



The CIPU contract: a set framework for taking part in the high-voltage grid management

To assure its grid's security, efficiency and reliability, Elia has to be able to coordinate the injections of electricity into the grid and utilise the power not used by producers. This is why ARPs responsible for injection for production units whose operation has an influence on the high-voltage system are legally bound to conclude a contract for the coordination of injection by the production units, commonly known as the CIPU contract, with Elia. In practice, the CIPU contract and the activation, at Elia's request, of this power not used by the producer. The producer draws up forecasts of available power and sends them to Elia. They cover both the long term (a year) and the short term (day D). All this information collected on the basis of the CIPU contract allows Elia to optimise operation of its high-voltage grid.

I. The CIPU contract: principles

The high-voltage grid managed by Elia is part of the interconnected European grid. Accordingly, Elia is involved in implementing the rules and recommendations drawn up by the Union for the Coordination of Transmission of Electricity (UCTE). Under these, Elia:

- participates in controlling the frequency of the European grid;
- manages its grid balance and hence frequency;
- resolves the congestion and voltage problems in its control area.

This means that Elia must have reserve power available that it can activate if the situation on the grid requires so. Such reserve power enables Elia to maintain the reliability of the high-voltage grid and ensure its efficiency and reliable operation.

To meet all its obligations, Elia has divided its control area into a number of sub-areas. An ARP (also known as balance responsible party) is given balance responsibility for each of these areas. The areas allocated to the ARPs are generally called the "balancing perimeter" (consult also the sheet "The balancing mechanism: ensuring the balance of the Elia control area").

The signatory of the CIPU contract is the single point of contact at Elia for aspects of the management of the production unit injecting electricity into the high-voltage grid.

The CIPU contract serves as the basis for the provision of other reserve power (primary, secondary and tertiary reserve) and the activation by Elia of such reserve power.

Forecast data for secure and efficient management

The CIPU contract governs the communication of forecast data to Elia. These data are essential for providing an overview of the availability of the production units. The forecasts relate to both the long and the short term, ranging from year, month to week ahead production forecasts down to detailed day ahead forecasts using quarter-hourly data.

The long-term forecasts are used to assess what reserve volumes will be available from producers. The more short-term forecasts are used by Elia to select the power necessary to manage its control area (so that it can, if required, be activated on day D). The forecast data exchanged are called "programs". If they are communicated on day D 1, they are known as "nominations".

Specifically, the schedule submitted by the ARP enables Elia to:

- optimise coordination of the work activities performed in its grid and those planned by the producers;
- make sensible use of the power available from the production units;
- prevent or resolve congestion problems, in both the long and short term;
- manage the balance in its control area in real time.

Moreover, the schedule can be used by Elia to calculate cross-border capacities for import and export.

By consulting the production schedule, Elia will be able to identify potentially problematic situations and, if necessary, ask the producers to change their programs. Elia can also request production units to be started up or stopped, or for their power output increased or decreased. Elia will pay the producer for these changes.

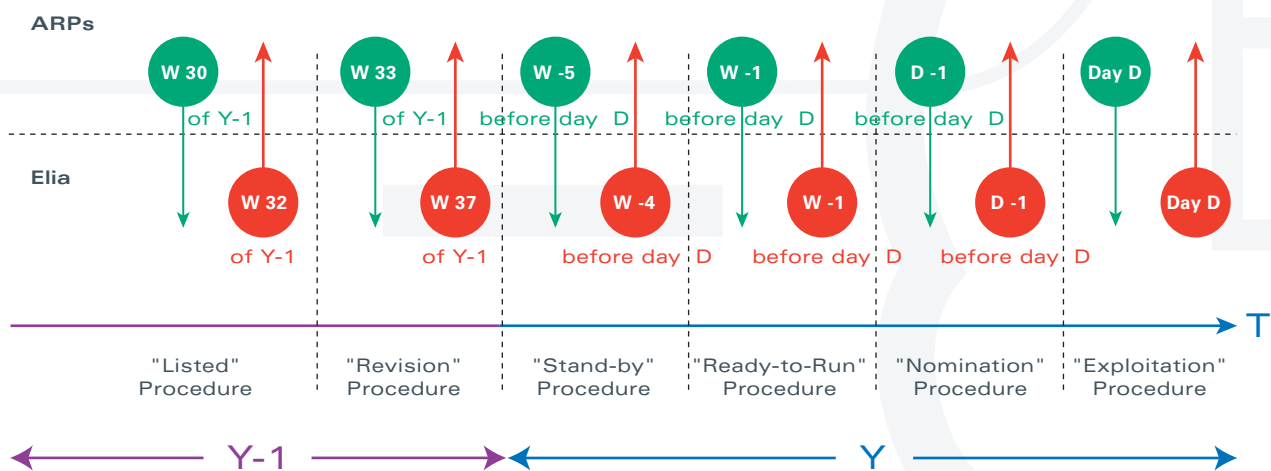


II. One contract, six procedures

The CIPU contract stipulates six procedures to ensure that Elia has the right information at the right time:

- "Listed";
- "Revision";
- "Stand-by";
- "Ready to run";
- "Nomination";
- "Exploitation"

These procedures make it possible to organise a schedule for exchanging information with Elia, as well as the appropriate structure and characteristics of such information. The information is submitted at a specific time, as shown by the diagram below. So as not to complicate the producers' task unnecessarily, only brief information is given for the first few procedures, with more details being given as we move down towards the "Exploitation" procedure.



II.1. Program proposals studied by Elia

At each of these stages, the producer responsible for injection submits a program proposal for Elia to study. Elia will ask for a change in the program if this is necessary for reasons of security. In certain cases, the producer is entitled to payment for making a change in the program on request from Elia.

The program that the producer submits to Elia includes large quantities of specific data such as:

- technical minimum and maximum power levels;
- available minimum and maximum power levels;
- fuel type;
- ramping rate, i.e. the speed at which a production unit increases or decreases the power it generates.

As we move from the earlier to the later procedures, the data and proposals become increasingly detailed, as shown in the table below.

Procedures	Information provided to Elia	Information provided by Elia in return
Listed	Participation (or non-participation) of the unit	Confirmation of receipt (or refusal)
Revision	Day-by-day availability of the unit	Confirmation or change of status
Stand-by	Availability of the units and estimate of the program (in terms of power) on a day-by-day basis	Confirmation or change of status
Ready to run	Availability of the units and estimate of the program on an hour-by-hour basis Price offer for increments and decrements Start-up price	Confirmation or change of status Order placed for increments or decrements
Nomination (see product sheet Nominations)	Status of units and program on a quarter-hourly basis Price of increments and decrements for day D-1 Price of increments and decrements for day D Start-up price for increments and decrements for day D-1 and day D	Confirmation or change of program Order placed for increments or decrements
Exploitation	Request to deviate from the program	Agreement to or refusal of the request to deviate from the program Order placed for increments or decrements

II.2. Reserve capacity

The producer responsible for injection takes the necessary measures to ensure that he has sufficient reserve capacity available to meet his balance obligation, specifically if one of the production units that is part of his balancing perimeter breaks down.

He informs Elia of the resources (power reserve) that he expects to activate if required, so that he can compensate for unavailability of any of the production units that are part of his balancing perimeter. These resources do not include power generated by production units that are stipulated in reserve supply contracts signed by Elia and the producer.

If the producer's own resources are not sufficient to compensate for unavailability of any of the production units that are part of its balancing perimeter, Elia checks the tertiary production reserve that it organized itself (see sheet: "Tertiary production reserve: a solution to major imbalances and congestion"), and the capacity¹ which is fixed by a CREG decision.

II.3. Increments and decrements

From the "Ready to run" procedure onwards, Elia makes incremental and decremental bids. An increment is an increase in injected power, and a decrement is a decrease in injected power. Elia requests these increments and decrements to manage congestion in or balance its control area. An increment entitles the producer to a payment by Elia whilst a decrement entitles Elia to a payment by the producer. The producer submits price offers (incremental or decremental bid) to Elia to set the amount of the payment. In addition to these offers, during the "Ready to run" phase the producer informs Elia on the start price for starting up a production unit.

II.4. Communication protocol

All the information provided or requested under the CIPU contract is sent electronically and is communicated in accordance with the protocols defined by Elia.

¹ For your information, this was 460 MW in 2006 and 420 MW in 2007.

At the "Exploitation" procedure stage, data are sent electronically over dedicated connections. The data may also be confirmed in a telephone call between the producer's dispatching department and Elia. Elia supplies producers free of charge with the IT application used for these exchanges.

III. Payments and invoices for CIPU services

Some of the operations provided for in the CIPU contract are subject to payment. In some cases, the payment is made by Elia, and in the others by the ARP responsible for injection.

III.1. Summary of operations subject to payment

The main two categories of operations paid for by Elia are:

- start-up of a production unit;
- incremental bids.

Also some changes relating to the availability of production units are subject to payment.

Start-up of a production unit

If Elia requests the start-up of a production unit in week W-1 ("Ready to run" procedure), on day D-1 ("Nomination" procedure) or day D ("Exploitation" procedure), the amount paid to the producer is determined on the basis of a price formula calculated for each production unit. This formula, which is stipulated in the contract, is used for each of the three procedures and takes into consideration the characteristics of the production unit, the cost of the fuel used and the management costs involved.

Incremental and decremental bids

Elia pays the producer for incremental bids, whilst the producer (in general) pays Elia for decremental bids.

The price paid for these is determined on the basis of when they were submitted to the producer:

- if Elia requests an increment or decrement from a producer in week W-1 or on day D-1, the amount paid to the producer or Elia is determined on the basis of a formula which is included in the CIPU contract. This formula takes into account a number of aspects such as the technical characteristics of the production unit, the cost of the fuel used and the management costs;
- an incremental or decremental bid submitted on day D entails entitlement to payment on the basis of the offer submitted by the ARP the previous day.

	W-1	D-1	D
Incremental bid (price offer for an increment)	Price determined by a formula given in the contract, taking into consideration the fuel price and the characteristics of the unit	= price W-1 + 10%	Elia pays the ARP on the basis of the price offer submitted by the ARP the previous day.
Decremental bid (price offer for a decrement)	Price determined by a formula given in the contract, taking into consideration the fuel price and the characteristics of the unit	= price W-1	The ARP pays Elia (or, if applicable, Elia pays the ARP) based on the price offer submitted by the ARP the previous day.

Change in the availability of the production units

A change of this type entails to a payment determined on the basis of a price offer made by the ARP to Elia. This price must be reasonable and demonstrable, i.e. proportional to the direct costs incurred.

III.2. Operations with a neutral effect on the balancing perimeter

The perimeter that is taken into account for invoicing the imbalance is never affected by the increments or decrements requested by Elia, as long as they are implemented by the producer. This means that the producer will never be invoiced for an imbalance that results from these changes.

IV. Benefits of the CIPU contract

The producer can derive major direct and indirect benefits from signing a CIPU contract with Elia:

- he plays a very practical role in managing and ensuring the safe exploitation/operation of the national power grid. The information provided by the producer responsible for injection enables Elia to better control its grid operating charges. In turn, optimal operation of the high-voltage grid involves meticulous budgeting of investments, which has the benefit of maintaining Elia's tariffs at an optimal level;
- in all cases, the payments stipulated in the CIPU contract cover at least the costs incurred by the grid users in providing these services;
- he benefits from a secure and stable framework for efficiently managing activities performed in real time.

V. Legal and contractual basis

Under the federal Grid Code, any production unit injecting electricity into the Elia grid or whose operation affects its security, reliability or efficiency must be covered by a CIPU contract. This contract is concluded between the ARP responsible for injection for this production unit (in practice, the producer) and Elia.

Moreover, any producer with nominal power for grid access equal to or greater than 75 MW shall reserve its available power for Elia in order to implement the increments or decrements that are required to control the Elia area (principal references to the Grid Code: articles 159 and 198).

Under Elia's contractual approach:

- an ARP is designated by the access holder² in the access contract;
- any ARP responsible for an injection point concludes a CIPU contract with Elia.

Once the CIPU contract has been signed, the ARP can sign:

- a primary frequency control contract;
- a secondary control contract;
- a tertiary reserve contract;
- a voltage control contract;
- a black-start contract.

The CIPU contract in 5 key points

- The CIPU contract allows Elia to coordinate all the electricity injections made in its control area, covered by the CIPU contract (vs embedded generation).
- The power available from the producer is used by Elia to manage grid balance (and frequency), voltage and congestion.
- The CIPU contract defines six consecutive procedures via which the ARPs responsible for injections and Elia communicate with each other about the production unit programs. If necessary, Elia may ask for these programs to be changed.
- Under the CIPU contract, the costs incurred by ARPs responsible for injections as a result of their involvement in the efficient operation of the grid are covered fully by Elia payments.
- The ARPs responsible for injection for production units whose operation affects the Elia grid are legally bound to conclude a CIPU contract.

² The access holder may be a grid user who signed a connection contract with Elia or a third party designated by this user.