## Remaining Issues

## October 6, 2022

Together, Building<br>a Better California

## PG\&E Proposal on Exceedance for Solar and Wind

- PG\&E is revising our solar/wind exceedance proposal to use a seasonal approach:
- 70\% in summer months (June-Sept); 50\% in other months (Oct-May)
- Background:
- Conversations with parties since the $8 / 23$ workshop and has prompted a closer look at the monthly values under a $70 \%$ exceedance approach
- In non-summer months, both wind and solar receive less value relative to high-load day performance and current ELCC values
- Rationale for $50 \%$ in non-summer months:
- Loss of load events occur in the summer months; it's unclear going forward what the greatest reliability risk in other months: insufficient resources or lack of charging capacity
- If it is charging capacity, something close to an expected value seems like a reasonable starting point for assigning value
- The change also helps to reduce some of the disparities in non-summer months relative to high-load day performance and existing ELCC values
- These trends are observed in both wind and solar and therefore should be applied to both

Exceedance-Based Approach: Revised: NP15

Steps 1-3: Average NP15 wind generation on high-load days (2015-2020, capacity factor)


Steps 4-6: Exceedance production at 70\% level (Jun-Sep); 50\% level (Oct-May)


ELCC: Regional Wind ELCCs for Northern California per D.22-08-039

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 33\% | 35\% | 31\% | 33\% | 34\% | 25\% | 23\% | 21\% | 22\% | 18\% | 23\% | 29\% |

Compared to ELCC values, the proposed 70\% for summer, $\mathbf{5 0 \%}$ for other months results in higher values in some months and lower values in other months

## 4 <br> Exceedance-Based Approach: Revised: SP15

Steps 1-3: Average SP15 wind generation on high-load days (2015-2020, capacity factor)

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 Ave |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 15\% | 15\% | 14\% | 14\% | 15\% | 15\% | 15\% | 13\% | 13\% | 12\% | 12\% | 13\% | 14\% | 15\% | 16\% | 17\% | 17\% | 17\% | 16\% | 16\% | 16\% | 16\% | 17\% | 18\% |
| 19\% | 19\% | 19\% | 17\% | 16\% | 16\% | 15\% | 15\% | 15\% | 17\% | 19\% | 19\% | 21\% | 22\% | 22\% | 21\% | 19\% | 19\% | 18\% | 18\% | 17\% | 16\% | 16\% | 16\% |
| 18\% | 17\% | 16\% | 15\% | 13\% | 10\% | 10\% | 10\% | 10\% | 10\% | 11\% | 12\% | 11\% | 13\% | 15\% | 17\% | 17\% | 17\% | 17\% | 18\% | 19\% | 19\% | 18\% | 18\% |
| 28\% | 27\% | 26\% | 24\% | 21\% | 19\% | 16\% | 13\% | 11\% | 11\% | 10\% | 11\% | 12\% | 13\% | 16\% | 19\% | 22\% | 25\% | 28\% | 28\% | 29\% | 29\% | 29\% | 29\% |
| 40\% | 39\% | 37\% | 34\% | 30\% | 26\% | 22\% | 18\% | 13\% | 11\% | 9\% | 9\% | 10\% | 11\% | 14\% | 19\% | 25\% | 31\% | 33\% | 34\% | 36\% | 37\% | 37\% | 36\% |
| 31\% | 29\% | 27\% | 25\% | 22\% | 19\% | 16\% | 12\% | 9\% | 8\% | 7\% | 7\% | 9\% | 11\% | 15\% | 19\% | 24\% | 27\% | 30\% | 32\% | 35\% | 36\% | 35\% | 34\% |
| 34\% | 33\% | 31\% | 28\% | 25\% | 21\% | 17\% | 13\% | 9\% | 7\% | 6\% | 6\% | 8\% | 10\% | 14\% | 19\% | 25\% | 29\% | 33\% | 36\% | 36\% | 37\% | 38\% | 35\% |
| 31\% | 29\% | 27\% | 24\% | 21\% | 18\% | 14\% | 11\% | 8\% | 6\% | 6\% | 7\% | 8\% | 10\% | 13\% | 18\% | 22\% | 26\% | 29\% | 31\% | 33\% | 33\% | 32\% | 32\% |
| 14\% | 14\% | 13\% | 12\% | 10\% | 8\% | 7\% | 6\% | 5\% | 5\% | 5\% | 6\% | 8\% | 10\% | 11\% | 14\% | 16\% | 17\% | 19\% | 21\% | 22\% | 22\% | 21\% | 21\% |
| 7\% | 7\% | 7\% | 7\% | 6\% | 6\% | 5\% | 5\% | 4\% | 4\% | 5\% | 6\% | 7\% | 7\% | 8\% | 8\% | 9\% | 10\% | 10\% | 11\% | 11\% | 11\% | 12\% | 12\% |
| 9\% | 8\% | 7\% | 7\% | 6\% | 6\% | 5\% | 5\% | 5\% | 6\% | 6\% | 7\% | 9\% | 9\% | 9\% | 10\% | 10\% | 10\% | 10\% | 10\% | 10\% | 10\% | 10\% | 9\% |
| 16\% | 15\% | 15\% | 15\% | 14\% | 14\% | 13\% | 13\% | 14\% | 14\% | 15\% | 17\% | 17\% | 18\% | 18\% | 18\% | 17\% | 17\% | 16\% | 15\% | 16\% | 15\% | 15\% | 13\% |

Steps 4-6: Exceedance production at 70\% level (Jun-Sep); 50\% level (Oct-May)

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 Ave |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5\% | 6\% | 6\% | 6\% | 6\% | 6\% | 6\% | 6\% | 5\% | 5\% | 6\% | 6\% | 7\% | 7\% | 7\% | 7\% | 7\% | 7\% | 7\% | 7\% | 7\% | 6\% | 6\% | 6\% | 6\% |
| 10\% | 10\% | 10\% | 11\% | 10\% | 9\% | 10\% | 8\% | 7\% | 7\% | 9\% | 10\% | 11\% | 12\% | 13\% | 13\% | 14\% | 13\% | 14\% | 15\% | 15\% | 14\% | 13\% | 12\% | 11\% |
| 25\% | 23\% | 23\% | 21\% | 19\% | 18\% | 17\% | 14\% | 12\% | 13\% | 13\% | 13\% | 13\% | 16\% | 18\% | 24\% | 26\% | 25\% | 26\% | 27\% | 27\% | 26\% | 25\% | 26\% | 20\% |
| 37\% | 36\% | 37\% | 34\% | 32\% | 29\% | 27\% | 23\% | 20\% | 19\% | 18\% | 19\% | 20\% | 21\% | 28\% | 32\% | 36\% | 40\% | 40\% | 38\% | 39\% | 38\% | 37\% | 37\% | 31\% |
| 43\% | 41\% | 40\% | 39\% | 36\% | 31\% | 27\% | 23\% | 20\% | 18\% | 17\% | 16\% | 18\% | 21\% | 28\% | 32\% | 35\% | 40\% | 44\% | 43\% | 43\% | 43\% | 43\% | 44\% | 33\% |
| 37\% | 35\% | 32\% | 30\% | 26\% | 23\% | 20\% | 14\% | 10\% | 6\% | 6\% | 6\% | 7\% | 9\% | 12\% | 18\% | 25\% | 30\% | 34\% | 37\% | 38\% | 37\% | 37\% | 37\% | 24\% |
| 31\% | 30\% | 28\% | 24\% | 20\% | 17\% | 13\% | 9\% | 6\% | 4\% | 4\% | 4\% | 5\% | 7\% | 10\% | 15\% | 21\% | 26\% | 30\% | 32\% | 33\% | 34\% | 34\% | 32\% | 20\% |
| 28\% | 26\% | 24\% | 21\% | 17\% | 14\% | 12\% | 8\% | 5\% | 3\% | 3\% | 3\% | 5\% | 7\% | 9\% | 13\% | 17\% | 21\% | 25\% | 28\% | 30\% | 32\% | 30\% | 29\% | 17\% |
| 12\% | 10\% | 9\% | 7\% | 7\% | 5\% | 4\% | 4\% | 3\% | 3\% | 3\% | 4\% | 5\% | 6\% | 6\% | 6\% | 7\% | 10\% | 14\% | 16\% | 15\% | 16\% | 15\% | 13\% | 8\% |
| 13\% | 13\% | 13\% | 12\% | 11\% | 10\% | 9\% | 7\% | 6\% | 6\% | 6\% | 7\% | 7\% | 7\% | 8\% | 9\% | 11\% | 14\% | 13\% | 16\% | 17\% | 16\% | 14\% | 12\% | 11\% |
| 6\% | 6\% | 6\% | 6\% | 5\% | 5\% | 4\% | 4\% | 4\% | 5\% | 5\% | 6\% | 7\% | 6\% | 6\% | 6\% | 6\% | 7\% | 7\% | 7\% | 7\% | 6\% | 6\% | 6\% | 6\% |
| 7\% | 8\% | 7\% | 7\% | 7\% | 7\% | 7\% | 7\% | 7\% | 7\% | 8\% | 8\% | 8\% | 9\% | 9\% | 9\% | 9\% | 9\% | 8\% | 8\% | 8\% | 8\% | 9\% | 8\% | 8\% |

ELCC: Regional Wind ELCCs for Southern California per D.22-08-039

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| $18 \%$ | $19 \%$ | $17 \%$ | $16 \%$ | $17 \%$ | $15 \%$ | $14 \%$ | $11 \%$ | $11 \%$ | $10 \%$ | $14 \%$ | $17 \%$ |

Compared to ELCC values, the proposed 70\% for summer, $\mathbf{5 0 \%}$ for other months results in higher values in some months and lower values in other months

Exceedance-Based Approach: Revised: Solar

## Steps 1-3: Average solar generation on high-load days (2015-2020, capacity factor)

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 7\% | 30\% | 45\% | 51\% | 51\% | 51\% | 48\% | 42\% | 29\% | 7\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 16\% | 45\% | 60\% | 66\% | 66\% | 66\% | 65\% | 60\% | 48\% | 21\% | 2\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 2\% | 21\% | 50\% | 67\% | 74\% | 76\% | 76\% | 74\% | 71\% | 64\% | 45\% | 20\% | 4\% | 0\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 4\% | 31\% | 64\% | 79\% | 87\% | 89\% | 90\% | 90\% | 88\% | 83\% | 73\% | 54\% | 21\% | 2\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 10\% | 42\% | 68\% | 81\% | 87\% | 87\% | 91\% | 90\% | 88\% | 84\% | 76\% | 60\% | 30\% | 4\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 12\% | 42\% | 65\% | 77\% | 84\% | 86\% | 87\% | 85\% | 84\% | 79\% | 71\% | 58\% | 34\% | 8\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 6\% | 31\% | 56\% | 69\% | 77\% | 80\% | 80\% | 79\% | 77\% | 70\% | 63\% | 51\% | 28\% | 6\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 2\% | 23\% | 52\% | 68\% | 73\% | 80\% | 80\% | 79\% | 76\% | 69\% | 61\% | 46\% | 19\% | 2\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 1\% | 17\% | 48\% | 66\% | 74\% | 77\% | 77\% | 76\% | 72\% | 65\% | 55\% | 34\% | 8\% | 0\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 9\% | 40\% | 62\% | 70\% | 72\% | 72\% | 72\% | 70\% | 64\% | 48\% | 16\% | 1\% | 0\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 2\% | 22\% | 49\% | 61\% | 63\% | 63\% | 64\% | 62\% | 53\% | 33\% | 6\% | 1\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 9\% | 33\% | 47\% | 51\% | 52\% | 52\% | 49\% | 42\% | 23\% | 2\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% |

Steps 4-6: Exceedance production at 70\% level (Jun-Sep); 50\% level (Oct-May)


ELCC: Solar ELCCs for Southern California per D.22-06-050

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| ---: | ---: | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $0.4 \%$ | $3.0 \%$ | $3.5 \%$ | $4.4 \%$ | $6.4 \%$ | $13.1 \%$ | $14.4 \%$ | $12.4 \%$ | $11.1 \%$ | $7.4 \%$ | $5.7 \%$ | $3.5 \%$ |

Compared to high-load day profile, the proposed $70 \%$ for summer, $\mathbf{5 0 \%}$ for other months results in slightly lower, but still fairly close values across most months and hours

## PG\&E Summary Proposal: Solar and Wind

## Given data and analysis presented to date:

- Exceedance-based approach: Selected based on analysis of solar and wind performance on "high-load days" in summer months
- Alternative methods have small datasets
- Alternative methods haven't demonstrated that high-load days in non-summer months presents greatest reliability risk in those months
- Exceedance level: 70\% across all hours Jun-Sep; 50\% across all hours Oct-May
- High enough to eliminate much of the discrepancy between the exceedance level and high-load days profile
- Conservative enough to address concerns with performance within months and hours
- Calibration could still be performed as part of PRM-setting process
- Data: Five years of CAISO production data, adjusted for economic curtailments
- Modeled data from IRP has profiles that are fairly different from CAISO data
- Aggregation level: Technology type and geography (e.g. fixed v. tracking and NP15 / SP 15)
- Data is available to do this level of aggregation
- Presents a compromise betweenpmpre general categories and resource-specific

APPENDIX

## Exceedance-Based Approach: Background

## Review solar and wind performance under stressed grid conditions

- PG\&E's approach looks at the top 5 load days each month (30 datapoints for each hour in each month over a 6-year dataset)


## Process

1. Identify the top 5 highest load days in each month during the historical period
2. Review solar and wind performance during those days (across all hours) and convert to capacity factors using installed capacity at the time
3. Average data across all years to arrive at a high-load day profile
4. Set up exceedance profiles that can be easily adjusted or optimized
5. Compare the high-load day performance to the exceedance production at each level
6. Select the exceedance level that best matches the high-load day profile

## 4 <br> Exceedance-Based Approach: Example Steps

Steps 1-3: Average solar generation on high-load days (2015-2020, capacity factor)

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 7\% | 30\% | 45\% | 51\% | 51\% | 51\% | 48\% | 42\% | 29\% | 7\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 16\% | 45\% | 60\% | 66\% | 66\% | 66\% | 65\% | 60\% | 48\% | 21\% | 2\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 2\% | 21\% | 50\% | 67\% | 74\% | 76\% | 76\% | 74\% | 71\% | 64\% | 45\% | 20\% | 4\% | 0\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 4\% | 31\% | 64\% | 79\% | 87\% | 89\% | 90\% | 90\% | 88\% | 83\% | 73\% | 54\% | 21\% | 2\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 10\% | 42\% | 68\% | 81\% | 87\% | 87\% | 91\% | 90\% | 88\% | 84\% | 76\% | 60\% | 30\% | 4\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 12\% | 42\% | 65\% | 77\% | 84\% | 86\% | 87\% | 85\% | 84\% | 79\% | 71\% | 58\% | 34\% | 8\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 6\% | 31\% | 56\% | 69\% | 77\% | 80\% | 80\% | 79\% | 77\% | 70\% | 63\% | 51\% | 28\% | 6\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 2\% | 23\% | 52\% | 68\% | 73\% | 80\% | 80\% | 79\% | 76\% | 69\% | 61\% | 46\% | 19\% | 2\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 1\% | 17\% | 48\% | 66\% | 74\% | 77\% | 77\% | 76\% | 72\% | 65\% | 55\% | 34\% | 8\% | 0\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 9\% | 40\% | 62\% | 70\% | 72\% | 72\% | 72\% | 70\% | 64\% | 48\% | 16\% | 1\% | 0\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 2\% | 22\% | 49\% | 61\% | 63\% | 63\% | 64\% | 62\% | 53\% | 33\% | 6\% | 1\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 9\% | 33\% | 47\% | 51\% | 52\% | 52\% | 49\% | 42\% | 23\% | 2\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% |

Step 4: Exceedance production at 50\% level (2015-2020, capacity factor)

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 8\% | 32\% | 48\% | 53\% | 56\% | 56\% | 55\% | 48\% | 32\% | 7\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 18\% | 51\% | 67\% | 71\% | 71\% | 70\% | 71\% | 66\% | 53\% | 25\% | 2\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 11\% | 44\% | 66\% | 73\% | 76\% | 75\% | 74\% | 71\% | 65\% | 49\% | 32\% | 7\% | 0\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 2\% | 24\% | 55\% | 73\% | 79\% | 81\% | 82\% | 81\% | 80\% | 76\% | 68\% | 50\% | 17\% | 1\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 9\% | 39\% | 64\% | 77\% | 84\% | 85\% | 86\% | 85\% | 83\% | 79\% | 71\% | 57\% | 28\% | 4\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 13\% | 44\% | 68\% | 80\% | 86\% | 89\% | 90\% | 89\% | 87\% | 83\% | 76\% | 63\% | 37\% | 9\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 7\% | 34\% | 60\% | 75\% | 81\% | 86\% | 86\% | 85\% | 84\% | 80\% | 73\% | 60\% | 35\% | 7\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 2\% | 26\% | 56\% | 72\% | 81\% | 85\% | 85\% | 85\% | 83\% | 78\% | 69\% | 52\% | 22\% | 2\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 17\% | 52\% | 71\% | 78\% | 81\% | 81\% | 81\% | 79\% | 74\% | 64\% | 38\% | 7\% | 0\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 8\% | 40\% | 63\% | 71\% | 74\% | 74\% | 74\% | 73\% | 67\% | 50\% | 15\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 1\% | 21\% | 49\% | 61\% | 65\% | 65\% | 64\% | 63\% | 56\% | 31\% | 4\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 9\% | 33\% | 48\% | 53\% | 53\% | 53\% | 51\% | 44\% | 24\% | 2\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% |

## Step 5: Difference between the exceedance and high-load day production

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 1\% | 2\% | 3\% | 2\% | 5\% | 5\% | 7\% | 6\% | 4\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 2\% | 7\% | 7\% | 5\% | 4\% | 4\% | 6\% | 6\% | 5\% | 4\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | -2\% | -9\% | -7\% | -1\% | -1\% | 0\% | -1\% | -1\% | 0\% | 1\% | 5\% | 12\% | 2\% | 0\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | -2\% | -7\% | -9\% | -6\% | -8\% | -9\% | -8\% | -8\% | -8\% | -7\% | -6\% | -5\% | -4\% | -1\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | -1\% | -3\% | -4\% | -4\% | -3\% | -1\% | -5\% | -5\% | -5\% | -5\% | -5\% | -3\% | -2\% | -1\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 1\% | 2\% | 2\% | 3\% | 2\% | 2\% | 3\% | 4\% | 3\% | 4\% | 5\% | 5\% | 3\% | 0\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 1\% | 3\% | 5\% | 5\% | 5\% | 6\% | 5\% | 6\% | 7\% | 10\% | 10\% | 9\% | 6\% | 2\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 3\% | 5\% | 4\% | 8\% | 5\% | 5\% | 6\% | 7\% | 9\% | 8\% | 6\% | 3\% | 0\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 3\% | 4\% | 4\% | 4\% | 4\% | 6\% | 8\% | 9\% | 9\% | 3\% | -1\% | 0\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | -1\% | 0\% | 1\% | 1\% | 2\% | 2\% | 2\% | 2\% | 3\% | 2\% | -2\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | -1\% | -2\% | 0\% | 1\% | 2\% | 2\% | 0\% | 2\% | 3\% | -2\% | -2\% | -1\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% |
| 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 2\% | 2\% | 1\% | 1\% | 1\% | 1\% | 1\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% |

- Negative values (green) indicates that less solar is counted in that exceedance level than expected from the high-load day analysis
- Positive values (red) indicates that more solar is counted in that exceedance level than expected from the high-load day analysis Public

