New York ISO
Independent System Operator

2026-2027 Informational CAFs (iCAF) Set 1

Pallavi Jain

Manager, Capacity Accreditation

Installed Capacity (ICAP) Working Group Meeting

September 22, 2025

Agenda

- Objective of Today's Presentation
- iCAF Disclaimer
- 2026-2027 iCAF Set 1 and Comparison with 2025-2026 Final CAFs
- Important Concepts for Understanding CAF Values
- Specific CARC's CAF Value Changes
- Parameters Impacting Final CAFs
- Next Steps
- Appendix

New York ISO

Objective of Today's Presentation

- **Present the 2026-2027 iCAF Set 1.**
  - Review changes from the Final CAFs for the 2025-2026 Capability Year (2025-2026 Final CAFs)

New York ISO

iCAF Disclaimer

iCAF Disclaimer

- The CAF reflects the marginal reliability value of the representative unit over a perfect unit.
- The following iCAFs were calculated using the Marginal Reliability Improvement (MRI) technique
  - A 100 MW representative unit for each Capacity Accreditation Resource Class (CARC), consistent with the methodology for calculating CAFs as outlined in Section 7.2.1 of the ICAP Manual
- These iCAFs are for informational purposes only; they are based on information available at the time of calculation
- The iCAFs and the input assumptions used in the GE MARS model to calculate these iCAFs are provided to inform NYISO stakeholders and market participants of the drivers that may impact the final CAF calculation process.
- These iCAFs are not the final CAFs that will be used to determine the market revenue of ICAP Suppliers in the 2026-2027 Capability Year that begins on May 1, 2026
- Final CAFs will be calculated in accordance with Section 7.2 of the ICAP Manual and posted on the date identified in the ICAP Event Calendar (currently scheduled for by March 1, 2026)
  - The final CAF results and the inputs to the GE MARS model may differ from these iCAFs.
- All CAF value calculations will utilize the current up-to-date model assumptions at the time the calculations are performed

New York ISO

2026-2027 iCAFs Set 1

Base Case for the 2026-2027 iCAF Set 1

- **The New York State Reliability Council (NYSRC)-approved 2026-2027 Installed Reserve Margin (IRM) Preliminary Base Case (PBC) was completed with the Tan45 result at 27.3% [1]**
  - Chaplain Hudson Power Express (CHPE) is assumed to be in-service, and the Gowanus and Narrows barge units are assumed out-of-service.
- **The IRM, Tan45-determined locational requirements, and resulting Loss of Load Expectation (LOLE) and winter risk of the 2026-2027 IRM PBC are compared to the 2025-2026 Final CAFs base case in the table below.**

	IRM	G-J LCR	J LCR	K LCR	LOLE	Winter Risk
2025-2026 Final CAFs[2]	24.4%	78.8%	78.5%	106.5%	0.10024	0.00%
2026-2027 iCAF Set 1[3]	27.3%	78.8%	82.5%	106.9%	0.09991	15.8%

1. 2026-2027 IRM PBC - Tan 45 results
2. 2025 - 2026 Final Capacity Accreditation Factors
3. Since the transmission security limit (TSL) floor values are not considered in the Tan 45 process, the 2025-2026 TSL floors were applied for G-J and K Localities, and an estimated TSL floor was applied for Load Zone J (refer to Slide 8 of the July 2, 2025, ICAPWG), which resulted in the parameters reported above.

New York ISO

2026 - 2027 iCAF Set 1

CARCs	Rest of State	GHI Locality	J Locality	K Locality
2-Hour Resource with Energy Duration Limitation (EDL)	68.60%	69.62%	58.04%	47.57%
4-Hour EDL	81.06%	81.74%	82.94%	82.20%
6-Hour EDL	89.25%	88.91%	90.18%	92.30%
8-Hour EDL	92.66%	91.13%	95.83%	94.44%
Landfill Gas	66.04%	64.33%	65.77%	66.22%
Solar	8.53%	8.53%	13.13%	12.03%
Offshore Wind	--	--	--	35.28%
Land-based Wind	16.21%	15.19%	18.65%	17.85%
Limited Control Run of River	56.31%	37.03%	--	
Large Hydro	100.00%	100.00%	100.00%	100.00%
Large Hydro w partial Pump Storage	100.00%	--	--	--
Generator	100.00%	100.00%	100.00%	100.00%
Special Case Resource (SCR)	73.72%	74.40%	61.10%	75.20%
Non-firm	56.83%	57.34%	67.48%	93.96%

New York ISO

Comparison of 2026-2027 iCAF Set 1 with 2025-2026 Final CAFs

Comparison of 2026-2027 iCAFs Set 1 with 2025-2026 Final CAFs

CARC	Rest of State			GHI			NYC Locality			LI Locality		
	2025-2026	iCAF Set 1	Diff	2025-2026	iCAF Set 1	Diff	2025-2026	iCAF Set 1	Diff	2025-2026	iCAF Set 1	Diff
2-Hour EDL	74.32%	68.60%	-5.72%	73.97%	69.62%	-4.35%	64.94%	58.04%	-6.90%	52.68%	47.57%	-5.11%
4-Hour EDL	78.91%	81.06%	2.15%	78.60%	81.74%	3.14%	78.53%	82.94%	4.41%	87.10%	82.20%	-4.90%
6-Hour EDL	87.24%	89.25%	2.01%	87.16%	88.91%	1.75%	85.90%	90.18%	4.28%	94.59%	92.30%	-2.29%
8-Hour EDL	96.77%	92.66%	-4.11%	96.40%	91.13%	-5.27%	96.12%	95.83%	-0.29%	98.96%	94.44%	-4.52%
Landfill Gas	63.95%	66.04%	2.09%	63.87%	64.33%	0.46%	64.04%	65.77%	1.73%	65.68%	66.22%	0.54%
Solar	12.24%	8.53%	-3.71%	12.33%	8.53%	-3.80%	12.03%	13.13%	1.10%	10.05%	12.03%	1.98%
Offshore Wind	--	--	--	--	--	--	--	--	--	35.79%	35.28%	-0.51%
Land-based Wind	16.84%	16.21%	-0.63%	16.61%	15.19%	-1.42%	16.69%	18.65%	1.96%	18.20%	17.85%	-0.35%
Limited Control Run of River	38.44%	56.31%	17.87%	41.44%	37.03%	-4.41%	--	--	--	--		--
Large Hydro	100.00%	100.00%	0.00%	100.00%	100.00%	0.00%	100.00%	100.00%	0.00%	100.00%	100.00%	0.00%
Large Hydro w partial Pump Storage	100.00%	100.00%	0.00%	--	--	--	--	--	--	--	--	--
Generator	100.00%	100.00%	0.00%	100.00%	100.00%	0.00%	100.00%	100.00%	0.00%	100.00%	100.00%	0.00%
Special Case Resource (SCR)	77.21%	73.72%	-3.49%	76.88%	74.40%	-2.48%	68.31%	61.10%	-7.21%	74.43%	75.20%	0.77%
Non-firm	--	56.83%		--	57.34%		--	67.48%		--	93.96%	

New York ISO

Important Concepts for Understanding the CAF Values

The Perfect Unit

The Impact of the Perfect Unit

- **The behavior of the perfect unit impacts the denominator in the CAF calculation**
  - CAFs compare how well a representative unit performs relative to a perfect unit

$$\downarrow CAF = \frac{LOLE_{reference} - LOLE_{representative\ unit}}{LOLE_{reference} - LOLE_{perfect\ unit}} \uparrow$$

- **The trend of decreasing CAFs is mostly driven by increases in the denominator**
  - This means that the perfect unit performed better in the iCAF Set 1 case (i.e., solved more events than in the case for the 2025-2026 Final CAFs particularly in Load Zones J and K).
  - Generally, the perfect unit delta outweighed the representative unit deltas, lowering the iCAFs.
- **To reduce the LOLE, the entire Loss of Load (LOL) event needs to be solved**
  - These LOL events could be different levels of MW shortages and have different durations in the GE MARS simulation

New York ISO

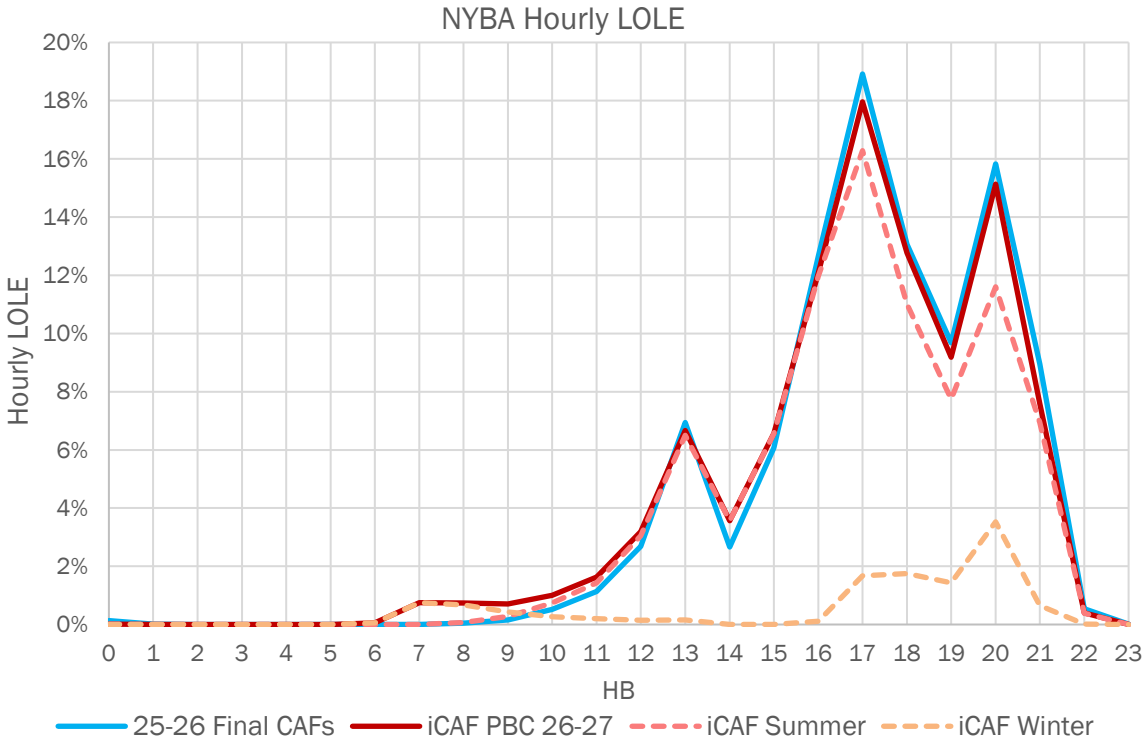
The Impact of the Perfect Unit (cont.)

- **Solvable events are LOL events with single or multiple hours with less than or equal to (=<)100 MWh per hour of shortages.**
  - LOL events that are greater than 100 MWh are not solvable by the perfect unit
  - The more solvable events, the more effective the perfect unit would be in addressing LOLE
- **The perfect unit is more effective in 2026-2027 iCAF Set 1 because the number of solvable events increased compared to the 2025-2026 Final CAFs case.**
  - With a higher IRM, more MW are needed to meet the Resource Adequacy criteria, which reduces the magnitude and/or duration of the LOL events
  - In addition, the majority of the increased solvable events exist in the winter season, making the perfect unit more effective in addressing winter LOLE

New York ISO

LOLE Distribution

Comparision of LOLE Distribution in 2026-2027 iCAF Set 1 to 2025-2026 Final CAF



- **For the 2026-2027 iCAF Set 1, the LOLE distribution still peaks at Hour Beginning (HB) 13, 17, and 20. But LOLE was also observed in the morning hours during the winter season.**
  - With winter risk, there is LOLE starting at HB 7.
  - Peaks are slightly lower than the 2025-2026 case.
  - Risk is slightly flatter and more spread out compared to the 2025-2026 case.

New York ISO

LOLE Risk Profile and CAF Values

- **The LOLE risk profile is important to understanding changes in CAF values**
  - A CAF is calculated based on how effective a 100 MW addition of a representative unit for a Capacity Accreditation Resource Class (CARC) is at addressing LOLE risk compared to a perfect unit
- **As the LOLE risk profile changes, the effectiveness of resources in addressing the LOLE risk can change, leading to changes in CAF values**
  - For example, if the LOLE risk profile shifts to later in the day, a solar resource is less effective at addressing LOLE risk, and therefore, the CAF for solar resources is likely to be lower
- **As the IRM model starts to reflect seasonal LOLE risks, the effectiveness of some resources in addressing the LOLE risk in different seasons can also change and affect CAF values**
  - For example, resources that perform better in the winter may be able to address additional winter LOLE risk and may have their CAF values increases
  - Additionally, the output window limitation for the EDLs and SCRs can be set at different hours each season to capture the different risk hours

New York ISO

Specific CARC's CAF Value Changes

Non-Firm CAFs

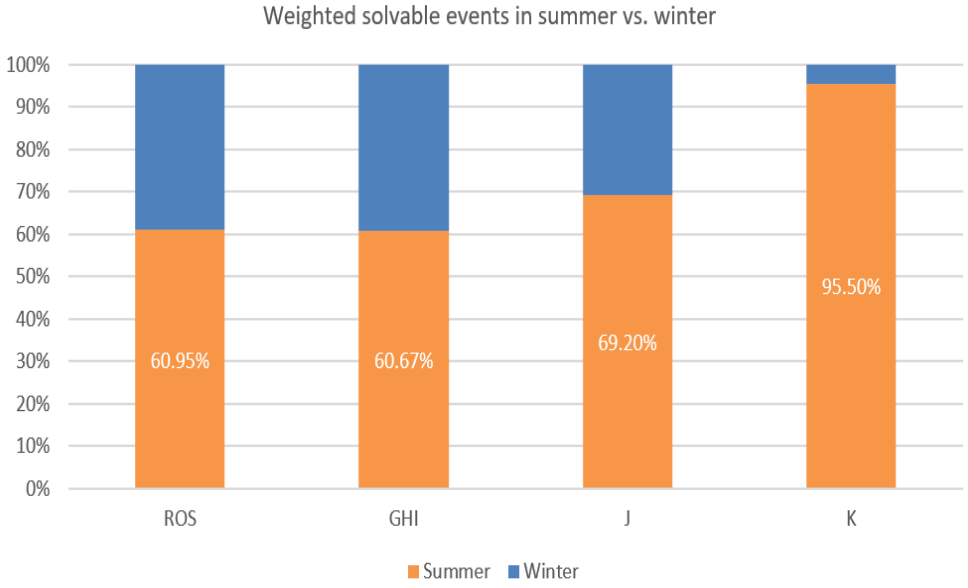
Non-Firm Representative Unit Modeling

- **The non-firm representative unit is modeled differently between summer and winter[1]**
  - In the summer months, the non-firm representative unit is modeled as a 100 MW perfect generator.
  - In the winter months, the non-firm representative unit is modeled as a 100 MW perfect generator, unless the winter fuel availability constraint modeled is triggered during December, January and February, then it is modeled as a 0 MW generator
- **In the current IRM model, the winter LOLE risks are associated with the winter fuel availability constraints and only occur when such constraints are triggered**
- **Therefore, the non-firm representative unit is not able to address any LOLE risks during winter**

1. Non-firm CAF Methodology

New York ISO

Non-Firm – 2026-2027 iCAF Set 1 Observations



- **Comparing the perfect unit in rest of state (ROS) and Load Zones G-I (GHI) with Load Zone J, Load Zone J has more solved events in the summer.**
  - There are more solvable events in Load Zone J that happen in the summer (i.e., when a non-firm unit does not face limitations on its availability) than in the other zones, explaining why the non-firm CAF in Load Zone J is higher than in ROS and GHI.
- **The non-firm CAF in Load Zone K is higher than in the other zones because Load Zone K has significantly more solvable events in the summer and is less affected by winter fuel availability constraints.**
  - The winter fuel availability constraints model applies minimal derates to the Load Zone K fossil generation fleet that is primarily dual fuel and oil-only.[1]

1 July 22, 2025, ICAPWG

New York ISO

EDL CAFs

EDL Representative Unit Modeling

- **For the 2025-2026 Informational and Final CAFs, the NYISO dynamically optimized the output window of the representative EDL unit to reflect its reliability contribution due to the changing LOLE distribution (i.e., two distinct peaks)[1]**
  - This treatment is applied not only to all EDL CAFs but also to SCR CAFs since the enhanced SCR modeling also uses the energy limited resource (ELR) functionality
  - The primary difference between the EDL representative unit modeling and SCR representative unit modeling was that the optimal output window selected for the representative EDL could reflect the unit being used for non-consecutive hours

1. 2025-2026 Informational CAFs

New York ISO

EDL – 2026-2027 iCAF Set 1 Observations

- **With different risk profiles seasonally, seasonal output window for the EDL representative units were established to account for the presence of morning risk in the winter.**
  - For the 2hr EDL, the same two hours (HB 17 and 20) are the most valuable for both the summer and winter for all Localities, except Load Zone K where HB 18 provides better value than HB 20 for the summer
  - For larger duration EDLs, changes to the output window between seasons generally increases the CAF values
  - The optimal output windows are the same for Load Zone J, GHI, and ROS

EDL duration	Optimal Output Window	
	ROS, GHI, J	K
2hr EDL	17, 20	Summer: 17, 18 Winter: 17, 20
4hr EDL	Summer: 13, 16, 17, 20 Winter: 7, 17, 18, 20	Summer: 16, 17, 18, 20 Winter: 17, 18, 19, 20
6hr EDL	Summer: 13, 15, 16, 17, 20, 21 Winter: 7, 8, 17, 18, 19, 20	13, 15, 16, 17, 18, 20
8hr EDL	Summer : 12, 13, 14, 15, 16, 17, 20, 21 Winter: 7, 8, 9, 10, 17, 18, 19, 20	13, 14, 15, 16, 17, 18, 20, 21

Other CARCs with Significant Changes in CAF Values

Limited Control Run of River – 2026-2027 iCAF Set 1 Observations

- **Compared to the 2025-2026 Final CAF values, the 2026-2027 iCAFs Set 1 for the Limited Control Run of River increased in ROS due to the better production profile during winter season.**
  - Limited Control Run of River in ROS tends to perform better in the winter than in the summer, so the introduction of winter LOLE risk leads to an increase in the CAF value
  - This is not the case for the Limited Control Run of Rivier in GHI which has less seasonal differences in the production profile throughout the year

New York ISO

SCRs – 2026-2027 iCAF Set 1 Observations

- Due to the structure of the SCR program and associated modeling in GE MARS, SCRs are modeled to operate over consecutive hours
  - The representative SCR unit that is used for the CAF calculations is modeled as a 4-hour EDL with 100% availability (i.e., 100% hourly response rates across four consecutive hours)
- The LOLE risk distribution observed in the base case for the 2026-2027 iCAF Set 1 was more spread out than the LOLE risk distribution in the 2025-2026 Final CAFs
- Therefore, by dispatching the SCRs over 4 consecutive hours, the representative SCR was less effective than a perfect unit
- Load Zone J had a larger decrease in SCRs' CAF values than the other areas because, while the perfect unit in Load Zone J can solve more events, the representative behaves similarly across the zones
- For the 2026-2027 iCAF Set 1 case, the optimal window identified for SCRs was hours 17, 18, 19, 20 for ROS, GHI, and Load Zone J, and hours 15, 16, 17, 18 for Load Zone K

New York ISO

Parameters Impacting Final CAFs

Parameters Impacting Final CAFs

- **These iCAF values are preliminary and intended for informational purposes only. There are multiple changes from the PBC to the Final Base Case (FBC) for the IRM study that can affect CAFs such as:[1]**
  - Final Load Forecast Update
  - SCR Modeling Update
  - Inclusion of Distributed Energy Resources (DERs)
  - Potential update to Emergency Operating Procedure (EOP) steps

1. 2026-2027 FBC parametric progress at the 9/3/2025 ICS meeting

New York ISO

Next Steps

Next Steps

- **The NYISO will continue to monitor and support the discussions at the NYSRC Installed Capacity Subcommittee and Executive Committee meetings regarding the development of the 2026-2027 IRM FBC**
  - The 2026-2027 IRM FBC is currently under development with study assumptions that continue to be updated
- **The NYISO will continue to develop preliminary and final TSL floor values, Locational Minimum Installed Capacity Requirements and the 2026-2027 CAFs**
  - If the "triggering resource" proposal currently under consideration is approved by stakeholders, the NYISO will also proceed to develop two sets of ICAP market parameters reflecting alternative assumptions for the operating status of the CHPE project consistent with the requirements of such proposal[1]

1. Alternative ICAP Market Parameters for Certain New Resource Entry- BIC presentation

New York ISO

Questions?

Appendix

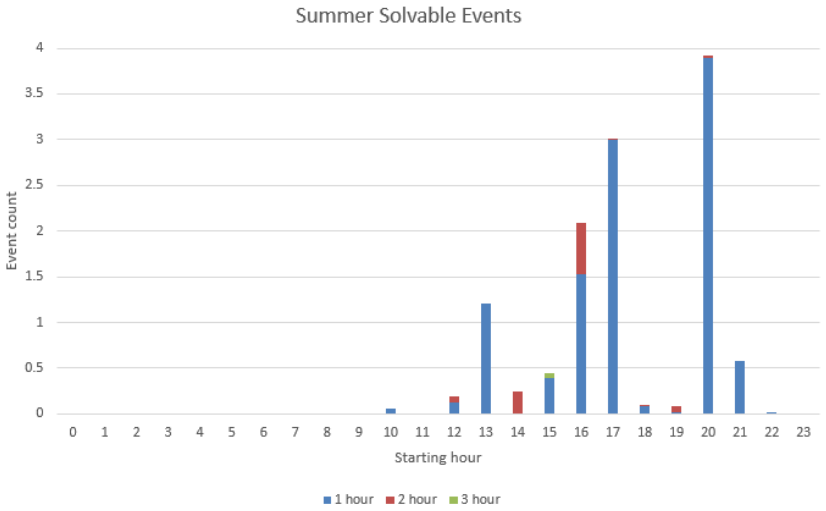
LOLE of the Perfect Unit and Denominator Deltas

Case	iCAF Set 1		FBC 25-26		Denominator delta (iCAF - FBC)
	LOLE	Denominator	LOLE	Denominator	
Reference	0.09991		0.10024		
Perfect ROS	0.09405	0.00586	0.09436	0.00588	-0.00002
Perfect GHI	0.09405	0.00586	0.0944	0.00584	0.00002
Perfect J	0.09176	0.00815	0.09251	0.00773	0.00042
Perfect K	0.08120	0.01871	0.08194	0.01830	0.00041

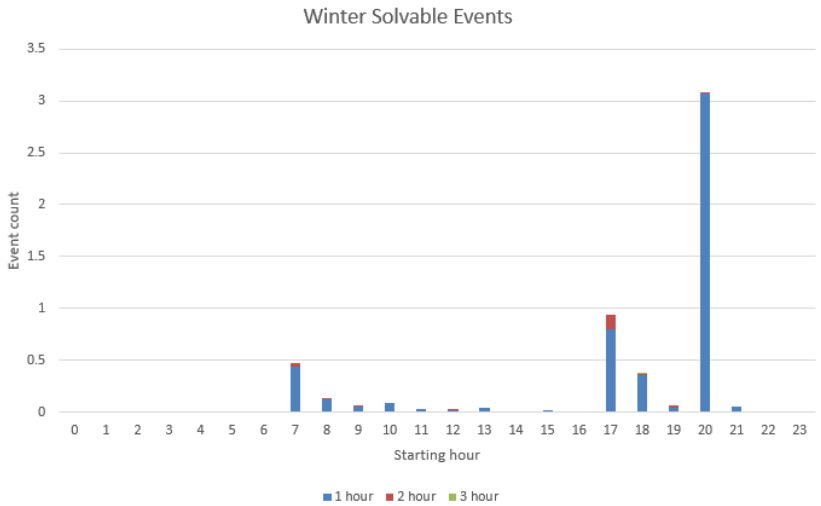
New York ISO

Weighted Solved Events by Perfect Unit in Zone J - Seasonally

- Summer



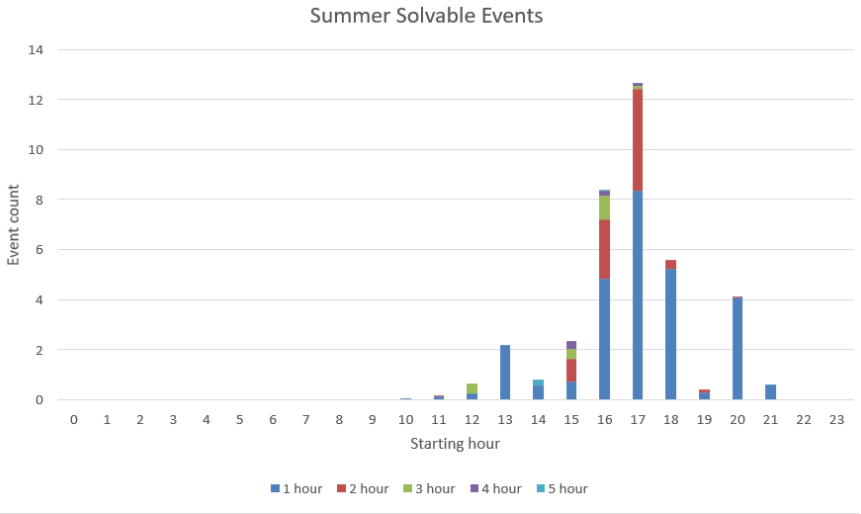
- Winter



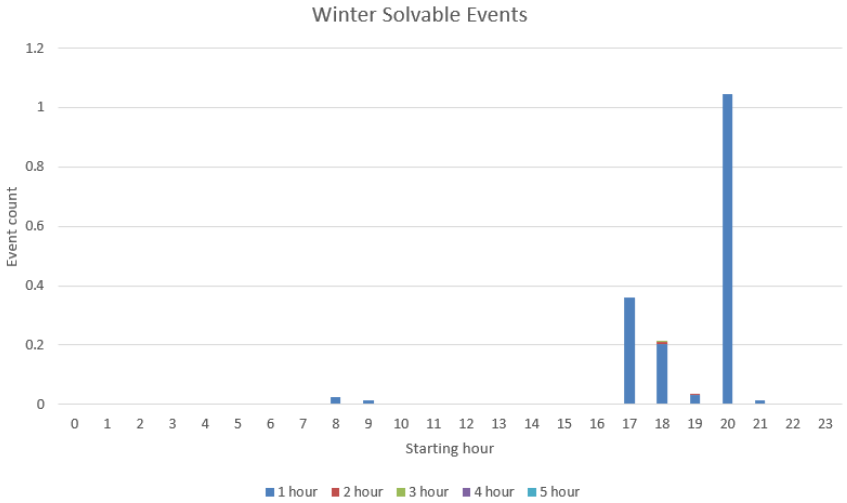
New York ISO

Weighted Solved Events by Perfect Unit in Zone K - Seasonally

- Summer



- Winter



New York ISO