

**\*\*Note:** Includes corrections to certain values in Table 1.

# 2027-2028 IRM PBC Tan45 Points and Curves

For information at the 08/05/2026 NYSRC ICS Meeting #319

## Executive Summary:

Overview of the final 2027-2028 IRM PBC Tan45 results and supporting reliability metrics. Included for ICS discussion.

## Contents:

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## Contents Guide:

| Section                                                      | Description                                                                                                                                                                                |
|--------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Tan45 Results (Tables 1-7)</b>                            | Provides the final Tan45 results, comparison to last year, regression outcomes, and regression formulas used in the development of the Load Zone J and K Tan45 curves.                     |
| <b>Tan45 Curve Visualizations (Fig. 1-4)</b>                 | Illustrates the final Load Zone J and Load Zone K Tan45 curves and supporting graphical outputs.                                                                                           |
| <b>Modeled Capacity and Margin Information (Tables 8, 9)</b> | Provides summer and winter modeled ICAP, ICAP requirements at criteria, peak load assumptions, and the resulting reserve margins for the NYCA, Load Zone J, Load Zone K, and G-J Locality. |
| <b>EOP Results (Tables 10, 11)</b>                           | Summarizes annual and monthly EOP activations for the 2027-2028 IRM PBC Tan45 case.                                                                                                        |

## Tan45 Results

**Table 1.**

| Tan45 Results Comparison          |                                               |                                        |        |
|-----------------------------------|-----------------------------------------------|----------------------------------------|--------|
|                                   | 2026-2027 IRM<br>FBC Special Sensitivity Case | 2027-2028 IRM<br>Preliminary Base Case | Delta  |
| IRM (%)                           | 25.6%                                         | 30.8%                                  | +5.2%  |
| URM (%) <sup>1</sup>              | 8.3%                                          | 10.3%                                  | +2.0%  |
| LOLH (hours/yr) <sup>2</sup>      | 0.365                                         | 0.355                                  | -0.010 |
| EUE (MWhr/yr)                     | 168.504                                       | 178.423                                | +9.919 |
| Summer Risk (%)                   | 85.2%                                         | 90.8%                                  | +5.6%  |
| Winter Risk (%)                   | 14.8%                                         | 9.2%                                   | -5.6%  |
| Normalized EUE<br>(Simple Method) | 1.101                                         | 1.151                                  | +0.050 |
| Normalized EUE<br>(Bin Method)    | 1.007                                         | 1.038                                  | +0.031 |

**Table 2.**

| 2027 - 2028 IRM PBC Tan45 |      |       |       |      |
|---------------------------|------|-------|-------|------|
|                           | IRM  | J LCR | K LCR | G-J  |
| IRM Tan45                 | 30.8 | 85.9  | 109.9 | 89.3 |

**Table 3.**

| Standard Error and Confidence Interval of LOLE <sup>3</sup> |                         |                |                         |
|-------------------------------------------------------------|-------------------------|----------------|-------------------------|
|                                                             | Relative Standard Error | Standard Error | 95% Confidence Interval |
| 2027-2028 IRM PBC<br>(Final Parametric Case)                | 0.039                   | 0.0039         | 0.1 ± 0.0076            |

<sup>1</sup> **Note:** Unforced reserve margin (URM) represents the reserve margin expressed in terms of Unforced Capacity (UCAP) rather than Installed Capacity (ICAP). The conversion from ICAP to UCAP is based on the applicable translation factors, which differ between the IRM study model and the capacity market. For IRM studies, translation factors are derived from the generator modeling assumptions used in MARS, including 5-year EFORd values for thermal resources and 5-year availability factors for intermittent resources.

<sup>2</sup> **Note:** The LOLH and EUE metrics reported here for information purposes only were requested by the NYS Reliability Council. The data used to calculate the LOLH and EUE were obtained from the GE MARS output. (See [EUE Calculation Methods](#))

<sup>3</sup> As per policy 5 Standard Error is reported on at the conclusion of the PBC study before the 2027-2028 IRM PBC Tan45 run.

Table 4.

| Low point and the 12 points on the Tan45 Curve |       |        |
|------------------------------------------------|-------|--------|
| IRM                                            | J LCR | K LCR  |
| 28.55                                          | 94.51 | 112.76 |
| 29.00                                          | 91.40 | 111.99 |
| 29.50                                          | 88.90 | 111.22 |
| 30.00                                          | 87.41 | 110.60 |
| 30.50                                          | 86.34 | 110.11 |
| 31.00                                          | 85.67 | 109.76 |
| 31.50                                          | 85.01 | 109.46 |
| 32.00                                          | 84.66 | 109.22 |
| 32.50                                          | 84.33 | 108.99 |
| 33.00                                          | 84.11 | 108.80 |
| 33.50                                          | 83.93 | 108.65 |
| 34.00                                          | 83.71 | 108.52 |
| 34.50                                          | 83.57 | 108.42 |

Table 5.

| J /K Individual Tan45 Regression Outcome |        |        |         |
|------------------------------------------|--------|--------|---------|
|                                          | IRM    | J LCR  | K LCR   |
| J - Tan45                                | 31.440 | 85.091 |         |
| K - Tan45                                | 30.207 |        | 110.380 |

Table 6.

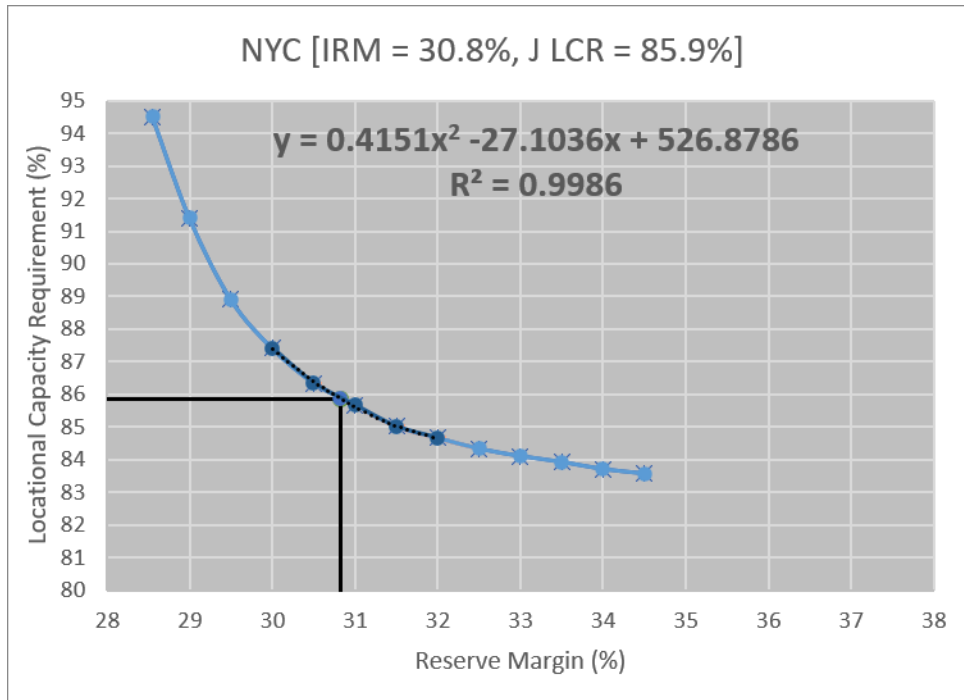
| J / K Regression Formula |        |         |         |         |
|--------------------------|--------|---------|---------|---------|
|                          | $ax^2$ | $bx$    | $c$     | LCR     |
| J LCR                    | 0.415  | -27.104 | 526.879 | 85.901  |
| K LCR                    | 0.275  | -17.622 | 391.638 | 109.884 |

Table 7.

| Sections on J and K Curves for the final Tan45 Results |            |                 |            |
|--------------------------------------------------------|------------|-----------------|------------|
| J Curve Section                                        |            | K Curve Section |            |
| First Point                                            | Last Point | First Point     | Last Point |
| 30.00                                                  | 32.00      | 29.50           | 31.00      |

## Tan45 Curve Visualizations

**Fig 1.** 2027-2028 IRM PBC Tan45 – Load Zone J Curve



**Fig 2.** 2027-2028 IRM PBC Tan45 – Load Zone K Curve

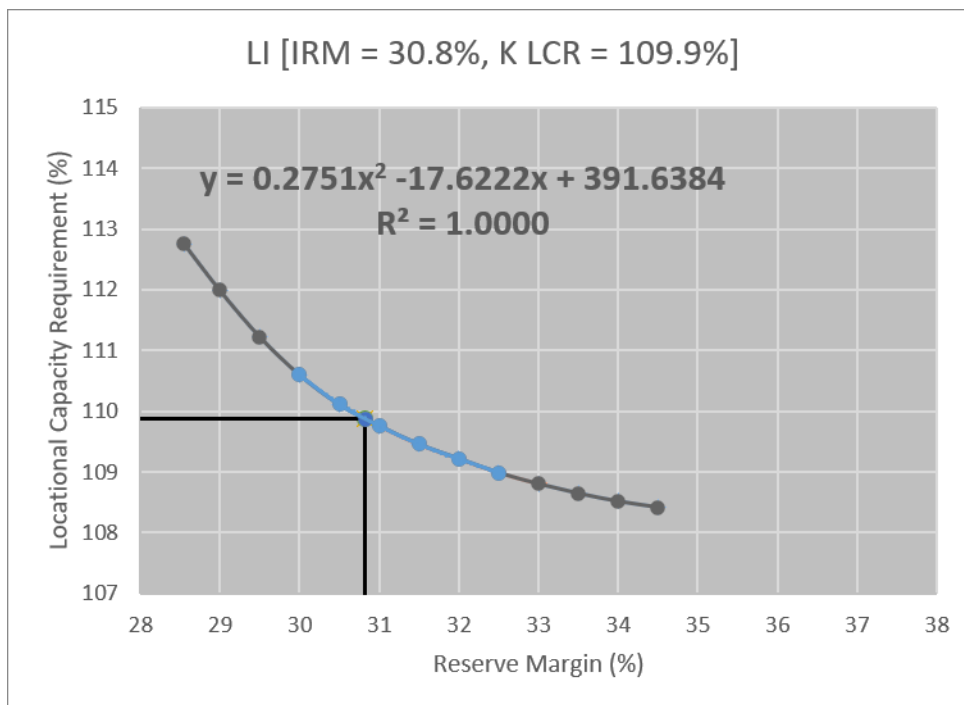


Fig 3.

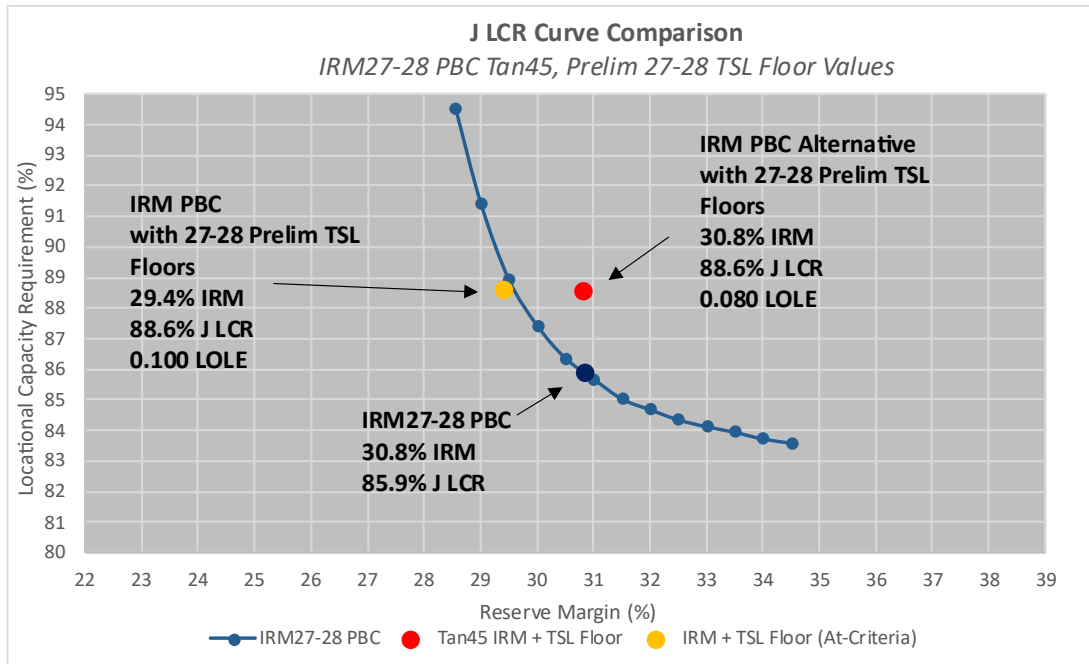
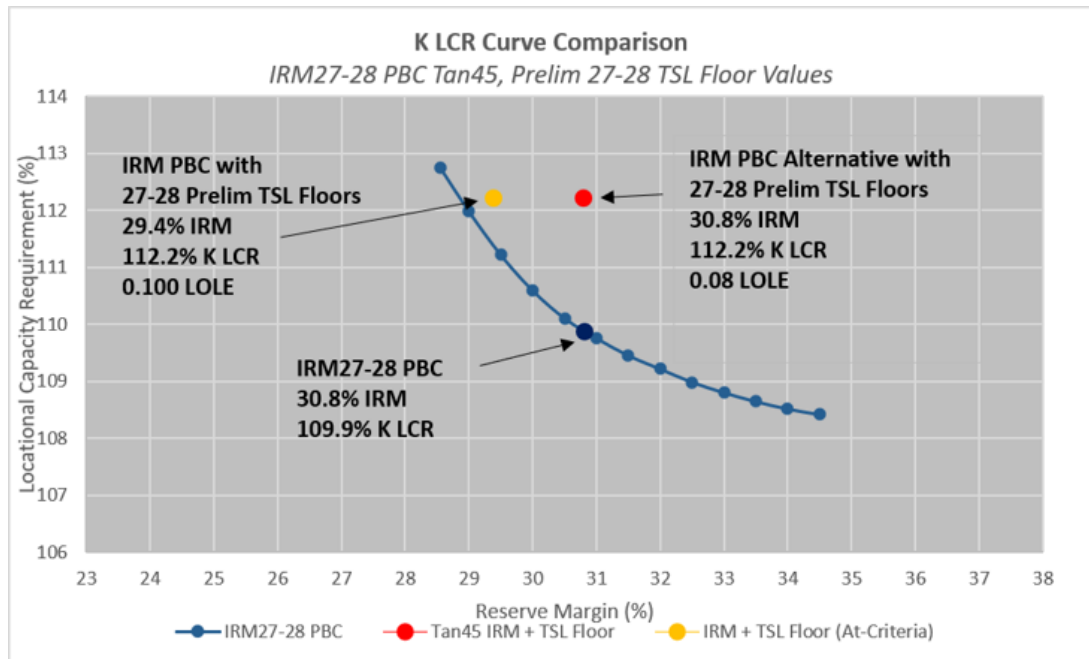


Fig 4.



## Modeled Capacity and Margin Information

**Table 8.**

| 2027-2028 IRM PBC Tan45 Modeled ICAP – Summer (July) |                 |                    |                                   |                             |            |
|------------------------------------------------------|-----------------|--------------------|-----------------------------------|-----------------------------|------------|
| Area                                                 | Total ICAP (MW) | ICAP Adjusted (MW) | ICAP Requirement at Criteria (MW) | Peak Load (MW) <sup>4</sup> | Margin (%) |
| NYCA                                                 | 42,687.2        | (799.3)            | 41,887.9                          | 32,024.4                    | 30.8%      |
| J                                                    | 10,507.4        | (961.5)            | 9,546.0                           | 11,117.4                    | 85.9%      |
| K                                                    | 5,836.4         | (149.6)            | 5,686.9                           | 5,176.1                     | 109.9%     |
| G-J                                                  | 14,772.4        | (961.5)            | 13,811.0                          | 15,460.4                    | 89.3%      |

**Table 9.**

| 2027-2028 IRM PBC Tan45 Modeled ICAP – Winter (January) |                 |                    |                                   |                             |            |
|---------------------------------------------------------|-----------------|--------------------|-----------------------------------|-----------------------------|------------|
| Area                                                    | Total ICAP (MW) | ICAP Adjusted (MW) | ICAP Requirement at Criteria (MW) | Peak Load (MW) <sup>5</sup> | Margin (%) |
| NYCA                                                    | 42,181.6        | (799.3)            | 41,382.3                          | 25,254.4                    | 63.9%      |
| J                                                       | 9,837.7         | (961.5)            | 8,876.3                           | 7,767.4                     | 114.3%     |
| K                                                       | 6,269.0         | (149.6)            | 6,119.4                           | 3,365.1                     | 181.8%     |
| G-J                                                     | 14,256.4        | (961.5)            | 13,294.9                          | 11,020.4                    | 120.6%     |

## Emergency Operating Procedure (EOP) Results

**Table 10.**

| Emergency Operating Procedures |                                        |                                                        |                                     |
|--------------------------------|----------------------------------------|--------------------------------------------------------|-------------------------------------|
| Step                           | EOP                                    | 2026-2027 IRM FBC Special Sensitivity Case (days/year) | 2027-2028 IRM PBC Tan45 (days/year) |
| 1                              | Require SCRs (Load and Generation)     | 6.2                                                    | 5.2                                 |
| 2                              | 5% manual voltage reduction            | 5.2                                                    | 4.5                                 |
| 3                              | 30-minute reserves to zero             | 5.1                                                    | 4.4                                 |
| 4                              | Voluntary load curtailment             | 3.1                                                    | 2.8                                 |
| 5                              | Public appeals                         | 2.7                                                    | 2.7                                 |
| 6                              | 5% remote controlled voltage reduction | 2.6                                                    | 2.6                                 |
| 7                              | Emergency purchases                    | 2.1                                                    | 2.0                                 |
| 8                              | 10-minute reserves to 450MW            | 0.2                                                    | 0.2                                 |
| 9                              | Customer disconnections                | 0.1                                                    | 0.1                                 |

<sup>4</sup> [2027-2028 IRM PBC Assumptions Matrix](#) (Item 1a)

<sup>5</sup> [2027-2028 IRM PBC Assumptions Matrix](#) (Item 1b)

Table 11.

| Emergency Operating Procedures Monthly Activations (2027-2028 IRM PBC Tan45) |      |      |      |      |      |      |      |      |      |
|------------------------------------------------------------------------------|------|------|------|------|------|------|------|------|------|
| Margin State (Days/Month)                                                    |      |      |      |      |      |      |      |      |      |
|                                                                              | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    |
| JAN                                                                          | 0.36 | 0.31 | 0.30 | 0.26 | 0.25 | 0.25 | 0.20 | 0.02 | 0.01 |
| FEB                                                                          | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| MAR                                                                          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| APR                                                                          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| MAY                                                                          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| JUN                                                                          | 0.06 | 0.06 | 0.05 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 |
| JUL                                                                          | 1.87 | 1.74 | 1.69 | 1.30 | 1.27 | 1.25 | 1.00 | 0.13 | 0.07 |
| AUG                                                                          | 1.85 | 1.57 | 1.53 | 0.78 | 0.71 | 0.66 | 0.49 | 0.03 | 0.02 |
| SEP                                                                          | 0.87 | 0.68 | 0.65 | 0.36 | 0.32 | 0.31 | 0.20 | 0.01 | 0.00 |
| OCT                                                                          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| NOV                                                                          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| DEC                                                                          | 0.15 | 0.14 | 0.13 | 0.11 | 0.11 | 0.11 | 0.09 | 0.01 | 0.00 |

| Key          |                                        |
|--------------|----------------------------------------|
| Margin State | EOP                                    |
| 1            | Require SCRs (Load and Generation)     |
| 2            | 5% manual voltage reduction            |
| 3            | 30-minute reserves to zero             |
| 4            | Voluntary load curtailment             |
| 5            | Public appeals                         |
| 6            | 5% remote controlled voltage reduction |
| 7            | Emergency purchases                    |
| 8            | 10-minute reserves to 450MW            |
| 9            | Customer disconnections                |