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Implementation Guide
for exchanges
with the TOPASE application

TOPASE Application Exchange Implementation Guide

CHANGE HISTORY

Change History		
06/06/2017	V1.0	Initial Version
15/06/2017	V1.1	Amendment of the bid filing methodology (§4.1.6) Addition of the Forecast Dispatch Schedules (PA) section
11/01/2018	V1.2	Addition of Details
25/05/2018	V1.3	Addition of PA Details
14/09/2018	V1.4	Amendment of the agreement defining the bid mRID Addition of URLs Addition of PA details (closed gate case)
23/11/2018	V 1.5	xsd update for RR standard bids (v7.1) Additional details on the PA deposit (redeclaration type, control on the mRID of PA time series, controls on SSY values) Addition of HMI URLs Updating of swagger URLs
18/10/2019	V 1.6	Updating of the bid lifecycle Updating of bid controls Updating of the 'Offer Report' API settings

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CONTENTS

1 General provisions

1.1 Purpose of the document

This document is intended for users of the Transmission of Offers and Schedules (TOPASE) application. This system is implemented to ensure that RTE receive all balancing bids (specific and standard), technical constraints and forecast dispatch schedules, it is therefore intended for all Balancing Service Providers and Scheduling Agents.

Initially, this application will only be able to receive standard RR bids and forecast dispatch schedules. Technical constraints and specific balancing bids will be received as today by the SYGA application.

This document is an integral part of the IS Rules and enables:
- definition of the process for forwarding RR balancing bids associated with the TOPASE application;
- presentation of the technical methods to be implemented to use the TOPASE application.

1.2 Reference documents

The table below lists the reference documents cited in this guide:

No.	Document Title	Source
[1]	General IS Appendix	http://clients.rte-france.com/lang/fr/visiteurs/accueil/portail.jsp
[2]	PKI Software Certificate User Manual	http://clients.rte-france.com/lang/fr/visiteurs/accueil/portail.jsp
[3]	ReserveBidDocument ENTSOE	iec62325-451-7-reservebiddocument_v7_1
[4]	Code list ENTSOE	https://clients.rte-france.com/lang/fr/clients_traders_fournisseurs/services_clients/terre.jsp
[5]	TERRE Implementation Guide ENTSOE	Terre IG Draft H 2017-03-06 clean
[6]	Acknowledgement document ENTSOE	iec62325-451-1-acknowledgement_v8_0.xsd
[7]	Introduction to TOPASE HMI	http://clients.rte-france.com/lang/fr/visiteurs/accueil/portail.jsp

In the event of inconsistencies between this Implementation Guide and the reference documents cited above, the indications of the present guide shall prevail.

1.3 Changes in technical specifications

Each of the technical specifications in this Implementation Guide can be reviewed at the initiative of RTE. Unless otherwise stated regarding deadlines, these revisions shall be Notified to Users at least six (6) months before their operational commissioning.

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2 Access to the RTE IS

The terms and conditions for access to the RTE IS are defined by the rules for access to the information system and the use of RTE applications.
(http://clients.rte-france.com/lang/fr/visiteurs/accueil/portail.jsp).

2.1 TOPASE Application

Requests for access to generic applications are made using a form. (https://clients.rte-france.com/secure/fr/visiteurs/accueil/portail_adhesion.jsp).

2.2 Prerequisites

To access the TOPASE application, Balancing Service Providers or Scheduling Agents must:
- have a valid PKI certificate attached to the TOPASE application;
- have a valid Balancing Service Provider or scheduling agent participation agreement.

A PKI certificate will be required for testing and another certificate will be required for generation

2.3 Obtaining a PKI certificate

In order to be able to use the web HMI interface of the TOPASE application, a Balancing Service provider or Scheduling Agent must send a request to his CRC (Customer Relationship Manager).

After this request, an electronic key for connecting to the RTE IS (PKI certificate) is provided to the Balancing Service provider or Scheduling Agent. This key must be set up in the manner described in the reference document [2].

2.4 Connecting to the Web HMI

The web HMI interface of the TOPASE application is accessible with a web browser, with an electronic key to connect to the RTE IS (see below). §), at the following URL[1]:

Solution for access to the RTE IS (see § 2 au-dessus)	Type of access	Connection URL
TOPASE Test Platform[2]	Internet	https://secure-apps-dev.iservices.rte-france.com/topase-web/

The TOPASE Web HMI is a thin client. Specifically, Web pages can be viewed with the Microsoft Internet Explorer (IE 11) browser without an additional plug-in. RTE is committed to working only with this browser.

The screens and main features of the TOPASE Web HMI are described in the reference document [7].

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[1] The URL varies depending on the type of access to the RTE IS. These URLs are given as an indication and can be modified by RTE.

[2] This platform is available to customers who wish to perform tests. A dedicated PKI certificate for this platform is to be requested by the customer from his customer relationship manager.

3   TOPASE Application Architecture

The following diagram presents the overall architecture of the TOPASE application:
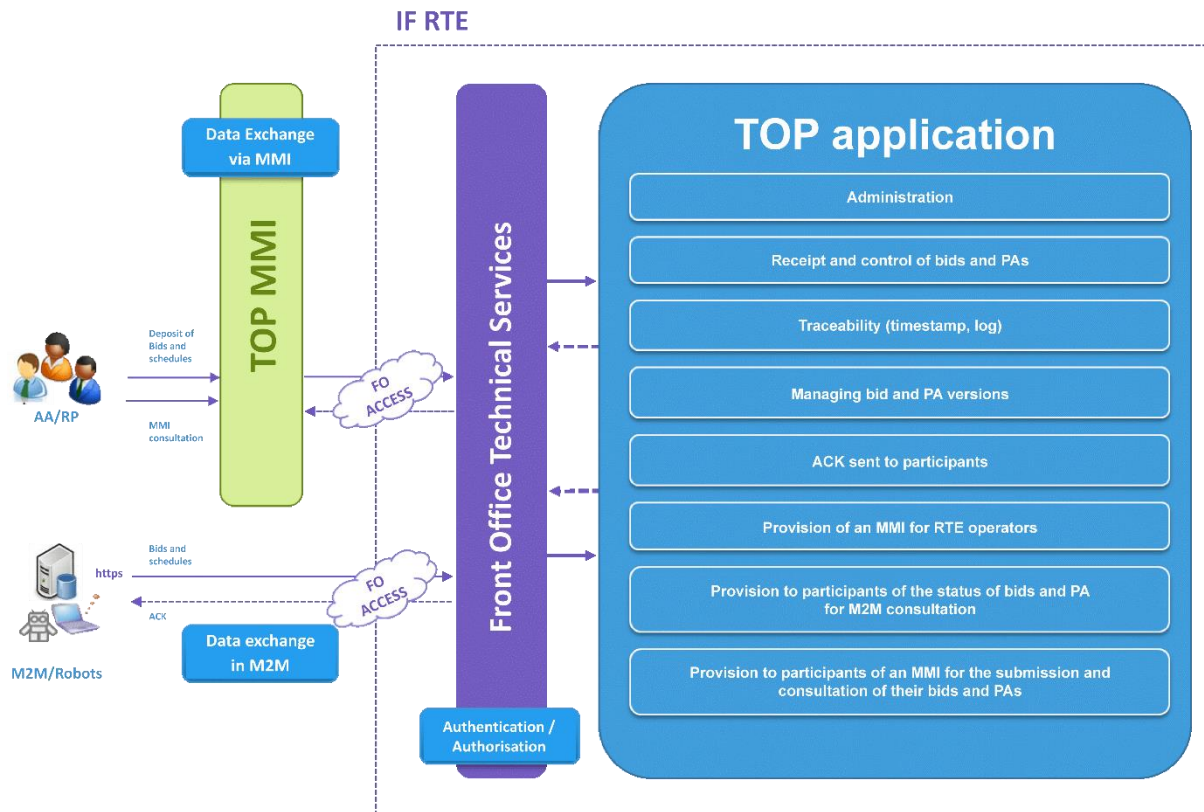
3.1   Interfacing solutions

For a Balancing Service provider, there are two ways to interface with the TOPASE application, namely:

An interface called "Web HMI":
Technically, the interface accesses an RTE website. The Balancing Service provider or Scheduling Agent may carry out the following operations:
-   Submission of a bid document
-   Filing a PA document
-   View the log of exchanges with RTE
-   View the status of one or more bids
-   View reported PAs and selected PAs

Details for the installation are presented in chapters 0 au-dessous..

Machine to Machine (M2M) interface:
This interface can be installed by all Balancing Service Providers and Scheduling Agents.

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This interface is technically composed of:
- a service allowing Balancing Service Providers and Scheduling Agents to send a bid or PA document
- a service to view the status of one or more bids
- a service to view the status of one or more PAs

Details for the installation of this interface are presented in chapters 4.3 and 5.4 below.

The following table summarises the functionality available for each interface:

Features for Balancing Service Providers and Scheduling Agents	By API	Loading a document via HMI	HMI consultation
Submit standard TERRE bids	X	X	
Edit a standard TERRE bid	X	X	
Cancel a standard TERRE bid	X	X	
Get list and status of standard TERRE bids	X	X	X
Get the details of a standard TERRE bid	X	X	X
Submit a Forecast Dispatch Schedule	x	x	X
Consult acknowledgement of receipt of forecast dispatch schedule	X		X
View the forecast dispatch schedule selected by RTE	X		

3.2 Solutions for accessing RTE's IS

The TOPASE application is accessible through the RTE Front Office. The RTE Front Office is a set of information technology resources made available by RTE, allowing access to its IS and Applications.

4 Transmission of standard RR bids by Balancing Service Providers to RTE

4.1 Transmission process

Initially, only one type of bid will be submitted by the Balancing Service Providers to RTE via the TOPASE application: standard RR bid documents for the European TERRE platform.

4.1.1 ENTSOE Document for Standard RR Bids

The standard bid document submitted by RR is in xml format and must comply in the following ENTSOE form:

Reserve bid document	iec62325-451-7-reservebiddocument_v7_1.xsd

RR standard bids for a given application time will be transmitted in an **aggregated form** (multi-bid document). Each standard RR bid is expressed over 4 quarter-hour steps.
A Balancing Service provider will then send RTE a single document per application hour H of day D, including all its bids (over its entire balancing scope), i.e. a total of 24 documents over a day of application D.

> *A bid document is valid for one hour of application.*
>
> *This document gathers all the bids in the hour of application.*
>
> *Each of the bids is made up of four hourly steps.*

The diagram below provides a schematic view of the structure of the bid document:
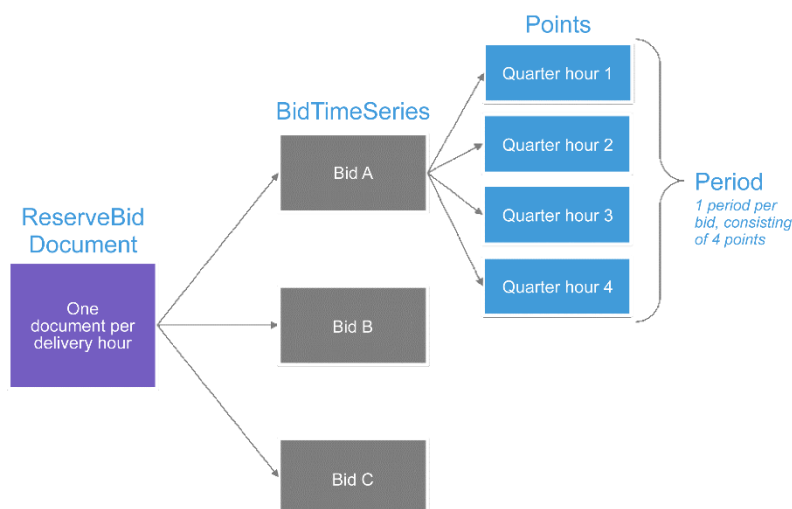
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The table below gives details of the fields that comprise the document:

ReserveBid_MarketDocument	Data	Mandatory / Optional
mRID	RR_YYYYMMDD_HHMM_HHMM_ Service provider YYYYMMDD: Delivery day HHMM: delivery start and end time Service provider: short name of the service provider assigned by RTE	Mandatory
revisionNumber	Doc Version Number, integer 1 for the first transmission (to be incremented by 1 for each delivery for the same delivery time)	Mandatory
type test	A37 (*ENTSOE meaning: reserve bid document*	Mandatory
process.processType	A46 (*ENTSOE meaning: Replacement Reserve - RR)*	Mandatory
sender_MarketParticipant.mRID	EIC code of Issuing Service provider *Coding Scheme = A01 (EIC code)*	Mandatory
sender_MarketParticipant.marketRole.type	A27 (*ENTSOE meaning: resource provider*)	Mandatory
receiver_MarketParticipant.mRID	10XFR-RTE------Q	Mandatory
receiver_MarketParticipant.marketRole.type	A04 (*ENTSOE meaning: System Operator*)	Mandatory
createdDateTime	"YYYY-MM-DDTHH:MM:SSZ" (Date and time when the document was created in ISO 8601 UTC format)	Mandatory
reserveBid_Period.timeInterval	"YYYY-MM-DDTHH:MMZ/YYYY-MM-DDTHH:MMZ" (start date and end date of the bid validity period. Must be 1 hour. In UTC time)	Mandatory
domain.mRID	EIC France (10YFR-RTE------C) *Coding Scheme = A01 (EIC code)*	Mandatory
subject_MarketParticipant.mRID	EIC code of Issuing Service provider *Coding Scheme = A01 (EIC code)*	Mandatory
subject_MarketParticipant.marketRole.type	A27 (*ENTSOE meaning: resource provider*)	Mandatory

BidTimeSeries		Mandatory / conditional
mRID	RR_YYMMDD_HHMM-HHMM_EDA_BidReference YYMMDD: Delivery day (UTC) HHMM: delivery start and end time (UTC) ReferenceOffer: Bid Support code (EDA) Num: 6-digit number e.g. RR_170428_0800_0900_SO1_000011	Mandatory
auction.mRID	AUCTION_RR	Mandatory
businessType	B74 (*ENTSOE meaning: bid*)	Mandatory
acquiring_Domain.mRID	EIC France (10YFR-RTE------C) *Coding Scheme = A01 (EIC code)*	Mandatory
connecting_Domain.mRID	EIC France (10YFR-RTE------C) *Coding Scheme = A01 (EIC code)*	Mandatory
provider_MarketParticipant.mRID	Balancing service provider	Mandatory
quantity_Measure_Unit.name	MAW	Mandatory
currency_Unit.name	EUR	Mandatory

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price_Measure_Unit.name	MWH	Mandatory
divisible	A01 if divisible A02 if not divisible	Mandatory
linkedBidsIdentification	*{service provider_name}_{date}_{HH_start}00{HH_end}00_{XXXXX}*	Optional
exclusiveBidsIdentification	*{service provider_name}_{date}_{HH_start}00{HH_end}00_{XXXXX}*	Optional
blockBid	*A01 = Non-divisible block* *A02 = Divisible Block*	*Optional* *Not used by RTE*
registeredResource.mRID	EDA code (8 characters max)	Mandatory
flowDirection.direction	A01: if upward A02: if downward	Mandatory
stepIncrementQuantity	Mandatory if Divisible = A01	Optional

Period		Mandatory / conditional
timeInterval	"YYYY-MM-DDTHH:MMZ/YYYY-MM-DDTHH:MMZ" *(start date and end date of the bid validity period. Must be 1 hour. Will be redundant with reserveBid_Period.timeInterval for TERRE bids)*	Mandatory
resolution	PT15M	Mandatory

Point		
position	1, 2, 3 or 4 depending on the 1/4 hour involved	Mandatory
quantity.quantity	Maximum quantity	Mandatory
minimum_Quantity.quantity	Minimum quantity to be indicated if divisible (mandatory if divisible = A01)	Optional
price.amount	Price	Mandatory

MBA Domain		
	Not used by RTE	*Optional*

Examples of bid documents are provided here.

4.1.2 Convention

4.1.2.1 Creating Document Identifiers (mRID Document)

A bid document is identified by a unique identifier, the document mRID, which is a field in the XML document.

Each of the bids is also identified by a unique mRID offering. Document and bid mRIDs are limited to 35 characters and must be comply with a specific form. The mRID of the document shall be as follows:

RR_{application date}_{application start time_application end time}_{service provider ID}

Where:
- Prefix RR_
- Application date in YYYYMMDD format
- Application start and end time in hhmm_hhmm format
- Service provider ID: name of the Balancing Service provider (short name, assigned by RTE)

NB: The document mRID is a field in the XML document. This is not the file name. No particular form is required regarding the filename, since it is not used by RTE. RTE only uses the XML content.

4.1.2.2   Establishment of bid identifiers (bid mRID)

The bid mRID shall be composed as follows:

RR_{application date}_{application start time-application end time}_{EDA code}_{REF service provider bid}

Where:
- Prefix RR_
- Application date in YYMMDD format
- Start and end application time in hhmm-hhmm format
- EDA code (8 characters maximum)
- Bid service provider ref: reference left free for the Balancing Service provider, not more than 6 alphanumeric characters

Compliance with this form will be controlled by RTE (see §4.1.6.2 au-dessous and §4.1.6.4 au-dessous). Non-compliance with this format will result in refusal of bids by RTE.

Note:

For the sending of bids for the 23:00-midnight delivery time (UTC), the mRID must be comprised as follows (example for the last hour of the day on 31/08/2017):
    Document mRID: RR_20170831_2300_0000_<PARTICIPANT ID>
    mRID bid: RR_170831_2300_0000_<Code EDA>_<Participant Ref>
    Delivery periods:
          <start>2017-08-31T23:00Z</start>
          <end>2017-09-01T00:00Z</end>

NEW   4.1.2.3   Convention on line and exclusivity links

Tagged values for linked (<linkedBidsIdentification>) and exclusive (<exclusiveBidsIdentification>) bids shall, where they exist, comply with the following nomenclature:
{paticipant_name}_{date}_{HH_start}00-{HH_end}00_{XXXXX} where:

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- {nom_acteur}: the name of the service provider with a maximum of 10 characters and in capital letters (check the consistency of the name of the service provider with the connected service provider)
     o *Example: EDF, ENGIEHYDRO, TRAILSTONE, etc.*
- {date}: the same date as the document over 6 numeric characters with the following format YYMMDD
     o *Example: 190911 for 11 September 2019*
- {HH_start}: start time of application of the bid over 2 numeric characters
- {HH_end}: end time of application of the bid over 2 numeric characters (HH_end = HH_start + 1)
- {XXXXX}: a free 5-character alphanumeric string

Example 1: EDF_190911_1000-1100_12345
Example 2: ENGIEHYDRO_190911_1000-1100_12345
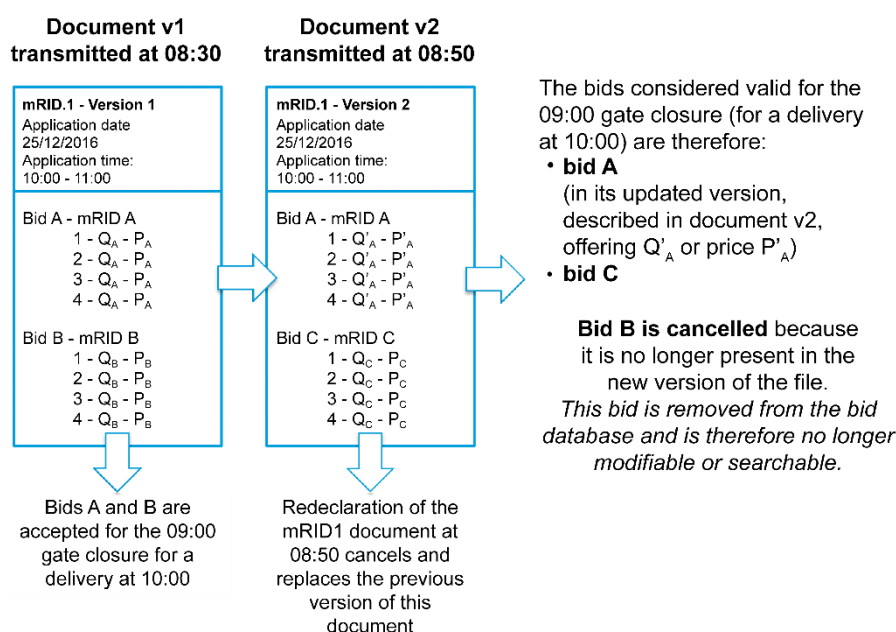
4.1.3 Transmission deadlines

Early transmission of bids **is allowed from D-7.**

The document for one hour of application [H-H+1] is expected at the time TERRE gate closure time named $H_{\text{G-TERRE}}$ at the latest, located X minutes before the time H.

At the start of TERRE, X = 60 minutes. The document covering the application time 15:00-16:00 is expected by RTE at 14:00 at the latest.

4.1.4 Updating bids

Each newly received document for a given application time will replace the previously received document for the same application time. Updates are managed in an undo and replace mode, not by delta. A bid that is not present in a document version will cause it to be cancelled in the database.

Document v1
transmitted at 08:30

mRID.1 - Version 1
Application date
25/12/2016
Application time:
10:00 - 11:00

Bid A - mRID A
  1 - Q_A - P_A
  2 - Q_A - P_A
  3 - Q_A - P_A
  4 - Q_A - P_A

Bid B - mRID B
  1 - Q_B - P_B
  2 - Q_B - P_B
  3 - Q_B - P_B
  4 - Q_B - P_B

Bids A and B are accepted for the 09:00 gate closure for a delivery at 10:00

Document v2
transmitted at 08:50

mRID.1 - Version 2
Application date
25/12/2016
Application time:
10:00 - 11:00

Bid A - mRID A
  1 - Q'_A - P'_A
  2 - Q'_A - P'_A
  3 - Q'_A - P'_A
  4 - Q'_A - P'_A

Bid C - mRID C
  1 - Q_C - P_C
  2 - Q_C - P_C
  3 - Q_C - P_C
  4 - Q_C - P_C

Redeclaration of the mRID1 document at 08:50 cancels and replaces the previous version of this document

The bids considered valid for the 09:00 gate closure (for a delivery at 10:00) are therefore:
• **bid A**
  (in its updated version, described in document v2, offering Q'_A or price P'_A)
• **bid C**

Bid B is cancelled because it is no longer present in the new version of the file.
This bid is removed from the bid database and is therefore no longer modifiable or searchable.

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4.1.5 _Traceability of updates_

The method of updating the selected bids means that the changes to the bid before the gate closure are not stored in the database. Bids do not have version numbers, the version number is only attached to the document.

The bids stored in the database are those that are present in the latest document version received. These bids cancel and replace the bids contained in the previous document version: the power and price values are 'wiped out' in the database by the new values.

Only the history of changes to the status and state of bids is tracked: this allows us to track the bid throughout its life cycle (see §4.1.7 au-dessous)

4.1.6 _The different stages of the bid filing process_

The diagram below illustrates the bid filing process through the TOPASE application. These steps will be described in the following paragraphs.
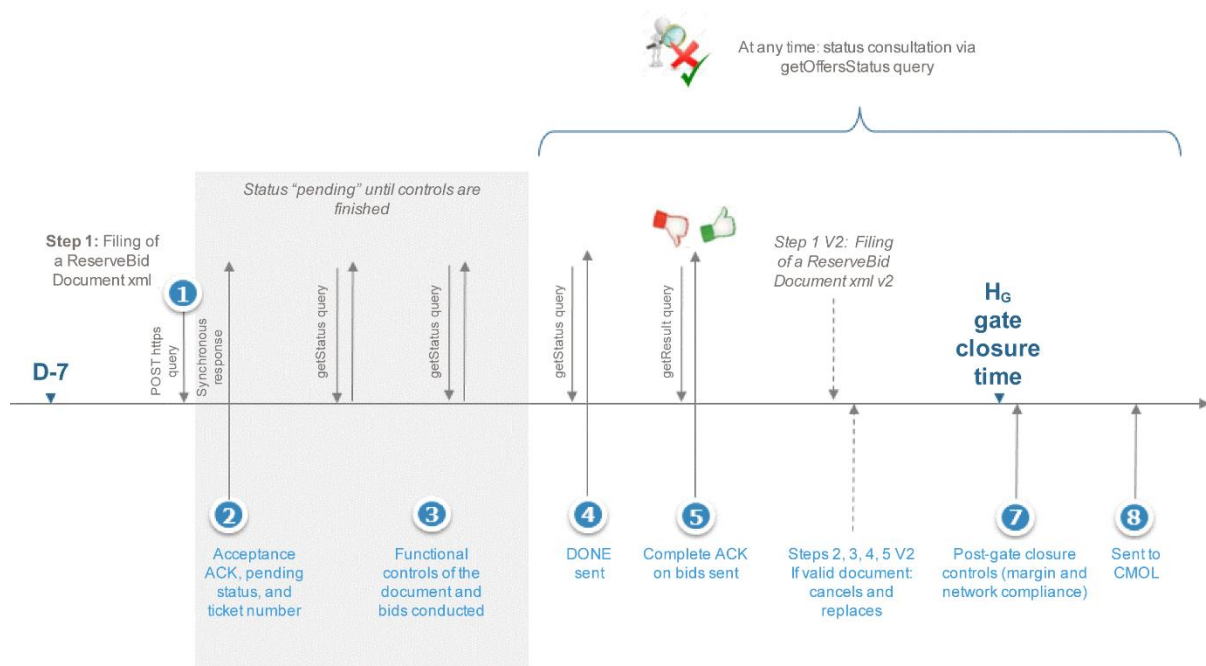
4.1.6.1 Step 1: Bid document filed

The Balancing Service provider submits the bid document via the TOPASE interface (HMI or API). The Balancing Service provider may change the communication mode (HMI or API) if it wishes to do so at some point.

Upon receipt of the document, TOPASE responds that it has been properly accepted (synchronous response). The response contains body XML which contains the following information:
- The reference date that will be used to track when the document was received in the RTE IS (and this is the date the ticket was created)
- A 'PENDING' status (indicating that processing is in progress)

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- A ticket ID with which the Balancing Service provider can then come and ask TOPASE for information on the processing of this document, via an API of type get/submission/status.

Example:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<Submission_Ticket>
    <creationDate>2018-01-31T15:48:19Z</creationDate>
    <status>PENDING</status>
    <ticketNumber>1517413699153</ticketNumber>
</Submission_Ticket>
```

4.1.6.2   Steps 2 and 4: Query via get/submission/status

RTE provides the balancing service provider with a get/submission/status API to review the state of processing of a document.

The service provider the ticket identifier that was communicated to it in the synchronous response (step 1) as the parameter of the query

This get/submission/status API will return to the Balancing Service provider an XML body containing the following information:
- The response generation date
- Processing status:
  - 'pending' as long as the processing of the document and its contents are in progress
  - 'done' when this processing is completed

Example:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<Acknowledgement_Status>
    <createdDateTime>2018-01-31T15:48Z</createdDateTime>
    <status>DONE</status>
    <ticketNumber>1517413699153</ticketNumber>
</Acknowledgement_Status>
```

4.1.6.3   Step 3.1: Document Control

The following controls are carried out by TOPASE on the document at the time of filing:

- Syntax controls: non-empty document, header, indentations, correct tags, all field comply with syntax

- Simple functional controls:

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- Header data validity: the document sent corresponds to a TERRE bid document

Field	Expected value
Type	A37
Process.processtype	A46
sender_MarketParticipant.marketRole.type	A27
receiver_MarketParticipant.mRID	10XFR-RTE------Q
receiver_MarketParticipant.marketRole.type	A04
domain.mRID	10YFR-RTE------C
subject_MarketParticipant.mRID	10XFR-RTE------Q
subject_MarketParticipant.marketRole.type	A04

- Uniformity between the issuer of the document and the service provider concerned in the document

- Verification that the service provider has a valid participation agreement as Balancing Service provider

- Complying with the transmission deadline: no earlier than 7 days in advance, no later than the TERRE gate closure time $H_{G\text{-}TERRE}$ X minutes before the application time [H; H+1].

The period "YYYY-MM-DDTHH:MMZ/YYYY-MM-DDTHH:MMZ" specified in the reserveBid_Period.timeInterval field:

- *must be one hour*
- *must be between D and D+7 or D is the current date*
- *The period start time must be greater than $H_{G\text{-}TERRE}$+ X*
  - *Where $H_{G\text{-}TERRE}$ is the next gate closure time*
  - *And X is the neutralisation leadtime for standard RR bids (configurable)*

- Verification of the correct constitution of the mRID of the document:

The mRID of the bid document shall be as follows:
RR_{delivery_date}_{start application time}_{end application time}_{participant ID}, where

- ***Prefix RR_***
- ***Application date in YYYYMMDD format***
  - *Must be in YYYYMMDD format*
  - *Must be consistent with the document application date (document reserveBid_Period.timeInterval field)*

- ***Start and end delivery time in hhmm_hhmm format***
  - *Must be in hhmm_hhmm format*
  - *Must be consistent with the document application date (document reserveBid_Period.timeInterval field)*
  - *All times are UTC*

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> - *Service provider ID: name of the Balancing Service provider (short name, assigned by RTE)*
>   - *Consistent with the name of the connected Balancing Service provider*

- Control of the uniqueness of BidTimeSeries mRIDs: in a given document, there cannot be two BidTimeSeries with identical mRIDs

- Only one Period must be declared per BidTimeSeries (although the xsd allows more than one Period per BidTimeSeries). If more than one Period is declared for one of the bids in the document, the document is rejected.

4.1.6.4 *Step 3.2: Bid Control*

Once the document is accepted (i.e. having passed the controls described in Step 3.1), the bids are functionally controlled one by one. After these controls, a bid may be either "Accepted" (if all controls are positive) or "Refused" (if one of these controls fails). A comprehensive ACK will be sent to the Balancing Service provider to inform it of the status of each of the bids of the document submitted (see Step 6)

The various controls carried out are as follows:

1. Control of application times for bids, consistent with the time of application at the document level: for each of the bids in the document, the TOPASE application checks that the start date and end date of the bid validity period specified in the timeInterval field of the Period is equal to the start date and end date specified in the reserveBid_Period.timeInterval field of the document

NEW

2. Control the validity of the Bid Resource: the bid resource (EDA) on which the bid is based must be declared as belonging to the Balancing Service provider and as valid for TERRE in the GIPSE repository.

   It is verified in the GIPSE reference data that the ID of the Bid Resource (as specified in the registeredResource.mRID field of the bid document) corresponds to a valid bid resource on the bid delivery date (as specified in the reserveBid_Period.timeInterval field), and that an RO (Order Recipient) is associated with it.

3. Control of the power and bid price in each quarter-hour step of each bid contained in a bid document

   a. 4 points are described for each bid, with 4 respective positions 1, 2, 3, 4

   b. Powers offered are integers, between the min and max limits allowed (0 and 9999 MW)

NEW

   c. The bid prices are between: -10,000 and 10,000

4. Control of the divisibility of a bid: For a divisible bid to be accepted (divisible field = A01), it is necessary that for each of the 4 points of this bid

   a. A Pmin is declared (minimum_Quantity.quantity field)

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b. This Pmin is strictly less than Pmax (minimum_Quantity.quantity) < quantity.quantity)

- *NB: Exception: The case where Pmin = Pmax= for one or more points of the bid is passed for a divisible bid if and only if Pmin = Pmax = 0. On the other hand, it is absolutely necessary to declare Pmin and Pmax in this case (even if they are both 0), otherwise the bid is rejected.*

c. The consistency between the divisible field and the blockbid field is also checked:

- If divisible = A01 (*divisible bid*): blockbid field must be equal to A02 or empty
- If divisible = A02 *(not divisible)*: blockbid field must be equal to A01 or empty

d. Control of the absence of a minimum quantity for non-divisible bids:

- If divisible = A02 *(not divisible)*: check that for all quarter hours of the bid Pmin is not filled in (minimum_Quantity.quantity field)

NEW

5- Link Control:

a. The TOPASE application verifies that linked bids are not exclusive i.e. if, for two A and B bids of the same document, the values indicated in the linkedBidIdentification fields are identical, then the values indicated in the exclusiveBidIdentification fields are different

NB: If the control fails, all bids linked by the linkedBidsIdentification link concerned are rejected (even those that may not have an exclusive link)

b. A bid can have only one link, and therefore only one of the two linkedBidsIdentification or exclusiveBidsIdentification fields can have no value. A control is made on the mRID format of this link.

c. In the case of linked bids (i.e. several bids having the same value in the linkedBidsIdentification field): if one of the bids is refused, regardless of the reason for the refusal, the TOPASE application will pass all the bids related to that bid to the refused status

6- For each bid, the TOPASE application verifies that the mRID of the bid is properly constituted as follows: **RR_{delivery_date}_{start time}-{end time}_{EDA code}_{REF service provider bid}**, where:

a. *Prefix RR_*

b. *Application Date:*

i. *Must be in YYMMDD format*

ii. *Must be consistent with bid application date (timeInterval field of the period)*

c. *Start and end time of application:*

i. *Must be in **hhmm-hhmm** format*

ii. *Must be consistent with bid application date (timeInterval field of the period)*

iii. *All times must be in UTC hours*

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    d. *EDA code (8 characters)*

        i. *Must be consistent with the registeredResource.mRID field*

    e. *Bid service provider ref: reference left free for the Balancing Service provider, not more than 6 alphanumeric characters*

4.1.6.5 Step 5: Submitting the Global ACK

Once the controls described in paragraphs 4.1.6.3 and 4.1.6.4 are carried out, the TOPASE application informs the Balancing Service provider via a "given" response to the get/submission/status query.

The Balancing Service provider then submits a getOfferStatus query to obtain the result of the controls performed. This result will be returned to the body of the response, in the form of a Acknowledgement Document (or ACK), respecting the ENTSOE format:

Acknowledgement document	**iec62325-451-1-acknowledgement_v8_0.xsd**

In this ACK, the Balancing Service provider will find details of the errors encountered, codified according to the ENTSOE list code and accompanied by a text explaining the error encountered:

- If one or more of the controls at the document level described in paragraph 4.1.6.3 au-dessus does not pass, the ACK will inform the Balancing Service provider of the issues encountered at the document level (see details of error codes in paragraph 4.1.6.7 au-dessous)

- In the event that the document level controls were passed, but one or more of the bids contained in the document (or all of them) do not pass the functional controls, the ACK will inform the Balancing Service provider of the errors encountered at the bid level (see details of the error codes in paragraph 4.1.6.8 au-dessous)
  - o In this case, the list of errors detected during the functional controls on the "rejected" bids is given. Valid bids ("accepted") are not listed in this ACK. Examples of ACK documents can be found here.
  - o If all bids in the document are valid, the ACK simply indicates the A01 code, without including any details of the bids.

The ACK can also be downloaded by the Balancing Service provider via the TOPASE HMI (on the Journal of Exchanges - JDE screen)

4.1.6.6 Document Acknowledgement Detail

Acknowledgement Document			Data	Mandatory / Conditional
mRID			ACK ID	M
createdDateTime			Date of creation of the ACK, in UTC time as YYYY-MM-DDTHH:MM:SSZ	M
sender_MarketParticipant.mRID			ACK transmitter EIC code (= RTE EIC code) codingScheme=A01	M
sender_MarketParticipant.marketRole.type			Role of the ACK transmitter (A04 - System Operator)	M
receiver_MarketParticipant.mRID			ACK Recipient EIC Code codingScheme=A01	M
receiver_MarketParticipant.marketRole.type			Role of the ACK recipient (A27 - Resource Provider)	O
received_MarketDocument.mRID			ReceivingDocument identification	O
received_MarketDocument.revisionNumber			ReceivingDocument Version	O
ReceivingDocument Type			*ReceivingDocument Type*	*O - not used by RTE*
ReceivingDocument Payload Name			*ReceivingDocument Payload Name*	*O - Not used by RTE*
received_MarketDocument.createdDateTime			Date and time of receipt of the document in response to which this ACK is sent, in UTC time as YYYY-MM-DDTHH:MM:SSZ	M
Time Series Rejection			**0..***	
	Senders Times Series Identification		mRID of the rejected bid	O
	Senders Times Series Version		*Version number of the document in which the rejected bid was located*	*O - not used by RTE*
	Interval Error (InError_Period)			
		timeInterval Start / end	"YYYY-MM-DDTHH:MMZ/YYYY-MM-DDTHH:MMZ" Period covered by bid in error	
	Reason		0..*	O
		Reason Code	Error code detected at the bid level (see details in the implementation guide)	
		Reason Text	Explanatory text of the error detected at the bid level (see details in the implementation guide)	
	Interval Error (InError_Period)		*0...***	*Not used by RTE for ACK in response to bid deposit*
	Quantity timeInterval		*"YYYY-MM-DDTHH:MMZ/YYYY-MM-DDTHH:MMZ"*	
	Reason		*1..***	
		Reason Code		
		Reason Text		
	Reason		**1..***	
	Reason Code		A01 if all document-level controls are OK Error code detected at document level otherwise	M
	Reason Text		Empty if reason Code = A01 Error Explanatory Text Detected Otherwise	O

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4.1.6.7 Document-level error code list

Control	Error detected	Reason Code ENTSOE + *ENTSOE description*	Reason text (FR)	Reason Text (EN) *Not available at this time*
Empty file?	Empty File	B01 *(incomplete document)*	Empty File	Empty file
Syntactic control	Document format issue	B01 *(incomplete document)*	Row syntax error <X>	
Header Data Control	Type <> A37 (reserve document)	**A62** *(invalid business type)*	The field <XX> must be equal to <XX> (*NB: if the field value is outside of the ENTSOE code list and out of local codelist, a syntax error will be raised (code B01). Otherwise, if the value is in one of the code lists but does not match the expected value then the tool will reassemble a detailed code (A62), A79 etc.)*	Value XX is expected on line <XX>
	Process.processtype <> A46	A79 *(Invalid Process)*		
	sender_MarketParticipant.marketRole.type <> A27	A78 *(sender identification and/or role invalid)*		
	receiver_MarketParticipant.mRID <> 10XFR-RTE------Q	A53 *(receiving party incorrect)*		
	receiver_MarketParticipant.marketRole.type <> A04	A53 *(receiving party incorrect)*		
	domain.mRID <> 10YFR-RTE------C	A80 *(domain invalid)*		
	subject_MarketParticipant.mRID <> 10XFR-RTE------Q	A53 *(receiving party incorrect)*		
	subject_MarketParticipant.marketRole.type <> A04	A53 *(receiving party incorrect)*		
Revision number	The revision number received is equal to the last revision number based	A51 *(message identification or version conflict)*	Version number of this document already exists in the database	Revision number already exists
Revision number	The revision number received is less than the last revision number based	A51 *(message identification or version conflict)*	A higher version number of this document already exists in the database	Higher revision already exists
Issuing Service provider	Inconsistency between connected service provider and service provider specified in document	A78 (Sender identification and / or role invalid)	Inconsistency between the connected service provider and the document actor	Sender indicated in file not consistent with connected user
Participation Agreement	The service provider does not have an existing participation agreement	A05 *(Sender without valid contract)*	The service provider <name of service provider> has no participation agreement in force	Sender without valid contract
Transmission deadlines	Document filed too soon or too late	A57 (Deadline limit exceeded / Gate not open)	Non-compliance with transmission deadlines	Deadline limit / Gate not open
Time interval for application of the document for a duration different to one hour	The duration of application of the document is different to one hour.	A04 (Time interval incorrect)	The application interval must be one hour long	Schedule time interval duration should be equal to 1 hour
Controlling document mRID validity	invalid document mRID	A51 (message identification or version conflict)	invalid document mRID	Message identification or version conflict

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BidTimeSeries mRID uniqueness	In a given document, there are 2 or more BidTimeSeries with identical mRIDs	A55 (*Time series identification conflict*)	Line <XX>: Duplicate BidTimeSeries mRID	Line <XX>: Duplicate BidTimeSeries mRID
Period uniqueness by BidTimeSeries	Several Periods are declared for one of the document bids	A03 (*Message contains errors at the time series level*)	Line <XX>: a single Period allowed by BidTimeSeries	Line <XX>: Only one period authorised per BidTimeSeries
Document / bid storage failure	Unable to store document or insert bids in the database	A94 (*document cannot be processed by the system*)	Technical failure with data storage	Technical issue while recording data
Control of all bids contained in the document	All bids contained in the bid document are rejected	A02	All bids are rejected	

4.1.6.8 *List of Offer-Level Error Codes*

Control	Control No.	Error detected	Reason Code ENTSOE + *ENTSOE description*	Reason text (FR)	Reason Text (EN) *Not available at this time*
Application time control	1	Period of application of bid different from period of application of document	A81 (*matching period invalid*)	Application time inconsistent with document application time	Bid time interval inconsistent with Time Interval document
Bid Resource Control (SO)	2	Invalid SO for TERRE	A64 (*Resource Object invalid*)	Bid resource <XXX> is not valid for this delivery date	The registered resource <XXX> is not valid for delivery date <XXX>..
Bid Resource Control (SO)	2	Unknown SO	A64 (*Resource Object invalid*)	Bid Resource <XXX> is not known.	The registered resource <XXX> is unknown
Bid Resource Control (SO)	2	No RO back from GIPSE	999 (*Errors not specifically identified*)	Internal technical failure prevents bid resource validation.	Internal technical issue prevents registered resource validation.
Point control	3	Invalid number of points	A41 (*resolution inconsistency*)	The number of quarter-hourly steps described is not correct. 4 quarter-hour steps are expected per bid	Number of points is not correct. 4 points are expected for each bid
Point control	3	Min power and/or max power offered outside the permitted limits.	A42 (*Quantity inconsistency*)	Incoherence at the level of the powers offered. Powers offered must be whole numbers between 0 and 9999	Quantities are not consistent. Integers between 0 and 9999 are expected.
Control of divisibility	4	Inconsistency detected between Blockbid / Divisible / Minimum quantity fields	A20 (*times series fully rejected*)	Divisible, blockbid and minimum quantity fields are not consistent. A divisible bid cannot be blockbid. A minimum quantity is expected for a divisible bid. No minimum quantity is expected for a blockbid bid	Divisible, blockbid and minimum quantity fields are not consistent. A divisible bid cannot be blockbid. A minimum quantity is expected for a divisible bid. No minimum quantity is expected for a blockbid bid

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NEW

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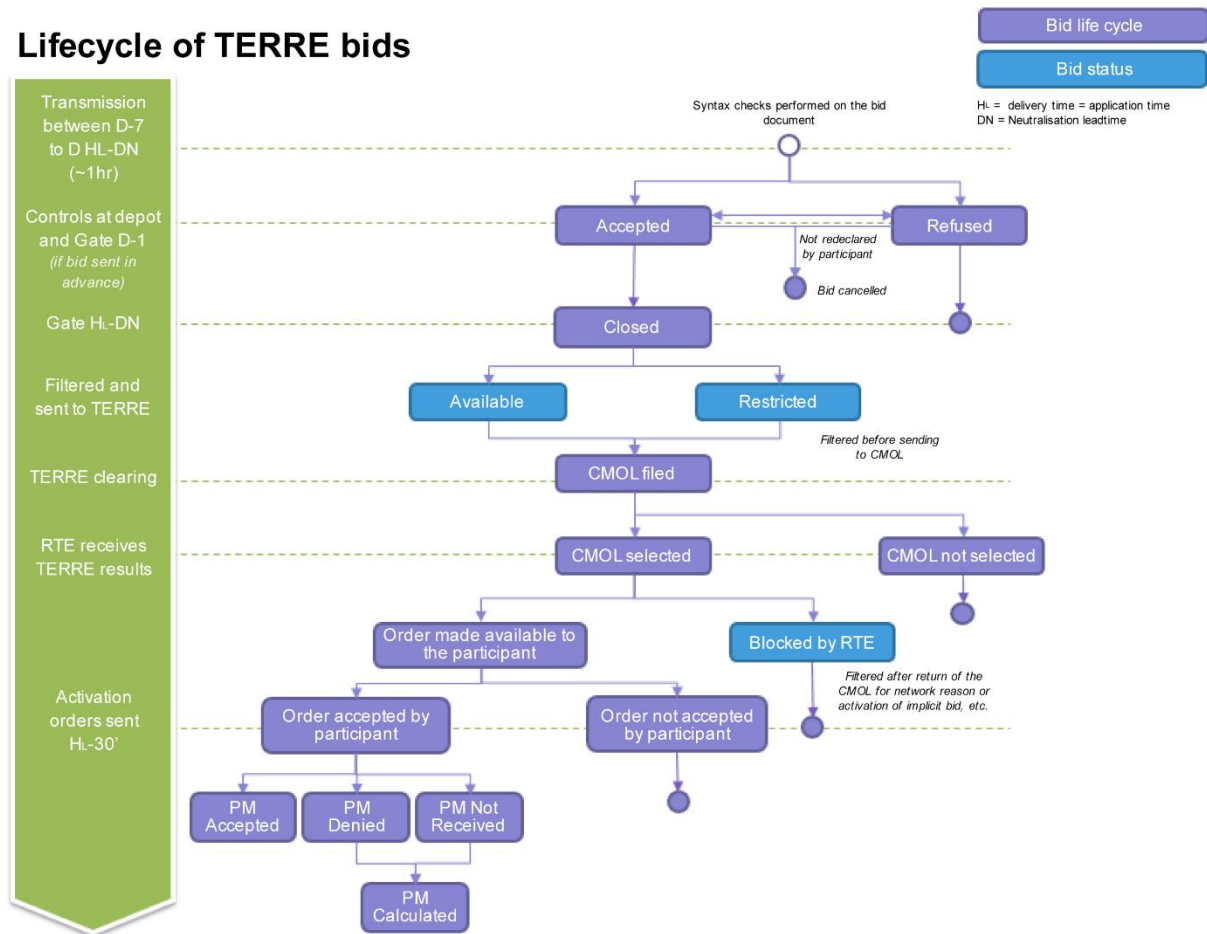| Link Control	5	Linkage inconsistency: bids are both combined and exclusive	A71 (*linked bid rejected due to associated bid unsuccessful*)	Linkage inconsistency: linked bids cannot be exclusive to each other	Links are not consistent. Linked bids cannot be exclusive
Link Control	5	Inconsistency: a bid has a link id and an exclusive link	999 (Errors not specifically identified)	Attention: the bid contains both a link identifier and exclusivity identifier	
Link Control	5	Link and Exclusive ID Format	999 (Errors not specifically identified)	The link or exclusive identifier of the bid is not in the correct format	
mRID Control	6	mRID is invalid	A55 (*Time series identification conflict*)	Invalid bid mRID	Time identification conflict
Price control	7	The price is not between -10000 and 10000	999 (Errors not specifically identified)	Attention: the price of the bid does not meet the maximum or minimum expected	
Updating the status Accepted / Refused	8	A bid related to the bid in question is refused	A71 (*linked bid rejected due to associated bid unsuccessful*)	A related bid was refused	Linked bid rejected due to associated bid unsuccessful

4.1.7 *Bid lifecycle*

The above diagram illustrates the life cycle of a standard RR bid.

- In purple: the status of the bid in its life cycle. The first statuses (accepted / refused) are given by the result of the functional controls described above. In the following bid life cycles, an indication of the state of the order or Final Dispatch Schedule associated with this bid can be found.

- In blue: the status of the bid, which will be determined by subsequent analyses at the time of deposit, and more specifically after the passage of the gate concerned.

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Lifecycle of TERRE bids

NEW

| Bid life cycle |
| Bid status |

HL = delivery time = application time
DN = Neutralisation leadtime

Transmission between D-7 to D HL-DN (~1hr)

Controls at depot and Gate D-1 *(if bid sent in advance)*

Gate HL-DN

Filtered and sent to TERRE

TERRE clearing

RTE receives TERRE results

Activation orders sent HL-30'

Syntax checks performed on the bid document

Accepted — Refused

Not redeclared by participant

Bid cancelled

Closed

Available — Restricted

Filtered before sending to CMOL

CMOL filed

CMOL selected — CMOL not selected

Order made available to the participant — Blocked by RTE

Filtered after return of the CMOL for network reason or activation of implicit bid, etc.

Order accepted by participant — Order not accepted by participant

PM Accepted — PM Denied — PM Not Received

PM Calculated

Consultation of the status of exchanges:

The Balancing Service provider will be informed at the time of the deposit of his document of the status of the exchange via the synchronous response. A 'pending' response indicates that the document was received by RTE. An http error code will indicate a failure of the deposit.

In addition, at any time, the Balancing Service provider may use the TOPASE HMI to determine the status of the exchange by consulting the exchange log in accordance with the terms described in paragraph 0 au-dessous.

NB: In Machine to Machine mode, it is not intended to review the status of exchanges with an API because the status of exchanges will not change: all information is therefore included in the ACK sent in response to the deposit.

Consultation of the status of bids:

At any time, the Balancing Service provider will be able to question the TOPASE application to find out the status of its bids:

- Via HMI: consultation of the bid journal as described in 0 au-dessous

- Via M2M: https GET query, which in response returns an ENTSOE ReserveBidDocument bid document covering the requested scope, as described in paragraph 4.3.5 au-dessous

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4.2   Web HMI Interface for TERRE bids

The TOPASE Web HMI URL is given in paragraph 2.4 and the screens and main features of the TOPASE Web HMI are described in the reference document [7].

The Web HMI provides the Balancing Service provider with the following functionalities (these features will be detailed in the paragraphs below):

1. File a bid document (to create, modify, cancel a bid)

2. Consult the exchange log (list of bid documents submitted, state of exchange) and download the bid documents in XML format and the corresponding ACK.

3. View a bid or list of bids

4.2.1 File a bid document

The TOPASE HMI includes a "Document Filing" tab which allows the Balancing Service provider to manually file one or more bid documents and upload them to the TOPASE application.

This allows the Balancing Service provider to file, modify or cancel its standard RR bids via the HMI in a cancel-and-replace manner described in §4.1.4 au-dessus.

4.2.2 View Exchange Log

The TOPASE HMI includes a tab called 'Exchange Log' which allows the Balancing Service provider to consult the list of exchanges it is involved in, with the possibility of going back to the past (scope of the searchable data to be defined).

This log is common to all process types managed in TOPASE: participation in CMOL TERRE, scheduling, etc.

This journal presents the main data associated with each exchange, namely:

- The date and time of the exchange

- The date and time of application of the document

- The process (it will be CMOL TERRE for exchanges related to the TERRE process)

- The issuer and the addressee of the exchange

- The type of exchange (e.g. bid deposit)

- The mRID of the document

- The version number of the document

- The status of the exchange (OK / KO)

- The details of the error encountered, if the status is KO. The error messages displayed in this column are consistent with the messages sent to the Balancing Service Provider in the ACK

- Action buttons (open, download document, download ACK)

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A search banner allows you to filter exchanges on all of this data.

Sorting is possible on the columns.

A button allows you to download the bid documents in XML format.

4.2.3 _View Bid Log_

The TOPASE HMI includes a tab called 'Bid Log' which allows the Balancing Service provider to consult the list of its standard RR bids, in order to have a real-time view of the status of its bids.

This journal presents the main data associated with each bid, namely:

- The process (it will be RR or CMOL TERRE for exchanges related to the TERRE process)

- The date and time of application of the bid

- Bid resource (EDA)

- Bid ID (mRID)

- The state of the bid in its life cycle (accepted / refused / closed / sent CMOL, etc. For the various possible states, c.f. § 4.1.7 au-dessus)

- The details of the error (or errors) that indicate the cause of the refusal where the bid is "Refused". The message displayed in this column will be consistent with the indication contained in the ACK (see §4.1.6.5 au-dessus)

- The status of the bid, which depends on analyses subsequent to the deposit (Available / Restricted / Blocked by RTE. For the different statutes, see § 4.1.7 au-dessus)

- The reason for this status

- Action buttons, allowing for each bid the following to be viewed:

  o Bids related to it

  o Exclusive bids

  o The bid history, which tracks the progress in the supply life cycle and changes in its status.

  o _NB: The method of updating bids (cancel and replace) implies that pre-gate bid changes are not stored, and therefore cannot be displayed in the history. Only changes in state and status are tracked (see §4.1.4 au-dessus and §4.1.5 au-dessus)_

  o _→ The TOPASE application will not be able to view the power and price deltas compared to a previous version._

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A search banner allows you to filter bids on all of these data.

Sorting is possible on the columns.

4.3   Machine to Machine interface for TERRE bids

4.3.1   *The different URLs in pre-generation*

The different URLs that are useful in the bid filing process are listed below. They are described in more detail in the following paragraphs.

HMI Access
- ⇨ https://secure-apps-dev.iservices.rte-france.com/topase-web/

For APIs
Bid deposit:
- ⇨ https://secure-apps-dev.iservices.rte-france.com/topase-api/api/v1/documents/offers

Consultation of the ticket status:
- ⇨ https://secure-apps-dev.iservices.rte-france.com/topase-api/api/v1/submission/status

Consultation of the ACK:
- ⇨ https://secure-apps-dev.iservices.rte-france.com/topase-api/api/v1/submission/ack

Consultation of bids (Offer report):
- ⇨ https://secure-apps-dev.iservices.rte-france.com/topase-api/api/v1/offer-report

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For these APIs, swagger documentation is available here (requires a certificate)
- ⇨ https://secure-apps-dev.iservices.rte-france.com/topase-web/ext/swagger-ui.html

4.3.2   *Filing of documents in https*

The API api/documents/offers allows Balancing Service Providers to file their TERRE bids with RTE.

4.3.2.1   *Location*

URL:
https://secure-apps-dev.iservices.rte-france.com/topase-api/api/v1/documents/offers

4.3.2.2   *Category*

Format: APPLICATION/XML

4.3.2.3   *How the API works*

General principles:
The API follows the following operating principle:
- Check for caller authentication and authorisations via an upstream PKI certificate
- Send application returns based on processing

4.3.2.4   Resources

Name	Method	URI
Send a ReserveBidDocument by API	**POST**	api/documents/offers

POST api/documents/offers

This service allows an XML document "ReserveBidDocument" to be filed in the RTE IS

Dispatch Schedule Kinematics:
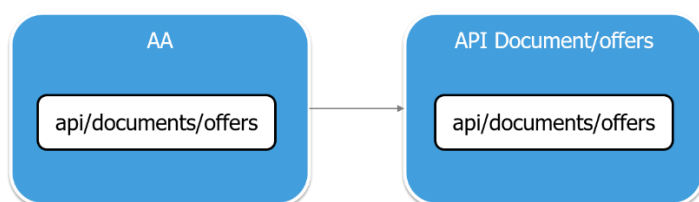
4.3.2.5   Settings:

NAME Settings	CARD.	DESCRIPTION	TYPE	VALUES / FORMAT
ReserveBidDocument	1	Requested Document Type	XML	see iec62325-451-7-TERRE-reservebiddocument_v7_0.xsd

EXAMPLE:

Headers:
```
Content-Type: application/xml
```

Body:
```
Balancing Service Provider ReserveBidDocument XML (see iec62325-451-
7-TERRE-reservebiddocument_v7_0.xsd)
```

4.3.2.6   Response

http codes:

HTTP CODES	Cases
200	Document filed successfully
400	Syntax Error
401	Authentication required
403	Permission denied
404	Resource not found
500	Internal Error

Content:

In the case of response 200:

Body contains XML indicating

- The ticket ID to be able to view the status of the processing performed on the document
- The status of the processing of the filed document:

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- o Pending: ongoing
- o Done: finished
- The generation date of the response

In other cases: the body contains a json giving details of the failure encountered

4.3.3 *Consultation of the status of the execution of the controls carried out on the document*

4.3.3.1 *Resources*

Name	Method	URI
Consultation of the status of API controls performed	**GET**	http://../api/submission/status/{ticket_Number}

This service allows you to view the status of the performance of the controls carried out by the RTE IS following a bid submission.

4.3.3.2 *Settings:*

NAME Settings	CARD.	DESCRIPTION	TYPE	VALUES / FORMAT
Ticket ID	1	Identifier of the filed document, for which the service provider requests the status of the execution of the controls		

4.3.3.3 *Response*

http codes:

HTTP CODES	Cases
200	Success
400	Syntax Error
401	Authentication required
403	Permission denied
404	Resource not found
500	Internal Error

Content:

In the case of response 200:
Body contains XML indicating

- The ticket number
- The status of the processing of the filed document:
  - o Pending: ongoing
  - o Done: finished
- The generation date of the response

In other cases: the body contains a json giving details of the failure encountered

Example: error 404:
```
{
    "timestamp": "2018-01-08T10:08:50.863+0000",
    "status": 404,
    "error": "Not Found",
    "message": "Not Found",
    "path": "/ api/XX/XX/XX/XX"
}
```

4.3.4 Consultation of the result of the controls carried out on the document

4.3.4.1 Resources

Name	Method	URI
Consultation of control results by API	**GET**	http://.../api/submission/ack/{ticket_Number}

This service allows you to consult the results of the controls carried out by the RTE IS following a bid submission. The answer is an XML document of type "Acknowledgement"

4.3.4.2 Settings

NAME Settings	CARD.	DESCRIPTION	TYPE	VALUES / FORMAT
Ticket No.	1	Identifier of the filed document, for which the service provider requests the result of the controls		

4.3.4.3 Response

http codes:

HTTP CODES	Cases
200	Success
400	Syntax Error
401	Authentication required
403	Permission denied
404	Resource not found
500	Internal Error

Content:

The body contains an XML of type 'acknowledgement'.
(see iec62325-451-1-acknowledgement_v8_0.xsd).

The acknowledgement will inform the caller of the result of the controls carried out by the TOPASE application following the submission of a bid document. The ACK will indicate any errors detected at the document level or at the bid level (see paragraph 4.1.6.5 for details of ACK content and error codes)

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NB: if a get/submission/ack query is made while the document has not yet been processed, the response includes a http 404 (not found) code and a body json indicating the following:

```
{
    "timestamp": "2018-01-11T15:46:28.915+0000",
    "status": 404,
    "error": "Not Found",
    "message": "Not Found",
    "path": "/api/XX/XX/XX/XX"
}
```

4.3.5 Examples

You will find examples here..

4.3.6 Consultation of bids in Machine to Machine

Balancing Service Providers will be able to review the details of one or more of their bids at any time using an Offer-Report API (GET method) to retrieve an XML document of the ReserveBidDocument type, indicating where the bid is in its life cycle, what errors may be detected and what its status is (Available, Restricted, etc.)

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4.3.6.1 *Query Settings*

The Balancing Service provider queries the TOPASE application with the following criteria:

Parameter	Cardinality	Description	Type	Values / Format
startTime	1	Application start time/date	UTC date	YYYY-MM-DD-Thh:mmZ
endTime	1	Application end time/date	UTC dates	YYYY-MM-DD-Thh:mmZ
companyName	0.1	Service provider code	Text	
EDA registeredResource.mRID	0..n	Registered Resource the query relates to	Text	If absent → return all Balancing Service Provider EDAs
Direction	0.1	Bid direction	Text	A01: upward bids A02: downward bids Absent: return all bids
Status	0..n	Bid status	Text	If absent → return all statuses
Lifecycle	0..n	*Bid lifecycle*	Text	If absent → return all statuses Possible values: APPROVED REJECTED CANCELLED CLOSED

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				SENT ORDERED NOT_SELECTED ORDER_SUBMITTED ORDER_ACCEPTED ORDER_REFUSED PM_RECEIVED PM_REFUSED PM_NOTRECEIVED PM_CALCULATED
mRID	0.1	Bid mRID	Text	If the Balancing Service Provider wishes to consult a particular bid
column	0.1	Sort column	Text	Sort by the results desired by the Balancing Service Provider. Possible values: startInterval endTime registeredResourceMRID flowDirection status currentLifeCycleState
directionColumn	0.1	Sort direction (ascending or descending): 'asc' or 'des'	Text	Possible values: -asc -des
Page	0.1	Result page	Integer	
Size	0.1	Number of items in the query	Integer	

4.3.6.2   Response

The response has an http code indicating the success or failure of the query processing and the body contains a ReserveBidDocument in XML format (iec62325-451-7-TERRE-reservebiddocument_v7_0.xsd)
http code:

Response Messages

HTTP Status Code	Reason	Response Model	Headers
200	Le résultat de la recherche a bien été reçu		
400	Un ou plusieurs paramètres sont incorrects		
404	Aucune offre n'a été trouvée		
500	Une erreur interne est survenue.		

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Body:

The body contains a ReserveBidDocument in XML format
(iec62325-451-7-TERRE-reservebiddocument_v7_0.xsd)
The reason code and the reason text will be used to provide information on the processing of
the bid by RTE:

- The life cycle of the bid will be indicated in the 'reason code' field by means of a
  remaining Z coding (so-called 'local' code) detailed in the table below

Lifecycle	Reason code	Reason text (FR)
Accepted	**A73** (Bid accepted)	*Prise en compte*
Rejected	**B09** (Bid Not Accepted)	*Refusée*
Cancelled	**Z20** (Bid Cancelled)	Annulée
Closed	**Z21** Bid closed	Ferme
Sent	**Z22** Bid sent to the CMOL	Envoyée à la CMOL
Ordered	**Z23** Bid selected	Retenue par la CMOL
Not selected	**Z24** Bid not selected	Non retenue par la CMOL
Order_Submitted	**Z25** Order Submitted	Ordre envoyé
Order_Accepted	**Z26** Order accepted	Ordre accepté
Order_Refused	**Z27** Order rejected	Ordre refusé

- any errors detected during the controls on bids will also be described by the
  associated 'reason code' and the appropriate 'reason text' (see table in paragraph
  4.1.6.4 au-dessus4.1.6.4 au-dessus)

- Finally the status (available / restricted / blocked by RTE) will be communicated
  via the "Status" field with possibly an explanatory reason / reason text.

| Status	Reason code	Reason text (FR)
Available	A06	Available
BLOCKED	A28	Blocked by RTE (filtered after CMOL return)
Restricted	A11	Restricted (filtered before sending to CMOL)

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NB: the ReserveBidDocument of the bid filing is valid for one hour of delivery, while the response may run a longer 'reserveBid_Period.timeInterval'.

Attention under IE: in order to ensure that queries are addressed to the database systematically, it is necessary to ensure that the IE parameters are defined as follows:
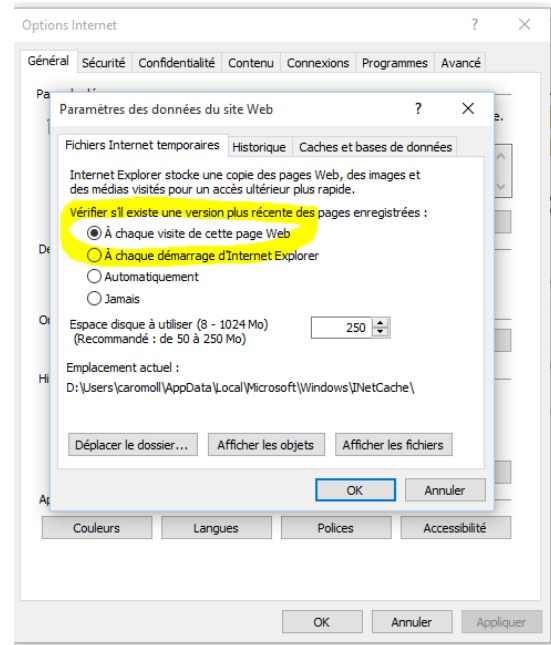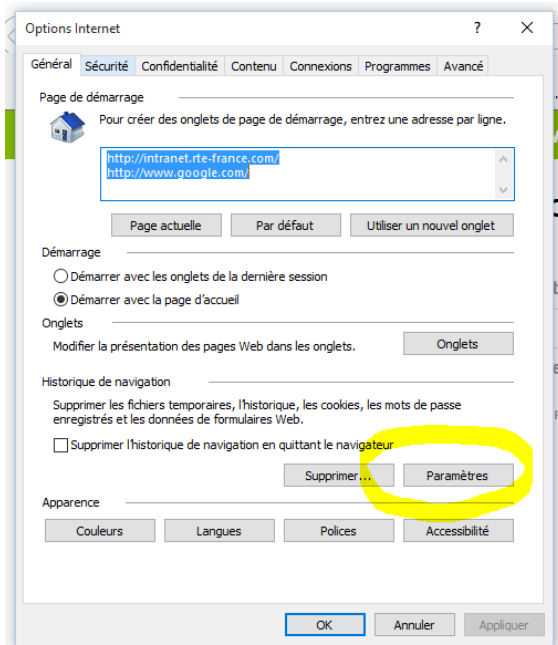
5   Transmission of Forecast Dispatch Schedules (APs) by Scheduling Agents (RPs) to RTE

Effective 14 May 2019

5.1   Process for transmitting PAs by RPs

5.1.1   General principles

This paragraph describes the general principles for the management of the Forecast Dispatch Schedules (PA) through the TOPASE application; all of the concepts presented below will be detailed in later sections of this guide.

The PAs covered by TOPASE are the PAs transmitted by the Scheduling Agents (RPs); aggregate forecast dispatch schedules for Distribution System Operators are not part of TOPASE's scope.

The PAs for a given application day D will be transmitted in an **aggregated manner, i.e. a single document contains the PAs for all scheduling entities (EDPs) of a given scheduling agent**.

A scheduling agent may report several successive versions of this document.

A PA is a quintuplet composed of 5 time series:

-   Active power time series (P0)
-   Frequency Containment Reserve Time series Upward (RPh)
-   Frequency Containment Reserve Time series Downward (RPb)
-   Automatic Frequency Restoration Reserve Time series Upward (RSh)
-   Automatic Frequency Restoration Reserve Time series Downward (RSb)

The scheduling will be performed in breakpoints; the scheduling interval can be 5, 15 or 30 minutes.

A scheduling document is valid for a given day of application; it does not apply to several days.

A scheduling document covers
the entire application day (if transmitted between D-7 and D-1)
or
the whole range between the gate closure time + DN and the end of the application day if transmitted intradaily.

This document consolidates the PAs of all EDP RPs.

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Each PA is a quintuplet consisting of 5 time series described at breakpoint.

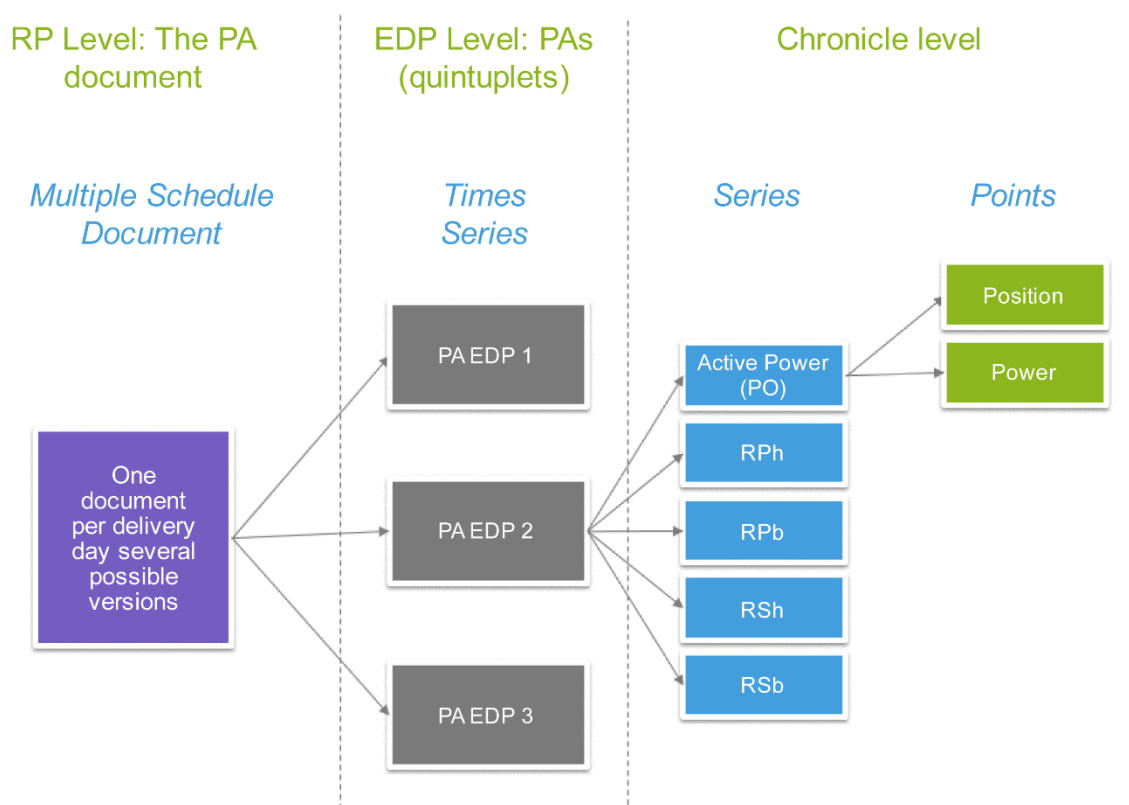
5.1.2 XML Document for PAs

The document describing the PAs of a Scheduling Agent is in xml format and must follow the following formalism:

Multiple Schedule Document   **Multiple_Schedule_v1_1**

The structure of the PA document is as follows:

The table below shows the details of the attributes; additional information is provided in the paragraphs following this table.

Multiple Schedule Document	Data	Mandatory / Conditional
mRID	PA_{RP Short Name}_{Application Date} Where: -PA Prefix_ -Service provider ID: Name of the Scheduling Agent (short name, assigned by RTE) -Application date in YYYYMMDD format	M

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revisionNumber	Doc version number, integer = 1 for the first transmission (to be incremented with each submission for a given application date)	M
Type	A01 (ENTSOE meaning: generation)	M
process.processType	A17 (ENTSOE meaning: Schedule day)	M
sender_MarketParticipant.mRID	Emitter EIC Code *Coding Scheme = A01*	M
sender_MarketParticipant.marketRole.type	Z10 (ENTSOE meaning: Program responsible)	M
receiver_MarketParticipant.mRID	Recipient's EIC code (RTE = 10XFR-RTE------Q) Coding Scheme = A01	M
receiver_MarketParticipant.marketRole.type	A04 *(ENTSOE meaning: System Operator)*	M
createdDateTime	"YYYY-MM-DDTHH:MM:SSZ" (Date and time when the document was created in ISO 8601 UTC format)	M
Schedule period time interval	"YYYY-MM-DDTHH:MMZ/YYYY-MM-DDTHH:MMZ" Start date and end date of the schedule validity period. Must not exceed one day. The end necessarily corresponds to the end date of the application day concerned (YYYY-MM-DDT22:00Z in summer time or YYYY-MM-DDT23:00Z in winter time)	M
domain.mRID	EIC France (10YFR-RTE------C) *Coding Scheme = A01 (EIC code)*	M
Reason code	*not used by RTE for PAs*	*Optional*
Reason text	*not used by RTE for PAs*	*Optional*

Resource Schedule Time Series	Data	Mandatory / Conditional
mRID	PA_{EDP Code}_{Application Date} with: -PA Prefix_ -EDP code (8 characters maximum) -Application date in YYYYMMDD format	M
Version	Doc version number, integer = 1 for the first transmission (to be incremented with each submission for a given application date)	M
Business type	Z83 for PAs reported by RPs (local code) *Another possible value: Z84 for selected PAs calculated by RTE*	M
marketObjectStatus.status	Z08 = 'P=C' re-declaration for cause P=C Z09 = 'CT' = redeclaration for technical constraints. Z10 = 'SSY' = redeclaration to comply with the changes to the requirements of Systems Services requested by RTE Z11 = 'FORTUIT' = redeclaration in case of contingency	M
Registeredresource.mRID	EDP code concerned	M

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gate_DateAndOrTime.dateTime	Acceptance gate closure time, in UTC, in format YYY-MM-DDTHH :mm:ssZ	*Optional - is not requested from the scheduling agent. Will be calculated by RTE*
Reason code	*Will be used to indicate the life cycle of the PA - populated by RTE*	*Optional*
Reason text	*Explanatory text of reason code - will be filled in by RTE (see details in the implementation guide)*	*Optional*

Series	Data	Mandatory / Conditional
mRID	{time series type}_{EDP Code}_{Application Date} -EDP Code concerned -Time series type = one of the 5 values P0, RPH, RPB, RSH, RSB -Application date in YYYYMMDD format	M
businessType	Possible values are: - A07 (RTE meaning: active power curve. ENTSOE meaning: Net Generation / Consumption) - A95 (RTE Meaning: RPH or RPB curve. ENTSOE meaning: Frequency containment reserve) - A96: RTE meaning: RSH or RSB curve. ENTSOE meaning: Automatic frequency restoration reserve)	M
flowDirection.direction	- A01 (RTE meaning: RPH or RSH curve. ENTSOE meaning: Up) - A02 (RTE meaning: RPB or RSB curve. ENTSOE meaning: Down) - Do not complete this field for Timeseries describing a PA curve.	Optional
measurement_Unit.name	MAW	M
curveType	A03 (ENTSOE meaning: Variable sized Block - breakpoints). The convention selected is as follows: - Beginning of variation at **beginning of** scheduling **interval** - Power reached indicated **at the earliest** during the scheduling interval and **at the latest** at the end of the scheduling interval	M
Reason code	*not used by RTE for PAs*	*Optional*
Reason text	*not used by RTE for PAs*	*Optional*

Series Period	Data	Mandatory / Conditional
Time Interval	Same as the Schedule Period Interval specified at the document level	M
Resolution	Possible values are: - PT5M: 5 minute interval schedule - PT15M: 15-minute interval schedule - PT30M: 30-minute interval schedule	M

Point	Data	Mandatory / Conditional
Position	Integer	M
Quantity	Power value Values are truncated to their integer value *NB1: Decimal values will be allowed up to 3 digits after the decimal point; the expected separator is a full stop, not a comma* *NB2: for extraction EDPs (which only make SSY) the RRs will be able to report 0 MW in the active power time series* *NB3: Negative values are only allowed for the active power time series for STEP or NUC EDPs.*	M

5.1.3 *The period of application of PAs*

PAs are transmitted for a given period of application of up to one day.

5.1.3.1 *PA transmitted in advance*

For a PA transmitted in advance (between D-7 and D-1): This period corresponds to the interval [Start of application day; end of application day], expressed in UTC time.

Example 1: in summer time, for an PA covering the day of 25/05/2018, the difference between UTC and local time is 2 hrs:

```
<timeInterval>
        <start>2018-05-24T22:00Z</start>
        <end>2018-05-25T22:00Z</end>
</timeInterval>
```

Example 2: in winter time, for an PA covering the day of 12/12/2018, the difference between UTC and local time is 1 hr:

```
<timeInterval>
        <start>2018-12-12T23:00Z</start>
        <end>2018-12-12T23:00Z</end>
</timeInterval>
```

5.1.3.2 *Clock change*

PAs for the day of the change from summer to → winter time will apply on the 25 hrs of the day of the clock change from 22:00 UTC to 23:00 UTC:
```
<timeInterval>
        <start>2018-10-xxT22:00Z</start>
        <end>2018-10-xxT23:00Z</end>
</timeInterval>
```

PAs for the day of the change from winter to → summer time will apply on the 23 hrs of the day of the clock change from 23:00 UTC to 22:00 UTC:

```
<timeInterval>
        <start>2018-03-xxT23:00Z</start>
        <end>2018-03-xxT22:00Z</end>
</timeInterval>
```

5.1.3.3   PAs transmitted on an intra-daily basis

For a PA transmitted on an intra-daily basis, the period of application must be the interval [Next gate closure time + DN; end of application day], expressed in UTC time.

For example, for a PA transmitted on 25/05/2018 at 10:30 a.m. (local time), considering that the gate times are rounded and the DN is 60 minutes, the gate time is 11:00 (local), H_g + DN = 12:00 (local) or 10:00 UTC. The period of application shall be as follows:

```
<timeInterval>
        <start>2018-05-25T10:00Z</start>
        <end>2018-05-25T22:00Z</end>
</timeInterval>
```

5.1.4 PA resolution

3 resolutions are possible at the choice of scheduling agent by EDP: 5 min, 15 min or 30 min. For each EDP, the resolution must be provided by the scheduling agent to RTE upstream.

The resolution will be indicated at the level of each time series (level series) in the "Resolution" field which can take the values PT5M, PT15M or PT30M.

TOPASE will verify that the 5 time series of the same PA are in fact at the same resolution and that this resolution corresponds to the resolution declared by the scheduling agent to RTE upstream for the EDP concerned.

The scheduling agreement is the "final agreement":

-   For service providers choosing a resolution of 5 minutes, the power given on the 10:00 interval is for the interval]9:55; 10:00];

-   For service providers choosing a resolution of 15 minutes, the power given on the 10:00 interval is for the interval]9:45; 10:00]

-   For service providers choosing a 30-minute resolution, the power given on the 10:00 interval is for the interval]9:30; 10:00]

5.1.5 Breakpoints

RTE asks RPs to report the different points of the transitions. RPs should not only report points where the slope of the curve changes, but all points that differ from the previous point.

If a point in the i+1 position is not declared, RTE considers that the power value is equal to that of the i position.

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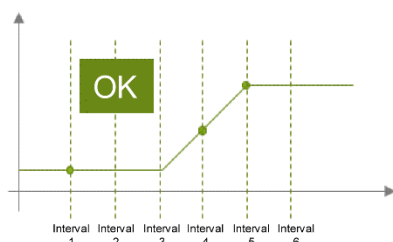The following schemas outline what is expected for declarations and the interpretation made by RTE:
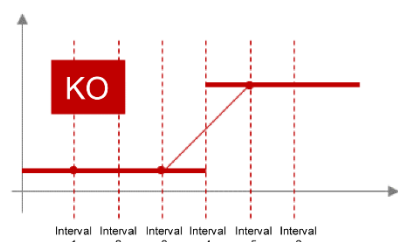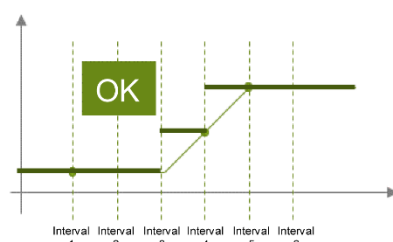
Agreement description:

- Beginning of variation at **beginning of** scheduling **interval**

- Power reached indicated **at the earliest** during the scheduling interval and **at the latest** at the end of the scheduling interval
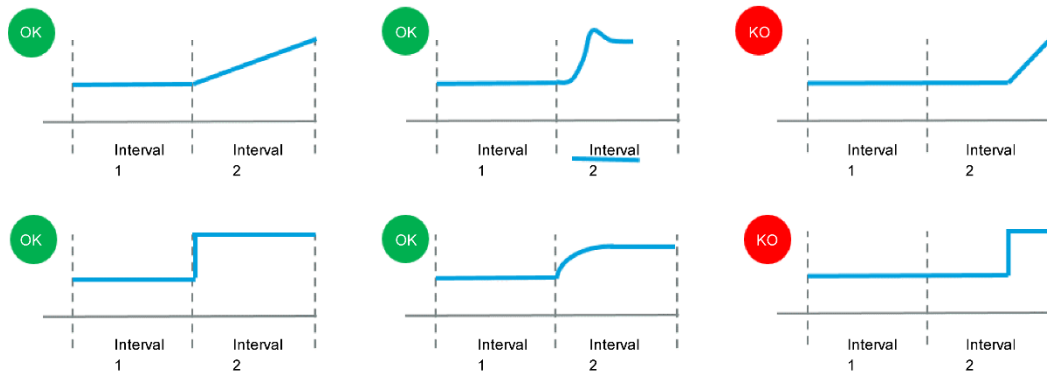
Reported by RPs
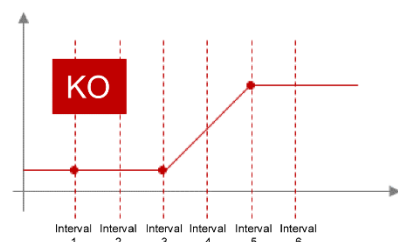
Tracked by RTE

Example:

If the scheduling agent rereports an intraday PA at 6:30 a.m. (local):

The period of application of the PA is [08:00; 24:00] of the current day (local time) (*this period starts at Hg+DN or 7:00 + 60 mins = 8:00)*

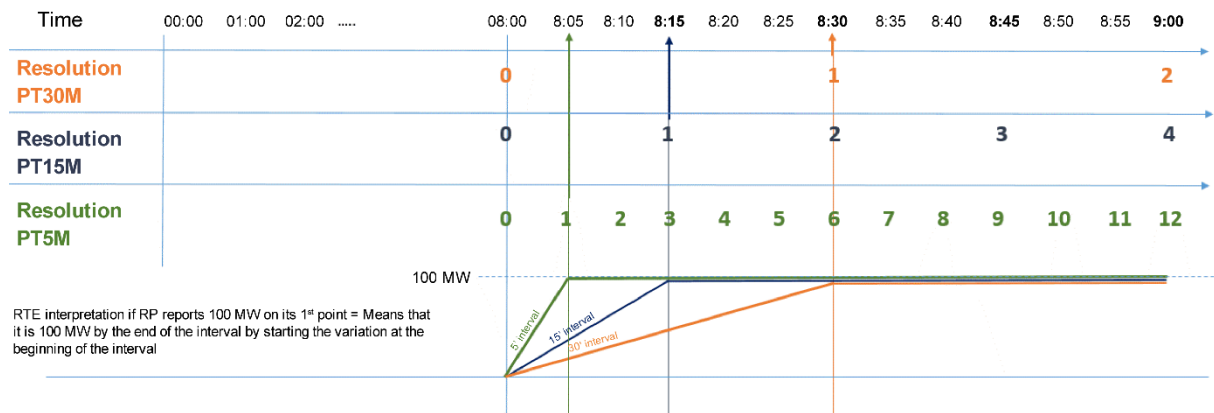The first point (position 1) of the various time series will therefore correspond

- To the interval]08:00; 08:05] local time if the PA has a 5 minute resolution
- To the interval]08:00; 08:15] local time if the PA has a 15 minute resolution

- To the interval]08:00; 08:30] local time if the PA has a 30 minute resolution

5.1.6 *The controls carried out by the TOPASE application upon receipt of PAs*

The TOPASE application performs controls on the PA document transmitted by the scheduling agent;

- If the document is not valid, PAs are not integrated. Declared values are ignored

- If the document is valid, the TOPASE application controls each PA included in this document

- If a PA is not functionally valid, the PAs of the EDPs in the same influence group will also be considered invalid.

The scheduling agent will be informed of the results of these controls at the time of submission, via an ACK respecting the ENTSOE format. The scheduling agent will also at any time be able to consult the status of the PAs filed in the TOPASE HMI and by an API.

Most of the controls are carried out along the way, i.e. as soon as the PA document is received. If a PA document is transmitted in advance (e.g. on D-2 relative to its date of application), it is controlled by TOPASE as soon as it is received. However, some additional controls will only be carried out at the gate closure.

The controls to be carried out are described in detail in paragraph 5.2.

5.1.7 *Convention for the establishment of mRIDs*

A PA document is identified by a unique identifier, the document mRID.
A document version will be identified by the document mRID key + version number (revision number field)

Each PA contained in a document is also identified by a single PA mRID, and has a revision number. This version number must be the same as the document.

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Finally, each time series constituting a PA is also identified by a single time series mRID. Time series do not have version numbers. The version number is carried by the PA and not by the time series.

All mRIDs (document, PA, time series) are limited to 35 characters and must follow a specific format. Compliance with this format will subject to controls by RTE. Non-compliance with this format will result in a refusal of the PA(s) by RTE.

5.1.7.1   Document mRID

The mRID of the document shall be as follows:
PA_{RP short name}_{Application date}

Where:
- Prefix PA_
- Service provider ID: Name of the Scheduling Agent (short name, assigned by RTE)
- Application date in YYYYMMDD format

NB: The document mRID is a field in the XML document. This is not the file name. No particular form is required regarding the filename, since it is not used by RTE. RTE only uses the XML content.

5.1.7.2   PA mRID

The mRID of a PA shall be as follows:
PA_{EDP code}_{Application date}

Where:
- Prefix PA_
- EDP code (8 characters maximum)
- Application date in YYYYMMDD format

5.1.7.3   mRID of time series

For each PA, 5 time series are expected: P0, RPh, RPb, RSh, RSb

The respective mRIDs of these 5 time series shall comply with the following format:
{Time series type}_{EDP Code}_{Application date}

Where:
- Time series type: P0, RPH, RPB, RSH or RSB depending on the time series concerned
- EDP code (8 characters maximum)
- Application date in YYYYMMDD format

5.1.8 *Advance transmission*

PA documents may be submitted in advance, no earlier than 7 days before the application date.

The first version of each document for an application day D is expected by D-1 at 12:30. This first version can be refined to be reaccepted on D-1, at 15:00 and/or 16:30pm and/or 23:00.

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If there are no changes to the first version, it is not necessary to return a new version for the 15:00 and 16:30 gateways.

Subsequent versions of a PA document can then be transmitted at any time, until the last gate closure of application day D (today D-1 at 22:00).

5.1.9 _Acceptance gate closure_

The gate closure time at which this PA is accepted is not reported by the scheduling agent in its document but calculated by RTE according to the time the document was received.

_NB: the field gate_DateAndOrTime.dateTime present in the MultipleSchedule document will allow the scheduling agent to know what the gate closure time calculated by RTE is on its PAs. This field should not be filled in by the scheduling agent and will not be accepted by RTE if it is reported by the scheduling agent._

Currently, the available scheduling gate closures are, in local time:
D-1 12:30; D-1 15:00; D-1 16:30; D-1 23:00 and all full hours of D from 00:00 to 22:00 (00:00, 01:00, 02:00 etc. until 22:00)

The gate closure that applies to the PA received depends on when it is received:
- If the PA is received in advance, from D-7 to D-1 12:30 (excluded): the first applicable gate closure is D-1 12:30

- If the PA is received on D-1, between D-1 12:30 and D-1 11:00 (excluded): the gate closure applicable to the PA received is the next ATM in relation to the PA receipt time (15:00, 16:30 or 23:00)

- Between D-1 23:00 and D 22:00 (excluded): The gate closure time applicable to the PA received is the next gate closure compared to the PA receipt time

PA receipt interval (local time)		Acceptance gate closure time (Hg)
Before D-7		_File out of transmission time_
[D-7; D-1 12:30[		D-1 12:30
[D-1 12.30; D-1 15:00[		D-1 15:00
[D-1 15:00; D-1 16:30 [		D-1 16:30
[D-1 16:30; D-1 23:00 [		D-1 23:00
[D-1 23:00; D 23:00 [		Next round hour
	_On D-1: [D-1 23:00; D 0:00 [_	_D - 0:00_
	_On J: [D 0:00; D 22:00 [_	_Next round hour of D_
After the last gate closure of D		_File out of transmission time_

Once the acceptance gate closure time has passed, the PA becomes 'Closed', i.e. it will be used as it is by RTE for the entire period of time that follows, until the next gate closure. Subsequent versions will only be used from the next gate closure.

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5.1.10   PA update

A PA can be redeclared several times, before D or intraday. The redeclaration is done by sending a new version of the PA document, which keeps the same mRID but has an increment of the version number ("Revision number").

There is no limit to the maximum number of redeclarations allowed.

No constraints are imposed on the scope of redeclared EDPs. The scheduling agent can add new EDPs or remove EDPs that were present in the previous document version.
Finally, contrary to what is done on TERRE bids, a PA document does not overwrite the previous one. The TOPASE application does not work in annul mode and replaces for PAs, previous versions are kept, so that they can be used in case the most recent version does not pass functional controls.

5.1.11   PA life cycle

The above diagram illustrates the life cycle of a given version n of a PA.

This life cycle depends on:

- The result of the various controls (syntax, functional) that put the PA in a VALID or INVALID state

- The gate closure time at which this PA is accepted (H_g score, calculated by RTE according to the PA receipt time)

- The possible receipt of a version n+1 of the same PA, which can make the previous version OBSOLETE.

- The open or closed character of the next scheduling gate closure. If the gate is closed, the APs concerned will be in specific states VALIDGC, INVALIDGC, OBSOLETEGC (GC meaning '*Gate Closed*'). This point is detailed in the following paragraph (in the case of a closed-gate PA)

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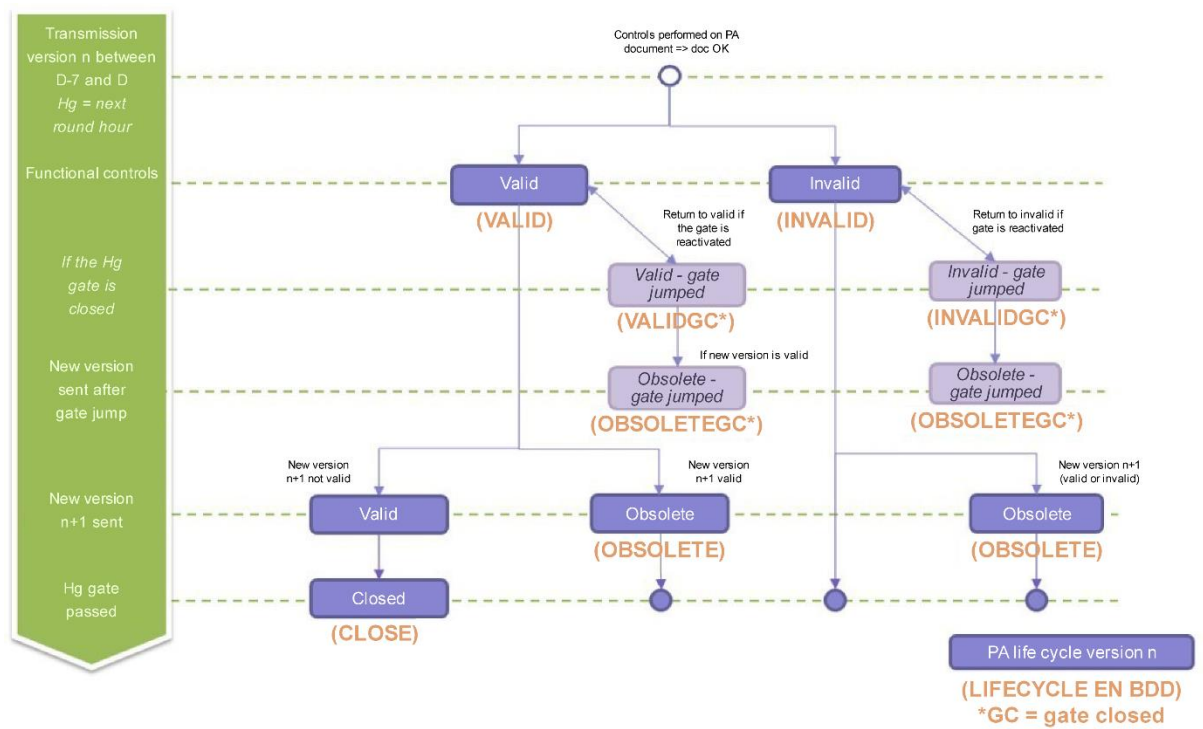
5.1.12 Selected PA

For each scheduling gate and for each EDP, the TOPASE application calculates a selected PA from the PAs reported by the scheduling agent.

The PA selected from an EDP:

- corresponds to the PA values accepted by RTE for the closure and performance control

- covers the whole day of application

- is set to a 5 minute interval

- is updated with each PA redeclaration taking into account:

  o new power values to be accepted

  o adjusted power values following the application of business controls

- in the absence of a PA redeclaration between two gate closures, the PA_retenu from an EDP is not amended: $PA\_retenu_{HG} = PA\_retenu_{HG-1}$

The selected PA calculated by TOPASE on the gate closure is routinely in version 1 (even if it is based on a PA version declared by the service provider to be greater than 1).

There will be 24 PAs selected in v1 for a standard day (excluding clock changes), one per gate closure.

It is possible that TOPASE calculates v2 in exceptional cases (case of manual injection).

The selected PAs will be available for consultation by the RPs at any time.

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5.1.13 *When sending a PA on a closed gate (degraded mode)*

In the event of a major failure, RTE may reserve the right to close one or more scheduling gates. In this case, a message is sent to the scheduling agent by the hotline to warn them.

No scheduling document submitted for the closed gate will then be accepted by RTE, as long as the gate remains closed. PAs received for this gate closure will not be recorded for the calculation of the PA selected, and that they were sent before or after the close of the ATM:

- PAs received for the closed gate before it is closed will be converted to VALIDGC status (if they were VALID), INVALIDGC status (if they were INVALID) or OBSOLETEGC status (if they were OBSOLETE) - *GC signifying Gate Closed (see §above concerning the description of PA life cycles)*

- However, PAs received after closure of the gate are controlled by TOPASE and are converted to VALIDGC status if the controls are passing or INVALIDGC if the controls are non-passing. Previous versions of PA VALIDGC (or INVALIDGC) change to OBSOLETEGC status.

  - o In the ACK that is sent to the service provider in response to the submission, a reason code A57 + reason text 'Gate closed' will indicate that the gate is closed at the document level.

  - o The ACK will also indicate that the PAs have been made VALIDGC or INVALIDGC with the following Reason Code / Reason Text at the Time Series level:

PA_LIFECYCLE_STATE	Reason code	Reason text (FR)	Reason text (EN)
VALIDGC	**Z35**	*Guichet fermé (PA valide)*	*Gate closed (valid PA)*
INVALIDGC	**Z36**	*Guichet fermé (PA non valide)*	*Gate closed (invalid PA)*

5.2 The different stages of the PA submission process

The diagram below illustrates the process of submitting Pas through the application. These steps will be described in the following paragraphs.

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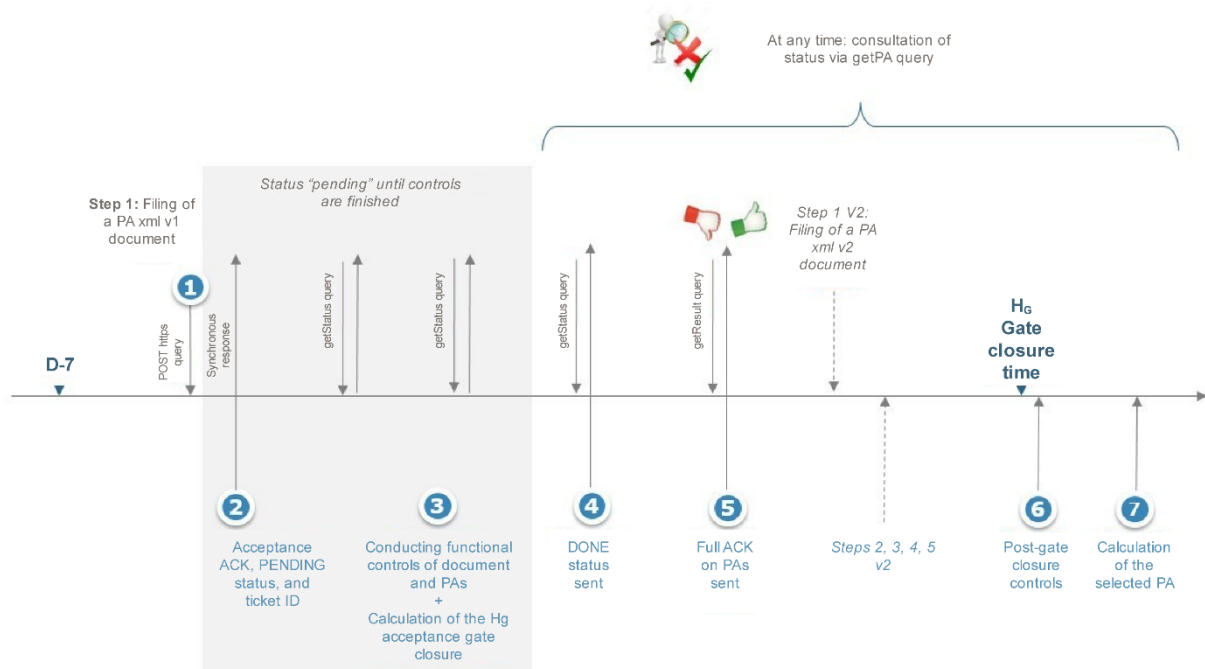
5.2.1 Step 1: Filing a PA document

The scheduling agent submits the PA document via the TOPASE interface (HMI or API). The scheduling agent can change the mode of communication (HMI or API) if it wishes over time. Upon receipt of the document, TOPASE responds that it has been properly accepted (synchronous response). The response contains a ticket ID with which the scheduling agent can then come and ask TOPASE for information on how to process this document, via an API of the type get/submission/status.

The API connection information (URL etc.) is described in paragraph 5.4 below (Interface Machine to Machine for Forecast Dispatch Schedules)

5.2.2   Steps 2 and 4: Query by get/submission/status query type

Upon receipt of the document, TOPASE responds that it has been properly accepted (synchronous response). The response contains a ticket ID with which the scheduling agent can then come and ask TOPASE for information on how to process this document, via an API of the type get/submission/status.

This get/submission/status API will refer to the scheduling agent:

  •   a 'pending' status as long as controls on the document and its contents are in progress

  •   a 'done' status when these treatments are completed

5.2.3   Step 3.1: Document Control

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The controls described in this section are document-level controls. If one of these controls fails, the document will be rejected in its entirety and the PAs will not be retrieved.

5.2.3.1 Document-level controls list

The following controls are carried out by TOPASE on the document at the time of submitting a PA document:

1. Syntax controls: non-empty document, indentations, correct tags, all field syntax compliance, header. The following values are expected in the document header:

Field	Expected Value
Business Type	A01 (ENTSOE meaning: generation)
process.processType	A17 (ENTSOE meaning: Schedule day)
sender_MarketParticipant.marketRole.type	Z10 (ENTSOE meaning: Program responsible)
receiver_MarketParticipant.mRID	10XFR-RTE------Q (ENTSOE meaning: EIC RTE)
coding.Scheme	A01 (Meaning ENTSOE: EIC code)
receiver_MarketParticipant.marketRole.type	A04 (ENTSOE meaning: System operator)

2. Consistency between the document issuer and the scheduling agent identified in the document

3. Presence of an existing Participation Agreement (PA-RP)

4. Complying with transmission deadlines:

   - TOPASE verifies that the document is not transmitted too soon compared to the application date. Currently, the transmission time allowed is 7 days in advance.

   - TOPASE verifies that the reporting period of the document is in line with the gate closure and the neutralisation leadtime: no value earlier than H_g + DN (currently the DN for the scheduling is 60 minutes)

5. Verifying version number increment:

   - The version number of the document must be strictly higher than the version numbers of the same document previously transmitted (whether they are for accepted or refused documents)

   - However, it is not expected that the increment of the version numbers will always be 1

6. Document mRID control: verify the format of PA_{RP Name}_{Application Date in YYYYMMDD format}

7. It will also be checked at the document level that all the SchedulePeriods indicated in the document (at the time series level and at the document level) are consistent. Failure to control at least one time series of the document results in the rejection of the entire document. The error will then be tracked at the document level and also at the PA level concerned.

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8. It will also be checked at the document level that all time series start in position 1. Failure to control at least one time series of the document results in the rejection of the entire document. The error will then be tracked at the document level and also at the PA level concerned.

9. Checking of the SchedulePeriod of the PA document. This period must cover a maximum of one day and must end at midnight (local time).

5.2.3.2   Document-level error code list

No.	Control	Reason Code ENTSOE *+ ENTSOE description*	Reason text (FR)
1	Empty Document	B01 (ENTSOE meaning = incomplete document)	Empty documents
	Syntax error	B01 (ENTSOE meaning = incomplete document)	Syntax error at line X
	Business Type <> A01	**A62** *(invalid business type)*	Line <X>: expected value is <X>
	process.processType <> A17	A79 *(Invalid Process)*	Line <X>: expected value is <X>
	Coding Scheme <> EIC	A78 *(sender identification and/or role invalid)*	Line <X>: expected value is <X>
	sender_MarketParticipant.marketRole.type <> Z10	A78 *(sender identification and/or role invalid)*	Line <X>: expected value is <X>
	receiver_MarketParticipant.mRID <> 10XFR-RTE------Q (RTE EIC)	A53 *(receiving party incorrect)*	Line <X>: expected value is <X>
	coding.Scheme <> A01 (EIC code)	A53 *(receiving party incorrect)*	Line <X>: expected value is <X>
	receiver_MarketParticipant.marketRole.type <> A04 (System operator)	A53 *(receiving party incorrect)*	Line <X>: expected value is <X>
2	Control of the issuing service provider consistent with that of the document	*A05 (Sender without valid contract)*	The service provider <EIC> does not have an existing RP participation agreement
3	No PA-RP	*A78 (The identification of the sender or the sender/role combination is invalid)*	Inconsistency between connected service provider and file service provider
4	Non-compliance with transmission deadlines	A57 *(Deadline limit exceeded / Gate not open)*	Non-compliance with transmission deadlines
5	Version number increment: number already present in the database	A51 *(message identification or version conflict)*	Version number of this document already exists in the database
	Version number increment: Strictly superior version number exists in the database	A51 *(message identification or version conflict)*	A higher version number of this document already exists in the database
6	Non-compliance with the format of the document mRID	A51 *(message identification or version conflict)*	Invalid document mRID
7	Inconsistency between the schedule period of the document and the schedule period of at least one of the time series	A04 (Time interval incorrect)	The period of application of the time series shall be equal to the period of application of the document
8	No point in position 1 for at least one of the time series in the document	A49 (Position inconsistency - A position is missing or too many.)	Each time series must have at least 1 point in position 1
9	Checking of PA document SchedulePeriod = one day ends at 0:00 (local time)	A04 (Time interval incorrect)	The period of application must cover one day and end at midnight (local time)

5.2.4 Step 3.2: PA Control

Once the document is accepted (i.e. having passed the controls described in Step 3.1), the PAs are functionally controlled one by one. After these controls, a PA can be either "Valid" (if all controls are positive) or "Invalid" (if any of these controls fails). An overall ACK will be generated at the end of the process to inform the scheduling agent of the status of each of the KPAs in the submitted document and details of any errors encountered (see Step 6)

5.2.4.1 PA-level list of controls

Controls at the PA level are as follows:

1. Verification that for each PA, 5 curves (or series) were reported by the scheduling agent:

    - P0: One Series with BusinessType = A07 (active power curve)

    - RPh: One Series with BusinessType = A95 + flowDirection.direction = A01

    - RPb: One Series with businessType = A95 + flowDirection.direction = A02

    - RSh: One Series with BusinessType = A96 + flowDirection.direction = A01

    - RSb: One Series with businessType = A96 + flowDirection.direction = A02

    This control may not be passed for 2 reasons:

    - There are not 5 time series for a given PA (missing or unnecessary time series)

    - There are 5 time series in a given PA, but they do not match the expected time series (for example, there is something of the type P0, RPh, RPh, RSh, RSh)

    As long as the 5 expected time series are present, this control is passed, even if the time series are disordered (e.g. RPh, RSb, P0, RSh, RPb passes).

2. Validity of scheduling resource (EDP or EDR) in reference data

3. Ability to make RPh, RPb, RSh, RSb and ability or inability to provide unsymmetrical system services

4. Consistency of the resolution of the EDP scheduling and the resolutions of the 5 declared time series

5. Consistency of PA values:

    - Control on negative active power values: these are only allowed if the EDP is of type STEP or NUC

    - No negative values for RPh, RPb, RSh, RSb time series

    - *[Deactivated first]* Control over SSY values: verify that declared values are consistent with certificates

    - Minimum power control offered (> 1MW)

6. Control of the links between EDP Head and valley and influenced EDPs

7. No duplicate in document. If a particular EDP is reported twice or more within the same RFP document, all declarations relating to that RFP are refused

8. Control of PA mRID: check the PA_{EDP Code}_{Application Date in YYYYMMDD format}.

9. PA version number check: PA version number (tag <version> at the PA level) must be the same as the version number present at the document level (tag <revisionNumber> document).

10. Check for the presence and validity of the redeclaration type in the tag <marketObjectStatus.status>. Possible values are:

    - Z08 = 'P=C' re-declaration for reason P=C.

    - Z09 = 'CT' = redeclaration for technical constraints.

    - Z10 = 'SSY' = redeclaration to comply with the changes to the requirements of Systems Services requested by RTE

    This field is the equivalent of the field type of redeclaration of the PA_PROD file currently sent to SYGA. It will be used in the same way as currently, there is no new associated business. Only the codification is new:

    - Z08 corresponds to 1 in SYGA

    - Z09 corresponds to 2 in SYGA (CT)

    - Z10 corresponds to 3 in SYGA (SSY)

    - Z11 should not be used at this time as incidental items continue to be reported by telephone.

    NB: below is an excerpt from the implementation guide for the current Balance Mechanism

    The file contains 4 lines for each EDP whose Call Schedule has been redeclared:
    EDP ID;Type of redeclaration;comment;
    Chronicle Type;PA$_1$ Value;PA$_2$ Value;......................;PA$_{48}$ Value;
    Chronicle Type;PP$_1$ Value;PP$_2$ Value;......................;PP$_{48}$ Value;
    Chronicle Type;PS$_1$ Value;PS$_2$ Value;......................;PS$_{48}$ Value;

    Definition of parameters

Field	Description	Value or Format
EDPT ID	EDP Code communicated by RTE	
Redeclaration type	Redeclaration type flag	An integer that can only be: - "1": other Redeclaration - "2": Redeclaration for technical constraints - "3": Redeclaration to comply with amendments to System Service requirements requested by RTE

    By convention, initial declarations will be for the reason P=C (Z08)

11. Verify that system service time series do not have negative values.

12. Control of mRID of each PA time series: checks the format {time series type}_{EDP Code}_{Application date in YYYMMDD}.

5.2.4.2 PA-level error code list

No.	Control	Reason Code ENTSOE + ENTSOE description	Reason text (FR)
1	Number of time series per EDP	A20 (Time series fully rejected)	5 time series are expected by EDP: P0, RPh, RPb, RSh, RSb
2	The EDP does not belong to the scheduling agent connected in the reference data	Z38 (Entity not present in the scheduling perimeter)	"The PA EDP is not in your scheduling perimeter (see reference data)"
	EDP is not present in reference data	Z39 (Unknown entity)	"EDP is unknown in reference data"
	Internal IS failure, cannot access reference data	Z40 (Unable to access reference data)	"Failed processing, cannot access reference data"
	Internal IS failure, reference data-level technical error	Z41 (Technical issue on reference data)	"Processing failed, error in reference data"
3	Ability to perform RPh, RPb, RSh, RSb	Z42 (Unable to perform the schedule)	The EDP is not intended to provide time series values (RPh, RPb, RSh, RSb)
	Unable to perform dissymmetric system services	Z43 (Unable to perform dissymmetric ancillary services)	The EDP is not suitable for dissymmetry (dissymmetry in <RP, RS>)
4	Consistency of the resolution of the EDP scheduling and the resolutions of the 5 declared time series	A41 (Resolution inconsistency)	Resolving time series that do not conform to the reference data
5	Coherence of power values [disabled first]	A42 (Quantity inconsistency)	Reported powers (RPh, RPb, RSh, RSb) exceeded the maximum reported values for the EDP
6	Control of the links between EDP Head and valley and influenced EDPs	Z44 (Link with the head of valley scheduling entity)	Influence link not complied with.
7	No duplicate	A55 (Time series identification conflict)	Duplicate PA
8	Failure to comply with the format of the PA mRID	A55 (Time series identification conflict)	invalid PA mRID
9	Verify that the PA version number is equal to the document version number	A51 (message identification or version conflict)	The PA version number must be the same as the document version number
10	Verification of the presence and validity of the redeclaration type	Z46 (No status provided)	The redeclaration type must be specified in the MarkeObjectStatus.status tag
11	Verifying that System Services time series do not have negative values	A46 (Quantities must not be signed values)	Negative values detected in the time series of (RPh, RPb, RSh, RSb)
12	Control of mRID of each PA time series	A55 (Time series identification conflict)	Time series mRID [P0, RPH, RPB, RSH, RSB] is invalid

5.2.5 *Sending of the ACK*

Once the controls described in the above paragraphs have been carried out, the TOPASE application informs the scheduling agent via a 'done' response to the get/submission/status query.

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The scheduling agent then submits a query of type get/submission/ack to obtain the result of the controls carried out. This result will be returned to the body of the response, in the form of a Acknowledgement Document (or ACK), respecting the ENTSOE format:

Acknowledgement document	**iec62325-451-1-acknowledgement_v8_0.xsd**

In this ACK, the scheduling agent will find details of the errors encountered, codified according to the ENTSOE list code or the local list code, and accompanied by a text explaining the error encountered:

- If one or more of the controls at the document level described in 5.2.2 do not pass, the ACK will notify the scheduling agent of the failures encountered at the document level by means of a dedicated error code (see details of the error codes below)

- In the event that the document level controls passed, but one or more of the PAs in the document (or all of them) do not pass the functional controls, the ACK will inform the scheduling agent of the PA level errors (see details of the error codes below)
    - o In this case, the list of errors detected during functional controls on invalid PAs is provided. Valid PAs are not listed in this ACK.
        - If some but not all PAs in the document are invalid, the ACK Reason Code will be A03 (indicating that the document contains Times Series errors).
        - If all PAs in the document are invalid, the ACK Reason Code will be A02 (indicating that all Times Series are rejected)
        - In both cases, errors detected on each PA will be reported at the PA(s) level in error via a dedicated Reason Code / Reason text (see table detailing error codes below)
    - o If all PAs in the document are valid, the ACK simply indicates the A01 code, without including any details on PAs.

- If the next scheduling desk is closed: the ACK in response to the deposit includes a reason code A57 + reason text 'Gate closed' at the document level. The ACK will also indicate that the PAs have been made VALIDGC or INVALIDGC with the following Reason Code / Reason Text at the Time Series level:

PA_LIFECYCLE_STATE	Reason code	Reason text (FR)	Reason text (EN)
VALIDGC	**Z35**	Guichet fermé (PA valide)	Gate closed (valid PA)
INVALIDGC	**Z36**	Guichet fermé (PA non valide)	Gate closed (invalid PA)

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5.2.6 *Controls at the gate*

At the passing of the gate, RTE verifies that the amendments requested by the scheduling agent do not go in the opposite direction to the balancing operations activated by RTE. If this is the case, the declaration made at the gate concerned will be refused.

5.3 Web HMI Interface for PA

The TOPASE Web HMI URL is given in paragraph 2.4 and the screens and main features of the TOPASE Web HMI are described in the reference document [7].

The Web HMI provides the following functionality to the scheduling agent through its web browser (these functionalities will be detailed in the paragraphs below):

1. File a PA Document

2. View the exchange log (list of PA documents submitted, state of the exchange) and download the PA documents and the ACK corresponding to the XML format.

3. View a reported PA, check the results of the controls and list of any errors detected.

5.3.1 *File a PA document*

The TOPASE HMI includes a "Document Submission" tab that allows the scheduling agent to manually file one or more PA documents and upload them to the TOPASE application.

5.3.2 *View Exchange Log*

The TOPASE HMI includes a tab called 'Exchange Log' which allows the scheduling agent to consult the list of exchanges concerning it, with the possibility to go back to the past (scope of the data searchable to be defined).

This log is common to all process types managed in TOPASE: participation in CMOL TERRE, scheduling, etc.

This journal presents the main data associated with each exchange, namely:

- The date and time of the exchange

- The date and time of application of the document

- The process (Scheduling from the perspective of filing PA documents)

- The issuer and the addressee of the exchange

- The type of exchange (e.g. PA deposit)

- The mRID of the document

- The version number of the document

- The status of the exchange (OK / KO)

- The details of the error encountered, if the status is KO. The error messages displayed in this column are consistent with the messages sent to the scheduling agent in the ACK (see here)

- Action buttons to open and/or download the corresponding document and ACK

A search banner allows you to filter exchanges on all of this data.

Sorting is possible on the columns.

A button is used to download PA documents submitted by RPs and ACKs sent by RTE in XML format.

5.3.3 *View PA log*

The TOPASE HMI includes a tab called the "PA Log" that allows the scheduling agent to view a list of their reported PAs, so that they can see the status of their PAs in real time.

This journal presents the main data associated with each PA, namely:

- The date of application of the PA

- EDP

- The PA version number

- The PA acceptance gate closure (calculated by RTE)

- The PA state in its life cycle (valid / invalid / closed / etc. For the various possible states, c.f. § 4.1.7 au-dessus)

- The details of the error (or errors) that indicates the cause of the refusal if the PA is in a "Invalid" status. The message displayed in this column will be consistent with the indication contained in the ACK (see §4.1.6.5 au-dessus)

A search strip allows you to filter the PAs displayed on this screen. Sorting is possible on the columns.

5.3.4 *Review selected PAs*

There are no plans to have a HMI for the consultation of the selected PAs. An API will allow RPs to view their selected PAs in Machine to Machine mode (see below)

5.4 Machine to Machine interface for PAs (API)

5.4.1 *The various URLs*

In pre-generation

The various URLs that are useful in the process of filing the forecast dispatch schedules are listed below; they are described in more detail in the following paragraphs

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For HMIs
⇨ https://secure-apps-dev.iservices.rte-france.com/topase-web/

For APIs
PA filing:
⇨ https://secure-apps-dev.iservices.rte-france.com/topase-api/api/v1/documents/pa
Consultation of the ticket status:
⇨ https://secure-apps-dev.iservices.rte-france.com/topase-api/api/v1/submission/status
Consultation of the ACK:
⇨ https://secure-apps-dev.iservices.rte-france.com/topase-api/api/v1/submission/ack
Consultation of the PAs (PA report):
⇨ https://secure-apps-dev.iservices.rte-france.com/topase-api/api/v1/pa-report
For this API, swagger documentation is available here (requires a certificate)
⇨ https://secure-apps-dev.iservices.rte-france.com/topase-web/ext/swagger-ui.html

In generation
For HMIs
⇨ https://secure-apps.iservices.rte-france.com/topase-web/

For APIs
Forecast dispatch schedule filing:
⇨ https://secure-apps.iservices.rte-france.com/topase-api/api/v1/documents/pa/
Consultation of the ticket status:
⇨ https://secure-apps.iservices.rte-france.com/topase-api/api/v1/submission/status/
Consultation of the ACK:
⇨ https://secure-apps.iservices.rte-france.com/topase-api/api/v1/submission/ack/
Forecast dispatch schedule filing (PA report):
⇨ https://secure-apps.iservices.rte-france.com/topase-api/api/v1/pa-report

5.4.2 *File in https*

API XX allows RPs to file their PAs with RTE.

5.4.2.1 *Location*

⇨ https://secure-apps-dev.iservices.rte-france.com/topase-api/api/v1/documents/pa/

5.4.2.2 *Category*

Format: APPLICATION/XML

5.4.2.3 *How the API works*

General principles:
The API follows the following operating principle:
- Check for caller authentication and authorisations via an upstream PKI certificate
- A synchronous answer on the proper acceptance of the Forecast Dispatch and ticket identifier.

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5.4.2.4   Resources

Name	Method	URI
Sending a MultipleScheduleDocument by API	**POST**	/api/v{{version}}/documents/pa

5.4.2.5   Settings

NAME Settings	CARD.	DESCRIPTION	TYPE	VALUES / FORMAT
MultipleSchedu leDocument	1	Requested Document Type	XML	see xsd

5.4.2.6   Response

http codes:

HTTP CODES	Cases
200	Document filed successfully
400	Syntax error
401	Authentication required
403	Permission denied
404	Resource not found
500	Internal Error

Content:

The body contains:
- The ticket ID to be able to view the status of the processing performed on the document
- Status (pending)

5.4.2.7   Making swagger available

This API is not described in the swagger.

5.4.3   Consultation of the status of the execution of the controls carried out on the document

This is the same API as described in the procedure for submitting TERRE bids (§ 4.3.2)

5.4.3.1   Resources

⇨   https://secure-apps-dev.iservices.rte-france.com/topase-api/api/v1/submission/status/

Name	Method	URI
Consultation of the status of performing API controls	**GET**	/api/v{{version}}/submission/status/{{tic ketNumber}}

This service allows you to consult the status of the performance of the controls carried out by the RTE IS following the filing of a bid.

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5.4.3.2   Settings:

NAME Settings	CARD.	DESCRIPTION	TYPE	VALUES / FORMAT
Ticket No.	1	Identifier of the filed document, for which the scheduling agent requests progress in carrying out the checks		

5.4.3.3   Response

http codes:

HTTP CODES	Cases
200	Success
400	Syntax error
401	Authentication required
403	Permission denied
404	Resource not found
500	Internal Error

Content:

The body indicates the status of the processing performed on the filed document:
- Pending: ongoing
- Done: finished

5.4.4   _Consultation of the result of the controls carried out on the document_

This is the same API as described in the procedure for submitting TERRE bids (§ 4.3.3)

5.4.4.1   Resources

⇨   https://secure-apps-dev.iservices.rte-france.com/topase-api/api/v1/submission/ack/

Name	Method	URI
Consultation of control results by API	**GET**	api/v{{version}}/submission/ack/{{ticket Number}}

This service allows you to review the results of the controls carried out by the RTE IS following a PA deposit. The answer is an XML document of type "Acknowledgement"

5.4.4.2   Settings

NAME Settings	CARD.	DESCRIPTION	TYPE	VALUES / FORMAT
Ticket No.	1	Identifier of the filed document, for which the service provider requests the result of the controls		

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5.4.4.3   Response

http codes:

HTTP CODES	Cases
200	Success
400	Syntax error
401	Authentication required
403	Permission denied
404	Resource not found
500	Internal Error

Content:

The body contains an XML of type 'acknowledgement'.
(see iec62325-451-1-acknowledgement_v8_0.xsd).

The acknowledgement will inform the caller of the result of the controls carried out by the TOPASE application following the filing of an PA document. The ACK will indicate any errors detected at the document level or at the PA level.

5.4.5   Consultation of the PAs filed and the PAs selected

The RPs will be able to review at any time the details of one or more of their filed PAs and the PAs selected by RTE using an API (GET method) to retrieve a MultipleSchedule XML document indicating where the PA is in its life cycle and what errors are detected.

5.4.5.1   Resources

⇨ https://secure-apps-dev.iservices.rte-france.com/topase-api/api/v1/pa-report/

Name	Method	URI
Consultation of reported PAs and selected PAs	**GET**	api/v{{version}}/pa-report

This service allows you to review the results of the controls carried out by the RTE IS following a PA deposit. The answer is an XML document of type MultipleSchedule Document

5.4.5.2   Settings

Parameter	Cardinality	Description	Type	Values / Format
businessType	1	Type of PA on which the query relates (Z83:declared, Z84:selected)	Text	Z83 = declared Z84 = PA selected
schedulePeriod	1	Application Date in Format: YYYY-MM-DD	UTC date	YYYY-MM-DDTHH:mmZ

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Service provider ID	0..1	Name of company to which the service provider belongs (short name)	Text	
revisionNumber	0..n	Version number(s) requested	Number	If not specified → return all version numbers
registeredResource. mRID	0..n	Registered Resource (EDP) on which the request is made	Text	If absent → returns all the EDPs of the service provider
Lifecycle	0..n	Code corresponding to the desired life cycle(s)	Text	If absent → returns all lifecycles
mRID	0..1	PA mRID	Text	If the service provider wishes to consult a particular PA
Column	0..1	Criteria for sorting results desired by the service provider	Text	Criteria for sorting results desired by the service provider
Column direction	0..1	Sort direction	Text	asc or desc
Page	0..1	Pagination	Number	
Size	0..1	Number of PAs requested in response	Number	Default 200
gateTime	0..1	Date and time of gate closure in UTC format YYYY-MM-JJTHH:MMZ	UTC date	

5.4.5.3 Response

http codes:

HTTP CODES	Cases
200	Success
400	Syntax Error: One or more settings are incorrect
401	Authentication required
403	Permission denied
404	Resource not found
500	Internal Error

The response consists of an XML body in the MultipleSchedule Document format identical to the PA declaration document, enriched with a TimeSeries reason code / reason text indicating the state of the PA in its life cycle:

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PA_LIFECYCLE_STATE	Reason code	Reason text (FR)	Reason text (EN)
Valid	B06 (TimeSeries accepted)	Valid	Valid
Invalid	A20 (TimeSeries fully rejected)	Invalid	Invalid
Obsolete	Z30 (Obsolete Program)	Obsolete	Obsolete
Closed	Z31 (Firm Program)	Ferme	Closed
VALIDGC	Z35	Guichet fermé (PA valide)	Gate closed (valid PA)
INVALIDGC	Z36	Guichet fermé (PA non valide)	Gate closed (invalid PA)
OBSOLETEGC	Z37	Guichet fermé (PA obsolete)	Gate closed (deprecated PA)

5.4.5.4 SWAGGER consultation

A swagger describing the API for consultation of the declared and selected forecast dispatch schedules is made available to the scheduling agent.

The swagger is available here (requires a certificate)
  ⇨ https://secure-apps-dev.iservices.rte-france.com/topase-web/ext/swagger-ui.html

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6 Definitions and glossary of abbreviations

6.1 Definitions

All words or groups of words used in this document with their first capital letters have the meaning given to them below or in Article 1 of the balancing market terms and conditions.

6.2 Glossary of Abbreviations

Balancing Service Provider	Balancing Service provider
CUO	Terms of Use of a Balancing Bid
DN	Neutralisation leadtime
EDA	Balancing Entity
EDP	Scheduling Entity
HTTPS	HyperText Transfer Protocol Secure
HMI	Man-Machine Interface
M2M	Machine To Machine
PKI (Certificate)	File for User Identification (Public Key Infrastructure)
PA	Forecast Dispatch Schedule
PM	Final Dispatch Schedule
REST	REpresentational State Transfer is an architecture style for distributed hypermedia systems
RP	Scheduling Agent
RR/RC	Rapid Reserve / Supplementary Reserve
IS	Information System
SSY	System services
TERRE	Trans European Replacement Reserve Exchange
URL	Web Address (Uniform Resource Locator)
XML	eXtensible Markup Language is a generic markup computing language