0	12,025.0	1,436.5	3.0	13,464.5
Deduction for BTM:NG						25.0	0.2	25.2			
Transmission District Total Load	11,928.6	110.2	0.0	12,038.8	0.9%	11,940.0	110.2	12,050.2			
Long Island Power Authority											
LIPA LSE Load						4,868.5	57.0	4,925.5	286.7	15.0	5,227.2
NYPA Load & Greenport Load			6.9			95.9	1.1	97.0	5.6	0.0	102.6
Freeport & Rockville Centre Load			25.0			122.0	1.4	123.4	7.2	0.0	130.6
Transmission District Load Served						5,086.4	59.5	5,145.9	299.5	15.0	5,460.4
Deduction for BTM:NG						10.0	0.1	10.1			
Transmission District Total Load	5,076.3	59.6	31.9	5,167.8	1.2%	5,096.4	59.6	5,156.0			

1 2 3 4 4 5

1. Actual Load-Less-Losses is now determined for all Transmission Districts
2. Any municipal behind-the-meter generation is added to actual load.
3. A separate line item is provided for reporting any new or existing Behind-The-Meter:Net Generation resources.
4. Reconciliation of NYISO load and TD load includes BTM:NG resources.
5. BTM:NG resources are then excluded from all subsequent analysis.

Features of New Load Reconciliation Report, 2 of 2

2016 Load and Weather Adjustments 8/8/2016, Hour Beginning 4 PM Version 2 - 10/10/2016	(11) TOs' W/N MW With DR	(12) W/N Losses	(13) Station Power	(14) Adj. W/N Load Less Losses	(15) Percent Loss Allocation	(16) Proportional Allocation of Losses	(17) Adj. W/N Load Less Losses	(18) 2016 Adjusted Actual Load (MW)	(19) 2016 (1 +WNF)	(20) 2016 Adj Load Prior to Loss Adjustment
		Reallocation of Losses								
Central Hudson										
Central Hudson LSE Load	1,105.5	30.7		1,074.8	3.27%	23.4	1,074.8	1,098.2		
Transmission District Load Served	1,105.5	30.7		1,074.8	3.27%	23.4	1,074.8	**1,098.2**	**1.0845**	**1,105.5**
Deduction for BTM:NG										
Transmission District Total Load										
Consolidated Edison										
Con-Ed LSE Load	13,464.5	123.2	0.0	13,341.3	40.65%	291.4	13,341.3	13,632.7		
Transmission District Load Served	13,464.5	123.2	0.0	13,341.3	40.65%	291.4	13,341.3	**13,632.7**	**1.1442**	**13,464.5**
Deduction for BTM:NG										
Transmission District Total Load										
Long Island Power Authority										
LIPA LSE Load	5,227.2	60.4		5,166.8	15.74%	112.80	5,166.80	5,279.6		
NYPA Load & Greenport Load	102.6	1.2		101.4	0.31%	2.20	101.40	103.6		
Freeport & Rockville Centre Load	130.6	1.5		129.1	0.39%	2.80	129.10	131.9		
Transmission District Load Served	5,460.4	63.1		5,397.3	16.44%	117.8	5,397.3	**5,515.1**	**1.0843**	**5,460.4**
Deduction for BTM:NG										
Transmission District Total Load										

6. **Reallocation of losses proceeds as before with no changes.**
7. **A new calculation is introduced for BTM:NG resources : (1 + WNF). This is the ratio of the Adjusted Actual load to the Actual Load-Less-Losses, specific to each Transmission District.**
8. **A new column is added to report the weather adjusted load prior to reallocation of losses. This is so comparisons of forecasts to actual and weather adjusted peaks can be made the are not based on reallocated losses, per request of TOs.**

Features of New Load Forecast Report

Sample 2017 New York Control Area Peak Load Forecast (MW)

Draft 10/12/2016 Transmission Districts	2016 Weather Normalized MW Load + Losses MW	Regional Load Growth Factor	2017 Load At Time of NYCA Peak	2017 BTM:NG Deduction of Adj Host Load	2017 ICAP Market Forecast	2017 Locality Forecasts		
						J Locality Less AHL	K Locality Less AHL	G-J Locality Less AHL
Central Hudson	1,098.2	1.0045	1,103.1	0.0	1,103.1			1,119.8
Consolidated Edison	13,632.7	1.0037	13,683.1	34.0	13,649.1	11,759.5		13,602.9
Long Island Power Authority	5,279.6	1.0000	5,279.6	58.4	5,221.2			
NYPA & Greenport	103.6	1.0000	103.6	0.0	103.6			
Freeport & Rockville Centre	131.9	1.0000	131.9	0.0	131.9			
LIPA Total	5,515.1	1.0000	5,515.1	58.4	5,456.7		5,420.1	
New York Power Authority	251.1	0.9963	250.2	0.0	250.2			
NYMPA	85.1	1.0084	85.8	0.0	85.8			
NYPA Total	336.2	0.9994	336.0	0.0	336.0			
New York State Electric & Gas	3,042.0	1.0050	3,057.2	0.0	3,057.2			388.5
NYPA	44.3	1.0050	44.5	0.0	44.5			
NYMPA	74.4	1.0050	74.8	0.0	74.8			
NYSEG Total	3,160.7	1.0050	3,176.5	0.0	3,176.5			
National Grid	6,523.1	1.0060	6,562.2	49.7	6,512.5			
NYPA	111.7	1.0060	112.4	0.0	112.4			
NYMPA	224.2	1.0060	225.5	0.0	225.5			
Jamestown	74.9	1.0060	75.3	0.0	75.3			
Green Island Power Authority	7.4	1.0060	7.4	0.0	7.4			
National Grid Total	6,941.3	1.0060	6,982.8	49.7	6,933.1			
Orange & Rockland Utilities	1,162.7	1.0093	1,173.5	0.0	1,173.5			1,164.2
Rochester Gas & Electric	1,683.8	1.0070	1,695.6	25.1	1,670.5			
NYMPA	12.4	1.0070	12.5	0.0	12.5			
RG&E Total	1,696.2	1.0070	1,708.1	25.1	1,683.0			
Total Load in NYCA or Locality	**33,543.1**	1.0040	**33,678.2**	**167.2**	**33,511.0**	**11,759.5**	**5,420.1**	**16,275.4**

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9. **Projected BTM:NG Adjusted Host Load is deducted from the ICAP Forecast for the NYCA peak. See following slides for calculation of these values.**
10. **It is also deducted from the Locality Peak Forecast, where appropriate.**

Details of Individual BTMG:NG Resources

Sample 2017 Behind-the Meter: Net Generation Report - Generator and Host Load Details

Behind the Meter: Net Generation Resources						(b)	(c)	(d)	(e)=(b)*(c)*(d)	(f)	(g) = (e)*(f)	(h)	(i) = (h)-(g)
N	Transmission District	New/ Existing	Zone	Generator Name	PTID	2016 Peak Proxy Load	(1 + WNF)	(1 + RLGF)	2017 Average Coincident Host Load	(1 + IRM)	2017 AHL Adjusted Host Load MW	DMGC Dependable Max Gross Capability	Net Generation for ICAP MW
1	Con-Ed	New	J	BTMNG 1	123456	25.2	1.1442	1.0037	28.9	1.17500	34.0	45.0	11.0
2	LIPA	New	K	BTMNG 2	234567	45.8	1.0843	1.0000	49.7	1.17500	58.4	75.0	16.6
3	N-Grid	Existing	F	BTMNG 3	345678	13.6	1.0529	1.0060	14.4	1.17500	16.9	30.0	13.1
4	N-Grid	Existing	E	BTMNG 4	456789	26.3	1.0529	1.0060	27.9	1.17500	32.8	50.0	17.2
5	RG&E	New	B	BTMNG 5	567890	18.8	1.1295	1.0070	21.4	1.17500	25.1	35.0	9.9
	Total					129.7			142.3	1.17498	167.2	235.0	67.8
						1	2	2	3	4	5	1	

1. Data provided to NYISO by BTM:NG Resources
2. Determined by Load Forecasting Task Force
3. ACHL: Must exceed 1 MW or site is not eligible to participate as BTM:NG Resource.
4. IRM is determined by New York State Reliability Council
5. Adjusted Host Load is deducted from Transmission District forecast for following year.

Summary of BTMG:NG Resources at Transmission District

Example 2017 Transmission District Summary of BTM:NG Resources

	(a)	(b)	(c)	(d)	(e)=(b)*(c)*(d)	(f)	(g) = (e)*(f)	(h)	(i) = (h)-(g)
N	Transmission District	2016 Peak Proxy Load	(1 + WNF)	(1 + RLGF)	2017 Average Coincident Host Load	(1 + IRM)	2017 AHL Adjusted Host Load MW	DMGC Dependable Max Gross Capability	Net Generation for ICAP MW
1	Central Hudson	0.0	1.0845	1.0045	0.0	1.17500	0.0	0.0	0.0
2	Con-Ed	25.2	1.1442	1.0037	28.9	1.17500	34.0	45.0	11.0
3	LIPA	45.8	1.0843	1.0000	49.7	1.17500	58.4	75.0	16.6
4	NYPA	0.0	1.0259	0.9963	0.0	1.17500	0.0	0.0	0.0
5	NYSEG	0.0	1.0692	1.0050	0.0	1.17500	0.0	0.0	0.0
6	National Grid	39.9	1.0529	1.0060	42.3	1.17500	49.7	80.0	30.3
7	O&R	0.0	1.1864	1.0093	0.0	1.17500	0.0	0.0	0.0
8	RG&E	18.8	1.1295	1.0070	21.4	1.17500	25.1	35.0	9.9
	Total	129.7			142.3		167.2	235.0	67.8

Example of 2016 Transmission District Summary of Actual BTM:NG Resources

	(a)	(a1)	(a2)	(a3)	(a4)
N	Transmission District	Load @ 2016 NYCA Peak Deduction	Load @ 2016 J Locality Deduction	Load @ 2016 K Locality Deduction	Load @ 2016 G-J Locality Deduction
	Date of Peak Time of Peak	8/11/2016 HB 16	8/10/2016 HB 16	8/12/2016 HB14	8/11/2016 HB 17
1	Central Hudson	0.0	0.0	0.0	0.0
2	Con-Ed	3.1	2.5	0.0	2.1
3	LIPA	0.0	0.0	3.0	0.0
4	NYPA	0.0	0.0	0.0	0.0
5	NYSEG	0.0	0.0	0.0	0.0
6	National Grid	5.2	0.0	0.0	0.0
7	O&R	0.0	0.0	0.0	0.0
8	RG&E	2.0	0.0	0.0	0.0
	Total	10.3	2.5	3.0	2.1

1. Data provided to NYISO by BTM:NG Resources
2. Determined by Load Forecasting Task Force
3. ACHL: Must exceed 1 MW or site is not eligible to participate as BTM:NG Resource.
4. IRM is determined by New York State Reliability Council
5. Adjusted Host Load is deducted from Transmission District forecast for following year.

2 -- Calculation Details

- **The succeeding slides show how the BTM:NG resources are accounted for in the actual load reconciliation and then deducted from loads used in subsequent analysis of TD loads and adjustments.**
- **Each TD now has an entry for Load-Less-Losses (col 6). The Adjusted Actual Load is determined (col 18), as before. The ratio of these two columns is (1 + WNF), the weather normalization factor.**
- **Each BTM:NG resource provides the NYISO with Peak Proxy Load based on prior load history. This is multiplied by (1 + WNF) * (1 + RLGF) to obtain the Average Coincident Host Load for the following year. If this value is less than 1 MW, then the site is ineligible to be a BTM:NG resource.**

NYISO DSS Actual Load, Losses & Municipal Generation

Row	Behind The Meter: Net Generation Example	(1)	(2)	(3)	(4)	(5)
	8/8/2016, Hour Beginning 4 PM	NYISO DSS Actual MW Data				
	Version 2 - 10/10/2016	Actual Load	BPS Losses	Muni Gen	Load + Losses	Percent Losses
1	**National Grid**					
2	National Grid LSE					
3	NYPA Load					
4	NYMPA Load					
5	Jamestown Load			57.7		
6	Green Island Load					
7	**Transmission District Load Served**					
8	Deduction for BTM:NG					
	Transmission District Total Load	6,558.3	391.0	57.7	7,007.0	5.6%

Item	Row	Column	Description	Data Source	Value	Equation	Comment
1	8	1	TD Actual Load	NYISO DSS Data	6558.3	Data Entry	Excludes losses
2	8	2	TD Actual Losses	NYISO DSS Data	391.0	Data Entry	
3	4	3	Jamestown Muni Generation	Jamestown	57.7	Data Entry	
4	8	3	TD Muni Generation	Calculation	57.7	Sum of Col 3	
5	8	4	TD Load + Losses	Calculation	7007.0	Sum of Cols(1,2,3)	
6	8	6	Percent Losses	Calculation	5.6%	Col(2)/Col(4)	to nearest .1%

Transmission Owner andMunicipal Electric System Data - 1 of 3

Row	Behind The Meter: Net Generation Example 8/8/2016, Hour Beginning 4 PM Version 2 - 10/10/2016	(6) Transmission Owner Load Data Actual Load Less Losses	(7) Actual Losses	(8) Actual Load With Losses	(9) Percentages in Col (6)
1	National Grid				
2	National Grid LSE	6,195.7	366.0	6,561.7	94.0%
3	NYPA Load	106.0	6.3	112.3	1.6%
4	NYMPA Load	212.7	12.6	225.3	3.2%
5	Jamestown Load	71.0	4.2	75.2	1.1%
6	Green Island Load	7.1	0.4	7.5	0.1%
7	**Transmission District Load Served**	6,592.5	389.5	6,982.0	100.0%
8	Deduction for BTM:NG	25.0	1.5	26.5	
	Transmission District Total Load	6,617.5	391.0	7,008.5	

Item	Row	Column	Description	Data Source	Value	Equation	Comment
1	8	8	TO Load in TD - Total	TO or NYISO DSS	7008.5	Data Entry	Includes Losses
2	7	6	TO Load in TD - Net	Calculation	6617.5	(6)=(8)-(7)	Excludes losses
3	7	6	Deduction for BTM:NG - Net	NYISO DRO	25.0	Data Entry	
4	7	7	BPS losses for BTM:NG	Calculation	1.5	(391.0)*(25.0/6617.5)	Pro-rata basis
5	7	8	Deduction for BTM:NG - Total	Calculation	26.5	25.0 + 1.5	
6	6	8	TD Load Served - Total	Calculation	6982.0	7008.5 - 26.5	Deduct existing
7	6	7	TD Load Served - Losses	Calculation	389.5	391.0 - 1.5	BTM:NG MW
8	6	6	TD Load Served - Net	Calculation	6592.5	6617.5 - 25.0	at time of peak

Transmission Owner andMunicipal Electric System Data - 2 of 3

Behind The Meter: Net Generation Example

8/8/2016, Hour Beginning 4 PM

Version 2 - 10/10/2016

Row		(6) Transmission Owner Load Data: Actual Load Less Losses	Actual Losses	Actual Load With Losses	(9) Percentages in Col (6)
	National Grid				
1	National Grid LSE	6,195.7	366.0	6,561.7	94.0%
2	NYPA Load	106.0	6.3	112.3	1.6%
3	NYMPA Load	212.7	12.6	225.3	3.2%
4	Jamestown Load	71.0	4.2	75.2	1.1%
5	Green Island Load	7.1	0.4	7.5	0.1%
6	**Transmission District Load Served**	6,592.5	389.5	6,982.0	100.0%
7	Deduction for BTM:NG	25.0	1.5	26.5	
8	**Transmission District Total Load**	6,617.5	391.0	7,008.5	

Item	Row	Column	Description	Data Source	Value	Equation	Comment
1	2	6	NYPA Load in TD - Net	NYPA	106.0	Data Entry	
2	3	6	NYMPA Load in TD - Net	NYMPA	212.7	Data Entry	
3	4	6	Jamestown Load + Gen; - Net	Jamestown	71.0	Data Entry	
4	5	6	Green Island Load in TD - Net	Green Island	7.1	Data Entry	
5	1	6	N-Grid Load by Difference, Net	Calculation	6195.7	(6)-Sum(2:5)	
6	1-5	9	Percent of Row x to Row 6	Calculation	Varies	Ex: 212.7 / 6592.5 = 3.2%	
7	1-5	7	Losses for each row	Calculation	Varies	389.5 * Row Percent	Pro Rata
8	1-5	8	TO or MES Load - Total	Calculation	Varies	(6) + (7)	

Note: All Net Loads in Col (6) exclude Bulk Power System Losses.

Transmission Owner andMunicipal Electric System Data - 3 of 3

Behind The Meter: Net Generation Example

8/8/2016, Hour Beginning 4 PM

Version 2 - 10/10/2016

Row		(8) Actual Load With Losses	(9) Weather Adjustments	(10) Demand Response	(11) TOs' W/N MW With DR	(12) Col 8 Pct.
	National Grid	**Transmission Owner Load Data**				
1	National Grid LSE	6,561.7	206.8	20.0	6,788.5	94.0%
2	NYPA Load	112.3	3.5	0.0	115.8	1.6%
3	NYMPA Load	225.3	7.1	0.0	232.4	3.2%
4	Jamestown Load	75.2	2.4	0.0	77.6	1.1%
5	Green Island Load	7.5	0.2	0.0	7.7	0.1%
6	**Transmission District Load Served**	6,982.0	220.0	20.0	7,222.0	100.0%
7	Deduction for BTM:NG	26.5				
8	**Transmission District Total Load**	7,008.5				

Item	Row	Column	Description	Data Source	Value	Equation	Comment
1	6	9	TO Weather Adjustment in TD	TO	220.0	Data Entry	
2	2	9	MES Weather Adjustment	Calculation	3.5	220.0 * Row Percent	
3	3	9	MES Weather Adjustment	Calculation	7.1	220.0 * Row Percent	
4	4	9	MES Weather Adjustment	Calculation	2.4	220.0 * Row Percent	
5	5	9	MES Weather Adjustment	Calculation	0.2	220.0 * Row Percent	
6	6	9	N-Grid Load by Difference, Net	Calculation	206.8	(6)-Sum(2:5)	
7	1	10	N-Grid DR Impact	TO or NYISO DRO	20.0	Data Entry	0 for all others
8	1-6	11	Total of All Adjustments	Calculation	Varies	(8) + (9) + (10)	

Weather Adjusted Losses by Transmission District

Row	Behind The Meter: Net Generation Example 8/8/2016, Hour Beginning 4 PM Version 2 - 10/10/2016	(7) Actual Losses	(8) Actual Load With Losses	(11) TOs' W/N MW With DR	(12) W/N Losses	(13) Col 11 Pct.
	National Grid					
1	National Grid LSE	366.0	6,561.7	6,788.5	378.7	94.0%
2	NYPA Load	6.3	112.3	115.8	6.5	1.6%
3	NYMPA Load	12.6	225.3	232.4	13.0	3.2%
4	Jamestown Load	4.2	75.2	77.6	4.3	1.1%
5	Green Island Load	0.4	7.5	7.7	0.4	0.1%
6	**Transmission District Load Served**	389.5	6,982.0	7,222.0	402.9	100.0%
	Deduction for BTM:NG					
	Transmission District Total Load					

Item	Row	Column	Description	Data Source	Value	Equation	Comment
1	6	12	Weather-Adjusted Losses - TD	Calculation	402.9	(7) * (11) / (8)	
2	1-5	13	Percent share of col 11	Calculation	Varies	(11x) / (11 total)	x indicates row
3	2	12	Weather-Adjusted Losses - MES	Calculation	6.5	402.9 * Row Percent	
4	3	12	Weather-Adjusted Losses - MES	Calculation	13.0	402.9 * Row Percent	
5	4	12	Weather-Adjusted Losses - MES	Calculation	4.3	402.9 * Row Percent	
6	5	12	Weather-Adjusted Losses - MES	Calculation	0.4	402.9 * Row Percent	
7	1	12	N-Grid losses, by Difference	Calculation	378.7	(6) - Sum(2-5)	

Proportional Reallocation of Losses

Row	Behind The Meter: Net Generation Example 8/8/2016, Hour Beginning 4 PM Version 2 - 10/10/2016	(11) TOs' W/N MW With DR	(12) W/N Losses	(13) Station Power	(14) Adj. W/N Load Less Losses	(15) Percent Loss Allocation	(16) Proportional Allocation of Losses
	National Grid						
1	National Grid LSE	6,788.5	378.7	26.1	6,383.7	19.45%	139.4
2	NYPA Load	115.8	6.5		109.3	0.33%	2.4
3	NYMPA Load	232.4	13.0		219.4	0.67%	4.8
4	Jamestown Load	77.6	4.3		73.3	0.22%	1.6
5	Green Island Load	7.7	0.4		7.3	0.02%	0.1
6	**Transmission District Load Served**	7,222.0	402.9	26.1	6,793.0	20.69%	148.3
7	**NYCA Total**	**33,569.2**	**716.80**	**26.1**	**32,826.30**	**100.00%**	**716.80**

Item	Row	Column	Description	Data Source	Value	Equation	Comment
1	1, 6	13	Station Power Deduction	TO	26.1	Data Entry & Sum	0 for all others
2	1-7	14	Adjusted Load Less Losses	Calculation	Varies	(14) = (11) - (12) - (13)	
3	1-6	15	Row percent of LLL to Total LLL	Calculation	Varies	(15x) = (14x) / (14 NYCA)	x indicates row
4	1	16	Proportional Allocation of Losses	Calculation	139.4	716.80 * .1945	
5	2	16	N-Grid Proportional Losses	Calculation	2.4	716.80 * .0033	
6	3	16	NYPA Proportional Losses	Calculation	4.8	716.80 * .0067	
7	4	16	NYMPA Proportional Losses	Calculation	1.6	716.80 * .0022	
8	5	16	Jamestown Proportional Losses	Calculation	0.1	716.80 * .0002	
9	6	16	TD Proportional Losses	Calculation	148.3	716.80 * .2069	

Adjusted Actual Load & (1 + WNF)

Row	Behind The Meter: Net Generation Example 8/8/2016, Hour Beginning 4 PM Version 2 - 10/10/2016	(6) Actual Load Less Losses	(16) Proportional Allocation of Losses	(17) Adj. W/N Load Less Losses	(18) 2016 Adjusted Actual Load (MW)	(19) 2016 (1 +WNF)
	National Grid					
1	National Grid LSE	6,195.7	139.4	6,383.7	6,523.1	
2	NYPA Load	106.0	2.4	109.3	111.7	
3	NYMPA Load	212.7	4.8	219.4	224.2	
4	Jamestown Load	71.0	1.6	73.3	74.9	
5	Green Island Load	7.1	0.1	7.3	7.4	
6	**Transmission District Load Served**	6,592.5	148.3	6,793.0	**6,941.3**	**1.0529**

Item	Row	Column	Description	Data Source	Value	Equation	Comment
1	1, 6	18	Adjusted Actual Load	Calculation	Varies	(18) = (16) + (17)	
2	6	19	1 + Weather Normalization Factor	Calculation	1.0529	(19) = (18) / (6)	For Entire TD

The mission of the New York Independent System Operator, in collaboration with its stakeholders, is to serve the public interest and provide benefit to consumers by:

- ***Maintaining and enhancing regional reliability***
- ***Operating open, fair and competitive wholesale electricity markets***
- ***Planning the power system for the future***
- ***Providing factual information to policy makers, stakeholders and investors in the power system***

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