Users' Group

Working group Belgian Grid

29 maart 2024

Agenda

1. Aansluiting met Flexibele Toegang – status na de 2 Workshops
2. Aansluiting - Proces EDS/EOS/Capaciteitsreservatie – discussie
3. Aansluitingscontract
    - feedback consultatie
    - aansprakelijkheidsclausules

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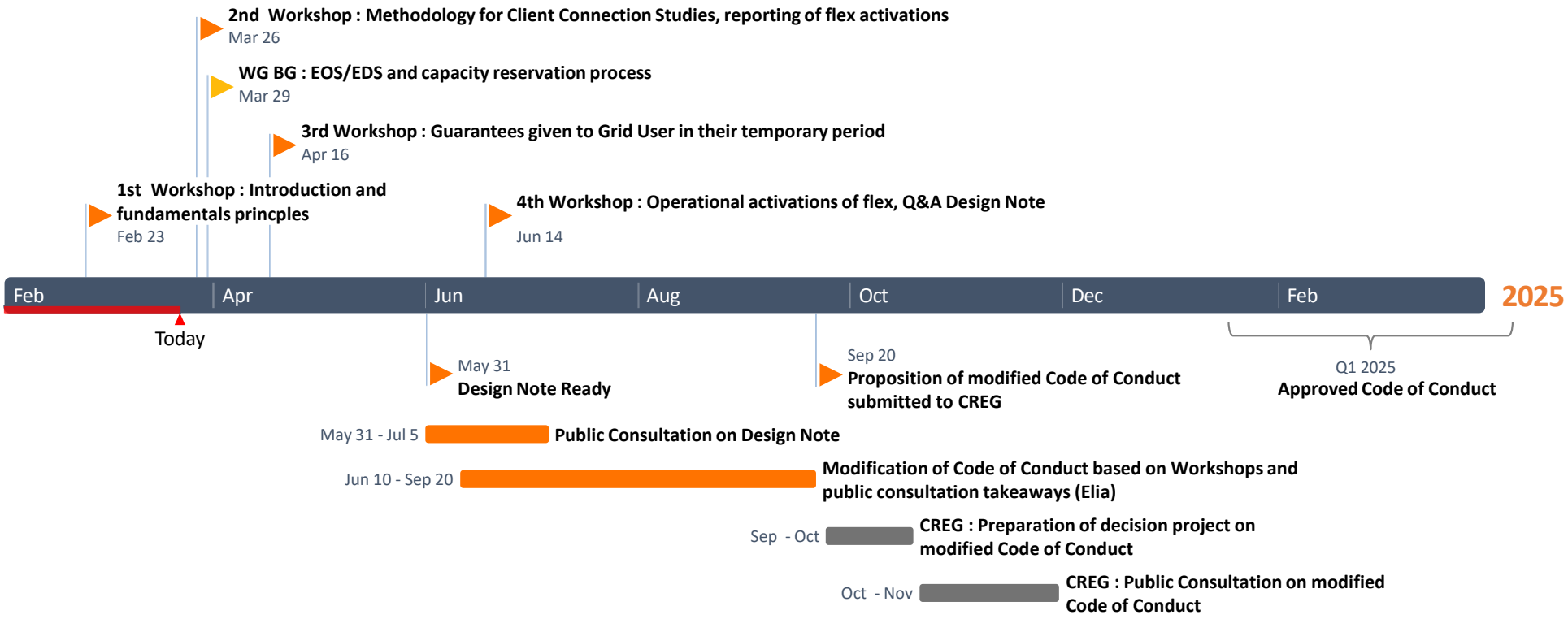
Aansluiting met Flexibele Toegang

status na de 2 Workshops

1. Timeline
2. 23/02/2024 Workshop : Fundamental principles
3. 26/03/2024 Workshop : Methodology for Client Connection Studies, Reporting
4. Next workshops
5. Questions ?

1. Timeline

Planning of workshops and public consultations



2. 23/02/2024 Workshop

Fundamental principles

23/02/2024 : 1st Workshop on connections with flexible access

Workshop content :

- **Part I – Introduction** : Flexibility has an important role to play in a successful energy transition
- **Part II : Main Principles of Proposed Vision** (Target Model)
  - Integration of Grid User Flexibility in LT Grid Planning
  - Temporary Period for Earlier Grid User connection

Lot of interaction – MoM available on Elia Website

Additional Feedback received in the meantime

Given the accelerating energy transition, flexibility has an important role to play

Given the rapid increase in EOS/EDS (for RES, storage and demand), the importance of flexible connections – allowing Grid Users to connect before the realization of required grid reinforcements – will increase

Considering the flexibility of Grid Users – when capable and when willing – is key as a new design factor for the future power system to strive for a techno-economic optimum for society, as anchored in EU legislation

Discussion and feedback received

- It is necessary to **efficiently manage capacity reservation** as they impact the needed flexibility → Cfr next WG BG topic
- How many **connections request** are **effectively realized** and what are their **capacity** ? → Currently being investigated
- Question on **scenario** and **load/production hypothesis** used in **Client Connections Studies** in order to compute the needed flexibility → Methodology discussed during the 26/03/2024 Workshop
- **Demand Facilities** are in (most cases) **not flexible** → Flexibility on load **cannot be imposed** and will imply the **design of different product** (in a later stage)

Long Term Grid Planning : Cost-Benefit Analysis for Flexibility

In **Long Term Grid Planning**, **Cost-Benefit Analysis** will be realized to **compare Grid Reinforcements** and **Remuneration of Grid Users' flexibility** – within a **limited range** – as a **complementary solution.**

To ensure a **harmonious development of the Grid**, **bounds** should be put on the **expected usage of flexibility**

- **Investments** are **triggered** when the **expected** (societal) **costs** of **using Grid Users' flexibility** are **higher** than the **expected costs of reinforcing the grid**
- **Investments** are **triggered** when the **expected usage of flexibility** is **above predefined bounds**

Discussion and feedback received

- General agreement on the principles but some practical questions remains
  - How to activate and remunerate flexibility ?
  - How to set bounds per type of Grid User and ensure a harmonious grid development ?

Temporary Period

The **connection request** of a **Grid User**…

… may **require** a (planned or not identified nor planned) **grid reinforcement project**

- If **agreed** by the **Grid User**, the Grid Operator can **propose** a **connection before the realization of the grid infrastructure** identified in the **context of the development plans**
- In **those conditions**, **flexibility** will be **applied**. As it is the **Grid User's choice to connect earlier**, those inherent **flexibility costs shall not be socialized** but **shall be borne by the Grid User until the end of the temporary period**

Temporary Period : Summary

The **Temporary period** can **apply** on the request of **Grid Users** in **areas** where **not enough firm hosting capacity** is **available**

During the **Temporary Period**, **the flexibility costs** are **borne by** the **concerned Grid Users**

Clarity should be given to **the Grid Users** related to the **definition** of the **Temporary Period**
➔ Proposals made during the workshop

Guarantees should ideally be given to **the Grid Users** related to **maximal bounds** to the **flexible volume** during the temporary period – under the condition that **gaming risk** is **avoided**

Will be discussed in the next workshops

Discussion and feedback received

- How to allow capacity towards different grid users when a reinforcement project is realized ?
- More guarantees should be given to the Grid User than the expected commissioning date of a reinforcement project.
  - Elia therefore proposes a maximum duration. This maximum duration is used when no project is yet foreseen.
  - Suggestions are made to link the end of the temporary period with the planned commissioning date of the project, possibly making the distinction between factors that are within or beyond Elia's control (e.g. permitting) ➔ under analysis

3. 26/03/2024 Workshop

Methodology for Client Connection Studies & Reporting

26/03/2024 : 2nd Workshop on Methodology for Client Connection Studies & Reporting

Workshop content :

- **Part I: Methodology for Client Connection**
- **Part II : Reporting**

Lot of interaction – MoM is being drafted

Additional Feedback can be sent until 02/04 for integration in the design note

Part I : Methodology for Client Connection Studies (EOS/EDS)

Methodology for Client Connection Studies (EOS/EDS) : Content

1. **Reference context**
    - Reference network
    - Reference capacities
    - Reference market
2. **Connection proposals**
    - Considered voltage levels
    - Connection configurations
3. **Access**
    - How is a study executed
    - How to define flex volumes

1 Reference context

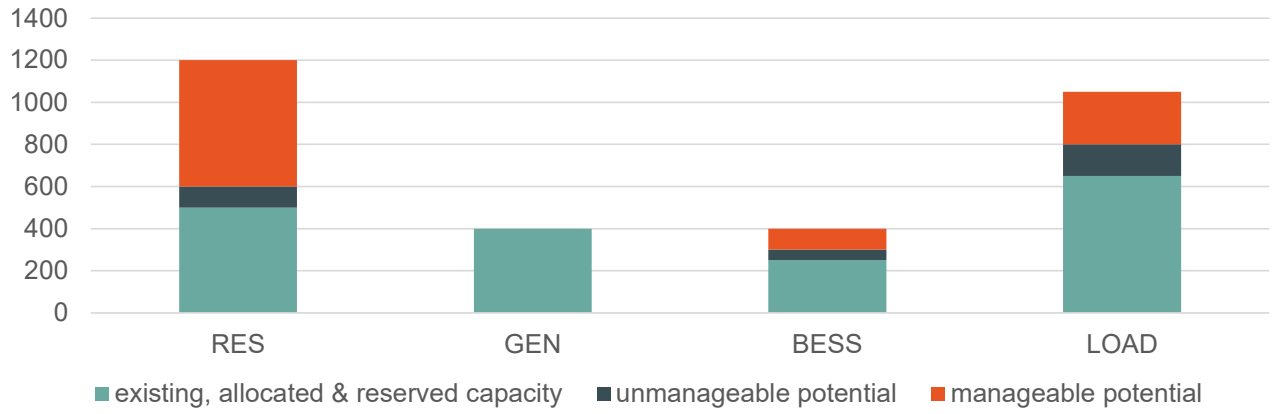
Context – Reference Grid, Load & Generation

Reference Grid

- **Reference grid** is the grid used for **performing client connection studies. Corresponds to the network as it is expected to evolve according to the project portfolio at the time of the study** (federal and regional plans may evolve as part of the evolution of LT visions, portfolio management and project contingencies)

Load & Generation

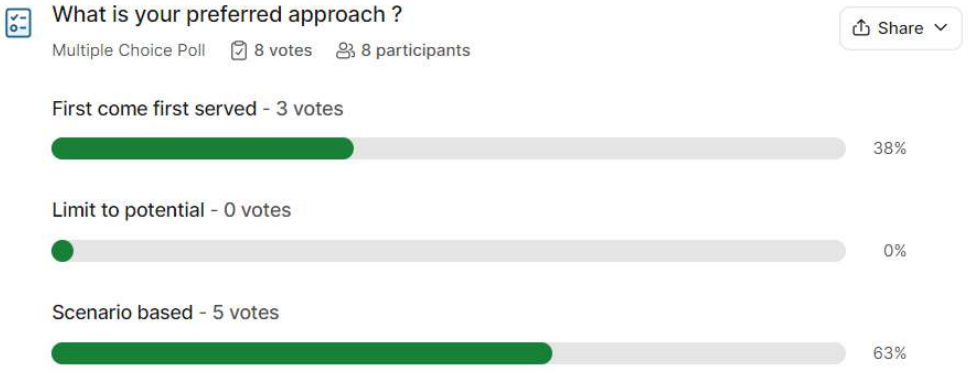
- The scenario building process, including public consultation on hypotheses, defines the evolution of the consumption and production to be accounted for in Belgium and Europe and are updated on a regular basis.
- This context is composed by existing, allocated and reserved capacities and by the foreseen potential on different time horizons.
- The reference grid is developed to host those capacities in order to be able to realize the Belgian and EU ambitions in terms of the energy transition, in the interest of society.

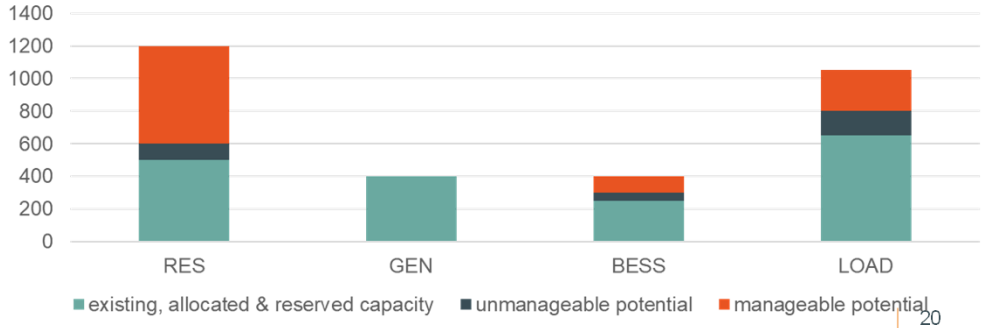


Context – Reference Grid, Load & Generation

Load & Generation : 3 approaches are proposed

- **First come first served** : For a new connection request, we only take **unmanageable potential and existing, allocated and reserved capacities into consideration** when performing the connection studies and calculating the flex volumes
- **Limit to potential** : For a new connection request, **we only take unmanageable potential and existing, allocated and reserved capacity into consideration BUT if the demand exceeds the foreseen potential we give a flexible access without volume limitation.**
- **Scenario based** (current approach) : For a new connection request, **we fill the leftover foreseen potential of the concerned GU type in priority** over the potentials of other types. **If this foreseen potential is already fully used, we take the foreseen potentials of all other GU types into account** in the flexibility calculations [all or only if they are impacting the congestion].





Context – Profiles

	Profile of existing + reserved + potential GU	Profile of new GU (*)
RES	RES profile	RES profile
Load	**Existing profile** scaled to PPAD+ **reserved/allocated capacity** flat at PPAD.	Flat profile Flat at the PPAD
GEN	Market profile	Market profile
Batteries	Market profile in the same direction on the congestion, 0 if the market goes in the opposite direction.	Flat profile + and –

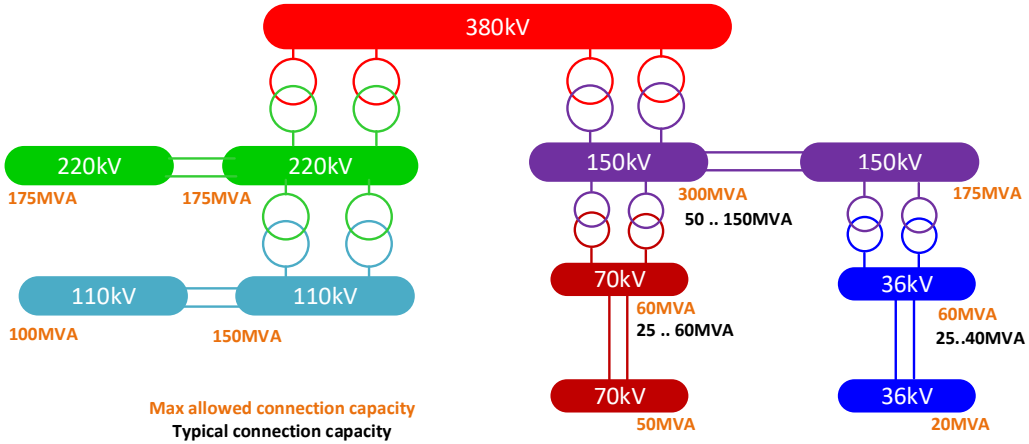
(*) The profiles used to define the flexible volume are consistent with the measurement of the use of the flexibility – see next workshop

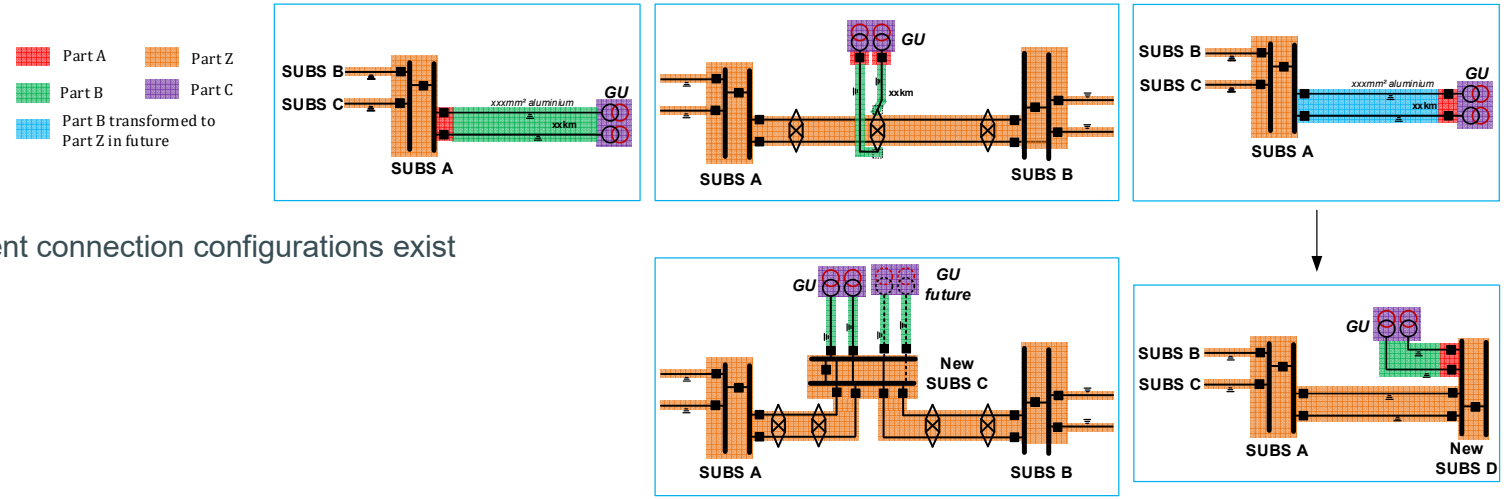
2 Connection proposals

General principes which cannot be fully exhaustive, exceptions can occur in specific cases

Studied connection options

- Based on **typical ratings of assets** a requested connection capacity can be designated to a **specific voltage level**:





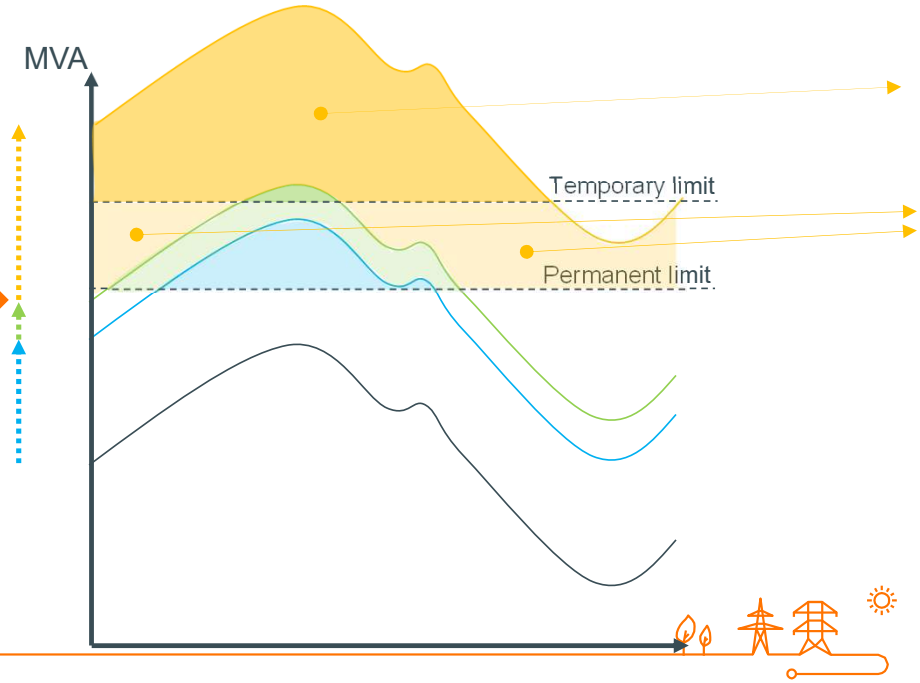
- Different connection configurations exist

3 Access

Access : what is analyzed

- **Analyzed situations** : Typically, **100 situations per year** will be analyzed in order to represent the different market situations
- **Grid Elements** : permanent and temporary limits are considered
- N, N-1 and N-1-1 states are analyzed
- Technical planning criteria must be respected (voltages, ratings of grid elements…)

How to determine flex volumes



Preventive volumes are to be considered directly

Curative volumes are to be multiplied by the probability of the curative situation

Should we consider all congestions?
➔ proposal to introduce tresholds

$$U_{CNE} \geq U_{GU}; \left(\left| PTDF_{GU,CNECGU} \right| \times \frac{S_{nom_{GU}}}{S_{nom_{CNEC_{GU}}}} \right) > x\ \%$$

For **congestions** at an **equal** or **higher voltage level** than the **voltage level where the Grid User is connected**, the **CNE** will be **considered** only if the **power flows** on those CNE are **significantly impacted** (PTDF, Snom ratio) by the Grid User – unless no other means (topology & redispatching) are available to solve the congestion

$$U_{CNE} < U_{GU}; \qquad PTDF_{GU,CNECGU} > y\ \%$$

For **congestions** at a **strictly lower voltage level** than the **voltage level where the Grid User is connected**, the **CNE** will be **considered** only if the **PTDF (Power Transfer Distribution Factor)** of the Grid User on those CNE is above a predefined value – unless no other means (topology & redispatching) are available to solve the congestion

$$\%\ time > z\ \%$$

Where % time represent the effective probability of occurrence taking into account GU profile and probability of failure.

Only consider CNE when the **effective probability of occurrence** of the congestion is above a predefined value - unless no other means (topology & redispatching) are available to solve the congestion

Part II: Reporting of Flexibility Activations

Reporting of Flexibility Activations

The **objective** of the reporting is to create:

- A detailed view on the activated flexibility by GU at a specific moment in time.
- Global insights on the activated flexibility and its evolution over time.
- An official report made available to the regulators and the GU

The methodology to calculate the activated flexibility should be:

- In balance between:
  - Simplicity ~ Easy to understand, implement & calculate
  - Accuracy ~ The results should be representative, not necessarily exact
- Adequate for the specific production type
- Officialized and published

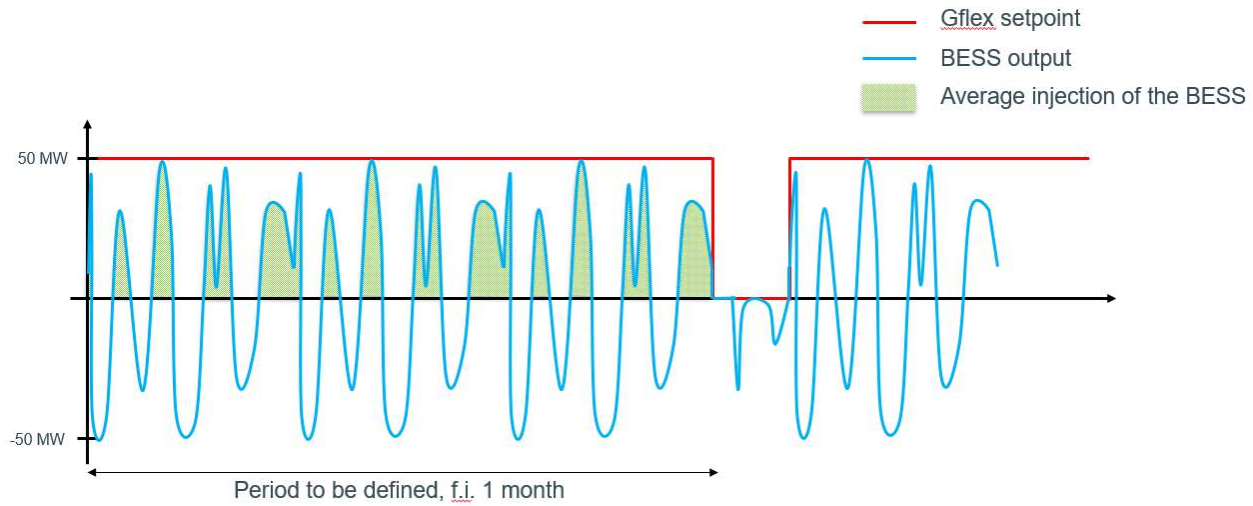
Context - Considered baselining methodologies

Baseline Methodology	Description	Resulting Baseline	Could be used for
AAP	The GU needs to send the Available Active Power in real time to Elia. Untough the unit is being activated for flexibility it is still able to estimate the AAP without flexibility activation. Note: This methodology is only available for specific technologies.	Approximate, dynamic during the entire activation period	Solar & Wind
Declarative Baseline	The GU needs to send in a baseline (schedule) prior to gate closure of the product of any other predefined deadline.	Exact, dynamic during the entire activation period	NA
Control Group	This baseline methodology uses a reference control group which is not influenced by the flexibility activation. This control group is of the same type as the impacted GU.	Approximate, dynamic during the entire activation period	Solar & Wind
Historical Baseline	Historical baseline methodologies make use of historical measurement data taken quit recently (several days up till 1 month prior to the day of activation) to calculate the baseline for the period of activation.	Approximate, dynamic during the entire activation period	Storage, Conventional production
Meter Before Meter After (MBMA)	Take a single meter reading or the average of multiple meter readings before and after activation of the product and compare them to calculate the flexibility activation.	Approximate, constant during the entire activation period.	Conventional production

Reporting Proposal for the flexibility activation of BESS

Proposal: BESS flexibility activation will be evaluated compared to an historical baseline.

- The injected energy over the last month is measured in % of time at full power, f.i. 30%
- This value is applied to the duration of the modulation to determine the energy not injected during the flexibility activation.



4. Next workshops

Next workshops

16/4: 3rd workshop – guarantees given to GUs

- Provide guarantees on the **definition of the temporary period** (addressed in workshop 1)
- Provide guarantees on the **use of flexibility during the temporary period**
  - ✓ Should the cap be defined in terms of MWh or % of time, on a yearly basis or several years,…?
  - ✓ What happens beyond the cap? In case of compensation, according to which modalities?
  - ✓ …
- Challenges:
  - ✓ Need to find the right balance between risks for the GU and risks to socialize the costs
  - ✓ Need to be workable and implementable in the short term

14/6: 4th workshop

- Operational activations of flexibility
- Q&A Design Note

5. Questions ?

Thank you.

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Aansluiting - Proces EDS/EOS/Capaciteitsreservatie –

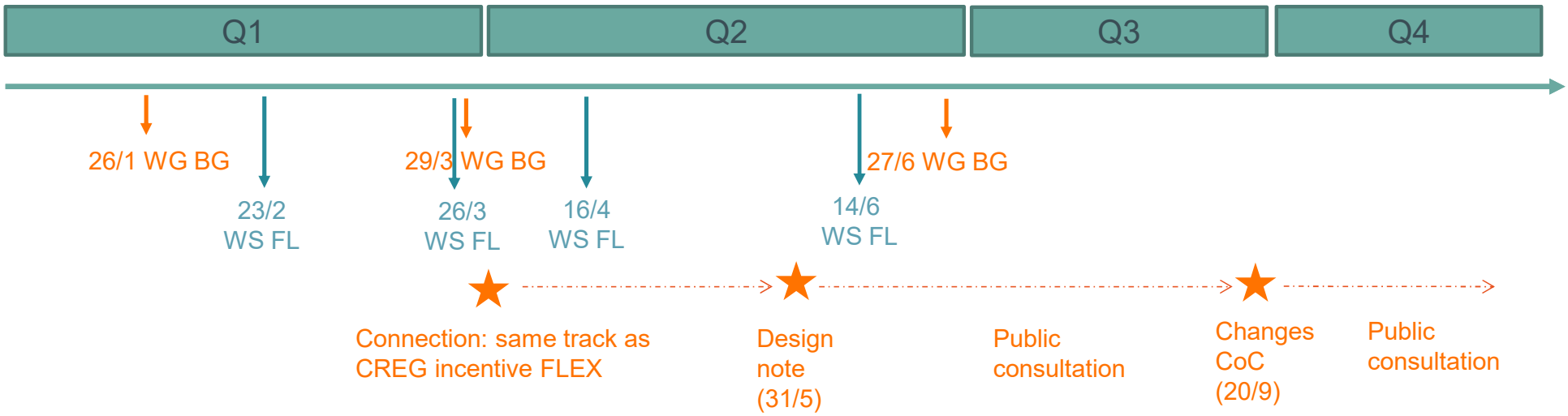
Discussie

Connection: same track as CREG incentive FLEX

A lot of synergies with discussions on flexible access

- CREG confirmation that initiatives can be linked
- Following same planning and approach:
    1. Description of process in design note
    2. Public consultation on design note
    3. Proposal changes Code of Conduct
    4. Public consultation on Code of Conduct
- Connection: not part of the incentive

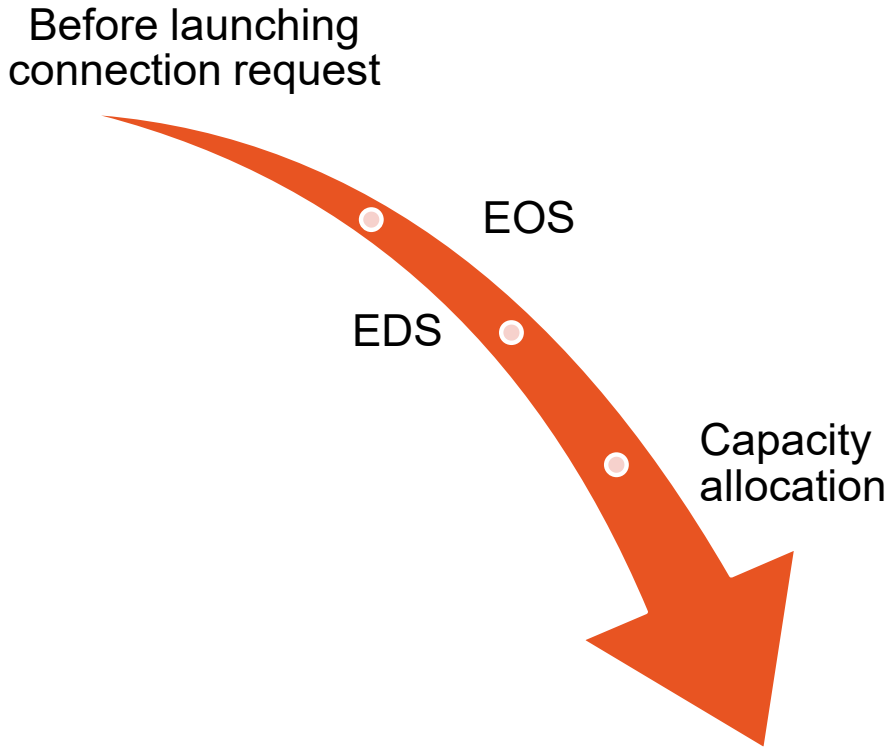
High level timeline: 2024



Connection process

General

- Scope of the presentation
  - Brainstorm on different possible changes: input of brainstorm will be used to refine proposal for the design note
- Not yet distinction between internal and external process changes
- Not yet link with change CoC

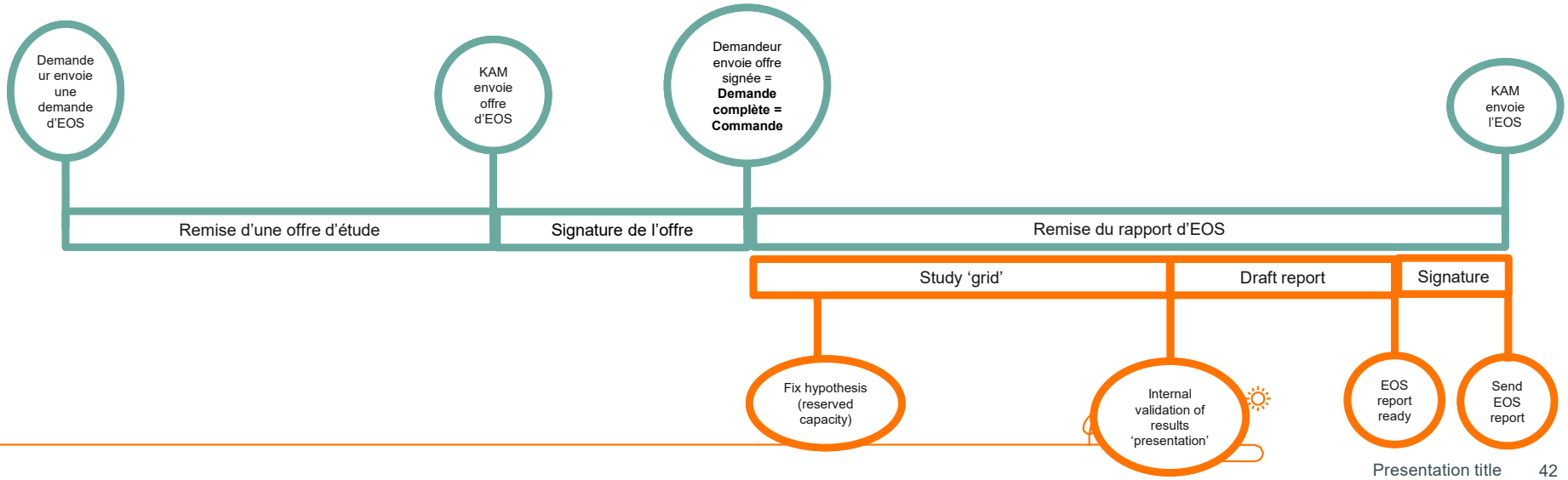


Before launching connection request

- Idea: Discuss up front connection request with grid user
  - Existing grid users: contact KAM
  - New grid users: request through Elia website
- Goal: Give information on the connection process, connection request form, network, …
  - Based on information needed: KAM and/or other relevant departments
- For free
- Proposal:
  - Development of request form on Elia website
  - Create internal process to respond to requests

EOS ‘feasibility study, no reservation of capacity’

- Observations:
  - A lot of simultaneous requests are launched at different locations by the same grid user
  - Rules about obligation of EOS are not clear
  - Rules about what can be asked in EOS are not clear
  - EOS results are based on fixed hypothesis at the moment of the EOS study start
  - Timing of EOS: depending in number of studies, no transparency on timing



EOS ‘feasibility study, no reservation of capacity’

- Proposal/options
  - EOS should be obligatory unless for specific cases (no link with other study requests,…) to avoid discrimination (reservation of capacity)
  - Clarify rules what can be asked (link with GUflex discussions: information sharing, info in contract, …): # MW, # profiles, …
  - Study results can be shared with GU after internal validation (presentation, slides)
    - Grid user can decide to stop the study f.e. flex to high

    -> What is reasonable time to decide (x weeks)?
    - Grid user can start EDS request, EOS should be finalized f.e. report to CREG
  - Limit the number of requests per grid user and technology (or at least with prioritization of requests based on discussion before launching connection request)

  -> Limitation: Y/N? What seems a reasonable number?

EOS ‘feasibility study, no reservation of capacity’

- Proposal/options
  - Option ‘guarantee results EOS’ (see next slides)
    - Guarantee that results are valid at the moment of sending the EOS?

    -> What is the preferred option (AS IS or serial)?
    - Guarantee that the results are valid for a number of days after sending the EOS?

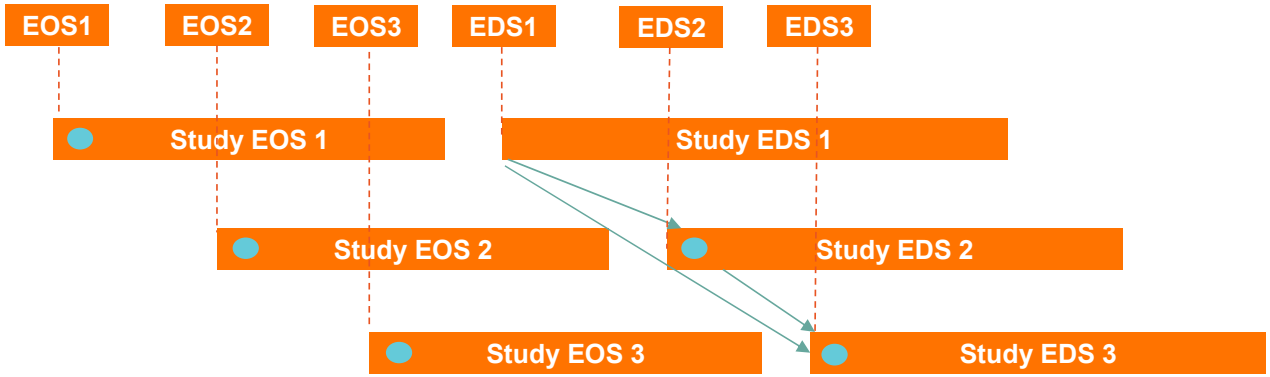
    -> What is reasonable number of days? ( in graph)
    - EDS impact on running EOS ?

    -> Update of hypothesis? Y/N

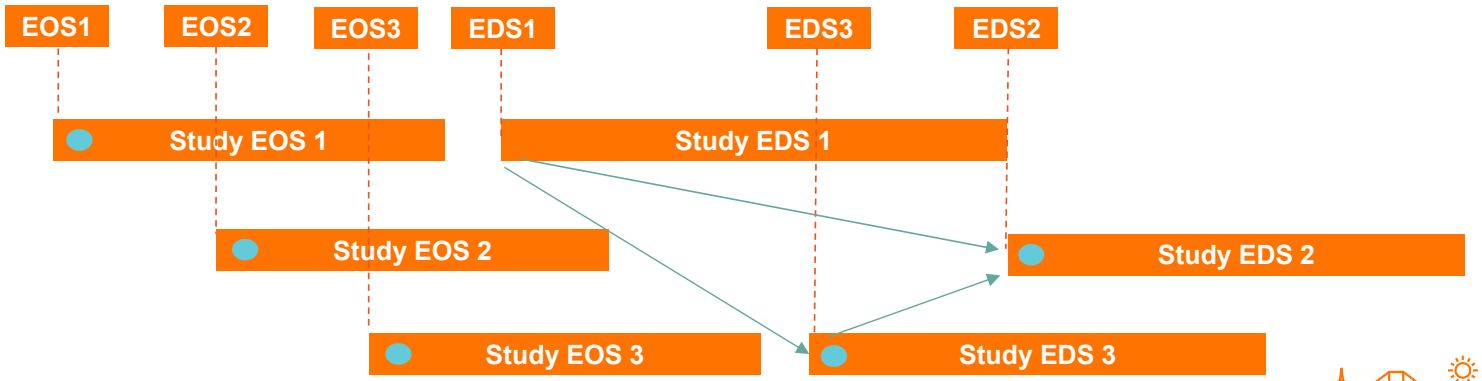
The choices above will have an impact on the # WD to deliver a study and will be depending on number of linked studies!

- The timing can be made more transparent by communicating # linked EOS.
- The process should be more streamlined (more internal validation moments, less time for launching a study and signature, …)

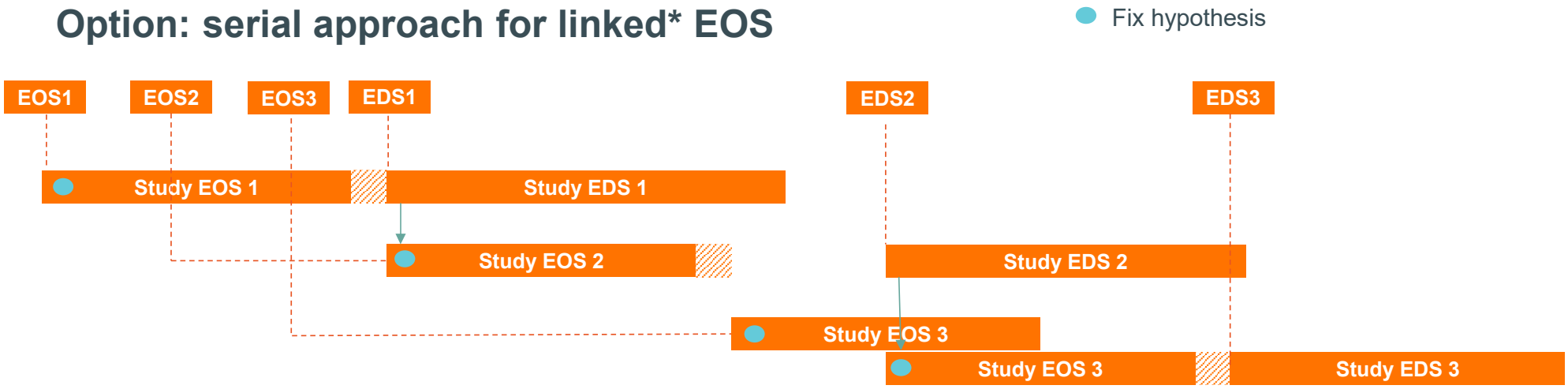
AS IS

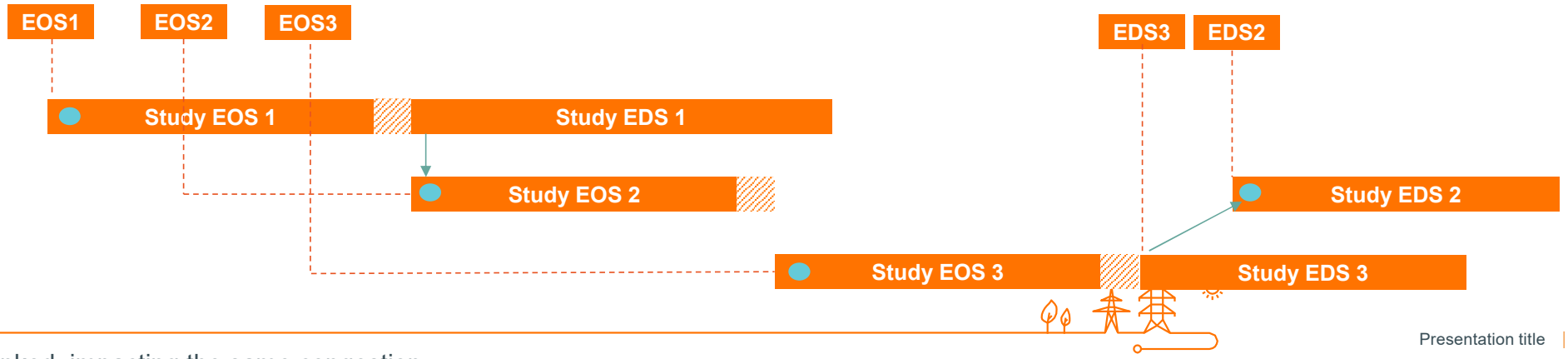


Fix hypothesis



Option: serial approach for linked* EOS

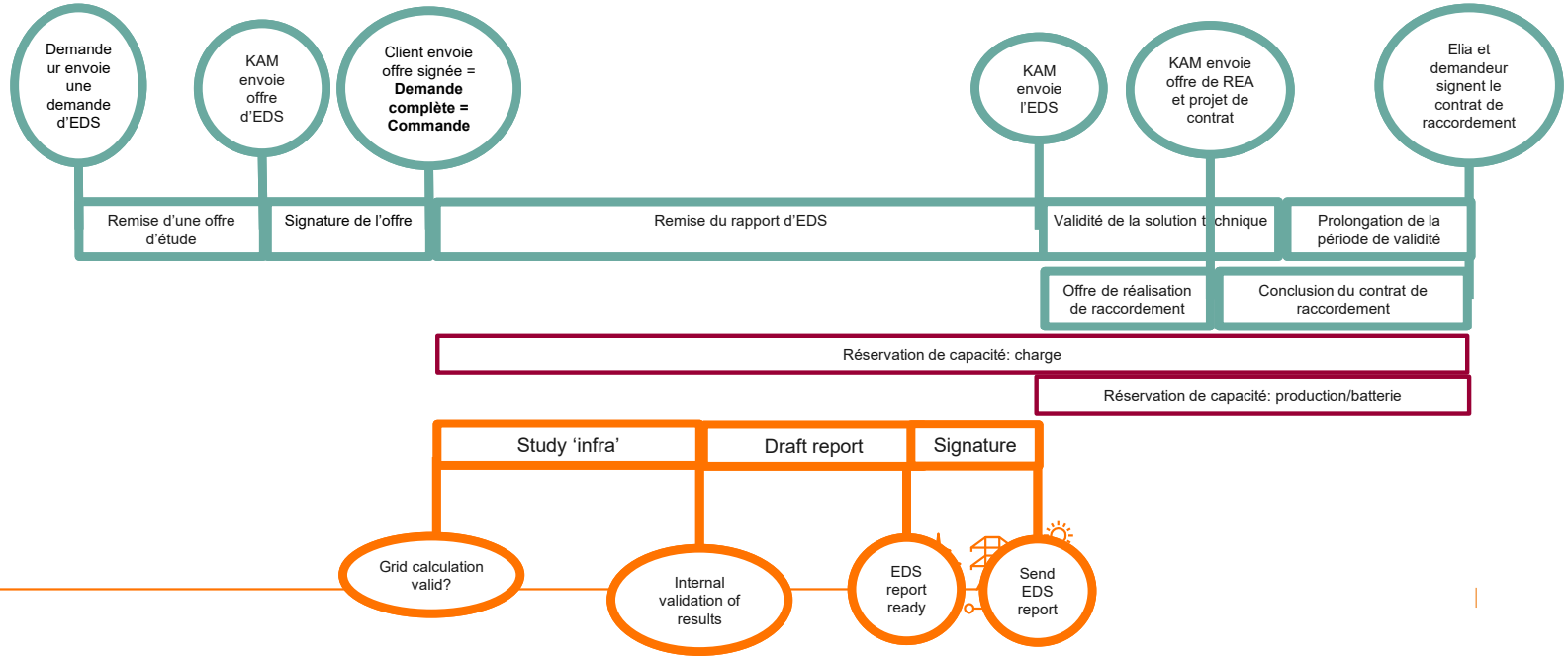




* Linked: impacting the same congestion

EDS ‘capacity reservation’

- Observations:
  - EDS scope changes are asked during the study
  - Rules about what can be asked in EDS are not clear
  - Criteria for launching an EDS are not clear
  - Results of EDS may differ from results of EOS (change of hypothesis)



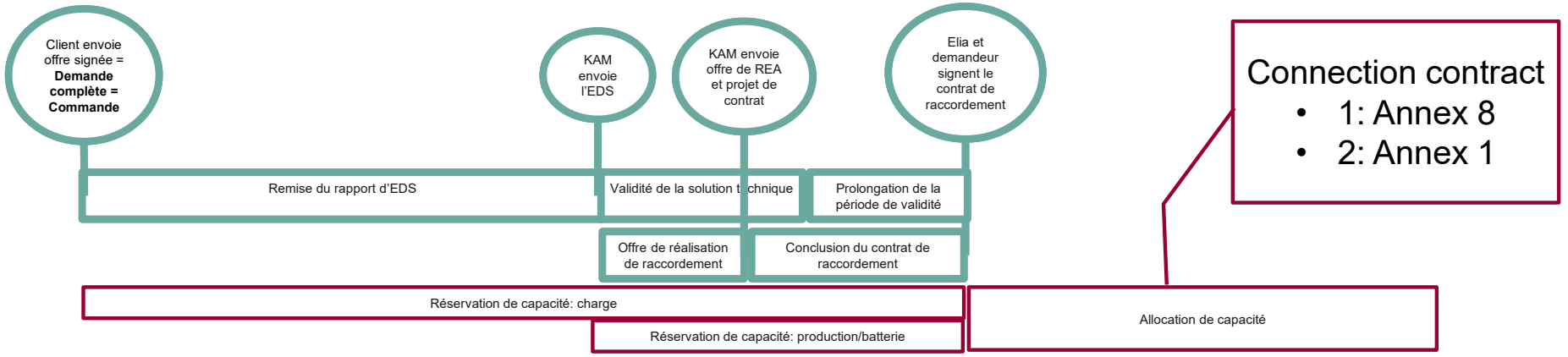
EDS ‘capacity reservation’

- Proposal/options
  - Clarify criteria what is needed to launch an EDS ‘complete request / maturity’ + strict application of these criteria f.e. fixed location/terrain
  - In case difference in hypothesis compared to EOS (f.e. additional reserved capacity), update on results (grid calculation) at the start of the EDS
    - In case timing between EOS and EDS too long -> again EOS!

    -> What is sufficient time to go from EOS to EDS (x months)?
  - Review ‘study infra’ in order to keep timing under control

Capacity reservation/allocation

- Observation
  - Sleeping capacity should be avoided
  - Capacity seen as a product
  - Capacities (large) are reserved long up front



Capacity reservation/allocation

- Proposal
  - Better & strict follow-up of criteria for capacity reservation & allocation
    - Reservation: CoC
    - Allocation: connection contract – more robust in new connection contract e. g. art 12.2.2
  - Capacity cannot be seen as a ‘product’ & should be linked to a real project on a specific location
    - Swap of capacity between grid users not possible, only take over full connection (no scope change)
  - Allocated capacity should not be free as from a certain moment

    f.e. start payment based on date agreed in annex 8 (connection & PPAD)

  -> Opinions?

Thank you.

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Aansluitingscontract

Feedback consultatie

Objective for today's meeting

- Give an insight on the main topics that draw shareholder's attention
- Share Elia's answer on some of the comments
- Next steps/timing
- Specific point on Liability clauses

De Netgebruiker / Medecontractant (Art 1 Definities)

1. Medecontractant: the Grid User (GU) who signs the Contract.
2. Netgebruiker: Algemeen begrip “een netgebruiker”

   => Gebruik van Medecontractant wordt breeder gemaakt in de tekst

CDS

1. Conformiteit Eisen (Art 4 Verklaringen)

   – CDS beheerder : conformiteit van de eigen installaties verzekeren, via doorwerking van de zijn verplichtingen op de CDS gebruikers
   – Netgebruiker staat wel in voor achterliggende productie/opslag

2. Buitendienststelling (Art 12 & Annex 2)

   – 1. Elia stuurt het bevel naar de Medecontractant/CDSO. 2. Indien deze geen gevolg geeft aan de buitendienststelling=> Elia kan het eerste aansluitingsveld loskoppelen.
   – Tekst licht aangepast

3. Aanstelling OPA/SA

   – Itt. bij de installaties van de medecontractant, productie- en opslaginstallaties, waar de medecontractant in zijn naam en in naam en voor rekening van de eigenaars van de productie- en opslaginstallaties de OPA/SA aanstelt, laat de medecontractant de aanstellingsverplichting doorwerken naar de CDSU (eea. onverminderd de huidige verantwoordelijkheden inzake OPA/SA van de BRP)

GDPR-Données Personnelles (Art 13.5 Notifications & Signatures)

Remarques FEBEG - BASF

1. Lien avec la législation renforcé (besoin de traitement soutenu par un fondement juridique)
2. Réciprocité accentuée
3. Le texte a été adapté/clarifié suite aux remarques sur base des suggestions faites entre autres par FEBEG

Metering en gegevensuitwisseling (Art 23 Data Exchange)

1. Verantwoordelijkheid van Elia over beschikbaarheid van gegevens
   - Telpulsen en Near-real time meetgegevens zijn niet-gevalideerde gegevens
   - +: snel beschikbaar maar - : minder exact

2. Eigendom van de Metering device=> bijlages
   - GDC Art 197 bepaalt eigendomsrechten over de Submeetuitrustingen in geval van CDSen. Dit wordt ook geconcretiseerd in de Bijlagen

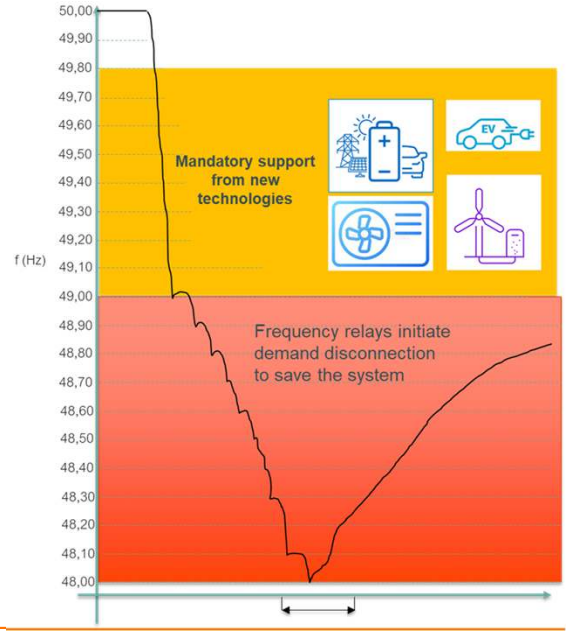
LFDD (Art 8.2.2 LFDD verplichting & Annex 11)

1. Brutoverberuik – Nettoverbruik concepten

   – Het te ontkoppelen nettoverbruik bedraagt 30% (6% + 24% indien technisch mogelijk) van het actueel brutoverbruik op het moment van de frequentie-instorting.
   – 2 stappen: 48,3hz en 48,1 hz
   – Licht tekst aanpassingen

2. LFDD groep

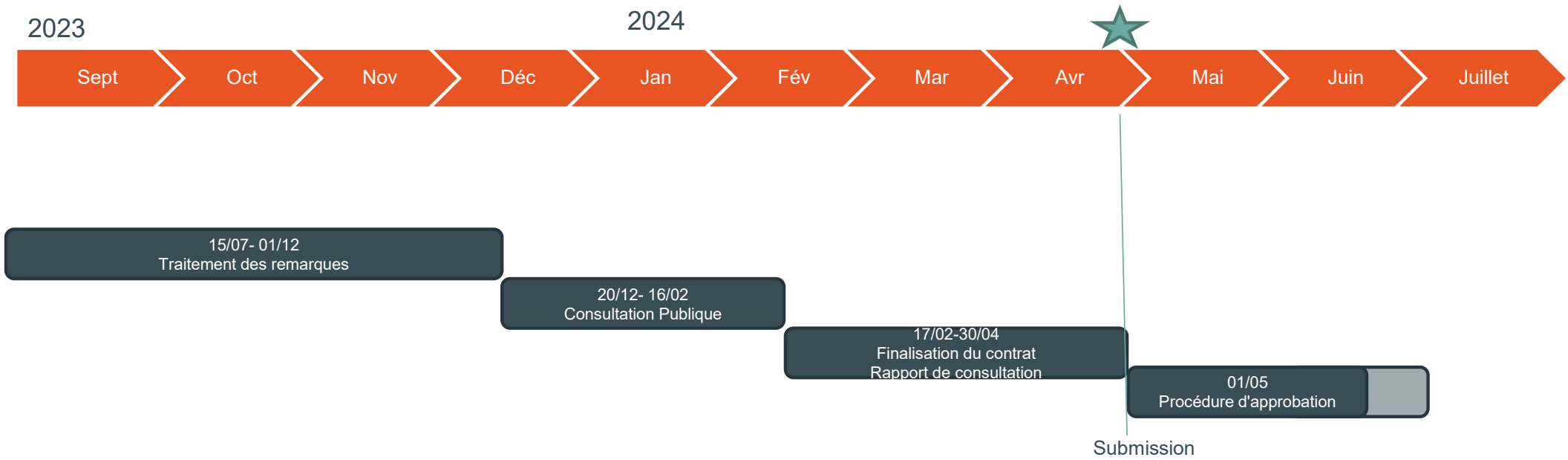
   – LFDD groepen kunnen enkel bestaan uit netgebruikers die direct gekoppeld zijn met het Elia net, dus ook op 30 kV, 36 kV, 70 kV. Netgebruikers van publieke distributienetten komen niet in aanmerking.
   – Netgebruikers van een CDS mogen ook zelf hun LFDD groep kunnen kiezen. In dat geval zal de CDS beheerder dit moeten faciliteren.



Offshore (bijlage 10)

1. Proximity Agreement: afwijkingen tussen P.A. zijn mogelijk
2. Definitie gebaseerd op MOG en/of PEZ
3. Toegangsregels en prioriteiten

Timeline


2023
2024
Sept
Oct
Nov
Déc
Jan
Fév
Mar
Avr
Mai
Juin
Juillet
15/07- 01/12
Traitement des remarques
20/12- 16/02
Consultation Publique
17/02-30/04
Finalisation du contrat
Rapport de consultation
01/05
Procédure d'approbation
Submission

Aansluitingscontract

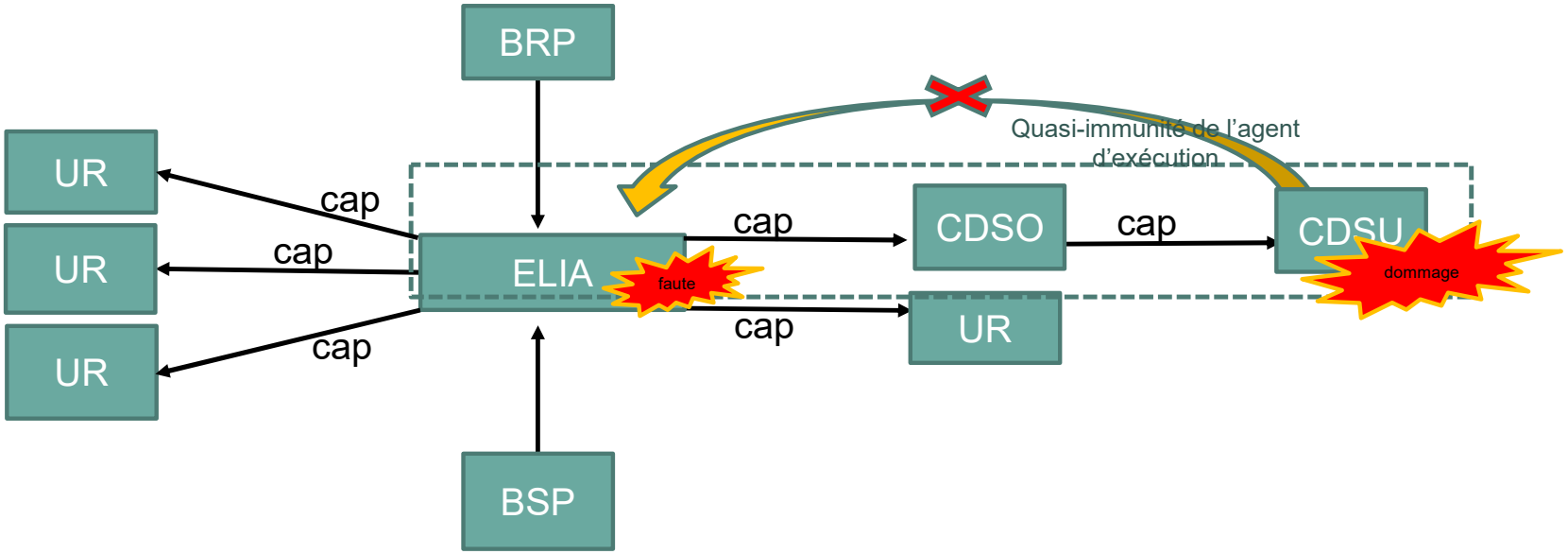
Aansprakelijkheidsclausules

CONTRAT DE RACCORDEMENT ACTUEL	PROPOSITION
Réciprocité	
Responsabilité pour toutes les fautes - **Responsabilité pour faute** - **Faute intentionnelle** - **Dol**	**Définition de la faute**: une faute qu'une Partie experte, professionnelle qui suit les règles et prend toutes les précautions raisonnables, n'aurait aucunement commise dans des circonstances similaires Elia pas responsable pour des défauts dans ses installations sauf si ceux-ci sont attribuables à une Faute ou à une faute intentionnelle ou au dol d'Elia ou à la vétusté de la chose due à la Faute grave ou à la faute intentionnelle ou au dol d'Elia. Pas de présomption de Faute => Nouvelle définition : Fait dommageable
Dommages directs	
Garantie et indemnisation du dommage dans le chef de nos autres UR's sont assimilées à/considérer comme dommages directs, mais à traiter directement par l'UR fautif. *Pourquoi ?* - *Responsabilisation de l'UR : nécessaire car sa faute peut avoir des conséquences sur d'autres UR's.* - *Protection de l'UR : la responsabilisation d'un UR protège les autres UR's*	

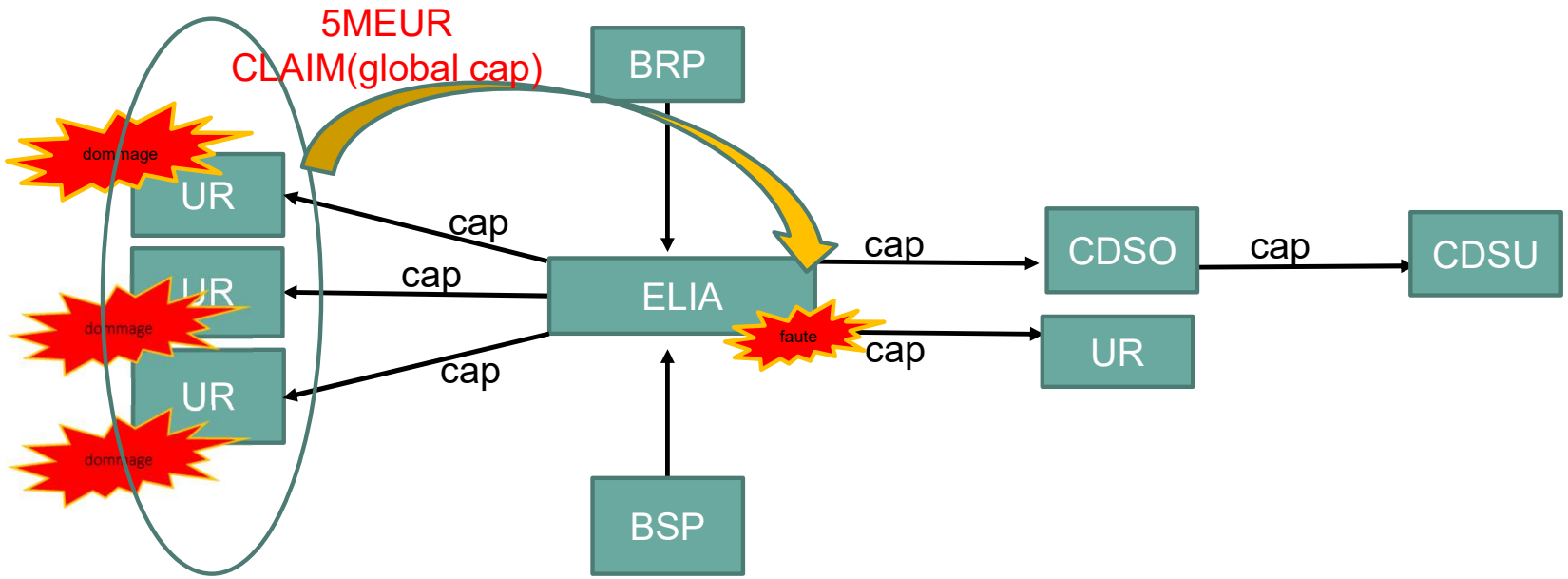
CONTRAT DE RACCORDEMENT ACTUEL	PROPOSITION
Dommages indirects exclus *Pourquoi ?* - *Prévisibilité ?* - *+ la conséquences de contrats avec tiers que des contrats avec Elia*	
Différence de régime // Faute ordinaire vs. lourde • **Faute ordinaire** - Différents conditions et caps, y compris en fonction du type de dommage. - Dommage matériel direct si interruption de min 3 mins avec un max de 1 mi EUR/dommage/par an - Dommage immatériel direct exclu	**Faute – interruption** - Dommages **directs** : 3000 €/MWh
• **Faute Lourde** - Dommage matériel direct si interruption de min 30 sec : 2.5 mi EUR/dommage/an - Dommages immatériels directs csq d'un dommage matériel direct si interruption de min 3 mins : 0.5 mi EUR/dommage/an	**Responsabilité en dehors d'une interruption (PQ, retard dans la mise en service, dommage à la construction)** - Dommage **direct** : 6000 €/MW - -

	Cap total (interruption ou non) : - Dommage matériel direct 2.5 mi EUR/dommage/an
Cap sinistre global, cause unique : 5 mi, à repartir au prorata entre les différents utilisateurs du réseau	
	Une partie n'est pas responsable pour utilisation mauvaise/incomplète/non autorisée des données fournies dans le cadre du contrat et toutes les csq liées ; *Pourquoi ? C'était déjà dans l'esprit de l'ancien régime mais cela n'était pas explicitement mentionné -> précision*
Caps applicables à tout claims provenant du site	**Garantie contre claims des utilisateurs en aval qui n'ont pas c'action directe et application des caps du contrat de raccordement** *Ces caps s'appliquent aux clients en aval afin qu'ils ne soient pas dans une meilleure situatceion que l'UR (respect de la chaîne contractuelle)*
Garantie et indemnisation des créances des tiers concernant des dommages directs	**Garantie et indemnisation du dommage dans le chef de nos autres clients sont assimilées à/considérer comme dommages directs** *Tiers limités aux autres UR*
Obligation de limiter son dommage	
Notification d'une demande d'indemnisation le plus rapidement possible	**Obligation de déclarer son dommage dans les 90 jours de sa survenance/du jour auquel le dommage aurait pu raisonnablement être constaté** *Pourquoi ? Harmonisation avec contrat de raccordement et contrat d'accès. Précision des 90 j au lieu de « immédiatement »*

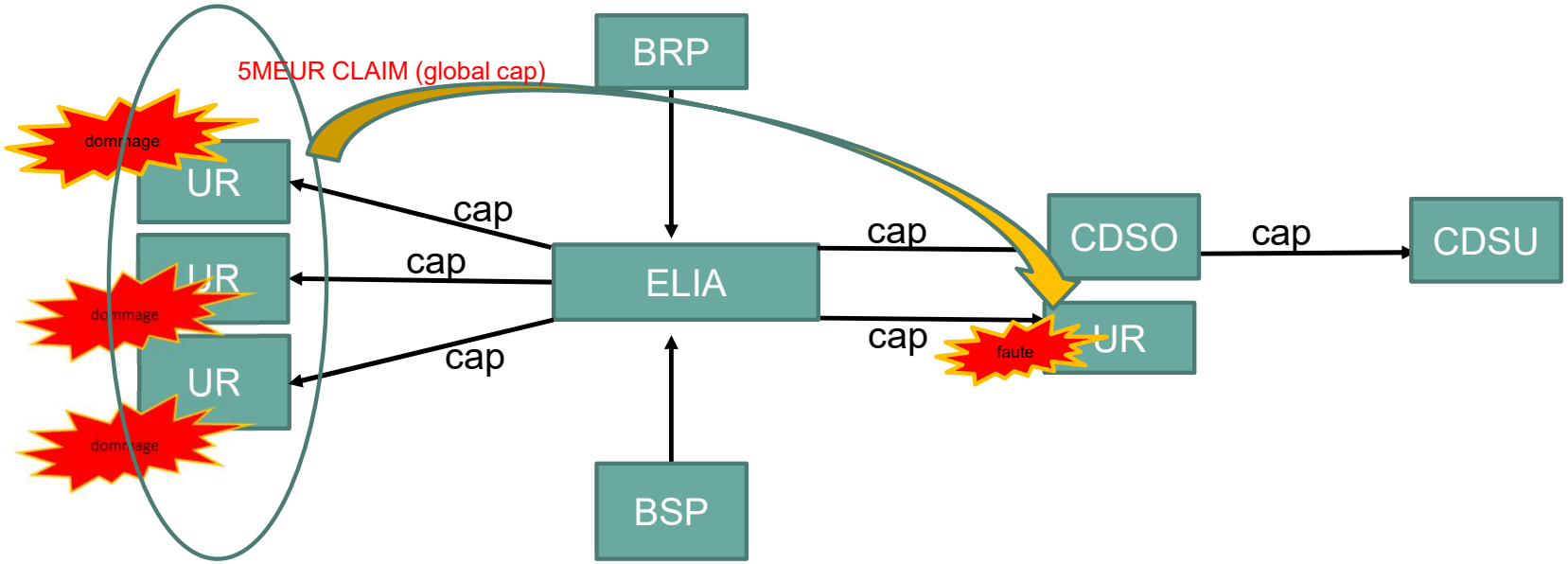
Relations contractuelles (raccordement)



Relations contractuelles (raccordement)



Relations contractuelles (raccordement)



Thank you.

Volgende meetings

Werkgroep Belgian Grid

- 27/06/2024 13:00u – 16:00u
- 01/10/2024 09:30u – 12:30u
- 13/12/2024 09:30u – 12:30u

Workshops Incentive Flexibele toegang

- 16/04/2024 09:00u – 13:00u