
Central Transparency Platform – Business Requirements Specification for SO GL

– v2r0 –

MIT/TPC

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Revision history

Version	Release	Date	Summary of amendments
0	1	2018-11-15	First draft
0	2	2019-02-20	Second draft
0	3	2019-03-01	Third draft
0	4	2019-05-10	Introduced possibility that control area is part of up to two different synchronous areas in order to support the specific case of Energinet. Amended 186.2 Imbalance netting accordingly.
0	5	2019-06-24	Updated to reflect changes to file formats from XML to PDF for the following articles 185.4, 186.2, 188.3, 189.2, 190.2 & 190.3
2	0	2021-04-28	<p>Complete overhaul of this document in response to the revised Detailed Data Description.</p> <p>Editorial amendments to the introduction and following publications: 184.2,184.3,185.1,185.2,185.3,185.4,185.5, 186.1,187.1, 187.3, 188.1,188.2 and 189.1.</p> <p>The following publications are changed from PDF submission to XML structured submission: 185.4, 188.3, 189.2, 190.2 and 190.3.</p> <p>For the following publications, the requirements on the TP were rewritten: 187.2, 188.3, 188.4, 189.2, 189.3, 190.1, 190.2 and 190.3.</p>

Reference documents

[1] Commission Regulation (EU) N° 1485/2017 of 2 August 2017 establishing a guideline on electricity transmission system operation

[2] Detailed Data Descriptions of SO GL transparency requirements, 17 February 2021

Abbreviations and definitions

aFRR	automatic Frequency Restoration Reserves
BRS	Business Requirements Specification
EDI	Electronic Data Interchange
FCR	Frequency Containment Reserves
FRCE	frequency restoration control error
ISP	Imbalance Settlement Period
LFC	Load frequency control
LFC Area	as per SO GL article 3(12)
LFC block	as per SO GL Article 3(18)
LFCBOA	LFC Block Operational Agreement
mFRR	manual Frequency Restoration Reserves
MTU	Market Time Unit
RR	Replacement reserves
SA	Synchronous Area - as per article 2(2) of the Commission Regulation (EU) 2016/631 of 14 April 2016 establishing a network code on requirements for grid connection of generators
SAOA	Synchronous Area Operational Agreement
SO GL	Guideline on electricity transmission system operation
TR	Transparency regulation
TSO	Transmission System Operator
UTC	Universal Time Coordinated

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16 Note concerning wording used in this document:

17 The force of the following words is modified by the requirement level of the document in which they
18 are used.

19 • MUST: This word, or the terms “REQUIRED” or “SHALL”, means that the definition is an
20 absolute requirement of the specification.

21 • MUST NOT: This phrase, or the phrase “SHALL NOT”, means that the definition is an
22 absolute prohibition of the specification.

23 • SHOULD: This word, or the adjective “RECOMMENDED”, means that there may exist valid
24 reasons in particular circumstances to ignore a particular item, but the full implications must be
25 understood and carefully weighed before choosing a different course.

26 • SHOULD NOT: This phrase, or the phrase “NOT RECOMMENDED”, means that there may
27 exist valid reasons in particular circumstances when the particular behaviour is acceptable or even
28 useful, but the full implications should be understood and the case carefully weighed before
29 implementing any behaviour described with this label.

30 MAY: This word, or the adjective «OPTIONAL», means that an item is truly optional. One
31 vendor may choose to include the item because a particular marketplace requires it or because the
32 vendor feels that it enhances the product while another vendor may omit the same item. An
33 implementation which does not include a particular option MUST be prepared to interoperate with
34 another implementation which does include the option, though perhaps with reduced functionality.
35 In the same vein an implementation which does include a particular option MUST be prepared to
36 interoperate with another implementation which does not include the option (except, of course, for
37 the feature the option provides.)

38 Diagrams are for illustrative purposes only and do not constitute fully detailed definition of data
39 structures.

40

1. Introduction

The SO GL articles 183 through 190 articulate a number of obligations on transparency reporting. Article 183.4 explicitly calls for the publication of this information on the existing ENTSO-E central transparency platform.

In response to the SO GL, the System Operations Committee (SOC) at ENTSO-E has elaborated a detailed data definition for the publications foreseen by SO GL articles 183 through 190. This BRS is based upon that detailed data definition.

Scope of this document

It is the objective of this BRS to articulate:

- The structure of the data to be submitted and published
- The frequency of data publication
- How data shall be visualized on the transparency platform
- Applicable pre-configuration of the transparency platform
- Applicable validations and monitoring to be performed by the transparency platform

This document only specifies the incremental scope driven by the SO GL. Reference 12 to the Manual of Procedures for the central transparency platform, which was elaborated in response to the Transparency Regulation, describes the baseline requirements that already have been implemented.

2. General requirements

Configuration

This chapter elaborates the requirements on configuration of the transparency platform. It shall be possible for platform administrator to configure the platform via its existing web-based user interface.

Regions, Synchronous areas, LFC blocks, LFC areas and control areas

It shall be possible to associate a region, synchronous area, an LFC block and an LFC area. At any given point in time, an LFC area may only belong to exactly one LFC block and an LFC block to exactly one synchronous area

The following four synchronous areas are foreseen: Continental Europe, Nordics, Great Britain, Ireland & Northern Ireland. The Baltics is expected to be modelled as a LFC block with three LFC areas.

A region consists of one or several LFC blocks.

At any given point in time, a control area may belong to a maximum of two synchronous areas¹.

Other pre-configuration

For every publication of structured XML data related to a given synchronous area, LFC area or LFC block, the applicable time resolution for data submission and publication, respectively, shall be configurable.

Updates

Data providers shall be able to publish several versions of the same PDF document. Each version shall be associated with an effective date and indication of document status. All versions shall be available for download via the public web.

Data providers shall be able to revoke/withdraw PDF files that have been published by mistake. A withdrawn PDF shall no longer be visible or available for download via the public web.

Existing baseline logic for handling higher versions of XML documents shall apply also to SO GL publications.

Monitoring

For structured XML data, it shall be possible to utilise existing baseline functionality to monitor data completeness and submission deadlines.

¹ The vast majority of control areas belong to a single synchronous area. The control area of Energinet though is associated with two distinct synchronous areas; Continental Europe and Nordic, respectively.

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97

98 Downloads, extracts and subscriptions

99 Existing baseline functionality shall be available also for the SO GL publications. Hence, it shall be
100 possible to download PDFs from the data view. Structured data shall be available for download
101 from data views in csv and excel formats, in addition to XML. The restful API shall be extended to
102 support queries also for structured SO GL publications. Furthermore, data extracts shall be
103 generated for FTP data depository

104

105 Navigation

106 A new domain “System Operations” will be added to the user interface of the Transparency
107 Platform. New views will be added to the existing balancing domain.
108

3. SO GL 184.2 Operational agreements of synchronous areas

Data Description

This data item consists of a PDF with the synchronous area operational agreement (SAOA).

Note: This publication is deemed to fulfil the requirements also for SO GL articles listed below, as the relevant information will be published in the SAOA itself.

- ✓ 185.1 Frequency quality parameters
- ✓ 185.3 Methodology for determining the risk of exhaustion for FCR
- ✓ 185.5 Ramping period
- ✓ 186.1 Load frequency control structures
- ✓ 187.1 Dimensioning approach for FCR
- ✓ 187.3 FCR properties

Pre-configuration

Platform administrator shall be able to configure the valid data provider for each synchronous area.

Integration

When uploading the PDF, data provider shall be able to select synchronous area, choose the date of entry into force, version and the status of the uploaded document. These attributes are mandatory.

Validations

Platform shall validate that the data provider is associated with the synchronous area.

Monitoring

No monitoring is foreseen.

Filtering criteria

Data consumers shall be able to access the published data by selecting the following criteria:

- Synchronous area (mandatory)
- Year of entry into force (optional)

Display

All documents for the selected synchronous area and with an entry into force equal or later to the selected year shall be displayed.

The data shall be displayed in the following section:

System Operations / Operational Agreements / Synchronous area

Each document shall be available for download by clicking a link. The following attributes shall be displayed:

- Synchronous Area
- Status
- Version number
- Date of entry into force
- Publication date

4. SO GL 184.3 Operational agreements of load frequency control blocks

Data Description

This data item consists of a PDF with the operational agreement of the LFC block (LFCBOA).

Note: This publication is deemed to fulfil the requirements also for SO GL articles listed below, as the relevant information will be published in the LFCBOA itself.

- ✓ 185.2 FRCE target parameters
- ✓ 188.1 FRR requirements
- ✓ 188.2 FCR dimensioning rules
- ✓ 189.1 RR requirements

Pre-configuration

Platform administrator shall be able to configure the valid data provider for each LFC block.

Integration

When uploading the PDF, data provider shall be able to select LFC block, choose the date of entry into force, version and status. These attributes are mandatory.

Validations

Platform shall validate that the data provider is associated with the LFC block.

Monitoring

No monitoring is foreseen.

Filtering criteria

Data consumers shall be able to access the published data by selecting the following criteria:

- Synchronous area (mandatory)
- LFC block (mandatory)
- Year of entry into force (optional)

Display

All documents for the selected LFC block and with an entry into force equal or later to the selected year shall be displayed.

The data shall be displayed in the following section:

System Operations / Operational Agreements / LFC block

Each document shall be available for download by clicking a link. The following attributes shall be displayed:

- Synchronous Area
- LFC block
- Status
- Version number
- Date of entry into force
- Publication date

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5. SO GL 185.1 Frequency quality parameters

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Data Description

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The parameters defining frequency quality or frequency target are contained in the operational agreements, foreseen to be published for SOGL 184.2&3, respectively for SAOA and LFBOA. Any modification of the values provided must be communicated to ENTSOE and the published agreement updated accordingly.

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Please refer to sections 3 & 4 of this document on SOGL 184.2 & 3 operational agreements of synchronous and LFC blocks respectively.

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223 **6. SO GL 185.2 FRCE target parameters**

224 **Data Description**

225 The FRCE target parameters are published as part of the LFCBOA. It is applicable where an LFC
226 block consists of more than one LFC area. LFCBOA must specify target parameters for each LFC
227 area.

228
229 Please refer to section 3 & 4 of this document describing SOGL 184.2 & 3 operational
230 agreements of SA and LFC block area respectively.
231

7. SO GL 185.3 Methodology for determining the risk of exhaustion of FCR

Data Description

The methodology used for determining the risk of exhaustion for FCR is published as part of the SAOA.

Please refer to section 3 & 4 of this document for SO GL 184.2 & 3 operational agreements of synchronous and LFC block areas respectively.

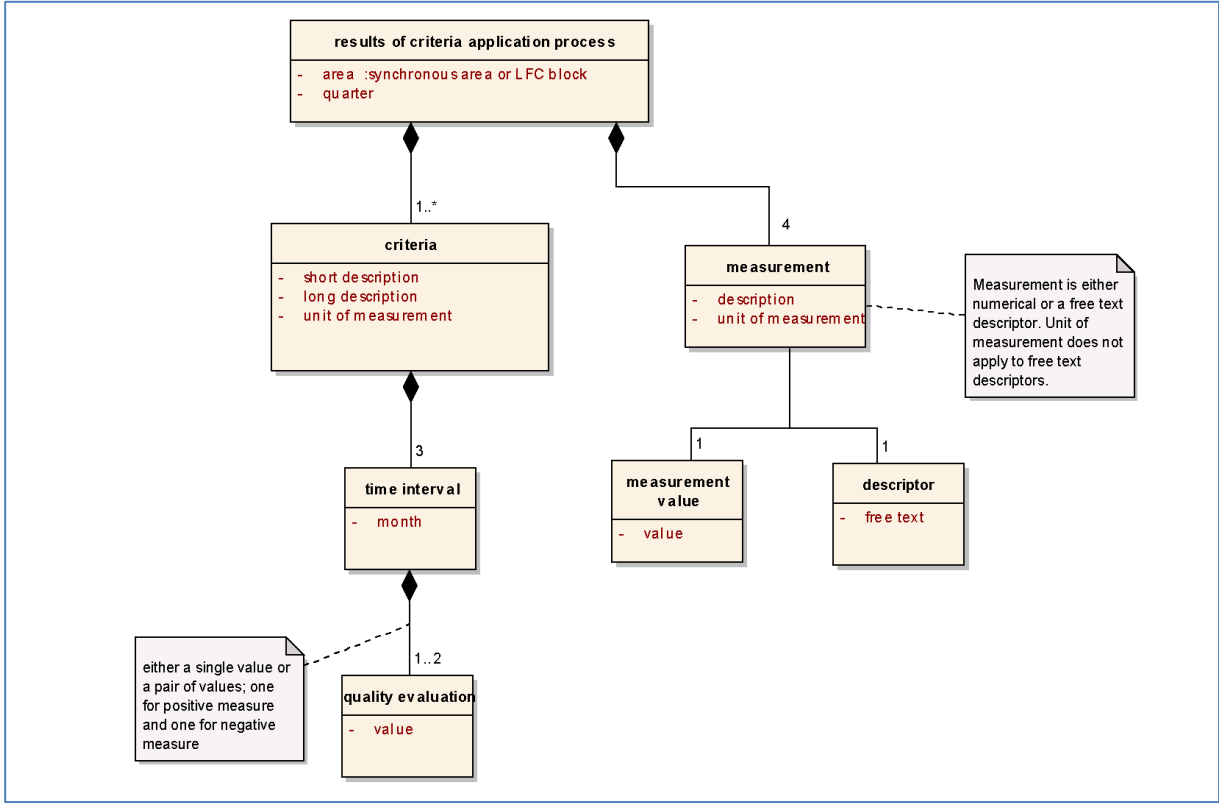
8. SO GL 185.4 Results of the criteria application process

Data Description

This is a publication of the resulting values from the frequency quality evaluation process and the applied measurements. Some values are published for the synchronous area and other each LFC block within the synchronous area. The list of values published will vary by synchronous area. This is a quarterly ex-post publication.

The measurement resolution, measurement accuracy and calculation method are published separately, with single values for the entire quarter per SA or LFC block.

Refer to the annex for the complete list of values to be published.



The descriptions of the values and measurements are expected to be recorded as reference data on the transparency platform. Hence, data providers are not required to provide such descriptions on a recurring basis. For the avoidance of any doubt, it should be noted though that the descriptors of measurements must be submitted for every quarter.

Pre-configuration

Platform administrator shall be able to configure the single data provider and list of expected criteria and measurements for each synchronous area or LFC block. The quarterly submission deadline shall also be configurable.

Integration

Data provider shall be able to manually upload or submit in machine-to-machine fashion an XML document containing the data.

Validations

Platform shall validate that the data provider is associated with the synchronous area or LFC block. Platform shall validate that all expected values are provided for the entire quarter.

Monitoring

There is a quarterly submission deadline. Data must be submitted no later than 3 months after the end of the quarter. If data is missing by the submission deadline, the data provider will be notified.

Filtering criteria

Data consumers shall be able to access the published data by selecting the following criteria:

- Synchronous area or LFC block (mandatory)
- Quarter (Mandatory)

Display

All data for the selected synchronous area or LFC block and the selected quarter shall be displayed.

The data shall be displayed in the following section:

System Operations / Results of the criteria application process

- Area (SA or LFC block)
- Quarter
- For each reported criterion, the following shall be displayed:
 - o Short description
 - o Long description
 - o Unit of measurement
- Value(s); either single or pair of one positive and one negative per month
- For each reported measurement, the following shall be displayed:

-
- Description
 - Unit of measurement
 - Measurement value or descriptor (free text)

The long description of criterion may be provided in a tooltip, to be determined by solution design.

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9. SO GL 185.5 Ramping period

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Data Description

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Ramping periods are published as part of the SAOA.

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Please refer to sections 3 & 4 of this document on SOGL 184.2 & 3 operational agreements of synchronous and LFC block agreement areas respectively.

10. SO GL186.1a&b Process activation and responsibility structures

Data Description

The load frequency structures are published as part of the SAOA. It includes information on the process activation structure of synchronous area and process responsibility structure.

Please refer to sections 3 & 4 of this document on SOGL 184.2 & 3 operational agreements of synchronous and LFC block areas respectively.

11. SO GL 186.2 Imbalance netting

Data Description

For each imbalance netting process, it shall be possible to publish the list of participating LFC areas and a PDF with additional details. For each such process, the start date shall be recorded. Optionally a free text description may be provided.

Pre-configuration

Platform administrator shall be able to configure the valid data providers.

Integration

When uploading the PDF, data provider shall be able to select the Area (SA and list of LFC areas) and the effective start date of the document. These attributes are mandatory.

Validations

Platform shall validate that the data provider is valid.

Monitoring

No monitoring is foreseen.

Filtering criteria

Data consumers shall be able to access the published data by selecting the following criteria:

- Synchronous area (mandatory)
- Year (optional)

Display

All processes for the selected synchronous area and year shall be displayed.

Balancing / Imbalance netting

- Synchronous Area – used as filtering criteria
- Year
- Publication date
- Start date
- List of LFC areas
- PDF
- Description, if available

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364 **12. SO GL 187.1 Dimensioning approach for FCR**

365 **Data Description**

366 The dimensioning approach for FCR is published as part of the SAOA.

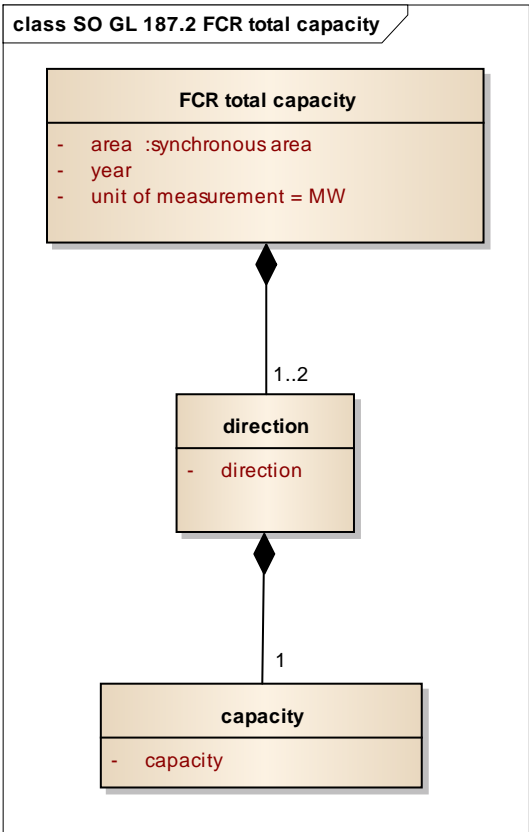
367

368 Please refer to sections 3 & 4 of this document on SOGL 184.2 & 3 operational agreements of
369 synchronous and LFC areas respectively.
370

13. SO GL 187.2 FCR total capacity

Data Description

This publication describes the total required volume of FCR reserve capacity for a synchronous area in MW. The values are separate per regulation Up, Down or Symmetric. Data is submitted and published with single values per calendar year.



Pre-configuration

Platform administrator shall be able to configure the single data provider per synchronous area and the yearly submission deadline.

Integration

Data provider shall be able to manually upload or submit in machine-to-machine fashion an XML document containing the data.

Validations

Platform shall validate that the data provider is associated with the synchronous area and that values are provided for the entire year.

Either a single symmetric value is provided or two separate values for Up and Down directions.

Monitoring

Data shall be published 1 month before the calendar year for which the values apply. If data is missing by the submission deadline, the data provider will be notified.

Filtering criteria

Data consumers shall be able to access the published data by selecting the following criteria:

- Synchronous area (mandatory)
- Year (mandatory)

Display

All available data for the selected year(s) synchronous area shall be displayed. The data view shall offer both table and chart views.

The data shall be displayed in the following section:

Balancing / FCR amount and shares (common view, see also next chapter)

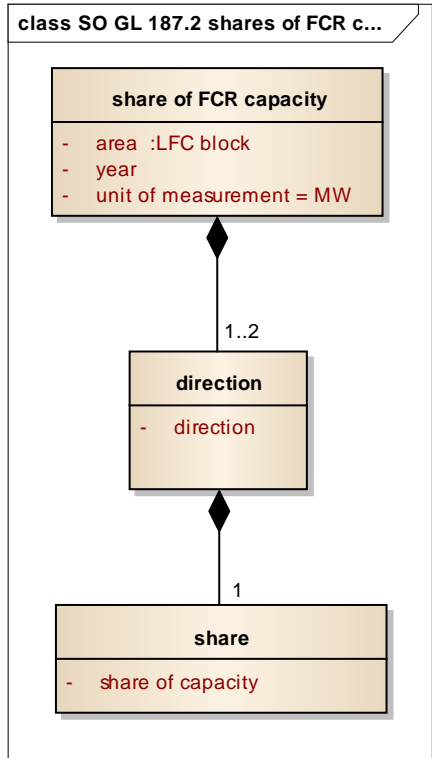
The following attributes shall be displayed:

- Synchronous Area
- Year
- Direction: Up/Down/Symmetric
- Capacity value in MW

14. SO GL 187.2 Shares of FCR capacity

Data Description

Within a given synchronous area, each LFC block's share of FCR capacity shall be published as a single value of capacity in MW per year. Data is provided separately per regulation: Up and Down or Symmetric.



Pre-configuration

Platform administrator shall for each synchronous area be able to configure the single data provider that reports share of FCR capacities and the yearly submission deadline

Integration

Data provider shall for a select year be able to submit the data as an XML document.

Validations

Platform shall validate that the data provider is associated with the publication and the area.

Either a single symmetric value is provided or two separate values for Up and Down directions.

Monitoring

For every calendar year, the share of capacity is expected for each LFC block within the synchronous area. If data is missing by the submission deadline, the data provider will be notified. The deadline is 1 month before the calendar year for which the values apply.

Filtering criteria

Data consumers shall be able to access the published data by selecting the following criteria:

- Synchronous area (mandatory)
- Year (mandatory)

Display

Data for the selected synchronous area and for the selected year(s) shall be displayed.

The data shall be displayed in the following section:

Balancing / FCR amount and shares (common view, see also previous chapter)

The following attributes shall be displayed:

- Synchronous Area
- Year

For each LFC block within the synchronous area:

- o LFC block
- o Direction: Up/ Down/ Symmetric
- o Share of FCR reserves in MW

15. SO GL 187.3 FCR properties

Data Description

The FCR properties for synchronous areas are published as part of the SAOA.

Please refer to sections 3 & 4 of this document on SOGL 184.2 & 3 operational agreements of synchronous and LFC areas respectively.

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467 **16. SO GL 188.1 FRR requirements**

468 **Data Description**

469 FRR availability requirements and requirements for the control quality are published as part of the
470 LFCBOA.

471
472 Please refer to sections 3 & 4 of this document on SOGL 184.2 & 3 operational agreements of
473 Synchronous area and LFC blocks respectively.
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476 **17. SO GL 188.2 FRR dimensioning rules**

477 **Data Description**

478 FRR dimensioning rules for LFC blocks are published as part of the LFCBOA.

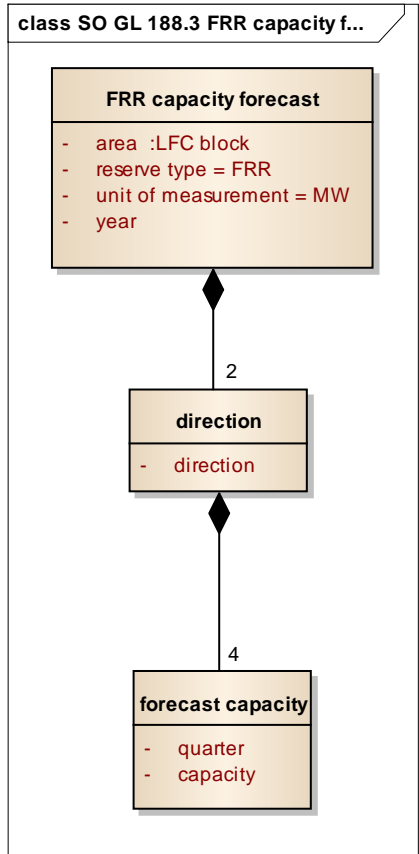
479

480 Please refer to sections 3 & 4 of this document on SOGL 184.2 & 3 operational agreements of
481 Synchronous area and LFC blocks respectively.
482

18. SO GL 188.3 FRR capacity outlook

Data Description

This publication consists of a year-ahead forecast of FRR capacities that are explicitly required per LFC block. Values are expressed in MW and are provided separately for Up and Down regulation for the entire year, ex-ante with quarterly resolution and integer precision.



Pre-configuration

Platform administrator shall be able to configure:

- The data provider per LFC block
- The yearly submission deadline for the forecast

Integration

Data provider shall be able to manually upload or submit in machine-to-machine fashion an XML document containing the data.

Validations

Platform shall validate that data provider is associated with the area (LFC block). Per direction, values must be provided for the entire year. Values must be provided for both directions.

Monitoring

There is a yearly submission deadline. Data provider will be notified if data is not available by the submission deadline. Submission deadline is 30th November before the year that the data describes.

Filtering criteria

Data consumers shall be able to access the published data by selecting the following criteria:

- Synchronous area (mandatory)
- LFC block within the selected synchronous area (mandatory)
- Year (mandatory)

Display

All data for the selected LFC block and selected year shall be displayed. Data shall be provided in a table and as a chart.

Data shall be published on a common view with publications for SO GL articles 188.4, 189.2 and 189.3.

Balancing/ Reserves forecast & actual capacity

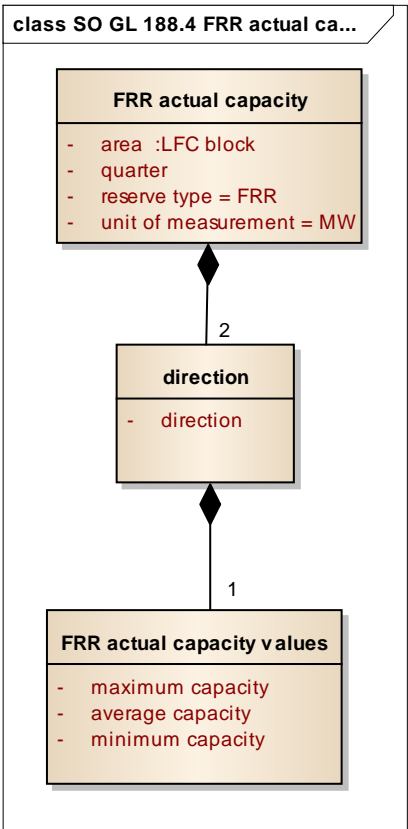
The following attributes shall be displayed:

- LFC block
- Year
- Reserve type: FRR
- For each quarter during the year:
 - o Forecast reserve capacity in MW, separately per direction (Up and Down)

19. SO GL 188.4 FRR actual capacity

Data Description

This is a publication of the actual reserve capacities on FRR. The LFC Block Monitor of each LFC Block shall submit these values ex-post and on a quarterly basis. Separate values for Up and Down regulation are to be provided. The minimum, maximum and average values of available reserve capacity shall be included in the data submission. Data is provided in MW with integer precision.



Pre-configuration

Platform administrator shall be able to configure:

- The data provider per LFC block
- The quarterly submission deadline

Integration

Data provider shall be able to manually upload or submit in machine-to-machine fashion an XML document containing the actuals.

Validations

Platform shall validate that the data provider is associated with the LFC block and the submission contains all three values per direction. Values must be provided for both directions.

Monitoring

Data is expected latest 30 days after every quarter and for every LFC block. Data provider will be notified if publication is not received by deadline

Filtering criteria

Data consumers shall be able to access the published data by selecting the following criteria:

- Synchronous area (mandatory)
- LFC block within the selected synchronous area (mandatory)
- Year (mandatory)

Display

All available data for the selected year and LFC block shall be displayed. The data view shall offer both table and chart views.

Data shall be published on a common view with publications for SO GL articles 188.3, 189.2 and 189.3.

The data shall be displayed in the following view:

Balancing / Reserves Forecast and actual capacity

The following attributes shall be displayed:

- LFC Block
- Reserve Type: FRR
- Year
- For each quarter during the year, with separate values in MW per direction:
 - o Minimum capacity
 - o Maximum capacity
 - o Average capacity

581

582 **20. SO GL 189.1 RR requirements**

583 **Data Description**

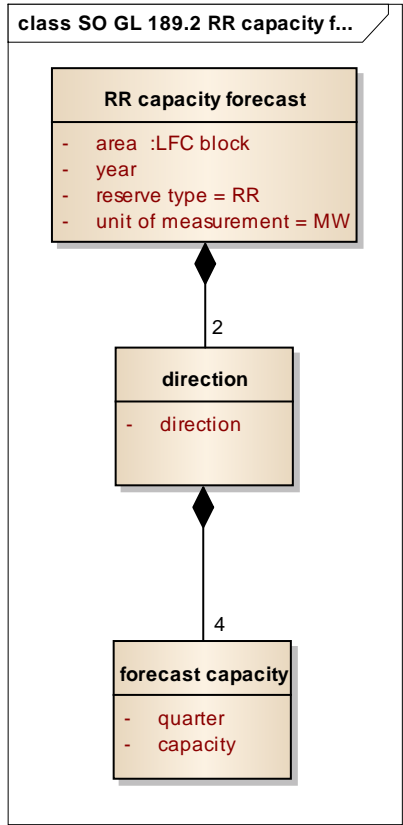
584 The RR availability requirements are published as part of the LFCBOA.

585 Please refer to sections 3 & 4 of this document on SO GL 184.2 &3 operational agreements of
586 Synchronous area and LFC blocks respectively.
587
588

21. SO GL 189.2 Outlook of reserve capacities on RR

Data Description

This publication consists of a year-ahead forecast of explicitly required RR capacities per LFC block. Values are expressed in MW separately for Up and Down regulation. Data is provided for the entire year with quarterly resolution and integer precision.



Pre-configuration

Platform shall be able to configure:

- the data provider per LFC block
- the yearly submission deadline for the forecast

Integration

Data provider shall be able to manually upload or submit in machine-to-machine fashion an XML document containing the forecast RR capacities.

Validations

Platform shall validate that data provider is associated with the LFC block and that values are provided for the entire year. Values must be provided for both directions.

Monitoring

Data shall be expected for every LFC block and year for which a data provider has been configured. It should be noted that reserve type RR is applicable in only some areas. Data provider will be notified if data is not available by the submission deadline. Submission deadline is by 30th November before the year that the data describes.

Filtering criteria

Data consumers shall be able to access the published data by selecting the following criteria:

- Synchronous area (mandatory)
- LFC block within the selected synchronous area (mandatory)
- Year (mandatory)

Display

All data for the selected LFC block and selected Year shall be displayed. Data shall be provided as a table and in a chart.

Data shall be published on a common view with publications for SO GL articles 188.3, 188.4 and 189.3.

Balancing / Reserves Forecast and actual capacity

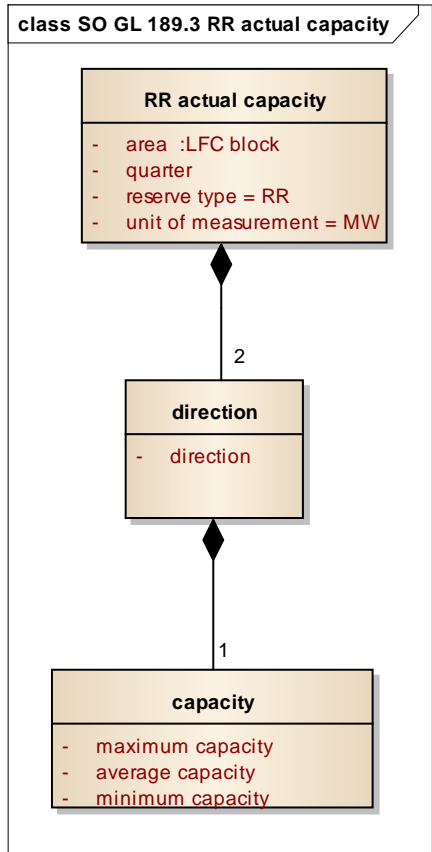
The following attributes shall be displayed:

- LFC block
- Year
- For each quarter during the year, with separate values in MW per direction:
 - o forecast reserve capacity

22. SO GL 189.3 RR actual capacity

Data Description

This publication describes the actual available reserve capacity for RR, expressed as maximum, minimum and average values. Ex-post and on a quarterly basis, data shall be provided per LFC block with separate values for Up and Down regulation. Data is provided with quarterly resolution and integer precision.



Values are expressed in MW.

Pre-configuration

Platform administrator shall be able to configure:

- the data provider per LFC block
- the quarterly submission deadline

Integration

Data provider shall be able to manually upload or submit in machine-to-machine fashion an XML document containing the data.

Validations

Platform shall validate that data provider is associated with the LFC block and that the submitted data covers the entire quarter. Both minimum and maximum values must be provided. Values must be provided for both directions.

Monitoring

Data is expected for every LFC block and quarter for which a data provider has been configured. It should be noted that reserve type RR is applicable in only certain areas. Deadline is within 30 days of end of quarter. Data provider will be notified if publication is not submitted by deadline

Filtering criteria

Data consumers shall be able to access the published data by selecting the following criteria:

- Synchronous area (mandatory)
- LFC block within the selected synchronous area (mandatory)
- Year (mandatory)

Display

All available data for the selected year and LFC block shall be displayed. The data view shall offer both table and chart views.

Data shall be published on a common view with publications for SO GL articles 188.3, 188.4 and 189.2.

The data shall be displayed in the following view:

Balancing / Reserves Forecast and actual capacity

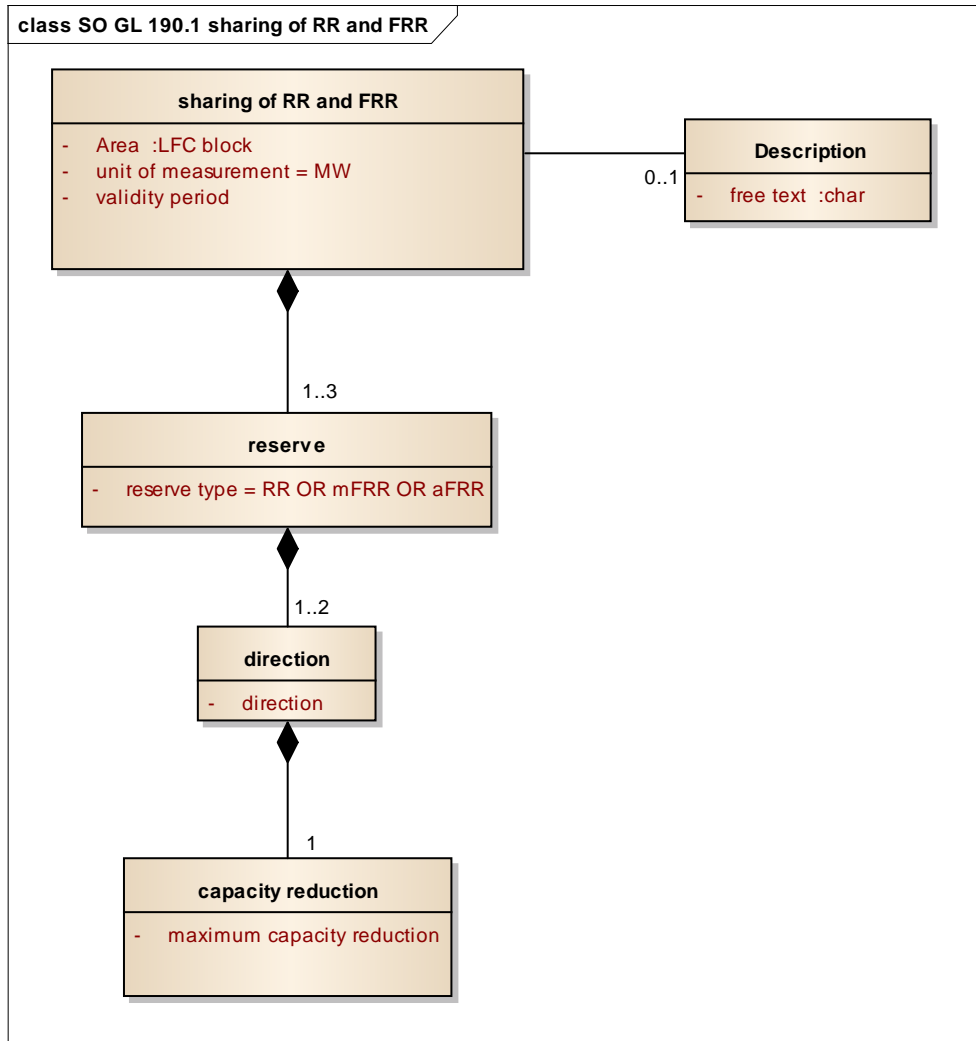
The following attributes shall be displayed:

- Reserve Type: RR
- LFC block
- Year
- For each quarter during the year, with separate values in MW per direction:
 - o Minimum capacity
 - o Average capacity

23. SO GL 190.1 Sharing of RR and FRR

Data Description

This is a publication of agreements on sharing mFRR , aFRR and RR among LFC blocks within the same synchronous area. For a given LFC block, the reduction of reserve capacity due to sharing shall be published. The data is submitted and published as a single value applicable to the entire validity period of the agreement, ex-ante and expressed in MW with integer precision. The direction of data published can be upwards and/or downwards regulation.



Optionally, a free text may be provided with further description of the agreement.

Pre-configuration

Platform shall be able to configure:

- the data provider per LFC block and reserve type

Integration

Data provider shall be able to manually upload or submit in machine-to-machine fashion an XML document containing the forecast.

Validations

Platform shall validate that data provider is associated with the LFC block.

Monitoring

No monitoring foreseen as the agreements and LFC blocks participating in them are not known in advance and may vary over time.

Filtering criteria

Data consumers shall be able to access the published data by selecting the following criteria:

- Synchronous area (mandatory)
- Reserve type (optional)
- Year (mandatory)

Display

All available data for the selected year and synchronous area shall be displayed. Data shall be rendered in a table.

The data shall be displayed in the following view:

Balancing / Sharing of FRR and RR

The following attributes shall be displayed:

- Synchronous Area
- Year

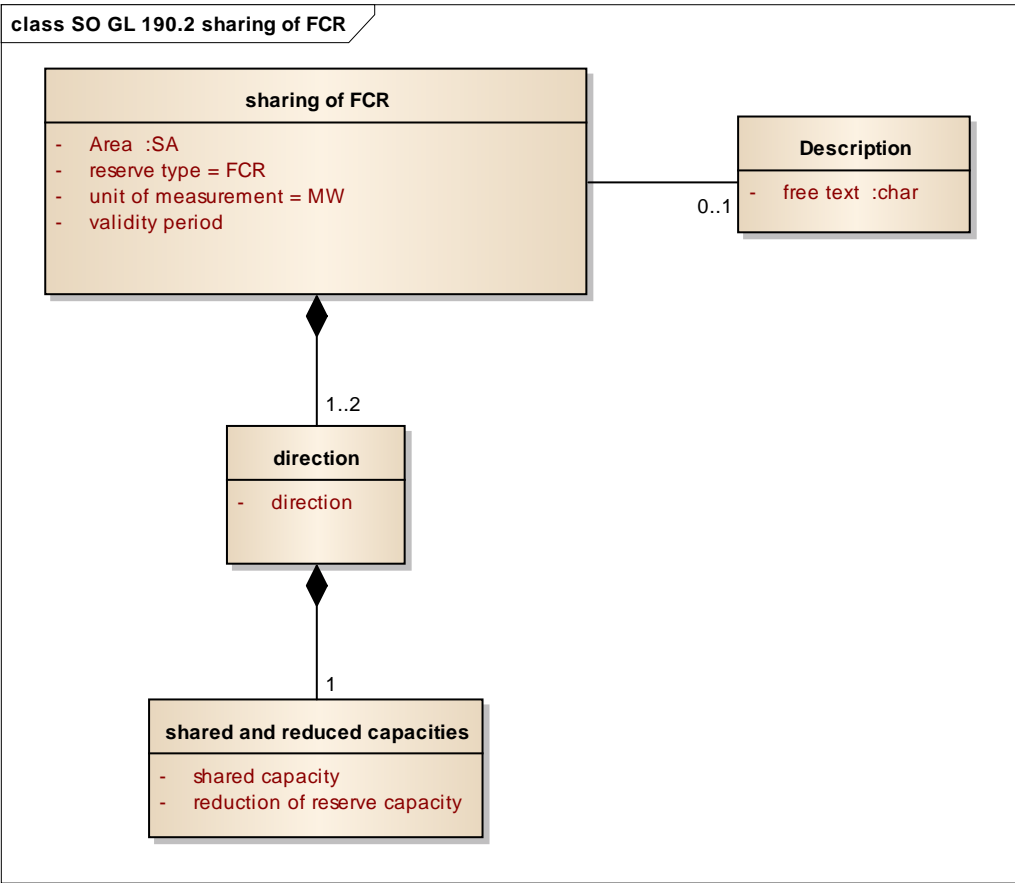
For each agreement with a validity period that at least partially falls within the selected year:

- o LFC block
- o Validity period of agreement
- o Reserve type RR, aFRR or mFRR
- o Capacity reduction in MW, separately per Direction Up/Down

24. SO GL 190.2 Sharing of FCR between SAs

Data Description

This publication consists of information on agreements for sharing of FCR capacity between Synchronous areas. It contains the aggregated volume of shared reserve capacity, and the reduction of reserve capacity as a result of sharing. For a given SA, the volumes are expressed in MW, separately for Up, Down or Symmetric regulation. Data is submitted and published as single values applicable to the entire validity period of the agreement and with integer precision.



Optionally, a free text may be provided with further description of the agreement.

Pre-configuration

Platform shall be able to configure:

- the data provider per synchronous area

Integration

Data provider shall be able to manually upload or submit in machine-to-machine fashion an XML document containing the forecast.

Validations

Platform shall validate that data provider is associated with the synchronous area. Both shared volume and reduction of capacity must be provided per direction. A value for symmetric direction may not be combined with values for up or down. There is no requirement to provide data for both up and down direction though.

Monitoring

No monitoring foreseen as the agreements and the synchronous areas participating in them are not known in advance and may vary over time.

Filtering criteria

Data consumers shall be able to access the published data by selecting the following criteria:

- Synchronous area (mandatory)
- Year (mandatory)

Display

All available data for the selected year and synchronous area shall be displayed. Data shall be rendered in a table.

Balancing / Sharing of FCR

The following attributes shall be displayed:

- Synchronous area
- Year
- Reserve type: FCR
- For each agreement with a validity period that at least partially falls within the selected year:
 - o Validity period of agreement
 - o Shared volume and reserve reduction in MW, separately per Direction Up, Down or Symmetric

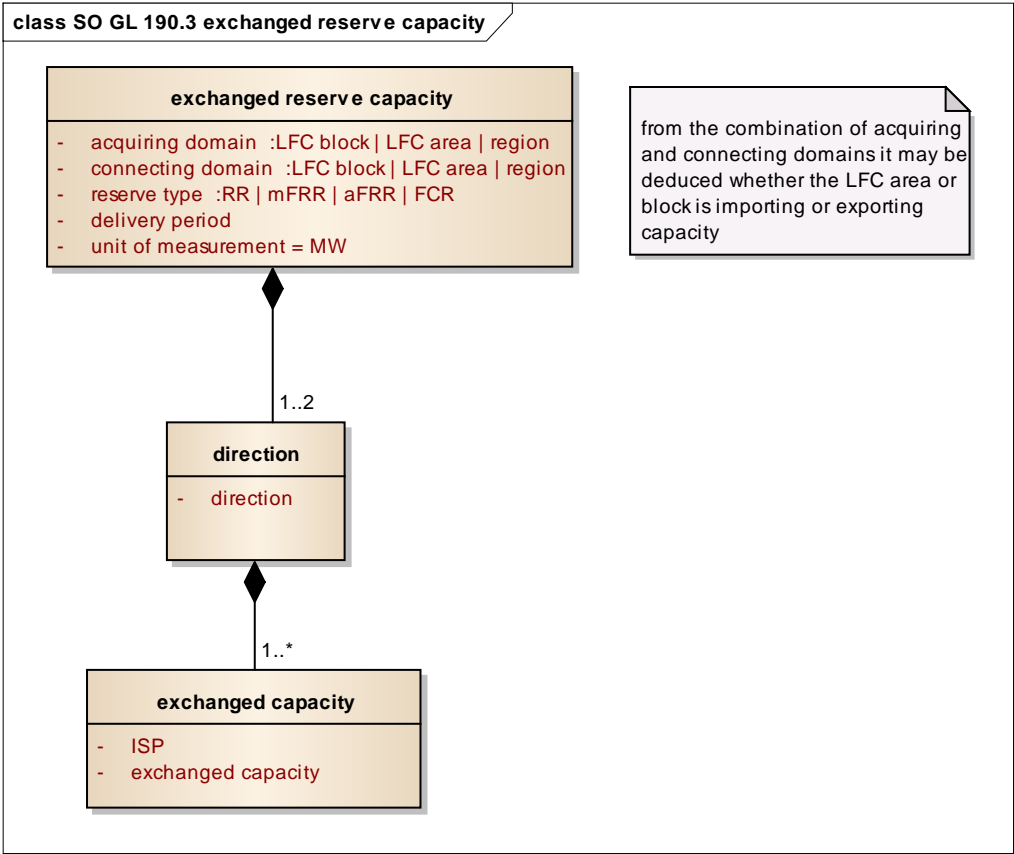
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787 **25. SO GL 190.3 Exchanged reserve capacity**

788 **Data Description**

789 This publication describes the reserve capacities to be exchanged between LFC areas or blocks
790 within the same or different SA. A net import or export position per LFC area or block shall be
791 published ex ante in MW. Data is provided separately per reserve type RR, aFRR, mFRR or FCR
792 and per direction Up, Down or Symmetric. Data is reported with integer precision and ISP resolution
793 for the delivery period of the reserves.

794 In the publication, the combination of acquiring and connecting domains will indicate whether the
795 reserves are exchanged within the same SA or across SAs. Either the acquiring or connecting
796 domain may be an aggregation of LFC areas or blocks in a region where reserves are exchanged
797 (i.e. multilateral cooperation). From the combination of acquiring and connecting domain, it is also
798 possible to deduce whether the LFC area or block is importing or exporting; an importing LFC area
799 or block will be published as acquiring domain, while an exporting LFC area or block will be
800 published as connecting domain.



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802 **Pre-configuration**

803 Platform administrator shall be able to configure:

- 804 - the data provider per LFC area or block

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Integration

Data provider shall be able to manually upload or submit in machine-to-machine fashion an XML document containing the forecast.

Validations

Platform shall validate that:

- data provider is associated with the LFC area or block.
- symmetric direction is only permitted for reserve type FCR
- value for symmetric direction is not combined with values for up or down.
- values are provided for the entire delivery period

Monitoring

No monitoring foreseen as the exchanges and TSOs participating in them are not known in advance and may vary over time.

Filtering criteria

Data consumers shall be able to access the published data by selecting the following criteria:

- Synchronous area (mandatory)
- LFC area or block within the selected synchronous area (optional)
- day or date interval (mandatory)
- reserve type (optional)

Display

All available data for the selected year and area shall be displayed. Data shall be rendered in a table, with the possibility to expand a selected single exchange into a table or a chart.

The data shall be displayed in the following section:

Balancing / Exchanged reserve capacity

The following attributes shall be displayed:

- Selected synchronous area
- Selected day or date interval
- For each exchange with a delivery period entirely or partially within the selected day or date interval and with at least one LFC area or block within the selected synchronous area, the following attributes shall be displayed in a table:
 - o Acquiring area
 - o Connecting area

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- Delivery period
 - Reserve type: RR, aFRR, mFRR or FCR
 - Direction: Up, Down or Symmetric

User shall be able to expand each exchange into a time series with the exchanged reserve capacity expressed in MW per ISP.

Annex - Attributes for Frequency quality evaluation criteria

These attributes for frequency quality evaluation criteria are collated by monthly or quarterly intervals. For each attribute and time interval, there may be either one or two values, please refer to timeframe and format column below for specific details. There are specific tables for SA and LFC blocks. Refer to the appendix of [2] for the detailed description of each criteria and measurement.

Synchronous area criteria and measurements

Reference	Attribute short description	Applicability					Timeframe and format
		CE SA	Nordic SA	GB SA	IE/NL SA	Baltic SA	
Article 131.1.a.i	Mean frequency	yes	yes	yes	yes	no	1 value in mHz per month
Article 131.1.a.ii	Standard deviation frequency	yes	yes	yes	yes	no	1 value in mHz per month
Article 131.1.a.iii	Percentiles for frequency	yes	yes	yes	yes	no	1 value in mHz per month
Article 131.1.a.iv	frequency deviation larger than standard deviation	yes	yes	yes	yes	no	1 value in minutes for negative deviations and 1 value in minutes for positive deviations per month
Article 131.1.a.v	frequency deviation larger than maximum deviation	yes	yes	yes	yes	no	1 value in minutes for negative deviations and 1 value in minutes for positive deviations per month
Article 131.1.a.vi	frequency deviation not returned to 50%	yes	no	no	no	no	1 value for negative deviations and 1 value for positive deviations per month
Article 131.1.a.vi	frequency deviation not returned to restoration range	no	yes	yes	yes	no	1 value for negative deviations and 1 value for positive deviations per month
Article 131.1.a.vii	Frequency deviation outside of recovery range	no	no	yes	yes	no	1 value for negative deviations and 1 value for positive deviations per month

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Reference	Attribute short description	Applicability					Timeframe and format
		CE SA	Nordic SA	GB SA	IE/NL SA	Baltic SA	
Article 185.4.b	Measurement resolution of system frequency	Yes	yes	yes	yes	no	1 integer value in mHz per quarter
Article 185.4.b	Measurement frequency of system frequency	yes	yes	yes	yes	no	1 integer value in seconds per quarter
Article 185.4.b	Measurement accuracy of system frequency	yes	yes	yes	yes	no	1 integer value in mHz per quarter
Article 185.4.b	System frequency measure and accuracy descriptor	yes	yes	yes	yes	no	1 text per quarter

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LFC block criteria and measurements

Reference	Attribute short description	Applicability					Timeframe and format
		CE SA	Nordic SA	GB SA	IE/NL SA	Baltic SA	
Article 131.1.b.i	Mean value of FRCE	yes	yes	no	no	no	1 integer value in MW per month
Article 131.1.b.i	Standard deviation of FRCE	yes	yes	no	no	no	1 integer value in MW per month
Article 131.1.b.i	Percentile of FRCE	yes	yes	no	no	no	1 integer value in MW per month
Article 131.1.b.i	FRCE outside of Level 1 range	yes	yes	no	no	no	1 integer value for negative FRCE and 1 integer value for positive FRCE per month
Article 131.1.b.i	FRCE outside of Level 2 range	yes	yes	no	no	no	1 integer value for negative FRCE and 1 integer value for positive FRCE per month
Article 131.1.b.ii	FRCE exceeded 60% of FRR capacity	yes	yes	no	no	no	1 integer value for negative FRCE and 1 integer value for positive FRCE per month
Article 131.1.c	FRCE exceeded maximum steady state deviation	no	no	yes	yes	no	1 integer value for negative FRCE and 1 integer value for positive FRCE per month
Article 185.4.b	Measurement resolution of FRCE	Yes	Yes	no	no	no	1 decimal value in MW per quarter
Article 185.4.b	Measurement accuracy of FRCE	Yes	Yes	no	no	no	1 decimal value in MW per quarter
Article 185.4.b	System frequency measure and accuracy descriptor	Yes	Yes	no	no	no	1 text per quarter
Article 185.4.b	FRCE calculation and accuracy descriptor	Yes	Yes	no	no	no	1 text per quarter

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