VGB reply at answers given by ENTSO-E at the VGB questions at the SO ESC 14/12/2018

Presented at SO ESC 21/3/2019

Content of this presentation

- At the SO ESC dated 7/3/2018, VGB has asked for details of the SOGL.
- At the SO ESC dated 14/12/2018 ENTSO-E has replied to the questions.
- VGB does not understand some answers as described in following slides.

This presentation is divided into several categories :

- Items asking for more information from ENTSO-E.
- Items classified as subject for Experts Groups.
- Items with a clear answer.
- Items for which VGB expects an answer on a short notice.

NOTE : At the following slides :
The original questions from VGB are visualised in black.
The answers from ENTSO-E are visualised in bold and blue.
The comments are visualised VGB in red.

Status HVDC installation

Art. 2.1.f defines a HVDC installation (HVDC) as a significant grid user (SGU).
But compared to a generator or a consumer, a HVDC installation is not subjected to several requirements. What is the intention of this Guideline?

Requirements for SGUs are applicable for HVDC systems

Art. 15.3 does not impose statistics for a HVDC as it is imposed for PGMs, grid elements and demand. Why?

Art. 22.1.c imposes to manage the reactive power by all means but not by a HVDC. Why?

Art. 22.1.g imposes to adjust only the active power through a HVDC, not the reactive power. Why?

Art. 84.2 describes the outage coordination of PGMs, demand and grid elements, but not for HVDC. Why?

Art. 84.2.c does not mention a HVDC as a potential relevant SGU for outage coordination. Why?

Art. 85.2 does not include a HVDC as an input for the ENTSO-E operational planning data environment. Why?

Art. 87 describing grid elements is not covering HVDC according the ENTSO-E answer above.

Art. 109 describing reactive power ancillary services cannot be applied on HVDC. Why?

Art. 111 and Art. 113 describe the role of scheduling agents for generation and demand.

- Does this include HVDC installations?
- Do the notions “generation” or “demand” apply at HVDC? If yes, specify it.

CAN A MEMBER STATE IMPOSE ADDITIONAL, MORE STRINGENT REQUIREMENTS?
(This is not allowed according to EC statements at the GC ESC of 9/12/2016 for the NC RfG).

Answers asking for more explanation (1)

Art.18.4.b : Why is the status of black-out applied after three minutes of absence of voltage in the control area?

The 2nd attempt for auto-reclosure of circuit breakers is not later than 3 minutes

VGB cannot accept this answer because the status of a COMPLETE control area does not depend on a successful auto-reclosure. Please provide a more justified explanation.

Art. 23.4 imposes remedial actions when the system is NOT in normal or alert state. This is a subject for the E&R code instead the GL SO?

The coordination of remedial actions is covered by SO GL. In NC ER are defined the requirements for coordinating the measures of system defence and restoration plans.

This answer is not coherent with E&R code Art.1.a : the subject matter of this code is “the management by TSOs of the emergency, blackout and restoration states.”

So if a transmission system is not in the normal or alert state, it becomes subjected to the E&R code.

If the answer is correct, Art. 1 of the E&R code has to be modified.

Another solution could be : the words “ if its transmission system is not in normal or alert state” have to be erased in Art. 23.4 of the GLSO.

Answers asking for more explanation (2)

Art. 24.1.e imposes the TSOs to facilitate cross-border operations. How to interpret this obligation in case of emergency (Art. 21.1.a and 22.1.i)?

Article 24.1 lists the means, tools and facilities for which each TSO shall ensure the availability, reliability and redundancy, this includes the tools and communication means necessary for TSOs to facilitate cross-border market operations. This is not the same as the obligation to facilitate cross-border operations. In case of emergency, the rules for suspension and restoration of market activities defined on national level in accordance with NC ER apply.

VGB cannot accept this answer because Art. 24 includes also the “means”. The word “means” includes the interconnectors themselves. Idem for the word “tools” in Art.24.1.e.

No definition exist for the words “means” and “tools”.

Art. 25.2 requires to take into account the frequency limits of SGU in normal and alert situations. But nothing is said about submission of those limits (see Art. 28.3). What about the rights of DSOs (≠ SGU)?

In general, application of SOGL requirements is done wrt (= with respect to???) capabilities of existing SGUs. If necessary, a TSO can ask a SGU to clarify them.

The answer applies only for SGUs and according to Art. 2.1, a DSO is NOT a SGU. VGB proposes to modify Art. 2.1 by adding DSOs in the list of SGU. See also the list of “minor items” about Art. 2.

Answers asking for more explanation (3)

Art. 54.4 allows tests at any time referring to Art.41.2 of RfG allowing only tests according to a “repeat plan”. We suppose that RfG prevails for ALL PGMs.

Response under development.

VGB insists that ENTSO-E will provide an answer on a short notice. This is an important issue. VGB will only accept such tests for generators according to a repeat plan as imposed by the RfG code.

Art. 98.4.a allows a TSO to force an “unavailable status” into an “available status”.
This is not always possible. E.g : refuelling of a nuclear PGM.

The provision concerns year-ahead availability plans, alternative availability plans resolving the outage incompatibility in this timeframe are generally feasible.

The answer does not apply for the example. If the refuelling of a nuclear PGM has to be postponed due to grid incompatibility, this would mean that such PGM has to go into a “forced outage” due to a lack of fuel. VGB expects that all TSOs prefer to avoid “forced outages” if such outage is predictable. VGB expects that the related costs will be defined at national level. Is this interpretation correct?

Answers asking for more explanation (4)

Art. 119.1.c : Ramping restrictions for PGMs : more information and values are needed to analyse the impact of this article.

This is in the scope of synchronous area operational agreements, then (potentially) control block agreement: they are both submitted for consultation, where the impact would be more precisely addressed.

VGB will give its position based on the content of the synchronous area operational agreement.

Art.152.8-13 & 16 allows a TSO to modify the active power of generators and consumers to grant sufficient reserves (FRR, RR, FRCE). Is this done according market rules or agreements with SGU?

It shall be done in compliance with national rules/agreements

VGB will give its position based on the content of some national rules.

Art.156.9 imposes that FCR is continuously available. This does not apply when a PGM does already supply FCR in normal state or alert state. Correct?

It means that FCR providing units/groups with LER shall fulfil this requirement when being contracted to provide FCR. Additional explanations are available in the scope of explanatory documents provided together with CBA for LER units providing FCR.

VGB will give its position based on the content of those documents when available.

Answers asking for more explanation (5)

Art. 156.13.b requires the recovery of the energy reservoir for FCR within 2 hours after the end of the alert state. Questions : ≠ emergency state? / = with active markets ? / what without markets? / single event or several events? Details are missing.

SO GL covers the rules for normal and alert state. Market suspension is not foreseen for normal and alert state.

The interpretation of your answer is that “the end of the alert state” means entering again into the normal state and not into states described outside this code. At that moment, markets are operational. Is this interpretation correct? The original wording allows a different interpretation.

Art. 157.2.a describes the dimensioning of FCR based on historical data. This should be based on a “lessons learned” approach. Cfr. Incident 4/11/2006.

Article 156 is about FRR dimensioning (not FCR). According to article 153.2 FCR per synchronous area shall cover at least the reference incident.

The question concerns Art. 157.2.a for FRR (and not for FCR as mentioned in the question). Are remedial actions such as those to prevent a similar incident as on 4 November 2006 taken into account together with the “consecutive historical records”?

Questions submitted to Expert Groups

- Small PGM installed at an industrial site > 110 kV
- Operational rules for storage / batteries

NO COMMENTS

Answers accepted by VGB (1)

- Art. 21.1.a and 22.1.i allow TSOs to open an interconnector in case of emergency. Shall generators and consumers be compensated?
  Compensation schemes are not in the scope of SO GL, it is defined on national level.
- Art. 22.1.c.iv allows TSO to block automatic voltage control. Who will compensate the damage when IEC standards are not respected?
  Compensation schemes are not in the scope of SO GL, it is defined on national level.
- Art. 22.1.j allows to activate a manually controlled load shedding.
  Is this done according to an existing agreement with the consumer?
  This is not regulated with SO GL, subject to national decision.
- Art. 28.1 imposes to submit the applicable voltage ranges of existing SGU before 14/12/2017. This is supposed at 50 Hz only. Correct?
  It's up to the SGU to provide these capabilities taking into account whether they change in different frequency ranges.
- Art. 31.3 imposes max. and min. limits for short-circuit currents. A deviation of the limits is only allowed during switching operations. The min. value has to be respected at all times. Correct?
  Art 31(3) requests TSO to prevent from deviations on min/max limits. This is applicable in general.
- Art. 33 : To add at the contingency analysis : successive voltage dips due to lightning can provoke the tripping of PGMs (Cfr. black-out in Australia)
  Plenty of other technical dynamic scenarios could be described (eg: effect of ULTC). The Article shall remain general.

Answers accepted by VGB (2)

- Art. 37 describes a “special protection scheme”. What is such scheme?
  According to the definition in an early version of SO GL ‘special protection scheme’ means the set of coordinated and automatic measures designed to provide for fast reaction to disturbances and to avoid the propagation of disturbances in the transmission system. (the definition was removed during comitology).
- Art. 45.1.k imposes to determine the cost of remedial actions. How? How do we have to interpret “market based mechanisms”?
  Costs of remedial actions have to be provided ex-ante according to Art 78(1). Elements needed for receiving these costs have to be defined at national level.
- Art. 95 (outage planning) : the allocation of costs detected at incompatibilities is unclear. Who shall bear those costs?
  In application of national rules.
- Art.102.1 imposes a procedure for forced outages. Why? This is an element of the contingency analysis made by the TSO. What is the intention of this article?
  This procedure was requested by stakeholders to address very specific situations, including cases where several units/elements are subject to stop urgently.
- Art. 102.3 : “When undertaking the procedure, the TSO shall respect, to the extent possible, the technical limits of the relevant assets.” Meaning???
  Eg taking into account a potential obligation for nuclear PGM to stop.

Answers accepted by VGB (3)

- Art. 157.2.j & k imposes sufficient FRR during 99% of the time. Meaning that during 86 hours per year, a black out is realistic. Why not 99,9% instead of 99%?
  It is not likely that the reduction of FRR capacity would cause a LFC block imbalance resulting in a blackout. Supporting document of LFCR part of SO GL provides comprehensive explanations on reserve dimensioning.

Minor items : no answer received form ENTSO-E (1)

- Art. 2 : A DSO is not a SGU according to recital 3. Correct???
- Art. 3 : “load-frequency-control” is not defined (see Def. 12; 18; 140)
- Art. 3.71 : ‘availability status’ means the capability of a power generating module, grid element or demand facility to provide a service for a given time period, regardless of whether or not it is in operation. More explanation needed for the terms “available” and “in operation”.
- Art. 7 : ACER cannot propose amendments. Why??
- Art. 8.1 : Is a TSO legally obliged to inform stakeholders by other means than the internet? What is the legal status of an “hidden” internet publication?
- Art. 27.5 (voltage ranges for DSO < 110 kV) : what with DSO at 110 kV or more?
- Art. 35 allows a TSO to consider the N-1 criterion as sufficient. This is not allowed for SEVESO plants and nuclear PGMs. Contradiction between Art.40.3 (generation/ consumption) and Art. 40.4 (injections / withdrawals)??
- Art. 52.3 : The min. and max. power to be curtailed is NOT a real-time data.
- Art.109.3 : At un-sufficient reactive power, the regulator is not informed. Why? To compare to Art. 105.3 for active power : the regulator is informed.
- Art. 110.4 : No definition of a shipping agent. Unknown role.
- Art.114 : the information in the ENTSOE operational planning data environment is of paramount commercial value for traders. How will ENTSOE prevent leakages?

Minor items : no answer received form ENTSO-E (2)

- Art.119 : LFC block, LFC area, outage coordination area and monitoring area are new terms. Could those be explained and visualised in a list or a map?
- Art.127.8.b requires a public consultation for a modification of the frequency quality parameters. What is the role of the ESC?
- Art.128.1 : the terms Level 1 FRCE range and Level 2 FRCE range are not clear.
- Art. 133 : A TSO has to collect data to define the frequency quality parameters. Who will have access to those parameters.? Will they be published? (Idem 134.4)
- Art. 135 allows a TSO to request data from generators and consumers related to imbalances. What is the purpose of this? Imbalance is a notion at portfolio level.
- Art. 137.4 (ramping rates for generators and demand) : What is the added value if the modifications are within a LFC block / a single synchronous area? This provision can provoke additional unbalances if too restricting.
- Art. 138 describes measures in case the frequency quality is not respected. The proposed mitigation is with the existing quality parameters. Correct?
- Art. 154.3 specifies that a TSO can impose additional requirements for FCR. Are other criteria than geographical ones possible?
- Art.185.1 & 5 impose to notify ENTSOE about modified frequency quality parameters. Is this according Art. 6 (approval process) and Art. 11 (public consultation).

Questions?