USERS' GROUP

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WG EMD-SO

Jun 21, 2021



Agenda

Actions By Due date Finalised Intraday: evaluate impact of new access to German ID market J-M Reghem Next WG EMD-SO after summer Emergency and restoration: legal consequence not meeting deadline black-out proof phones P. Van Meirhaeghe Next WG EMD-SO today

Approval report previous meeting and follow-up actions

European Market Design

- CEP70 annual report on solutions (Steve)
- 2. EFET's position on LTTR remuneration in decoupling (Jérôme Le Page EFET)
- 3. CACM 2.0 key points from ENTSO-E / Elia perspective (Steve, Benjamin)

System Operations

- 1. DLR for capacity calculation (Damien)
- 2. ALEGrO outage 14/05 21/05 (Cindy)
- 3. Emergency & Restoration: update (Peter)





Elia will publish a second report on the alleviation of the foreseeable grounds

As requested by CEP Art. 16(9)

Where a derogation is granted, the relevant transmission system operators shall develop and publish a methodology and projects that shall provide a long-term solution to the issue that the derogation seeks to address. The derogation shall expire when the time limit for the derogation is reached or when the solution is applied, whichever is earlier.

- Practicalities
 - End of June
 - Location: Werkgroep System Operations en European Market Design (elia.be)
- Today Elia presents the content and key messages of this report



Pre-requisites to alleviate the foreseeable grounds

Foreseeable ground derogation 2021

Long-term solutions to alleviate the foreseeable ground

Core DA CCM – Feb 2022

Maximize contribution BE PSTs to reduce LF

Externality: loopflows

Core DA CCM: coordinated validation – earliest 2024

Consolidate prediction and usage of available RA potential on Core level – no guarantee this is always sufficient

Core CACM 74 – Apr 2024

Fair cost sharing

Core SOGL 76 + CACM 35 - Apr 2024

Structural, coordinated use of XB RA's



Pre-requisites to alleviate the foreseeable grounds

- Elia will continue to resort to a derogation for excessive loopflows for the years to come
- In 2021 a request for derogation will be submitted for the period Jan 1st 2022 until Dec 31st 2022
 - The methodological approach to compute the level of minRAM will be continued in 2022
 - This approach will directly take into account the improvements brought by the Core DA CCM in terms of reduction of loop flows, by increasing accordingly the minRAM target that will be applied on Belgian CNECs
- Elia will provide an update of this report in 2022, in line with a renewal of its derogation



Elia SO & EMD meeting, 21 June 2021

The importance of LTTRs firmness – a reaction to the TSOs proposal for special rules for decoupling events

Jérôme Le Page, Electricity Committee Chair j.lepage@efet.org



European Federation of Energy Traders



What happens with LTTRs in case of decoupling?

In day-ahead

With LTTRs

DA decoupling

De-optimisation of DA allocation

Organisation of fallback explicit auctions

Low participation to fallback explicit auctions

TSOs still remunerate LTTRs at DA market spread

TSOs don't cash in the market spread in case of decoupling

TSOs cash in the congestion rent from explicit auction

Auction revenues cash-in don't match market spread cash-out



Assessing the reality of the problem

- "Over-compensation" claimed by the TSOs?
 - \rightarrow Decoupling event in 2019 = 2,8% of annual forward congestion rent
 - \rightarrow Decoupling event in 2020 = 0,9% of annual forward congestion rent
 - \rightarrow Decoupling event in 2021 = 2,1% of annual forward congestion rent (not taking account monthly LTTR allocation)
- "Not a hedging opportunity against DA congestion pricing"?
 - → FCA GL calls for "cross-zonal risk hedging opportunities" and "market participants' needs" guide how these opportunities are assessed
 - → Market participants taking position across borders are exposed to the market spread at a BZ border, hence the setup of the remuneration rules



Analysing the solution proposed by the TSOs

Legality

- Remuneration cap proposal in art.59 EU HAR is misplaced (art. on LTTR curtailment compensation)
- Remuneration cap proposal is not in line with art.35 FCA GL

Effectiveness

• All things equal, 37 to 90 days of decoupling would have be needed to reach the annual remuneration cap in 2019 and 2020 (only taking forward congestion rent into account)

Appropriateness

- Changing remuneration rules on days of decoupling means decreasing firmness all year long market participants assess firmness at the time of allocation (Y-1, M-1)
- Reduced firmness = lower value of LTTRs = lower congestion rent for the TSOs
- High risk that the proposal would actually worsen the financial situation of the TSOs



EFET recommendations for the way forward

We propose a reset of this discussion to start it again on a sound basis

Reducing occurrences of decoupling

- by continued investment in Euphemia and improved testing
- and adjusting Euphemia timings if necessary

Improving decoupling management

- by improving communication in case of (a risk of) decoupling
- by streamlining fallback auction processes (timings, bidding)
- and continuing regular trainings with market participants

Without endangering existing market functioning

- full financial firmness of LTTRs should remain except Force Majeure
- creative thinking on improved fallback is welcome albeit maintaining the integrity of DA fallback and intraday



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European Federation of Energy Traders so you can rely on the Market





Main feedback from All TSOs to public consultation

All TSOs would have welcomed to be more involve in the process of the CACM Amendment

All TSOs expect that the process is still to be continued as there are a lot of questions still to be answered

The transition towards the Terms and Conditions under the CACM 2.0 need to be efficiently build as a major part of the methodologies are already implemented

The CACM amendment process shall not induce regulatory uncertainty to avoid the risk of delays or setbacks in implementation of current projects



Main feedback from All TSOs to public consultation

MCO governance

- All TSOs welcome the proposal where equal involvement of the TSOs has been recognised
- A detailed workplan for achieving the market coupling is already in place, and TSOs proposal is to build on what's have been achieved already rather than a complete reorganisation of the structures in place
- Hence an alternative option 3 is proposed, building on the already agreed joint NEMOs-TSOs governance, seeking a balance of powers and leaner decision-making via QMV

Market Coupling

- All TSOs welcome the proposal to include flexibility in the guideline and will be in favour to remove all the deadlines (GOT, GCT) from the regulation
- All TSOs would like to have an efficient process for the transition phase (updating the methodologies based on the existing ones)

Costs

- Issues are not solved
- All TSOs believe the principles of cost eligibility and cost sharing are to be enshrined in CACM and not left open to a TCM (basically transferring NRA responsibility to TSOs & NEMOs)



Main feedback from All TSOs to public consultation

Capacity Calculation

- TSOs do not understand the rationale for the possible allocation of a DC border to 2 CCRs
- TSOs favour the options where flexibility is allowed
- No virtual capacity CEP 70 in intraday
- Allow optimization of remedial actions in market coupling
- Build in an efficiency checkpoint prior to triggering efforts on harmonization, CBAs on allocation constraints etc.
- Coordination with the RCCs should not go beyond the CEP provisions

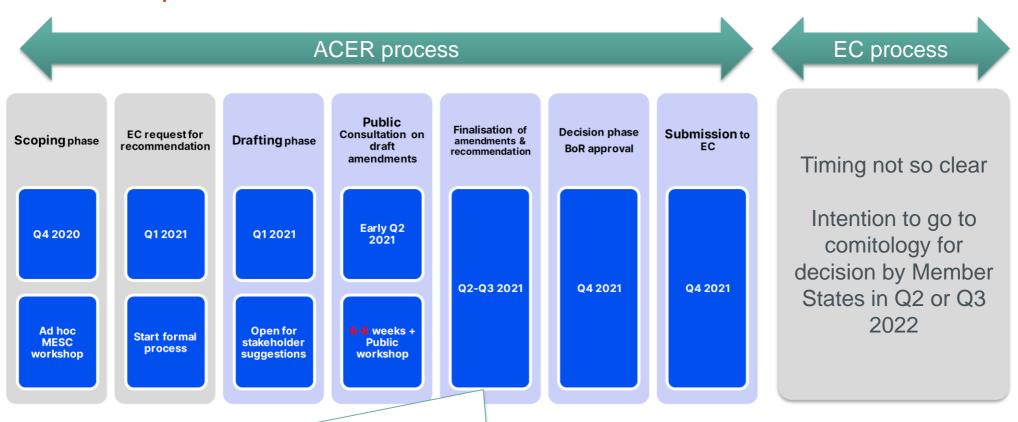
Bidding Zones From the TSOs point of view, the proposed amendments go sometimes beyond the CEP provisions i.e. introducing guidance by ACER in defining alternative bidding zones, increasing the scope of MS deciding on maintaining or amending the bidding zone configuration

SOGL

- Best forecast of remedial actions not fully understood
- The full set of requirements streaming from the SOGL and the CACM should be considered in the amendment of the data exchanges provision (observability area <> control area, GLDPM is deleted <> type A production units)



Next steps

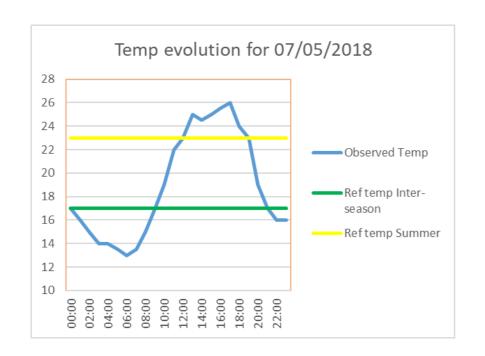


ACER summer camp: TSOs and NEMOs invited by ACER to further shape the amendments





IGMs are currently based on date-based seasonal criteria



Season	Start	End	Ref temp
Winter (& SuperWinter)	16/11	15/03	11°C (<0°C)
Interseason 1	16/03	15/05	17°C
Summer (& SuperSummer)	16/05	15/09	23°C (>30°C)
Interseason 2	16/06	15/11	17°C

^{*} Ad hoc change between seasons applied if needed



Date-based seasonal criteria is not the most accurate approach

Radiation in kWh/M² & Wind chill in C°

~50% of time the observed temperature matches a different season compared to the static (date-based) seasonal criteria applied.

Highest deviations are observed during summer nights and in inter-season.

F	RAD/WIND			
	Winter	12621	87,7%	1,1/4,3
	Inter	228	1,6%	3,5/12,8
Winter	Summer	0	0,0%	0/0
	SuperWinter	1543	10,7%	0,8/-2,2
	SuperSummer	0	0,0%	0/0
	Winter	0	0,0%	0/0
	Inter	10944	70,1%	3,1/15,6
Summer	Summer	4082	26,2%	7,8/22,7
	SuperWinter	0	0,0%	0/0
	SuperSummer	575	3,7%	11/29,5
	Winter	10994	67,2%	2/7,2
	Inter	4709	28,8%	3,7/12,9
Inter	Summer	658	4,0%	7,7/18,6
	SuperWinter	0	0,0%	0/0
	SuperSummer	0	0,0%	0/0

Date criteria

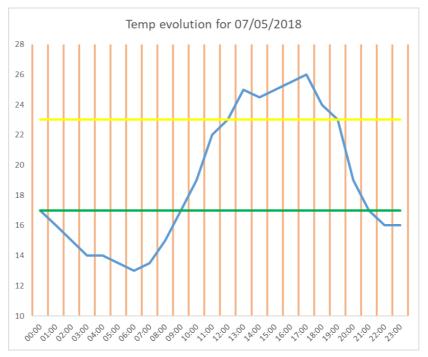
Temp criteria

Avg RAD = 3,04

20

Improvement: switch to temperature-based

- Create 24 blocks for D2CF/DACF/IDCF/RT where a temperature analysis is performed.
- Based on this temp analysis, a new reference limit is applied on each 24 blocks in order to follow the "Temperature curve"





How to define the switching threshold?

Objective: Analyze what would be the effect of having temperature based criteria.

- → We therefore performed a statistical analysis based on the last 4 years
- → 3 KPI:
 - 1) <u>Capacity increase</u>: date-based vs temp-based
 → "Which capacity could be done in temp-based?" (Market & Grid positive)
 - 2) Risk factor decrease: date-based vs temp-based
 → "How many time do we take risk in date-based?" (Asset positive)
 - 3) Accuracy factor: D-1/D-2 temp-based vs RT temp-based → "How many time do we forecast a good criteria?"



Statistical analysis

RT				
Variables				
Season	DOWN	REF	UP	
SuperWinter		0		
Winter	0	11	13	
Inter	13	17	20	
Summer	20	23	2 8	
SuperSummer		30		



CAPACITY INCREASE

3,04%

RISK DECREASE

3,10%

DACF				
Variables				
Season	REF	UP		
SuperWinter		0		
Winter	-1	11	11	
Inter	11	17	19	
Summer	19	23	27	
SuperSummer		30		



CAPACITY INCREASE

2,47%

RISK DECREASE

5,53%

FACTOR

99,50%

Win-win Methodology:

- Market capacity increased
- Asset Management more secure

D2CF				
Variables				
Season	DOWN REF		UP	
SuperWinter		0		
Winter	-1	11	11	
Inter	11	17	19	
Summer	19	23	27	
SuperSummer		30		



CAPACITY INCREASE

RISK DECREASE

FACTOR

2,46%

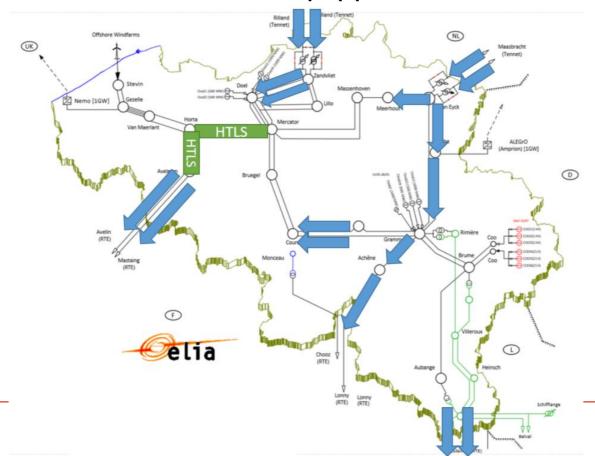
5,23%

99,18%



Dynamic Line Rating: general

Almost all 380kV elements are equipped with DLR





Impact of temperature based on Dynamic Line Rating needed = Ampacimon capping adaptation

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ACI = Average Capacity Increase
T° - based ratings + following caps:

AS IS (capping DLR in case of seasonal based):
• Cap 105% day = P99.5 ; ACI DACF = 4,2%
• Cap 109% night = P98,4 ; ACI DACF = 8,2%

TO BE (capping DLR in case of temperature based):
Cap 105% day = P99.1 ; ACI DACF = 5.0%
Cap 105% night = P99.0 ; ACI DACF = 6.8%
```

- At night, often season switch (+6%) explaining why a 109% cap is not feasible anymore
- Combination with temperature based -> more capacities with similar risks





Alegro unavailability

Context: Planned outage: 17-21 May 2021

- Longer time needed for maintenance up to 26 May (no works over the long weekend)
 - Goal: 19/5 16h decision if cable will be available for active power flow during long week-end
 - Practice: 21/5 PM decision was taken that Alegro could be coupled during the long weekend (22/5 no flow on Alegro since not in the market for BD 22/5)
 - -> published as planned unavailability
- 14 May: Trip of Alegro
 - -> published as forced unavailability



Alegro unavailability

14 May: step by step

- PM: trip of Alegro
- 18h/19h: Alegro on 0 in DACF/D2CF
 - Publication on the website in line with this decision
 - Publication on JAO: LTA curtailment BE-> DE & DE-> BE
- 22h: Alegro back in service
 - DACF (IDCF); x node closed
 - D2CF; too late to change -> initial computation started
 - Publication on the website updated
 - Update publication on JAO; LTA curtailment canceled

ETP

- Should be a copy of elia.be (other way of publication)
- NTC = last available NTC value (weekly)



Alegro unavailability

Conclusion/lessons learned

- Publication is difficult in these kind of events
 - regular updates are needed
 - not always in line with what is in IGMs = best estimate at fixed timings
- Internal guidance: wait as long as possible in processes in order to take last information into account (message LTA could be avoided)
- Discussions are needed with Amprion to improve the coordination
 - late decision for availability during the weekend to be avoided
 - IGM: not open x-node in DACF/D2CF, but only put ICC at 0 in order to be able to adapt more easily later in the process in case of update of information
- Updates in internal procedures to improve the publication in case of outages (website and JAO)





Emergency and restoration: netcode implementation status

NCER document	To Approve by	Status	Next steps
Terms & Conditions for Restoration Service Providers (black start)	Creg	V 1.01 Approved	V 2.0 (=prolongation of current design) to be submitted by Q1 2022 V 3.0 (new design) to be submitted in 2023
Rules for suspension and restoration of market activities and rules imbalance settlement during market suspension	Creg	V 1.0 Not approved	V 1.01 to be submitted by Q1 2022 (public consultation in Q4 2021)
Test Plan	Minister	V 1.01 approved	
System Defense Plan (SDP = reviewed reddingscode)		V1.01	V 2.0, initially foreseen end of 2021, will
Restoration Plan (RP = reviewed reconstruction code)	Minister	Minister Approved (under certain conditions) for a period of 2 years	be delayed. FOD is working on a new timing
List of SGUs identified for defense and restoration plan			This year: priority to revision of legal framework
List of High priority SGUs for defense and restoration plan	Minister	V 1.01 approved by MB 13/01/21	Yearly update ongoing. To be submitted in October by Elia



Emergency and restoration: Blackout proof voice communication

Objective

In line with art 40 of NCER, **facilitate blackout proof phones** at SGU identified in the restoration plan **to improve the restoration process efficiency** through adequate communication

Status

- Project faces delays
- Complex situations: SGUs not having 24/7 permanence, multiple SGUs on same industrial site, ...
- SGUs will be contacted by Elia in order to start the process and prepare as much as possible on their side.
- Exact timing for phone installation will be agreed with the SGU

Legal consequences

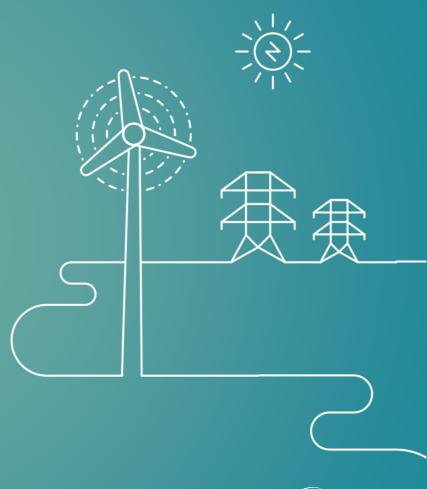
- What are the legal consequences of not meeting the deadline for the roll-out of the blackout proof phones?
- Creg can impose fines (Electricity law art 31)
- There is the liability of the market player:

In the event of damage to third parties, there is no limit to this.

In view of Art 262, the RP is included in various contracts and the cap will therefore depend on the contract concluded by the concerned market party.



Backup slides DLR capacity calculation



New proposal

Time Horizon

- Grid development & LT planning Seasonal limits date based
- Short term planning & FB (D-2/D-1/ID) temp forecast based
- Real-Time

temperature measurment, Ampacimon & RTTR





Elements impacted

Saison		Cu- conducteurs	câbles	Transfos
Hiver	112%Inom	100% Inom	100%Inom	107%Inom
Entre- saisons	106%Inom	100% Inom	100%Inom	103%Inom
Ete	100%Inom	95% Inom	100%Inom	98%Inom
Plein ete	90%Inom	90% Inom	100%Inom	92%Inom

Voltage level

This limits update concerns all voltage levels.



Ampacimon into IGMs

Elia uses Ampacity 1h in real-time but Ampacimon calibrates its Horizon forecast to be P98 w.r.t. RT Ampacity (mathematically not advisable to calibrate a forecast on another forecast)

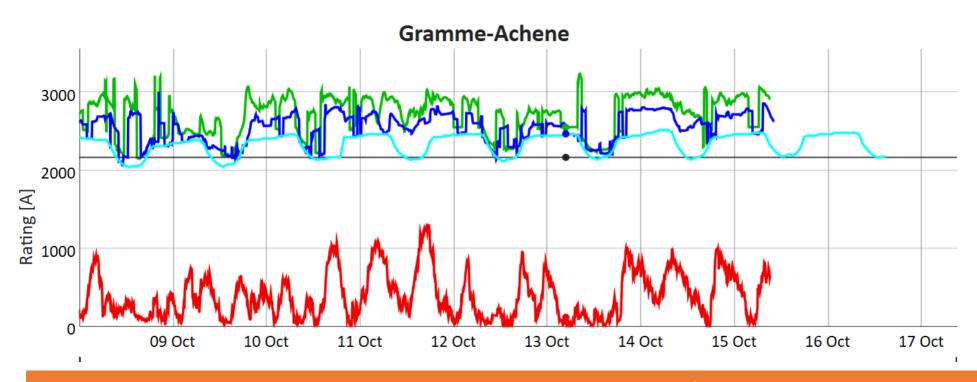
- → Horizon forecast << P98 w.r.t Ampacity 1h
- → Need for a capping rule to be P99.9 (we do not want to give a capacity in IGMs that will not be available in real-time, innovative approach requesting a risk-averse approach)
- →105% day cap and 109% night cap after evaluation in Dec 2017, based on 5 lines with ~1,5 years of historical data (statistically not robust because only moments with at least 30% flows in real-time to be considered: old modules generation requiring high flows to be powered)

Today: 12 lines with Horizon forecasts and some with lot of historical data, other very few (new module generation requires only ~10% flow to be powered)

- → Every now and then, Ampacimon recalibrate a license to match the P98
- →Elia proposes an acceptable risk of P99 instead of P99.9

Recently installed

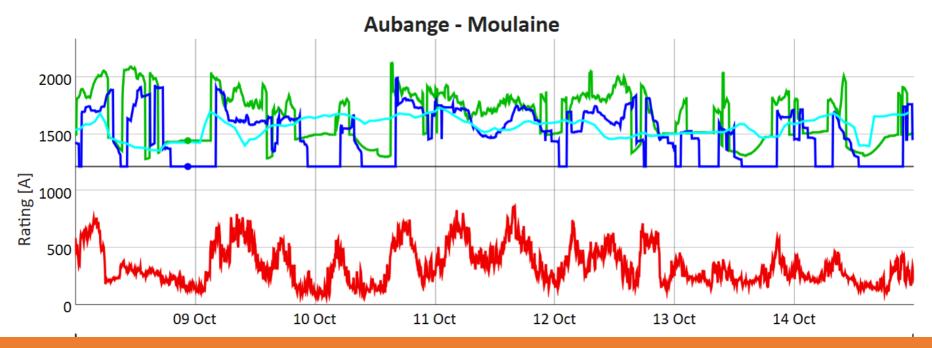
DA forecast (light blue) = conservative



Typical profiles used in 2017 for caps definitions. Cap 105/109% = P99.9, average capacity increased in IGMs is relatively limited (few gains around noon for example)

Long ago installed

DA forecast far more ambitious after calibration



<u>Cap 105/109 << P99.9</u>, average capacity increased in IGM is relatively high

→ The risk taken is gradually increasing since 2017, hopefully we have been careful at the beginning by setting high reliability standards

Where are we today?

ACI = Average Capacity Increase (here we show DACF but similar values on other timeframes). Data from past 12 months used to have best representative state of current situation.

```
Cap 105% day = P99.5 ; ACI DACF = 4.2\%
Cap 109% night = P98.4 ; ACI DACF = 8.2\%
Cap 107% night = P99.0 ; ACI DACF = 6.6\%
```

→ Due to historical data accumulation, increased risk to be compensated by lowering night cap to meet P99