

WG European Market Design

Oct 21st 2019

13:00 – 16:00



Agenda

System Operation

1. Update regarding emergency & restoration
2. Introduction to SOGL 76 methodology Core & Channel

European Market Design

3. Update on CEP 70%
4. Update on Nemo Link
5. Update on Core methodologies (LT, balancing)

AOB

1.Update regarding emergency & restoration

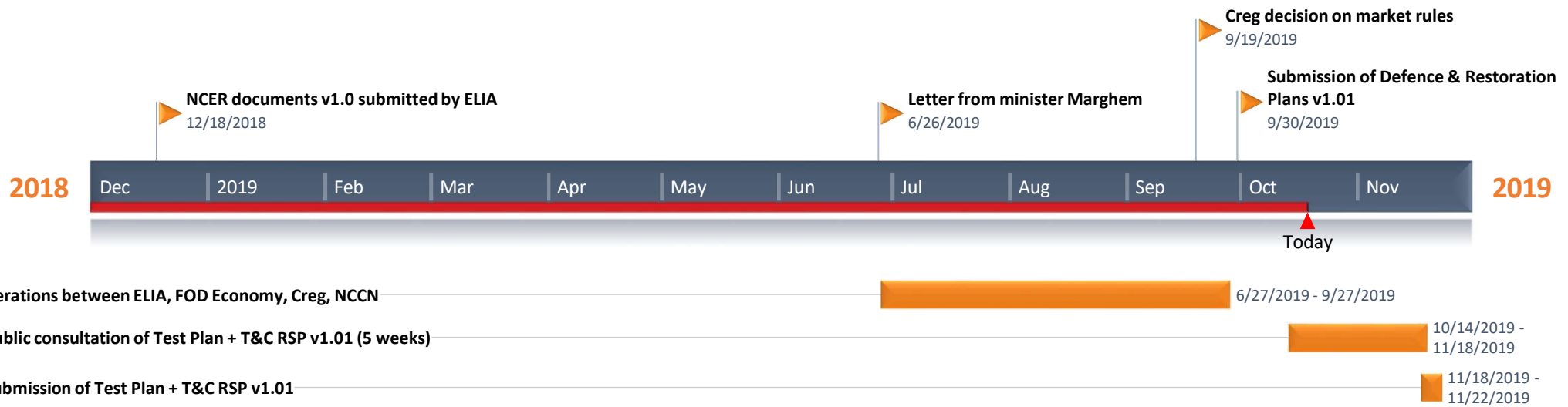
EU Netcode Emergency & Restoration

1. Timeline and current status NCER implementation process
2. System Defense Plan and Restoration plan:
 1. Approval process
 2. implementation of measures
3. Testplan
4. Terms & condition for Restoration Service Providers v1.1

Current status on NCER documents

NCER document	To be approved by	Status	Next steps
Terms & Conditions for Restoration Service Providers (black start)	Creg	V 1.0 Not approved	V 1.01 to be submitted
Rules for suspension and restoration of market activities and rules imbalance settlement during market suspension (new !)	Creg	V 1.0 Not approved	V 1.01 to be submitted
Test Plan	Minister	(new)	V 1.0 to be submitted
System Defense Plan (hervorming reddingscode)	Minister	V 1.0 No decision, amendments required V1.01 waiting for approval	
Restoration Plan (hervorming heropbouwcode)			
List of SGUs identified for defense and restoration plan			
List of High priority SGUs for defense and restoration plan			

Timing of NCER implementation process



Defense + Restoration Plan: approval process

- Minister of energy approves TSO's emergency procedures
- On 26 June 2019, the Minister asked ELIA to review both plans on the basis of the remarks of a workgroup composed of Creg, Fod Economy and NCCN → ELIA answered more than 200 questions
- On the basis of the remarks of the workgroup + remarks from stakeholders received in Q2019, Elia submitted updated (confidential) versions in NL and FR to Minister of Energy on September 30th
- We hope to receive (positive) feedback on approval process very soon

Goedkeuring Minister
van Energie

Gebeurtenis in het net

Real time incident in het net

Stroom, spanning, frequentie of
import buiten de operationele
limieten

Tekort gedetecteerd in intraday of
real time

Dreiging tot schaarste

(Productie + Import) < Verbruik

Gedetecteerd voor dag D in de
periode tussen D-7 en D-1

Systeembeschermingsplan

Real time beschermingsmaatregelen

Acties genomen door SNGs en opslag:
Aanpassen P/Q injecties/afnames

Acties genomen door de TSB of DSBs:

Automatische maatregelen:

- Blokkeren regelaars transformatoren
- Verlagen spanningsconsigne met 5%
- Automatische verbruiksontkoppeling (LFDD, nu 6 schijven evoluerend naar 10 schijven na 2022)

Handmatige maatregelen:

- Afschakelen verbruikers
- Verlagen spanningsconsigne met 5%

Inter-TSB ondersteuningsmaatregelen

Procedure bij schaarste tussen D-7 en D-1

Acties genomen door de TSB, DSBs en overheid:

- Sensibiliseringsmaatregelen
- Verbodsmaatregelen
- Beschermingsmaatregelen netbeheerder
- Handmatige verbruiksontkoppeling (8 schijven)

Wettelijk kader

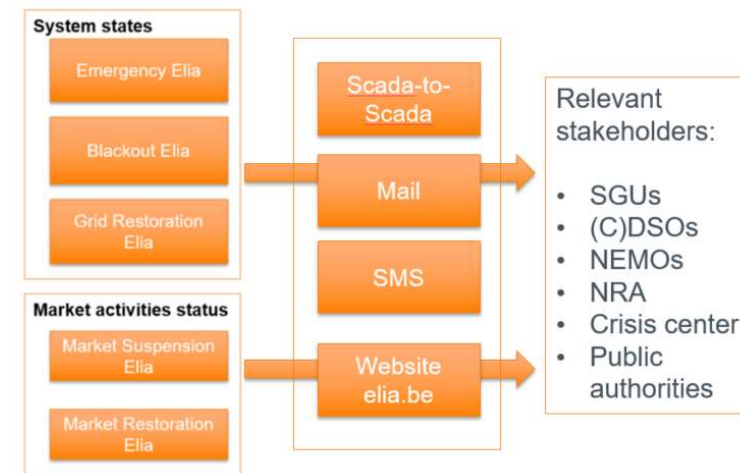
Verordening 2017/2196
(NC ER)

Federaal Technisch
Reglement

Ministerieel Besluit
Afschakelplan

Defence Plan (DP)

- 1) ELIA will notify SGUs with the measures they have to implement and their deadlines as soon as Minister approves the Plans
- 2) High Priority SGUs (to be re-supplied with priority after load shedding)
 - **Priority users** (hospitals,...), **sensible users** from the list provided by the Minister and **Structural injecting cables**.
 - Issue: law does not include re-supply of sensible users in case of sudden phenomena → Unfinished discussions.
- 3) Implementation of **Notification system to external stakeholders** if system state changes:
 - Current best estimate: Q2 2020
 - Stakeholders will be informed
 - SGUs: registration via Elia extranet → Option to provide preferred communication tool and contact data
 - Non-SGU stakeholders → will be contacted individually by ELIA to provide their data



Already available in black start units, important large power plants, some large demand facilities and CDS, rail infra company, all DSOs, national crisis center.

- 1) Implementation and roll-out planning in preparation (priority order)
- 2) SGUs will be informed through usersgroup and individually via our CuRe department about practical implementation in course of 2020
- 3) Inventory of what exists already + gap analysis is to be made for ~ 170 SGUs
- 4) Important: SGU is asked to verify if a contact person is available 24/7 who is able to execute ELIA instructions during period of system restoration after blackout
- 5) New standard under development for new SGU connections to Elia grid.



Test Plan

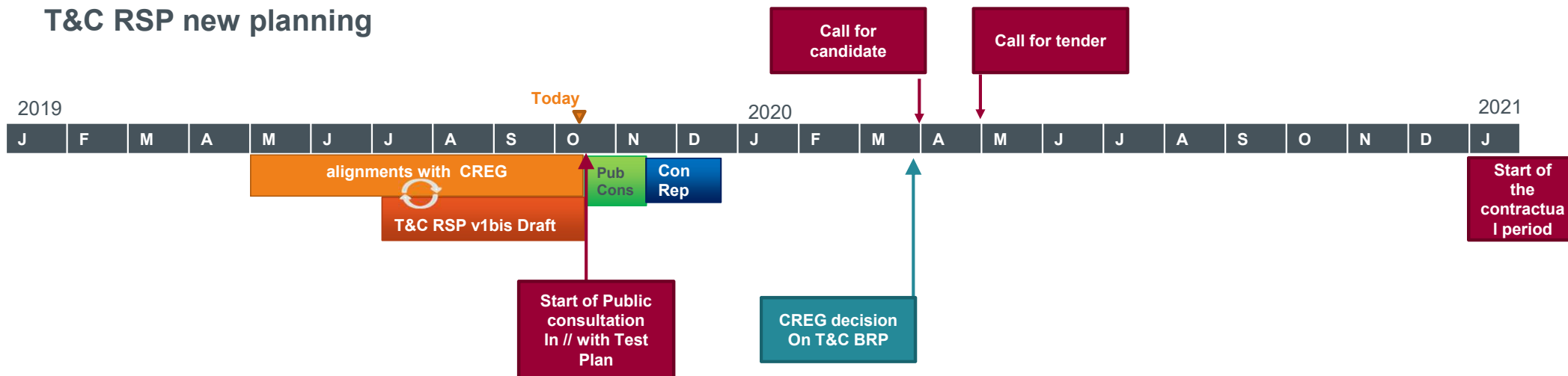
- Test Plan describes the **tests (conditions, frequency)** applied to **defense and restoration service providers** and identifies the **equipment and capabilities** relevant for DP & RP that have to be tested
- The Test Plan includes.
 - Conditions for testing Black Start Services and LFDD relays
 - Other **equipment and capabilities** relevant for DP & RP that have to be tested
- We will submit Test Plan earlier than 18/12/2019 in order to avoid interference with Black start tendering process in 2020

Equipment and capabilities relevant for the System Defense Plan and/or Restoration Plan that have to be tested	Periodicity of the tests
LFDD relays implemented on TSO and DSO installations	10 years
RSP which is a PGM delivering a black start service	3 years
Communication systems defined in art 41 of the NC ER of ELIA, RSPs, DSOs and SGUs identified in the Restoration Plan	1 year
Backup power supply of communication systems of ELIA, RSPs, DSOs and SGUs identified in the Restoration Plan	5 years
Inter-TSO communication systems	Periodicity to be defined by 18 December 2024
Communication systems between ELIA and Coreso	3 years
Main and backup power sources to supply ELIA's main and backup control rooms, provided for in art 42 of the NC ER	1 year
Functionality of ELIA's main and backup Energy Management System including SCADA, state estimator and security analysis	3 years
Functionality of ELIA's Entsoe awareness system	3 years
ELIA's main and backup datawarehouse and LAN connection	3 years
Functionality of ELIA's controller for the frequency restoration of the LFC zone	3 years
Functionality of ELIA's main and backup control system for manual FRR	3 years
Functionality of substation SCADA for the substations identified as essential for the restoration plan	3 years
ELIA's main and backup data communication to substations identified as essential for the Restoration Plan procedures	3 years
ELIA's backup power sources to supply essential services of the substations identified as essential for the Restoration Plan procedures	5 years
Functionality of tools used by ELIA for managing nominations	3 years
Functionality of tools used by ELIA for activation of balancing energy bids	3 years
ELIA's transfer procedure for moving from the main control room to the backup control room	1 year

T&C RSP – Status and planning

- First proposal of T&C RSP (submitted on 18/12/2018) was rejected by CREG with the request to re-consult the new proposal
- Following this decision, Elia and CREG regularly aligned on:
 - ✓ the planning of submission of the new T&C RSP in order to have them approved prior to the tendering procedure
 - ✓ draft modifications in text based on CREGs decision

T&C RSP new planning



Q&A



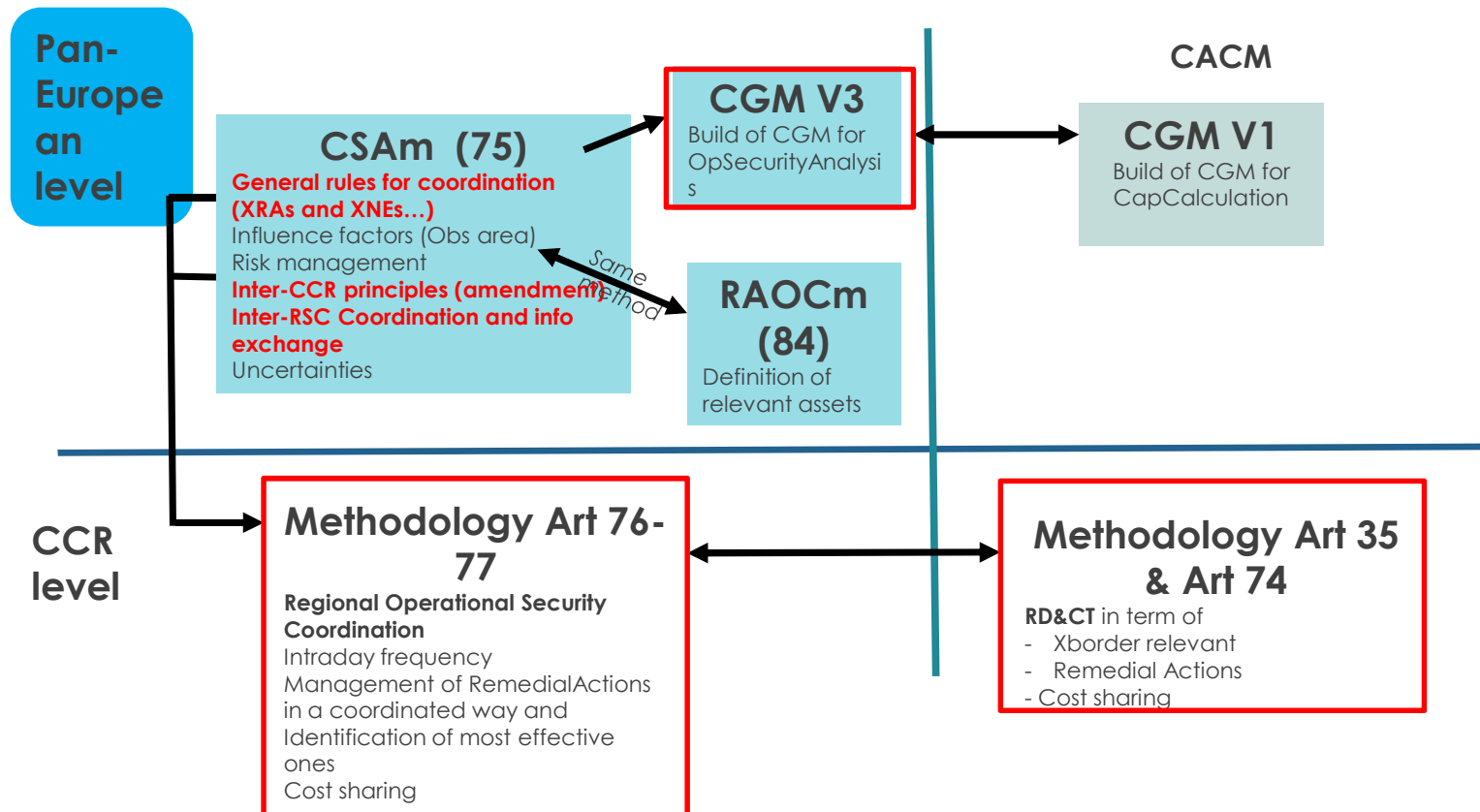
2. Core & Channel methodologies on Regional coordination for operational security (SOGL Art. 76)

SOGL 76 - introduction

- Consultation are ongoing for Core and Channel
 - Core: until 24th October
 - Channel: until 4th November
 - Methodologies for Core and Channel are very similar in general
 - Channel distinguish onshore and offshore TSOs
 - Channel does not relate to XBRNE (cross-border relevant network element, used for cost sharing) since the principle of requestor pays applies in Channel
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SOGL 76 Methodology

Connection between different guidelines



SOGL 76 Methodology



CORE CCR methodology consistent with the ENTSOE inter-RSC coordination solution

Table of Contents

- Whereas
- General Provisions
- Regional Operational Security Coordination (ROSC)
 - General provisions for day-ahead and intraday regional operational security coordination process
- Definition and Determination of Core XNEs, XRAs, constraints and contingencies
 - Secured elements, Scanned elements, Cross-border relevant network elements
 - Classification of remedial actions
 - Cross-border relevance of remedial actions

SOGL 76 Methodology

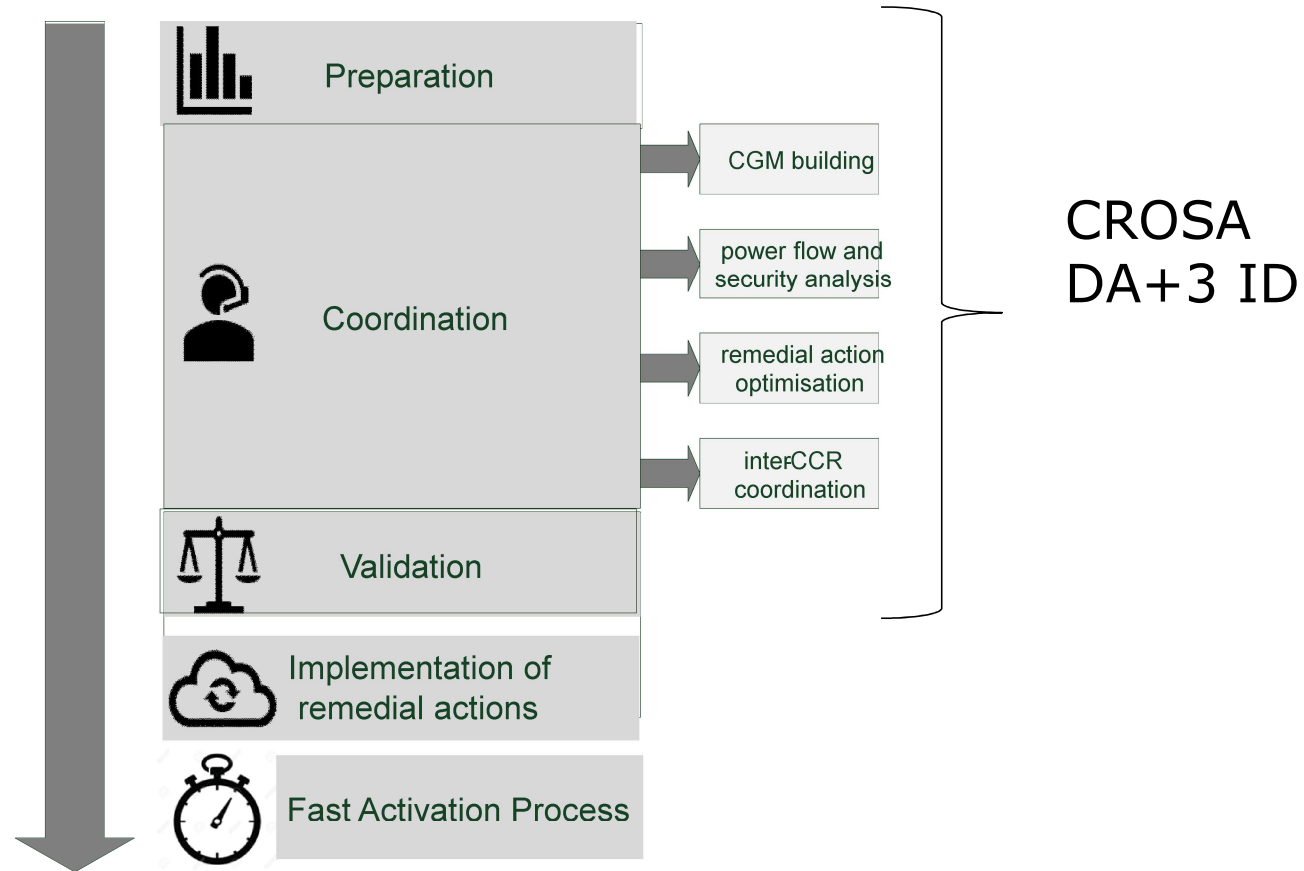
CORE CCR methodology consistent with the ENTSOE inter-RSC coordination solution

Table of Contents

- Coordinated regional operational security analysis process (CROSA)
 - Preparation
 - Coordination
 - Validation
 - Implementation of remedial actions
 - Activation of remedial actions
 - Fast activation process
- Sharing of costs of remedial actions
- Allocation of tasks by RSCs
 - Appointment of RSCs and delegation of tasks to RSCs
- Monitoring and implementation
- Final provisions

SOGL 76 Methodology

CORE ROSC - CORE TSOs common methodology for regional operational security coordination



SOGL 76 Methodology



Secured vs Scanned elements / XNEs & XRAs

- Secured elements represent a set of grid elements of Core TSOs of voltage level ≥ 220 kV, with possible exception, subject to the CROSA, on which operational security limits violations have to be identified and solved.
- Set of secured elements represents set of cross-border relevant network elements of Core CCR (XNE) as defined in the CSAm.
- Scanned elements represent set of elements on which CROSA shall not create new operational security limits violations or worsen any existing violation.
- XRAs are remedial actions having a significant influence on a XNE
 - Shall be the minimum input for the CROSA, if available
 - Need to determine Affected TSOs, which shall be composed of at minimum the XRA connecting TSO, as defined in the CSAm
 - Determined based on Qualitative assessment by CORE TSOs, with quantitative approach in case of disagreement

SOGL 76 Methodology

Agreed remedial action = Ordered RAs + ANORAs

- Agreed RAs = the list of RAs which have been identified as necessary to relieve violation of operational security limits during a CROSA
- ANORA = Agreed but not Ordered = subset of Agreed RAs which might still be reassessed during a next CROSA
- Ordered RAs = subset of Agreed RAs which will have to be activated by RA connecting TSO because activation time doesn't allow a reassessment during CROSA

NOTE : An Ordered RA can only be reconsidered through FAST Activation Process

SOGL 76 Methodology

Optimisation principles

- The optimisation of RAs shall be performed with consideration of all available RAs
- The optimisation is time-coupled
- The optimisation of remedial actions shall aim at relieving operational security limit violations on secured elements
- The optimisation shall not create additional operational security limit violations on secured and scanned elements
- The optimisation shall aim at minimising direct costs
- The optimisation shall consider constraints of the RAs
- The optimisation shall propose balanced RAs
- The optimisation shall ensure the remedial action effectivity
- The optimisation shall take into account the impact of variations in forecasts and market activities

3. Update on CEP 70%

Elia submitted the request for derogation

Derogation is requested on three foreseeable grounds

1. **Loop flows** above an acceptable level due to likely action plan(s) and absence of methodologies allowing to limit them (Core CCM, XB RD&CT and cost sharing) – Note: loop flows can be **as high as 70%** on some CNECs during some MTUs
2. **Expected lack of redispatching** potential to deal with weakened grid in case of **outage** situation (in Belgium: long duration outages for conductor replacement): redispatching potential will structurally not be sufficient to reach targeted *minRAM* due to lacking XB RD&CT methodologies

3. **Operational security risk** introduced:

By **new processes**: more extensive application of redispatching to offer higher capacities (no action plan!) – unknown extent at this stage due to unknown approach/extent in surrounding countries

By **new tools**: methodological derogation approach (see below) implies to develop new tools of which the testing is too limited before go-live, acknowledging late entry into force of CEP and ongoing discussions at EU, regional and national level

Elia submitted the request for derogation

Derogation applies a “methodological” approach: no explicit minRAM values but principles and formulas - applied on a daily basis in the capacity calculation process, using the last available grid model => targeted impact, possibly void, in line with the requirements of having the extent of the derogation as limited as possible:

1. **Loop flows:** definition of an acceptable level of loop flows LF_{accept} and a calculated level of loop flows LF_{calc}
→ $minRAM = 70\%1 - \max(0; LF_{calc} - LF_{accept})$
2. **Outages:** commitment to use redispatching to reach $minRAM$ – if not possible reduce it and report to CREG if $minRAM$ would have been reached without outages
3. **New processes and new tools:** mitigated by an external // run for 3 months, also having some benefits in terms of foresight for the market

Extent: all CNECs (but targeted impact thanks to methodological approach)

Duration: derogation is requested for one year for #1 and #2, and 3 months for #3

1) 70% as the sum of internal trades in CWE and trades on bidding zone borders external to CWE.
In addition, today's 20% minRAM rule for CWE trades continues to be applied.

Elia submitted the request for derogation

Next steps

- CREG's consultation on decision re. derogation
- Core NRAs approval of derogation
- Continue the implementation of tools & processes
- Prepare the ext // run

4. Update on Nemo Link

Update on Nemo Link

Brexit preparations

- In line with the brexit preparations of last March, the following arrangements would be in place in case GB leaves the IEM without a deal.
 - In case that no deal will be reached by 31st October 23:00, the implicit allocation which took place that day will remain firm (i.e. no change in the allocated flow for 1 November).
 - First explicit allocation will take place on 1 November for delivery on 2 November governed by the Non IEM DA rules.
 - Market parties would have to be registered with Nemo Link and JAO to participate in the auctions.

Introduction of ID product on Nemo Link

After consultation the ID rules were submitted for approval:

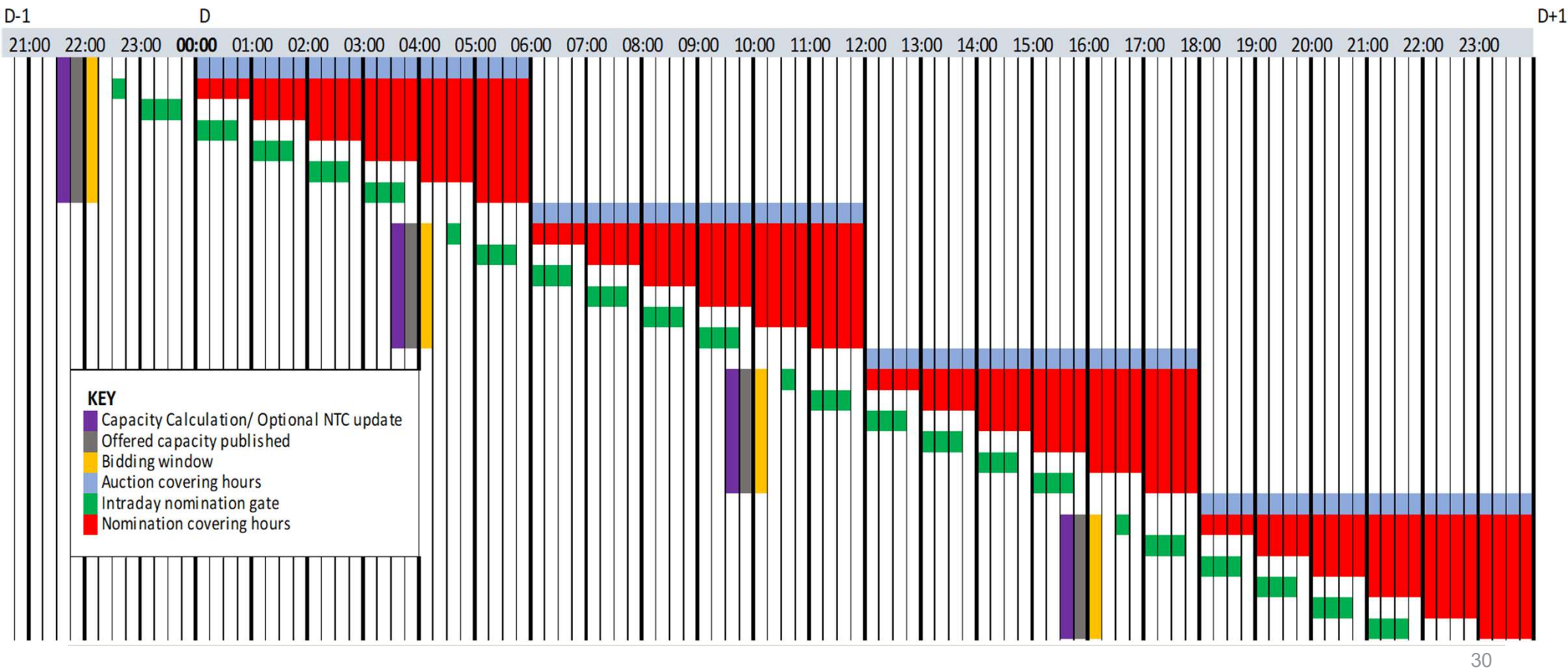
- ID IEM and non IEM rules were submitted at the same time. In meantime the non IEM rules have been approved
- ID product go-live is independent on the Brexit situation since both sets of rules should be in place..
- Market parties need to be registered with JAO and NLL and have a BRP status in BE and GB to allow an ID nomination

Workshop on 23/10 hosted by NLL to detail allocation and nomination process

Go-live of ID product is still foreseen for the mid of November

Stage	For Delivery	Timing (CET / CEST)	Event
Pre-Auction 1	0.00 - 6.00	21.40	JAO publish capacity available in the auction
Auction 1		21.45	auction gate opening
		22.10	auction gate closure
Nomination Gate 1	0.00 - 6.00	22.15	nomination gate opening
		22.45	nomination gate closure
Nomination Gate 2	1.00 - 6.00	23.00	nomination gate opening
		23.45	nomination gate closure
Nomination Gate 3	2.00 - 6.00	0.00	nomination gate opening
		0.45	nomination gate closure
Nomination Gate 4	3.00 - 6.00	1.00	nomination gate opening
		1.45	nomination gate closure
Nomination Gate 5	4.00 - 6.00	2.00	nomination gate opening
		2.45	nomination gate closure
Nomination Gate 6	5.00 - 6.00	3.00	nomination gate opening
		3.45	nomination gate closure
Pre-Auction 2	6.00 - 12.00	3.25	JAO publish capacity available in the auction
Auction 2		3.30	auction gate opening
		3.55	auction gate closure
Nomination Gate 7	6.00 - 12.00	4.00	nomination gate opening
		4.45	nomination gate closure
Nomination Gate 12	11.00 - 12.00	9.00	nomination gate opening
		9.45	nomination gate closure
Pre-Auction 3	12.00 - 18.00	9.25	JAO publish capacity available in the auction
Auction 3		9.30	auction gate opening
		9.55	auction gate closure
Pre-Auction 4	18.00 - 00.00	15.25	JAO publish capacity available in the auction
Auction 4		15.30	auction gate opening
		15.55	auction gate closure

Introduction of ID product on Nemo Link



5. Update on Core methodologies (LT, balancing)

Update on Core methodologies

- **Long Term Capacity Calculation methodology:**
 - TSOs fail to agree in August
 - Key point for Elia: method has to include a certain minRAM to avoid undue discrimination and solve data quality issues in the grid model
 - TSOs submit a letter to ACER and NRAs, explaining the reasons for disagreement. EC has now to take the 'appropriate steps'
- **Long Term Splitting Rules** have been submitted (with yearly/monthly 80/20 instead of 50/50, based on stakeholders' input)
- Regional EBGL methodologies for **cross-zonal capacity allocation for balancing capacity** exchange have been consulted
 - Key point for Elia: market value of CZC has to take into account the flow-based context

AOB

Next meeting

Friday Feb 7 from 14:00 till 17:00 (preferred)
or Thursday Feb 13 or Friday Feb 14