TF CRM #3 – Minutes

Thursday 13 June 2019
9h30 – 16h00

Agenda

- Welcome
- Approval minutes of meeting TF CRM#2 - 23.05.2019
- Feedback from Stakeholders:
    - Fluvius [#1]
    - FEBEG [#2]
- Demand Curve (Elia – Daniel Huertas Hernando) [#3]
- Scenario Framework (Elia – Daniel Huertas Hernando) [#4]
- Product: Availability Obligations (Elia – Elmo Van Thielen) [#5]
    - Principles on penalties
    - Examples on determination of available capacity
- Aggregation (Elia – Patrik Buijs) [#6]
- Minimal Threshold & Cumulative Support (FPS Economy)
- Investment Thresholds & Eligibility criteria (CREG) [#7]
- Strike & reference price – overview current proposals (Elia – Patrik Buijs) [#8]
- Pay-as-Bid vs Pay-as-Cleared – overview current proposals (Elia – Patrik Buijs) [#9]
- Next Steps (Elia)

Present

Name	Organisation/Company
Baugnet Christophe	Engie
Benquey Romain	Restore
Bernard Pierre	Hartree Partners
Block Guy	Janson Baugniet
Bobula Adrian	Dils Energie
Boucquey Pascal	CREG
Boury Jonas	Yuso
Bruninx Jolien	BASF
Busine Charlotte	PWC
Catrycke Mathilde	ENGIE
Claes Peter	Febeliec
Deblocq Vincent	FEBEG
Debrigode Patricia	CREG
Desimpel Lara	Eneco
De Waele Bart	CREG
Ferlito Davide	Fluxys
Gourlay Vincent	Total Direct Energie
Hachez Yvan	ENGIE
Harlem Steven	Luminus
Jong Dieter	Eiya
Jourdain Sigrid	FOD Economie
Kuzov Teodor	Hartree Partners
Leclercq Annabelle	PWC
Luyckx Wim	Statkraft
Meire Dirk	E-luminati
Meynckens Geert	Restore
Mortier Jo	RWE Supply & Trading GmbH

Nijs Klaas	Voka
Poismans René-Pascal	PWC
Schjelderup Ina	RWE
Selderslaghs Katrien	FOD Economie
Strosse Tom	EM GB
Van De Keer Lieven	T-Power
Van den Bosch Sven	Fluvius
Van den Kerckhove Olivier	ENGIE
Van der Biest Piet	Siemens
Van Dijck Sara	BBL
Van Nuffel Luc	PWC
Vandersmissen Michel	Janson Baugniet
Vandersyppe Hans	COGEN Vlaanderen
Vercruyssen Luc	PWC
Verrydt Eric	BASF
Voorspools Kris	70GigaWatt Consulting
Willemot Guy	EM GB

Minutes

Welcome & Agenda

James Matthys-Donnadieu welcomes the audience and explains the changes to the agenda which has been sent out. Two topics will not be presented:

- Scenario Framework (Elia – Daniel Huertas Hernando) [#4]
- Minimal Threshold & Cumulative Support (FPS Economy)

Approval minutes of meeting TF CRM2 – 23.05.2019

Comments were received from FEBEG and ENGIE. Since minutes were provided rather late, additional comments may be sent until June 21st 2019.

Feedback from Stakeholders: Fluvius [#1]

Concerning the minimum participation threshold, Febeliec wonders if only generation is meant or also demand response. Fluvius answers both are considered. Febeliec wonders if installations smaller than 1 MW are excluded. Fluvius replies they can participate via aggregation.

Luminus wonders if it is already clear on how the cooperation with DSOs will be organized for the prequalification procedure. Fluvius answers that their starting point is what they do for flexibility. They look at the boundaries of the behaviour; what could be the maximum amount that the demand could be lowered by the grid user. For all prequalified grid users on the same feeder, they will perform an assessment on the potential impact if the injection would be maximum at the time when demand is lowered. In case there is a potential issue, a green light cannot be given for that feeder. This has to be further clarified during the design of the prequalification mechanism.

Restore asks which one has priority: injection or flexibility? Fluvius answers that for the moment injection has priority.

Dieter Jong states that there is only 10% of feeders which have net injection and asks if Fluvius could be more specific on which points it concerns. Fluvius answers that it considers the points where there is a combination of high injection and demand response. For the moment it is still limited. Compared to NFS study, there is currently always a green light, but for CRM this might not always be the case.

COGEN Vlaanderen states that following the CRM law each production unit has to prequalify even if they don't want to participate to the CRM and wonders if they have

to pay for such NFS studies. Fluvius answers that this is the case but reminds that existing installations already have a valid connection contract.
COGEN Vlaanderen asks if small production installations still have to prequalify, so they have to request that study. Fluvius wonders what the definition of small units is, since mandatory prequalification is only necessary for units above the threshold for which they propose 1 MW. The precondition is however to have a grid contract. So normally an additional study is not necessary unless in case of the demand response participation. They haven't decided yet on the final procedure, but it is clear that something has to be done in the CRM framework, compared to flexibility.

COGEN Vlaanderen objects to this, since there is a difference between CRM and flexibility: prequalification is only necessary for flexibility if you want to participate; for CRM there is an obligation to prequalify. Fluvius answers that it needs to be further analysed but they should assume that everybody who prequalifies should be able to participate to the CRM auction.

COGEN Vlaanderen wonders if someone is obliged to spend money on an unnecessary study. Fluvius does not want to comment on the tariff, since it is not decided yet. However according to Fluvius it is certain that a study is needed, since they have to check if there could be an issue on the grid.

Restore states that Fluvius does not know if a contract will be rewarded or not. Fluvius answers they need to make some assumptions on the number of contracts, etc.

Febeliec asks for some information on timing and process of the analyses and if there will be a public consultation. Fluvius answers that the process should be clearly defined before the first prequalification. However the process will not be done unilaterally, but will be done together with all the market parties and will be presented here in the TF, or via other fora. It is not sure yet if there will be a formal consultation.

Elia points outs that Fluvius presents the topics that need to be worked on by the DSOs and Elia. Not all answers are known yet. Also Elia still has to present their position on prequalification and grid constraints. Fluvius will come back when more clarifications are ready.

Fluxys asks how Fluvius will answer on the new connection requests: some can easily be connected to the grid, others need some reinforcement. Will Fluvius answer positively to the easy ones, and negatively to the ones who need reinforcements? Fluvius answers that in case of connection request a distinction will have to made between the capacity that you can guarantee (Gtrad) and capacity with flexible behaviour (Gflex). For Fluvius, this is linked to the topic of derating.

Dieter Jong wonders how Fluvius sees the financial compensation if there is already financing of the CRM. Is it the optimal way to have it paid for by society? Fluvius

explains that in the grid code there is already mechanism foreseen where a certain amount ("vermogensrecht") is charged before the capacity reservation starts. The capacity reservation has to be taken into the network development plans, since it may lead to additional investment. Fluvius is looking into how that cost should be allocated to the grid users. One way of doing so is to foresee some preliminary payments once the capacity reservation starts.

Dieter Jong states that such cost will be part of the CRM; participants will include these costs in their bid. Fluvius does not agree with this statement. They explain that the introduction of such compensation for the capacity reservation will be used for any capacity reservation, not only for CRM. It will impact all the facilities, but not only the facilities for CRM.

COGEN Vlaanderen wonders if they want to penalize capacity subject to constraints more specifically. In principle there is a generic derating factor per technology and during near scarcity hours the congestion on the distribution grid might be very low. Fluvius explains that congestion will be very local (during or outside scarcity hours). It makes a big difference where capacity is used, because on average the available capacity will be high enough however congestion is a very local problem. It might not be so easy to include this in the clearing algorithm of the auction. Congestion and bottlenecks in distribution will be more local and potentially much deeper in the grid.

RWE wonders what Fluvius exactly means with third bullet point on slide 6. Fluvius replies that we need to try to avoid having to derate too much. The reasoning is the following: if we derate too much, there will be less capacity available for the auction. So we will have to contract more, which means that the price of the auction will be higher.

RWE believes there is no link between grid constraints and derating. They state that from a grid constraint perspective, Fluvius should not look at derated capacity but rather at maximum capacity that can be injected in the grid. By derating capacity you try to calculate the contribution of a certain technology to the adequacy. Fluvius reacts that they do see a link. They make a distinction between Gtrad and Gflex. If there is flexible capacity, there is a possibility that they have to modulate. According to Fluvius, this expected volume of modulation has to be taken into account in the derating. The more optimally they can take into account the closer to real-time conditions states of the grid, the lesser they need to modulate, and consequently the lesser they need to take into account the modulation in the derating factor. Fluvius repeats they are not advocating for higher auction prices.

COGEN Vlaanderen understands the concern of Fluvius sometimes requiring to modulate, but also the timing at which the derating factor is analysed should be considered. He states that modulation from wind or solar or during the summer, has no effect on deratings. Fluvius answers that this is indeed the analysis that needs to

be done: what is the percentage that needs to be taken into account? The problem is there is only one derating per technology.

CREG states that local constraints should not impact general technology derating on all flexible generation. Fluvius understands that derating factors are averages per technology: some installations have better performance, others have worse performance. Fluvius states it is the same in this case, whatever factor we come up with, it needs to be an average. Despite the fact that it is not an official statement, CREG confirms there needs to be a general factor to account for the contribution to adequacy, however not for a local problem. RWE adds that he would expect that grid constraints should be part of the grid study. Fluvius answers that grid constraints are taken into account in the grid study. The result of such study gives capacity of which a part is guaranteed and another is flexible. The flexible capacity can be modulated. The amount of actual modulation depends on how well you can take into account your closer to real-time grid constraints in the grid. That effect needs to be considered in the derating factor.

Elia tries to summarize the different statements from the participants. Issues associated to potential congestions related to flexibility may result in a lower availability for CRM as we would like to have with a copper plate. For COGEN Vlaanderen it should be looked at whether these constraints happen during moments relevant for the CRM, i.e. adequacy moments (e.g. AMT hours). Finally the concern of CREG is that deratings are technology driven and that local congestions should not impact the general technology deratings for the ones which are located in less congested areas of the grid.

Restore states that specific procedures for CRM should be avoided as much as possible since there are existing underlying products. All the elements of grid constraints, derating… should be taken into account somewhere, but they believe it does not make sense to have it in constraints for the CRM. Fluvius agrees but states that de-rating is a specific concept of a CRM.

Restore believes that from an adequacy perspective, the CRM should not reflect local constraints. Fluvius reacts the CRM should reflect average impacts caused by local aspects. For adequacy it needs to be known on a large scale how much capacity will be needed but not the exact location.

Elia tries to summarize the position formulated by Restore as the energy constraints one may face somewhere in the distribution grid, may impact availability during scarcity and should be considered as being part of the energy market. It is up to the concerned market party to assess the risk and it should be priced in in the bid for the CRM, rather than covering it ex-ante in the CRM prequalification process as additional de-rating.

Janson Baugniet mentions that we may get confused by the wordings. Deratings is defined in the law. Local constraints are managed by the injection contract. In order

to have a generation license, you need a study for installations above 25 MW. What Fluvius now requires is something for below 25 MW. Fluvius answers that this is not proposed. They want to know what needs to be taken into account when determining the derating prior to prequalification. Either this can be done upfront or this can be done in the bidding.

FPS Economy wonders if these topics are discussed with the distribution colleagues in Synergrid. Fluvius confirms.

T-Power remarks on Restore's point that no additional derating for congestion is wanted, but wonders why producers have deratings for forced outage (in addition to penalties). Elia answers that the reflection has been noted, but that the discussion would deviate too much now.

Elia concludes that DSOs and Elia still have some work to do.

Feedback from Stakeholders: FEBEG [#2]

FEBEG proposed to present their feedback on the payback obligation topic discussed during the last TF CRM of 23 May 2019.

Febeliec has three questions/observations on the presentation of FEBEG:
1/ if we want to talk about a CRM, the law has to be changed. He states that reliability options are not a capacity market.
2/ The law defines strike price and he wonders why we are having new definitions
3/ He asks what this has to do with security of supply; this is guaranteeing a revenue for assets.
FEBEG answers that:
1/ reliability options are defined in the law which is not challenged.
2/ the strike price fits in the definition of the law, here the discussion is about how this price level should be calibrated
3/ we all have interest in a well-functioning market, as this is the most cost-efficient way to guarantee security of supply at the level required by the Authorities.

Febeliec does not know the demand response study mentioned by FEBEG on its slide 6 but he is surprised if there exists no demand response at a cost higher than 225 €/MWh. FEBEG answers it's the highest activation cost considered in the study. Febeliec remarks that this study is probably not a complete study since it probably does not include all categories of demand response. FEBEG answers that the amount of demand response categories is quite extensive.

Elia reacts on the fact that FEBEG seems to state that the proposal of Elia was not indifferent. Elia, however, confirms its proposal consists of an indifference curve.

Restore remarks that he is very skeptical about the number of 225€/MWh. He states that DSR exists with a higher activation cost.

Restore also remarks he gets confused with the legal definition of the strike price. He mentions two assumptions which should be considered in this discussion: 1° You cannot have a strike price that forces you to payback revenues that you have not earned and 2° You will start to pay back some CRM money, in case you have gained infra-marginal rents; if you have enough rent you don't need a CRM. Restore recommends to keep working under those two principles. FEBEG answers it can fully agree with the first assumption that you cannot be forced to pay back revenues that you have not earned. Concerning the second assumption, FEBEG agrees that if market participants can earn sufficient money on the energy and ancillary service markets then the bids on the capacity market should tend to zero; but it should be in this sequence, not the other way around. This observation is in line with the requirements set in the new Electricity Regulation of the Clean Energy Package.

Dieter Jong states that there can be no exemption on the strike price obligation related to forward hedging strategies. He refers to the forward prices of ~200€/MWh in November 2018 and mentions that producers are remunerated through the forward market. The averages take into account the expectation for price spikes. FEBEG answers that the issue of back-propagation has already been discussed extensively, but to address this particular case, a lot of capacity was already hedged at lower prices and did not capture that high price. Hedging on forward markets is a standard industry practice related to risk management strategy and to the benefit of all parties (generators/suppliers, industrial/residential consumers), not waiting for a day the forward price could possibly spike.

Febeliec remarks that this seems to be a new type of economics. They wonder if every revenue above 300€/MWh should then be reimbursed, meaning that VoLL is 300 €/MWh according to FEBEG? He adds two comments:
1° the hedging strategy is the individual responsibility of the trader and
2° the proposal is not the idea of the law in order to guarantee security of supply.

Elia answers that the strike price is defined in the law and that the forward issue put forward by some market participants is being analysed. The issue could be solved and defended towards EC. In case the Comité de Suivi has a preferred way forward, it should be compliant with the law. We have to converge or land somewhere in time.

Demand Curve (Elia – Daniel Huertas Hernando) [#3]

Febeliec asks when Security of Supply as defined by law is guaranteed. Elia replies that this is the case in point B.

Febeliec wonders about the arguments to contract the volume related to point C, i.e. going beyond point B. Would we contract more than is actually needed to cover security of supply? Elia answers that this is the rationale behind such sloped curve. If security of supply is requested, it comes with a certain price elasticity. If the price is lower, you are willing to buy a bit more capacity.

Dieter Jong states that point A can be considered as the inflexible load in the market and that the consumer can decide himself what he is willing to pay, he should be able to bid between points A and C. Elia replies that this is not the idea put forward by the law.

ENGIE asks for some clarification on the demand curve and what is the target capacity for point B. He wonders what the volume difference is between the curves for auctions Y-4 and Y-1. Is it a shifted curve ? Is it the same slope for the segments A-B ? Elia answers that the part of the capacity which is already secured in the Y-4 auction will be subtracted for the Y-1 auction. Also the capacity for the 200hours as formulated by the law will be safeguarded for the Y-1 auction.

ENGIE also compares with the sloped curve as used in the UK: points C and A are just defined as adding some percentages from point B to go to C and removing some percentages to go to A. Would the same logic be applied in Y-4 and Y-1 in Belgium? Elia answers that it is not decided yet if (relative) positions of points A and C (compared to point B) would be frozen or not. Elia clarifies the exact question on the table: it is clear that the volume secured in the Y-4 auction will be subtracted from the Y-1 auction volume. Two options are proposed for the Y-1 auction when calibrating the curve around points A, B and C: the curve could be a sloped curve or it could be a vertical line.

ENGIE requests if the slope between Y-4 and Y-1 can be different. Elia confirms. In option 2 exactly the legal requirement on the reliability standard will be procured, while in option 1 some trade-off is still possible depending on the price of the capacity (i.e. buying less or more capacity compared to the reliability standard).

COGEN Vlaanderen remarks that the shown graphs could be interpreted wrongly: it could be understood that in Y-4 you have contracted all offered capacity at the maximum price. Elia confirms this was not the intention.

Restore has some difficulties to understand the pros and cons and requests if an order of magnitude could be provided for points B and C to understand the differences of the options. Elia answers that since we're only starting the exercise, no calibration is known yet for the moment and that at this stage a principles

discussion is held. Some examples are given from other countries. In UK the point B reflects a notion of a market-wide peak load and for point A they go 1 or 2 CCGTs to the left. In Italy they consider a LOLE of 6 hours for Point A, and in PJM it is a certain percentage of point B. In all cases, it corresponds to a certain level of security of supply in the end.

Restore states it remains difficult to give feedback without having an example on what the figures could be. Elia does not understand this statement. It is a market-wide mechanism and the point B on the X-axis is the legal reliability standard.

RWE expects that from a legal perspective at Y-1 you should contract at maximum point B. It should be checked if more capacity can be bought at a lower total cost. FOD clarifies that the LOLE value is not exactly stated in the law. The law states it should be maximum 3 hours.

CREG also mentions that the reliability standard could be changed in law in the future in the framework of the CEP (it should be proposed by the regulator). In the future it could as well not be a fixed standard anymore but the reliability standard could for instance follow an economic rationale.

ENGIE states that the proposal seems to assume that Belgium is in isolation, however there will be participation from other countries and it would be important to explain how this foreign contribution could impact the reasoning presented. Elia replies that this is the case however it needs to be defined how much capacity from neighbours is allowed to contribute to Belgian adequacy, as already discussed in the derating topic. Only in case this foreign capacity offers at better prices, it, can win a part of the auction. Elia states that is not the question of today.

ENGIE wonders if you can participate to the Y-1 auction in case if you have chosen not to participate to the Y-4 auction. Elia answers that following the law the consequences of opt-out have to be taken into account in the market rules. There are still some questions to be solved on that topic: how will the auction volume be reduced in case someone does not participate in Y-4, what will be the remaining rights of the one that did not participate in Y-4 towards Y-1, … Similar questions need to be answered for the Y-1 auction: if you also don't participate in Y-1, should you be considered available or not? The auction volume has to be reduced, but not defined yet how this has to be done and with which levels.

RWE wonders about the effect of not participating in Y-4 auction, but the willingness to participate afterwards in the Y-1 auction. Would the volume be increased again? Elia replies that in such case the need for the system to be covered remains, but indeed a correction needs to be done. Elia is aware of these questions, but the exact design is not finalised yet.

Product: Availability Obligations (Elia – Elmo Van Thielen) [#5]

- Principles on penalties
- Examples on determination of available capacity

RWE would like to rephrase the sentence on storage on slide 4 "CMUs will only be liable to the penalties on differences when they the day-ahead market prices exceeds p_AMT". Elia agrees.

Dieter Jong asks if a member with electric vehicles has to be sure that they buy at any price in the day-ahead market, so they can switch off the day after. Elia answers that the market party has to declare the market price to which they are willing to respond themselves. If the day-ahead price is insufficiently high, no response is expected from the EV CMU. This is thus a matter of correctly communicating this price to Elia. It is reminded that the CRM is in the first place an availability-based mechanism. Elia adds that there should be no intention to create incentives to consume at adequacy relevant moments.

Restore asks if (slide 4) in the peak demand the volumes of market response are already included. He states that if market response volume is transferred to offer sides thanks to this availability mechanism, you may miss volume. Elia answers that in the demand modelling some fluctuations are taken into account, but that the actual demand response is not considered in the curves unless it is very structural. As a principle, the question is very valid, should be looked at otherwise we may result in not having not enough capacity (inverse double counting).

COGEN Vlaanderen wonders if you will have the obligation not to recharge your battery during AMT-moments. Elia answers that through the market you don't have an incentive to do that. Elia adds that we should be careful not to interfere with the energy market since charging or discharging your battery is an energy market decision. On slide 5 the general wording "delivery" should be interpreted as "availability".

ENGIE wonders if on slide 5 on the right graph 50 MW of capacity is taken into account as 25 MW derated capacity. Does this mean that one could deliver their full capacity even if they are contracted for 25MW? Elia replies that in this example energy constrained asset would HAVE to deliver the full 50 MW.

ENGIE questions the proposal on the right hand side on slide 5 with an example. , which echoes the concern raised at the previous Task Force meeting. The example is as follows : assume a capacity provider having a unit that can deliver up to 50 MW (maximum capacity) and that has been derated to 25 MW* (reflecting capacity assumed available during stress event, "*" denotes the fact that this capacity includes a derating). When clearing the capacity market, the contribution of this capacity should be assumed equal to 25 MW* and, if selected, it will receive a capacity contract expressed in EUR/MW* for the corresponding derated capacity. With the proposal on the right hand side, the unit would have to deliver the

maximum capacity (see Elia's answer above): in practice there would be over-procurement of capacity in the first 2 hours, and there remains a problem with adequacy for hour 3. ENGIE believes the left option gives proper incentives: all capacity providers should deliver according to their contracted capacity (MW*), which includes the associated derating factor, and revert back to the secondary market when needed. This is the only consistent way to ensure consistency with the adequacy assessments (which ignores the nature of the capacity providers that will be selected in the capacity auction). The same reasoning would hold for a CCGT of 400 MW derated to 380 MW*. Elia reacts by saying the starting assumptions of this example is not correct. In fact in the left we look at full capacity and we apply a uniform forced outage, which reduces you to a derating of 380 MW*. On the right we do count for 50 MW but with a limitation for 2 hours. In adequacy assessment these are not accounted upon for hour 3 anymore. What we verify is the service that is contracted. There is a clear difference between both service levels.

ENGIE wonders in addition if on the right proposal you are obliged to react to the first hours or you can just choose to react only on hours 3 and 4. Elia answers that this could be further looked into, but in principle the decision should be up to the capacity provider, since it is the 2 hours SLA to which you agreed upon: you could also react in hours 3 and 4, and not be available in hours 1 and 2. However if your behaviour becomes more illogical, your chance for being tested might increase.

ENGIE has some more detailed questions in order to understand the proposal. In order to clarify the propose principle Elia presents some examples.

Dieter Jong has a clarification question on slide 14: the price of 170 €/MWh is below the activation price of a diesel, shouldn't that be unproven capacity? Elia clarifies that availability is procured, not energy. The fact that energy is in the market does not exempt you from being available in AMT moments. You have at that moment the same obligation as a CCGT for being available but the only difference is that you are not injecting since the energy market it is not favourable. Elia adds that if you have not announced your unavailability, and at that moment you would be tested or you start buying on the secondary market, this is considered as illogical behaviour and you are more prone to testing. This should give an incentive to announce the unavailabilities honestly.

Coming back to the comment made earlier, ENGIE remarks on slide 15 that here the secondary market can play a role in coordinating between over-/under-delivering market participants and in ensuring that a capacity provider in a position to over-deliver above the contracted/derated capacity would be able to participate (sell) in the secondary market (and therefore provide liquidity to this market) Elia answers that the participant has somehow detected a risk that a certain capacity would not be available on that hour. It could also be possible that the participants have found a better deal on the secondary market.

COGEN Vlaanderen wonders on slide 17 (right example where 3 hours are above threshold) if the DSR must work on the 2 first hours and why can't he choose to deliver in hours 3 and 5. Elia replies that this case is to be further investigated. A priori the market party should be able to dispatch their asset optimally to their own assessment. In the adequacy model, there is a merit-order based dispatch of these units (e.g.: hour 1 and 2 the cheaper battery would deliver and then hour 3 and 4 a more expensive one), which is used to calculate the de-rating. This is theoretically optimal, but Elia should investigate thoroughly if practical dispatching decisions may deviate and pose a risk to security of supply or gaming in the CRM. Elia considers it unlikely however, that a market participant would not be free to activate their asset in the hours considered optimal by them.

COGEN Vlaanderen states that if not carefully arranged the CRM starts to interfere with the Day-ahead market and the balancing market. It would be a logical behaviour for DSR to choose the block bids with the highest revenues. Elia answers this has to be looked at and it could indeed make sense to allow that. DSR should be able to decide itself when it activates itself according to market prices.

Restore states that for DSR it seems there are 3 levels of checks:
1/ declaration of the unavailability
2/ Elia looking if prices are below/above a certain threshold
And 3/ for certain technologies an Unsheddable Margin exists
Some have secondary checks and others not, which seems to be discriminatory. Elia answers that some have an obligation schedule in an existing framework which is on/off and some does not have that. The question is how we do check the unavailability on that technology as well. The rules are more catered for this specific technology then there are really imposing an extra check. Elia thinks that the additional check would help truthful demand response.

Restore adds that at RTE a same mechanism exists for tertiary reserves. The problem with such kind of control is that you can't capture all technologies which is a bit unfair. Depending on the size of your pool, you can create discrimination between the different parties for a given technology. Elia answers that we try to create as much as possible a level playing field between the different technologies but also try to control as much as we can. Discrimination should be assessed at the entire package, not as individual line in the table. Elia adds that the on/off schedule does not mean a declaration of availability. It has also consequences if the energy is not available in the framework of iCaros. The DSR does not have the same obligation that is why this specific check for DSR is defined. Elia explains that the proposed scheme takes as much benefit as possible from the data and information which is available in the energy market. Elia proposes to use as much as possible schedules and the declared prices. This seems to be a low level of information to be provided which is not intrusive towards the energy market.

Elia is happy to hear suggestions to be more precise in monitoring the availability but it is always at a risk that we would be more intrusive towards the energy market

and that we would create more entry barriers in data obligations. There is a trade-off.

Restore questions whether we have not gone too far with the proposed mechanism. In some countries no such thorough checks are foreseen. Elia replies that generally the kind of checks fit with overall tradition of the products procured by Elia, which is generally based on monitoring and/or testing rather than trust. Elia adds that we should not lower our standards for one technology.

ENGIE states that it is not clear on the slide whether the settlement is foreseen on a monthly or yearly basis. Elia answers that the law foresees a monthly settlement, but since AMT hours are probably not be randomly distributed over the year, it would not seem very wise to limit to monthly contract values. So the period still needs to be defined, but the principles can be applied on both. It will have to be looked at how to match this with the legal requirement.

ENGIE says there exists some reasoning around monthly settlements and monthly/yearly penalty caps in other capacity markets. Elia replies that settlement should not block us in given correct incentives.

T-Power states that a precondition for all this is the existence of a liquid secondary market. Elia answers that we will do everything to have a liquid secondary market.

Dieter Jong wonders on slide 27 why T should be defined ex-ante. Elia answers that in case of ex-post we would be forced into a yearly settlement. For example in France the settlement occurs significantly later and the market parties have no idea anymore what happened during the different AMT hours. A faster market feedback process seems favourable.

Luminus asks if T is an amount of hours that is applicable to all. Elia replies that it is proposed to define T as a fixed value ex-ante, and that this will be used to calibrate the p_AMT for all contracted capacities.

Dieter Jong states to look at November 2018, in that case T would have been significantly under designed in the beginning of the year. Elia answers that T is also playing a role in the monitoring hours, and so by knowing the value of T used for calibrating the P_AMT in advance, market parties are aware that they will be monitored during this expected amount of hours and it will incentive them to be available. If you would define T ex-post that would be considered as a non-transparent, arbitrary selection of the monitoring hours. Elia adds that in such case it is indeed possible there might be under(or over)-dimensioning of T and you might run into a cap earlier. Some additional elements will be presented to still give incentives to provide the availability that is requested. It is a trade-off to be made. Ex-post would be in theory be more correct, but Elia mentions that it is difficult to make a correct bid if you don't know T in advance.

T-Power asks clarification on the amount which is at stake in case you are available in 180h on 200 AMT hours. The answer is: 180/200 * yearly contract* penalty factor.

Restore wonders if it makes sense to distinguish specifically the winter period. Elia replies that a penalty should give a certain incentive. The idea is to create a signal to plan announced unavailability (e.g. maintenance) in a safer period in terms of adequacy, so out of winter. Winter is considered the most stringent period, so the proposal is to have a strong correlation with the expected p_AMT.

Restore would propose a different value for the unannounced unavailability 0,5 instead of 1. Elia replies that from a system perspective, there is no difference in unannounced or announced unavailability during winter: if you are not there, you are not helping in terms of scarcity. T-Power reacts that the solution is the secondary market.

ENGIE wonders what non-consecutive AMT hours mean on slide 31. Elia answers that these are different instances. For example: 3 non-consecutive periods could mean 3 evening peaks. An evening peak may last for 3 hours, that's one consecutive period. The next day is considered as the first non-consecutive period. It is requested by ENGIE to refine this further, e.g. when is the counter reset?

Dieter Jong wonders if there are any exceptions related to the day-ahead market prices as scarcity indicator. In decoupling there could be very extreme prices, it would be very strange to monitor everybody during 24 hours. Elia reacts that in strategic reserve there are exceptions (in case of decoupling, there is no economic trigger possible). It makes probably sense to announce in such cases that there won't be AMT monitoring.

Dieter Jong wonders if it could be added that in case Belgium is in a net export position, that by definition, Belgium is not in a scarcity situation. Price spikes can be "imported" from abroad and not linked to scarcity situations in Belgium. Elia replies that this is a different situation, but it can be looked into.

ENGIE wonders when the 3 non-consecutive hours are reset. Elia answers that this needs to be defined. ENGIE also wonders how this in linked with penalty in order to avoid to be penalized twice. Elia answers that it is an escalation of elements.

Dirk Meire wonders about the word "credible threat" and "bad faith" on slide 31 and he makes an example when there is a problem between the auction and the delivery of the installation. Elia answers this will be treated in the topic of monitoring between contract and delivery of new built installations.

Aggregation (Elia – Patrik Buijs) [#6]

Restore asks if the maximum capacity applies to the delivery point you can take into account in your portfolio. Elia confirms this is the installed capacity and the principle is the same as the one from balancing.

Bond Beter Leefmilieu wonders what happens if generation has already support through another mechanism. Will they be excluded from aggregation? Elia answers that there will be a Royal Decree which will contain a set of rules describing if you can cumulate the support from different mechanisms. If a delivery point is under an aid system which is not allocated to be cumulated, then that delivery point cannot take part in the aggregation for the CRM. Elia adds that the portfolio of an aggregator should consists of delivery points that are eligible to participate in the CRM.

RWE wonders, in relation to the maximum portfolio size, if a portfolio combining gas, wind, diesels, etc on one site can aggregate. Elia answers that this could be possible as long as the rules are followed. You cannot exceed the maximum size of a portfolio. There are some constraints, but these thresholds are the same as in the energy market.

COGEN Vlaanderen wonders if a Closed Distribution System (CDS) will be considered as an individual participation. Elia reacts that this is a good question, and should be looked into. When looking at the principles of the energy market regarding the participation in ancillary services products, there should be good reasons to deviate from that.

Restore wonders if a portfolio equals a CMU. In ancillary services, as a participant you can have several CMUs which will be evaluated against the sum of the CMUs. Elia replies that if you submit a bid, this will lead to a contract with obligations. Further pooling will be considered when discussing the secondary market.

Restore asks if there is a limitation in number of size and number of assets you are able to put in in 1 bid. Elia answers that different engagements can be pooled in order to be compliant on contract level. Elia adds that this needs to be further defined in the secondary market.

Restore is surprised that penalties will be applied per participant and not per CMU. Since an aggregator is responsible for the sum of the CMUs. Elia answers it is not a delivery point, but the sum of the delivery points. If you have a portfolio of CMUs, you can pool anything within the presented limits.

COGEN Vlaanderen asks a clarification on slide 3. If you can bid for 50MW of aggregated volume, is it up to the aggregator to decide on what is in the portfolio, even with different derating factors? Elia confirms that it is indeed the aggregator who chooses how he wants to organize his pool. Elia cannot take assumptions on that.

COGEN Vlaanderen wonders about the declaration of the service levels for different types of batteries. Elia replies this is the same as for the deratings of Demand response in framework of Strategic reserves where the service levels were presented as a menu. Demand Response is also very heterogeneous.

RWE wonders how the availability check on the obliged capacity for an aggregator will be performed and how this will be done for individual monitoring (cfr. Slide 8 on availability). Elia says this will indeed be a challenge.

Restore states it is very different from the other rules, like BRP. Elia answers that BRP is de-facto system wide, while here it is more a BSP-style. You are just responsible for your contract. It is a unit based logic, not a portfolio based logic.

Dieter Jong states that it doesn't really change anything: in case of over-undersupply, you will be able to trade it. Elia confirms that this can indeed be done through the secondary market.

RWE wonders about the maximum portfolio size: Why not in number of access points instead of maximum delivery points instead? Elia answers there exist no limitations in energy markets so we don't propose a different mechanism here. Also, testing can be more intrusive as impact on the energy market. If a larger portfolio is allowed, it would become more intrusive for testing.

Restore asks a clarification on slide 3, and wonders if the principle is similar as for individual delivery points but the sum is taken into account. Elia confirms that the sum is considered and that every delivery point is looked at.

ENGIE wonders what happens related to the emission performance standard in case of aggregation; what will happen if "green" and "less green" capacity providers are bundled together. Elia replies that the CEP will be followed. ENGIE observes there is still a possibility that average CO_2 emissions could then be considered for the aggregated capacity, which is not necessarily in line with the spirit of the variable threshold (550 $grCO_2/kWh$). Elia answers that in their view every component would be treated separately. It is added that based on the discussions in parliament installations with 550$grC0_2/kWh$ should be excluded.

Investment Thresholds & Eligibility criteria (CREG) [#7]

Febeliec asks if the competence specifications mentioned in the slides are only CRM competences or also general responsibilities. CREG answers that CEP is also looked at for the competences, but the competences here are only related to CRM and the proposal of the royal decree.

ENGIE asks some clarification on slide 11 and states that the level of the thresholds should be linked with the reality of the investments to be performed by capacity providers. CREG explains that, in comparison to other countries, there are already 3 intermediate capacity contract durations in Belgium. If you are not in 15 years category, there are other longer contract durations. At a certain level CREG considers it is not necessary anymore to finance the investment, as it is also possible to have successive 1-year contracts.

ENGIE highlights the link with the intermediate price cap for the 1y contract. CREG answers that the idea is not to put the price cap extremely high. ENGIE replies that some investments might be beneficial to the security of supply and the society, but might not reach the threshold for long term contract if this is set too high. CREG answers that the slide shows the principles in order to have a level playing field between the contract durations. The levels are not defined yet, just the principles.

RWE wonders what the definition of "invoiced" means on slide 22. CREG answers that it means that the date of invoice should be within a period of one year before delivery starts. RWE wonders what happens in case the commissioning of a new built unit happens in last month before the delivery period, which means that major invoices might come after the delivery.

CREG supposes that in case the unit is delivering that most costs are already paid.

RWE states that is not the case in reality; some invoices come later since in practice a lot of issues needs to be solved before the balance is paid. CREG replies that proof is provided afterwards, then these costs can be taken into account.

Strike & reference price – overview current proposals (Elia – Patrik Buijs) [#8]

Elia states that the design needs to be finalised by end of the year. Therefore drafting needs to start over the summer. In order to do so, we need key assumptions on design choices. Elia tried to list the different options in the most neutral way. This has only be done with as purpose to list the different options so that market parties can express their preference. The goal is NOT to validate the summary table Elia has put together. Elia would like to receive from the market parties the preferred and second best options which would allow the Comité de Suivi (CdS) to look for a common ground to start drafting. It is requested to stakeholders to send their opinion by end of June 21st, in order to give a feedback in the taskforce of July 9th.

Luminus wonders if the number of feedbacks is relevant. Elia answers that the CdS will also have to take into account a weight for each voice.

Restore states that there is a link to be spotted between Reliability Options and technology-neutrality. If you want to respect one, the second one will be less respected. The words "sufficiently high" poses a risk for discrimination. Elia

mentions it is indeed a trade-off. Restore requests that this trade-off should be highlighted.

Febeliec wonders about the concept "technology neutrality": in case we want that every technology can participate, it should be called that all technologies are treated equally. It does not necessarily mean that level playing field is created. Elia answers that a technology wide system is considered. Febeliec replies that this is not the same as a level playing field, so this should maybe be rephrased.

Febeliec wonders about the difference between wind-fall profit and infra-marginal rents since not all infra-marginal rents is windfall profit. Elia agrees on this statement.

Bond Beter Leefmilieu asks on what basis the principles are chosen. Some are more important than others, some are even obligated by law. Elia answers that the current representation was to capture all arguments, not rating them. This may be different for different stakeholders. Elia states that when well-argued and designed a priori each option is considered plausible for approval by the European Commission, but only Option 1 has a precedent since it was already approved by EC in Ireland.

ENGIE wonders why it is only mentioned that option 3 has a link with the hedging strategy and not option 1. Elia answers this could be considered: a zero exemption can also be considered as an exemption.

CREG states about the last row on the table that the lowest cost principle is in the law, in order to avoid windfall profits, which is also important. Sometimes there is a trade-off.

ENGIE reacts that this depends on the definition of wind-fall profit. He reminds from previous presentations that wind-fall profits mean the double capturing of revenues through the energy market and the capacity market.

RWE has remarks on the process of asking the preferences already now to the market parties. He states that the table is not complete. Elia mentions that the table is just provided in order to structure the different views that have been discussed and presented over the difference TF CRM meetings.

RWE prefers to first give comments on the table, to finalise the table and only ask afterwards an opinion the different options. He asks more time for giving input. Elia repeats that Elia is neutral towards the content of the table, it is just a collection of all inputs received.

RWE comments on the table:

- Option 1 was approved by EC in a completely different market; the Irish market is a completely different market than the Belgian market.

- The 0% or multiple % payback exemption will have an impact on the functioning on the energy market. The comments should be in for all four cases.
- Reliability Option principle: the reality will never be the same as ISO curve assumptions.
- Technology neutrality: Option 1 requires a sufficiently high single strike price to ensure the participation of high marginal cost technologies. FEBEG made a proposal in this respect in the beginning of the meeting.
- Option 4 has a discriminatory effect.
- Limit overall cost of the CRM: it requires in option 1 a sufficiently low single strike price to avoid windfall profits. He agrees with Febeliec that a distinction should be made between infra-marginal rents and wind-fall profits. As CREG has said, if we put it at a low single strike price, it will have an increasing effect on the capacity cost. It is questioned if it will result in a lower cost if the system.
- Option 3: infra-marginal rents and wind-fall profits are mingled.

Elia replies that this is indeed the perception of RWE on the table but that others will have a different perception, resulting in conflicting comments. Elia states these slides are engaging nobody, and that it is impossible to summarize the truth in 1 slide, as all parties may have a different opinion about what the truth is. Elia will add a disclaimer on the slide that will be published stating that it is a summary of the different options drafted by Elia and the appreciation is the sole responsibility of Elia.

Febeliec wants to make a broader reflection that in the end the CRM should ensure that installations are compensated for their missing money. He wonders if this can be solved with a reference and a strike price. He states that the missing money problem should be expressed in € and not in €/MWh. Someone has to take a decision being a compromise which will not be perfect for everybody.

Pay-as-Bid vs Pay-as-Cleared – overview current proposals (Elia – Patrik Buijs) [#9]

ENGIE states that it would be interesting to see what is happening in other countries setting up capacity markets. He gives the example of Singapore where The Brattle Group recently published a proposal recommending PAC over PAB for the market in Singapore. He quotes *"Theoretically, these two approaches could produce the same prices (…). However, in practice, the pay-as-bid construct will likely not achieve the efficient price signals achieved by uniform pricing. The pay-as-bid construct may lead to gaming by market participants (…) which will make monitoring for the abuse of market power difficult. In particular, suppliers with a larger generation portfolio are likely to have more information about the potential clearing price, and would be at an advantage compared to smaller suppliers."*

He mentions it is interesting to see options of the different experts. Elia thanks for sharing this view but reminds that it is still a weighting of arguments.

Febeliec states the discussion is touching upon different viewpoints. From a consumers' points of view you can see it as an additional insurance premium that consumers are maybe ready to pay to guarantee security of supply in case it is threatened. However he believes that this is not the case today. From the producers' side, it is a way in guaranteeing the profitability of their assets. Producers think in euros, consumers think in MW. From Febeliec's point of view they don't see any arguments to do a PAC if the bidding behaviour is the same. A distinction should be made between the bidding behaviour and the way the capacity is compensated for being healthy. A producer will ask for an additional insurance premium to ensure that the missing money is covered in case his unit is not going to be profitable. He states that in such case, the bidding behaviour becomes a bit more speculative which will result in a higher bid. Therefor he mentions that in the first line of the table distinction should be made between the bidding behaviour and the way the clearing is performed. With same bidding behaviour, there is no single arguments in favour for a PAC. Elia wonders how we can know about the bidding behaviour. Elia interprets the statement from Febeliec as a sort of conditional PAB. Febeliec states that there is only one way to know and that's by controlling the bids with the reality. A second way, is by having sufficient competition, but also that can be questioned.

RWE adds that an argument in favour of PAC, in case a new market participants want to enter the Belgian market, they might have a less good view on how the market is going to evolve in the future and you could have less market fundamental information. The PAC could implicitly cover this new entrant for that lack of knowledge. Febeliec replies that it remains a bidding process where the cheapest will be awarded.

COGEN Vlaanderen reacts to this by saying that it is of interest to attract as much players to the bidding process. He believes that aggregators can easily attract volumes to participate. He therefore pleads for a PAC.

Febeliec replies that in a PAC infra-marginal CRM rents are paid and he wonders what cost this infra-marginal CRM rent has to cover.

Dieter Jong can agree with Febeliec that correct bidding behaviour is important. He states that there has to be bidding obligations in PAC, like in some other CRMs (eg PJM). He believes that existing capacity has to bid in at zero. By adding this kind of bidding obligations a PAC can work. RWE does not understand the PAC with zero bidding. Dieter Jong answers that existing capacity should bid in at zero, only new capacity will be able to set the price. RWE cannot understand this statement since existing and new capacities provide the same service. Dieter Jong answers that you get money if new capacity is needed. If no new capacity is needed or if it was covered already by previous auctions, then the clearing price will be zero. ENGIE reacts that

this will push existing capacities out of the market in favour of new-build, which will not be cost-efficient.

Restore states that there are a lot of CRMs in the world and it is always a mess trying to predict the price. All of this works on paper and for other products where practice can be observed. However for a CRM it is always volatile. Additionally, compared to other products like balancing reserves, a CRM is supposed to be an additional layer to compensate for either missing money or for trade uncertain prices spike. This is a specific feature of the CRM which might require a specific look at PAB vs PAC. And finally he is very surprised to see the energy put by some market parties in the discussion on PAC. He recommends to analyse clearly why some clearing algorithm are pushed and if there are consistent with other positions on different markets.

RWE asks about the different positions which were referred to by Restore during previous TF.
Restore explains two examples:

- The FCR cooperation where there was a shift towards pay-as-cleared. During the discussions a lot of generators were advocating for a PAB mechanism.
- The balancing reserves in Belgium are PAB.

RWE wonders if the principle for the Belgian balancing reserves is obliged by law.
The audience reacts that it is not the case.

Elia also requests to receive the preferred option of PAB and PAC from the market parties. Answers are requested by end of next week in order to let the Comité de Suivi have a discussion on the topics so see if there can be some guiding principles before the summer.

Elia states that it will add a similar disclaimer to this side as to the one on strike & reference price.

Next Steps (Elia)

Elia explains the agenda of the next TF. We sincerely hope to present some principles on prequalification, grid constraints and secondary market

FPS will probably present on minimal participation threshold & cumulative support.

Elia will also provide a view on the planning of second half of the year.
Therefore an additional TF CRM is planned on Tuesday November 12th 2019.

Luminus wonders if the summaries on PAC vs PAB and strike & reference price will be presented during the next TF CRM on July 9th.
Elia states that these are not official public consultations; it remains to be seen if there is a possibility to converge after the multiple debates in the previous TF CRM meetings. It is however not sure yet if all answers will be made public or not. It will be discussed in the Comité de Suivi.