

WGSO EMD – Users Group

Datum: 18/09/2018

Elia – EMP 1.24

Participants

Bram Dewispelaere	EDF Luminus
Michaël van Bossuyt	Febeliec
Steven Harlem	Febeg
Eric Dekinderen	Engie
Xavier Coppin	Engie
Jo Robbelein	FoD Economie
Katrien Selderslaghs	FoD Economie
Filip Carton	Elia
Bernard Malfliet	Elia
Peter Van Meirhaeghe	Elia
Martine Verelst (part time)	Elia
Bob Hebb	Elia
Sofie Van den waeyenberg	Elia
Raphaël Castadot	Elia

Nota

Filip Carton introduces the meeting of today. Elia is aware that there are remaining questions; especially on the market interactions, but the focus of today are restoration aspects. Slides prepared by Elia are used to support the discussions.

1. Timing and deliverables

Elia summarizes the main milestones:

- Public consultation starting on October 1st
- Preparation of a consultation report with the comments received during the public consultation
- Submission of NCER documents on December 18th
- Submission of black start study in response to CREG incentive on December 20th
- Preparation of test plan in 2019
- Documents sent to Coreso on June 18th, 2019.

Febeliec asks Elia what is the role of Coreso in the approval, as it has no legal status on the European level yet. Elia answers that it is for advice and to check the coherence.

2. List of deliverables

Elia says that the CREG should validate the documents according to NCER. However, a door remains open for the Member State to choose another party. Fod Economie acknowledges these principles and says that there are no new elements at this moment.

Febeliec asks if no public consultation means that the documents will not be in a public consultation organized by Elia or if there will be no public consultation at all. Elia answers that “no public consultation” as on the slide means “no public consultation organized by Elia”.

Engie asks if Terms and Conditions (T&C) for Defense Service Providers (DSP) will be drafted even if it is not foreseen to use services of DSPs. Elia answers that a justification will be provided. It should be clarified by the legal department if a dedicated document should be drafted.

3. SGUs and Service providers

Elia reminds that the status of identified SGUs and Service Providers are different. Identified SGUs provide services on a mandatory basis depending on legal obligations while Service Providers propose their service on a voluntary basis.

Engie asks who validates the legal requirements applicable to SGUs and if it is part of the connection contract. In such case, will the CREG be in charge of the validation?

4. T&C for Restoration Service Providers (RSP)

Elia states that the services provided by RSP are voluntary. Currently, only Black Start providers are in this category. The 5 current Black Start units are contracted until 2020. In order to avoid inconsistencies with the current black start contract, Elia proposes that the T&C for RSP to be submitted to the CREG by 18 December are correspond to the current black start contract. Modifications will occur in the future for implementation of the new design.

Engie asks why the services should be different if these are provided on a voluntary or mandatory basis. This is only pertinent for RSP as the installation of the black start capability may be imposed in case of a lack of black start services in the system. The proposal of Elia is that the T&C are the same in both cases.

5. Restoration plan

Elia explains the basic principles of the current restoration plan. 3 phases are considered:

- A diagnosis during which the situation will be assessed and the more appropriate reconstruction strategy will be chosen
- A reconstruction phase during which the dedicated procedures will be applied.
- A resynchronisation phase during which islands are resynchronized to form a uniform zone.

Febeliec asks what the status of CDSOs is as they have an equivalent status than DSOs from the European perspective. Elia answers that they will be treated as such and will be contacted by the Regional Control Centers (RCC) but the communication should be clearly defined.

Elia reminds that T&C should also be developed for High Priority Significant Grid Users (HP SGUs). Currently, the HP SGUs considered for the restoration are the auxiliaries of nuclear power plants, the important Fluxys sites and the list of HP SGUs already mentioned in the FTR (hospitals, emergency call center ...).

Engie asks Elia if the sufficient backup power capacity is also guaranteed at Fluxys sites. Elia answers that these Fluxys compressor stations are equipped with diesels. However, these should be considered as a backup in case the power could not be restored fast enough.

Regarding to the communication to stakeholders, Elia foresees to send a signal after a blackout. All available means will be used (SMS via RingRing service of Proximus, WhatsApp, RSS feed, website for

stakeholders,...), if possible in parallel. A registration of the stakeholders for these services will be foreseen.

Elia will also communicate a best estimation of the time at which the system will be restored. Elia has as objective to have 90% of the Elia connection points re-energized within 24 hours. Updates of the restoration process will also be provided as well as a notification when the system is back in normal or alert state. Engie would like to know if it considers only the Elia grid. Elia confirms that the communication will be about the Elia system only.

During last meeting (05/09), it was asked who has access to a blackout proof phone. Elia investigated and confirms that only large production sites have a blackout proof phone in their control rooms and are connected to the DATACOM network of Elia. Elia underlines the importance of communication with grid users during a blackout and reconstruction. Elia recommends that such phones should also be foreseen in control rooms of other grid users, especially directly connected large industrial consumers. Febeliec supports this principle and proposes to discuss this further bilaterally. Elia says that practical implementation at the grid users will be managed by Elia's Key account managers.

Elia explains that the current restoration plan should be restructured to take into account the NCER requirements. However, the procedures for re-energization remains unchanged (minor changes are possible). The main difference is that a procedure for system split should appear clearly.

Engie reacts on the target frequency of 51Hz indicated on the slide and asks if it should be updated. Elia answers that the goal of these 51Hz is to have additional margins when connecting load blocks and that the frequency target will be set to 50 Hz when the first non-black start unit will be synchronized.

6. Study for future black start strategy in response to the CREG incentive

Elia explains the hypothesis taken into account to determine the number of required black start units. In addition to other critical loads, also the location of other non-black start units is considered as a factor. Fod Economie asks why these locations play a role. Elia answers a quick re-energization of non-black start units contributes to the restoration of the system (support in terms of MW production and Mvar absorption). A heat map has been produced with generation clusters. This has been considered in the study (black start unit must be in the neighborhood of non-black start units with the constraints that black start units should be able to supply at least 2 clusters).

Elia confirms that plants with houseload capabilities are not taken into account, as there are too many uncertainties regarding to their availability.

To determine the number of black start units required, Elia considers that each black start unit should be available to reach another zone in case the unit in this zone is not available. As a result, Elia considers that four black start units are necessary to cover the requirements (3 zonal service + 1 backbone service). However, Elia reserves the right to add a 5th one in case the outcome of a procurement procedure would be such that some zones are not sufficiently covered.

Fod Economie finds that there is a focus on Doel and Tihange and asks if it is relevant in a context of nuclear phase out. Elia answers that, even after the phase out, some cooling requirements remain on these sites. Hence, auxiliaries of nuclear power plants should remain supplied.

Engie asks why Seveso sites do not have the same priority as nuclear sites. Elia answers that Seveso sites are supposed to provide their own back-up. Febeliec adds that, at Seveso sites, the process is stopped when there is no electricity. In nuclear power plants, the fuel rods continue to produce heat

and should remain cooled. Both Seveso and nuclear sites are a matter of safety but there is a difference.

Febeliec asks for how long will the black start units be contracted. Elia answers that it is not fixed and could depend of the discussions with service providers. Febeliec says that with the nuclear phase out, the location of black start units may change. Elia answers that it should not have an important impact, as cooling capacity is still required at the nuclear sites after a phase out. . However, the required power will be less important as the nuclear plants should not be restarted for production purposes.

Engie asks if Elia has a sufficient team to start-up three zonal black start units at all time. Elia confirms that a sufficient workforce is always present in the dispatching. Nevertheless, additional forces will be called in such case.

The potential of offshore wind turbines as well as PV for black start is discussed. Based on its research, Elia concluded that, even if it could be technically possible, the solutions are not mature enough yet to consider these sources as reliable black start units. Elia will monitor the evolutions and consider reviewing the service design when the technology is mature.

7. Design note for future restoration services

Elia highlights the main changes compared to the current black start contract: possibility for aggregation (a service including assets on different connection points, see below), split of the price in three components for more transparency,... However, the scope remains focused on black start. Household operation is not considered.

Elia clarifies the concept of aggregation: it is to allow collaboration of multiple actors to provide a staged black start service, where a black start source (diesel, battery, small turbine) aimed to power the auxiliaries of a main generator could be at another geographical location nearby the main generator. However, the feasibility of the cranking path between black start source and main generator should be studied.

EDF asks if the RSP is penalized in case the cranking path of the RSO is not available. Elia answers that it will not be the case. This will be clarified in the design note.

Febeg asks for precision about the aggregation process. Elia answers that the potential restoration service provider will act as single point of contact with Elia and that the RSP manages the collaboration and commercial provisions between involved stakeholders. The RSP should come with a proposal; Elia will evaluate if it is feasible or not.

Regarding the technical requirements, EDF remarks the requirement on reactive power depends on the location. Elia confirms this and says it has to be discussed.

Elia explains that in almost all cases, black start capabilities are provided on voluntary basis. There is one exception: according to the RfG: black start capability is not mandatory without prejudice to the Member State's rights to introduce obligatory rules in order to ensure system security. ELIA clarifies in response to questions of Engie and Febeliec that the option for mandatory black start capability (technical installment) is only applicable to PGM subject to RfG and the concerned article is valid for PGM type C and D.

For more transparency, the remuneration for the black start service will be split in 3 distinct parts: Capital costs, Operational costs and Opportunity costs. Capital costs are only applicable to new black start capabilities (technical installation). Opportunity costs are only applicable in case of storage

requirements (minimum energy volume). EDF asks what falls under the “capital cost”. Elia answers that it should be a clear investment: new black start capability or a substantial renewal.

Engie stresses that for long terms contracts, it will be difficult to submit a good offer for operational and opportunity costs. Febeliec points out that long term contracts discourage the market.

A prequalification test will be foreseen. This will be applicable for new facilities or facilities in which heavy modifications have been made. A compliance test is also foreseen every 3 years as required by the NCER. A penalty is applied in case the tests are not successful. The authorized unavailability decreases in correspondence to historical data on revision planning (40 days instead of 70 days). Febeliec remarks that black start units unavailable for more than 120 days should reimburse their capital cost retroactively as well. Febeliec considers it is unfair that grid users should have to pay the capital costs of the black start units for a service that cannot be provided.

8. Market suspension and restoration

Main principles for market suspension are summarized by Elia:

- Markets should be kept active as long as possible. A notification is foreseen before the effective market suspension.
- A default capacity (probably 0) will be sent for the market coupling on the European level to remain active
- BRPs will temporarily not have to maintain a balanced portfolio and will not be penalized but will remain the SPOC of Elia.

Elia reminds that, even if BRPs are not responsible for their balanced portfolio in market suspension periods, other responsibilities remain.

EDF and Engie ask at which point, the influence of the TSO is big enough to induce a market suspension. The example of England where markets are suspended when 5% of the load is disconnected is given. Elia maintains that they would like to keep the markets open as long as possible. Febeliec agrees with Elia and considers that it is better to keep the market active even if there is some imbalance than to have a price determined ex-post or ex-ante.

9. Rules for imbalance settlement during market suspension periods

Elia clarifies the slide: the final client will pay its electricity consumed during market suspension periods according to the contract with its supplier as in a normal situation.

Engie states that producers should be remunerated correctly. If they do not cover their costs, they have no interest to produce. Elia reminds that there is a global incentive: restore the grid as fast as possible.

10. System Defence Plan (SDP)

Elia announces that a first draft/working document is almost ready and will be sent to the present members of the WGSO EMD users group as well as to Synergrid. Elia asks to provide feedback before the next WGSO meeting on November 20th 2018.

Next steps

- **Elia (21/09)**: Sends a DRAFT version of the System Defense Plan to members of the WGSO and Synergrid for comments
- **Public consultation** : October 1st
- **Next WGSO meeting** : November 20th 2018