



Le réseau
de transport
d'électricité

TAO System - installation methods associated with operational workflows

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1. GENERAL PROVISIONS

1.1 Purpose

This document is intended for users of the Automated Transmission of Balancing Orders (TAO) system implemented by RTE. Since this system is being implemented to transmit all Balancing Orders, it is therefore intended for all Balancing Service Providers.

This document is an integral part of the IS Terms and Conditions and the implementation guide for exchanges with the TAO system [3]. It clarifies certain operational aspects of the installation of the TAO system. This document outlines the expected nominal operating workflows. They can be adapted according to the case encountered.

1.2 Reference Documents

The table below lists the reference documents cited in this Implementation Guide:

No.	Titre du document / Document Title	Source
[1]	Balancing Market Terms and Conditions	https://www.services-rte.com/en/learn-more-about-our-services/becoming-a-balancing-service-provider.html
[2]	General IS Appendix	https://www.services-rte.com/fr/conditions-generales-d-utilisation.html
[3]	PKI Software Certificate User Manual	https://easympi.rte-france.com/en/
[4]	Implementation guide for exchanges with the TAO system	https://www.services-rte.com/en/learn-more-about-our-services/becoming-a-balancing-service-provider.html
[5]	Dialogue Code	https://www.services-rte.com/en/learn-more-about-our-services/becoming-a-balancing-service-provider.html
[6]	Technical specification for Access to the TAO IP-VPN service	https://www.services-rte.com/en/learn-more-about-our-services/becoming-a-balancing-service-provider.html

1.3 Definitions

All words or groups of words used in this document with their initial letters in capitals have the meaning given to them below or in Article 1 of the Balancing Market Terms and Conditions [1] or in the implementation guide for exchanges with the TAO system [4].

1.4 Evolution of this document

This document is prepared by RTE in the dialogue process with service providers.

This document may be revised:

- where the TAO system is evolving,

- after a dialogue process with the Balancing Service Providers within the framework of the "Evolution of the Terms and Conditions" Working Party of the Market Access Commission (CAM) of the Transmission Grid Users Committee [Comité des Utilisateurs du Réseau de Transport d'Electricité - CURTE]

2. ACCOMPANYING PROVISIONS

2.1 Response to balancing orders

2.1.1 Reminder of the three dynamics of orders

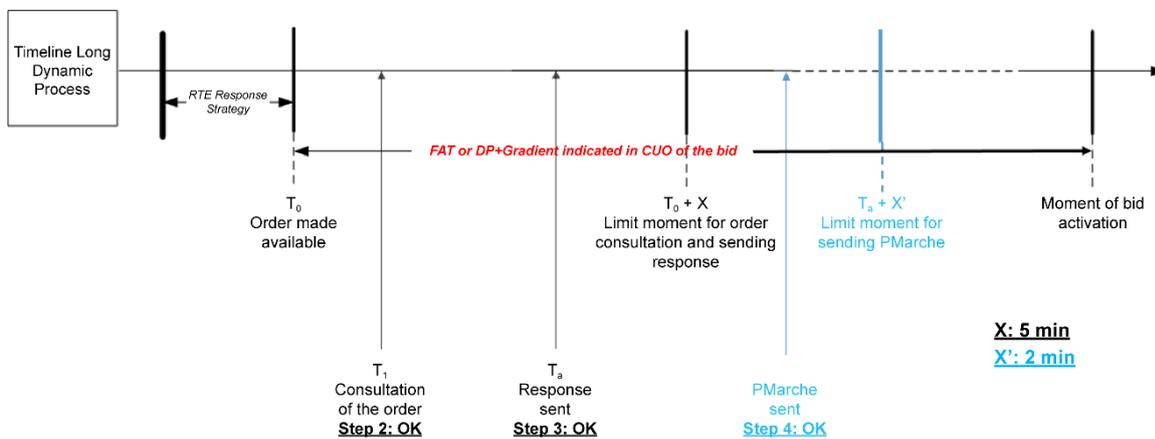
Upon the receipt of an order, the following actions are expected from the Order Recipient, within the deadlines defined in the implementation guide:

- Consultation of the order
- Response sent
- Final Dispatch Schedule sent¹ (for the entities concerned)

The following is a reminder of the three possible dynamics and associated contract deadlines: dynamic for standard orders; short and long dynamic for specific orders.

Long Dynamic

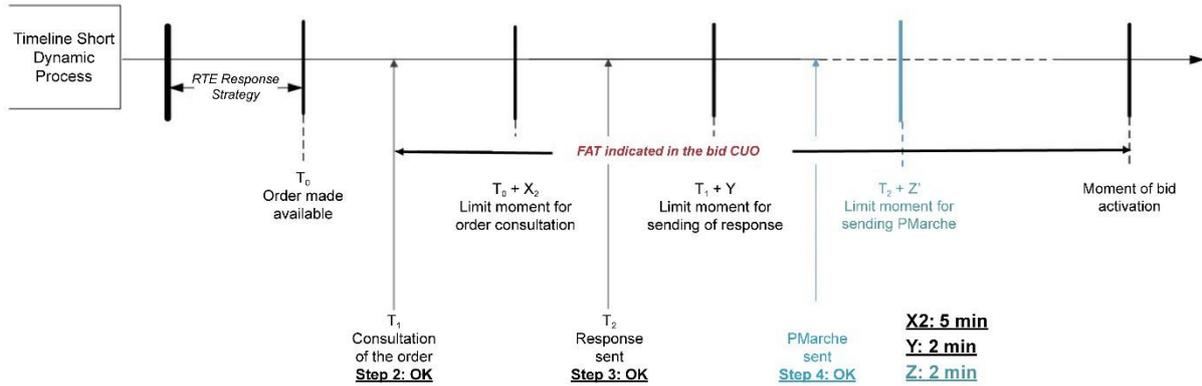
The long dynamic is characterised by the activation of bids for which the Full Activation Time is strictly greater than 30 minutes. It allows identified cases to be responded to before they occur.



Short Dynamic

The short dynamic is characterised by the activation of bids with a FAT (Full Activation Time) of 30 minutes or less.

¹ Initially, only for standard orders at the commissioning of the standard RR product trading platform.



Dynamic for standard orders

This dynamic applies to standard orders. It is similar to the short dynamic, with the only difference that the value of X2 is 30 seconds.

A review of all these parameters is possible at the initiative of RTE: three months' notice will be given to Balancing Service Providers.

2.1.2 Consultation of orders

The Order Recipient must first consult the balancing order(s) within the deadline set.

When the Order Recipient consults the orders (pulling) for orders of a rapid or short dynamic, the order is considered to be transmitted to the Order Recipient.

In sending the functional acknowledgement, the order recipient must consider it a priority to send a response before the deadline specified in the Implementation Guide [4]. TAO provides a technical acknowledgement when the response is received.

Thus, the Order Recipient responds within the deadline, on the basis of the elements available to the operator (Order Recipient) at the time the order is received.

Thus, for example, it is possible to signify acceptance in the functional return without the order being subsequently executed, because of information brought to the Order Recipient between the moment at which he transmitted the functional acknowledgement of receipt and the moment of activation (in particular where there is the occurrence of a technical contingency).

In these cases, the Order Recipient shall inform RTE without undue delay and by telephone to the contact specified in §2.5.1

2.1.3 Types of Possible Response

2.1.3.1 Specific Orders

For specific orders, the TAO system provides a reason for acceptance of balancing orders and 4 grounds for refusal by the Order Recipient:

1. Non-compliance with CUOs (Bid usage Conditions),
2. Balancing to be adapted,

3. Balancing not possible,
4. Other

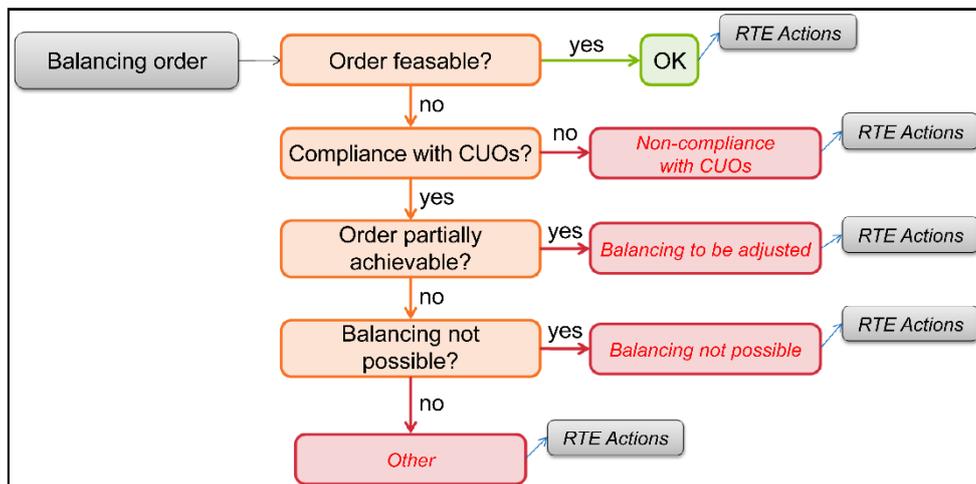
When the order is achievable, then the Order Recipient executes the balancing order, and sends a positive response: that order is then the one tracked by RTE.

If not, the workflow for determining the reason for refusal is as follows:

1. the order transmitted by RTE does not comply with the CUOs transmitted by the AA (Balancing Service Provider) for the EDA (Balancing Entity) concerned²: the RO responds with the reason for refusal "Non-compliance with the CUOs",
2. the order transmitted by RTE complies with the CUOs, but the Balancing Service Provider is only able partially to perform the balancing order (delay in starting, lower power...) on the EDA concerned: the RO shall respond with the reason for refusal "Balancing to be adapted", and shall initiate actions to inform RTE of possible balancing operations and/or modified CUOs of the EDA concerned,
3. the order transmitted by RTE is in compliance with the CUOs, and the AA is not in a position to carry out the balancing on the EDA concerned: the RO responds with the reason for refusal "Balancing not possible",
4. in all other cases, the RO responds with the reason "Other".

Whatever the refusal situation, it is the initiative of the Order Recipient to call RTE if necessary to accompany the refusal by specifying the causes (including in the case of non-compliance with the CUOs), or even to discuss the action to be taken.

In all situations, if RTE wishes to request the same EDA after adjusting the order, a TAO order will be returned to the service provider in accordance with the provisions of § 2.3.2.



Mapping of the workflow to determine the reason for refusal

² This situation may also occur where CUOs have evolved during the day and the service provider has not yet transmitted to RTE the CUO amendments by fax or email on an intraday basis



2.1.3.2 *Standard orders*

Standard bids are firm bids: this means that they should not theoretically be refused. However, unbalances on entities or errors in the transmission of orders may render standard balancing operations unfeasible in certain situations.

For standard orders, the TAO system provides a reason for acceptance of balancing orders and 4 grounds for refusal by the receiver of orders:

1. Specific incompatible balancing operation
2. Order not corresponding to the offer
3. Technical constraint
4. Others

When the order is feasible, then the Order Recipient executes the balancing order, and sends a positive response: that order is the one tracked by RTE.

If not, the workflow for determining the grounds for refusal is as follows:

1. The standard order transmitted relates to a time range on which a specific balancing order on the same EDA is already foreseen: RO responds with the grounds for refusal "Specific incompatible balancing operation";
2. The standard order submitted does not comply with the consultation to which it refers: the RO responds with the reason for refusal "Order not corresponding to the bid";
3. The EDA to which the standard order is applied has undergone a contingency and is unable to achieve the standard balancing: the RO responds with the grounds for refusal "Technical constraint"
4. In all other cases, the RO responds with the reason "Other".

Whatever the case for refusal, it is the initiative of the Order Recipient to call RTE if necessary to accompany the refusal by specifying the causes, or even to discuss the action to be taken.

2.2 Submitting the Final Dispatch schedule

In the case of EDAs that are subject to submitting a Final Dispatch schedule (PM), the Order Recipient sends a PM following a positive response to the balancing order (order accepted). This is a file describing the best vision of the Final Dispatch schedule that the EDA will follow (or each of the EDA's EDPs³ (Scheduling Entity), if relevant) to carry out the requested balancing.

The implementation guide describes the format for sending this file.

The sending of the PM is mandatory following standard orders. For specific orders, the return of the PM will be made possible after commissioning of the standard RR product trading platform, at a date to be specified later.

³ EDPs for which a PM is expected must be reported in the GISPE tool.

In case of an invalid PM, an error message will be sent. The return of a second file will not be accepted by TAO.

2.2.1 Specific case

Upon acceptance of a specific balancing order, on an EDA or EDP submitted to the PM, the Order Recipient sends the Final Dispatch schedule of the EDA or EDP over the entire period during which the previous schedule is modified to meet the balancing.

Type d'activation /Activation type	PM attendu /Expected PM
Restricted specific order	Over the amended PA period (including slopes)
Restricted specific order straddled over 2 days	Over the amended PA period (including slopes), over 2 days
Specific "Until Further Notice" order sent before 23:00	From the time the order was sent to midnight the same day
Specific "Until Further Notice" order sent after 23:00	From the time the order was sent until midnight the next day
"Return to schedule" order	From the time the order was sent to the moment of connection between the PM and the last redeclared PA

2.2.2 Standard case

Upon acceptance of a standard balancing order, the Order Recipient sends the EDA or EDP Final Dispatch schedule over the entire bid activation period, preceded by the duration of the FAT of the standard bid, and up to 5 minutes after the period.

For activation of a TERRE bid, 30-minute FAT and one-hour delivery period, the expected time ranges for PMs are shown in the table below.

Type d'activation / Activation type	PM attendu / Expected PM
H/H+1 Standard Bid	H-30 mins - H+1hr 05mins
Standard bid 23:00/midnight	D (22:30) - D+1 (00:05)
Standard bid midnight/01:00	D-1 (23:30) - D (01:05)

2.3 Declaration of technical constraint or unfeasibility

2.3.1 Case of a technical constraint occurring before the response to the balancing order

If a technical constraint occurs before the receipt of the balancing order or at the same time, notification of the unfeasibility, whether total or partial, may be passed through the TAO system.

- Case 1: technical constraint leading to unfeasibility of the balancing operation

If the balancing is unfeasible, the Order Recipient sends a negative response (a refusal) to the balancing order.

This is true in specific cases as well as standard cases.

- Case 2: technical constraint leading to partial feasibility of the balancing, without amendment of the forecast dispatch schedule

If the balancing is partially feasible (a portion of the requested balancing power may be implemented, in the balancing direction required by RTE), the Order Recipient accepts the order, and then transmits a PM that is consistent with the estimated feasibility. The information on the balancing power that will actually be implemented is then contained in the PM sent by the Order Recipient.

This is true in specific cases as well as standard cases.

- Case 3: technical constraint leading to amendment of the forecast dispatch schedule

In the case of RTE activation of a standard bid: if the technical constraint has an impact on the forecast dispatch schedule in force at the time of the submission of the standard bid by the Balancing Service provider, the bid receiver shall send a negative answer (a refusal) if the bid is activated by RTE.

2.3.2 Case of a technical constraint occurring during the execution of the balancing

Upon the occurrence of a contingency affecting a balancing entity which may call into question an ongoing balancing operation, the service provider shall contact RTE (by telephone), in accordance with the Terms and Conditions, to inform it of the constraint and to identify further action to be taken by RTE.

Following this telephone discussion, for specific balancing operations, RTE will then send a new balancing order:

- ❑ 1st case: the balancing initially requested is no longer possible or partially feasible, but no longer meets RTE's requirement → RTE performs the "cancellation" of the balancing operation by sending a "return to PA" order (implicit bids)
- ❑ 2nd case: the balancing initially requested is partially achievable at an intermediate operational setpoint P_f and still meets RTE's requirement → RTE sends an order corresponding to this intermediate set point in the form "*pass to P_f* ". This cancels and replaces the original balancing operation that has become unworkable.

Reporting a real-time Technical Constraint detected on an EDA during the FAT:

When a technical constraint is detected in real time during the execution of a specific balancing operation, the Order Recipient shall inform RTE as soon as possible by telephone (see §2.5.1). In these particular cases, the sending of a fax/email confirming the telephone call is not mandatory. The re-declaration of the schedule will take place at the gate according to the findings.

2.4 Superimposed balancing orders

2.4.1 Superimposing specific orders

This paragraph sets out the expected behaviour of an EDA when RTE transmits a new specific balancing order for a time slot that had previously been specifically adjusted. For this purpose we will distinguish several cases, depending on the nature of the initial balancing and the new order received:

- Initial balancing is unrestricted
- The initial balancing is restricted and the new balancing is restricted,
- The initial balancing is restricted and the new balancing is a "Until Further Notice" without an end date,
- The initial balancing is restricted and the new balancing is a "return to the forecast dispatch schedule".

It should be recalled that an unrestricted balancing operation is one whose effect is not explicitly or implicitly restricted in time when transmitted. This category therefore includes the following orders:

- From now... until further notice
- Return to Forecast Dispatch Schedule



By contrast, restricted balancing operations form all the other orders.

In summary, the general principles are as follows:

- A new restricted balancing operation overwrites a possible restricted balancing operation previously passed on the only intersecting time slot;
- An "until further notice" order overrides all previous balancing operations;
- A "return to the forecast dispatch schedule" order overrides all previous balancing operations.

The detailed cases presented in §4.4 of the Dialogue Code [5] are enforceable for all types of EDAs.

Special case: cancellation of orders

In accordance with Article 4.4.2.6 of the Balancing Market Terms and Conditions [1] Section 1, RTE has the option of cancelling a balancing order by sending a new order, within the deadline for cancellation.

Where there is a cancellation, RTE returns an order for 0 MW via TAO for explicit bids and Return to PA for implicit bids, superimposed on the first activation order. The service provider is therefore obliged to accept this order under TAO in order to comply with the provisions of the Balancing Market Terms and Conditions.

2.4.2 Superimposing of a specific order on a standard order

A standard balancing order cannot be transmitted by RTE over a time period that is already the subject of a specific balancing operation.

However, the opposite is possible: a specific balancing order may be requested by RTE, over a period during which a standard balancing operation is in hand or planned. In this case, the principles set out in the preceding paragraph remain valid:

- A specific restricted balancing operation overwrites a possible standard balancing operation previously passed on the only intersecting time slot;
- An "until further notice" order overrides all previous balancing operations, specific as standard;
- A "return to the forecast dispatch schedule" order overrides any previously passed balancing operations, specific as standard.

2.5 Use of the telephone between RTE and Order Recipients

2.5.1 Call from Balancing Service provider to RTE

When the Order Recipient wishes to inform RTE or complete a balancing order refusal note by telephone, he shall inform the operational contact identified for the escalation of technical constraints and the management of unbalances in real time, namely the power system control officer in the Operations Centre.

For a given EDA, the RTE real-time contact is unique.

2.5.2 Loss of RTE IS

Where the RTE IS is unavailable, the transmission of balancing orders shall be made by telephone with all Order Recipients, in accordance with the Balancing Market Terms and Conditions [1].

This case is described in §2.9.

2.5.3 Incidental cases

A telephone line between the RTE Operations Centres, Order Recipients and the sites connected to the transmission grid is maintained.

This line is used in the following situations:

- during the implementation of emergency manoeuvres,
- during incident cases affecting the upstream network or the evacuation network of a generation facility, for which curative limitations have been previously identified.

In such situations, RTE may call the Order Recipient or the generation site to request a rapid change in capacity. Orders will be passed by telephone depending on the organisation in force (call from the RTE Operation centre to the RO).

In these cases, balancing orders issued by RTE may not comply with the CUOs, which are incompatible with the emergency or degraded situation encountered. In order for the Order Recipient (or the operator of the installation) to accept the context and urgency of the balancing order as quickly as possible, the transmission of these orders will be maintained by telephone.

Traceability of the orders thus issued will be carried out afterwards in the IS tools.

2.5.4 Other transitional cases

The information system implemented does not permit the sending of a computerised balancing order in certain specific cases. These are:

- Activation of complementary and exceptional bids,
- Activation of bids when changing to winter time (25th hour),
- Activation of non-offered resources,
- Activation of certain bids for the "next day" (D+1)
- Activate bids when switching to midnight.

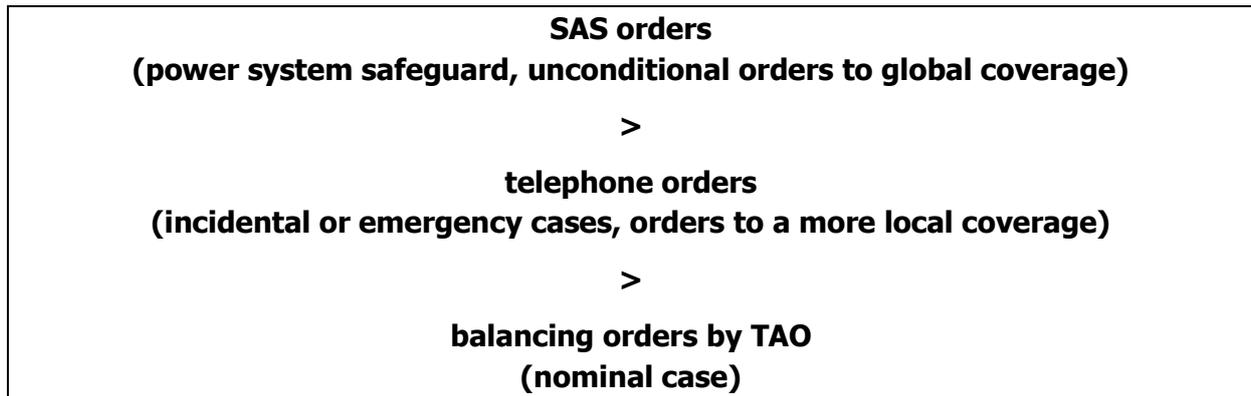
Orders will be passed by telephone depending on the organisation in force (call from the RTE Operation centre to the RO).

2.5.5 Prioritisation

It is recalled that the Alert and Safeguard System remains operational and that, in the event of a case of disrupted operations, the Power System safeguard requires the rapid transmission and execution of actions by all SAS contacts. Thus, SAS orders can be issued for action to the constituent sites of balancing entities.



When the site receives multiple potentially contradictory concurrent orders, the following priority must be taken:



This prioritisation is valid:

- for the processing order (SAS orders are processed before other orders),
- in case of contradiction between orders (SAS orders are the orders to be complied with if they are in contradiction with TAO orders).

In the event of a contradiction, the ex post regularisations performed will follow this order of priority.

2.5.6 Phone numbers for TAO alert and operational numbers

The TAO system allows Order Recipients to have telephone numbers to meet RO alert requirements when a balancing order is transmitted (SMS, voice alert).

These numbers may be either identical or separate from the numbers used for operational exchange requirements between the RO and RTE Operation Centres.

Service providers may choose to merge or separate numbers.

However, RTE points out a drawback of a merger of numbers: during requests by TAO system controllers, the Order Recipient may be unreachable (and possibly at a critical time in relation to personnel and property-related security issues). Through periodic updates of service providers' contact information, RTE therefore recommends that participants explicitly inform RTE contacts of the use of the telephone numbers provided so that RTE operators can be sure to get in touch with the RO, in particular in the case of degraded modes of the TAO system.

2.5.7 Skills maintenance

Some cases require that balancing orders be sent by telephone (including those described in § 2.9.1).

In order to verify the operation of this mode of transmission and to allow maintenance of computer systems, 4 periods per year will be planned (1 period every 3 months - time slot: 3rd Tuesday from 09:00 to 12:00 - first period in January) during which the passage of specific orders will be in degraded mode by telephone with all the service providers in the Balance Mechanism. This annual schedule is confirmed by sending an email to ROs within a deadline of one week before each period.

RTE points out that these parallel run periods are opportunities in which each service provider will have the opportunity to carry out maintenance activities on its tools with a moderate impact on their operation (e.g.: version upgrade, etc.).

2.6 Time conventions for specific balancing operations

2.6.1 FAT starting baseline

The FAT starting reference is the provision of the order, in accordance with the Balancing Market Terms and Conditions [1] rules in force.

This moment corresponds:

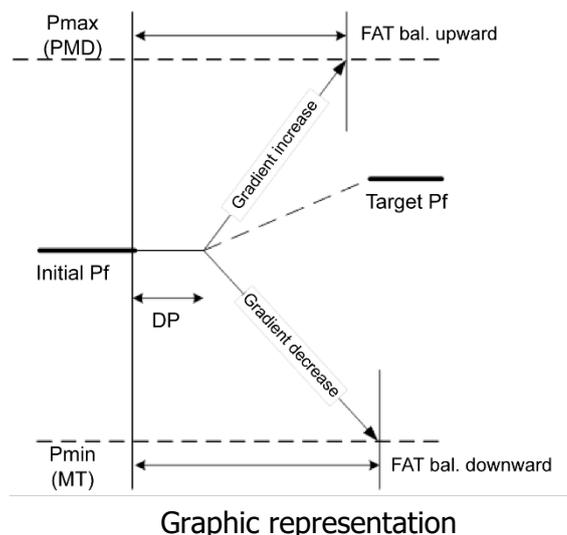
- for orders transmitted in rapid dynamics, to the time when the technical acknowledgement is received by RTE,
- for orders transmitted in slow dynamics, to the time when the balancing order is made available to the Order Recipient (no technical acknowledgement with HMI access).

Furthermore, it is recalled that the traceability provided by the TAO system complements the traceability provided by SYGA. This is the reference for the performance control, the invoicing of Balance Mechanism activations and the correction of balance parameters.

2.6.2 Determination of dynamics

For EDAs with a DP and gradient, the TAO system uses the following formulas to determine the selected dynamic:

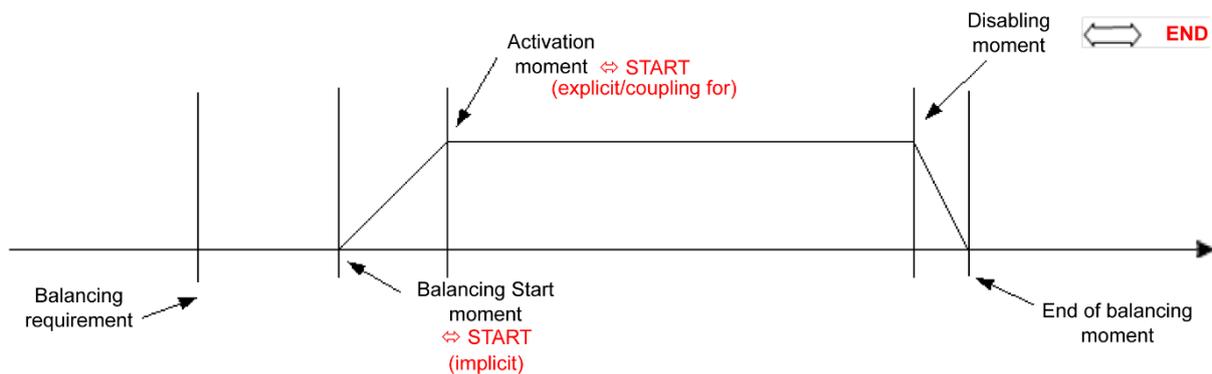
- Upward: $DMO_{eq.} \Leftrightarrow DP_{\text{setpoint start moment}} + \text{gradient} \times (P_{\text{max}} - Pf_{\text{setpoint start moment}})$
- Downward: $DMO_{eq.} \Leftrightarrow DP_{\text{setpoint start moment}} + \text{gradient} \times (Pf_{\text{setpoint start moment}} - P_{\text{min}})$



2.6.3 Start time agreement

In accordance with the current practices set out in the Dialogue Code [5], the "date/time of order start" attribute will have a different meaning depending on whether it is an explicit or implicit "type of order", or a starting bid.

- for EDA bids with FATs: the "start order" field corresponds to an "order for", the specified schedule corresponds to the Activation Moment (reached the requested power). The order contains the attribute "explicit code",
- for EDA bids with DP+Gradient (out of order "market coupling for"): The "start order" field is an "order from", the "start time" field is the Balancing Start Moment (the start time of change from the operational setpoint in hand). The order contains the attribute "implicit code",
- in the case of "market coupling for" orders for stationary groups: the "start order" field corresponds to an "order for", the specified schedule corresponds to the Activation Moment (requested power reached). The order contains the attribute "implicit code" and is associated with the characterisation "market coupling for".



Graphic representation

In addition, the following conventions are selected for:

- Order with immediate effect: the "start time" field is set to "-" (hyphen)
- "Until New Notice" order: the "end time" field is set to "-" (hyphen) and the "order type" field is set to "Until Further Notice"

2.7 Persistence of orders on TAO

Specific balancing orders are still available on TAO (M2M), even after the order has been recovered by the service provider:

- For short-dynamic specific orders: orders remain available for 3 mins, if the first consultation was made in time (in the 1st minute)
- For specific long-dynamic orders: orders remain available for 5 mins

Standard orders are available for a maximum of 30 seconds. The first response makes them unavailable for any subsequent consultation.

However, if the order file has not been repatriated after a first reading pulling, the response deadline is still triggered and the deadline after the first successful pulling is accounted for.

For example, in the case of a short dynamic order ($FAT \leq 30$ mins), for an order posted at a moment T_0 :

- On the 1st pulling at $T_1 = T_0 + 20s$, the service provider's IS "consults" the order but fails to process the order (transmission error or processing error by the Balancing Service Provider IS), the latter remains available on the TAO system (order persistence).
- During the 2nd pulling at $T_2 = T_1 + 30s^4$, the service provider's IS contacts the TAO system and can again "repatriate" the order.

However, it is the successful 1st "consultation" which starts the time count to respond to the order and not the successful 1st "repatriation" according to the mechanism described in §3 of the "Guide to Implementing Exchanges with the TAO System".

2.8 Action to be taken in relation to specific orders (thermal producer connected to the transmission grid)

2.8.1 "Block" order

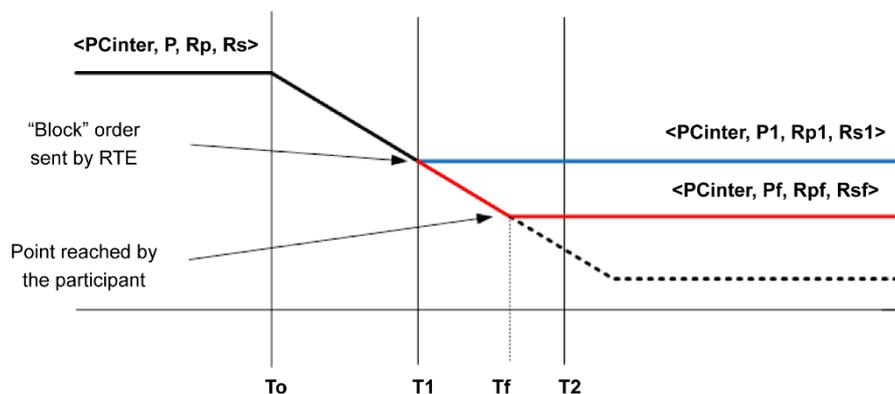
The "block" order comes in cases where RTE want to quickly disrupt the transition of an EDP, whether upward or downward, in order to cope with a contingency.

In the order transmitted by RTE, the operating point communicated shall be that calculated or measured by RTE at the time the operator is confronted with the contingency and requires that balancing.

As a result, this value often corresponds to a value already reached or exceeded by the EDA at the time of the receipt of the order.

It is expected that the service providers will complete the order provided that the order does not jeopardise the operating conditions of the generation installation (installation "as soon as possible" in compliance with the security of the installation).

Telephone contact may then be established at the initiative of the Order Recipient to communicate to RTE the steady operational setpoint reached and the associated achievement time. This set point is tracked respectively in the RTE and Service provider tools.



Graphic representation

⁴ Time between 2 pullings, which can take the following values: 20, 25 or 30 seconds.



2.8.2 "Return to PA" order and "synchronous condenser" operation

Some generation facilities connected to the transmission grid have the capacity to operate in "synchronous condenser" mode. This option is used by RTE to respond to some cases encountered on the transmission grid for voltage setting.

Under certain circumstances, RTE may be required to send balancing orders to this generation facility (via the TAO system) and to use them simultaneously in "synchronous condenser" mode (via a telephone call or according to contractual terms with the service provider).

In this case, the order "return to PA" only terminates the balancing operations previously transmitted by RTE. It does not call into question the synchronous condenser operation, which is also requested: the latter will be interrupted explicitly by RTE through a specific call.

2.9 Degraded modes

In case of malfunctioning of the TAO channel, the RTE IS contact is the "front office" hotline for customers accessing the RTE's IS. It is accessible 24/7.

2.9.1 Loss of RTE IS

Where the RTE IS is unavailable, the transmission of balancing orders shall be made by telephone with all Order Recipients, in accordance with the Balancing Market Terms and Conditions [1]. The participation of RTE in the standard RR product trading platform is then suspended.

This provision includes the return of the limitations inherent in such means of transmission. These limitations are specified in the Balancing Market Terms and Conditions [1].

RTE will inform service providers of this degraded grid case by sending an email to ROs.

2.9.2 Loss of an RTE-AA telecom link or loss of the Balancing Service Provider's IS

In the event of an incident on a specific telecommunication link between RTE and Balancing Service Provider and/or an incident on the Order Recipient's information system, the Order Recipient may use the following alternate means:

- ⇒ Temporary switch (i.e. limited in time) to the TAO web HMI with use of the internet link (in case of loss of the IPVPN link and the M2M client IS). This switch is accessible directly to the RO operator, allowing for minimisation of downtime periods;
- ⇒ Temporary switch with the use of the internet link and continued use of the M2M client IS (in case of loss of the IPVPN link);
- ⇒ Temporary switch to the Web HMI tool and use of the IPVPN link (in case of loss of the M2M client IS).

Service providers are responsible for detecting incident cases and the operational methods for managing these cases: it is therefore the AA's responsibility to define the internal operating methods or procedures to be carried out.

Where provisions are such as to affect interface exchanges, the Balancing Service provider undertakes to inform RTE of such arrangements in order to define specific operational arrangements to be implemented (e.g.: in case of malfunctioning for more than H hours, information is sent by telephone to RTE, initiated by the Balancing Service Provider, etc.).

2.9.3 Loss by the Balancing Service Provider of a dispatching site

The loss of a Balancing Service Provider dispatching site is reported in the event of an incident that no longer allows the Balancing Service Provider's dispatching to communicate by computer with RTE or to its own balancing capacities (fire, power failure, etc.).

In these cases, RTE observes a case similar to the loss of the IPVPN link or the M2M IS of the Order Recipient. In the event that the absence of bids associated with this service provider may lead to a critical grid case for the power system, i.e. if the cumulative volume of non-callable bids were such as to endanger the power system, RTE could be led to temporarily place balancing bids by telephone call to an emergency contact previously identified by this service provider in the context of specific arrangements (see §2.9.2).

3. APPENDIX: TABLE TO HELP UNDERSTAND SPECIFIC ORDERS

This table is intended to summarise the expected behaviours based on the messages transmitted.

The body of this document and the documents mentioned in paragraph 1.2 have priority in the following table: in the event of a contradiction, the documents serve as a reference.

Champs/Field	Valeurs possibles/ Possible values	Signification/Meaning	Types d'EdA concernés/ Types of EDA concerned
EDA	<i>EDA code</i>	Identification of the balancing entity	All
Dynamique ↔ Dynamic	Longue ↔ Long	Activation of a bid with FAT greater than (strictly) 30 minutes. For constrained offerings (DP+gradient), the FAT is calculated on the basis of the gradient multiplied by the power differential between the initial and maximum power levels (upward bid) or the minimum power (downward bid), plus the DP (Preparation Leadtime).	All
	Courte ↔ Short	Activation of a bid with FAT less than or equal to 30 minutes. For constrained offerings (DP+gradient), the FAT is calculated on the basis of the gradient multiplied by the power differential between the initial and maximum power levels (upward bid) or the minimum power (downward bid), plus the DP.	All
Type ordre ↔ Order type	Borné ↔ Restricted	A time-limited order that includes an end date/time.	All
	JNA ↔ Until Further Notice	“Until further notice” order: once the new operating set point specified in the order is reached by the EDA, it must be respected until a new order is sent to modify it.	All but EDA exchangers

Champs/Field	Valeurs possibles/ Possible values	Signification/Meaning	Types d'EdA concernés/ Types of EDA concerned
Date/heure début de l'ordre ⇔ Order start date/time	<i>DD/MM/YYYY - hh:mm:ss</i>	Date/time from which the order is effective (for a deferred order): - For EDA bids with FATs, and for starting bids: the specified schedule corresponds to the Activation Moment (requested power reached) - For EDA bids with DP+gradient: the schedule mentioned corresponds to the Balancing Start Time (start time of change, after the end of the DP)	All
	-	Is sent only for orders with immediate effect. The Balancing Operation must be executed as soon as the order is received. The Balancing Start Time is the time of the order receipt by the Order Recipient.	All except exchangers
Date/heure fin de l'ordre ⇔ Order end date/time	<i>DD/MM/YYYY - hh:mm:ss</i>	The end date/time of the order (for a restricted order). This time is the Deactivation Time. Special case: by agreement, "Back to schedule" orders have the end time 23:59.	All
	-	Is sent only for "until further notice" (UFN) orders.	All except exchangers
Caractérisation ⇔ Characterisation	Monter à ⇔ Climb to	Used when the setpoint power of the device is greater than the EDA's point of operation before the order. The setpoint power level(s) are the target power levels(s).	Implicit EDAs

Champs/Field	Valeurs possibles/ Possible values	Signification/Meaning	Types d'EdA concernés/ Types of EDA concerned
	Monter de ⇔ Climb from	For implicit (hydraulic) EDAs: power increase equal to the value indicated in the field "P (MW)", in relation to the set point before the balancing order. For explicit EDAs: increase in generation or decrease of the extraction, at the value indicated in the field "P (MW)". This value represents the deviation from the off-balancing case (P=0 MW).	Implicit EDAs (hydraulic) + Explicit EDAs
	Baisser à ⇔ Drop to	Used when the setpoint power of the device is less than the EDA's point of operation before the order. The setpoint power level(s) are the target power levels(s).	Implicit EDAs
	Baisser de ⇔ Drop from	For hydraulic: power decrease, equal to the absolute value of the power indicated in the field "P (MW)", in relation to the point of operation before the order. For explicit (non-consumer) EDAs: decrease in generation, the absolute value of the power indicated in the field "P (MW)". This value represents the deviation from the off-balancing case (P=0 MW).	Implicit EDAs (hydraulic) + Explicit EDAs (non-consumer)
	Maintenir à ⇔ Maintain at	An immediate order requesting the maintenance of power in hand before receipt of the balancing order.	Implicit EDAs

Champs/Field	Valeurs possibles/ Possible values	Signification/Meaning	Types d'EdA concernés/ Types of EDA concerned
	Bloquer à ⇔ Block at	Immediate order requesting suspension of the power change in hand or planned, and blocking at the achieved power level after acceptance of the order. Where the operating point indicated in the order cannot be complied with, the actual operating point reached shall be communicated by the Balancing Service Provider to RTE by telephone after the fact.	Implicit EDAs
	Passer à ⇔ Skip to	Put the EDA at the setpoint power level. The setpoint power level(s) are the target power levels(s).	Implicit EDAs
	Retour au programme ⇔ Return to schedule	Order leading to the return of the EDA to its call schedule for implicit EDAs. Order leading to balancing stop for explicit EDAs. In particular, this characterisation is used to complete a "Until Further Notice" balancing order.	All
	Anticiper à la hausse ⇔ Anticipate an increase to	An immediate order to anticipate an upward modulation provided for in the schedule.	Implicit EDAs
	Anticiper à la baisse ⇔ Anticipate a decrease to	An immediate order to anticipate downward modulation provided for in the schedule.	Implicit EDAs
	Couplage pour ⇔ Market coupling for	Used for an Implicit EDA at shutdown before sending the order. When this characterisation is used, the setpoint power level (P) must be reached at the order start time. Please note: In the case of orders with immediate effect, the expressions "pass to", "climb to" and "climb from" can also be used for a generation unit at standstill.	Implicit EDAs (thermal)
	Baisse en vue d'arrêt ⇔ Decrease to stop	An immediate order requesting the decoupling of a thermal generation unit.	Implicit EDAs (thermal)

Champs/Field	Valeurs possibles/ Possible values	Signification/Meaning	Types d'EdA concernés/ Types of EDA concerned
	France vers Etranger ⇔ France to Abroad	Balancing order downward (negative setpoint power) corresponding to an export.	Explicit EDAs "exchangers"
	Etranger vers France ⇔ Abroad to France	Balancing order upward (positive setpoint power) corresponding to an import.	Explicit EDAs "exchangers"
	test	Test order sent for RTE's requirements. An answer is expected by RTE through TAO, but the order should not be to implement.	All
P (MW)	<i>Number < 9999</i>	Active setpoint power (excluding pumping and exports).	All except EDA "pumping"
	<i>Negative number</i>	Active setpoint power for pumping and exports.	All
	9999	Value used in the case of "Back to schedule" order.	All
FCR (MW)	<i>0 < Number < 9999</i>	Symmetric Frequency Containment Reserve to be set.	All except EDA "pumping" and "exchangers"
	0	No participation in the Frequency Containment Reserve.	All
	9999	Value used in case of "Back to schedule" order	All
aFRR (MW)	<i>0 < Number < 9999</i>	Half-band of symmetrical remote setting to be adjusted.	All except EDA "pumping" and "exchangers"
	0	No remote setting.	All
	9999	Value used in case of "Back to schedule" order	All
Date /heure limite de validation de l'ordre ⇔ Order validation deadline date/time	<i>DD/MM/YYY - hh:mm:ss</i>	The date/time after which the order can no longer be validated by the Order Recipient.	All



Champs/Field	Valeurs possibles/ Possible values	Signification/Meaning	Types d'EdA concernés/ Types of EDA concerned
Date/heure validation ordre ⇔ Order validation date/time	<i>DD/MM/YYYY - hh:mm:ss</i>	The date/time the Order Recipient validated the order.	All
Etat ordre ⇔ Order status	En cours ⇔ In hand	No response from the Order Recipient has yet been received (and the deadline for validation of the order has not yet been reached).	All
	Refusé ⇔ Refused	The order was refused by the Order Recipient.	All
	Absent	No response was received by RTE before the deadline for validation of the order, or the order was not consulted by the Order Recipient within the time limit.	All
	Accepté ⇔ Accepted	The order was accepted by the Order Recipient.	All
Conventions	In italics: field format Upright: Actual values taken by the field		

4. APPENDIX : GLOSSARY OF ABBREVIATIONS

AA / BSP	Balancing Service Provider (BSP)
CUO	Bid usage Conditions
DMO	Mobilisation Leadtime of the Offer : time needed for operations for activation of an Offer by a BSP.
DP	Preparation Leadtime
EDP	Scheduling Entity
EDA	Balancing Entity
FO	Optical Fiber
GRD	Gestionnaire de Réseau de Distribution (Local Distribution Company)
HTTPS	HyperText Transfer Protocol Secure
I	Frequency of requesting in "M2M" operation - Time interval between each interrogation defined on article 5.
GUI	Graphical User Interface
IP-VPN	Internet Protocol – Virtual Private Network
M2M	Machine To Machine operation
OA	Balancing Order
PKI (Certificate)	File for identifying a user (Public Key Infrastructure)
PM	Final Dispatch Schedule
PA	Forecast Dispatch Schedule
REST	REpresentational State Transfer is a style of architecture for distributed hypermedia systems
RO	Order Recipient
Web GUI RO	Order recipient only having balancing resources with DMO > 30 minutes
M2M RO	Order recipient having at least one balancing resource with DMO ≤ 30 min
RR /RC	Rapid Reserve / Complementary Reserve
IS or IT	Information Technology
T0	Date/time of availability by TAO of the order for the RO concerned
T1	Date/time of consultation of order by the RO
T2	Date/time the RO sent the response following a balancing order
Q1	Date/time of consultation of the order by the OR
URL	Web Address (Uniform Resource Locator)



WADL	Web Application Description Language. XML-based file that makes it possible to describe REST applications. Its main purpose is to describe the services offered by an application on the internet.
XML	eXtensible Markup Language is a generic markup computer language
FCR	Frequency Containment Reserve
aFRR	Automatic Frequency Restoration Reserve
CRC	Customer Relationship Officer
FAT	Full Activation Time
JNA	Until Further Notice