

Implementation Network Codes

WG Belgian Grid
26 October 2016

P. Buijs

Overview

1. Non-NC driven changes to the Federal Grid Code

- a) Proposed priority topics
- b) Proposed approach per priority topic
- c) Capacity Reservation: status report
- d) CDS proposals: status report

2. Status & Feedback “Implementation Network Codes”

- a) Frequency Management & Stability: feedback requested + waiting for ENTSO-E
- b) Operational Information Exchange: detailed overview from a NC-perspective
- c) Next meetings: schedule

3. Modernization of a Connection Point: process & proposal

4. Status on the revision of connection requirements for local production on the distribution grid (C10/11) – Relation with CENELEC technical specifications

1. Non-NC driven changes to the Federal Grid Code

- a) Proposed priority topics
- b) Proposed approach per priority topic
- c) Capacity Reservation: status report
- d) CDS proposals: status report

1. Non-NC driven changes to the Federal Grid Code

a) Proposed priority topics

- Based on the feedback received (1) since last meeting and (2) the contributions received as during summer, we identified **12 priority topics**.
 - Each topic **clusters multiple ideas** put forward in the contributions received during summer
 - All topics **covering ideas of at least 3 stakeholder** contributions (3 out of Febeg, Febeliec, DSOs & Elia) are considered priority.
- The **“priority”-label** means that these topics are primarily dealt with in discussions
 - The **other ideas are not forgotten** and should be taken on board whenever suitable, but priorities are needed to structure the work and the limited resources available.
 - Even if considered a priority, it remains important to **integrate topics in other ongoing dedicated discussions** whenever suitable

1. Non-NC driven changes to the Federal Grid Code

a) Proposed priority topics

Feedback received since WG Belgian Grid 26/9/2016:

- **DSOs:** since the initial DSO-list contained less than 15 items, all items are considered a priority
- **FEBEG:** from the initial priority list the following items have been emphasized:
 - FEBEG 5 – Grid losses: shift to tendering of grid losses
 - FEBEG 7 – Congestion management: evolve to remuneration for constraints/curtailments
 - FEBEG 9 – Information flows: communication near real-time balancing position to BRP's
 - FEBEG 11 – Ancillary services: integrated merit order for all free bids and R3-products
- **Elia:** reduction to 15 priorities, dropping the “futureproof for HVDC/Offshore” as this probably should be inherent into any other topic and should not require many debate

1. Non-NC driven changes to the Federal Grid Code

a) Proposed priority topics

Feedback received since WG Belgian Grid 26/9/2016:

- **FEBELIEC:** Complete priority list received

1. BRP	13. Access Holder related	25. Art. 71 (U,Q diagram)
2. Balancing obligation	14. Supplier	26. Cleaning
3. Market roles & responsibilities	15. CIPU	27. Safety
4. Closed Distribution System	16. Flexible access	28. Capacity reservation
5. Aspects linked to metering	17. Data exchange	29. ID Production programs
6. Priority Dispatch for certain production types	18. Connection requirement framework	30. Availability planning data
7. Definitions	19. Connection requirements	31. Emergency plans
8. Ancillary services (product design)	20. Coherent evolution of old connections	32. Future proof: HVDC, Offshore, ...
9. Ancillary services (balancing market design)	21. Shared connection	33. Confidentiality
10. Grid Losses	22. TSO-DSO	34. Terrains not owned by TSO
11. Storage	23. Attune federal & regional GC	35. All-in contracts
12. Technology neutrality	24. Connection request	36. Wellbeing

1. Non-NC driven changes to the Federal Grid Code

a) Proposed priority topics

The following table refers to the clustered topics presented in WG Belgian Grid of 26/09/2016, which was based on the written contributions received prior to the Genval workshop of 6/09/2016

1	Definitions	10	Shared connection	19	Flexible access	28	Emergency plans
2	Technology neutrality	11	Aspects linked to metering	20	CIPU	29	TSO-DSO
3	Closed distribution system	12	Capacity reservation	21	Ancillary services (product design)	30	Attune federal & regional GC
4	Storage	13	Connection request	22	Ancillary services (balancing market design)	31	Availability planning data
5	Future proof: HVDC, offshore, ...	14	Terrains not owned by TSO	23	Data exchange	32	Confidentiality
6	Priority dispatch for certain production types	15	Art. 71 (U, Q diagram)	24	Access holder related	33	Wellbeing
7	Connection requirement framework	16	Market roles & responsibilities	25	Balancing obligation	34	All-in contracts
8	Connection requirements	17	Supplier	26	ID production programs	35	Safety
9	Coherent evolution of old connections	18	BRP	27	Grid losses	36	Cleaning

(Non-NC driven) ideas for updating the Federal Grid Code

ID	Short name	Description	SH ideas
General aspects			
1	Definitions	<p>Definitions used by the FGC should be as much as possible aligned with the overall legal, contractual and regulatory framework.</p> <p>Where needed new definitions should be considered, e.g. demand response, local production unit, local transmission network, flexibility, ...</p> <p>Where possible a definition valid for the three regions should be created.</p>	FBG 1 FBL 3 DSO 1 Elia 1
2	Technology neutrality	FGC should be made technology-neutral, in particular for ancillary services.	FBL 7 Elia 2
3	Closed Distribution System	<p>The FGC (and regional grid codes) should be updated to reflect the new reality with respect to CDS and to be future proof.</p> <p><u>Elia</u>: amongst others, the contractual relationship with the transmission system operator and the relation (or aspects thereof) with other market roles such as the BRP, the information exchanges to be covered by a CDS operator, testing requirements and keeping a register of conformity with respect to its grid users,...</p>	FBG 8 FBL 6 Elia 5
4	Storage	<p>A framework for storage facilities should be defined, taken into account:</p> <ul style="list-style-type: none"> - connection requirements for such facilities - characteristics of generation and demand unit 	FBG 2 FBL 8 Elia 6
5	Future proof: HVDC, Offshore, ...	<ul style="list-style-type: none"> - In general, the Federal Grid Code may not act as a barrier for the upcoming evolutions with respect to offshore grids and offshore grid users. Not only aspects related to the connection to the main grid, but also market-related aspects should be taken into account (e.g. storm risk, ramping rates...). - The Federal Grid Code should be made future-proof with respect to the introduction of HVDC technology in the Belgian framework. The Federal Grid Code should not act as a barrier with respect to, for instance, the provision of services by HVDC installations or their integration in the market framework across all timeframes. 	Elia 7 / 8

(Non-NC driven) ideas for updating the Federal Grid Code

ID	Short name	Description	SH ideas
Connection			
6	Priority Dispatch for certain production types	This is by Febeliec considered to be an important market distortion that hinders the correct Energy Only Market functioning. Febeliec insists on eliminating this priority dispatch as soon as possible.	FBL 14
7	Connection requirement framework	In general it could be considered to provide a more solid legal and/or regulatory basis for the connection requirements applicable for grid users connected to the Elia grid.	Elia 15
8	Connection requirements	Next to the necessary implementations following the NC, also requirements linked to aspects not (entirely) arranged by the NC must be kept up-to-date and must be clarified where needed. Also and to the extent not already adequately covered by the NC, obligations on informing the transmission system operator on the evolution of installed generation capacity (also for small volumes, e.g. 1 MW) should be considered. Articles 61 to 78 concerning additional prescriptions for the connection of production units to be modified to be in line with NC RfG	DSO 6 Elia 16
9	Coherent evolution of old connections	In order to facilitate an optimal long term techno-economic grid development in the interest of all grid users, Elia proposes to introduce in the FGC a framework which aims to promote, whenever necessary, a harmonized evolution of some old existing connections in coherence with the needs of the grid. Such framework should take into account the characteristics of the concerned connections, respect the applicable tariff framework, be applied in dialogue with between the network operator and the grid user and deliver an appropriate solution for the grid user.	Elia 17
10	Shared connection	The FGC could consider the introduction of the concept of “shared connection”, i.e. a connection to the Elia grid used by multiple (but not unlimited) legal parties, each of them having an individual connection contract or collaboration agreement with Elia and possibly located on different geographical sites. Also the ‘capacity transfer’ which is at the basis of a shared connection should be covered.	Elia 18

(Non-NC driven) ideas for updating the Federal Grid Code

ID	Short name	Description	SH ideas
Connection (continuation)			
11	Aspects linked to metering	<p><u>FEBEG</u>: Allow commercial parties, other than Elia, to become active in the business of metering services (installing and operating).</p> <p><u>Febeliec</u>: sub-metering proposal (suggested by Elia) should be included in the FGC. Participation in the electricity market requires a smart meter. These smart meters should be placed (and analogue meters replaced).</p> <p><u>DSOs</u>: explicitly determine in the FGC who is the manager of the measuring device</p> <p><u>Elia</u>: FGC should be made future-proof providing a solid framework allowing recent evolutions (e.g. dealing with the metering installations at CIPU units and submetering which are not covered by the connection contract but rather by ancillary services contracts).</p>	<p>FBG 14</p> <p>FBL 13</p> <p>DSO 9</p> <p>Elia 12</p>
12	Capacity reservation	The FGC may not block any evolution as regard to congestion management, e.g. discussions as regards 'red zones' or compensation for 'flexible access'	User's Group approval
13	Connection request	Ensure that every grid user or a designated third party could make a connection request.	Elia 24
14	Terrains not owned by TSO	Reformulation of TSO obligations if connection installations are located on terrains not owned by the TSO (priority)	Elia 24
15	Art. 71 (U,Q diagram)	Article 71 (U,Q diagram) is not possible without on load tap changer on trafo	FBG 17

(Non-NC driven) ideas for updating the Federal Grid Code

ID	Short name	Description	SH ideas
Market roles			
16	Market roles & responsibilities	Market roles need to be made up-to-date and future proof. Updates may not block other legal/contractual/regulatory framework.	FBG 6 FBL 5 Elia 4
17	Supplier	<u>DSO</u> : align meaning "supplier" in FGC and TRDE + specify the role of DSO as network user	FBL 5 DSO 3 Elia 4
18	BRP	<u>Febeliec</u> : the role of the BRP should remain central. Change wording ARP to BRP	FBL 5 Elia 24
19	Flexible access	Incorporation of flexible access. <u>Febeliec</u> : Constraints on access should not be compensated for. Demand side in general is not interested in this kind of sub-optimal solution.	FBG 3 FBL 15 DSO 4
20	CIPU	<u>FELEG</u> : it should be ensured that the federal grid code doesn't block any evolution as regard congestion management, e.g. discussions as regards 'red zones' or compensation for 'flexible access' <u>Febeliec</u> : the FGC should be technology-neutral in the limitation of certain products and market segments to CIPU units <u>Elia</u> : The current CIPU-concept covering aspects of congestion management, balancing and revision planning should be assessed with respect to its contractual architecture and where appropriate also the underlying principles.	FBG 7 FBL 7 Elia 21
21	Access Holder related	Related to the Access contract: avoid yearly renewal, reconsider the 24/24h availability obligation, clarify the link between the ACH register and the ACH-contract	Elia 24

(Non-NC driven) ideas for updating the Federal Grid Code

ID	Short name	Description	SH ideas
Market: balancing and congestion management			
22	Ancillary services (product design)	<p><u>FEBEG</u>: FGC foresees that CREG has to make a report on the procured ancillary services, which is not possible with the short-term sourcing in place. both CIPU and non-CIPU can deliver services, creation of level playing field</p> <p><u>Febeliec</u>: general level playing field between all sources of flexibility and between all timeframes. Neutrality should be reflected.</p> <p><u>Elia</u>: For aspects linked to the provision of ancillary services a more technology-neutral approach than today's generation-oriented approach should be adopted. For instance, with respect to ancillary services a more service-oriented approach rather than technology-oriented approach could be envisaged (e.g. R1-load). Also, exceptions targeting specific technologies should be reconsidered and where possible be removed.</p> <p>The framework for ancillary services provided by the Federal Grid Code should be reconsidered, taking into the upcoming European Network Code on Electricity Balancing. This may require re-defining such services, reconsidering the merit order, considering the participation of all technologies, etc. Also for concepts like reactive balancing by Balance Responsible Parties the Federal Grid Code should not act as a barrier.</p> <p>Also, with respect to reserve dimensioning, the FGC should keep pace with ongoing evolutions.</p>	<p>FBG 10 / 11 FBL 2 / 7 Elia 2 / 3 / 20 / 22</p>
23	Ancillary services (balancing market design)	<p><u>FEBEG</u>: FGC determines the order of activation of ancillary services which causes problems for building bid ladder for all R3 products (contracted and non-contracted)</p> <p><u>Elia</u>: The framework for ancillary services provided by the Federal Grid Code should be reconsidered, taking into the upcoming European Network Code on Electricity Balancing. This may require re-defining such services, reconsidering the merit order, considering the participation of all technologies, etc. Also for concepts like reactive balancing by Balance Responsible Parties the Federal Grid Code should not act as a barrier.</p> <p><u>Febeliec</u>: With an increasing share of end consumers participating in balancing products (which is as such a good thing, as it leads to more competition and lower system costs), the balancing rules should be adapted in order to reflect the impact of</p>	<p>FBG 11 FBL 16 Elia 20</p>

(Non-NC driven) ideas for updating the Federal Grid Code

ID	Short name	Description	SH ideas
Market: balancing and congestion management (continuation)			
24	Data exchange	Information exchange articles should be updated and reevaluated <u>FELEG</u> : the FGC may not prevent evolutions towards 'near real-time balancing publication' <u>Febeliec</u> : Pragmatic approach required for the direct market participation for end consumers: obligations to participate in the technical and administrative treatment of trades and operations.	FBG 9 FBL 12
Market: forward, day-ahead, intraday			
25	Balancing obligation	Balancing obligation and more particularly obligation to submit in day-ahead a balanced program	FBG 12
26	ID Production programs	Consider improving the quality of intraday production programs by ensuring a better follow-up by/information from BRPs after having submitted the day ahead programs.	Elia 10
Losses			
27	Grid Losses	Consider other sourcing mechanism for procuring grid losses	FBG 5 FBL 9 Elia 13

(Non-NC driven) ideas for updating the Federal Grid Code

ID	Short name	Description	SH ideas
Emergency plans			
28	Emergency plans	<p>The Federal Grid Code should be brought further up-to-date with respect to emergency plans and also address implementation aspects linked to the European Network Code on Emergency & Restoration. This could, for instance, include reconsidering and/or further clarifying definitions, priority loads in load shedding plans, shedding plans in case of so-called incompressibility, principle of operational rules for shedding.....</p>	Elia 19
System operator			
29	TSO-DSO	<p>The FGC should be brought up-to-date with respect to the framework governing the relationship between the TSO and the DSOs: <u>Elia</u>: e.g. taking into account the already existing collaboration agreement. Additionally, it should be assessed whether some detailed aspects need to be revised, e.g. with respect to defining the techno-economic optimum, connection and reinforcement requirements and delays and the relationship between different grid operators. <u>DSO</u>: e.g. ancillary services such as congestion management and voltage management. Regulated network related services would preferably be detached from the commercial market services. It should be checked which of the current obligations for the network users should be withheld in a specific chapter applicable to DSOs and reference should be made to the SOK/CDC agreement. The articles 369 to 387 should be completely reviewed in both content and structure. Replace Section II with an article which refers to the legal clause prescribing that there must be a SOK/CDC which at least covers the listed aspects (cf. article VI.2.1.10 in the Flemish GC), as an alternative to a large number of the existing articles of Title VI.</p>	DSO 2 / 8 Elia 11

(Non-NC driven) ideas for updating the Federal Grid Code

ID	Short name	Description	SH ideas
Other aspects & Cleaning			
30	Attune federal & regional GC	Attune federal and regional grid codes to each other where opportune. The word “supplier” (“leverancier”) has a different meaning in the FGC and in the regional (flemish) TRDE	DSO 3 / 5
31	Availability planning data	Setting the period for availability of planning data to be provided by the grid user from 7 to 10 years for better alignment with the required development plans of the transmission system operator	Elia 24
32	Confidentiality	Bring articles related to confidentiality up to date.	Elia 24
33	Wellbeing	Check Federal Grid Code conformity with the “Wellbeing on workplace Law” (NL: Welzijnswet) (priority)	Elia 24
34	All-in contracts	Implement that all-in contracts are ipso jure replaced by approved contracts (Art. 138 (or 141)).	Elia 24
35	Safety	Where necessary, and taking due account of the Act on wellbeing on the workplace, the Federal Grid Code should be clarified to ensure that a clear framework is available for determining the applicable safety rules for employees of the transmission system operator (and its subcontractors) when accessing the transmission installations located on the grid users’ premises.	Elia 9
36	Cleaning	<ul style="list-style-type: none"> - At various places in the current FGC minor textual corrections would prove useful. - The FGC should be ‘cleaned’ for all outdated concepts which are no longer needed in the current (and future) context, e.g. power subscriptions in the context of transmission tariffs. - Remove all aspects arranged by (FCA/CACM) network codes, but ensure that no vacuum is created for any aspect that requires a complementary national framework. - Release the 5 year information limit for existing connections mentioned in Art. 138 (priority) - Check conformity of “behoud noodzakelijke transportcapaciteit (Art. 100) with the third EU package. 	Elia 24 / 25 / 26

1. Non-NC driven changes to the Federal Grid Code

b) Proposed approach per priority topic

In general, there is a **need to further specify the ideas** raised in the contributions received. Therefore, more detailed scoping debates and/or exchange of positions is required before entering into re-drafting the grid code.

→ **Stakeholders and/or Elia are proposed to provide first inputs to the debate.**

→ **Whenever a debate is already ongoing/foreseen, it is proposed to make the link with these debates**

Topic	Forum	Proposed approach	Starting ...
Definitions	WG Belgian Grid (unless specifically linked to other items dealt with in other WGs)	<ul style="list-style-type: none"> Start with definitions supporting the 'Significant Grid User'-debate and their links with existing definitions in the Federal Grid Code Discuss need and scope of items already proposed in the written contributions Call for more exhaustive inventory 	End of 2016/Q1 2017
CDS	WG Belgian Grid	Build on state-of-play/earlier reflections. Elia will provide a first proposal for discussion.	Today
Capacity reservation	WG Belgian Grid	<ul style="list-style-type: none"> Present and check whether the proposal is still OK. Check whether it can already be introduced independent from NC-driven process changes 	Today
Grid Losses	WG Belgian Grid	Stakeholders are invited to present their vision and proposals	Q1 2017
Market roles & responsibilities & BRP	WG Belgian Grid	Scoping debate needed in WG BG to pinpoint which concrete aspects can be covered. All stakeholders are invited to further detail their ideas, focused on the Federal Grid Code. This topic should also cover BRP-aspects.	Q2 2017
Supplier	WG Belgian Grid	<ul style="list-style-type: none"> Stakeholders are asked to provide their more concrete ideas and suggestions. More generally, linked to market roles & definitions. 	Linked to ongoing debate on Access Contract

1. Non-NC driven changes to the Federal Grid Code

b) Proposed approach per priority topic

In general, there is a **need to further specify the ideas** raised in the contributions received. Therefore, more detailed scoping debates and/or exchange of positions is required before entering into re-drafting the grid code.

- ➔ **Stakeholders and/or Elia are proposed to provide first inputs to the debate.**
- ➔ **Whenever a debate is already ongoing/foreseen, it is proposed to make the link with these debates**

Topic	Forum	Proposed approach	Timing
Storage	WG Belgian Grid	<ul style="list-style-type: none"> • Elia will facilitate a debate on the need to introduce storage connection requirements in the Federal Grid Code • Stakeholders are invited to provide their input on the concrete needs for the Federal Grid Code related to storage 	Q2 2017
Aspects linked to metering	WG Belgian Grid	Stakeholders are invited to further explain their views on how the FGC should evolve for this topic	Q2 2017
Flexible Access	WG Belgian Grid	Regional evolutions to be taken into account and compatibility at federal level to be checked/discussed	Q2 2017
CIPU	WG SO&EMD	Changes to be discussed along/after the discussions already launched	To be linked to other debates
AS (product design)	WG Balancing	Integration with overall Roadmap and NC requirements	To be linked to other debates
AS (market design)	WG Balancing	Integration with overall Roadmap and NC requirements	To be linked to other debates

2. Status & Feedback “Implementation Network Codes”

- a) Frequency Management & Stability: feedback requested + waiting for ENTSO-E
- b) Operational Information Exchange: detailed overview from a NC-perspective
- c) Next meetings: schedule

Status NC implementation

Overview NC adoption progress

 = most recent evolutions

Network Code / Guideline	Status	Expected entry into force
Market codes:		
Capacity Allocation and Congestion Management (CACM)	Entered into force	14/8/2015
Forward Capacity Allocation (FCA)	Entered into force	16/10/2016
Electricity balancing (EB)	Comitology ongoing (since 23/6/2016)	Q1/Q2-2017
Connection codes:		
Requirements for generators (RfG)	Entered into force	17/05/2016
Demand Connection Code (DCC)	Entered into force	7/09/2016
HVDC (HVDC)	Entered into force	28/09/2016
Operational codes:		
Operational Security (OS)	Approved in Comitology (4/5/2015)	December 2016
Operational Planning & Scheduling (OPS)		
Load Frequency Control & Reserve (LFCR)		
Emergency & Restoration (E&R)	Comitology ongoing (since 4/5/2015)	February 2017

Merged
in one
guideline

2. Status & Feedback “Implementation Network Codes”

a) Frequency Management & Stability

Second Task Force meeting on “**Frequency Management & Stability**” took place on **17/10/2016**.

The following was discussed:

- Process to coordinate mandatory non-exhaustive frequency requirements at the synchronous area level
- Classification of frequency related requirements according to the process

Next steps:

1/ Stakeholder feedback requested in order to allow Elia to defend BE-interest at synchronous zone level:

- For each requirement, could you provide a technical and economic argumentation if some values should be considered as unfeasible (specify for which type of facilities your argumentation applies)?
- If there are requirements where the application of a range should be considered as a costly measure compared to the application of a fixed value, could you provide the underlying technical and economic arguments?

2/ Elia will inform stakeholders on the ENTSO-E process for this topic

3/ New meeting only upon stakeholder request

2. Status & Feedback “Implementation Network Codes”

b) Operational Information Exchange

First Task Force meeting on “Operational information exchange” took place on **17/10/2016**.

The following was discussed:

- Brief introduction & overall philosophy
- Detailed overview (excel) of all requirements on information exchange (structural, scheduled/forecast, real-time) created by the OS GL, structured by different kind of grid users
- *NO* position yet by Elia, only an assessment of the AS IS situation
- Questions asked to regional regulator (VREG) about regional process for discussion content-aspects related to NC implementation

Stakeholders asked in particular:

- To further define the term “real-time”
- To identify which (new) information would be asked on the short term

Next meeting: 21 November 2016

2. Status & Feedback “Implementation Network Codes”

c) Next meetings: schedule

The up to date schedule is available on the UG website.

