NYISO Staff Evaluation of Level of Excess Adjustment Factors for the ICAP Demand Curve Reset

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Evaluation of Level of Excess Adjustment Factor (LOE-AF) Values

- **Analysis Group's (AG) Final Recommendations utilize 2016 CARIS Phase 2 database for determining LOE-AF values**
  - ***Assumes in excess of 2,500 MWs of supply leaving by the end of 2017***
    - **Fitzpatrick and Ginna account for more than 1,400 MW of this total**
  - ***Retirements drive MAPS LOE case to add load in Load Zones K, J, and G-I, while removing load from Load Zones A-F to arrive at tariff prescribed level of excess conditions***
  - ***Removing load from Load Zones A-F results in LOE-AF values in Load Zone C to fall below 1 for nearly all periods***
- **Load-side interests contend that alternative LOE-AF values would be more appropriate in light of the recently approved Clean Energy Standard that provides for zero-emission credits (ZECs) to qualifying nuclear plants**

LOE-AF Methodology

- **Appropriately account for the expected change to historic LBMPs if the NYCA and each Locality were at the applicable minimum Installed Capacity requirement, plus the MW value of the peaking plant**
  - ***AG's commitment to use the 2016 CARIS Phase 2 database was expected to capture known Generator Retirements and the most up-to-date load and gas price forecasts***
    - **Provides consistency with prior reset and current planning study base case assumptions**
- **MAPS methodology scales peak load via a scaling factor to arrive at the tariff-prescribed LOE conditions in each capacity region, which when using 2016 CARIS Phase 2 database resulted in LOE-AF values persistently below 1 in Load Zone C**

Comparison of LOE-AF Values

- **NYSO is evaluating LOE-AF values from three separate databases**
  - ***2015 CARIS Phase 1***
  - ***2016 CARIS Phase 2***
  - ***2016 CARIS Phase 2 with Ginna and Fitzpatrick Included (2016 CARIS Phase 2 Adjusted)***

CARIS Phase 1 LOE-AF Values

Load Zone	Month	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Capital	Off-peak	1.047	1.048	1.04	1.025	1.015	1.022	1.016	1.032	1.021	1.022	1.044	1.04
	On-peak	1.033	1.022	1.019	1.011	1.005	1.002	1.016	1.023	1.016	1.017	1.034	1.005
	High On-peak	1.064	1.064	-	-	-	0.997	1.002	1.022	-	-	-	1.022
Central	Off-peak	1.029	1.014	1.035	1.029	1.019	1.022	1.025	1.032	1.028	1.024	1.052	1.028
	On-peak	1.003	1.043	1.031	1.018	1.018	1.012	1.015	1.021	1.018	1.018	1.032	1.028
	High On-peak	1.002	1.052	-	-	-	1.006	1.004	1.013	-	-	-	1.027
Hudson Valley	Off-peak	1.042	1.037	1.036	1.027	1.018	1.024	1.027	1.032	1.024	1.023	1.046	1.035
	On-peak	1.023	1.025	1.022	1.017	1.013	1.014	1.025	1.026	1.019	1.017	1.032	1.012
	High On-peak	1.037	1.059	-	-	-	1.022	1.063	1.065	-	-	-	1.026
New York City	Off-peak	1.045	1.039	1.036	1.028	1.019	1.027	1.034	1.037	1.027	1.026	1.047	1.036
	On-peak	1.047	1.04	1.026	1.02	1.016	1.022	1.039	1.054	1.022	1.018	1.034	1.026
	High On-peak	1.045	1.062	-	-	-	1.038	1.129	1.159	-	-	-	1.028
Long Island	Off-peak	1.05	1.047	1.032	1.032	1.023	1.023	1.037	1.029	1.027	1.027	1.025	1.028
	On-peak	1.066	1.024	1.017	1.017	1.014	1.017	1.033	1.035	1.02	1.011	1.016	1.03
	High On-peak	1.065	1.025	-	-	-	1.023	1.131	1.108	-	-	-	1.01

- **Does include a value <1.0 in NYCA and a value in NYC as high as 1.159**

CARIS Phase 2 LOE-AF Values

Load Zone	Month	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Capital	Off-peak	1.033	1.024	1.011	1.004	1.004	1.004	1	1.007	1.006	1.011	1.013	1.005
	On-peak	1.026	1.028	1.024	1.009	0.995	0.992	0.99	0.996	0.991	0.998	1.017	1.005
	High On-peak	1.019	1.036	-	-	-	0.977	0.971	0.977	-	-	-	1.018
Central	Off-peak	0.979	0.985	0.982	0.992	0.994	1.001	0.998	1.003	1.004	1.008	0.983	0.993
	On-peak	0.97	0.985	0.975	0.992	0.988	0.987	0.985	0.993	0.988	0.995	0.99	0.994
	High On-peak	0.972	0.96	-	-	-	0.969	0.965	0.972	-	-	-	0.97
Hudson Valley	Off-peak	1.029	1.023	1.01	1.01	1.009	1.016	1.016	1.022	1.016	1.022	1.013	1.013
	On-peak	1.027	1.032	1.024	1.018	1.008	1.015	1.018	1.019	1.012	1.013	1.024	1.023
	High On-peak	1.046	1.043	-	-	-	1.03	1.033	1.043	-	-	-	1.04
New York City	Off-peak	1.03	1.019	1.01	1.01	1.017	1.025	1.031	1.029	1.022	1.026	1.013	1.014
	On-peak	1.052	1.056	1.029	1.019	1.012	1.03	1.047	1.047	1.023	1.023	1.028	1.039
	High On-peak	1.057	1.054	-	-	-	1.035	1.162	1.129	-	-	-	1.037
Long Island	Off-peak	1.042	1.022	1.01	1.005	1.017	1.017	1.033	1.024	1.023	1.026	1.028	1.014
	On-peak	1.045	1.033	1.012	1.002	1.013	1.025	1.033	1.023	1.025	1.027	1.061	1.047
	High On-peak	1.028	1.021	-	-	-	1.033	1.129	1.07	-	-	-	1.024

- **Does include values predominantly <1.0 in NYCA and a value in NYC as high as 1.162**

CARIS Phase 2 Adjusted LOE-AF Values

Load Zone	Month	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Capital	Off-peak	1.0232	1.0028	1.0095	1.0045	1.0120	1.0021	1.0121	1.0199	1.0132	1.0252	1.0141	1.0119
	On-peak	1.0266	1.0287	1.0296	1.0083	1.0089	1.0074	1.0198	1.0244	1.0226	1.0235	1.0308	1.0049
	High On-peak	1.0264	1.0410	-	-	-	0.9924	1.0018	1.0078	-	-	-	1.0285
Central	Off-peak	1.0901	1.0524	1.0280	1.0224	1.0210	1.0174	1.0205	1.0190	1.0218	1.0238	1.0432	1.0290
	On-peak	1.0498	1.0146	1.0360	1.0191	1.0149	1.0159	1.0161	1.0187	1.0175	1.0185	1.0400	1.0358
	High On-peak	1.0631	1.0310	-	-	-	1.0044	0.9969	0.9995	-	-	-	1.0340
Hudson Valley	Off-peak	1.0522	1.0268	1.0192	1.0172	1.0256	1.0222	1.0303	1.0330	1.0278	1.0336	1.0282	1.0249
	On-peak	1.0508	1.0415	1.0387	1.0290	1.0311	1.0418	1.0483	1.0420	1.0441	1.0343	1.0484	1.0360
	High On-peak	1.0727	1.0818	-	-	-	1.0684	1.0610	1.0797	-	-	-	1.0663
New York City	Off-peak	1.0540	1.0217	1.0179	1.0169	1.0296	1.0273	1.0313	1.0309	1.0231	1.0339	1.0270	1.0175
	On-peak	1.0818	1.0652	1.0419	1.0280	1.0108	1.0287	1.0489	1.0503	1.0266	1.0268	1.0409	1.0436
	High On-peak	1.0653	1.0665	-	-	-	1.0422	1.1612	1.1344	-	-	-	1.0237
Long Island	Off-peak	1.0692	1.0222	1.0163	1.0057	1.0248	1.0168	1.0310	1.0202	1.0194	1.0345	1.0163	1.0232
	On-peak	1.0716	1.0306	1.0070	1.0033	1.0153	1.0215	1.0297	1.0232	1.0174	1.0256	1.0214	1.0489
	High On-peak	1.0706	1.0235	-	-	-	1.0356	1.1300	1.0845	-	-	-	1.0522

- Does include some values <1.0 in NYCA and a value in NYC as high as 1.1612
- On average, produces the largest adjustment factors of the three databases evaluated

Net EAS Results

- **On average, CARIS Phase 2 Adjusted LOE-AFs produce the highest net Energy and Ancillary Services (EAS) revenues for the 2017/2018 Capability Year**

Load Zone	Net EAS ($/kW-year)				Percent Change for No LOE-AF (%)		
	No LOE-AF	CARIS 1	CARIS 2	CARIS 2 Adj.	CARIS 1	CARIS 2	CARIS 2 Adj.
Central - Gas Only	$40.95	$44.27	$39.35	$45.28	8.1%	-3.9%	10.6%
Capital - Gas Only	$31.86	$35.42	$33.65	$33.89	11.2%	5.6%	6.4%
Hudson Valley (Dutchess) - Dual	$36.30	$39.01	$38.76	$40.30	7.5%	6.8%	11.0%
Hudson Valley (Rockland) - Dual	$36.13	$38.94	$38.64	$40.23	7.8%	6.9%	11.3%
New York City	$46.06	$52.32	$52.73	$54.45	13.6%	14.5%	18.2%
Long Island	$88.11	$94.80	$94.94	$95.75	7.6%	7.8%	8.7%

Reference Point Price Results

- **On average, CARIS Phase 2 Adjusted LOE-AFs produce the lowest reference point prices for the 2017/2018 Capability Year**

Load Zone	Reference Point Price ($/kW-month)				Percent Change from No LOE-AF(%)		
	No LOE-AF	CARIS 1	CARIS 2	CARIS 2 Adj.	CARIS 1	CARIS 2	CARIS 2 Adj.
Central - Gas Only	$10.80	$10.46	$10.96	$10.36	-3.1%	1.5%	-4.1%
Capital - Gas Only	$11.02	$10.66	$10.84	$10.81	-3.3%	-1.6%	-1.9%
Hudson Valley (Dutchess) - Dual	$15.24	$14.93	$14.96	$14.78	-2.0%	-1.8%	-3.0%
Hudson Valley (Rockland) - Dual	$15.49	$15.17	$15.20	$15.02	-2.1%	-1.9%	-3.0%
New York City	$19.63	$18.86	$18.81	$18.59	-3.9%	-4.2%	-5.3%
Long Island	$14.73	$13.77	$13.75	$13.64	-6.5%	-6.7%	-7.4%

Conclusions

- **Persistent LOE-AF values below 1 in Load Zone C as a result of using the 2016 CARIS Phase 2 database is largely due to the requirement to reduce load from Load Zone A-F in order to simultaneously meet the tariff-prescribed LOE conditions in each Locality and NYCA**
- **Adding Ginna and Fitzpatrick back to 2016 CARIS Phase 2 database reduces LBMPs in the base case and therefore increases the ratio (LOE-AF) between the base case and the LOE case**
- **Lower loads and gas prices in both 2016 CARIS Phase 2 databases, as well as greater load scaling to the LOE condition in such cases appear to materially impact results**
  - ***Thus, the resulting LOE-AF values using the 2015 CARIS 1 database do not provide a fair comparison***

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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