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European Network of
Transmission System Operators
for Electricity

ENTSO-E TRANSPARENCY PLATFORM DATA EXTRACTION PROCESS IMPLEMENTATION GUIDE

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Revision History

Version	Release	Date	Comments
0	1	2016-04-11	First drafting of the document based on the maintenance request EMFIP27 from WG MIT to comply with the transparency regulation (EU N°543/2013).
0	2	2016-06-14	Editorial amendments.
0	3	2016-07-15	Editorial amendments.
0	4	2017-04-24	Following ACER's review of revised MoP, incorporated decisions by WG MIT to enable EIC code as selection criteria when extracting data for articles 15.1.a-d and 16.1.a. Added chapter 7.7 with dependency matrix for extracting configuration data. For article 14.1.d, Process Type may be used as selection criteria.
1	0	2018-01-18	Introduced support for extraction of GL EB data. For transparency regulation article 13.1.a, introduced mandatory distinction between cross-border and internal redispatching. For extraction of configuration data, Implementation Date is a mandatory attribute.
1	0	2018-02-05	For GL EB article 12.3.b, reference to reserve type FCR removed since no publication of data foreseen.
1	1	2018-10-25	Maintenance request EMFIP48 in response to feedback from ACER: Added extraction of data published under GL EB article 12.3.a. Suppressed references to transparency regulation articles 17.1.d, 17.1.e and 17.1.j for which reporting will be phased out. Replaced placeholders for codes Axx and Ayy with references to final values.
1	2	2019-05-09	Editorial correction in dependency table for TR article 12.1.h. Amended dependency table for EB GL articles 12.3.h&i to distinguish data published on regional and border level, respectively. Approved by MC.
1	3	2021-04-20	Maintenance request EMFIP68: Introduction of standard and specific products as selection criteria for queries of TR art. 17.1.f and EB GL art. 12.3.b-d. Removed the duplicate table at the beginning of chapter 7.5. Approved by MC.
1	4	2021-06-17	Maintenance request EMFIP71: Publications of TR art. 17.1.b&c have been merged. Market Product may be used as selection criteria for EB GL art. 12.3.f. Added missing Process Types for mFRR in TR art. 17.1.f. Corresponding updates made in the dependency table in chapter 7.5.
1	5	2023-02-02	Maintenance request EMFIP81: Introduced in dependency table 5 the possibility to distinguish central and local selection of bids when extracting prices of activated balancing energy. Approved by ICTC.

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1 Objective

The objective of this document is to enable the data consumers to query information published in accordance with transparency regulation (EU N°2013/543) on the ENTSO-E central transparency platform.

This document provides the business context and in particular the dependency table to be applied to the xsd schema for the Status Request Document as per the CIM based standard IEC 62325-451-5.

2 Request for published transparency information – use case and process sequence

The central transparency platform allows data consumers to perform machine-to-machine queries for all structured data published under the transparency regulation since January 5, 2015. Reports in PDF formats are only available for download via the web site though.

Figure 1 displays the use case with the involved actors.

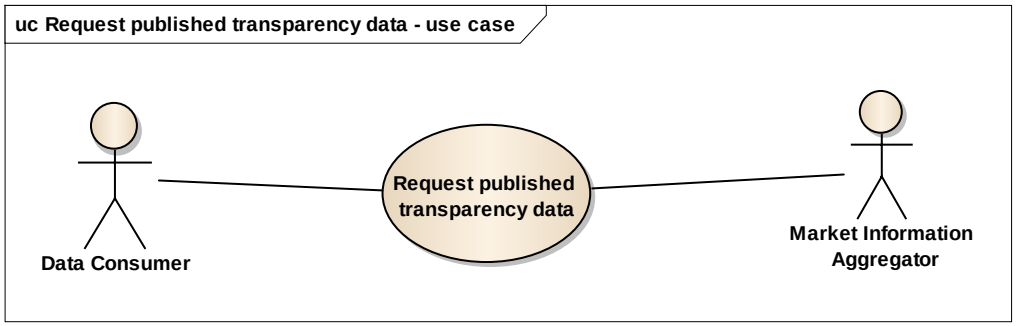

Figure 1 – Use case

Figure 2 displays the sequence diagram and in particular the exchange between data consumer and Market Information Aggregator.

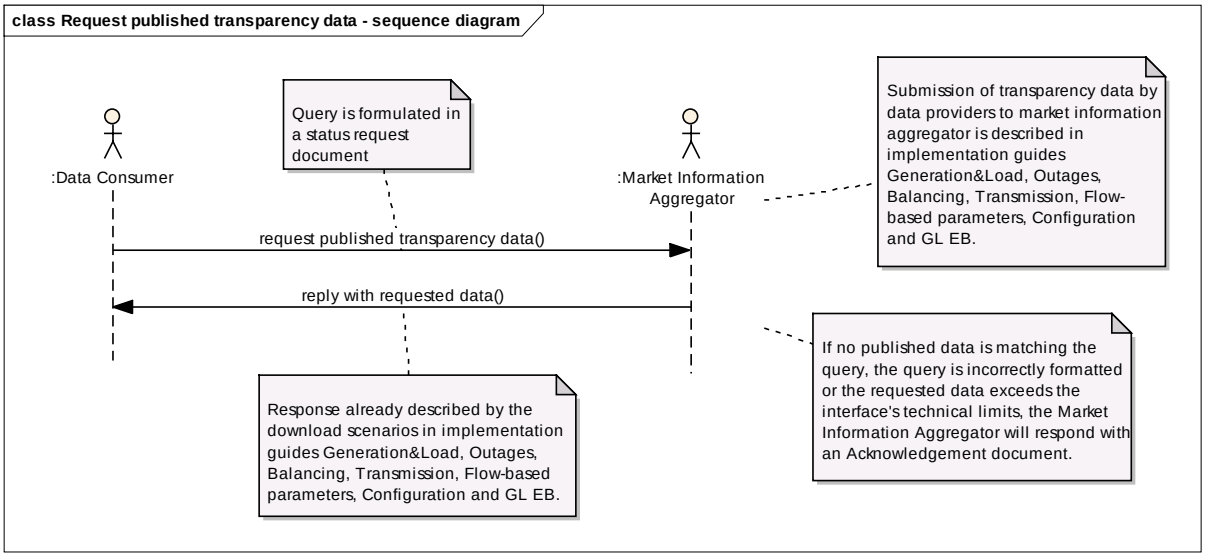

Figure 2 – Sequence diagram

Data consumer requests published transparency data by submitting a Status Request Document with some selection criteria. Market Information Aggregator responds to the request with a document containing the requested data.

The Market Information Aggregator will respond with a negative acknowledgement document if the request contains errors (not all mandatory attributes included, for example) or if no data matching the selection criteria is available.

Likewise, the Market Information Aggregator will respond with a negative acknowledgement document if the data volumes to be returned would exceed the technical limits imposed on the channel for the data exchange.

3 Contextual and assembly models

The contextual and assembly models for the Status Request Document are provided by the CIM standard IEC 62325-451-5. The CIM compliant XSD is provided on the ENTSO-E web site. The ENTSO-E Status Request Document implementation guide v3, also available on the ENTSO-E web site, serves as a generic reference for the concepts.

Contextual and assembly models for the response to the request are provided with documents described in IEC 62325-451-6. The corresponding XSDs may also be found on the ENTSO-E web site.

The central transparency platform provides data consumers with an on-line user manual for machine-to-machine data extractions. The manual contains for each Transparency Regulation article an example of how to query the interface and the platform's response to the request.

4 Request interfaces

Status request documents may be lodged to the central transparency platform via the channels implemented according to the MADES (IEC 62325-503) and web services (IEC 62325-504) standards. The response will be served via the same channel as the request. Additionally, a public web API has been implemented based on the https protocol.

5 Content of the request

A Status Request Document contains a list of key-value pairs. Each key-value pair consists of the fields attribute and attributeValue. These pairs of attribute and attributeValue will capture the selection criteria for the published transparency data. For example, a Data Consumer requests the data published under article 6.1.a (Actual Total Load) of the Transparency Regulation. The corresponding Status Request Document would contain the attribute "DocumentType" with the value "A65", an attribute "ProcessType" with value "A16", an attribute "BusinessType" with value A04" and the attributes OutBiddingZone_Domain and TimeInterval to indicate the bidding zone and the time interval, respectively.

The example in the figure below shows how a Status Request Document is used to extract data published under transparency regulation articles 15.1.a&b (planned unavailabilities and changes in actual availability of generation units) for the National Grid control area during the month of April 2016:

```
<StatusRequest_MarketDocument xmlns="urn:iec62325.351:tc57wg16:451-5:statusrequestdocument:4:0">
  <mRID>SampleRequest</mRID>
  <type>A59</type>
  <sender_MarketParticipant.mRID codingScheme="A01">10V000000000008F</sender_MarketParticipant.mRID>
  <sender_MarketParticipant.marketRole.type>A07</sender_MarketParticipant.marketRole.type>
  <receiver_MarketParticipant.mRID codingScheme="A01">10X1001A1001A450</receiver_MarketParticipant.mRID>
  <receiver_MarketParticipant.marketRole.type>A32</receiver_MarketParticipant.marketRole.type>
  <createdDateTime>2016-05-27T13:00:00Z</createdDateTime>
  <AttributeInstanceComponent>
    <attribute>DocumentType</attribute>
    <attributeValue>A80</attributeValue>
  </AttributeInstanceComponent>
  <AttributeInstanceComponent>
    <attribute>BiddingZone_Domain</attribute>
    <attributeValue>10YGB----------A</attributeValue>
  </AttributeInstanceComponent>
  <AttributeInstanceComponent>
    <attribute>TimeInterval</attribute>
    <attributeValue>2016-03-31T23:00Z/2016-04-30T23:00Z</attributeValue>
  </AttributeInstanceComponent>
</StatusRequest_MarketDocument>
```

Disclaimer: The example above is for illustration purposes only. It is highly recommended that implementation of any solution for querying the Central Transparency Platform shall be based solely upon the CIM standard IEC 62325-451-5 for the Status Request Document.

Figure 3 – example of Status Request Document

As a general rule, a given attribute may not be used more than one time in the Status Request Document. This means that if data consumer for example wants to query data for article 6.1.a Actual Total Load for both Belgian and French bidding zones, two separate Status Request Documents have to be submitted.

The attributes OutBiddingZone_Domain, In_Domain, Out_Domain, BiddingZone, Acquiring_Domain, Connecting_Domain and ControlArea are used to specify an area. In the specific case of transparency regulation article 12.1.e, In_Domain and Out_Domain may refer to a border. The attribute value shall contain the EIC code of the area (or border in the case of article 12.1.e). EIC codes for areas and borders can be found on the ENTSO-E website.

Data consumer may query any area or border for which the central transparency platform publishes data. For example, actual total load (regulation article 6.1.a) is published for the bidding zone comprising Germany, Austria and Luxemburg. No data is published on the level of the synchronous zone of Continental Europe though. Hence, a query for the latter would yield a negative acknowledgement response.

When queries are submitted via the interfaces based on MADES (IEC 62325-503) and web services (IEC 62325-504), there should in principle be no constraints on the time interval for which data is requested. Actual technical implementation of the interface may have to impose limits in order to preserve availability and reasonable response times in the interest of all data consumers. Any such constraints will be described in the on-line user manual.

In general, the public web API based on https can support queries with a time interval up to one year. Due to technical limitations of this interface, tighter constraints on the permitted time interval may apply for select transparency regulation articles – please refer to the on-line user manual for details.

The order of attributes within the Status Request Document is not significant.

6 Format and content of the response

The Market Information Aggregator responds with one of the documents described in the implementation guides for Generation and Load, Transmission, Flow-based parameters, Balancing, Outages, Configuration or GL EB. The type of document used in the response depends on the type of data being requested. The format of the response will be according to the download scenarios described in the before-mentioned implementation guides.

Time granularity of the data in the response will be the same as for the data published on the central transparency platform.

7 Status Request Document dependency tables

The dependency tables in this section indicate for each article of the Transparency Regulation which attributes must or may be used within the Status Request Document in order to request the published data.

For each category of data (Load, Generation, etc.), the sections below explain what type of document the Market Information Aggregator will return.

7.1 Load transparency data

Table 1 below is the dependency matrix that applies to requests for published Load transparency data.

Attribute	Art. 6.1.a Actual total load	Art. 6.1.b Day-ahead total load forecast	Art. 6.1.c Week-ahead total load forecast	Art. 6.1.d Month-ahead total load forecast	Art. 6.1.e Year-ahead total load forecast	Art. 8 Year-ahead forecast margin
DocumentType	A65: total load	A65: total load	A65: total load	A65: total load	A65: total load	A70: load forecast margin
ProcessType	A16: realised	A01: day-ahead	A31: week-ahead	A32: month-ahead	A33: year-ahead	A33: year-ahead
OutBiddingZone_Domain	Used	Used	Used	Used	Used	Used
TimeInterval	Used	Used	Used	Used	Used	Used

Table 1 – Dependency table for requesting Load data

The Market Information Aggregator will respond with a Generation and Load Market document containing the requested data.

7.2 Network and congestion management transparency data

Table 2 below is the dependency matrix that applies to requests for published network and congestion management transparency data.

Attribute	Art. 9.1 Expansion and dismantling projects	Art. 13.1.a Redispatch	Art. 13.1.b Countertrading	Art. 13.1.c Congestion costs
DocumentType	A90 interconnector network expansion	A63 redispatch mode	A91 countertrade notice	A92 congestion costs
DocStatus	May be used	Not Used	Not Used	Not Used
BusinessType	May be used B01 interconnector network evolution B02 interconnector network dismantling	Used A46: system operator redispatching A85: internal requirements	Not Used	May be Used B04: congestion costs B03: countertrade A46: system operator redispatch
In_Domain	Used	Used (same as Out domain for internal redispatching)	Used	Used, same as Out domain
Out_Domain	Used	Used (same as In domain for internal redispatching)	Used	Used, same as In domain
TimeInterval	Used	Used	Used	Used

Table 2 - Dependency table for requesting Network and Congestion Management data

The Market Information Aggregator will respond with a Transmission Network Market document containing the requested data.

175 ### 7.3 Transmission transparency data

176 Table 3 below is the dependency matrix that applies to requests for published Transmission
177 transparency data.

Attribute	Art. 11.1.a forecasted capacity	Art. 11.1.a offered capacity	Art. 11.1.b flow-based	Art. 11.3 Intraday transfer limits
DocumentType	A61: estimated capacity	A31: agreed capacity	B11: Anonymized flow based parameters publication	A93: DC link capacity
ProcessType	Not used	Not used	A01 Day ahead A02 Intraday	Not used
Auction.Type	Not used	Used	Not used	Not used
Auction. Category	Not used	May be used	Not used	Not used
BusinessType	Not used	Not used	Not used	Not used
In_Domain	Used	Used	Used, same as Out domain	Used
Out_Domain	Used	Used	Used, same as In domain	Used
Contract_Market Agreement.Type	Used	Used	Not used	Not used
ClassificationSequence_AttributeInstanceComponent.Position	Not used	May be used	Not used	Not used
TimeInterval	Used	Used	Used	Used

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179 Note: For article 11.1.a forecasted capacity, Contract Type is used to distinguish between
180 day-ahead, week-ahead, month-ahead and year-ahead forecasts.

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Attribute	Art. 12.1.a Explicit allocation information (capacity)	Art. 12.1.a Explicit allocation information (revenue only)	Art. 12.1.b Total capacity nominated	Art. 12.1.c Total capacity already allocated
DocumentType	A25: allocation results	A25: allocation results	A26: capacity document	A26: capacity document
ProcessType	Not used	Not used	Not used	Not used
Auction.Type	Not used	Not used	Not used	Not used
Auction.Category	May be used	Not used	Not used	May be used
BusinessType	A43 requested capacity B05 capacity allocated (with price)	B07 auction revenue	B08 total nominated capacity	A29 AAC
In_Domain	Used	Used	Used	Used
Out_Domain	Used	Used	Used	Used
Contract_MarketAgreement.Type	Used	Used	Not used	Used
ClassificationSequence_AttributeInstanceComponent.Position	May be used	Not used	Not used	Not used
TimeInterval	Used	Used	Used	Used

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attribute	Art. 12.1.d Day ahead prices	Art. 12.1.e Implicit auction net positions and congestion income	Art. 12.1.f Schedule day ahead commercial exchanges	Art. 12.1.g Physical flows	Art. 12.1.h Capacity allocated outside EU
DocumentType	A44: price document	A25: allocation results	A09: finalised schedule	A11: aggregated energy data report	A94: non EU allocation
ProcessType	Not used	Not used	Not used	Not used	Not used
Auction.Type	Not used	Not used	Not used	Not used	Used
Auction.Category	Not used	Not used	Not used	Not used	May be used
BusinessType	Not used	B09 net position B10 congestion income	Not used	Not used	Not used
In_Domain	Used, same as Out domain	Used	Used	Used	Used
Out_Domain	Used, same as In domain	Used	Used	Used	Used
Contract_MarketAgreement.Type	Not used	Used	Not used	Not used	Used
ClassificationSequence_AttributeInstanceComponent.Position	Not used	Not used	Not used	Not used	Not used
TimeInterval	Used	Used	Used	Used	Used

186 **Table 3 - Dependency table for requesting Transmission data**

187 The Market Information Aggregator will respond with a Publication Market document
188 containing the requested data, except for article 11.1.b which will yield a Critical Network
189 Element Document.

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192 7.4 Generation transparency data

193 Table 4 below is the dependency matrix that applies to requests for published Generation
194 transparency data.

Attribute	Art. 14.1.a Installed generation capacity aggregated	Art. 14.1.b Installed generation capacity per unit	Art. 14.1.c Day-ahead aggregated generation	Art. 14.1.d Day-ahead generation forecasts for wind and solar	Art. 16.1.a Actual generation output per generation unit	Art. 16.1.b&c Aggregated generation per type	Art. 16.1.d Aggregated filling rate of water reservoirs and hydro storage plants
DocumentType	A68: installed generation per type	A71: generation forecast	A71: generation forecast	A69: wind and solar forecast	A73: actual generation	A75: actual generation per type A74: wind and solar generation	A72: reservoir filing generation
ProcessType	A33: year ahead	A33: year ahead	A01: day-ahead	May be used A01: day-ahead A40: intraday A18: Intraday total	A16: realised	A16: realised	A16: realised
In_ Domain	Used	Used	Used	Used	Used	Used	Used
PsrType	May be used	May be used	Not Used	May be used	May be used	May be used	Not Used
TimeInterval	Used	Used	Used	Used	Used	Used	Used
mRID	Not used	Not used	Not used	Not used	May be used	Not used	Not used

195 **Table 4 – Dependency table for requesting Generation data**

196 The Market Information Aggregator will respond with a Generation and Load Market document
197 containing the requested data.

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7.5 Balancing transparency data

Table 5 below is the dependency matrix that applies to requests for published Balancing transparency data.

attribute	GL EB art. 12.3.a Current balancing state	GL EB art. 12.3.b-d Balancing energy bids	GL EB art. 12.3.e Aggregated balancing energy bids	GL EB art. 12.3.f Procured balancing capacity	GL EB art. 12.3.h&i Allocation and use of cross-zonal balancing capacities
DocumentType	A86: imbalance volume	A37: reserve bid	A24: bid document	A15: acquiring system operator reserve schedule	A38: reserve allocation result document
ProcessType	Not Used	Used: A51: aFFR A47: mFRR A46: RR	Used: A51: aFFR A47: mFRR A46: RR	Used: A52: FCR A51: aFFR A47: mFRR A46: RR	Used: A52: FCR A51: aFFR A47: mFRR A46: RR
ControlArea_Domain	Used	Used	Used	Used	May be used(1)
BusinessType	B33: area control error	Not Used	Not Used	Not Used	Not Used
Acquiring_Domain	Not Used	Not Used	Not Used	Not Used	May be used(1)
Connecting_Domain	Not Used	Not Used	Not Used	Not Used	May be used(1)
Type_MarketAgreement.Type	Not Used	Not Used	Not Used	May be used	May be used
PsrType	Not Used	Not Used	Not Used	Not Used	Not Used
standard_MarketProduct	Not Used	May be used	Not Used	May be used	Not Used
original_MarketProduct	Not Used	May be used	Not Used	May be used	Not Used
TimeInterval	Used	Used	Used	Used	Used

(1)ControlArea_Domain shall be populated with EIC code of region when querying for aggregated data published on regional level. Acquiring_Domain and Connecting_Domain shall be populated with EIC codes of areas where energy is going and leaving, respectively, when querying for disaggregated data published on border level.

Table 5

Attribute	Art. 17.1.b Amount and prices of balancing reserves under contract		Art. 17.1.f Prices of activated balancing energy aFRR IF art. 3.16 CBMP for aFRR standard product

DocumentType	A81 contracted reserve		A84 activated balancing price
ProcessType	Used: A52: FCR A51: aFFR A47: mFRR A46: RR		May be used A60: Scheduled activation mFRR A61: Direct activation mFRR A67: central selection aFRR A68: local selection aFRR
ControlArea_Domain	Used		Used
BusinessType	Not used		May be Used A95: FCR A96: aFRR A97: mFRR A98: RR
Acquiring_ Domain	Not Used		Not Used
Connecting_Domain	Not Used		Not Used
Type_MarketAgreement. Type	May be used		Not Used
PsrType	May be used		May be used
standard_MarketProduct	May be used		May be used
original_MarketProduct	May be used		May be used
TimeInterval	Used		Used

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attribute	Art. 17.1.g Imbalance prices	Art. 17.1.h Total imbalance volumes	Art. 17.1.i Financial expenses and income for balancing
DocumentType	A85: imbalance prices	A86: imbalance volume	A87: financial situation
ProcessType	Not used	Not used	Not used
ControlArea_Domain	Used	Used	Used
BusinessType	Not Used	Not Used	Not Used
Acquiring_ Domain	Not Used	Not Used	Not Used
Connecting_Domain	Not Used	Not Used	Not Used
Type_MarketAgreement. Type	Not Used	Not Used	Not Used
PsrType	Not Used	Not Used	Not Used
standard_MarketProduct	Not Used	Not Used	Not Used
original_MarketProduct	Not Used	Not Used	Not Used
TimeInterval	Used	Used	Used

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attribute	GL EB art. 12.3.a Current balancing state	GL EB art. 12.3.b-d Balancing energy bids	GL EB art. 12.3.e Aggregated balancing energy bids	GL EB art. 12.3.f Procured balancing capacity	GL EB art. 12.3.h&i Allocation and use of cross-zonal balancing capacities
DocumentType	A86: imbalance volume	A37: reserve bid	A24: bid document	A15: acquiring system operator reserve schedule	A38: reserve allocation result document
ProcessType	Not Used	Used: A51: aFFR A47: mFRR A46: RR	Used: A51: aFFR A47: mFRR A46: RR	Used: A52: FCR A51: aFFR A47: mFRR A46: RR	Used: A52: FCR A51: aFFR A47: mFRR A46: RR

ControlArea_Domain	Used	Used	Used	Used	May be used[1]
BusinessType	B33: area control error	Not Used	Not Used	Not Used	Not Used
Acquiring_Domain	Not Used	Not Used	Not Used	Not Used	May be used[1]
Connecting_Domain	Not Used	Not Used	Not Used	Not Used	May be used[1]
Type_MarketAgreement.Type	Not Used	Not Used	Not Used	May be used	May be used
PsrType	Not Used	Not Used	Not Used	Not Used	Not Used
standard_MarketProduct	Not Used	May be used	Not Used	May be used	Not Used
original_MarketProduct	Not Used	May be used	Not Used	May be used	Not Used
TimeInterval	Used	Used	Used	Used	Used

[1]ControlArea_Domain shall be populated with EIC code of region when querying for aggregated data published on regional level. Acquiring_Domain and Connecting_Domain shall be populated with EIC codes of areas where energy is going and leaving, respectively, when querying for disaggregated data published on border level.

Table 5 – Dependency table for requesting Balancing data

The Market Information Aggregator will respond with a Balancing Market document containing the requested data for queries of all articles, except for GL EB articles 12.3.b-d where it will respond with a Reserve Bid document.

7.6 Outages transparency data

Table 6 below is the dependency matrix that applies to requests for published Outage transparency data.

Attribute	Art. 7.1.a&b Unavailability of consumption units	Art. 15.1.a&b Unavailability of generation units	Art. 15.1c&d Unavailability of production units	Art. 10.1.a&b Unavailability of transmission infrastructure	Art. 10.1.c Unavailability of offshore grid infrastructure
DocumentType	A76: load unavailability	A80: generation unavailability	A77: production unavailability	A78: transmission unavailability	A79: offshore grid infrastructure unavailability
DocStatus	Not used	may be used	may be used	may be used	may be used
BusinessType	May be used A53: planned maintenance A54: forced unavailability	May be used A53: planned maintenance A54: forced unavailability	May be used A53: planned maintenance A54: forced unavailability	May be used A53: planned maintenance A54: forced unavailability	Not Used
BiddingZone_Domain	Used	Used	Used	Not Used	Used
In_Domain	Not Used	Not Used	Not Used	Used	Not Used
Out_Domain	Not Used	Not Used	Not Used	Used	Not Used
mRID	Not Used	May be used	May be used	Not used	Not used
TimeInterval	Used	Used	Used	Used	Used

Table 6 – Dependency table for requesting Outages data

The Market Information Aggregator will respond with an Unavailability Market document containing the requested data.

7.7 Configuration transparency data

Table 7 below is the dependency matrix that applies to requests for published Configuration transparency data.

Attribute	Production and generation units
DocumentType	A95: configuration document
BusinessType	B11: production unit
BiddingZone_Domain	Used
psrType	May be used
Implementation_DateAndOrTime	Used

Table 7 – Dependency table for requesting Configuration data

The Market Information Aggregator will respond with a Configuration Market document containing the requested data.