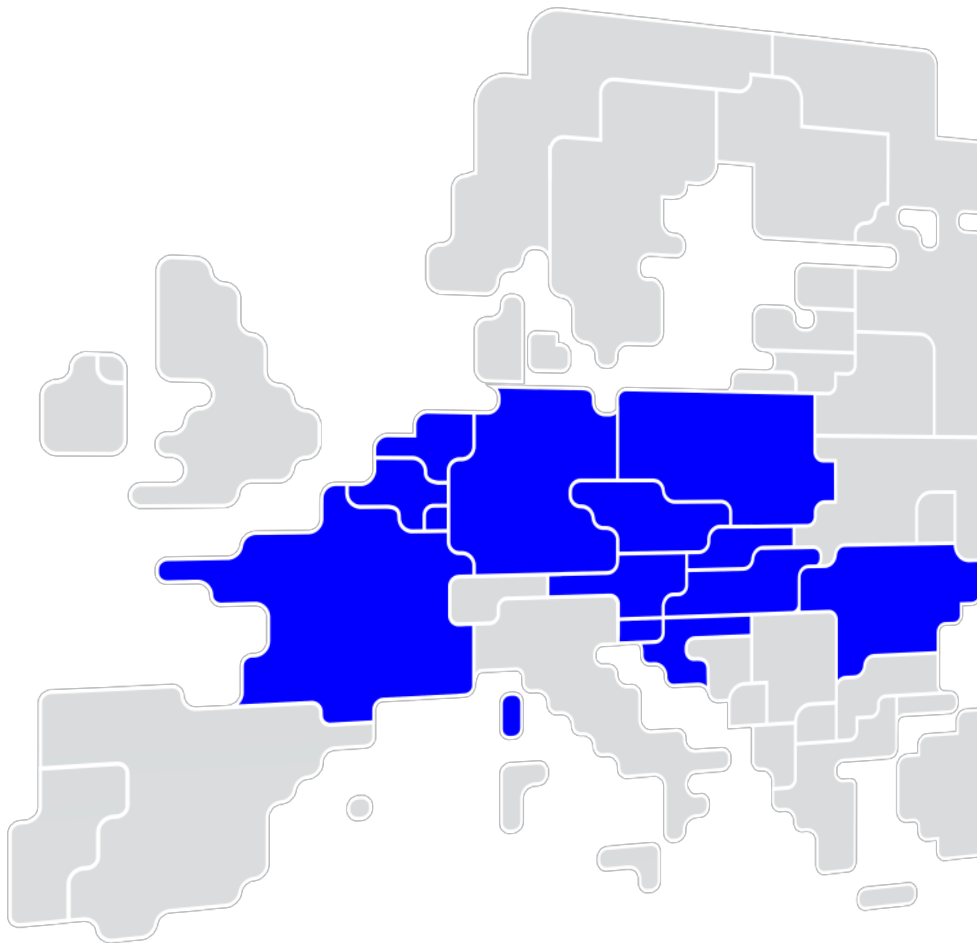
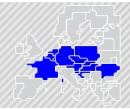


## CORE



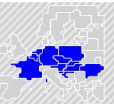
# Accompanying Document for the Results of Half-yearly SPAICC 2024 run





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## 1. INTRODUCTION

SPAICC, or the Standard Process for Assessing Impact of Changes in Capacity Calculation, is a structured methodology designed to evaluate the effects of grid evolution on the capacity calculation process. The approach for the Core Day-ahead SPAICC builds upon the methodology initially developed in the CWE region, as both share similar objectives.

In the pre-CEP70 CWE era, it was generally assumed that grid changes had minimal impact. However, this assumption no longer holds in the Core region, where evolving grid conditions significantly influence capacity calculation. Consequently, the SPAICC methodology for Core must account for the impact of grid evolution on various factors, including initial Remedial Action (RA) settings, Non-costly Remedial Action Optimization (NRAO), minRAM reductions, and both individual and (in the future) coordinated validation.

To systematically assess these changes, Core TSOs and market parties have agreed on a half-yearly SPAICC process. This process involves reviewing the full grid situation every six months and comparing it with the previous assessment. For example, by the end of June 2024, SPAICC would evaluate the grid situation up to December 31, 2024. Similarly, by the end of December 2024, it would assess the grid situation up to June 30, 2025, and so forth. This recurring assessment ensures that the methodology remains aligned with evolving grid conditions.

In addition to the half-yearly cycle, ad-hoc SPAICCs may be conducted when specific circumstances require additional analysis. While these follow the same fundamental approach, it is crucial to evaluate possible simplifications and necessary process adjustments. For instance, if only the vertex selection approach within the CCCt is modified without changes to the grid situation, it may not be necessary to include the initial RA settings step, but individual validation would remain essential.

Furthermore, SPAICC could also be used to assess the impact of long-duration outages, particularly those lasting more than three months. Additional details on this topic are provided in Section 3.2.

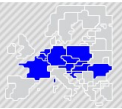
The primary output of the half-yearly SPAICC process is the final FB domain results. Standard results, including "Final Computation" and "Max Net Positions," will, be published on the "[SPAICC]" page of the JAO PuTo.

The high-level methodology for the half-yearly SPAICC is explained in Section 3. The results of the first half-yearly SPAICC run for 2024 are presented in Section 4. Finally, Section 5 includes an explanation of the data provided in this document.

## 2. HIGH-LEVEL METHODOLOGY

The high-level SPAICC methodology for Core is based on the light-SPAICC methodology from CWE, but, as outlined in Section 2, it has been adapted to account for the specificities of Core while balancing effort and the relevance of results.

Where possible, the methodology builds upon the daily Core FB DACC process, as illustrated in Figure 1. Consequently, it retains the roles and responsibilities from the daily process unless explicitly stated otherwise.



The key differences in the SPAICC methodology include:

- Reference day selection
- Application of grid evolution to selected reference days
- CGM merging

These steps are further explained in the following sections.

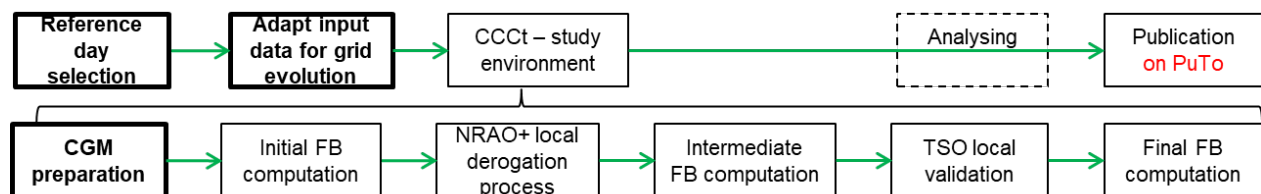


Figure 1 High-level half-yearly SPAICC

## 2.1. The reference day selection

The reference day selection process aims to identify the most relevant past days for executing the half-yearly SPAICC. The selection is based on 7 business days (BDs), chosen according to the following criteria<sup>1</sup>:

- **Day 1:** Sunday in the available period with the lowest wind infeed in Core
- **Day 2:** Workday in the available period with the highest wind infeed in Core & high load in FR
- **Day 3:** Any Workday in the available period with average wind
- **Day 4:** Any Workday in the available period with highest PV
- **Day 5:** Highest exchanges in Core
- **Day 6:** Based on Day 3: extra variant containing long duration outages in the first ½ of the period of interest
- **Day 7:** Based on Day 3: extra variant containing long duration outages in the last ½ of the period of interest

Note: for the wind infeed, German wind infeed was considered as a proxy for Core.

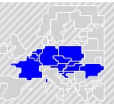
A Power BI dashboard has been developed to facilitate the selection of the first five reference days. For each business day within the reference period, a sorting process is applied to determine the most suitable day. The top-ranked day is selected as a reference day. However, if the same day is ranked highest for multiple reference days, the second-ranked day is chosen instead.

## 2.2. Adapt input data for grid evolution

To illustrate the practical steps involved in adapting input data for the grid evolution phase of the SPAICC process, we will consider the first half-yearly (HY) SPAICC run of 2024, which assesses grid evolution for January–June 2025 (as shown in Figure 2).

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<sup>1</sup> The reference selection day criteria was approved by FBE PTs on 7<sup>th</sup> March 2024 and MPs in Core CG on 12<sup>th</sup> March 2024.



1. **The first HY SPAICC 2024 dates:**
  - The *reference day selection period* corresponds to the first or second half of the HY SPAICC.
  - For the first HY SPAICC 2024, the *target grid state date* is June 30, 2025. Each TSO will identify necessary configuration changes to achieve the *target grid model* for the *target grid state date*.
  - The *target outage period* of six months refers to the first half of 2025.
  - LTCC Q3 is considered the future grid model for this assessment.
2. **Identify all required future changes:** Each TSO determines necessary grid modifications to reflect future network conditions. For example:
  - TSO X must add two new lines, A and B, as part of the future grid model.
  - These additions will apply consistently across all seven reference business days (BDs).
3. **Preparing a full grid model:** If we consider BD1 to be 14 March 2024, the first step will be to cancel all outages (relevant to DACC) in the CGM of 14 March 2024.
4. **Final adaptation:**
  - Once the full grid model is prepared, lines A and B are added.
  - All topology changes are implemented in the CGM using the SPAICC script.
  - Steps 3 and 4 are repeated for all seven BDs
5. **Long-duration outage:** For BD6 and BD7, specific long outages are included based on the CGM of BD3:
  - If an outage lasts for more than half of the period between January 2025 and the end of March 2025, it is included in BD6.
  - If an outage lasts for more than half of the period between April 2025 and the end of June 2025, it is included in BD7.
  - Additional Considerations:
    - Outages occurring exclusively on weekends, even if long in duration, should not be classified as long-term outages.
    - Outages lasting more than 45 weekdays between January 1 and March 31 will be classified as DAY6.
    - Outages lasting more than 45 weekdays between April 1 and June 30 will be classified as DAY7.
    - If a TSO does not anticipate any long-duration outages, the same changes applied for DAY 3 will also be considered for DAY 6 and DAY 7.
6. **Other input files:** Beyond CGMs, each TSO could individually update additional historic input files, including: CBCORA, Contingency Dictionary (COD) and GLSK. These updates ensure consistency with the future full grid model.

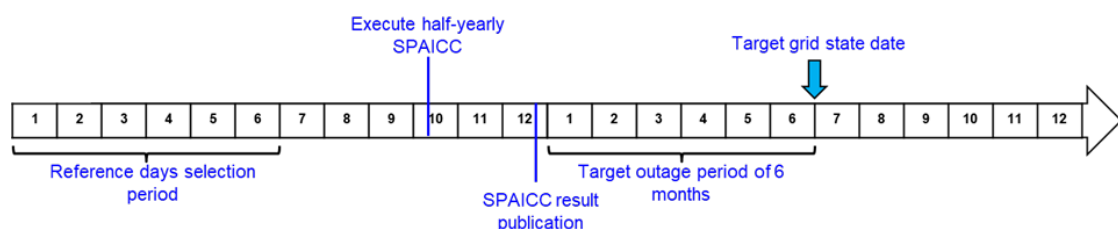
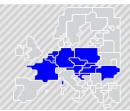


Figure 2 Targeted timeline for half-yearly SPAICC execute

### 2.3. CGM preparation:

Each TSO will individually make the change to adapt the historic CGMs so that they represent the future full grid situation in their control area. Afterward, Coreso will use the SPAICC script to create the final



CGM based on all adaptations made by TSOs. Although the normal merging steps were not followed, all data quality checks were performed as in production.

#### 2.4. Assumptions for half-yearly SPAICC:

- The half-yearly SPAICC targeting the first half of the following year is scheduled to be executed from mid-October. This timing aligns with the annual outage planning that typically occurs around October each year.
- The Net Position Forecast (NPF) for the reference days is assumed to be (despite the grid evolutions) the same as the ones historically used, as the objective of the half-yearly SPAICC is to assess the impact of future grid evolutions.

### 3. FIRST HALF-YEARLY SPAICC RUN 2024 RESULTS

In the following paragraph, Core TSOs present their results of the first Core HY SPAICC. Any results provided on the following pages focus on the differences in minimum and maximum Net Positions (NP) for Core hubs.

There are some disclaimers to the results of this SPAICC run. Most importantly:

- RTE and SPES have not nominated grid changes for all 7BDs, CEPS skipped BD1-5. ELES performed BD1 and BD4.
- Long-duration outages were taken into account by CEPS, Elia, PSE, Transnet BW, MAVIR, and HOPS. For reference, the grid evolution of BD3 was considered for BD6 and BD7 for Transelectrica, TenneT NL, TenneT GmbH, APG, Amprion, and 50Hertz, as they did not have long-duration outages.
- As explained in Section 2, individual validating step during HY SPAICC is performed by all Core TSOs same as the operational DACC. The full IVA information is provided in the appendix.
- Some selected days turned out to have fallbacks for individual tooling in production. For the SPAICC these days were run with working tooling. This makes the comparison not really correct. For the next SPAICC run, we will be sure to not select a reference day with IVA fallback. This is added to our SPAICC approach as a new criteria for the reference day selection. A summary of IVA fallback can be found as following:
  - During the historical DACC:
    - BD2 2024-01-22: Elia
    - BD3 2024-03-14: RTE
    - BD4 2024-06-06: SEPS & PSE
  - During HY SPAICC:
    - BD6 2024-03-14: Elia

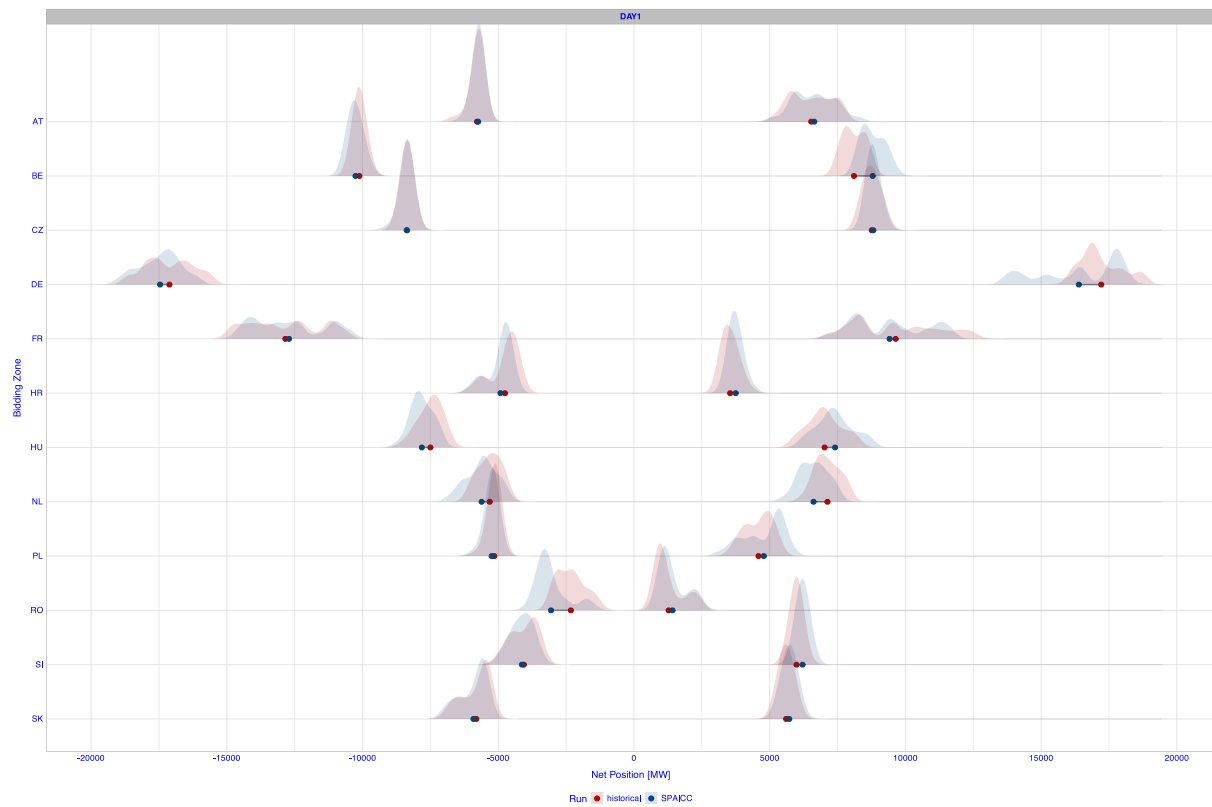
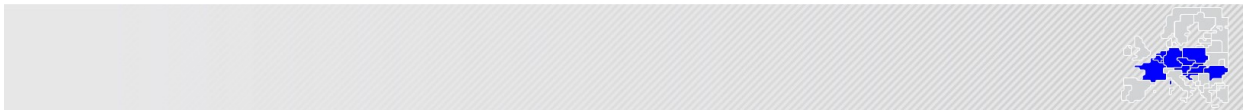


Figure 3: Comparison of MIN & MAX NP of Core BZs with historical data and HY SPAICC run for reference day BD1-20240623

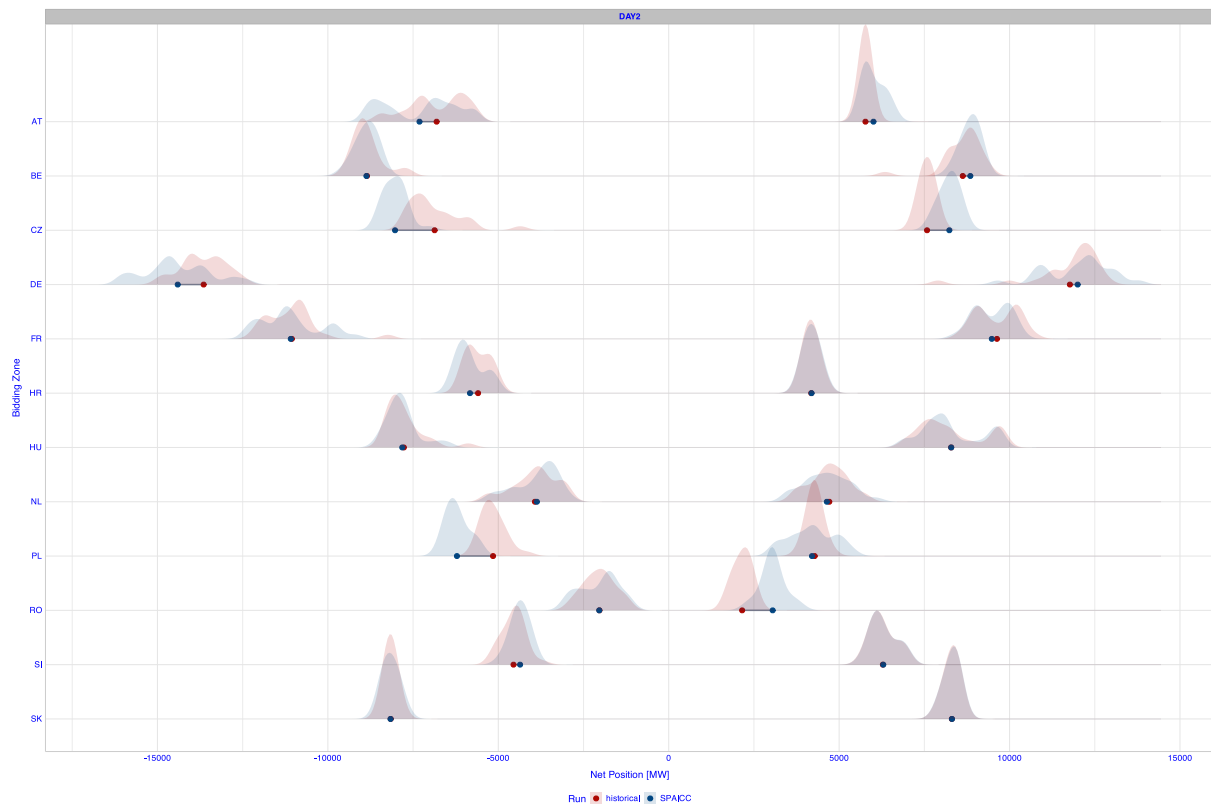
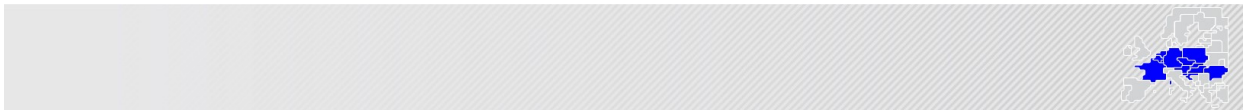


Figure 4: Comparison of MIN & MAX NP of Core BZs with historical data and HY SPAICC run for reference day BD2-20240122

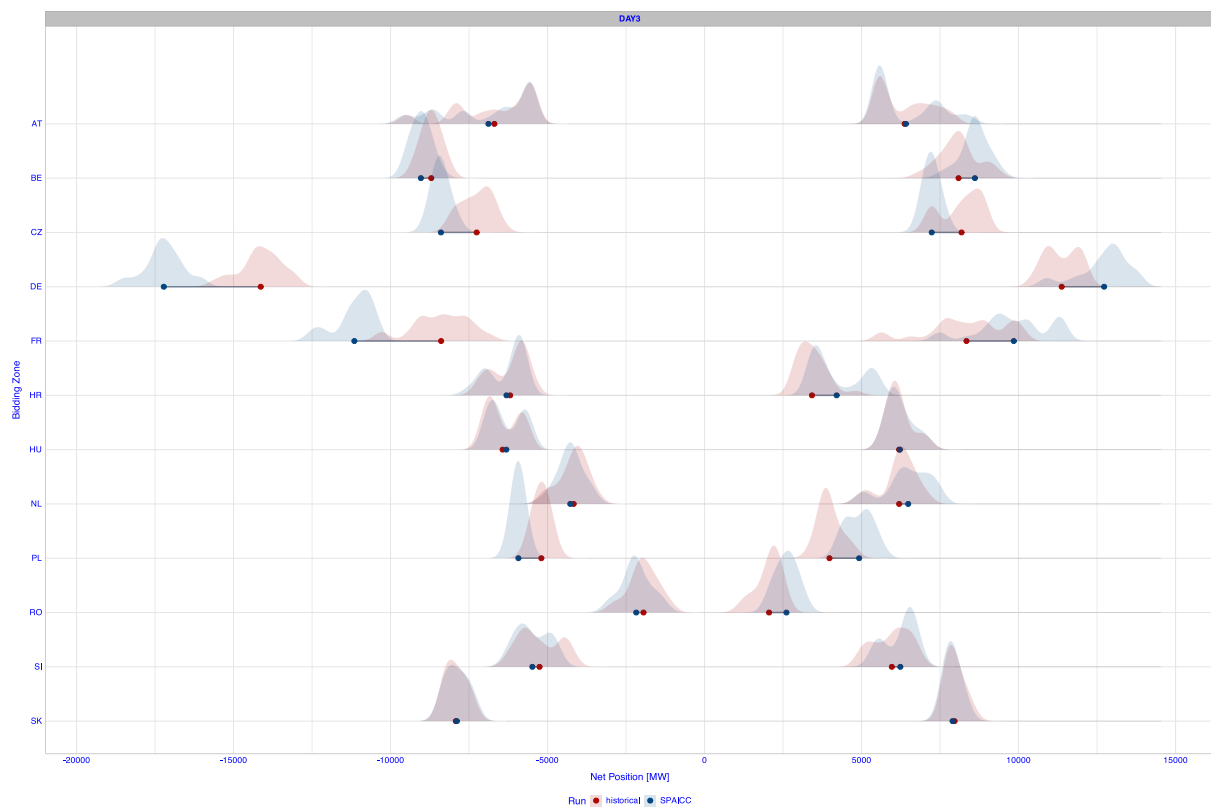


Figure 5: Comparison of MIN & MAX NP of Core BZs with historical data and HY SPAICC run for reference day BD3-20240314



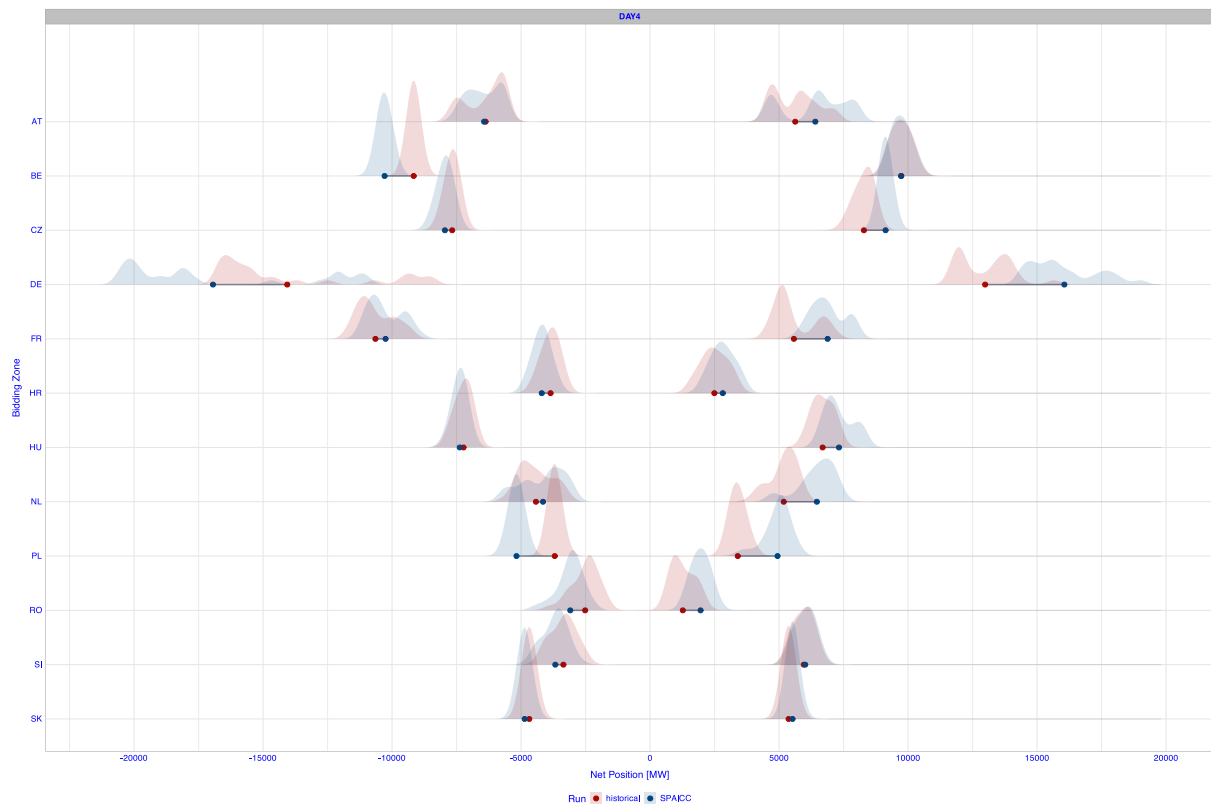
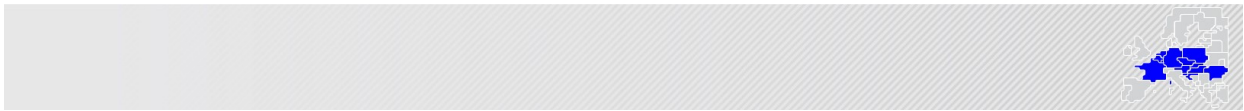


Figure 6: Comparison of MIN & MAX NP of Core BZs with historical data and HY SPAICC run for reference day BD4-20240606

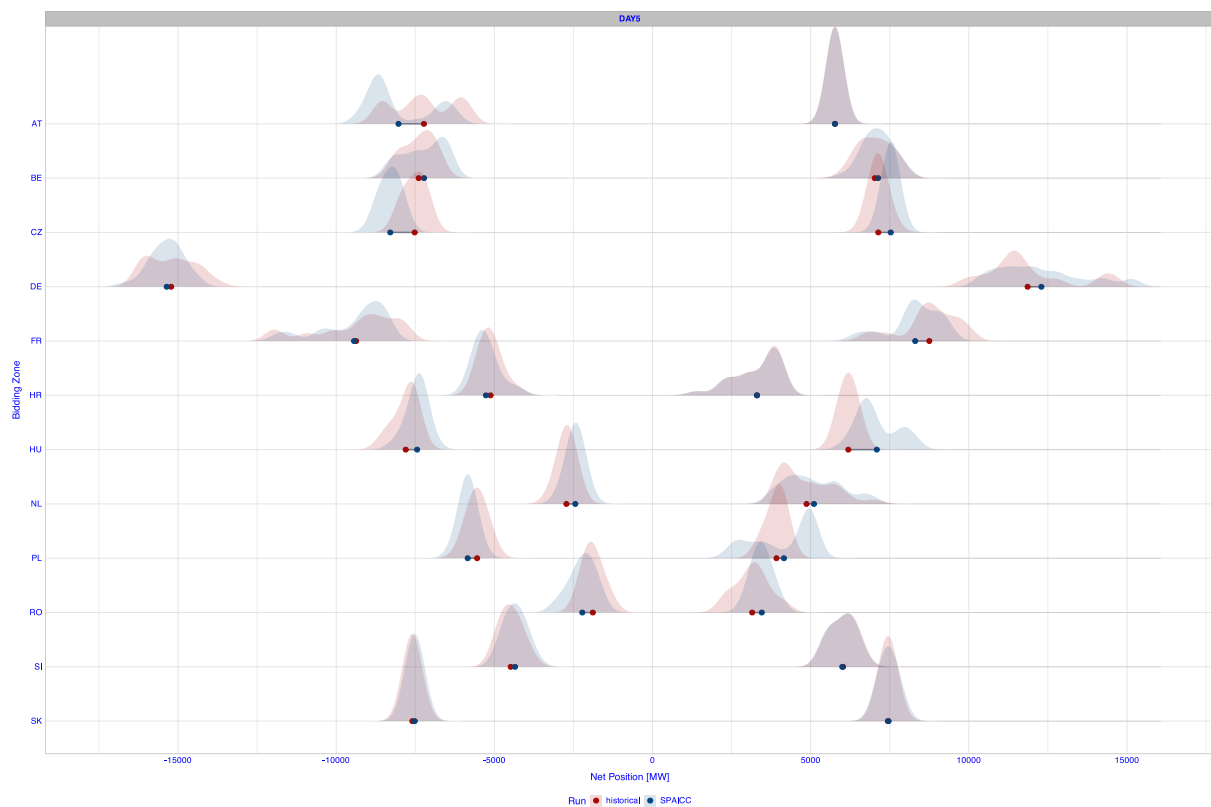


Figure 7: Comparison of MIN & MAX NP of Core BZs with historical data and HY SPAICC run for reference day BD5-20240222

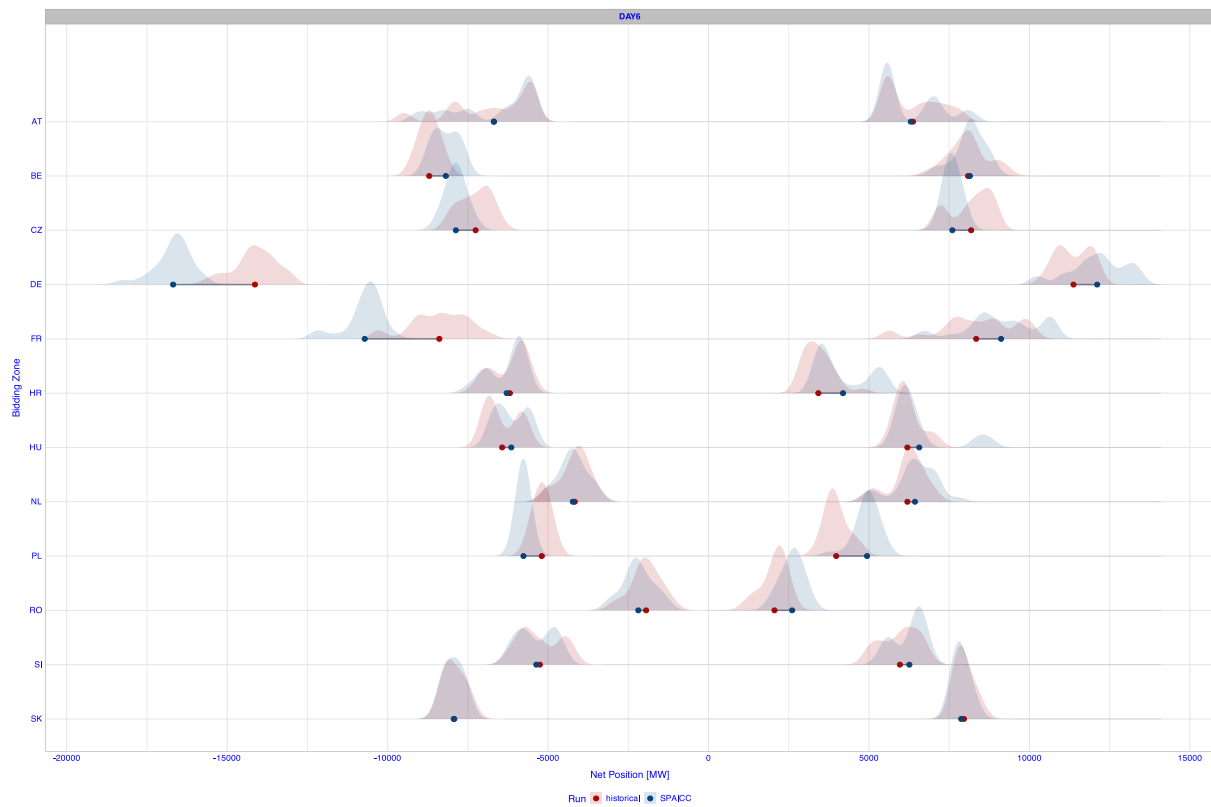
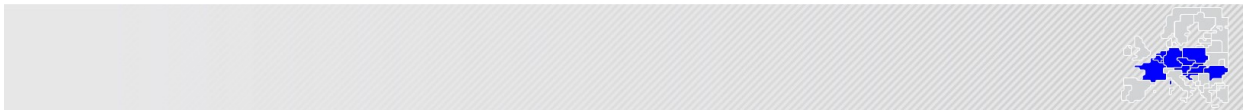


Figure 8: Comparison of MIN & MAX NP of Core BZs with historical data and HY SPAICC run for reference day BD6-20240314

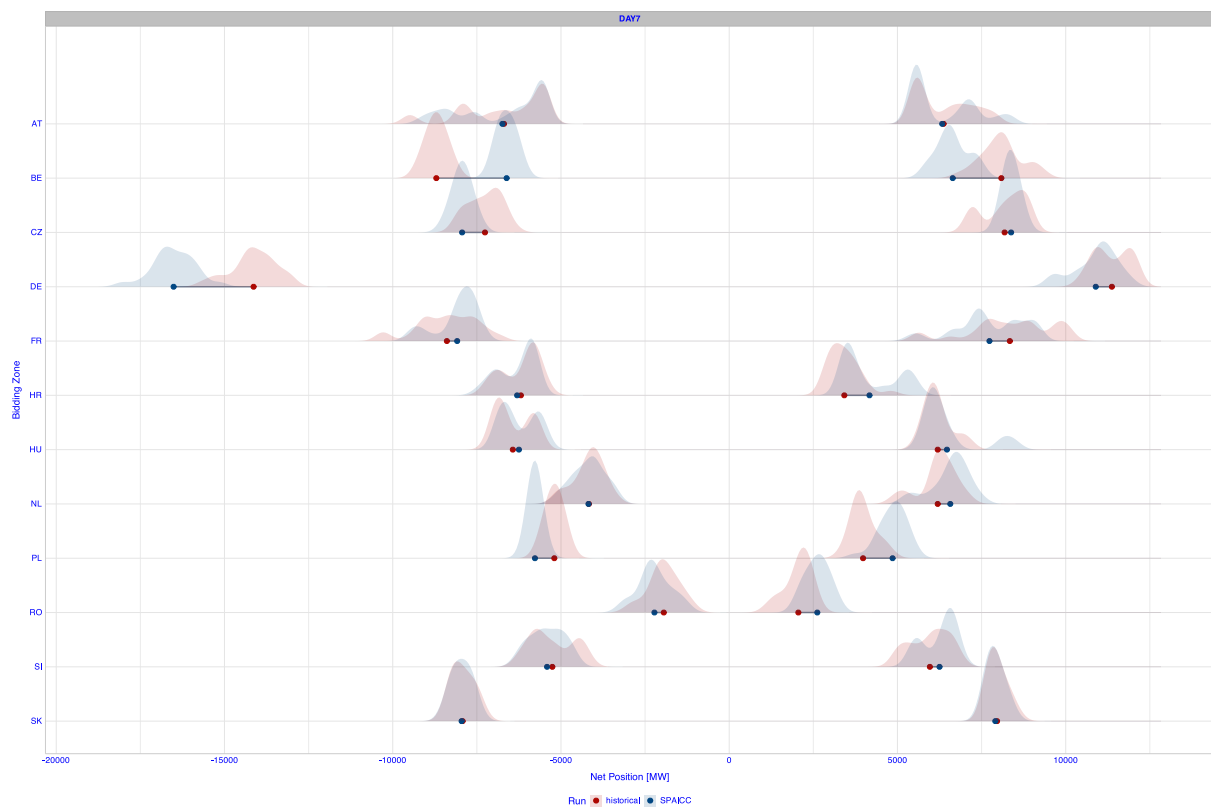
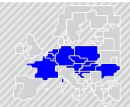


Figure 9: Comparison of MIN & MAX NP of Core BZs with historical data and HY SPAICC run for reference day BD7-20240314



#### 4. EXPLANATION OF DATA PROVIDED WITH THIS DOCUMENT

Core TSOs provide two zip-files per BD. One contains the final domain results, as it would normally be published on the JAO publication tool. The other one contains the plots as shown in the previous section for all hubs with the excel file containing Min/Max NPs.

#### 5. APPENDIX

##### 5.1. IVA information

Historical DACC total frequency of IVA per day by each TSO													
	FR	HR	RO	SI	BE	AT	D2	D7	D8	NL	SK	PL	HU
BD1			36										
BD2	35		8	2	<b>293</b>	21	4	7	8	10	51		
BD3	<b>399</b>	1	19	2									
BD4	60		45								<b>224</b>	<b>141</b>	
BD5		1		34									8

HY SPAICC #IVA					
	FR	HR	RO	SI	BE
BD1	1	3	8		
BD2		4			
BD3		7		1	
BD4		2	12	1	
BD5		2		26	
BD6		5			<b>354</b>
BD7		1			