ELIA's restoration plan – non-confidential version

Summary	This document includes the restoration plan developed by ELIA in accordance with the criteria set forth in Regulation (EU) 2017/2196 and in the Federal Technical Regulation. This document was approved by the Minister of Energy in the Ministerial Decree of January 25th 2024
Version	2.0
Date	25-01-2024
Status	Final version approved by the Minister of Energy

Previous versions

Version	Date	Author	Summary of changes
1.01	16-09-2019	Elia	Adjustments following CREG advice
1.00	18-12-2018	Elia	Comments DG Energy from FPS Economy, NCCN and CREG. References to new FTR 2019 Minor changes stakeholders

Content

1 Introduction

1.1 General introduction

This document includes ELIA's restoration plan, with a set of measures that can be applied after a large-scale outage to restore the system from the emergency or blackout state to its normal state[1] .

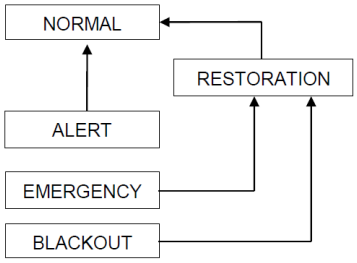

Figure 1: possible system states and the transitions between them

When the system is in an emergency state and once the system is stabilised after activation of system protection plan measures, or after the system is in a blackout state, restoration plan measures are initiated. The restoration of the system consists of a sequence of coordinated actions which prepared in advance as much as possible.

The restoration plan has been prepared by ELIA taking into account the requirements of Regulation (EU) 2017/2196 of the European Commission of November 24, 2017 establishing a grid code for the emergency and restoration of the electricity grid (NC ER) and taking into account other grid codes, the Royal Decree of April 22, 2019 on the technical regulation for the management of the electricity transmission grid (the FTR), other relevant legislation (public health and safety, nuclear safety, etc.) as well as possible specific local characteristics.

ELIA prepared this restoration plan in consultation with the distribution system operators (DSOs), affected significant grid users (SGUs), the CREG, the DG Energy of the FPS Economy, the government's National Crisis Center (NCCN), adjacent transmission system operators (TSOs) and the other TSOs in the synchronous zone Continental Europe.

References in other legislative and regulatory texts to the reconstruction code are considered to refer to the restoration plan referred to in Article 32 of the FTR.

ELIA activates those procedures of its restoration plan that have a significant cross-border impact in cooperation with the affected TSOs.
According to Article 23(5), of the NC ER, the restoration plan includes three procedures:

- Voltage restoration procedure
- Frequency Management Procedure
- Resynchronization procedure.

The existing restoration plan approved by the minister on December 19, 2019 will remain in effect until this revised version of the restoration plan is approved by the minister.

The technical and organizational measures for which this plan specifies implementation deadlines that fall after the date of approval of the restoration plan by the Minister of Energy (the Minister) shall not take effect until the corresponding implementation.

[1] The system states are described in section 5

In accordance with Article 51 of the NC ER, the current restoration plan will be reviewed by ELIA at least every five years to assess its effectiveness. ELIA shall conduct this periodic review of the restoration plan in accordance with the provisions of Article 51 of the NC ER.

According to Article 6(1) of the NC ER, when designing or revising the restoration plan, each European TSO shall ensure consistency with the corresponding measures in the plans of TSOs within its synchronous zone and in the plans of neighboring TSOs belonging to another synchronous zone of at least the following measures:

- *"(b) the frequency management procedures, in accordance with [...] Article 28, with the exception of setting the target frequency in the case of bottom-up voltage restoration strategy prior to resynchronization with the interconnected transmission system (see paragraph 9 of this document)*

- *"(d) the top-down voltage restoration strategy, in accordance with Article 27." (see section 88.2 of this document)*

In accordance with Article 6(3) of the NC ER, ELIA will provide the necessary documents to Coreso (the regional coordination center)[2] . Within 3 months of receiving the documents, Coreso will prepare a technical report on the consistency of the measures.

According to Article 4, §4 of the Code of Conduct, a non-confidential version of the restoration plan will be annexed to the relevant agreements including, where appropriate, the confidential measures for the connection agreements concerned. ELIA has shared the confidential version of the restoration plan only with the competent authorities. Only the titles of the sections considered confidential by ELIA have been kept.

1.2 Situation of the recovery plan and its relationship with recovery services

ELIA's recovery plan contains a number of procedures to restore power to as many substations and connection points as possible within a certain time frame after a major incident.

The initial situation from which the recovery plan should be applied is determined by the nature of the incident that preceded it, weather conditions, conditions external to the electrical system and can consequently take many different forms. It is therefore impossible to draw up a separate recovery plan for every possible initial condition.

Therefore, the recovery plan was designed as a general plan applicable from different initial conditions, which reasonably allow to rebuild the grid. These initial conditions are expressed using 4 "in-design" assumptions:

- no grid elements are damaged or unavailable as a result of the incident(s) that led to the blackout;
- the operators of ELIA have an overview of the state of the transmission grid via the SCADA system;
- remote switching in the transmission grid is possible from the control centres of ELIA;
- voice communication between entities within ELIA, between ELIA and DSOs and between ELIA and SNGs is possible;

In practice, one or more of these conditions may not be met. The measures in this plan have been drawn up without prejudice to other emergency measures that will be applied by ELIA

[2] At the European level, it was agreed among the TSOs that the implementation of Article 6(3) would happen every 5 years and that the next implementation would be started at the end of 2023.

depending on the situation to manage the crisis. Section 8.7 mentions some of these potentially other contingency measures where the predetermined recovery time may be compromised.

A list of significant high-priority grid users and the conditions for their voltage restoration is drawn up annually by ELIA. The minister approves this list.

To achieve the restoration objective within the in-design assumptions, ELIA uses, on the one hand, legally required provisions from grid users and, on the other hand, additional restoration services that ELIA contracts with grid users according to a market-based tendering process repeated by ELIA at regular intervals.

When preparing the restoration plan, ELIA shall estimate the necessary and sufficient additional restoration services that it needs to contract to achieve the restoration objective. In this estimation, ELIA takes into account the intended geographical distribution of energy resources with black-start and islanding capabilities.

ELIA then determines the procurement procedures and the characteristics of the restoration service, including the minimum technical conditions that a grid user must meet in order to provide the restoration service.

ELIA finally draws up the general and special terms and conditions of the contracted repair services, as well as the tendering procedures, and submits them to the CREG for approval.

Next, the tendering process is carried out in accordance with Belgian public procurement legislation and the conditions laid down in the general and special conditions and tendering procedures.

If the outcome of the tendering process results in new recovery services, ELIA must adjust the recovery plan so that it is clear at all times what resources are available to implement the recovery plan.

When preparing the restoration plan, ELIA shall estimate the necessary and sufficient additional restoration services that it needs to contract to achieve the restoration objective. In this estimation, ELIA takes into account the intended geographical distribution of energy resources with black-start and islanding capabilities.

ELIA then determines the procurement procedures and the characteristics of the restoration service, including the minimum technical conditions that a grid user must meet in order to provide the restoration service.

If ELIA fails to contract sufficient remedial services on a voluntary basis through one or more market-based tendering processes, ELIA can request bids to ensure system security. Moreover, CREG can also rule ex-ante in a report that a procurement process is not appropriate and provide a derogation regime.

In case of fundamental changes to the net topology, HP SNGs, recovery service providers or upon expiry of the legal deadline of the recovery plan, the process for determining the recovery plan is repeated.

Figure 2 shows the relationship between the recovery plan and the recovery service.

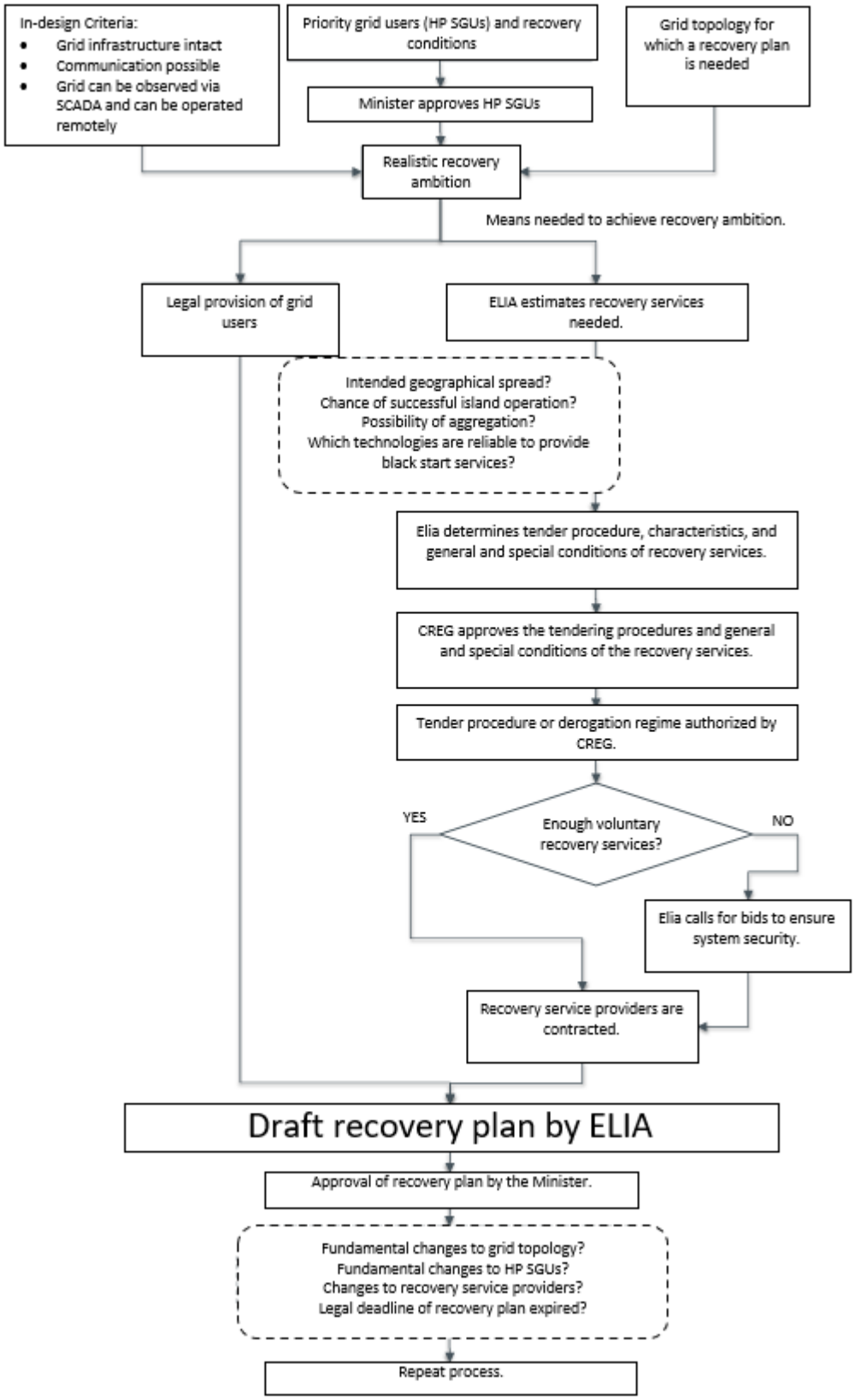

Figure 2: Location of the recovery plan and relationship with recovery services

2 Legal framework

Article 23 (1) of NC ER requires ELIA to prepare a restoration plan in consultation with the relevant DSOs, SGUs, National Regulatory Authorities (NRA) and neighboring TSOs and TSOs of the same synchronous zone.

ELIA prepared the restoration plan in accordance with Articles 23 to 34 of the NC ER.

In case of incompatibility between the NC ER and a higher law, the higher law prevails.
The restoration plan cannot affect the NC ER and the provisions of the FTR.

Article 37(1)(h) of the REGULATION (EU) 2019/943 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of June 5, 2019 on the internal electricity market (CEP Regulation) stipulates that each regional coordination center (Coreso is applicable in this case) shall support the coordination and optimization of regional restoration at the request of transmission system operators;

2.1. Approval powers

Articles 4(5) and 4(7) of the NC ER require the Belgian transmission system operator to notify the NRA or other entity(ies) defined by the member state of any changes to the restoration plan.

According to Article 29 of the FTR, the Minister of Energy, on the proposal of the transmission system operator and after consulting the CREG, approves the proposals referred to in points (c), (d) and (g) of Article 4(2), of the NC ER .

According to Article 32 §1 of the FTR, the transmission system operator submits a proposal of amendments to the restoration plan to the Minister of Energy after consulting the CREG and the DG Energy. According to Article 1 of the Ministerial Decree of October 28, 2022 amending the Ministerial Decree of December 19, 2019, this proposal must be submitted to the Minister of Energy within 4 years of the entry into force of the restoration plan. Elia therefore submitted an amended proposal of the restoration plan to the Minister of Energy on 06October 2023.

This restoration plan refers to other related documents in some places. Paragraph 16 contains a list of related documents, some of which are only available to ELIA internally. ELIA does not seek approval from the Minister of Energy on these related documents. These documents are available for inspection at ELIA upon request by the appropriate governmental authorities.

2.2. Overview diagram of the legal framework

Figure 3 provides a simplified overview of the possible grid events, the applicable remedial measures and the applicable legal framework:

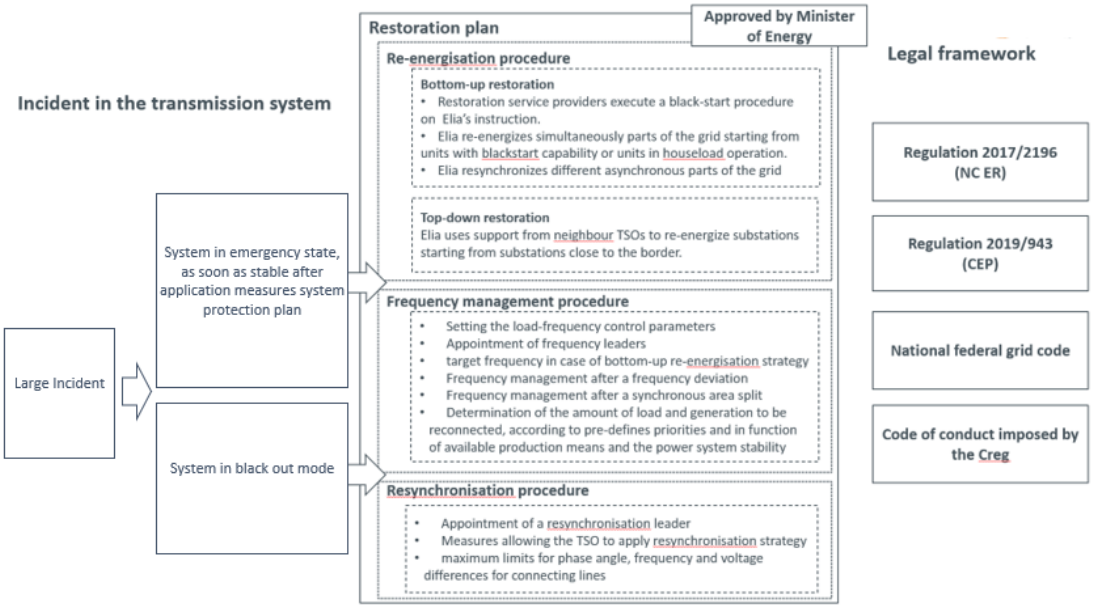

Figure 3: Overview of possible grid events, remedial measures and legal framework

3 Conditions for the activation of the restoration plan

The conditions for activating the restoration plan are described in Article 25 of the NC ER.

Remark that the restoration plan does not necessarily has to start in a blackout state. Restoration plan measures can also be activated when the system is in an emergency state.

For example, the **frequency management procedure** and **resynchronization procedure** can be applied after **a system split** into independent synchronous areas.

Another example is the application of the **voltage restoration procedure** after the implementation of the manual or automatic **consumption disconnection plan**.

The procedures of the restoration plan are thus activated in cooperation with the according to paragraph 4.1 identified DSOs and SGUs and, where appropriate, with restoration service providers. They must immediately implement the procedures in accordance with the instructions issued by ELIA. If these procedures have a significant cross-border impact, ELIA must cooperate with the affected TSOs.

4 List of significant grid users and high priority significant grid users

Some measures of the restoration plan are based on capacities mandated for the significant grid users according to the requirements of the NC RFG, NC DCC and NC HVDC.

Some measures of the restoration plan are based on capacities that are not mandatory for grid users under the requirements of the NC RFG, NC DCC and NC HVDC, but are mandatory under national law.

Some Restoration plan measures are based on capabilities that are expected to be provided voluntarily. The NC ER anticipates that ELIA will use these voluntary capabilities through restoration service providers, either on a statutory or contractual basis.

According to Article 23(4) paragraph (c) of the NC ER, the restoration plan shall contain a list of the SGUs responsible for applying to their facilities the measures resulting from the mandatory requirements established in the NC RFG, NC DCC and NC HVDC or from national legislation, and a list of measures to be applied by those SGUs.

ELIA identified these capacities of significant grid users for direct use in its restoration plan in section 4.1 and added a detailed list in Appendix 1.

Without prejudice to the provisions of Article 4(2) paragraphs (c) and (d) and Article 51(5) of the NC ER, the list of identified significant grid users and the list of high-priority significant grid users for the restoration plan shall be communicated by ELIA to the Minister of Energy. In accordance with Article 29, §2 of the FTR, this is done annually at the latest by November 1 for the list of high priority significant grid users.

These designated SGUs are a subset of the categories of grid users to which the NC ER applies under Article 2(2) of the NC ER.

4.1. List of identified significant grid users

ELIA identified the following requirements regarding the restoration plan that are required by law for significant grid users[3] :

User type	**Capacity used in the restoration plan**	**Reference to legal obligation**
Existing and new PGMs with a maximum active power greater than or equal to 25 MW. Emergency generators installed at these PGMs are not included.	Follow an instruction from the TSO regarding the setting value for the exchange of active or reactive power with the grid, taking into account the technical capabilities of the PGM.	Required by FTR Article 32
New PGM with a maximum active power greater than or equal to 25 MW. Emergency	Own operating load (resynchronization + voltage restoration)	Required by NC RFG, Art. 15(5)(c)

[3] From a legal standpoint, SNG refers to the infrastructure. In order to apply the measures imposed by ELIA under the restoration plan with respect to this infrastructure, ELIA addresses the grid user who signed the connection contract for the corresponding infrastructure.

generators installed at these PGMs are not included.		
Existing and new transmission grid-connected PGMs with maximum active power greater than or equal to 1 MW	Be able to follow up on the TSO's permission for reactivation after unexpected disconnection. Be able to follow a (maximum) set point from the TSO for the exchange of active power with the grid.	Required by FTR, art. 83 §6 and §7 Required by NC RfG, art. 14(2) and 14(4)
Existing and new demand facilities connected to the transmission system.	To follow an instruction from the TSO regarding the setting value for the exchange of active or reactive power with the grid, taking into account the technical capacities of the consumption plant.	Required by FTR, art. 32
Existing and new CDS connected to the transmission system	Follow an instruction from the TSO regarding the setting value for the exchange of active or reactive power with the grid, taking into account the technical capabilities of the CDS.	Required by FTR, art. 32
Existing and new HVDC systems	Follow an instruction from the TSO regarding the setting value for the exchange of active or reactive power with the grid, taking into account the technical capabilities of the HVDC system.	Required by FTR, art. 32
New asynchronous storage facilities connected to the transmission grid with a maximum active power greater than or equal to 1 MW	Be able to follow up on the TSO's permission for reactivation after unexpected disconnection. Be able to follow a (maximum) set point from the TSO for the exchange of active power with the grid.	Required by FTR, art. 97 §5 and §6 Required by NC RfG, art. 20(1)

Table 1: type, capacity and legal provision for designated SGUs

Appendix 1 contains a detailed list of identified SGUs for the restoration plan.

Generating units and asynchronous storage facilities with a maximum active power greater than 1 MW connected to the distribution system should be able to receive an authorisation signal from the DSB for reactivation during the recovery state, as far as it is technically possible. As these are not directly controlled by ELIA, they are not included in the list of SGUs designated by ELIA.

4.2. High priority significant grid users

4.2.1. List of high priority significant grid users for the restoration plan

Nine high-priority significant grid user groups are considered for the restoration plan:

1. Auxiliary systems of nuclear facilities directly connected to the transmission grid.
2. The technical support systems necessary for the vital operation of the networks of the transmission system operator, public distribution system operators (connected to the transmission system or to the distribution system) and operators of a CDS (closed distribution systems).

   These are specific cables, used to feed technical auxiliary systems of the transmission or distribution network or CDS network.

   For ELIA's substations whose auxiliary systems are fed from the distribution grid or from a grid user's infrastructure, special coordination is required between ELIA and the DSOs or between ELIA and the grid user concerned during the restoration phase.

   The technical auxiliary systems of ELIA substations fed directly through the high-voltage grid as well as the technical auxiliary systems of the DSOs and of CDS fed directly through the high-voltage grid also count as priority connection but are not nominatively listed, since no special actions have to be taken by ELIA to feed these technical auxiliary systems back after an interruption as soon as the main rail of such substation is energized.
3. The hospitals referred to in Article 2 of the Coordinated Law of July 10, 2008 on Hospitals and Other Care Facilities;
4. Emergency call management centers (100, 101 and 112) based on Article 2, 61°, of the Law of June 13, 2005 on electronic communications.
5. The Government Coordination and Crisis Center referred to by the Royal Decree of April 18, 1988 establishing the Government Coordination and Crisis Center and the Governors' Coordination Committees referred to in Article 32 of the Royal Decree of May 22, 2019 on emergency planning and management of emergencies at the municipal and provincial level and on the role of mayors and provincial governors in the event of crisis events and situations requiring coordination or management at the national level .
6. The demand facilities necessary to supply the auxiliary systems of PGMs with a maximum active power greater than or equal to 25 MW, excluding auxiliary systems of non-controllable power generation plants.
7. The parts of substations of ELIA and DSOs necessary for the power supply of Fluxys facilities necessary for the natural gas supply of gas-fired production units and for the safe operation of the gas grid and for the power supply of the Gassco Terminal for the distribution of natural gas supplied through the Zeepipe (from Norway).
8. The parts of substations of ELIA and DNBs necessary to feed Infrabel injection points for the railroads' catenaries, with the aim of allowing stalled passenger trains to continue running at very low speed (10 km/h) until the next station where passengers can leave the train.
9. The headquarters of the Astrid network.

The nominative lists of individual high priority significant grid users for the restoration plan are provided in the annexes of the document "*List of high priority significant grid users for the* restoration plan". In accordance with Article 29 §2 of the FTR, ELIA submits this list to

the Minister for approval annually before November 1. The Minister pronounces on the submitted list within a period of one month from the day of its receipt.

The DSOs also have the list of high-priority significant grid users for the restoration plan.

4.2.2. General conditions for the disconnection and restoration of high priority significant grid users for the restoration plan

In the event of an interruption of the high priority significant grid users, ELIA and the operators of other grids will cooperate and use all available resources to restore supply to the high priority significant grid users as quickly as possible.

If the system is in a blackout state, ELIA will establish a restoration path to the Doel and Tihange nuclear power plants as soon as possible to restore power to the auxiliary systems. The auxiliary systems will also be powered via emergency diesel generators if the transmission system falls completely without electricity.

Since a significant number of PGMs used for the restoration plan are powered by gas, it is of utmost importance that the gas grid remains operational during the restoration process. ELIA and the DSOs are cooperating with Fluxys Belgium regarding the critical gas infrastructure.

The area in and around Zeebrugge is important for the gas supply via the interconnectors from Norway and the UK and via the LNG terminal. Despite the presence of emergency generators ELIA, in consultation with Fluxys Belgium, tries to restore the power supply within 4-5 hours after a blackout.

Fluxys Belgium's facilities at various locations in Belgium are important for the supply of natural gas to gas-fired power production units and for the safe operation of the gas grid. Despite the presence of emergency generators for safety and process systems, ELIA, in consultation with Fluxys Belgium, is trying to restore the electricity supply of these facilities as quickly as possible.

The restoration targets listed in this section are indicative and not binding.

High priority significant grid users connected to a distribution grid will receive priority voltage restoration from the relevant system operator as soon as voltage is restored to the main transmission or distribution substation to which they are connected.

The geographical location of specific grid users such as the existing nuclear sites of Doel and Tihange and of restoration service providers is a key factor in the design of the restoration pathways.

Partly because of this, some grid users connected to the major restoration paths will be restored earlier than other grid users located on restoration paths that are re-energized later.

ELIA will establish restoration pathways to the auxiliary systems of PGMs with maximum active power greater than or equal to 25 MW as soon as possible.

5 Classification of system states

The SOGL contains harmonized system management rules for TSOs, RCCs, DSOs and SGUs. Article 18 of the SOGL specifies the different system states (normal state, alert state, emergency state, blackout state and restoration state). In subsequent sections, these are defined in more detail. The definitions contained in the SOGL take precedence over the description below.

5.1. Normal state

A transmission system is in the normal state if all of the following conditions are met:

- **Voltage and electrical currents** are within established operational safety limits;
    - Voltage range at the connection point between 110 kV and 300 kV: 0.90 pu - 1.118 pu
    - Voltage range at the connection point between 300 kV and 400 kV: 0.90 pu - 1.05 pu
    - Current limits for thermal rating including momentary permissible overload taking into account the type of grid elements, their technical limitsand environmental conditions (wind, solar radiation, temperature, etc.).
- **The frequency** meets the following criteria:
    - The steady-state frequency deviation is within the standard frequency range equal to +/- 50 mHz,
      or
    - The absolute value of the steady-state frequency deviation does not exceed the maximum steady-state frequency deviation equal to 200 mHz, and the system frequency limits for the alarm condition are not reached;
- The active power reserve and the reactive power reserve are sufficient to deal with failure situations from the list of failure situations established in accordance with Article 33 of the SOGL without exceeding operational safety limits;
- The control area of the relevant TSO is and will remain within the operational safety limits after the implementation of remedial measures following the occurrence of a failure situation included in the list established pursuant to Article 33 of the SOGL.

5.2. Alert state

A transmission system is in the alert state when the following conditions are met:

- **Voltage and electrical currents** are within established operational safety limits (same as in normal condition):
    - Voltage range at the connection point between 110 kV and 300 kV: 0.90 pu - 1.118 pu
    - Voltage range at the connection point between 300 kV and 400 kV: 0.90 pu - 1.05 pu
    - Current limits for thermal rating including momentary permissible overload taking into account the type of grid elements, their technical limitsand environmental conditions (wind, solar radiation, temperature, etc.).

And

- The **reserve capacity of the TSO** decreases by more than 20% for more than 30 minutes, and this decrease in real-time system management cannot be compensated,

Or

- The frequency meets the following criteria:
    - The absolute value of the steady-state frequency deviation does not exceed the maximum steady-state frequency deviation equal to 200 mHz,

      and

    - The absolute value of the steady-state frequency deviation is continuously greater than 50 % of the maximum steady-state frequency deviation equal to 200 mHz for a time period longer than the alert state activation time equal to 5 minutes, or is continuously greater than 50 % of the standard frequency range equal to +/- 50 mHz for a time period longer than the frequency restoration time equal to 15 minutes,

Or

- At least one failure situation from the list of failure situations established in accordance with Article 33 of the SOGL results in the TSO's operational safety limits being exceeded, even after remedial actions have been taken.

  Outage situations are classified as follows:

    - Normal outage situations: loss of a 380 kV - 30 kV line or cable, loss of generators, loss of a 380 kV and 220 kV rail coupler, loss of a transformer, loss of a 380 kV rail.
    - Exceptional outage situations, such as the loss of a high-voltage pylon carrying multiple lines. These failure situations are only considered in the operational safety analysis for predicted wind speeds greater than 130 km/h.
    - Out-of-range situations, such as the loss of multiple nuclear power units or the loss of an entire high-voltage substation. These out-of-range situations are considered in the operational safety analysis only if there are concrete risk indications of such incidents.

5.3. Emergency state

A transmission system is in an emergency state if at least one of the following conditions is met:

- There is at least one violation of a TSO's established operational safety limits. The established operational safety limits are as follows:
    - Voltage range at the connection point between 110 kV and 300 kV: 0.90 pu - 1.118 pu
    - Voltage range at the connection point between 300 kV and 400 kV: 0.90 pu - 1.05 pu
    - Current limits for thermal rating including momentary permissible overload taking into account the type of grid elements their technical limits and environmental conditions (wind, solar radiation, temperature, etc.).

  The operational safety limits for the various grid elements can be found in ELIA's operating criteria.

- The frequency does not meet the established criteria for the normal state and for the alert state;
- At least **one measure from the TSO's system defense plan has been activated**;
- There is a **breakdown in the operation of tools, means and facilities** pursuant to Article 24(1) of the SOGL, as a result of which those tools, means and facilities are unavailable **for more than 30 minutes**.

The tools, means and installations referred to in SOGL Art. 24 are listed below:

(a) Facilities for monitoring the system state of the transmission system, including state estimation applications and load-frequency control facilities;

Following applications and installations were considered:

- Energy Management System (EMS) with e.g. condition estimator and safety analysis
- The EntsoE Awareness System (EAS).
- ELIA's control centers, including regional and backup control centers
- Data warehouse and LAN connection
- LFC zone frequency restoration controller.
- Manual FRR control system
- Telecommunications systems (data and voice)

(b) Means of switching circuit breakers, coupling circuit breakers, step switches for transformers and other equipment for managing the elements of the transmission system;

The following systems and installations have been considered, but are not limited to:

- Control center SCADA (main, backup and regional control centers)
- Substation SCADA, for those substations identified as essential to the restoration plan
- Data communication to essential substations
- Data and voice communications to control rooms
- RTU in the substation
- Local data communication substation

(c) Communicating means with control centers of other TSOs and European RC C s;

- For the European RC Cs, only voice communications have been considered
- Between TSOs, voice and data communications were considered. Including Electronic Highway and EAS

(d) Tools for operational safety analysis, and

This includes the following tools: EMS with e.g. SCADA, state estimator and contingency analysis

(e) Tools and communication means needed by ELIA for cross-border market activities.

This concerns market tools associated with the EMS, such as the tool for managing nominations, schedules, activation of energy bids, etc.

5.4. Blackout state

A transmission system is in the blackout state if at least one of the following conditions is met:

- **Loss of more than 50% of consumption**[4] within the control zone of the respective TSO;
- Total **absence of voltage within the control zone** of the respective TSO **for at least three minutes**, triggering restoration plans.

[4] Consumption is understood as "total load"

5.5. Restoration state

A transmission system is in the restoration state when a TSO has begun activating measures from its restoration plan from the emergency or blackout state.

6 Roles and responsibilities of entities in the context of the restoration plan

The specific role of each of the following entities is critical to the effective implementation of restoration plan procedures:

- Transmission system operators (TSOs).
- Significant grid users (SGUs).[5]
- Distribution system operators (DSOs).[6]
- Restoration service providers (RSPs).
- Balancing responsible parties (BRPs).
- Balancing service providers (BSPs).

The restoration plan describes the strategy and practices used by ELIA and the entities listed above to:

- restore voltage at the connection points with the transmission system as soon as possible and in a coordinated manner;
- manage the system frequency during the restoration state;
- resynchronize asynchronous areas.

6.1. Transmission System Operator

ELIA is responsible for keeping its procedures up-to-date and regularly training its executive staff.

In case of Blackout, the National Control Center, together with the Regional Control Centers, will diagnose the condition. For this purpose, NCC and RCCs will request information from neighboring TSOs, DSOs, RSPs, BRPs, BSPs and SGUs.

After diagnosing the condition, NCC will choose the most appropriate strategy. NCC and the RCCs will communicate the retained strategy to stakeholders.

ELIA will make decisions regarding suspension and restoration of energy markets according to the "Rules for suspension and restoration of market activities" and the "Specific rules for imbalance and balancing energy settlement". These rules must be approved by CREG.

ELIA is responsible for clearing substations before power is restored to those substations.

During the implementation of the restoration plan, while the energy markets are suspended, the system is operated in "TSO-controlled dispatching" mode.

This **period of TSO-controlled dispatching begins when** ELIA begins to issue its instructions to a generating unit providing black start service in the case of a bottom-up restoration strategy or contacts a neighboring TSO to begin re-energizing elements of its system from that neighboring TSO's system in the case of a top-down restoration strategy.

The **period of TSO-controlled dispatching ends** once ELIA has sufficient confidence in the stability of the system, which, at a minimum, assumes that the transmission system has returned to normal condition, and thus that it has been able to restore the market operations that it temporarily suspended to return to market-controlled dispatching of the system.

[5] See the list of SGUs in section 4.
[6] To avoid misunderstanding, when this document refers to a DSO, it represents a public DSO and not a closed DSO.

Elia performs a coordinating role during the period of TSO-controlled dispatching, and provides the necessary instructions to neighboring TSOs, DSOs, RSPs, BRPs, BSPs and SGUs, which must implement them without delay.

During system restoration, ELIA determines and checks the following:

- The extent and boundaries of the synchronized area(s) to which its control zone belongs,
- The TSO(s) with which it shares a synchronized area(s) and
- The available active reserve power in its control zone.

The neighboring TSOs are involved in a top-down restoration strategy.

ELIA will manage system frequency during the restoration state in cooperation with a frequency leader and will resynchronize asynchronous areas as appropriate.

6.2. Significant grid users

6.2.1. Operators of power generation modules (PGMs) and asynchonous energy storage facilities

PGMs or asynchronous energy storage facilities with a maximum active power greater than 1MW that are connected to the ELIA grid are obligated to follow ELIA's instructions without delay during the restoration state to contribute to the restoration of the grid to the extent technically possible. These instructions are binding.

Asynchronous Energy storage facilities with a maximum active capacity greater than 1MW are obliged to make their stored energy reserves available for grid restoration during the restoration period upon ELIA's instruction. This instruction is binding.

Connection of the PGM or asynchronous energy storage facility with a maximum active power greater than 1MW to the transmission grid must be coordinated with ELIA in real time during grid restoration. During the recovery condition, automatic reconnection of a PGM or asynchronous energy storage facility with a maximum active power greater than 1MW is not permitted.

Communication with ELIA by voice communications is required prior to reconnecting the PGM or asynchronous energy storage facility with a maximum active capacity greater than or equal to 25 MW to the grid.

PGMs or asynchronous energy storage facilities with a maximum active power greater than 1MW and less than 25 MW connected to the Elia grid will receive a digital authorization signal from ELIA during the restoration phase as soon as the grid is sufficiently strong to handle the power exchanged by the PGM or asynchronous energy storage facility in a stable manner. As long as ELIA has not sent this authorization signal, or as long as the PGM or asynchronous energy storage facility has not received this signal, the PGM or asynchronous energy storage facility may not exchange power with the grid, even if voltage is back on the connection point.

Only during the recovery state can ELIA block the spontaneous return of injection, should the system not yet be stable enough. This measure is not intended to be used outside the recovery state, for example, to solve incompressibility problems.

If a PGM with a maximum active power greater than or equal to 25 MW can operate in houseload or island operation, the operator of the PGM, upon instruction from ELIA, must ensure that this PGM can also re-energize a dead busbar. ELIA will evaluate the suitability in advance in consultation with the PGM operator according to the technology of the PGM. ELIA's instruction is binding.

Operators of PGMs with a maximum active power greater than or equal to 25 MW must designate a contact entity that is available 24/7. This contact entity must be able to provide

ELIA with clear information on the capabilities and limitations of the unit concerned in the event of a blackout. This includes:

- If the transition to houseload-operation is successful:
    - If the PGM is unable to restore voltage to a dead busbar of the transmission system, the maximum time period in which the PGM can continue to operate in houseload until resynchronization with the restored grid is a reality.
    - The time period required to restore voltage to a dead busbar of the transmission system.
- If the transition to houseload-operation is unsuccessful:
    - the time period required to restart the PGM and the time period required until the PGM is ready for resynchronization with the transmission system.
- The restrictions on the production of active power[7] :
    - Minimum load to obtain stable operation of the PGM
    - Maximum ramping rate
    - Maximum production level
    - Maximum block of load the PGM can handle without compromising stability
- The limitations regarding reactive power: both to produce and absorb.

Operators of asynchronous energy storage facilities with a maximum active capacity greater than or equal to 25 MW must designate a contact entity that is available 24/7. This contact entity must be able to provide ELIA with clear information on the capabilities and limitations of the energy storage facility concerned in the event of a blackout.

The contact entity of the PGM or asynchronous energy storage facility will follow the instructions of ELIA as soon as possible. These instructions are binding and may include:

- Resynchronize with the transmission system;
- Setting the voltage of the re- energized busbar of the transmission system;
- Maintain a certain frequency between 49.00 Hz and 51.00 Hz (only for production units providing black start service or restoring a local grid from houseload operation), to the extent technically possible;
- Maintain a certain setting value for active/reactive production;
- Deactivate the frequency deadband of the primary power/frequency control, as far as technically possible;
- Any other instruction necessary for the reconstruction of the grid.

6.2.2. Consumer systems connected to the transmission system

Demand facilities connected to the transmission system must appoint a contact entity (or dispatching) that is available during the restoration condition and does the following:

- Inform ELIA at its request about the condition of its facilities and the possibilities of resuming consumption.
- Increasing their consumption incrementally according to the instructions given by ELIA, for example, load blocks of up to 5 MW.

During the transitional phase, until the time period specified in paragraph 12 communication requirements are met, ELIA and the transmission connected demand facilities will use the best available alternative to arrange communications. An alternative may include, for

[7] This information is collected in advance whenever possible. However, the contact entity must be able to inform ELIA in real time at its request.

example, a public satellite network connection (if available) or the Astrid radio network where a specific call group is reserved for different partners from the energy sector and the NCCN. A call in this call group will thus be heard by all these partners.

6.2.3. Closed distribution system operators (CDSOs) connected to the transmission system

CDSOs connected to the transmission system must appoint a contact entity (or dispatching) that is available during the restoration state. This contact entity must be able to:

- Informing ELIA, in particular, of the condition of its CDS and its ability to restore voltage at the substations of its CDS and in particular the high priority significant grid users as defined in paragraph 4.2, and about the possible restoration service providers.
- Give effect to the instructions provided by ELIA's regional control centers regarding the amount of active and reactive power exchanged with the transmission grid through the connection point (for example, load blocks of up to 5 MW).

During the transitional phase, until the time period specified in paragraph 12 communications requirements are met, ELIA and the CDSO connected to the transmission system will use the best available alternative to arrange communications.

If a restoration service provider (RSP) connected to a closed distribution system performs its restoration services, the CDSO connected to the transmission system must coordinate with the RSP and ELIA in real time.

6.3. Public distribution system operators (DSOs)

Public DSO are important partners in regional grid reconstruction as they can ensure access to the high-priority significant grid users connected to distribution grids.
Each distribution system operator must designate one or more contact entities available 24h/24h. This contact entity will be able to inform ELIA about the state of its installations, this includes:

- Specify possibilities to reactivate distribution substations and in particular the high priority significant grid users as defined in section 4.2.
- Provide information on any permanent faults observed on the distribution network.
- Provide information on the time required to perform a clearing.

When an RSP connected to the distribution grid performs its restoration service, the DSO must coordinate with the RSP and ELIA in real time.

While ELIA is restoring voltage to transmission substations, the DSOs are proceeding with the partial clearing[8] of their substations. The DSOs clear all connections except those with high-priority significant grid users. When ELIA restores voltage on the transformers to the distribution substations, the high-priority significant grid users are the first consumers to be re-energized.

6.4. Balancing Responsible Parties (BRPs)

The relevant obligations for BRPs as established in the General Terms and Conditions BRP remain in force as long as the market activities are not suspended according to the "Rules for suspension and restoration of market activities" and the "Specific Rules on Imbalance Settlement and Balancing Energy Settlement" published on ELIA's website after approval by CREG.

[8] 'Clearing' refers to the disconnection of individual connections (cables or lines) from the busbar of a substation with voltage zero, in preparation for controlled voltage restoration at that substation.

Under the said rules, it is stated that during a period of TSO controlled dispatching, the BRP is not responsible for balancing its portfolio, as this could lead to a reduction in the efficiency of restoring the transmission system to its normal or alert state. ELIA will notify BRPs of a Market Suspension and Market Restoration through the "Notice of Market Suspension and Market Restoration" as set forth in paragraphs 11.2 and 11.3, in accordance with the communication procedure that is part of the Rules.

When the system is operated in a state of TSO controlled dispatching, ELIA will send instructions directly to the PGM operators and not to the BRPs.

When the system is in the restoration state after a system split, the relevant obligations for BRPs, as described in the General Terms and Conditions BRP, in the Code of Conduct or in the Federal Technical Regulations, remain in effect.

6.5. Providers of Balancing Services (BSPs)

The relevant obligations of BSPs as defined in the "BSP General Conditions" remain in effect as long as market activities are not suspended according to the "Rules for Suspension and Restoration of Market Activities" and the "Specific Rules on Imbalance Settlement and Balancing Energy Settlement" published on ELIA's website after approval of the CREG.

ELIA will notify the BSPs of a Market Suspension and Market Restoration through the "Notice of Market Suspension and Market Restoration" as set forth in paragraphs 11.2 and 11.3, in accordance with the communication procedure that is part of the Rules.

When the system is managed in a state of TSO controlled dispatching, ELIA will send instructions directly to the PGM operators.

When the system is in the restoration state after a system split, the relevant obligations for BSPs, as described in the General Conditions BSP, in the Code of Conduct or in the Federal Technical Regulations, remain in effect.

6.6. Restoration service providers (RSPs).

At ELIA's request, RSPs must activate their restoration services at the instruction of the relevant system operator(s), in accordance with their contractual obligations and the General Terms and Conditions for RSPs.

7 Clearing of substations

To prevent unwanted and uncontrolled injections or loads during the restoration phase, it is of utmost importance that all connections to a substation of the transmission grid be disconnected before the voltage in the substation is restored. In this way, the probability of the restored area becoming unstable during the initial stages of voltage restoration is minimized.

ELIA should always verify that a busbar has been fully cleared before re-energizing the busbar. If the clearing has not been fully performed, as should be the standard, ELIA should remotely and manually open the circuit breakers which are still in a "closed" position. If a technical problem occurs when opening the circuit breaker, ELIA should send an operator on site.

An exception to this rule applies when the "soft start" principle is applied. This involves connecting a series of grid components together in a de-energized state (the circuit breakers in the "closed" position), with the whole chain then being gradually re-energized by means of an adjustable voltage source. By applying the soft start principle, one can limit high magnetizing currents in transformers.

A voltage restoration via soft start is applied in following restoration scenarios:

- Bottom-up restoration from the black start unit which is foreseen for the restoration of the 380 kV grid.
- Bottom-up restoration from the black start unit which is foreseen for the restoration of the region North-West.
- Top-down restoration with the Nemolink HVDC link
- Top-down restoration with the ALEGrO HVDC link

In certain locations, clearing occurs automatically upon loss of voltage. For this purpose, relays are used that detect the loss of voltage and then provide a trip pulse to the circuit breaker. This is the case at the following locations in the system:

- On transformers with a primary voltage level of 380 KV, where the circuit breaker is turned off at the secondary side; In this way, an automatic partitioning between the 380 kV high-voltage grid and the lower voltage levels occurs. This allows the SEs of the NCC and the regional dispatchers in the RCCs to focus respectively on the reconstruction of the 380 kV grid on the one hand and the lower voltage level grids on the other. This makes the complex task of reconstructing the entire grid more manageable and reduces the risk of unwanted interference.
- On 380 kV lines and cables, including boundary lines;
- On transformers between different grids with a transmission function. For example, 150 kV/70 kV, 150 kV/36 kV, 220 kV/70 kV
- On transformers between ELIA and the DSO grids
- On certain grid elements connecting regional zones.

8 Voltage restoration procedure

8.1. Overview of voltage restoration phases

After a blackout, ELIA aims to gradually restore the electricity system and restore voltage to at least 90% of the connection points of the ELIA grid with SGUs and DSOs within 24 hours. To this end, a step-by-step voltage restoration procedure is followed with the aim of returning to normal system state.

ELIA has a total of about 800 substations that are energized via 6 operational consoles located in 3 control centers (1 NCC and 2 RCCs). About 160 substations are energized via 1 console in an RCC. The necessary switching to energize a substation takes about 10 minutes per substation. To operate 90% of 160 substations, 24h are needed. Because of the complex coordination and communication requirements, rebuilding a subgrid with multiple consoles in parallel is avoided.

Figure 4 shows the three main stages of the restoration process:

- A diagnosis of the condition (Phase 1 - Diagnosis).
- The phase of a "TSO controlled dispatching" with activation of stress restoration procedures with a top-down or a bottom-up strategy (Phase 2 - System Rebuild)
- The phase of consumer re-powering in which the system is incrementally returned to the normal state and to "market regulated dispatching" (Phase 3 - Load Rebuilding)

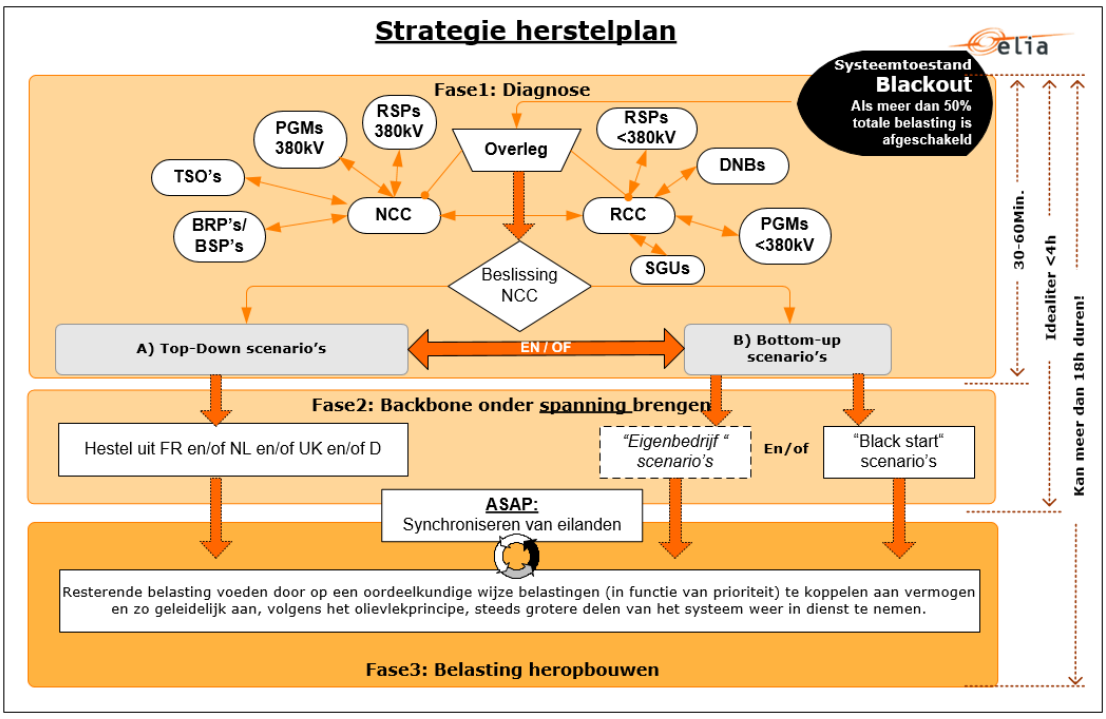

Figure 4: Phases of the voltage restoration procedure.

8.1.1. Phase 1: preparation

An overview diagram[9] (Confidential) should help ELIA operators diagnose after a blackout and allow them to quickly check the following key issues:

[9] This summary chart is an internal ELIA document not submitted for approval.

- Check the state of the interconnectors and ascertain whether adjacent TSOs are available to support a top-down restoration strategy.
- Check whether it is possible to combine top-down and bottom-up restoration strategies.
- Check the potential risks of the possible restoration strategies and provide an estimate of the expected duration of restoration.
- Verify that PGMs with maximum active power greater than or equal to 25 MW have successfully switched to houseload operation.
    - Get information on the period of time during which the houseload operation can be maintained.
    - Check whether PGMs on houseload operation can restore power to a dead busbar and ask in what time frame this is possible.
    - Verify that a restoration path to the PGM has been established to allow resynchronization.
- Check if the RSPs with a contractual obligation are available to perform a black-start with the following PGMs (confidential) and inquire about deadlines.
- Check whether or not the other PGMs with maximum active power greater than or equal to 25 MW are available.
- Check the availability and charging status of asynchronous energy storage facilities with a maximum active capacity greater than or equal to 25 MW and connected to the ELIA grid.
- Check the condition of the power system installations and note any significant damage.
- Choose the restoration scenario, according to conditions, so that as soon as possible the voltage can be restored to the high priority significant grid users.

System engineers at ELIA's NCC assess the extent and impact of the blackout on grid users and grid elements. During this phase, there is communication with PGMs, energy storage facilities, regional control centers, adjacent TSOs, DSOs, RSPs and other (high priority) SGUs if necessary. Based on this diagnosis, ELIA's system engineer decides on the restoration strategy to be followed.
Several scenarios are possible for rebuilding the system:

- The **Top-Down scenario**, in which the entire Belgian high-voltage grid is de-energized, but in which all or part of the neighboring foreign grids can still be used.

In this case, the reconstruction of the system will be done from France, the Netherlands, the United Kingdom, Germany or Luxembourg. After consultation with the corresponding grid operator, the most robust grid will be used for restoration. The individual actions to be taken in top-down restoration are listed in section 8.2.1.

However, the feasibility of the top-down strategy is also determined by the availability of capacity on the interconnectors. When the top-down strategy is applied, the 'N-1' mode is temporarily disregarded and switches to the 'N' mode in consultation with the auxiliary TSO.

- The **Bottom-Up scenario**, where the entire Belgian high-voltage grid is de-energized, with no recourse to foreign grids.

In this case, the restart of the system will be done using PGMs that have succeeded in island operation and/or PGMs that have successfully in houseload operation and/or production units that can provide black start service.

As required by Article 23(4)(f), of the NC ER, the number of power sources in ELIA's control zone required to restore voltage in its system using a bottom-up voltage restoration strategy with black-start eligibility, rapid resynchronization eligibility (via self-service) and islanding eligibility are listed in Table 2:

Type of power sources	Number of power sources required to restore voltage in ELIA's control zone with bottom-up voltage restoration strategy	Comments
Black-start	5	The number of production units required for grid restoration under a bottom-up scenario.
Fast resynchronization (via proprietary business)	0	Given the uncertainties about the availability of PGMs, the limited duration of houseload operation and other risk factors, ELIA prefers, assuming a worst-case scenario, not to rely on PGMs in houseload operation for voltage restoration on the grid using a bottom-up strategy. However, this does not preclude the use of PGMs in houseload operation for voltage restoration if it should prove possible.
Houseload operation	0	Given the uncertainties about islanded PGMs following a blackout, ELIA wishes to remain independent of islanded PGMs for voltage restoration on the grid using a bottom-up strategy.

Table 2 : power sources for voltage restoration strategy

If a strong network is available in a neighboring country (guideline values: at least 5 GVA of short-circuit capacity in the foreign substation located on the other side of the national border and at least 500 MW of rotating reserve capacity), the top-down strategy is the absolute preference. If no strong network is available, the bottom-up strategy should be applied. A combination of a top-down with a bottom-up strategy can be chosen. In that case, the potential substations for resynchronization of both networks should be chosen.

ELIA's NCC system engineer instructs each RCC to execute one or more bottom-up or top-down scenarios in parallel.

ELIA assumes that this phase takes about 30 to 60 minutes. Although a full diagnosis may take an hour, ELIA could send black-start instructions after 30 minutes.

8.1.2. Phase 2: Rebuilding the system

The second phase involves system rebuilding. The intent is to build electric islands around black-start capable PGMs or houseloaded PGMs with maximum active power greater than or equal to 25 MW and provide voltage restoration to high-priority significant grid users as quickly as possible.

In addition, ELIA will provide voltage restoration on the majority of the 380 kV grid (including substations connected to neighboring countries) as soon as possible and build an crancking path to generation units without black-start capacity, which can further assist in system restoration.

Once stable electric islands are formed, resynchronization of the islands with the backbone can begin. Islands are considered stable when:

- Regional islands (150 kV): 350 MW load and at least 3 PGMs with a maximum active power greater than or equal to 25 MW are active

- 380 kV backbone: 1000 MW load and at least 5 PGMs with maximum active power greater than or equal to 25 MW, or 3 PGMs with maximum active power greater than or equal to 25 MW are active, at least one of which is a nuclear PGM.

Phase 2 therefore includes system start-up where ELIA enters a phase of TSO controlled dispatching.

8.1.3. Phase 3: Load rebuilding

Before the return to normal, ELIA will remain in the phase of TSO controlled dispatching and take measures to:

- restore N-1 security for the transmission system;
- restore voltage at remaining connection points, including coordination with DSOs to restore lower-voltage networks.

During system restoration, ELIA identifies and checks the following:

- The extent and boundaries of the synchronized area or areas to which its control zone belongs;
- The TSOs with which it shares a synchronized area or areas, and
- The available active reserve power in its control zone.

Figure 5 shows an indicative timeline for the voltage restoration procedure for the first 24 hours following a blackout.

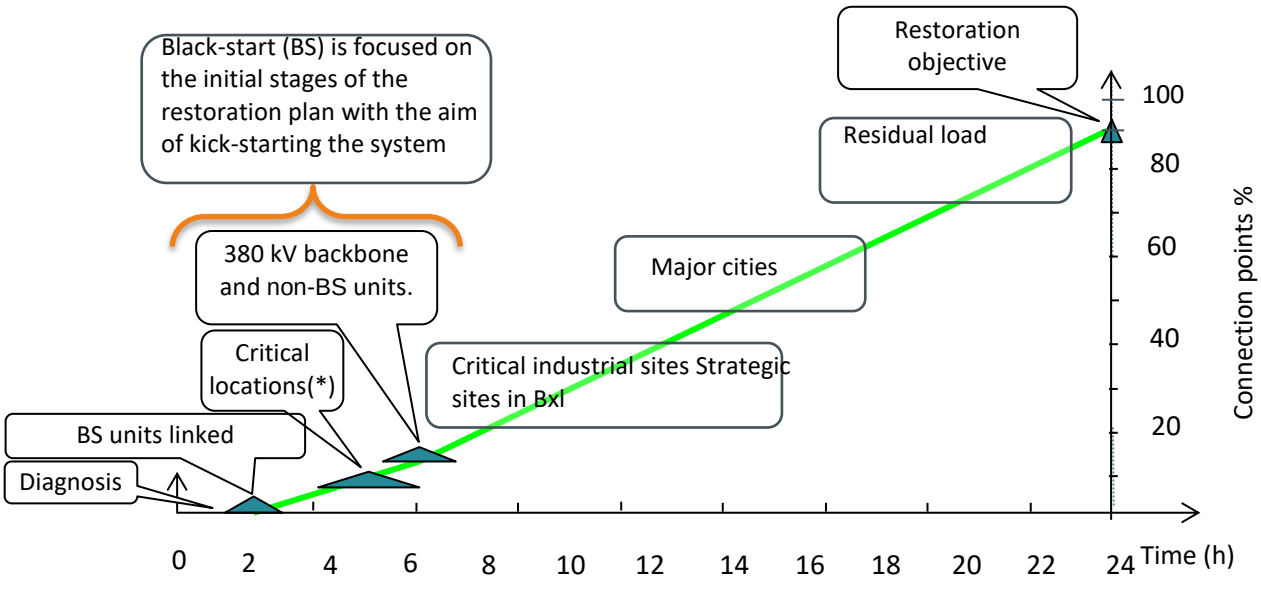

Figure 5: Voltage restoration trajectory

(*) Critical sites include the nuclear sites of Doel and Tihange, the LNG terminal in Zeebrugge and the gas compression stations in Zelzate, Winksele and Berneau.

As soon as 90% of the connection points with the ELIA grid are again energized, allowing the N-1 safety rule to be reapplied to major grid elements and generation units without exceeding operational safety limits, ELIA will start preparing the gradual restoration of market operations and the transition from a "TSO-controlled dispatching" to a "market-controlled dispatching".

ELIA will inform power exchanges so that they can re-collect bids and offers within different time frames, match orders and allocate cross-zone capacity.
This will give rise to planned exchanges with neighboring TSOs and planned offtake and injection programs at the various entry points.

About an hour before the start of "market-determined dispatching," ELIA will coordinate, in cooperation with the BRPs and neighboring TSOs, a step-by-step transition to market-determined programs.

8.1.4. Failure of grid restoration

In a bottom-up restoration strategy, specifically during phases 1 and 2 of grid restoration, the separately constructed grid sections have limited stability, with frequency and voltages reacting much more volatile when consumers are turned on compared to a normal grid condition.
During these phases, there is an increased risk of unwanted shutdowns, possibly resulting in the collapse of certain grid sections.
If a particular grid section collapses, the ELIA operator in the NCC (380 kV and 220 kV grids) or RCC (150 kV - 30 kV grids) must re-diagnose and apply all safety measures in consultation with fellow 's in the field.
Then the NCC operator will determine whether the collapsed grid section will be restored either with a bottom-up strategy from a PGM with black start capacity, or with a top-down strategy from a neighboring grid section that has been re-energized in the meantime.
The special conditions for restoration service providers presuppose that a PGM with black start capability, must be able to achieve a minimum of three consecutive black start procedures.

8.2. Voltage restoration procedures

A detailed operational voltage restoration procedure has been established for each ELIA regional control center. This procedure includes a set of instructions.

ELIA has three operational control centers:

- the National Control Center in Schaerbeek
- the Regional Control Center North in Merksem
- the Regional Control Center Sud in Gembloux (Créalys).

The instructions will be prepared in advance and will be determined taking into account, among other things, the geographical location of the contracted restoration service providers, the geographical location of the HPSGUs and the characteristics of the transmission system. The voltage restoration procedures will be reviewed at changes of one or more of the aforementioned determining factors.

The restoration procedures are established with the following so-called "in-design" **assumptions**:

- no grid elements were damaged by the incident(s) that led to the blackout;
- ELIA operators have an overview of the state of the transmission grid through the SCADA system;
- remote switching in the transmission grid is possible from control centers of ELIA.
- voice communication between entities within ELIA, between ELIA and DSO’s and between ELIA and SGUs is possible

If any of these assumptions are not met, ad hoc solutions must be applied. In this case, it may be necessary to deviate from the predefined voltage restoration procedures. ELIA sets up specialized crisis cells during grid restoration to respond to anomalous situations to the best of its ability.

8.2.1. Voltage restoration procedure for the National Control Center

The operational voltage restoration procedure for the NCC[10] includes the following sections:

- Black start procedure of the black start unit to energize the 380 kV backbone. (confidential)
- Voltage restoration on the 380 kV backbone between Gramme (Hoei) and Doel, via Courcelles or via Van Eyck (Kinrooi), depending on the state of the installations.
- Voltage restoration at the other 380 kV substations (to Aubange, to Stevin (Zeebrugge) and MOG (Offshore), to Avelgem, ...)
- Top-down stress restoration from France from Avel in, Lonny, Chooz or Moulaine.
- Top-down voltage restoration from the Netherlands from Rilland or Maasbracht.
- Top-down voltage restoration from the United Kingdom via the HVDC interconnector connected to the "Gezelle" station (Bruges).
- Top-down voltage restoration from Germany via HVDC interconnector connected to the "Lixhe" station[11]
- Locations for resynchronization of regional islands with the 380 kV backbone
- Resynchronization procedures with adjacent TSOs.

8.2.2. Voltage restoration procedure for Regional Control Center North

The operational voltage restoration procedure for RCC North[12] includes the following sections:

- Top-down from Mercator (Kruibeke) to port and city of Antwerp
- Top-down from Massenhove to port and city of Antwerp
- Top-down from Meerhout to Kempen and Limburg
- Top down from André Dumont (Genk) to Limburg
- Top-down from Verbrande Brug (Vilvoorde) to Brussels and Flemish Brabant
- Top-down from Lint
- Top down from Avelgem to Koksijde
- Top-down to Offshore Wind Farms
- Bottom-up from a black start unit in zone Noth-West towards Mercator
- Bottom-up from a black start unit in zone North-West towards Ruien and Koksijde
- Bottom-up from a black start unit in zone Noth-West towards Zeebrugge

8.2.3. Voltage restoration procedure for Regional Control Center Sud

The operational voltage restoration procedure for the RCC Sud[13] includes the following sections:

South-East Zone

- Black-start XXX – Restoration South-East (Liège zone)

[10] This procedure is an internal ELIA document not submitted for approval
[11] Applicable once the HVDC link is operational
[12] This procedure and those listed below are internal ELIA documents not submitted for approval
[13] This procedure and those listed below are internal ELIA documents that are not submitted for approval

- Top-down voltage restoration of the Luxembourg 220 kV zone from 380 kV substations on which voltage has already been restored
    - Assuming that voltage has been restored at the 380 kV substations at Brume and Aubange, voltage will be restored at the 220 kV substations at Aubange, Saint-Mard, Latour, Villeroux and Brume.
- Top-down reconstruction Sud-est from 380 kV substations on which voltage has already been restored:
    - Assuming that voltage has been restored to the 380 kV substations at Gramme (Huy), Aubange, Champion and Achène,...
    - ... voltage is restored to the 150 kV substations at Gramme, Bressoux,
    - and at the 220 kV substations of Rimière, Jupille, Lixhe, Seraing, Aubange and Brume.
- Rebuilding 70 kV grids in Zone Namur - this is done in both top-down and bottom-up scenarios;
- Rebuilding 70 kV grids in zone Luxembourg - this is done in both top-down and bottom-up scenarios;
- Rebuilding 70 kV grids in zone Liege - this is done in both top-down and bottom-up scenarios;
- Rebuilding the 70 kV grids in zone Bressoux - this is done in both top-down and bottom-up scenarios.

South-West Zone

- Top-down reconstruction Sud-Ouest from 380 kV substations on which voltage has already been restored
- Top-down reconstruction Center and parts of zone Northeast from 380 kV substations on which voltage has already been restored
- Black-start XXX and reconstruction of Brussels, parts of zone South-West and parts of zone North-East.

8.3. Management of voltage and frequency deviations in bottom-up procedures

Throughout reconstruction, power or frequency control of PGMs is a particularly important task. The following principles are used in this process:

- To ensure a controlled reconstruction, it is important to avoid as much as possible uncontrolled energy exchanges from (fluctuating) generation units or asynchronous storage facilities as long as the grid is not yet sufficiently stable. Keep in mind the following behavior and possible actions:
    - PGMs with an installed capacity smaller than 1 MW cannot be controlled and will possibly start injecting progressively as soon as the frequency is within 49.9Hz and 50.1 Hz for 1 minute.
    - Verify that the authorization signal[14] is on "red" or in the "OFF state" for PGMs and asynchronous storage facilities with an installed capacity greater or equal to 1 MW and less than 25 MW.
    - Forward the authorization signal on "red" or in the "OFF state" to the DSOs. This prevents these sources from exchanging power with the transmission or

[14] The authorization signal has yet to be implemented at the time this document was prepared.

distribution grid, even if the voltage and frequency at the connection point are within the tolerance limits for automatic reactivation.
    - Permission must be granted to PGMs and asynchronous storage facilities with an installed capacity greater than or equal to 25 MW via the "blackout proof ELIA telephone" before they are allowed to exchange power with the grid.

- The first PGM with a maximum active power greater than or equal to 25 MW that energizes an island (which can be a PGM in succeeded island operation or houseload operation or a black start unit) must always be in pure frequency control, to avoid large frequency deviations when demand facilities are switched on. **For the first PGM,** the following principles apply:
    - The frequency of the PGM is set at a set point of 51 Hz. This does not apply to the PGM energizing the 380 kV grid, on which a set point of 50 Hz is set;
    - The voltage is initially regulated to the lowest possible value, about 90% of the rated value;
    - Constant care must be taken to ensure that the PGM in question has sufficient margin to accommodate a subsequent power increase. As a general "rule of thumb," it is recommended that no more than 70% of nominal active power production be exceeded during the initial phases of island restoration.
    - The capacity of the first PGM with a maximum active capacity greater than or equal to 25 MW will be utilized to feed high-priority significant grid users.
- After some time, additional generation units will begin to connect to the grid and be able to inject additional power. Once **multiple PGMs** connect to the island, ELIA will apply the following principles:
    - Only 1 PGM per island will operate in pure frequency control.
    - The remaining PGMs place themselves in power control (where the power is automatically adjusted as a function of frequency deviation according to a certain droop) and follow the instructions from ELIA regarding the power setting value.
    - If the active power of a PGM in frequency control exceeds 70% of its rated value, the other PGMs will be asked to increase their active-power set point. This will cause the PGM in frequency control to automatically decrease in active power.

The **target frequency** will be reduced from 51 Hz to 50 Hz once the following conditions are met:

- there is sufficient up and down active power reserve available on the PGM in frequency control, so that the PGM can handle quickly enough the injection of non-controllable production units, AND
- resynchronization with another (group of) PGM(s) or with an independent area is provided.

As soon as the SE of ELIA judges that the system is again sufficiently stable to accommodate the injection of non-controllable production units, the authorization signal can be returned to the "ON" state. Depending on the strength of the system under reconstruction, the SE can, if technically foreseen, activate different intermediate steps: from "red" to "orange" to "yellow" and finally to "green", allowing respectively 0%, 33%, 66% and finally 100% of the active power injection potential.

During a TSO controlled dispatching mode, while electricity markets are interrupted, ELIA will deactivate its LFC zone frequency restoration controller (AGC in Off mode).

8.4. Monitoring and management of electric island operation

During the initial stages of network restoration, voltage is restored to several electrical islands, independently of each other, so that the effects of a possible instability are limited only to the affected area.

Intensive communication between ELIA and the PGM operators on the one hand, and between ELIA and the DSO or directly interconnected demand facilities or CDSOs on the other hand, is of utmost importance to monitor the balance between the production and consumption of active power.

For operators in the NCC and ELIA's RCCs, roles and responsibilities are delineated based on the number of independent zones and voltage level.

- ELIA's RCCs are responsible for:
    - monitoring voltage restoration on 220-150 kV grids and lower voltage levels;
    - coordination of PGMs connected to the 220-150 kV grid and lower voltage levels (including onshore and offshore renewables) if there is only one island;
    - monitoring black-start procedures for the 220 and 150 kV;
    - switching operations on the 220-150 kV grids and the lower voltage levels;
    - coordination with ELIA operators at substations or in the field;
    - coordination with DSOs and industrial clients.
- ELIA's NCC is responsible for:
    - monitoring voltage restoration on the 380 kV grid;
    - coordination between the PGMs in the part of the grid where voltage has already been restored (Doel, Tihange, Coo, other units);
    - coordination with foreign TSOs;
    - monitoring the black-start procedure for voltage restoration on the 380 kV;
    - inter-zone coordination including resynchronization of asynchronous areas;
    - monitoring of the PGMs once 2 independent zones are resynchronized;
    - coordination with the RCCs and monitoring of the appropriate application of the reconstruction strategy;
    - management of automatic load frequency control (AGC).

8.5. Resynchronization of areas with island operation

Resynchronizing independent electrical zones can only be done via the 380 kV grid, which must first be restored for this purpose. Two local independent 150 kV islands cannot be synchronized directly with each other.
Resynchronization is done in substations that have automatic synchronization equipment. Such equipment is present on the circuit breakers on the secondary side of 380/150 kV or 380/220 kV transformers and on the most 380 kV connections.
For synchronization to succeed, both independent electrical zones must have nearly the same frequency and voltage amplitude and the angular difference between the voltage

vectors must also be sufficiently small. This means that the active power transit at the boundary connection just after the synchronization will be approximately zero.

The resynchronization of electrical zones increases the overall inertia of the system, making it more stable and less vulnerable to frequency and voltage deviations when the load is turned on or during fluctuating injections of renewable energy sources.

Independent electrical zones should be resynchronized when:

- at least 3 PGMs with a maximum active power greater than or equal to 25 MW or more are activated AND the total load in each independent zone exceeds 350 MW

  OR

- one of the zones is connected to the system of France, the Netherlands, the United Kingdom or Germany.

Resynchronization of independent electrical zones should be done at a target frequency of about 50 Hz.

When two independent zones are synchronized, one of the PGMs that was in frequency control must switch to power control mode (droop control). The PGM that remains in frequency control mode is preferably the PGM with the highest inertia.

8.6. Voltage restoration takes longer than 24 hours

Without prejudice to the provisions of Articles 41 and 42 of the NC ER, which stipulate a duration time of at least 24 hours for the availability of voice communication systems, tools and facilities, ELIA provides additional measures in the event that an interruption would exceed 24 hours.

In substations considered essential for restoration plan procedures, ELIA has provided, as far as technically possible, an emergency generator with a fuel reservoir that can be refilled during the restoration state, allowing the substation to remain operational for more than 24 hours.

In substations equipped with a battery due to lack of space for an emergency generator, the operational duration time cannot be extended if the battery is depleted.

ELIA's crisis teams have applications enabling them to remotely map the substations where the fuel supply of emergency generators needs to be replenished. ELIA assigns to each of these substations a certain priority with which the refueling must be carried out according to the needs of grid restoration at that time. ELIA has agreements with local fuel suppliers who, in the event of a blackout, spontaneously report to ELIA's different service centers, where they receive instructions as to which regional substations should be resupplied with new fuel as a priority.

ELIA can determine in consultation with the NCCN during the restoration period whether additional security measures should be provided for fuel transports.

8.7. Measures in case the "in-design" assumptions for voltage restoration are not met

Notwithstanding the precautions taken by ELIA to fulfill the in-design assumptions mentioned in Section 8.2 as much as possible, it cannot be ruled out that one or more assumptions may not be fulfilled during the restoration phase.

Table 3 provides some examples of out-of-design situations, each with a possible approach to crisis management (non-exhaustive):

Out-of-design situation	Possible approaches to crisis management
Several electricity pylons were blown down by a storm.	Setting up its own emergency line (limited distance) Using protocols with other TSOs for mutual support regarding setting up high-voltage lines
Certain substations are not accessible due to obstacles (fallen trees across the road, etc.)	Request support through the NCCN to defense, civil protection services for clearing roads
Certain substations are inoperable	Where technically possible, by-pass substations by interconnecting incoming and outgoing elements. Possibly use mobile substation(s) where available.
In certain substations, observability of important grid parameters and/or remote switch operation is no longer possible.	Dispatch personnel to the affected substations to record parameters locally and/or perform on-site operation. If necessary, use mobile emergency generators to energize the power supply of the auxiliary technical facilities in the substation.

Table 3: Out-of-design situations and possible approaches to crisis management

The goal of restoring 90% of the connection points with the ELIA grid within 24 hours may be compromised in the event of a grid restoration in out-of-design conditions.

9 Frequency Management Procedure

9.1. Activation

The purpose of the **System Defence Plan**'s frequency deviation management procedure is to **stabilize the frequency after an incident**, prior to the appointment of a frequency leader.

The frequency management procedure of the **Restoration plan** is aimed **at restoring the frequency to the nominal frequency** after a split of the synchronous area into multiple synchronous areas or during the reconstruction of the grid, in accordance with Article 28 (1) of the NC ER.

In accordance with Article 28(2) of the NC ER , ELIA must activate its frequency management procedure:

- In preparation for the resynchronization procedure, when a **synchronous area** is **split** into a number of synchronized areas;
- In case of frequency deviation in the synchronous zone when the system is in **restoration state**, or
- In case of **topdown restoration**

9.2. Actions before a frequency leader is appointed

LFC CONTROL ZONE FREQUENCY RESTORATION CONTROLLER MANAGEMENT

In case of a frequency deviation higher than 200 mHz, the frequency restoration controllers of the LFC control zone will be automatically switched to "frozen" control mode, allowing the ELIA operator to assess the situation and regulate manually. This means that the reference values for active power to the PGMs participating in aFRR remain unchanged. Until the secondary controller is released, it remains passive and no "area control error" (ACE) is automatically controlled.

CONTROLLER RESPONSE FOR FREQUENCY RESTORATION OF LFC CONTROL ZONE

In case of frequency deviations higher than 200 mHz and at maximum frequency ranges as defined in Article 154(6), of the SOGL, PGMs should further increase/decrease their power output to their maximum/minimum capacity if necessary (both in positive and negative direction) as long as no technical limitations occur.

The corresponding FCR response must have the same droop as set for normal and alert state and in any case must not compromise the stability of the FCR-delivering PGMs.

ACTIVATION OF THE LIMITED FREQUENCY SENSITIVE MODE (LFSM)

In case the LFSM is activated, the LFSM response of the FCR-delivering PGM should continue from the general FCR activation at the time of the LFSM intervention.

ADDITIONAL CONTROLLER MEASURES FOR FREQUENCY RESTORATION OF LFC CONTROL ZONE

ELIA may manually/automatically override the output signal of the "frozen" mode of the LFC zone frequency restoration controllers to accelerate system stabilization. These measures should be taken cautiously to avoid congestion. In doing so, previously agreed coordinated actions in normal and alert states intended for frequency restoration must be respected.

ADDITIONAL TSO MEASURES

In case the frequency deviation exceeds 200 mHz, ELIA may manually and/or automatically activate additional measures as described in the system defence plan.

9.3. Appointment of a frequency leader

If in a system restoration, the synchronous zone Continental Europe is split into a number of synchronized areas, the TSOs of each synchronized area appoint a frequency leader, as also described in the SAFA of the synchronous zone Continental Europe.

If in a system restoration the synchronous zone Continental Europe is not split but the system frequency exceeds the frequency limits for the alert state (see section **Error! Reference source not found.**), all TSOs of the synchronous zone Continental Europe appoint a frequency leader.

The TSO with the highest real-time estimated K-factor is appointed frequency leader.

Where the real-time situation allows, the synchronous area monitor will take over the role as frequency leader in the synchronous zone Continental Europe. That is Amprion (even months) or Swissgrid (odd months).

The K-factor of a control area/block is expressed in megawatts per Hertz (MW / Hz) and, for a frequency deviation of 1 Hz, indicates the expected response of FRR control in terms of active power adjustment in the control area/block.

Sub Group "System Frequency"
Minimal values "Frequency Containtment Reserve Ppi"
and of the "Kri Factor" to be adopted for the Year 2022

Short	Country	TSO	Coefficient C_i (Notes 1 and 2)	As from 1st January 2021 P (MW)	As from 1st January 2021 K-factor (MW/Hz)
AL	Albania	OST	0.002101	6	61
AT	Austria	VERBUND APG	0.024402	73	711
BA	Bosnia-Herzegovina	ISO BiH	0.004422	13	129
BE	Belgium	Elia	0.028488	86	831
BG	Bulgaria	ESO EAD	0.011959	36	349
CH	Switzerland	SWISSGRID	0.021285	64	621
CZ	Czech Republic	CEPS	0.024432	73	712
DE	Germany	AMPRION	0.184705	555	5'386
DK_W	Denmark West	ENERGINET.DK	0.007440	22	217
ES	Spain	REE	0.129401	388	3'773
FR	France	RTE	0.163040	489	4'753
GR	Greece	IPTO	0.015897	48	463
HR	Croatia	HOPS	0.005053	15	147
HU	Hungary	MAVIR Zrt.	0.012669	38	369
IT	Italy	TERNA S.p.A	0.097478	293	2'842
KS	Kosovo	KOSTT	0.001030	3	30
ME	Montenegro	CGES	0.001107	3	32
MK	North Makedonia	MEPSO	0.002019	6	59
NL	The Netherlands	TenneT	0.038754	116	1'130
PL	Poland	PSE S.A	0.052989	159	1'545
PT	Portugal	REN	0.017081	51	498
RO	Romania	TRANSELECTRICA	0.018907	57	551
RS	Serbia	JP EMS	0.012034	36	351
SI	Slovenia	ELES	0.005064	15	148
SK	Slovak Republik	SEPS	0.009296	28	271
TK	Turkey	TEIAS	0.106642	320	3'109
UA	West Ukraine	NDC WPS Ukrenergo	0.002304	7	67
		Total	1.0	3'000	29'155

Table 4: K-factors of the different TSOs.

TSOs of the synchronous zone continental Europe may agree to appoint another TSO as frequency leader according to the following criteria:

(a) The amount of available active reserve power and especially the FRR;

(b) The capacity available on the interconnectors;

(c) The availability of frequency measurements of TSOs of the synchronized area or synchronous zone continental Europe, and

(d) The availability of frequency measurements on critical elements within the synchronized area or synchronous zone continental Europe.

The **TSO appointed** as **frequency leader shall** immediately **inform the other TSOs** of the synchronous zone of his appointment.

The appointed frequency leader shall act as such until:

(a) Another frequency leader for its synchronous zone has been appointed;

(b) A new frequency leader has been appointed as a result of a resynchronization of its synchronized area with another synchronized area, or

(c) The synchronous zone continental Europe is fully resynchronized, the system frequency is within the standard frequency range and the synchronous zone LFC managed by each TSO is back in its normal operating mode in accordance with Article 18(1) of the SOGL

9.4. Frequency management after frequency deviation

If no frequency leader was appointed:

- The first PGM that energizes an island (which can be a PGM in succeeded island operation or houseload operation or a black start unit) should always be in frequency control with the deadband switched off, to avoid large frequency difference when consumption is enabled:

- The frequency is set to 51 Hz;
- After each power increase, the frequency must be reset to 51Hz by the operators of the relevant unit;
- Constant care must be taken to ensure that the PGM has sufficient margin to accommodate a subsequent power increase. As a general "rule of thumb," it is recommended that no more than 70% of nominal active power production be exceeded during the initial phases of island restoration.

- Power from the first PGM will be utilized to feed high priority significant grid users, auxiliary services from other PGMs included. So after some time, additional generation units can be expected to connect to the grid and be able to inject power.
- Once multiple PGMs connect with the island, only 1 PGM per island will be allowed to control the frequency. Preference will be given to the PGM with the greatest inertia.
- The other PGMs place themselves in pure power control and have to follow the instructions of ELIA (from RCC for generation units connected <380kV, or from NCC for generation units connected to 380kV) regarding the active power set point.
- If the active power of the PGM in frequency control exceeds 70% of its nominal value, the other PGMs will be asked to increase their active power set point. As a result, the PGM in frequency control will automatically decrease in active power
- The **target frequency** will be reduced from 51 Hz to 50 Hz once the following conditions are met:
  - there is sufficient up and down active power reserve available on the PGM whose frequency is controlled so that the PGM can handle the expected injection of PV AND
  - resynchronization with another independent area is provided even if there is only one PGM in the affected island

  OR
  - 2 PGMs operate with P > 200 MVA.

If a **frequency leader** is appointed:

- ELIA will disable the LFC control zone frequency restoration controller;
- the frequency leader must manage the manual activation of FRR within the synchronous zone, striving to adjust the frequency of the synchronous zone to the nominal frequency and taking into account the operational safety limits established in accordance with Article 25 of the SOGL.
- Upon request, each TSO of the synchronous zone supports the frequency leader.

9.5. Frequency management after synchronous zone splitting

The frequency leader may activate reserves himself, or he may ask other TSOs within the island to activate measures. All measures to restore frequency must be coordinated by the frequency leader. In determining the measures, it must be taken into account that the inertia of the remaining island will be smaller than the inertia of the entire synchronous zone continental Europe, for which the reference value will be 100 mHz frequency variation for a variation of 3000 MW of active power.

The K-factor specified for each TSO on an annual basis (see Table 4) can be used to calculate the K-factor of each split-off synchronous region to estimate the required amount of reserve activation.

Specifically, a system split involves the following steps:

- Each synchronized area appoints a frequency leader;
- ELIA suspends manual activation of FRR;
- ELIA is contacting the Synchronous Area Monitor (Amprion odd months, Swissgrid even months), which will facilitate information sharing between TSOs such as mapping the number of asynchronous zones, the characteristics of each individual asynchronous zone, the possible options to resynchronize asynchronous zones and sharing any other relevant information.
- After consultation with the other TSOs of the synchronized area, the frequency leader determines the operating mode to be applied to the frequency restoration controller of the LFC control area used by ELIA;
- Frequency deviations are managed by the frequency leader according to the procedure described above;
- As soon as the frequency in the different synchronized areas is sufficiently stable, those areas should be resynchronized according to the resynchronization procedure;
- The frequency leader manages the manual activation of FRR in the synchronized area for the purpose of adjusting the frequency of the synchronized area to the target frequency set by the resynchronization leader, if any, in accordance with paragraph 10.2 and taking into account the operational safety limits established in accordance with Article 25 of the SOGL;
- If no resynchronization leader is appointed for the synchronized area, the frequency leader strives to adjust the frequency to the nominal frequency.
- Upon request, each TSO of the synchronized area supports the frequency leader.
- FCR remains activated. Depending on the frequency deviation, LFSM may be activated.

The following items are part of the new European system split procedure, and are subject to final approval among Europeans TSOs, after the submission date of this system restoration plan:

- To ensure that no settlement of imbalances and no activation of reserves in the "wrong" sense happens, **European balancing platforms** are switched off after a system split, regardless of where the split takes place. TransnetBW suspends PICASSO and IGCC. Amprion suspends MARI. TransnetBW/Amprion inform the responsible synchronous area monitor of the suspension of PICASSO, IGCC and MARI.
- The operation of the balancing platforms can be restarted if an asynchronous zone is stabilized and platform operation is deemed safe again. It is up to the frequency leaders of the individual asynchronous zones to decide whether to restart the balancing platforms for all unaffected TSOs.
- To restart the balancing platforms, the frequency leader informs TransnetBW to continue PICASSO/IGCC operation and Amprion to continue MARI operation for all unaffected TSOs in its asynchronous zone. TransnetBW/Amprion shall inform the responsible synchronous area monitor of the resumption of PICASSO, IGCC and MARI.
- If the **HVDC link** is between the split areas, the directly affected TSOs leave the power transfer at the same value until further notice from the frequency leader. HVDC systems automatically switch to Constant Power Control Mode after the detection of a system split.
- To determine the target frequencies of the asynchronous zones, the frequency leader may request to adjust the power flow of the HVDC link. The TSOs directly involved

take into account the load flow situation and report possible constraints to the frequency leader.

- After resynchronization of the entire Continental Europe area, the embedded HVDC system can be returned to normal mode.

9.6. Determining the maximum load that may be switched on

To determine the maximum load blocks to be connected, the following rules of thumb apply, provided sufficient energy reserves are available at the PGMs:

- total load in independent zone < 1000 MW: maximum acceptable load block: 5 MW;
- total load in independent zone > 1000 MW and zone is not interconnected with neighboring country: maximum acceptable load block: 10 MW;
- ELIA's control area is interconnected with the Netherlands or France and the total load in the synchronous area > 2000 MW: maximum acceptable load block: 20 MW;
- ELIA's control area is interconnected with the Netherlands or France and the total load in the synchronous area > 5000 MW: maximum acceptable load block: 50 MW;
- ELIA is interconnected with the entire synchronous zone Continental Europe: maximum acceptable load block: 100 MW.

To enable system stabilization, ELIA will allow sufficient time before authorizing the switching of successive load blocks.

10 Resynchronization procedure

10.1. Appointment of a resynchronization leader

During system restoration, if two synchronized areas can be resynchronized without jeopardizing the operational security of the transmission systems, the frequency leaders of those synchronized areas shall appoint a resynchronization leader during a system restoration, in consultation with at least the TSO(s) identified as potential resynchronization leaders. Each frequency leader shall immediately inform the TSOs of its synchronized area of the appointed resynchronization leader.

For each pair of synchronized areas to be resynchronized, the resynchronization leader is the TSO that:

- Has at least one substation in operation with an asynchronous coupler at the boundary between the two synchronized areas to be resynchronized;
- Has access to the frequency measurements of both synchronized areas;
- Has access to the voltage measurements of substations between which there are potential resynchronization points, and
- Can regulate the voltage of potential resynchronization points

If more than one TSO meets these criteria, the TSO with the largest number of potential resynchronization points between the two synchronized areas shall be appointed resynchronization leader, except if the frequency leaders of the two synchronized areas agree to appoint another TSO as resynchronization leader.

The appointed resynchronization leader shall act as such until:

- Another resynchronization leader for the two synchronized areas has been appointed, or
- The two synchronized areas are resynchronized and resynchronization is complete.

The substation selected by the synchronization leader:

- Must be equipped with a system that allows resynchronization of two asynchronous zones (asynchronous coupler - PSD or Parallel Switch Device)
- Preferably located at a sufficient distance from the PGMs

ELIA could use the following substations to resynchronize with (confidential):

10.2. Resynchronization strategy

During resynchronization, the resynchronization leader considers the following **maximum limits**:

- **150 mHz** for the frequency difference
- **15°** for the phase angle difference
- No limit is defined for the voltage differences because large voltage differences induce reactive currents that have almost no effect on the generator torque. Except for extreme voltage differences, voltage differences have only a limited impact on power flows through the transmission equipment.

Before resynchronization:

- Must be the resynchronization guide:

(a) In accordance with the maximum limits indicated above, determine the following parameters:

   a. The **target frequency value** for resynchronization;

b. The **maximum frequency difference** (150mHz) between the two synchronized areas;

c. The **maximum exchange of active and reactive power**, and

d. The **operating mode** to be applied to the controller for frequency restoration of the LFC control zone;

(b) **Select the resynchronization point**, taking into account the operational safety limits in the synchronized areas;

(c) Determine **all necessary operations** for resynchronization of the two synchronized areas at the resynchronization point, and prepare them;

(d) **Determine** and prepare a **subsequent set of operations** to create additional links between the synchronized areas, and

(e) Assess whether the synchronized areas are ready for resynchronization.

In performing these tasks, the resynchronization leader shall consult

- The frequency guides of the synchronized areas involved;
- TSOs managing substations used for resynchronization, as relevant.

- Each frequency leader shall immediately notify the TSOs of its synchronized area of the planned resynchronization.
- One of the two frequency guides must turn off its automatic frequency control mode

If all conditions are met, the resynchronization leader performs the resynchronization by performing the previously established operations.

Figure 6 provides a schematic overview of the resynchronization procedure.

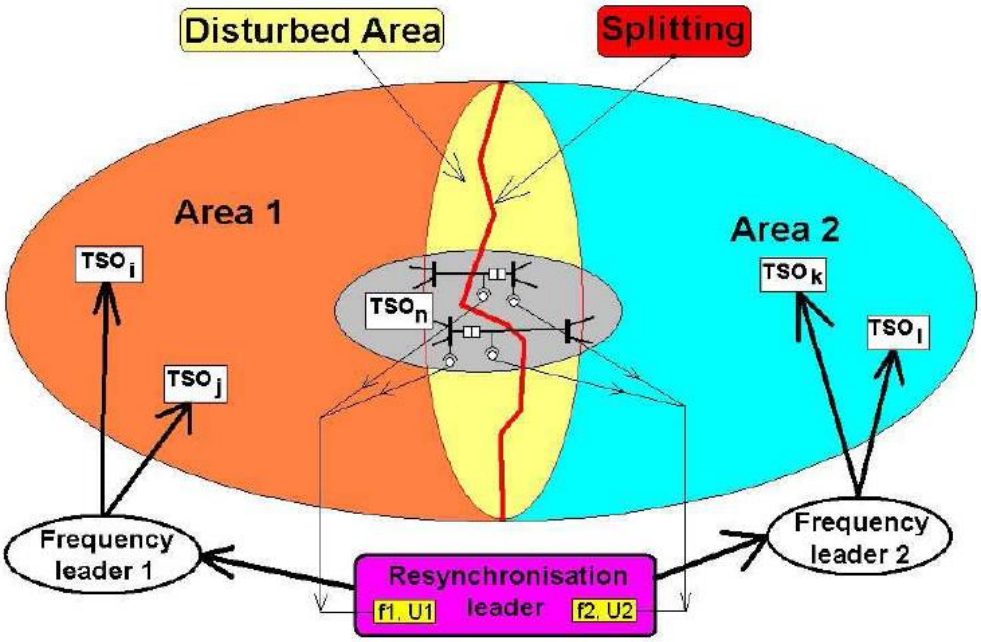

Figure 6: Resynchronization procedure

11 Information exchange in blackout and restoration states

The exchange of information during the blackout or restoration state of the transmission system is governed by Article 40 of the NC ER.

'Blackout ELIA' and 'Grid Restoration ELIA' notifications are sent by ELIA to the following grid users and stakeholders:

- Distribution system operators (DSOs).
- Restoration service providers (RSPs).
- Balancing Responsible Parties (BRPs).
- Nominated electricity market operators (NEMOs).
- Regulatory bodies
- Government agencies
- Balancing service providers (BSPs).
- Significant grid users (SGUs).
- Coreso (RC)
- Other entities involved

ELIA sends the signals simultaneously through the three following communication paths for which stakeholders can register in advance:

- From Scada to Scada
- Text message to a mobile number
- Email

By receiving the notification "Blackout ELIA" or "Grid Restoration ELIA", grid users are warned that they **must be ready to follow ELIA's instructions without delay**.

When the system state returns to the normal or alert state, ELIA will send a notification to indicate that the blackout or restoration state is no longer in effect.

Entities obtaining the signal via SCADA are asked to acknowledge receipt of both the ON and OFF signals by a human operator.

The sequence of system states with corresponding time is published on ELIA's website .

If the corresponding criteria are met, ELIA must notify other TSOs by updating the system state in the EntsoE Awareness System (EAS)

11.1. Notification "Blackout ELIA"

11.1.1. Blackout notification from ELIA to relevant stakeholders

The "blackout ELIA" notification aims to inform affected stakeholders that the system is in the blackout state (see section 5.4).

11.1.2. Blackout notification by ELIA to government agencies (Confidential)

11.2. Notification "Market Suspension ELIA"

In case ELIA decides to suspend market activities according to the "Rules for Suspension and Restoration of Market Activities" and the "Rules on Imbalance Settlement and Balancing Energy Settlement in the Event of Suspension of Market Activities," hereinafter referred to

as the "Market Rules," ELIA must apply the communication procedure set forth in those Market Rules, as specified in Article 38 of the NC ER.

The purpose of the ELIA Market Suspension Notice is to simultaneously send information to the following entities:

- Distribution system operators (DSOs).
- Restoration service providers (RSPs).
- Balancing Officers (BRPs).
- Appointed electricity market operators (NEMOs).
- Regulatory bodies
- Government agencies
- Balancing service providers (BSPs).
- Significant grid users (SGUs).
- Coreso (RC C)
- TSOs of the capacity calculation regions of which ELIA is a member:
    - CORE: 50 Hertz, Amprion, APG, Creos, CEPS, ELES, HOPS, Mavir, PSE, RTE, SEPS, Tennet Germany, Tennet NL, Transelectrica, Transnet BW
    - CHANNEL: National Grid, RTE, Tennet NL
- Fluxys Belgium (gas transmission system operator).
- Other entities involved

The notification "Market Suspension ELIA" is **manually** activated and includes the date and time the market activities were suspended in accordance with Article 35 of the NC ER.

During the restoration process, the above entities are regularly informed of:

- updates regarding the transmission system restoration process;
- the best estimate of time and date when the transmission system will be restored;
- the date and time the transmission system was restored to the normal or alert state.

ELIA will send the following information needed to prepare for the restoration of market operations in a timely manner:

- The date and time when ELIA plans to switch from TSO-controlled to market-controlled management of the system, on day D, hour U.
- The time on day D-1 for submitting programs, for all 24 hours of day D
- The time on day D-1 when the market coupling results will be published
- If necessary, other information.

All notifications will be published on ELIA's **website**. When notifications or updates through the website are not possible, ELIA will inform at least the parties directly involved in the suspended market activities by e-mail or other available means.

ELIA will investigate the most appropriate communication channels to inform stakeholders simultaneously. Examples include the website, scada-to-scada protocols, e-mail, SMS, rss, etc. Interested entities should pre-register with such information services. A detailed implementation is planned in the market rules to be approved by CREG.

11.3. Notification "Market Restoration ELIA"

The 'Market Restoration ELIA' notification is sent to the same entities and uses the same communication channels as the 'Market Suspension ELIA' notification (see paragraph 11.2).

The notification 'Market Restoration ELIA' is triggered **manually** and is aimed at the entities mentioned in paragraph 11.2 to be informed that market activities were restored. The date and time when market activities were restored are sent.

11.4. Notification "Grid Restoration ELIA"

The purpose of the 'Grid Restoration ELIA' notification is to inform grid users that the system is in the restore state in accordance with Articles 38(3) paragraph (d) and 40(2) of the NC ER.

If the restoration condition was caused by a **system split**, ELIA:

- Inform neighboring TSOs at least:
    - The extent and boundaries of the synchronized zone(s) to which its control zone belongs;
    - The restrictions on operating the synchronized zone;
    - The maximum duration for and amount of active and reactive power that can be delivered through interconnectors; and
    - any other technical or organizational constraints;
- Notify the frequency leader of its synchronized zone at least:
    - The constraints to maintaining island business;
    - The additional load and generation available; and
    - the availability of operating reserves.

12 Communication during grid restoration

Once ELIA has established the blackout condition, ELIA will send the notification "Blackout ELIA ON" to stakeholders via SCADA, SMS and e-mail.

As soon as the first busbar is re-energized, through a bottom-up or top-down strategy, ELIA will send notifications "Blackout ELIA OFF" and "Grid Restoration ELIA ON" to stakeholders via SCADA, SMS and e-mail.

Grid status notifications will also be displayed on ELIA's website: Grid status notifications (ELIA.be)

As the restoration phase continues, ELIA will communicate further information about the system restoration via the X- account @ELIAcorporate

In order to gather all necessary information from all parties involved during the blackout and restoration states, ELIA relies on various communication means to keep in touch with the actors involved via:

- The public communication networks
- The data communication links that run in parallel with the electrical high-voltage grid and that ELIA itself manages
- The public satellite phone network Iridium, also used by a number of network users.
- A private satellite network (under construction from 2023) for communication between various ELIA sites.

ELIA disclaims all responsibility for the operation of communication channels provided by external parties when the system is in emergency, blackout or restoration state.

Especially during the voltage restoration procedure, it is crucial for the safety of people and equipment and for the stability of the system that ELIA can communicate with the DSOs and SGUs before voltage is restored to a substation and that ELIA can give instructions on the maximum load that may be taken from the grid or the maximum injection of (distributed) energy resources that can be accepted, etc.

All DSO, all providers of black-start services and a number of SGUs, can be contacted by ELIA via the internal data communication network that ELIA manages itself, so that restoration plan information can be exchanged for at least 24 hours. The entities mentioned above have a Voice over IP (VoIP) telephone in their control room that is connected to the data communication network that ELIA manages. During grid restoration, they can recognize the incoming call from ELIA and immediately answer it, by an operator with the appropriate skills and level of "responsibility" to implement the necessary instructions from ELIA.

ELIA and the designated SGUs that are not yet connected to ELIA's internal data communication network will jointly ensure that such a connection can be established as soon as possible.

The data communication system that ELIA manages itself will achieve an autonomy of at least 24 hours as soon as all substations that perform an important function in maintaining this data communication system are equipped with an emergency generator or a battery with sufficient autonomy.

13 Definitions and abbreviations

The definitions of the NC ER, the NC SOGL, the NC DCC, the NC RfG and the NC HVDC apply to the restoration plan without being explicitly **restated** in this paragraph

ACE: Area Control Error (zonal control error): as defined in Article 3(2)(19) of the NC SOGL

Active power: as defined in Article 2(20) of the NC RFG

DG Energy: the General Directorate of Energy of the Federal Public Service Economy

aFRR: Automatic FRR, FRR that can be activated by an automated control system

AGC = Automatic Generation Controller: controller for frequency restoration of the LFC zone.

AGSOM = Agreement on Grid and System Operation Management: bilateral agreement between neighboring TSOs, drafted in accordance with SAFA, which contains the basis for a high degree of mutual understanding in order to perform all necessary grid operation tasks and maintain the operational security of the power system. This agreement includes, among other things, the agreements on the procedures to be applied in the emergency situation.

ALEGrO = Aachen Liege Electrical Grid Overlay: name of the HVDC interconnection between Belgium and Germany. It is jointly operated by the transmission system operators ELIA and Amprion.

Amprion: one of the four transmission system operators in Germany.

Black Start: the ability of a generation unit to re-energize an inactive main rail in the grid and have active power supplied without taking energy from the grid, for the purpose of restarting the power system after a meltdown.

Reactif power: synonym for reactive power. The value expressed in Var, equal to 3 U I sine(phi) where U and I are the effective values of the fundamental components of voltage and current and where phi represents the phase difference between the fundamental components of voltage and current.

Bottom-up restoration strategy: strategy in which part of a TSO's system can be reactivated without assistance from other TSOs;

BRP: Balancing Responsible Party: a balancing responsible party.

BSP: Balancing Service Provider: a provider of a balancing service .

CCP (Centre de Crise Principal): the general crisis cell of **ELIA**

CDS: Closed Distribution System

CDSO: Closed Distribution System Operator.

CEP : Clean Energy Package : a package of European directives and regulations

Clearing: automatic or manual interruption of all rooms in a high-voltage substation.

LFC zone frequency restoration controller: a process implemented in ELIA's EMS that processes FRCE measurements every 4 seconds and provides automated instructions to aFRR providers connected via telecommunications connections.

CREG: Commission for the Regulation of Electricity and Gas.

TSO controlled Dispatching: a way of managing the transmission grid, for example, during a period when certain market segments are interrupted and in which grid users

connected to the TSO implement set points and execute instructions provided by the TSO without delay. In this operating mode, the agreements made between ELIA and the DSOs regarding the restoration of the distribution systems remain valid and the DSOs continue to be responsible for the management of the distribution networks.

DSO: distribution system operator. Whenever a DSO is referred to in this document, the operator of a public distribution system is meant. To avoid misunderstanding, transmission or distribution interconnected closed distribution systems should not be interpreted in this document as a subcategory of a DSO.

DSP = Defense Service Provider: legal entity with a legal or contractual obligation to provide a service that contributes to one or more measures of the System Protection Plan

DWDM: Dense Wavelength Division Multiplexing: a data communication technology.

EAS: Entso-E Awareness System: an application used by all TSOs in Entso-E to inform each other of their system state and other information related to TSOs.

Electricity crisis: as referred to in Article 2.9 of Regulation 2019/941: an existing or imminent situation in which there is a significant shortage of electricity, as identified by Member States and described in their risk preparedness plans, or in which it is not possible to supply customers with electricity.

Electricity system: all equipment including all interconnected grids, all connection facilities and all facilities of grid users connected to these grids.

Houseload operation: PGM status where the PGM is disconnected from the transmission system when a blackout occurs and can remain operational by feeding its own auxiliary load.

Island operation: as defined in Article 2(43) of the NC RFG

Electricity system: all equipment including all interconnected grids, all connection facilities and all facilities of grid users connected to these grids.

EMS: Energy Management System: the control system used for real-time grid monitoring, remote control and safety analysis.

FCR = Frequency Containment Reserves: as defined in Article 3(2)(6) of the NC **SOGL**

FRCE = Frequency Restoration Control Error: as defined in NC SOGL Article 3(2)(43).

Frequency relay: Relay that issues a command when frequency is too low (e.g., relief).

FRR = Frequency Restoration Reserves: as defined in Article 3(2)(7) of the NC SOGL

FTR = Federal Technical Regulation: royal decree of April 22, 2019 containing technical regulations for the management of the electricity transmission grid.

Code of Conduct: The Code of Conduct, adopted by CREG by decision (B) 2409 of October 20, 2022, and as amended from time to time, establishing the conditions for connection and access to the transmission system and the methods for calculating or determining the conditions for the provision of ancillary services and access to cross-border infrastructure, including the procedures for capacity allocation and congestion management;

Synchronized area: The part of a synchronous zone managed by interconnected TSOs with a common system frequency that is not synchronized with the rest of the synchronous zone.

Regional regulations:

Flemish Region:

- Technical Regulations for the Distribution of Electricity in the Flemish Region of March 24, 2023.
- Technical Regulations Local Transmission Network of Electricity Flemish Region of May 29, 2020.

Walloon Region:

- Decree of the Walloon Government approving the technical regulation for the management of electricity distribution networks in the Walloon Region and access thereto dated May 27, 2021.
- Decree of the Walloon Government on the revision of the technical regulation for the management of the local electricity transmission network in the Walloon Region and access to it of January 26, 2012

Brussels Capital Region:

- Order of the Brussels Capital Government establishing the technical regulations for the management of the electricity distribution network in the Brussels Capital Region and access to it of May 23, 2014.
- Order of the Government of the Brussels-Capital Region approving the technical regulation for the management of the regional electricity transmission grid of July 13, 2006.

Restoration plan: as defined in Article 3(9) of the NCER

Resynchronization: as defined in Article 3(9) of the NCER: The synchronization and reconnection of two synchronized areas at the resynchronization point;

Resynchronization leader: as defined in Article 3(12) of the NCER: The TSO designated and responsible for the resynchronization of two synchronized areas;

Resynchronization point: as defined in Article 3(13) of the NCER

HPSGU: High priority significant grid user: significant grid user subject to special conditions regarding disconnection and voltage restoration;

HVDC = High Voltage Direct Current: as defined in Article 2(1) of the NC HVDC

IGCC = International Grid Control Cooperation: European platform for netting imbalances between different TSOs

RD = royal decree.

LFC zone: Load Frequency Control zone, as defined in Article 3(2)(12) of the NC SOGL. For Belgium, this is ELIA's control zone.

LFDD: Low Frequency Demand Disconnection, also called automatic disconnection at low frequency.

LFSM-O =Limited Frequency Sensitive Mode - Overfrequency: as defined in Article 2(37) of the NC RFG

LFSM-U =Limited Frequency Sensitive Mode - Underfrequency: as defined in Article 2(38) of the NC RFG.

MARI: European balancing platform for the coordination of mFRR

Market Engineer: operator at ELIA's national control center, responsible for activating balancing energy and monitoring balancing reserves.

mFRR: Manual Frequency Restoration Reserves.

Minister of Economy: the federal minister or secretary of state who has economics under his jurisdiction.

Minister of Energy: the federal minister or secretary of state who has energy under his jurisdiction.

MOG = Modular Offshore Grid: as defined in article 2, 7ter of the Law of April 29, 1999 on the organization of the electricity market.

MV substation: medium voltage substation. A substation with a rated voltage lower than 30 kV.

NCC: National Control Center of ELIA.

NCCN = **National Crisis Center / Centre de Crise National:** the national crisis center of home affairs.

NC DCC: Demand Connection Network Code. European Commission Regulation (EU) 2016/1388 of 17 August 2016 establishing a network code for consumer connection.

NC ER: Network Code Emergency and Restoration. European Commission Regulation (EU) 2017/2196 of 24 November 2017 establishing a Network Code for Emergency and Restoration of the Electricity Grid.

NC HVDC: High Voltage Direct Current Network Code. European Commission Regulation (EU) 2016/1447 of 26 August 2016 establishing a grid code on requirements for grid connection of high-voltage direct current systems and DC-connected power park modules.

NC RfG : Requirements For Generators Network Code: European Commission Regulation (EU) 2016/631 of 14 April 2016 establishing a grid code with requirements for the connection of generators to the grid.

NEMO: As defined in Article 2 (23) of Commission Regulation (EU)2015/1222 of 24 July 2015 establishing guidelines on capacity allocation and congestion management

NRA: National Regulatory Authority. In Belgium, CREG assumes the role of NRA.

PAS: Power Application Software. This is a component of the EMS used for near real-time safety analysis.

PGM = Power Generating Module: as defined in Article 2(5) of the NC RfG

PICASSO : European balancing platform for the coordination of aFRR

PPM = Power Park Module: as defined in Article 2(17) of the NC RFG

PSD: Parallel Switch Device: allows resynchronization of two asynchronous regions.

PST: Phase Shifting Transformer.

RSC = Regional Security Coordinator (European regional coordination center).

RCC: Regional Control Centre (Belgian regional control center).

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Control zone: the zone within which the system operator continuously regulates the balance between consumption and supply of electricity, taking into account the exchanges of active power between control zones.

Risk preparedness plan: plan referred to in article 6§4 of the FTR and established in annex of the Ministerial Decree Risk Preparedness Plan.

Risk Preparedness Regulation: REGULATION (EU) 2019/941 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of June 5, 2019 on risk preparedness in the electricity sector and repealing Directive 2005/89/EC

RSP = Restoration Service Provider: providers of restoration services, as defined in Article 3(1) of the NCER

RTE: transmission system operator in France.

RTU = Remote Terminal Unit: control unit that bundles and sends signals in a substation between the substation and the control center.

SAFA = Synchronous Area Framework Agreement for the Regional Group Continental Europe. This agreement entered into force on April 14, 2019, after approval by the national regulators in accordance with Article 6(3)(d) of the SOGL.

SCADA: Supervisory Control And Data Acquisition. This is a component of EMS.

Significant shortage: a blackout for more than 100,000 connections or for more than 100 MW of power, as defined in Article 2(1) of the Ministerial Risk Preparedness Plan Decree.

SGU: Significant grid user.

SOGL: System Operations Guideline. European Commission Regulation (EU) 2017/1485 of August 2, 2017 establishing guidelines on electricity transmission system operation.

Voltage restoration: reactivation of production and load to **activate** the shutdown parts of the system.

SVC = Static VAR Compensator: a device to **compensate** reactive power

TenneT NL: transmission system operator in the Netherlands.

Top-down restoration strategy: strategy that requires the assistance of other TSOs to reactivate parts of another TSO's system.

Total load: the total load for the low frequency automatic decoupling consumption plan is defined using the following calculation method**:**

TOTAL LOAD **=** Σ GROSS POWER + IMPORTS - EXPORTS - ENERGY STORAGE OPERATING as load + ENERGY STORAGE OPERATING as generator - houseload

All values in the formula are used as positive values.

Transmission network: the ELIA network, including the regional/local transmission networks as defined in the Regional regulations, unless expressly stated otherwise.

TSO = transmission system operator: as defined at article 2, 8 of the Law of April 29, 1999 on the organization of the electricity market.

14 List of substations essential to the procedures of the restoration plan (Confidential)

15 List of measures and implementation deadlines

15.1. List of measures and implementation deadlines, to be implemented by the TSO in its facilities

#	Measure	Deadline for implementation	Status on 06/10/2023
1	Install emergency generators or batteries in substations essential to the restoration procedure	31/12/2022	Partially implemented. This process will continue to be implemented through 2028
2	Apply the notifications "Blackout ELIA," "Market Suspension ELIA" and "Market Restoration ELIA" and "Nether Restoration ELIA"	date approval minister + 1 year	The notifications "Blackout ELIA" and "Grid Restoration ELIA" have been implemented. The notifications "Market Suspension ELIA" and "Market Restoration ELIA" are implemented after approval of the corresponding rules by the CREG.
3	Upgrade the arrangements related to the former "reconstruction code/code de reconstruction" in the EMS in accordance with the new restoration plan	date approval minister + 1 year	Fully implemented
4	Implementation of authorization signals to Type B generation units and asynchronous energy storage facilities with an installed capacity greater than or equal to 1 MW and less than 25 MW and the instruction signals to the DSBs in the EMS in accordance with Version 2 of the Recovery Plan.	date approval minister + 5 year	Still to be implemented

15.2. List of measures and implementation deadlines, by implementing SGUs in their facilities

#	Measure	Deadline for implementation	Status on 06/06/2023
1	Implement communication tools that can remain operational during a blackout, as described in Section 12 of the Restoration plan.	18/12/2022	Partially implemented. This process is continuously further implemented in consultation between ELIA and relevant grid users
2	Implement measures to ensure the proper receipt of the various notifications sent by ELIA. The notifications are described in Section 11 of the Restoration plan.	date approval minister + 1 year	Fully implemented

3	Implementation of means that allow for receiving and correctly interpreting ELIA's authorization signals.	date approval minister + 5 year	Still to be implemented

15.3. List of measures and implementation deadlines, to be implemented by DSOs in their facilities

#	Applicable to	Measure	Application term	Status on 06/10/2023
1	All DSOs	Implement measures to ensure the proper receipt of the various notifications sent by ELIA. The notifications are described in Section 11 of the Restoration plan. ELIA will define the concrete practical modalities in consultation with stakeholders in the coming months.	date approval minister + 1 year	Fully implemented
2	All DSO's	Implementation of authorization signals to Type B generation units and asynchronous energy storage facilities with an installed capacity greater than or equal to 1 MW and less than 25 MW in distribution networks, as far as technically possible.	date approval minister + 5 year	Still to be implemented
3	All DSO's	Implementation of means that allow ELIA's authorization signals to be received and correctly interpreted.	date approval minister + 5 year	Still to be implemented

16 List of related documents

This section lists related documents referenced in this restoration plan. Some related documents are available only internally ELIA. ELIA does not seek approval from the Minister of Energy on these related documents. These documents are available for inspection at ELIA upon request by the appropriate governmental authorities.

16.1. Documents available only internally (Confidential)

16.2. Documents available externally

Current balancing rules: https://www.ELIA.be/en/electricity-market-and-system/system-services/keeping-the-balance

Appendix 1: List with designated SGUs according to NC ER Article 23(4)(c)

The SGUs in the table below refer to the individual assets and the corresponding entity that can be contacted by ELIA. Each SGU has a unique identification number consisting of:

- The EAN number of the PGM (this is not the EAN number of the access point indicated on the ELIA website)
- The number of the interface agreement of an HVDC installation.
- The number of the connection contract in the case of a consumer plant.

Each site connected to the grid managed by ELIA, which in some cases also contains one or more PGMs, is included in the list of SGUs below as a "demand facility" and has as its unique reference number the number of the connection contract (not the number of the access point, indicated on the ELIA website, because the same site may have multiple access points). Sites with only generation units are also listed in this category because the ancillary services can operate as consumption units if the generation units are not injecting.

All SGUs in this list belong to the ELIA control zone, which is part of the regional control zone continental Europe.

To keep an overview, the SNGs are grouped by category shown in the list below.

In the context of this recovery plan, ELIA provides for the possibility of giving instructions by telephone to the units listed in categories 1 through 4 below. In addition, ELIA provides for the possibility of sending a digital authorization signal to the units listed below in categories 5 and 6. It is not foreseen to give telephone instructions to these units.

1) Transmission-connected generation units (including CDS) with an installed capacity of 25 MW or more:

SNG Unieke benaming	Uniek referentienummer	Categorie	CDS	Identification date	Te contacteren entiteit door ELIA	Adres van de te contacteren entiteit door ELIA
Aalst Syral GT	541453186071413751	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Tereos Starch & Sweeteners Belgium _ Aalst	Burchtstraat 10 9300 Aalst
AMB Gent WT Storm	541453176017865768	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	ArcelorMittal Belgium _ Gent	John Kennedylaan 51 9000 Gent
Amercoeur 1 R GT	541453152837115528	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Electrabel _ Amercoeur	Rue Chauw à Roc 6 6044 Roux
Amercoeur 1 R ST	541453128600716599	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Electrabel _ Amercoeur	Rue Chauw à Roc 6 6044 Roux
ANGLEUR TG 41	541453105149024729	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Luminus _ Angleur	Rue Defêchereux 43 4031 Angleur
ANGLEUR TG 42	541453147978770736	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Luminus _ Angleur	Rue Defêchereux 43 4031 Angleur

ANGLEUR TG31	541453127036684755	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Luminus _ Angleur	Rue Defêchereux 43 4031 Angleur
ANGLEUR TG32	541453137445795539	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Luminus _ Angleur	Rue Defêchereux 43 4031 Angleur
ANGLEUR TGV3	541453114676761625	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Luminus _ Angleur	Rue Defêchereux 43 4031 Angleur
Arlanxeo Zwijndrecht	541453107048964502	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	ARLANXEO Belgium _ Zwijndrecht	Canadastraat 21 2070 Zwijndrecht
Aspiravi Wuustwezel	541453112201488016	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Aspiravi _ Brecht	Bethovenstraat 66 2960 Brecht
BEERSE TJ	541453110860830542	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Electrabel _ Beerse	Brusselenstraat 6 2340 Beerse
Belwind Phase 1	541453113723391297	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Belwind _ Zeebrugge (Offshore)	Bligh Bank 1 8380 Zeebrugge
Beveren Sleco	541453132244509455	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Indaver _ Doel	Molenweg 1 9130 Doel
BP Chembel Geel PTA3	541453152871643162	bestaande PGM met PMax ≥ 25 MW	yes	26/09/2023	INEOS Aromatics Belgium _ Geel	Amocolaan 2 2440 Geel
Burgo Ardennes Virton Turbine 4	541453141474868188	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Burgo Ardennes _ Virton	Rue de la Papeterie 1 6760 Virton
Burgo Ardennes Virton Turbine 5	541453160814317544	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Burgo Ardennes _ Virton	Rue de la Papeterie 1 6760 Virton
COO 1 T	541453188083940744	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Electrabel _ Coo	Route du Lac 1 4983 Trois-Ponts
COO 2 T	541453177100676292	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Electrabel _ Coo	Route du Lac 1 4983 Trois-Ponts
COO 3 T	541453146119338279	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Electrabel _ Coo	Route du Lac 1 4983 Trois-Ponts
COO 4 T	541453178285831216	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Electrabel _ Coo	Route du Lac 1 4983 Trois-Ponts
COO 5 T	541453114882045984	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Electrabel _ Coo	Route du Lac 1 4983 Trois-Ponts
COO 6 T	541453199818962818	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Electrabel _ Coo	Route du Lac 1 4983 Trois-Ponts
DOEL 1	541453164246726035	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Electrabel _ Doel	Haven 1800, Scheldemolenstraat 9130 Doel
DOEL 2	541453141114133591	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Electrabel _ Doel	Haven 1800, Scheldemolenstraat 9130 Doel
DOEL 4	541453181034094091	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Electrabel _ Doel	Haven 1800, Scheldemolenstraat 9130 Doel
DROGENBOS GT1	541453155745315554	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Electrabel _ Drogenbos	De Bruyckerweg 1 1620 Drogenbos
DROGENBOS GT2	541453194308489561	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Electrabel _ Drogenbos	De Bruyckerweg 1 1620 Drogenbos
DROGENBOS ST	541453146122324467	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Electrabel _ Drogenbos	De Bruyckerweg 1 1620 Drogenbos
EDF Luminus Ham GT	541453149186128378	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Luminus _ Gent	Ham 68 9000 Gent
EDF Luminus Seraing GT1	541453162200760842	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Luminus _ Seraing	Rue du Pont du Val 1 4100 Seraing

EDF Luminus Seraing GT2	541453155725234745	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Luminus _ Seraing	Rue du Pont du Val 1 4100 Seraing
Froidchapelle Wind	541453138974720238	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Green Wind _ Froidchapelle	Chaussée de Beaumont (Lieu dit 'Fonds Martin') 6500 Beaumont
HAM31	541453179993838078	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Luminus _ Gent	Ham 68 9000 Gent
HAM32	541453153623163709	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Luminus _ Gent	Ham 68 9000 Gent
HERDERSBRUG GT1	541453112497967486	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Electrabel _ Herdersbrug	Pathoekeweg 300 8000 Brugge
HERDERSBRUG GT2	541453144916927818	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Electrabel _ Herdersbrug	Pathoekeweg 300 8000 Brugge
HERDERSBRUG ST	541453101361829043	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Electrabel _ Herdersbrug	Pathoekeweg 300 8000 Brugge
ICO Windpark Zeebrugge	541453116524400267	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	ICO Windpark _ Zeebrugge	Margareta Van Oostenrijkstraat 8380 Zeebrugge
Incinerateur THUMAIDE (IPALLE)	541453150620096924	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Ipalle _ Thumaide	Hameau de Ribonfosse 9 7971 Thumaide
INESCO GT1	541453166811770207	bestaande PGM met PMax ≥ 25 MW	yes	26/09/2023	INEOS Oxide Utilities _ Zwijndrecht	Nieuwe Weg 1 2070 Zwijndrecht
INESCO GT2	541453131341189140	bestaande PGM met PMax ≥ 25 MW	yes	26/09/2023	INEOS Oxide Utilities _ Zwijndrecht	Nieuwe Weg 1 2070 Zwijndrecht
INESCO ST	541453144504946474	bestaande PGM met PMax ≥ 25 MW	yes	26/09/2023	INEOS Oxide Utilities _ Zwijndrecht	Nieuwe Weg 1 2070 Zwijndrecht
Infrabel Avernas Greensky Wind	541453170012420052	bestaande PGM met PMax ≥ 25 MW	yes	26/09/2023	Infrabel _ Avernas	Lieu dit ""Aux Zabrées"" 4280 Abolens
Intradel Herstal	541453128860998155	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	INTRADEL _ Herstal	Pré Wigy 4040 Herstal
Jemeppe-sur-Sambre GT1	541453134754645821	bestaande PGM met PMax ≥ 25 MW	yes	26/09/2023	INOVYN Manufacturing Belgium _ Jemeppe	Rue Solvay 39 5190 Jemeppe-sur-Sambre
Jemeppe-sur-Sambre GT2	541453186572796100	bestaande PGM met PMax ≥ 25 MW	yes	26/09/2023	INOVYN Manufacturing Belgium _ Jemeppe	Rue Solvay 39 5190 Jemeppe-sur-Sambre
Kristal _ Solar _ Park	541453118670087231	bestaande PGM met PMax ≥ 25 MW	yes	26/09/2023	NYRSTAR Belgium _ Balen	Zinkstraat 1 2490 Balen
Lanaken Sappi	541453170948833223	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Sappi Lanaken _ Lanaken	Montaigneweg 2 3620 Lanaken
LANGERBRUGGE STORA	541453151336306338	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Stora Enso Langerbrugge _ Gent	Wondelgemkaai 200 9000 Gent
LANGERBRUGGE STORA ST 2	541453109080445766	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Stora Enso Langerbrugge _ Gent	Wondelgemkaai 200 9000 Gent
Lillo Degussa GT1	541453183539849510	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Evonik Antwerpen _ Antwerpen	Frans Tijsmanstunnel West 2040 Antwerpen
Lillo Degussa GT2	541453185186189414	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Evonik Antwerpen _ Antwerpen	Frans Tijsmanstunnel West 2040 Antwerpen
Luminus Villers-le-Bouillet WIND	541453130625684630	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Eolus _ Villers-le-Bouillet	Rue de Waremme 123 4530 Villers-le-Bouillet
Marcinelle Energie (Carsid)	541453107850545647	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	TotalEnergies - Centrale Electrique March-au-Pont _ Marchienne-au-Pont	Rue de la Providence 150 6030 Marchienne-au-Pont
Mermaid Offshore WP	541453152846416159	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	SeaMade _ Zeebrugge (Offshore)	Ten NW van de Lodewijk Bank en ten ZO van de Bligh Bank 9999 Offshore

Nobelwind Offshore Windpark	541453164675671838	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Nobelwind _ Zeebrugge (Offshore)	Bligh Bank 2 8380 Zeebrugge
Norther Offshore WP	541453131548107275	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Norther _ Zeebrugge (Offshore)	Nabij de Bank zonder Naam en ten ZO van de Thorntonbank 8380 Zeebrugge
Northwester 2	541453164871870851	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Northwester 2 _ Zeebrugge (Offshore)	Ten NW van de Bligh Bank 9999 Offshore
Northwind	541453157197213174	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Northwind _ Zeebrugge (Offshore)	Lodewijkbank 8380 Zeebrugge
Oorderen Bayer	541453127862811080	bestaande PGM met PMax ≥ 25 MW	yes	26/09/2023	LANXESS Performance Materials _ Lillo	Scheldelaan 420 2040 Lillo
Oud-Lillo Monsanto	541453158737754829	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Bayer Agriculture _ Antwerpen	Scheldelaan 16 2018 Antwerpen
PLATE-TAILLE 1 T	541453181586009260	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Sofico _ Plate-Taille	Rue d'Oupia 5 6440 Boussu-lez-Walcourt
PLATE-TAILLE 2 T	541453138010162114	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Sofico _ Plate-Taille	Rue d'Oupia 5 6440 Boussu-lez-Walcourt
PLATE-TAILLE 3 T	541453156580406421	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Sofico _ Plate-Taille	Rue d'Oupia 5 6440 Boussu-lez-Walcourt
PLATE-TAILLE 4 T	541453165774983167	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Sofico _ Plate-Taille	Rue d'Oupia 5 6440 Boussu-lez-Walcourt
PLATE-TAILLE T	541453182399547109	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Sofico _ Plate-Taille	Rue d'Oupia 5 6440 Boussu-lez-Walcourt
Rentel Offshore WP	541453123210565544	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Rentel _ Zeebrugge (Offshore)	Ten NW van de Thorntonbank en ten ZO van de Lodewijkbank 9999 Offshore
RINGVAART STEG	541453165925532572	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Luminus _ Ringvaart	Wondelgemsekaai 9000 Gent
RODENHUIZE 4	541453198563265809	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Electrabel _ Rodenhuize	Rodenhuizekaai 3 9042 Desteldonk
SAINT-GHISLAIN STEG	541453123455840345	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Electrabel _ Saint-Ghislain	Rue d'Hautrage 89 7331 Baudour
Schaerbeek Siomab	541453151734393831	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Electrabel _ Siomab	Léon Monnoyerkaai 8 1120 Brussel
Scheldelaan Exxonmobil	541453177309381966	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	ExxonMobil Petroleum & Chemical _ Antwerpen	Polderdijkweg 2030 Antwerpen
Seastar Offshore WP	541453121368376005	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	SeaMade _ Zeebrugge (Offshore)	Ten NW van de Lodewijk Bank en ten ZO van de Bligh Bank 9999 Offshore
SERAING TV	541453142655169964	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Luminus _ Seraing	Rue du Pont du Val 1 4100 Seraing
Syral Aalst	541453165087956193	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Tereos Starch & Sweeteners Belgium _ Aalst	Burchtstraat 10 9300 Aalst
Thorntonbank - C-Power - Area NE	541453120478004211	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	C - Power _ Bredene	Thorntonbank 8450 Bredene
Thorntonbank - C-Power - Area SW	541453150484210252	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	C - Power _ Bredene	Thorntonbank 8450 Bredene
TIHANGE 1N	541453142219460018	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Electrabel _ Tihange	Avenue de l'Industrie 1 4500 Tihange
TIHANGE 1S	541453135949593781	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Electrabel _ Tihange	Avenue de l'Industrie 1 4500 Tihange
TIHANGE 3	541453189635938400	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Electrabel _ Tihange	Avenue de l'Industrie 1 4500 Tihange

T-power Beringen	541453182359129192	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Vynova Belgium _ Tessenderlo	Stationsstraat 94 3980 Tessenderlo
VILVOORDE GT	541453152499264473	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Electrabel _ Vilvoorde	JF Willemsstraat 200 1800 Vilvoorde
VILVOORDE ST	541453172454845905	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Electrabel _ Vilvoorde	JF Willemsstraat 200 1800 Vilvoorde
Wilmarsdonk Total GT1	541453180835902697	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	TotalEnergies Refinery Antwerp _ Refinery Antwerp	Scheldelaan 16 2018 Antwerpen
Wilmarsdonk Total GT2	541453106660324336	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	TotalEnergies Refinery Antwerp _ Refinery Antwerp	Scheldelaan 16 2018 Antwerpen
Wilmarsdonk Total GT3	541453120611619944	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	TotalEnergies Refinery Antwerp _ Refinery Antwerp	Scheldelaan 16 2018 Antwerpen
Windvision Estinnes WIND	541453124835270646	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	CGNEE Belgium Wind Energy Company _ Estinnes	Route de Mons (en façe du n° 763) 7120 Estinnes
Zandvliet Power	541453101893252135	bestaande PGM met PMax ≥ 25 MW	yes	26/09/2023	BASF Antwerpen _ Antwerpen	Scheldelaan 600 2018 Antwerpen
Zeebrugge 2 Fluxys	541453185370707516	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	Fluxys LNG _ Terminal Zeebrugge	Henri-Victor Wolvensstraat 3 8380 Zeebrugge
Zelzate 2 Knippegroen	541453170030939574	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	ArcelorMittal Belgium _ Gent	John Kennedylaan 51 9000 Gent
Zwijndrecht Lanxess GT	541453172994196413	bestaande PGM met PMax ≥ 25 MW	no	26/09/2023	ARLANXEO Belgium _ Zwijndrecht	Canadastraat 21 2070 Zwijndrecht

2) Transmission-connected asynchronous storage facilities (including CDS) with an installed capacity of 25 MW or more:

SNG Unieke benaming	Uniek referentienummer	Categorie	CDS	Identification date	Te contacteren entiteit door ELIA	Adres van de te contacteren entiteit door ELIA
Deux-Acren Energy Storage	541453180315437688	bestaande SPM met Pmax ≥ 25 MW	no	26/09/2023	Corsica Sole Deux Acren _ DEUX ACREN	Chemin de Mons 7864 Deux-Acren
Ruien Energy Storage	541453115540070232	bestaande SPM met Pmax ≥ 25 MW	no	26/09/2023	Ruien Energy Storage _ Ruien	Stroomlaan 25 9690 Kluisbergen

3) Transmission-connected HVDC plants (including CDS):

SNG Unieke benaming	Uniek referentienummer	Categorie	CDS	Identification date	Te contacteren entiteit door ELIA	Adres van de te contacteren entiteit door ELIA
Alegro HVDC	Alegro HVDC	HVDC	no	26/09/2023	Alegro	Rue des Taillis 4 4600 Lixhe
Nemo Link HVDC	Nemo Link HVDC	HVDC	no	26/09/2023	Nemo Link	Pathoekeweg 300 8000 Brugge Belgium

4) Consumer installations connected to the transmission grid (including CDS) :

SNG Unieke benaming	Uniek referentienummer	Categorie	CDS	Identification date	Te contacteren entiteit door ELIA	Adres van de te contacteren entiteit door ELIA
3B-Fibreglass _ Battice	C-255-001	demand facility	no	26/09/2023	3B-Fibreglass	Route de Maestricht 67 4651 Battice Belgium
3M Belgium _ Zwijndrecht	C-120-001	demand facility	no	26/09/2023	3M Belgium	Haven 1005 Canadastraat 11 2070 Zwijndrecht Belgium
ACP Les Glaceries _ Sambreville	C-473-001	demand facility	yes	26/09/2023	ACP Les Glaceries	Rue des Glaces Nationales 169 5060 Sambreville Belgium

AGC Automotive Belgium _ Fleurus	C-237-001	demand facility	yes	26/09/2023	AGC Automotive Belgium	Zoning Industriel Avenue du Marquis 10 6220 Fleurus Belgium
AGC Glass Europe _ Moustier	C-232-001	demand facility	no	26/09/2023	AGC Glass Europe	Rue de la Glacerie 167 5190 Moustier-sur-Sambre Belgium
Agfa-Gevaert _ Mortsel	C-121-001	demand facility	no	26/09/2023	Agfa-Gevaert	Septestraat 27 2640 Mortsel Belgium
Air Liquide Industries Belgium _ Baudour	C-122-001	demand facility	no	26/09/2023	Air Liquide Industries Belgium	Zoning Industriel Route de Wallonie 1 7011 Ghlin Belgium
Air Liquide Industries Belgium _ March. au Pont	C-122-002	demand facility	no	26/09/2023	Air Liquide Industries Belgium	Rue de la Réunion 100 6030 Marchienne-au-Pont Belgium
Alinso _ Zwijnaarde	C-323-001	demand facility	no	26/09/2023	Alinso	Nederzwijnaarde 2 9052 Zwijnaarde Belgium
Aluminium Duffel _ Duffel	C-146-001	demand facility	no	26/09/2023	Aluminium Duffel	A. Stocletlaan 87 2570 Duffel Belgium
Amcor Flexibles Transpac _ Gent	C-098-001	demand facility	no	26/09/2023	Amcor Flexibles Transpac	Ottergemsesteenweg Zuid 801 9000 Gent Belgium
Antwerp Gateway _ Doel	C-216-001	demand facility	no	26/09/2023	Antwerp Gateway	Geslecht K 1700 - 1720 9130 Doel Belgium
Aperam Stainless Belgium _ Châtelet	C-253-001	demand facility	no	26/09/2023	Aperam Stainless Belgium	Rue des Ateliers 14 6200 Châtelet Belgium
Aperam Stainless Belgium _ Genk	C-253-002	demand facility	no	26/09/2023	Aperam Stainless Belgium	Genk Zuid, Zone 6a 3600 Genk Belgium
Aquiris _ Buda	C-218-001	demand facility	no	26/09/2023	Aquiris	Avenue de Vilvorde 450 1130 Bruxelles (Haeren) Belgium
ArcelorMittal Belgium _ Genk	C-184-005	demand facility	no	26/09/2023	ArcelorMittal Belgium	Kanaaloever 3 3600 Genk Belgium
ArcelorMittal Belgium _ Gent	C-184-006	demand facility	no	26/09/2023	ArcelorMittal Belgium	John Kennedylaan 51 9000 Gent Belgium
ArcelorMittal Belgium _ Jemeppe	C-184-002	demand facility	yes	26/09/2023	ArcelorMittal Belgium	Rue Philippe de Marnix 3, bte 65 4100 Seraing Belgium
ArcelorMittal Belgium _ Marchin-Haute Sarte	C-184-001	demand facility	no	26/09/2023	ArcelorMittal Belgium	Chaussée des Forges 64 4570 Marchin Belgium
ArcelorMittal Belgium _ Ramet	C-184-004	demand facility	yes	26/09/2023	ArcelorMittal Belgium	Quai du Halage 10 4400 Flémalle-Haute Belgium
ArcelorMittal Belgium _ Seraing	C-184-008	demand facility	yes	26/09/2023	ArcelorMittal Belgium	Rue Philippe de Marnix 3, bte 65 4100 Seraing Belgium
ARLANXEO Belgium _ Zwijndrecht	C-123-001	demand facility	no	26/09/2023	ARLANXEO Belgium	Haven 1009 Canadastraat 21 2070 Zwijndrecht Belgium
Ashland Specialties Belgium _ Doel	C-244-001	demand facility	no	26/09/2023	Ashland Specialties Belgium	Haven 1920 Geslecht 2 9130 Doel Belgium
Aspiravi _ Assenede	C-209-003	demand facility	no	26/09/2023	Aspiravi	Hazelarenhoek Z/N 9968 Assenede Belgium
Aspiravi _ Brecht	C-209-002	demand facility	no	26/09/2023	Aspiravi	Bethovenstraat 66 2960 Brecht Belgium
Aspiravi _ Zeebrugge	C-209-001	demand facility	no	26/09/2023	Aspiravi	Henri-Victor Wolvenstraat 7 8380 Zeebrugge Belgium
Audi Brussels _ Bruxelles	C-103-001	demand facility	no	26/09/2023	Audi Brussels	Brits Tweedelegerlaan 201 1190 Brussel (Vorst) Belgium
Aveve _ Aalter	C-131-001	demand facility	no	26/09/2023	Aveve	Venecolaan 22 9880 Aalter Belgium
AZ Damiaan _ Oostende	C-125-001	demand facility	no	26/09/2023	AZ Damiaan	Gouwelozestraat 100 8400 Oostende Belgium
AZ Sint-Lucas _ Brugge	C-126-001	demand facility	no	26/09/2023	AZ Sint-Lucas	Sint-Lucaslaan 29 8310 Assebroek Belgium
BASF Antwerpen _ Antwerpen	C-132-002	demand facility	yes	26/09/2023	BASF Antwerpen	Haven 725 Scheldelaan 600 2018 Antwerpen Belgium
Bayer Agriculture _ Antwerpen	C-169-001	demand facility	no	26/09/2023	Bayer Agriculture	Haven 627 Scheldelaan 16 2018 Antwerpen Belgium
Bekaert _ Zwevegem	C-130-002	demand facility	no	26/09/2023	Bekaert	Bekaertstraat 2 8550 Zwevegem Belgium
Belwind _ Zeebrugge (Offshore)	C-279-002	demand facility	no	26/09/2023	Belwind	Bligh Bank 1 8380 Zeebrugge Belgium
Biopower Oostende _ Oostende	C-289-001	demand facility	no	26/09/2023	Biopower Oostende	Kuipweg 44 8400 Oostende Belgium

BIOSTOOM OOSTENDE _ Oostende	C-284-001	demand facility	no	26/09/2023	BIOSTOOM OOSTENDE	Plassendaele II Solvaylaan 7 8400 Oostende Belgium
BioWanze _ Wanze	C-271-001	demand facility	no	26/09/2023	BioWanze	Rue Léon Charlier 11 4520 Wanze Belgium
Borealis Kallo _ Kallo	C-137-001	demand facility	no	26/09/2023	Borealis Kallo	Haven 1568 Sint-Jansweg 2 9130 Doel Belgium
Borealis Polymers _ Beringen	C-312-001	demand facility	yes	26/09/2023	Borealis Polymers	Industrieweg 148 3583 Paal Belgium
Burgo Ardennes _ Virton	C-140-001	demand facility	no	26/09/2023	Burgo Ardennes	Rue de la Papeterie 1 6760 Virton Belgium
C - Power _ Bredene	C-220-002	demand facility	no	26/09/2023	C - Power	Thorntonbank 8450 Bredene Belgium
CBR _ Antoing	C-142-001	demand facility	yes	26/09/2023	CBR	Rue du Coucou 8 7640 Antoing Belgium
CBR _ Lixhe	C-142-002	demand facility	no	26/09/2023	CBR	Rue des Trois Fermes 4600 Lixhe Belgium
CBR _ Sint-Kruis-Winkel	C-142-003	demand facility	no	26/09/2023	CBR	Arbedkaai 3 9042 Sint-Kruis-Winkel Belgium
CCB _ Gaurain-Ramecroix	C-143-001	demand facility	yes	26/09/2023	CCB	Grand'Route 260 7530 Gaurain-Ramecroix Belgium
CGNEE Belgium Wind Energy Company _ Estinnes	C-283-001	demand facility	no	26/09/2023	CGNEE Belgium Wind Energy Company	Route de Mons (en façe du n° 763) 7120 Estinnes Belgium
CLdN Ports Zeebrugge _ Zeebrugge	C-182-001	demand facility	no	26/09/2023	CLdN Ports Zeebrugge	Alfred Ronsestraat 100 8380 Zeebrugge Belgium
CLdN Ports Zeebrugge _ Zeebrugge _ Albert II Dok	C-182-002	demand facility	no	26/09/2023	CLdN Ports Zeebrugge	Albert II Dok 8380 Zeebrugge Belgium
CNH Industrial Belgium _ Zedelgem	C-170-001	demand facility	no	26/09/2023	CNH Industrial Belgium	Leon Claeysstraat 3A 8210 Zedelgem Belgium
Comet Traitements _ Obourg	C-432-001	demand facility	no	26/09/2023	Comet Traitements	Rue des Fabriques 2 7034 Obourg Belgium
Corsica Sole Deux Acren _ DEUX ACREN	C-490-001	demand facility	no	26/09/2023	Corsica Sole Deux Acren	Chemin de Mons 7864 Deux-Acren Belgium
Crystal Computing _ Baudour	C-272-001	demand facility	no	26/09/2023	Crystal Computing	IDEA Parc - Site industriel de Ghlin-Baudour Rue de Ghlin 100 7331 Baudour Belgium
CSP Zeebrugge Terminal _ Zeebrugge Leopold II	C-230-001	demand facility	no	26/09/2023	CSP Zeebrugge Terminal	Kaai 120 Leopold II Dam 8380 Zeebrugge Belgium
DNB Brussels Airport _ Zaventem	C-903-001	demand facility	yes	26/09/2023	DNB Brussels Airport	Building 9 Brussels National Airport 1930 Zaventem Belgium
Electrabel _ Aalter	C-012-021	demand facility	no	26/09/2023	Electrabel	Venecolaan 22 9880 Aalter Belgium
Electrabel _ Amercoeur	C-012-001	demand facility	no	26/09/2023	Electrabel	Rue Chauw à Roc 6 6044 Roux Belgium
Electrabel _ Awirs	C-012-002	demand facility	no	26/09/2023	Electrabel	Quai du Halage 47 4400 Awirs Belgium
Electrabel _ Beerse	C-012-003	demand facility	no	26/09/2023	Electrabel	Brusselenstraat 6 2340 Beerse Belgium
Electrabel _ Butgenbach	C-012-005	demand facility	no	26/09/2023	Electrabel	Chemin de Berg 4750 Bütgenbach/Butgenbach Belgium
Electrabel _ Cierreux	C-012-006	demand facility	no	26/09/2023	Electrabel	Route de Cierreux 9 6671 Bovigny Belgium
Electrabel _ Coo	C-012-007	demand facility	no	26/09/2023	Electrabel	Route du Lac 1 4983 Trois-Ponts Belgium
Electrabel _ Doel	C-012-008	demand facility	no	26/09/2023	Electrabel	Haven 1800, Scheldemolenstraat 9130 Doel Belgium
Electrabel _ Drogenbos	C-012-009	demand facility	no	26/09/2023	Electrabel	De Bruyckerweg 1 1620 Drogenbos Belgium
Electrabel _ Herdersbrug	C-012-011	demand facility	no	26/09/2023	Electrabel	Pathoekeweg 300 8000 Brugge Belgium
Electrabel _ Rodenhuize	C-012-016	demand facility	no	26/09/2023	Electrabel	Rodenhuizekaai 3 9042 Desteldonk Belgium
Electrabel _ Saint-Ghislain	C-012-018	demand facility	no	26/09/2023	Electrabel	Rue d'Hautrage 89 7331 Baudour Belgium
Electrabel _ Siomab	C-012-019	demand facility	no	26/09/2023	Electrabel	Léon Monnoyerkaai 8 1120 Brussel Belgium
Electrabel _ Tihange	C-012-020	demand facility	no	26/09/2023	Electrabel	Avenue de l'Industrie 1 4500 Tihange Belgium
Electrabel _ Vilvoorde	C-012-037	demand facility	no	26/09/2023	Electrabel	JF Willemsstraat 200 1800 Vilvoorde Belgium
Electrabel _ Zedelgem	C-012-023	demand facility	no	26/09/2023	Electrabel	Torhoutsesteenweg 118A 8210 Zedelgem Belgium

Electrabel _ Zeebrugge	C-012-024	demand facility	no	26/09/2023	Electrabel	Lanceloot Blondeellaan 8380 Zeebrugge Belgium
Eneco Wind Belgium _ Zeebrugge	C-328-001	demand facility	no	26/09/2023	Eneco Wind Belgium	Aziëstraat 1 8380 Zeebrugge Belgium
Eolus _ Villers-le-Bouillet	C-474-001	demand facility	no	26/09/2023	Eolus	Rue de Waremme 123 4530 Villers-le-Bouillet Belgium
Estor-Lux _ Bastogne	C-489-001	demand facility	no	26/09/2023	Estor-Lux	Zoning industriel II Rue de la Drève 11-13 6600 Bastogne Belgium
Euro-Silo _ Desteldonk	C-204-001	demand facility	no	26/09/2023	Euro-Silo	Pleitstraat 3 9042 Desteldonk Belgium
Evonik Antwerpen _ Antwerpen	C-147-001	demand facility	no	26/09/2023	Evonik Antwerpen	Frans Tijsmanstunnel West 2040 Antwerpen Belgium
ExxonMobil Petroleum & Chemical _ Antwerp Polymers Plant	C-106-003	demand facility	no	26/09/2023	ExxonMobil Petroleum & Chemical	Haven 1007 Canadastraat 20 2070 Zwijndrecht Belgium
ExxonMobil Petroleum & Chemical _ Antwerpen	C-106-002	demand facility	no	26/09/2023	ExxonMobil Petroleum & Chemical	Haven 447 Polderdijkweg 2030 Antwerpen Belgium
ExxonMobil Petroleum & Chemical _ Meerhout	C-106-004	demand facility	no	26/09/2023	ExxonMobil Petroleum & Chemical	Meerhout Polymers Plant Biezenhoed 2 2450 Meerhout Belgium
Fluxys Belgium _ Berneau	C-151-002	demand facility	no	26/09/2023	Fluxys Belgium	Mâle Voye' - Rue de Maestricht 4607 Berneau Belgium
Fluxys Belgium _ Winksele	C-151-005	demand facility	no	26/09/2023	Fluxys Belgium	Molenweg 1 3020 Winksele Belgium
Fluxys Belgium _ Zelzate	C-151-001	demand facility	no	26/09/2023	Fluxys Belgium	Rosteyne 3 9060 Zelzate Belgium
Fluxys LNG _ Terminal Zeebrugge	C-210-001	demand facility	no	26/09/2023	Fluxys LNG	Kaai 615 Henri-Victor Wolvensstraat 3 8380 Zeebrugge Belgium
Gassco _ Zeebrugge	C-192-001	demand facility	no	26/09/2023	Gassco	Barlenhuisstraat 1 8380 Zeebrugge Belgium
Genencor International _ Brugge	C-153-001	demand facility	no	26/09/2023	Genencor International	Komvest 43 8000 Brugge Belgium
GlaxoSmithKline Biologicals _ Rixensart	C-155-001	demand facility	no	26/09/2023	GlaxoSmithKline Biologicals	Rue de l'Institut 89 1330 Rixensart Belgium
GlaxoSmithKline Biologicals _ Wavre	C-155-002	demand facility	no	26/09/2023	GlaxoSmithKline Biologicals	Rue Flemming 20 1300 Wavre Belgium
Green Wind _ Froidchapelle	C-286-001	demand facility	no	26/09/2023	Green Wind	Chaussée de Beaumont (Lieu dit 'Fonds Martin') 6500 Beaumont Belgium
Greenpower Oostende _ Oostende	C-304-001	demand facility	no	26/09/2023	Greenpower Oostende	Solvaylaan 7 8400 Oostende Belgium
Holcim (Belgique) _ Gaurain-Ramecroix	C-144-003	demand facility	yes	26/09/2023	Holcim (Belgique)	Grand-Route 19 7530 Gaurain-Ramecroix Belgium
Holcim (Belgique) _ Obourg	C-144-001	demand facility	no	26/09/2023	Holcim (Belgique)	Rue des Fabriques 2 7034 Obourg Belgium
Hydro Extrusion Lichtervelde _ Lichtervelde	C-178-001	demand facility	no	26/09/2023	Hydro Extrusion Lichtervelde	Kortemarkstraat 52 8810 Lichtervelde Belgium
ICO Windpark _ Zeebrugge	C-464-001	demand facility	no	26/09/2023	ICO Windpark	Margareta Van Oostenrijkstraat 8380 Zeebrugge Belgium
IFG Exelto _ Zwijnaarde	C-198-002	demand facility	no	26/09/2023	IFG Exelto	Nederzwijnaarde 2 9052 Zwijnaarde Belgium
Indaver _ Doel	C-158-001	demand facility	no	26/09/2023	Indaver	Haven 1940 Molenweg 1 9130 Doel Belgium
Industeel Belgium _ March. au Pont	C-119-001	demand facility	no	26/09/2023	Industeel Belgium	Rue de Châtelet 266 6030 Marchienne-au-Pont Belgium
INEOS Aromatics Belgium _ Geel	C-138-001	demand facility	yes	26/09/2023	INEOS Aromatics Belgium	Amocolaan 2 2440 Geel Belgium
Ineos Feluy _ Feluy	C-243-001	demand facility	yes	26/09/2023	Ineos Feluy	Parc Industriel de Feluy Nord Zone C 7181 Feluy Belgium
INEOS Oxide Utilities _ Zwijndrecht	C-248-001	demand facility	yes	26/09/2023	INEOS Oxide Utilities	Haven 1053 Nieuwe Weg 1 2070 Zwijndrecht Belgium
Ineos Phenol Belgium _ Doel	C-174-001	demand facility	no	26/09/2023	Ineos Phenol Belgium	Haven 1930 Geslecht 1 9130 Doel Belgium

Infrabel _ Aalter	C-186-001	demand facility	yes	26/09/2023	Infrabel	Manewaarde 25 9880 Aalter Belgium
Infrabel _ Achêne	C-186-002	demand facility	yes	26/09/2023	Infrabel	Zoning Industriel 5590 Achêne Belgium
Infrabel _ Ath	C-186-004	demand facility	yes	26/09/2023	Infrabel	Rue du Chemin de Fer 7800 Ath Belgium
Infrabel _ Auvelais	C-186-005	demand facility	yes	26/09/2023	Infrabel	Rue du Charbonnage 5060 Auvelais Belgium
Infrabel _ Avernas	C-186-006	demand facility	yes	26/09/2023	Infrabel	Lieu dit "Aux Zabrées" 4280 Abolens Belgium
Infrabel _ Baulers	C-186-007	demand facility	yes	26/09/2023	Infrabel	Rue des Déportés 1400 Nivelles Belgium
Infrabel _ Berchem	C-186-008	demand facility	yes	26/09/2023	Infrabel	Lange Leemstraat 445 2018 Antwerpen Belgium
Infrabel _ Braine-le-Comte	C-186-009	demand facility	yes	26/09/2023	Infrabel	Rue du Pont 7090 Braine-le-Comte Belgium
Infrabel _ Brugge	C-186-010	demand facility	yes	26/09/2023	Infrabel	Station (ingang naar la Brugeoise) 8000 Brugge Belgium
Infrabel _ Brume	C-186-011	demand facility	yes	26/09/2023	Infrabel	Bois de Toirvalleu (Via Nova) 4980 Trois-Ponts Belgium
Infrabel _ Brussel Noord	C-186-012	demand facility	yes	26/09/2023	Infrabel	Rue FJ Navez 90 1030 Bruxelles (Schaerbeek) Belgium
Infrabel _ Bruxelles Midi	C-186-013	demand facility	yes	26/09/2023	Infrabel	Rue du Charroi 30 1190 Bruxelles (Forest) Belgium
Infrabel _ Charleroi	C-186-064	demand facility	yes	26/09/2023	Infrabel	Rue Chapelle Beaussart 6030 Marchienne-au-Pont Belgium
Infrabel _ Chièvres	C-186-015	demand facility	yes	26/09/2023	Infrabel	Chemin du Bois Derode 7950 Chièvres Belgium
Infrabel _ Ciney	C-186-016	demand facility	yes	26/09/2023	Infrabel	lieu dit "De Mosée" Route de Sauvet 5590 Ciney Belgium
Infrabel _ Denderleeuw	C-186-017	demand facility	yes	26/09/2023	Infrabel	Leeuwbrug wijk Raaplandstraat 9470 Denderleeuw Belgium
Infrabel _ Dudzele	C-186-018	demand facility	yes	26/09/2023	Infrabel	Stationsweg 26A 8380 Dudzele Belgium
Infrabel _ Enghien	C-186-019	demand facility	yes	26/09/2023	Infrabel	Chaussée Romaine 7850 Enghien/Edingen Belgium
Infrabel _ Forrières	C-186-020	demand facility	yes	26/09/2023	Infrabel	Rue de Lesterny 6953 Forrières Belgium
Infrabel _ Gent	C-186-021	demand facility	yes	26/09/2023	Infrabel	Ottergemsesteenweg 9000 Gent Belgium
Infrabel _ Hasselt	C-186-022	demand facility	yes	26/09/2023	Infrabel	Kleine Breemstraat 3500 Hasselt Belgium
Infrabel _ Hatrival	C-186-023	demand facility	yes	26/09/2023	Infrabel	Pont de Libin 6870 Hatrival Belgium
Infrabel _ Heinsch	C-186-065	demand facility	yes	26/09/2023	Infrabel	Route de Neufchâteau 6700 Heinsch Belgium
Infrabel _ Hogne	C-186-024	demand facility	yes	26/09/2023	Infrabel	Route de Serinchamps 5377 Hogne Belgium
Infrabel _ Jurbise	C-186-025	demand facility	yes	26/09/2023	Infrabel	Rue du Bourrelier 7050 Jurbise Belgium
Infrabel _ Kortenberg	C-186-026	demand facility	yes	26/09/2023	Infrabel	Kwerpsebaan 16 3070 Kortenberg Belgium
Infrabel _ Kortrijk	C-186-027	demand facility	yes	26/09/2023	Infrabel	Marksesteenweg 8500 Kortrijk Belgium
Infrabel _ Leuven	C-186-029	demand facility	yes	26/09/2023	Infrabel	Dijledreef 3010 Kessel-Lo Belgium
Infrabel _ Lichtervelde	C-186-030	demand facility	yes	26/09/2023	Infrabel	Industrielaan 8810 Lichtervelde Belgium
Infrabel _ Lobbes	C-186-031	demand facility	yes	26/09/2023	Infrabel	Rue Saint Roch 6540 Lobbes Belgium
Infrabel _ Lokeren	C-186-032	demand facility	yes	26/09/2023	Infrabel	Groendreef 4A 9160 Lokeren Belgium
Infrabel _ Machelen	C-186-034	demand facility	yes	26/09/2023	Infrabel	Vilvoordelaan 1800 Vilvoorde Belgium
Infrabel _ Manage	C-186-035	demand facility	yes	26/09/2023	Infrabel	Parc du Bois hameau 7170 Manage Belgium
Infrabel _ Marbais	C-186-036	demand facility	yes	26/09/2023	Infrabel	Rue P.Bourg 1450 Chastre Belgium
Infrabel _ Mechelen	C-186-038	demand facility	yes	26/09/2023	Infrabel	Leuvensesteenweg 30 2800 Mechelen Belgium
Infrabel _ Melreux	C-186-039	demand facility	yes	26/09/2023	Infrabel	Route de Liège 6900 Aye Belgium
Infrabel _ Mons	C-186-040	demand facility	yes	26/09/2023	Infrabel	Chemin de l'Inquiétude 7000 Mons Belgium
Infrabel _ Montzen	C-186-041	demand facility	yes	26/09/2023	Infrabel	Chemin Hoppisch 4850 Montzen Belgium
Infrabel _ Namur	C-186-042	demand facility	yes	26/09/2023	Infrabel	Rue Henri Blès 194 5000 Namur Belgium
Infrabel _ Noorderdokken	C-186-043	demand facility	yes	26/09/2023	Infrabel	Salaadweg 2180 Ekeren Belgium

Infrabel _ Oostende	C-186-044	demand facility	yes	26/09/2023	Infrabel	Gaulozedijk 8400 Oostende Belgium
Infrabel _ Ottignies (36 kV)	C-186-063	demand facility	yes	26/09/2023	Infrabel	Avenue Demolder 1342 Limelette Belgium
Infrabel _ Pepinster	C-186-046	demand facility	yes	26/09/2023	Infrabel	Rue de l'Hospice 4860 Pepinster Belgium
Infrabel _ Ransart	C-186-048	demand facility	yes	26/09/2023	Infrabel	Rue Georges Lemoine (prolongement) 6043 Ransart Belgium
Infrabel _ Rivage	C-186-049	demand facility	yes	26/09/2023	Infrabel	800m de la gare Rue de Rivage 4140 Dolembreux Belgium
Infrabel _ Romsée	C-186-050	demand facility	yes	26/09/2023	Infrabel	Rue Churchill 26 4624 Romsée Belgium
Infrabel _ Sart-Bernard	C-186-051	demand facility	yes	26/09/2023	Infrabel	Rue Cortil Niche 5330 Assesse Belgium
Infrabel _ Snepkaai	C-186-052	demand facility	yes	26/09/2023	Infrabel	Koningin Fabiolalaan 143 9000 Gent Belgium
Infrabel _ Statte	C-186-053	demand facility	yes	26/09/2023	Infrabel	Rue des Sucreries 4520 Wanze Belgium
Infrabel _ Tournai	C-186-054	demand facility	yes	26/09/2023	Infrabel	Rue Pennequin 7540 Kain Belgium
Infrabel _ Virton	C-186-055	demand facility	yes	26/09/2023	Infrabel	Route de Saint-Mard 6767 Harnoncourt Belgium
Infrabel _ Visé	C-186-056	demand facility	yes	26/09/2023	Infrabel	Rue de Maastricht 4600 Visé Belgium
Infrabel _ Walenhoek	C-186-058	demand facility	yes	26/09/2023	Infrabel	Moerstraat 20 2040 Antwerpen Belgium
Infrabel _ Watermael	C-186-059	demand facility	yes	26/09/2023	Infrabel	Boulevard du Triomphe 1160 Bruxelles (Auderghem) Belgium
Infrabel _ Welkenraedt	C-186-060	demand facility	yes	26/09/2023	Infrabel	Impasse Herman 4840 Welkenraedt Belgium
Infrabel _ Yvoir	C-186-061	demand facility	yes	26/09/2023	Infrabel	Place de la Gare 5530 Yvoir Belgium
Infrabel _ Zwijndrecht	C-186-062	demand facility	yes	26/09/2023	Infrabel	Parmastraat 2070 Zwijndrecht Belgium
INOVYN Manufacturing Belgium _ Jemeppe	C-088-002	demand facility	yes	26/09/2023	INOVYN Manufacturing Belgium	Rue Solvay 39 5190 Jemeppe-sur-Sambre Belgium
INOVYN Manufacturing Belgium _ Lillo	C-088-001	demand facility	yes	26/09/2023	INOVYN Manufacturing Belgium	Haven 647 Scheldelaan 480 2040 Antwerpen Belgium
Interconnector Zeebrugge Terminal _ Zeebrugge	C-236-001	demand facility	no	26/09/2023	Interconnector Zeebrugge Terminal	Transportzone Galeistraat 20 8380 Zeebrugge Belgium
INTRADEL _ Herstal	C-281-001	demand facility	no	26/09/2023	INTRADEL	Pré Wigy 4040 Herstal Belgium
Ipalle _ Thumaide	C-159-001	demand facility	no	26/09/2023	Ipalle	Hameau de Ribonfosse 9 7971 Thumaide Belgium
IVBO _ Brugge	C-161-001	demand facility	no	26/09/2023	IVBO	Pathoekeweg 41 8000 Brugge Belgium
Jindal Films Europe Virton _ Latour	C-384-001	demand facility	no	26/09/2023	Jindal Films Europe Virton	Zoning industriel de Latour 6761 Latour Belgium
Katoen Natie Bulk Terminals _ Kallo	C-412-001	demand facility	no	26/09/2023	Katoen Natie Bulk Terminals	Keteldijk Kaai 1998 9130 Beveren-Waas Belgium
Kyndryl Belgium _ Bastogne	C-508-001	demand facility	no	26/09/2023	Kyndryl Belgium	Zoning industriel II Rue de la Drève 11-13 6600 Bastogne Belgium
Kyndryl Belgium _ Vaux-sur-Sûre	C-508-002	demand facility	no	26/09/2023	Kyndryl Belgium	Parc d'activités économiques de Morhet Chaussée de Saint Hubert, Morhet 1A 6640 Vaux-sur-Sûre Belgium
LANXESS Performance Materials _ Lillo	C-134-001	demand facility	yes	26/09/2023	LANXESS Performance Materials	Haven 507 Scheldelaan 420 2040 Lillo Belgium
LRM Lease _ Lommel	C-434-001	demand facility	no	26/09/2023	LRM Lease	Industriezone Balendijk 1050 Balendijk 161 3920 Lommel Belgium
Luminus _ Angleur	C-018-007	demand facility	no	26/09/2023	Luminus	Rue Defêchereux 43 4031 Angleur Belgium
Luminus _ Antwerpen	C-018-010	demand facility	no	26/09/2023	Luminus	Frans Tijsmanstunnel West 2040 Antwerpen Belgium
Luminus _ Gent	C-018-003	demand facility	no	26/09/2023	Luminus	Ham 68 9000 Gent Belgium
Luminus _ Izegem	C-018-009	demand facility	no	26/09/2023	Luminus	Prins Albertlaan 12 8870 Izegem Belgium
Luminus _ Lixhe	C-018-005	demand facility	no	26/09/2023	Luminus	Ferme de Navagne 4600 Visé Belgium
Luminus _ Ringvaart	C-018-008	demand facility	no	26/09/2023	Luminus	Wondelgemsekaai 9000 Gent Belgium
Luminus _ Seraing	C-018-001	demand facility	no	26/09/2023	Luminus	Rue du Pont du Val 1 4100 Seraing Belgium

Luminus _ Seraing _ Diesel	C-018-011	demand facility	no	26/09/2023	Luminus	Rue du Pont du Val 1 4100 Seraing Belgium
MD Verre _ Ghlin	C-165-001	demand facility	no	26/09/2023	MD Verre	Rue des Ayettes 2 7011 Ghlin Belgium
Ministerie van Landsverdediging _ Marinebasis Zeebrugge	C-168-001	demand facility	no	26/09/2023	Ministerie van Landsverdediging	Graaf Jansdijk 1 8380 Zeebrugge Belgium
MSC PSA European Terminal _ Antwerpen - Deurganckdok	C-379-001	demand facility	no	26/09/2023	MSC PSA European Terminal	Deurganck Terminal K1742 Sint Antoniusweg 9130 Doel Belgium
NGK Ceramics Europe _ Baudour	C-171-001	demand facility	no	26/09/2023	NGK Ceramics Europe	Rue des Azalées 1 7331 Baudour Belgium
Nippon Gases Belgium _ Zwijndrecht	C-176-001	demand facility	no	26/09/2023	Nippon Gases Belgium	Haven 1013 Scheldedijk 58 2070 Zwijndrecht Belgium
NLMK Clabecq _ Clabecq - Tubize	C-200-001	demand facility	no	26/09/2023	NLMK Clabecq	Rue de la Déportation 218 1480 Tubize Belgium
NLMK La Louvière _ La Louvière	C-113-001	demand facility	no	26/09/2023	NLMK La Louvière	Rue des Rivaux 2 7100 La Louvière Belgium
Nobelwind _ Zeebrugge (Offshore)	C-405-001	demand facility	no	26/09/2023	Nobelwind	Bligh Bank 2 8380 Zeebrugge Belgium
Norther _ Zeebrugge (Offshore)	C-422-001	demand facility	no	26/09/2023	Norther	Nabij de Bank zonder Naam en ten ZO van de Thorntonbank 8380 Zeebrugge Belgium
Northwester 2 _ Zeebrugge (Offshore)	C-442-001	demand facility	no	26/09/2023	Northwester 2	Ten NW van de Bligh Bank 9999 Offshore Belgium
Northwind _ Zeebrugge (Offshore)	C-294-002	demand facility	no	26/09/2023	Northwind	Lodewijkbank 8380 Zeebrugge Belgium
Nouryon Chemicals _ Ghlin	C-124-001	demand facility	no	26/09/2023	Nouryon Chemicals	Parc Industriel de Ghlin Zone Abv 7011 Ghlin Belgium
NYRSTAR Belgium _ Balen	C-257-001	demand facility	yes	26/09/2023	NYRSTAR Belgium	Zinkstraat 1 2490 Balen Belgium
NYRSTAR Belgium _ Overpelt	C-257-002	demand facility	no	26/09/2023	NYRSTAR Belgium	Fabrieksstraat 144 bus 2 3900 Overpelt Belgium
Ostend Basic Chemicals _ Oostende	C-177-001	demand facility	no	26/09/2023	Ostend Basic Chemicals	Stationsstraat 123 8400 Oostende Belgium
PEMCO Belgium _ Brugge	C-173-001	demand facility	no	26/09/2023	PEMCO Belgium	Pathoekeweg 116 8000 Brugge Belgium
Prayon _ Engis	C-226-001	demand facility	yes	26/09/2023	Prayon	Rue Joseph Wauters 144 4480 Engis Belgium
PSA Antwerp _ Rechteroever	C-157-001	demand facility	no	26/09/2023	PSA Antwerp	Scheldelaan 495 2040 Antwerpen Belgium
Rentel _ Zeebrugge (Offshore)	C-408-001	demand facility	no	26/09/2023	Rentel	Ten NW van de Thorntonbank en ten ZO van de Lodewijkbank 9999 Offshore Belgium
Ruien Energy Storage _ Ruien	C-475-001	demand facility	no	26/09/2023	Ruien Energy Storage	Stroomlaan 25 9690 Kluisbergen Belgium
Safran Aero Boosters _ Herstal	C-196-001	demand facility	no	26/09/2023	Safran Aero Boosters	Hauts Sarts - Route de Liers 121 4041 Milmort Belgium
Sappi Lanaken _ Lanaken	C-180-001	demand facility	no	26/09/2023	Sappi Lanaken	Montaigneweg 2 3620 Lanaken Belgium
SCR - Sibelco _ Lommel	C-181-001	demand facility	no	26/09/2023	SCR - Sibelco	Maatheide 125 3920 Lommel Belgium
SeaMade _ Zeebrugge (Offshore) _ Mermaid	C-454-001	demand facility	no	26/09/2023	SeaMade	Ten NW van de Lodewijk Bank en ten ZO van de Bligh Bank 9999 Offshore Belgium
SeaMade _ Zeebrugge (Offshore) _ Seastar	C-454-002	demand facility	no	26/09/2023	SeaMade	Ten NW van de Lodewijk Bank en ten ZO van de Bligh Bank 9999 Offshore Belgium
Sofico _ Plate-Taille	C-371-001	demand facility	no	26/09/2023	Sofico	Rue d'Oupia 5 6440 Boussu-lez-Walcourt Belgium
SOL SpA _ Feluy	C-217-001	demand facility	no	26/09/2023	SOL SpA	Zoning Industriel de Feluy Zone B 7180 Seneffe Belgium
Solutia Europe _ Gent	C-187-001	demand facility	no	26/09/2023	Solutia Europe	Ottergemsesteenweg-Zuid 707 9000 Gent Belgium
SORESIC _ Gosselies	C-441-001	demand facility	no	26/09/2023	SORESIC	Avenue des Etats-Unis 1 6041 Gosselies Belgium

Sotel Réseau & Cie _ Esch-sur-Alzette	C-189-001	demand facility	no	26/09/2023	Sotel Réseau & Cie	4 Rue de Soleuvre 4321 Esch-sur-Alzette Luxembourg
STIB-MIVB _ Demot	C-194-001	demand facility	no	26/09/2023	STIB-MIVB	Rue JA Demot 15 1040 Bruxelles (Etterbeek) Belgium
STIB-MIVB _ Drogenbos	C-194-002	demand facility	no	26/09/2023	STIB-MIVB	Driefonteinenstraat 1620 Drogenbos Belgium
STIB-MIVB _ Essegem	C-194-003	demand facility	no	26/09/2023	STIB-MIVB	De Smet de Nayerlaan 1090 Brussel (Jette) Belgium
STIB-MIVB _ Molenbeek	C-194-004	demand facility	no	26/09/2023	STIB-MIVB	Lessinesstraat 47 1080 Brussel (Sint-Jans-Molenbeek) Belgium
STIB-MIVB _ Woluwe	C-194-005	demand facility	no	26/09/2023	STIB-MIVB	E. Mounierlaan 1200 Bruxelles (Woluwe-Saint-Lambert) Belgium
Stora Enso Langerbrugge _ Gent	C-195-002	demand facility	no	26/09/2023	Stora Enso Langerbrugge	Wondelgemkaai 200 9000 Gent Belgium
Taminco _ Gent	C-100-001	demand facility	no	26/09/2023	Taminco	Pantserschipstraat 207 9000 Gent Belgium
TE Connectivity Belgium _ Oostkamp	C-099-001	demand facility	no	26/09/2023	TE Connectivity Belgium	Siemenslaan 14 8020 Oostkamp Belgium
Tereos Starch & Sweeteners Belgium _ Aalst	C-127-001	demand facility	no	26/09/2023	Tereos Starch & Sweeteners Belgium	Burchtstraat 10 9300 Aalst Belgium
Thy Marcinelle _ Charleroi	C-097-001	demand facility	no	26/09/2023	Thy Marcinelle	Rue de l'Acier 1 6000 Charleroi Belgium
TotalEnergies - Centrale Electrique March-au-Pont _ Marchienne-au-Pont	C-265-001	demand facility	no	26/09/2023	TotalEnergies - Centrale Electrique March-au-Pont	Rue de la Providence 150 6030 Marchienne-au-Pont Belgium
TotalEnergies Marketing Belgium _ Feluy	C-277-001	demand facility	no	26/09/2023	TotalEnergies Marketing Belgium	Zoning Industriel Zone A 7181 Feluy Belgium
TotalEnergies Petrochemicals Feluy _ Feluy	C-108-001	demand facility	yes	26/09/2023	TotalEnergies Petrochemicals Feluy	Zoning Industriel Zone C de Feluy 7181 Feluy Belgium
TotalEnergies Polymers Antwerp _ Polymers Antwerp	C-129-001	demand facility	no	26/09/2023	TotalEnergies Polymers Antwerp	Haven 343 Scheldelaan 4 2018 Antwerpen Belgium
TotalEnergies Refinery Antwerp _ Refinery Antwerp	C-149-001	demand facility	no	26/09/2023	TotalEnergies Refinery Antwerp	Scheldelaan 16 2018 Antwerpen Belgium
Trinseo Belgium _ Tessenderlo	C-199-001	demand facility	no	26/09/2023	Trinseo Belgium	Havenlaan 7 3980 Tessenderlo Belgium
Umicore _ Hoboken	C-064-001	demand facility	no	26/09/2023	Umicore	A. Greinerstraat 14 2660 Hoboken Belgium
Umicore _ Olen	C-064-002	demand facility	yes	26/09/2023	Umicore	Kasteelstraat 7 2250 Olen Belgium

5) Generation units connected to the transmission grid (including CDS) with an installed capacity greater than or equal to 1 MW and less than 25 MW:

SNG Unieke benaming	Uniek referentienummer	Categorie	CDS	Identification date	Te contacteren entiteit door ELIA	Adres van de te contacteren entiteit door ELIA
Aalst Syral ST	541453112579852341	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Tereos Starch & Sweeteners Belgium _ Aalst	Burchtstraat 10 9300 Aalst
AALTER TJ	541453106836450098	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Electrabel _ Aalter	Venecolaan 22 9880 Aalter
AGC Moustier Cogen	541453185271099116	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	AGC Glass Europe _ Moustier	Rue de la Glacerie 167 5190 Moustier-sur-Sambre
Agfa Gevaert Mortsel WKK 1	541453110660665573	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Agfa-Gevaert _ Mortsel	Septestraat 27 2640 Mortsel

Agfa Gevaert Mortsel WKK 2	541453157766664420	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Agfa-Gevaert _ Mortsel	Septestraat 27 2640 Mortsel
Agfa Gevaert Mortsel WKK 3	541453187008733881	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Agfa-Gevaert _ Mortsel	Septestraat 27 2640 Mortsel
Agfa Gevaert Mortsel WKK 4	541453138453375225	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Agfa-Gevaert _ Mortsel	Septestraat 27 2640 Mortsel
Agfa Gevaert Mortsel WKK 5	541453157768386344	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Agfa-Gevaert _ Mortsel	Septestraat 27 2640 Mortsel
AMB Eurogal PV1	541453110332688459	bestaande PGM met 1 MW ≥ Pmax < 25 MW	yes	26/09/2023	ArcelorMittal Belgium _ Ramet	Quai du Halage 10 4400 Flémalle-Haute
Antwerp Gateway Ketenisse Wind	541453154532556453	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Antwerp Gateway _ Doel	Geslecht K 1700 - 1720 9130 Doel
Aperam Stainless Belgium Genk PV (1-7)	541453122117401320	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Aperam Stainless Belgium _ Genk	Genk Zuid, Zone 6a 3600 Genk
Aperam Stainless Belgium Genk WT1 Koudwals	541453182318774241	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Aperam Stainless Belgium _ Genk	Genk Zuid, Zone 6a 3600 Genk
Aperam Stainless Belgium Genk WT2 Staalgieterij	541453128415175406	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Aperam Stainless Belgium _ Genk	Genk Zuid, Zone 6a 3600 Genk
Aperam_châtelet PV2	541453134643300268	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Aperam Stainless Belgium _ Châtelet	Rue des Ateliers 14 6200 Châtelet
Aquiris Buda Cogen	541453166122835213	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Aquiris _ Buda	Avenue de Vilvorde 450 1130 Bruxelles (Haeren)
Aquiris Buda PV	541453156641554801	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Aquiris _ Buda	Avenue de Vilvorde 450 1130 Bruxelles (Haeren)
ArcelorMittal Belgium Genk PV1	541453142688134519	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	ArcelorMittal Belgium _ Genk	Kanaaloever 3 3600 Genk
ArcelorMittal Belgium Gent Wind EBL	541453111621635512	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	ArcelorMittal Belgium _ Gent	John Kennedylaan 51 9000 Gent
ArcelorMittal Belgium Gent Wind Storm 1	541453181328349869	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	ArcelorMittal Belgium _ Gent	John Kennedylaan 51 9000 Gent
ArcelorMittal Belgium Gent Wind Storm 2	541453192703189215	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	ArcelorMittal Belgium _ Gent	John Kennedylaan 51 9000 Gent
Aspiravi N49 Assenede	541453113513361561	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Aspiravi _ Assenede	Hazelarenhoek Z/N 9968 Assenede
Audi Brussels PV	541453147007543409	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Audi Brussels _ Bruxelles	Brits Tweedelegerlaan 201 1190 Brussel (Vorst)
Audi Brussels WKK	541453157728830122	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Audi Brussels _ Bruxelles	Brits Tweedelegerlaan 201 1190 Brussel (Vorst)
Aveve PV1	541453184561416466	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Aveve _ Aalter	Venecolaan 22 9880 Aalter

AZ Damiaan diesel 1	541453181816511303	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	AZ Damiaan _ Oostende	Gouwelozestraat 100 8400 Oostende
AZ Damiaan diesel 2	541453118232870646	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	AZ Damiaan _ Oostende	Gouwelozestraat 100 8400 Oostende
BASF Antwerpen (autoproducent) 2	541453166600376115	bestaande PGM met 1 MW ≥ Pmax < 25 MW	yes	26/09/2023	BASF Antwerpen _ Antwerpen	Scheldelaan 600 2018 Antwerpen
BASF Antwerpen (processgenerator) 1	541453165153662751	bestaande PGM met 1 MW ≥ Pmax < 25 MW	yes	26/09/2023	BASF Antwerpen _ Antwerpen	Scheldelaan 600 2018 Antwerpen
BASF Antwerpen (processgenerator) 3	541453140150024764	bestaande PGM met 1 MW ≥ Pmax < 25 MW	yes	26/09/2023	BASF Antwerpen _ Antwerpen	Scheldelaan 600 2018 Antwerpen
BASF Antwerpen (processgenerator) 4	541453195536632712	bestaande PGM met 1 MW ≥ Pmax < 25 MW	yes	26/09/2023	BASF Antwerpen _ Antwerpen	Scheldelaan 600 2018 Antwerpen
BASF wind 1	541453134406815855	bestaande PGM met 1 MW ≥ Pmax < 25 MW	yes	26/09/2023	BASF Antwerpen _ Antwerpen	Scheldelaan 600 2018 Antwerpen
BASF wind 2	541453118383486864	bestaande PGM met 1 MW ≥ Pmax < 25 MW	yes	26/09/2023	BASF Antwerpen _ Antwerpen	Scheldelaan 600 2018 Antwerpen
Bastogne Ville Diesel 1	541453114008882585	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Kyndryl Belgium _ Bastogne	Rue de la Drève 11-13 6600 Bastogne
Bastogne Ville Diesel 2	541453100547612219	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Kyndryl Belgium _ Bastogne	Rue de la Drève 11-13 6600 Bastogne
Bastogne Ville Diesel 3	541453163203341700	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Kyndryl Belgium _ Bastogne	Rue de la Drève 11-13 6600 Bastogne
Bekaert Zwevegem Wind	541453150540262539	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Bekaert _ Zwevegem	Bekaertstraat 2 8550 Zwevegem
Beveren 2 Indaver	541453100613886117	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Indaver _ Doel	Molenweg 1 9130 Doel
Beveren 3 Indaver	541453160216284840	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Indaver _ Doel	Molenweg 1 9130 Doel
Beveren Ineos Phenolchemie	541453167983454469	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Ineos Phenol Belgium _ Doel	Geslecht 1 9130 Doel
Bionerga _ Beringen	541453184666605529	bestaande PGM met 1 MW ≥ Pmax < 25 MW	yes	26/09/2023	Borealis Polymers _ Beringen	Industrieweg 148 3583 Paal
Biostoom Oostende	541453116098731750	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	BIOSTOOM OOSTENDE _ Oostende	Solvaylaan 7 8400 Oostende
BioWanze RT Wanze ST1	541453172316402741	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	BioWanze _ Wanze	Rue Léon Charlier 11 4520 Wanze
BioWanze RT Wanze ST2	541453158436368402	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	BioWanze _ Wanze	Rue Léon Charlier 11 4520 Wanze
BioWanze Wanze Cogen	541453175672436627	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	BioWanze _ Wanze	Rue Léon Charlier 11 4520 Wanze
Borealis Kallo Wind	541453121080283445	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Borealis Kallo _ Kallo	Sint-Jansweg 2 9130 Doel
BP Chembel Geel VLP ST	541453171234545127	bestaande PGM met 1 MW ≥ Pmax < 25 MW	yes	26/09/2023	INEOS Aromatics Belgium _ Geel	Amocolaan 2 2440 Geel
BUTGENBACH	541453127643048766	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Electrabel _ Butgenbach	Chemin de Berg 4750 Bütgenbach/Butgenbach

CBR Gent Wind	541453187435053125	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	CBR _ Sint-Kruis-Winkel	Arbedkaai 3 9042 Sint-Kruis-Winkel
CIERREUX TJ	541453146718233821	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Electrabel _ Cierreux	Route de Cierreux 9 6671 Bovigny
Crystal Computing Baudour PV1	541453132354728654	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Crystal Computing _ Baudour	Rue de Ghlin 100 7331 Baudour
DNB Brussels Airport Zaventem PV Solar Finance	541453122401084857	bestaande PGM met 1 MW ≥ Pmax < 25 MW	yes	26/09/2023	DNB Brussels Airport _ Zaventem	Brussels National Airport 1930 Zaventem
DNB Brussels Airport Zaventem PV SolarEnergyFund	541453145540227220	bestaande PGM met 1 MW ≥ Pmax < 25 MW	yes	26/09/2023	DNB Brussels Airport _ Zaventem	Brussels National Airport 1930 Zaventem
DP World Ketenisse Biogas1	541453107303376743	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Antwerp Gateway _ Doel	Geslecht K 1700 - 1720 9130 Doel
DP World Ketenisse Biogas2	541453178231811514	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Antwerp Gateway _ Doel	Geslecht K 1700 - 1720 9130 Doel
DROGENBOS DM 51	541453166434425119	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Electrabel _ Drogenbos	De Bruyckerweg 1 1620 Drogenbos
DROGENBOS DM 52	541453118097931148	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Electrabel _ Drogenbos	De Bruyckerweg 1 1620 Drogenbos
EDF Luminus Degussa Wind	541453183895510437	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Luminus _ Antwerpen	Frans Tijsmanstunnel West 2040 Antwerpen
EDF Luminus Ham ST	541453166950833795	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Luminus _ Gent	Ham 68 9000 Gent
EDF Luminus Izegem WKK	541453165194183581	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Luminus _ Izegem	Prins Albertlaan 12 8870 Izegem
EDF Luminus Seraing Diesel	541453108537736419	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Luminus _ Seraing	Rue du Pont du Val 1 4100 Seraing
Electrawinds biomassa Oostende	541453164225101471	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Biopower Oostende _ Oostende	Kuipweg 44 8400 Oostende
Eurosilo	541453151102459435	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Euro-Silo _ Desteldonk	Pleitstraat 3 9042 Desteldonk
FINA 6 (autoproducent)	541453100152117284	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	TotalEnergies Refinery Antwerp _ Refinery Antwerp	Scheldelaan 16 2018 Antwerpen
Genencor _ WKK	541453102710663738	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Genencor International _ Brugge	Komvest 43 8000 Brugge
GlaxoSmithKline Biologicals Wavre WKK	541453132116537746	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	GlaxoSmithKline Biologicals _ Wavre	Rue Flemming 20 1300 Wavre
GlaxoSmithkline Biologicals Wavre WKK2	541453178261450721	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	GlaxoSmithKline Biologicals _ Wavre	Rue Flemming 20 1300 Wavre
Greenpower Oostende	541453151034182319	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Greenpower Oostende _ Oostende	Solvaylaan 7 8400 Oostende
HU LIXHE	541453157279372218	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Luminus _ Lixhe	Ferme de Navagne 4600 Visé
IBM Bastogne PV	541453127578857518	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Kyndryl Belgium _ Bastogne	Rue de la Drève 11-13 6600 Bastogne
IBM Vaux PV	541453133203483243	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Kyndryl Belgium _ Vaux-sur-Sûre	Chaussée de Saint Hubert, Morhet 1A 6640 Vaux-sur-Sûre
Indaver E-Wood	541453118600807298	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Indaver _ Doel	Molenweg 1 9130 Doel
Infrabel Berchem PV	541453160403527804	bestaande PGM met 1 MW ≥ Pmax < 25 MW	yes	26/09/2023	Infrabel _ Berchem	Lange Leemstraat 445 2018 Antwerpen

Infrabel Mechelen PV LCI	541453167407685516	bestaande PGM met 1 MW ≥ Pmax < 25 MW	yes	26/09/2023	Infrabel _ Mechelen	Leuvensesteenweg 30 2800 Mechelen
Ipalle Thumaide GTA1	541453187378502476	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Ipalle _ Thumaide	Hameau de Ribonfosse 9 7971 Thumaide
Ipalle Thumaide GTA2	541453172231706818	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Ipalle _ Thumaide	Hameau de Ribonfosse 9 7971 Thumaide
IVBO	541453101815474034	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	IVBO _ Brugge	Pathoekeweg 41 8000 Brugge
Jemeppe-sur-Sambre ST	541453131411314014	bestaande PGM met 1 MW ≥ Pmax < 25 MW	yes	26/09/2023	INOVYN Manufacturing Belgium _ Jemeppe	Rue Solvay 39 5190 Jemeppe-sur-Sambre
Katoen Natie PV	541453116601280621	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Katoen Natie Bulk Terminals _ Kallo	Keteldijk Kaai 1998 9130 Beveren-Waas
Katoen Natie windmolenpark 1	541453177178344819	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Katoen Natie Bulk Terminals _ Kallo	Keteldijk Kaai 1998 9130 Beveren-Waas
LANGERBRUGGE STORA ST 1	541453198140543696	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Stora Enso Langerbrugge _ Gent	Wondelgemkaai 200 9000 Gent
LANGERBRUGGE STORA_WT	541453173062885123	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Stora Enso Langerbrugge _ Gent	Wondelgemkaai 200 9000 Gent
Lanxess Lillo GT	541453105718457538	bestaande PGM met 1 MW ≥ Pmax < 25 MW	yes	26/09/2023	LANXESS Performance Materials _ Lillo	Scheldelaan 420 2040 Lillo
Lillo Degussa ST	541453144759976868	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Evonik Antwerpen _ Antwerpen	Frans Tijsmanstunnel West 2040 Antwerpen
Lommel PV Biligi	541453107753021569	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	LRM Lease _ Lommel	Balendijk 161 3920 Lommel
Lommel PV Heidevink	541453175054283238	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	LRM Lease _ Lommel	Balendijk 161 3920 Lommel
Monsanto Lillo GT	541453128545861842	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Bayer Agriculture _ Antwerpen	Scheldelaan 16 2018 Antwerpen
Monsanto Lillo tegendrukturbine	541453184717204046	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Bayer Agriculture _ Antwerpen	Scheldelaan 16 2018 Antwerpen
Montea PV5	541453135735354312	bestaande PGM met 1 MW ≥ Pmax < 25 MW	yes	26/09/2023	DNB Brussels Airport _ Zaventem	Brussels National Airport 1930 Zaventem
Noodstroomgroep 1	541453195857747430	bestaande PGM met 1 MW ≥ Pmax < 25 MW	yes	26/09/2023	DNB Brussels Airport _ Zaventem	Brussels National Airport 1930 Zaventem
Noodstroomgroep 2	541453142978315277	bestaande PGM met 1 MW ≥ Pmax < 25 MW	yes	26/09/2023	DNB Brussels Airport _ Zaventem	Brussels National Airport 1930 Zaventem
Noodstroomgroep 3	541453143389624507	bestaande PGM met 1 MW ≥ Pmax < 25 MW	yes	26/09/2023	DNB Brussels Airport _ Zaventem	Brussels National Airport 1930 Zaventem
Noodstroomgroep 4	541453107565066598	bestaande PGM met 1 MW ≥ Pmax < 25 MW	yes	26/09/2023	DNB Brussels Airport _ Zaventem	Brussels National Airport 1930 Zaventem
Noodstroomgroep 5	541453185439320533	bestaande PGM met 1 MW ≥ Pmax < 25 MW	yes	26/09/2023	DNB Brussels Airport _ Zaventem	Brussels National Airport 1930 Zaventem
Noodstroomgroep 6	541453185677529071	bestaande PGM met 1 MW ≥ Pmax < 25 MW	yes	26/09/2023	DNB Brussels Airport _ Zaventem	Brussels National Airport 1930 Zaventem
Noodstroomgroep 7	541453149553216486	bestaande PGM met 1 MW ≥ Pmax < 25 MW	yes	26/09/2023	DNB Brussels Airport _ Zaventem	Brussels National Airport 1930 Zaventem
Nordex Turbines	541453110562265314	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	CLdN Ports Zeebrugge _ Zeebrugge	Alfred Ronsestraat 100 8380 Zeebrugge
Nyrstar Belgium Balen ST	541453170712121877	bestaande PGM met 1 MW ≥ Pmax < 25 MW	yes	26/09/2023	NYRSTAR Belgium _ Balen	Zinkstraat 1 2490 Balen

Nyrstar Belgium Overpelt PV	541453184022614738	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	NYRSTAR Belgium _ Overpelt	Fabrieksstraat 144 bus 2 3900 Overpelt
Nyrstar Belgium Overpelt Wind	541453170321701866	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	NYRSTAR Belgium _ Overpelt	Fabrieksstraat 144 bus 2 3900 Overpelt
Prayon Rupel WKK	541453123527035488	bestaande PGM met 1 MW ≥ Pmax < 25 MW	yes	26/09/2023	Prayon _ Engis	Rue Joseph Wauters 144 4480 Engis
PV1_Nouryon	541453176001433010	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Nouryon Chemicals _ Ghlin	Zone Abv 7011 Ghlin
Sappi Lanaken Biogas	541453132241238532	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Sappi Lanaken _ Lanaken	Montaigneweg 2 3620 Lanaken
Schaerbeek Siomab ST1	541453138779848816	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Electrabel _ Siomab	Léon Monnoyerkaai 8 1120 Brussel
Schaerbeek Siomab ST2	541453144222223758	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Electrabel _ Siomab	Léon Monnoyerkaai 8 1120 Brussel
Schaerbeek Siomab ST3	541453130535531048	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Electrabel _ Siomab	Léon Monnoyerkaai 8 1120 Brussel
SCR Sibelco PV	541453121164441105	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	SCR - Sibelco _ Lommel	Maatheide 125 3920 Lommel
SCR Sibelco Wind	541453176247324233	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	SCR - Sibelco _ Lommel	Maatheide 125 3920 Lommel
Taminco (Gent) WKK	541453120760500438	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Taminco _ Gent	Pantserschipstraat 207 9000 Gent
Techspace Aero Herstal Cogen 1	541453182656167859	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Safran Aero Boosters _ Herstal	Hauts Sarts - Route de Liers 121 4041 Milmort
Tessenderlo Kerley International Ham stoomturbine	541453137751868026	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Vynova Belgium _ Tessenderlo	Stationsstraat 94 3980 Tessenderlo
Total Petrochemicals Feluy Cogen	541453186331116453	bestaande PGM met 1 MW ≥ Pmax < 25 MW	yes	26/09/2023	TotalEnergies Petrochemicals Feluy _ Feluy	Zone C de Feluy 7181 Feluy
Trinseo _ wind	541453115268878172	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Trinseo Belgium _ Tessenderlo	Havenlaan 7 3980 Tessenderlo
Umicore Olen GT1	541453175000213630	bestaande PGM met 1 MW ≥ Pmax < 25 MW	yes	26/09/2023	Umicore _ Olen	Kasteelstraat 7 2250 Olen
Umicore Olen GT2	541453160306454528	bestaande PGM met 1 MW ≥ Pmax < 25 MW	yes	26/09/2023	Umicore _ Olen	Kasteelstraat 7 2250 Olen
Umicore Olen ST	541453111438681580	bestaande PGM met 1 MW ≥ Pmax < 25 MW	yes	26/09/2023	Umicore _ Olen	Kasteelstraat 7 2250 Olen
Umicore Olen Wind	541453178168011582	bestaande PGM met 1 MW ≥ Pmax < 25 MW	yes	26/09/2023	Umicore _ Olen	Kasteelstraat 7 2250 Olen
Vaux Ville Diesel 1	541453140443540124	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Kyndryl Belgium _ Vaux-sur-Sûre	Chaussée de Saint Hubert, Morhet 1A 6640 Vaux-sur-Sûre
Vaux Ville Diesel 2	541453158800016281	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Kyndryl Belgium _ Vaux-sur-Sûre	Chaussée de Saint Hubert, Morhet 1A 6640 Vaux-sur-Sûre
Vaux Ville Diesel 3	541453107246131850	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Kyndryl Belgium _ Vaux-sur-Sûre	Chaussée de Saint Hubert, Morhet 1A 6640 Vaux-sur-Sûre
ViskoTeepak Lommel WKK	541453124138336537	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	ViskoTeepak _ Lommel	Maatheide 81 3920 Lommel
VLEEMO 3	541453176768857753	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	VLEEMO 3 _ Antwerpen	Amsterdamstraat 18 2000 Antwerpen
VMW Kluizen PV	541453175101101881	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	VMW _ Evergem	Nieuwe weg 30 9940 Evergem

Volvo Cars Gent Wind	541453174843665286	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	VOLVO CAR BELGIUM _ Gent	John Kennedylaan 25 9000 Gent
Volvo Group WIND	541453156667251562	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Volvo Group Belgium _ Oostakker	Smalleheerweg 29 9041 Oostakker
VPK Paper biogasmotor	541453162601820756	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	VPK Paper _ Dendermonde	Oude Baan 120 9200 Dendermonde
VPK Paper Oudegem GT3	541453157212253741	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	VPK Paper _ Dendermonde	Oude Baan 120 9200 Dendermonde
VPK Paper Oudegem ST4	541453175456660101	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	VPK Paper _ Dendermonde	Oude Baan 120 9200 Dendermonde
WKK CPChem	541453101164780268	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Vynova Belgium _ Tessenderlo	Stationsstraat 94 3980 Tessenderlo
WKK Upgrade Energy	541453105310662545	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Ashland Specialties Belgium _ Doel	Geslecht 2 9130 Doel
WM Park Powerport Zeebrugge	541453133378205466	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Eneco Wind Belgium _ Zeebrugge	Aziëstraat 1 8380 Zeebrugge
Zedelgem TJ	541453117791992424	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Electrabel _ Zedelgem	Torhoutsesteenweg 118A 8210 Zedelgem
Zeebrugge TJ	541453198953676222	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Electrabel _ Zeebrugge	Lanceloot Blondeellaan 8380 Zeebrugge
ZEEBRUGGE WIND	541453100815981627	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Aspiravi _ Zeebrugge	Henri-Victor Wolvenstraat 7 8380 Zeebrugge
Zelzate TJ	541453109119814631	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	ArcelorMittal Belgium _ Gent	John Kennedylaan 51 9000 Gent
Zwijndrecht Lanxess ST	541453130634707214	bestaande PGM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	ARLANXEO Belgium _ Zwijndrecht	Canadastraat 21 2070 Zwijndrecht

6) Transmission-connected asynchronous storage facilities (including CDS) with an installed capacity greater than or equal to 1 MW and less than 25 MW:

SNG Unieke benaming	**Uniek referentienummer**	**Categorie**	**CDS**	**Identification date**	Te contacteren entiteit door ELIA	**Adres van de te contacteren entiteit door ELIA**
Battery Bionerga	541453153841283012	bestaande SPM met 1 MW ≥ Pmax < 25 MW	yes	26/09/2023	Borealis Polymers _ Beringen	Industrieweg 148 3583 Paal
Crystal Computing Bess system	541453126771324704	bestaande SPM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Crystal Computing _ Baudour	Rue de Ghlin 100 7331 Baudour
Drogenbos Batteries	541453118266377449	bestaande SPM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Electrabel _ Drogenbos	De Bruyckerweg 1 1620 Drogenbos
Estor-Lux _ Storage	541453173586313676	bestaande SPM met 1 MW ≥ Pmax < 25 MW	no	26/09/2023	Estor-Lux _ Bastogne	Rue de la Drève 11-13 6600 Bastogne
Umicore Olen BESS	541453169125992853	bestaande SPM met 1 MW ≥ Pmax < 25 MW	yes	26/09/2023	Umicore _ Olen	Kasteelstraat 7 2250 Olen