

NYISO 2019/2020 ICAP Demand Curve Reset: Updates for Interim Final Report

ICAP Working Group

August 10, 2020



Today:

- Updates to Costs
- Updates to Net Energy and Ancillary Services (EAS) Revenues Model

Updates to Costs

Gas Interconnection Costs

- Updated assumption for \$/in/mile from \$180K to \$250K for all Load Zones except Load Zone J
 - No further updates are proposed for the assumed gas interconnection cost for Load Zone J that was provided in the draft report
- Review considered BMcD experience, available gas pipeline cost information, and stakeholder feedback
 - Similar review process for Load Zone J was conducted previously

Gas Interconnection Costs for GE 7HA.02 Unit (\$M)

	Zone C	Zone F	Zone G (Dutchess)	Zone G (Rockland)	Zone J	Zone K
Recommended Costs 6/4	\$17.9	\$17.9	\$17.9	\$17.9	\$20.0	\$17.9
Updated Costs 7/29	\$23.5	\$23.5	\$23.5	\$23.5	\$20.0	\$23.5

Gas Interconnection Costs for GE 7F.05 and Siemens SGT-A65 Units (\$M)

	Zone C	Zone F	Zone G (Dutchess)	Zone G (Rockland)	Zone J	Zone K
Recommended Costs 6/4	\$14.3	\$14.3	\$14.3	\$14.3	\$20.0	\$14.3
Updated Costs 7/29	\$18.5	\$18.5	\$18.5	\$18.5	\$20.0	\$18.5

Water and Wastewater Updates

- Water Supply Update
 - Load Zone J water supply is assumed to be municipal water. However, the cost estimates provided in the draft report inadvertently failed to include the associated costs for a water line connection
 - The interim final report corrects this inadvertent error by including \$10.9 million in the Owner’s Costs for a 1-mile water line in Load Zone J
 - Estimated cost for Load Zone J considers BMcD experience and available costs for NYC water main projects
 - No updates are included for other Load Zones. Raw water assumed for all other Load Zones. Capital costs for onsite well are covered in EPC costs
- Wastewater Variable O&M Update
 - For all Load Zones, capital cost accounts for wastewater storage tanks and drains tanks. Wastewater would be removed via pump truck periodically for disposal
 - Variable O&M costs updated to account for pumping and disposal allowances

Variable O&M Incremental Updates for Wastewater Disposal

	3x0 Siemens SGT-A65	1x0 GE 7F.05	1x0 GE 7HA.02	Informational 1x1 GE 7HA.02
Natural Gas	+\$0.02	+\$0.04	+\$0.03	+\$0.04
Fuel Oil	+\$0.02	+\$0.04	+\$0.03	+\$0.75

Major Maintenance Costs

- Major maintenance for the GE 7HA.02 gas turbine updated to correctly reflect the cost per start estimate
 - Draft report: \$16,200 /start
 - Interim Final report: \$26,600 /start
- The total cost of the maintenance cycle was estimated using the \$/hour value and then converted to show the \$/start estimate.
 - Cost per run-hour unchanged at \$600/hr
 - Draft report reflected a conversion ratio of 27 hours per start to calculate the \$/start, which is indicative for the F-class turbines
 - Interim final report costs reflect a ratio of 44.4 hours per start for H-class turbines, which is consistent with quotations reviewed by BMcD

Other Feedback Items

- Construction laydown/parking are not part of the permanent site acreage assumption. EPC costs reflect labor productivity adjustments and temporary lease allowance
- Warehouse space is included in the facility building
- Sales tax
 - Sales tax is included in consumable material unit costs used for the EPC estimate
 - It is assumed that the owner receives an exemption certificate for capital purchases
- Development costs
 - Line items related to Owner project development were unchanged to avoid potential overlap with electric and gas interconnection costs
 - Electric and gas interconnection costs are assumed to reflect all-in pricing including soft costs
- Land lease costs in Load Zone J were unchanged.
 - BMcD previously reviewed market transactions, property tax values, and stakeholder-provided feedback. BMcD also considered quoted values obtained through discussions with various property owners in the potential acquisition of land for similar use
 - Reviews resulted in a wide range of observed values. Current assumption is within the observed range

PILOT Rate

- AG has updated its initial recommendation, and recommends a PILOT rate of 0.5% for locations outside NYC
 - Based on empirical analyses of PILOT payments for individual projects from year to year, payments may vary in both positive and negative directions
 - Based on our review of these past changes, we assume 2% annual inflation in PILOT payments historically and estimate PILOT payments at the time the project became operational
 - Across the sample, the adjusted PILOT tax rate ranges from 0.14% to 1.53%, with a median value of 0.52%

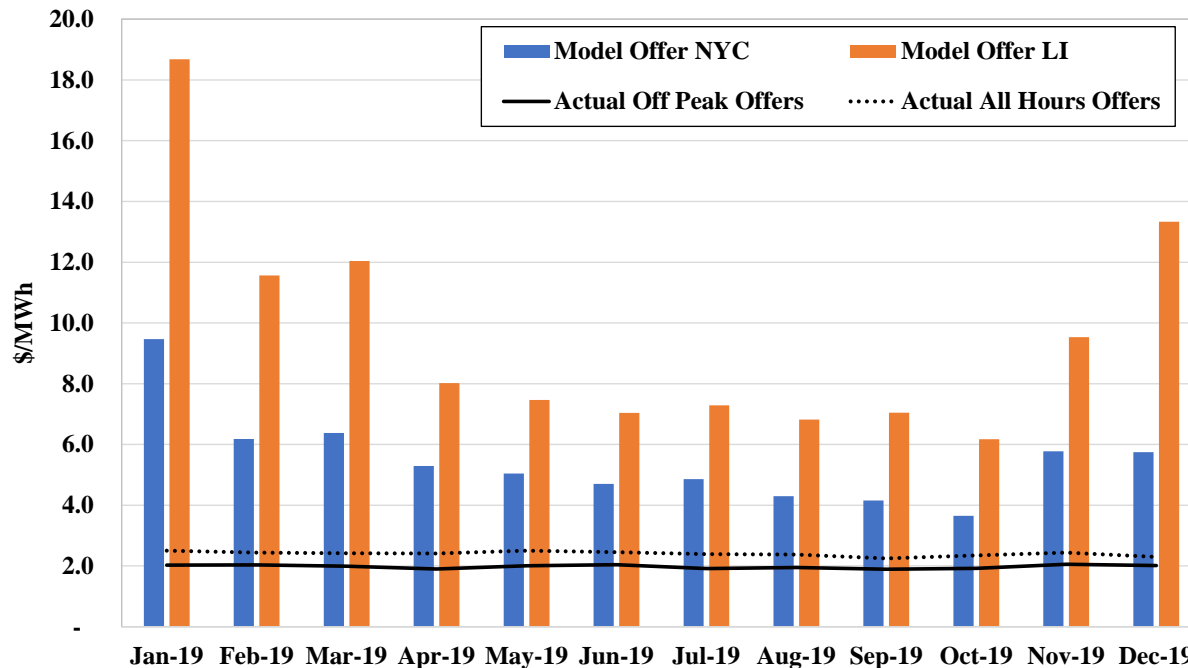
Updates to Net EAS Revenues Model

Day-Ahead Reserve Position Costs

- When evaluating a reserves commitment in either the DAM or RTM, the model assumes that each peaking plant bids into non-synchronized reserve markets at their opportunity cost to taking a day-ahead reserve position
- This opportunity cost can reflect multiple factors, such as:
 - Performance (forced outage) risks
 - Cost of holding fuel supplies or the expected cost of obtaining adequate fuel supplies in the intraday markets to fulfill a reserve obligation
 - Risk premiums associated with taking an uncovered reserve position
- In previous versions of the model, this opportunity cost was set to the real-time intraday premium for buying natural gas
 - Premium/discount was set at 10%-30%, depending on Load Zone

Day-Ahead Reserve Position Costs

- Day-ahead reserve offer data provided by the MMU for dual fuel units in Load Zones J and K suggest that the capacity-weighted average reserve offer across all of 2019 was approximately \$2.0/MWh (black lines in graph below)
- This data suggests that previous assumption may overstate cost of providing reserves, particularly for dual fuel units, which can operate on secondary fuel if converted to energy in real-time



Day-Ahead Reserve Position Costs

- AG has updated its initial recommendation, and recommends a day-ahead reserve opportunity cost of \$2.00/MWh for dual fuel peaking plants
 - Dual fuel plants are recommended for Load Zones G (Dutchess County), G (Rockland County), J, and K
- Methodology in Load Zones C and F is unchanged where gas-only plant designs are recommended
 - Day-ahead reserve opportunity cost for gas-only units remains based on the applicable intraday gas premium/discount value

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