REQUEST FOR AMENDMENT BY ALL REGULATORY AUTHORITIES AGREED AT THE ENERGY REGULATORS' FORUM

ON

The all NEMOs' proposal for the price coupling algorithm and for the continuous trading matching algorithm, also incorporating TSO and NEMO proposals for a common set of requirements, in accordance with Article 37(5) of the Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management

24 July 2017

I. Introduction and legal context

This document elaborates an agreement of All Regulatory Authorities, agreed at the Energy Regulators' Forum on 24 July 2017, on the **all NEMOs' proposal for the price coupling algorithm and for the continuous trading matching algorithm, also incorporating TSO and NEMO proposals for a common set of requirements, in accordance with Article 37(5) of the Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management** (Regulation 2015/1222) (hereafter referred to as: "The Algorithm Proposal"[1])

This agreement of All Regulatory Authorities shall provide evidence that a decision on the Algorithm Proposal does not, at this stage, need to be adopted by ACER pursuant to Article 9(11) of Regulation 2015/1222. This agreement is intended to constitute the basis on which All Regulatory Authorities will each subsequently request an amendment to the Algorithm Proposal pursuant Article 9(12).

The legal provisions relevant to the submission and approval of the Algorithm Proposal and this All Regulatory Authority agreement on the Algorithm Proposal, can be found in Articles 3, 9, 36, 37, 38, 39, 51 and 52 of Regulation 2015/1222.

Article 36 of Regulation 2015/1222:

1. *All NEMOs shall develop, maintain and operate the following algorithms:*

(a) *A price coupling algorithm;*

(b) *A continuous trading matching algorithm.*

2. *All NEMOs shall ensure that the price coupling algorithm and the continuous trading matching algorithm meet the requirements provided for in Articles 39 and 52 respectively*

Article 37 of Regulation 2015/1222:

1. *By eight months after the entry into force of this Regulation:*

(a) *all TSOs shall jointly provide all NEMOs with a proposal for a common set of requirements for efficient capacity allocation to enable the development of the price coupling algorithm and of the continuous trading matching algorithm. These requirements shall specify functionalities and performance, including deadlines for the delivery of single day-ahead and intraday coupling results and details of the cross-zonal capacity and allocation constraints to be respected;*

(b) *all NEMOs shall jointly propose a common set of requirements for efficient matching to enable the development of the price coupling algorithm and of the continuous trading matching algorithm.*

2. *No later than three months after the submission of the TSO and NEMO proposals for a common set of requirements in accordance with paragraph 1, all NEMOs shall develop a proposal for the algorithm in accordance with these requirements. This proposal shall indicate the time limit for the submission of received orders by NEMOs required to perform the MCO functions in accordance with Article 7(1)(b).*

[1] For practical purpose, the entire set of approval documents shall be referred to as "The Algorithm Proposal". Where appropriate, this document shall refer to "The DA Algorithm", "The ID Algorithm", "The DA Algorithm Requirements" and "The ID Algorithm Requirements", all of which, taken together, constitute "The Algorithm Proposal".

3. *The proposal referred to in paragraph 2 shall be submitted to all TSOs. If additional time is required to prepare this proposal, all NEMOs shall work together supported by all TSOs for a period of not more than two months to ensure that the proposal complies with paragraphs 1 and 2.*

4. *The proposals referred to in paragraphs 1 and 2 shall be subject to consultation in accordance with Article 12.*

5. *All NEMOs shall submit the proposal developed in accordance with paragraphs 2 and 3 to the regulatory authorities for approval by no later than 18 months after entry into force of this Regulation.*

6. *No later than two years after the approval of the proposal in accordance with paragraph 5, all TSOs and all NEMOs shall review the operation of the price coupling algorithm and continuous trading matching algorithm and submit the report to the Agency. If requested by the Agency, the review shall then be repeated every second year.*

Article 38 of Regulation 2015/1222:

1. *The price coupling algorithm shall produce the results set out in Article 39(2), in a manner which:*

(a) *aims at maximising economic surplus for single day-ahead coupling for the price-coupled region for the next trading day;*

(b) *uses the marginal pricing principle according to which all accepted bids will have the same price per bidding zone per market time unit;*

(c) *facilitates efficient price formation;*

(d) *respects cross-zonal capacity and allocation constraints;*

(e) *is repeatable and scalable.*

2. *The price coupling algorithm shall be developed in such a way that it would be possible to apply it to a larger or smaller number of bidding zones.*

Article 39 of Regulation 2015/1222:

1. *In order to produce results, the price coupling algorithm shall use:*

(a) *allocation constraints established in accordance with Article 23(3);*

(b) *cross-zonal capacity results validated in accordance with Article 30;*

(c) *orders submitted in accordance with Article 40;*

2. *The price coupling algorithm shall produce at least the following results simultaneously for each market time unit:*

(a) *a single clearing price for each bidding zone and market time unit in EUR/MWh;*

(b) *a single net position for each bidding zone and each market time unit;*

(c) *the information which enables the execution status of orders to be determined.*

3. *All NEMOs shall ensure the accuracy and efficiency of results produced by the single price coupling algorithm.*

4. *All TSOs shall verify that the results of the price coupling algorithm are consistent with cross-zonal capacity and allocation constraints.*

Article 51 of Regulation 2015/1222:

1. *From the intraday cross-zonal gate opening time until the intraday cross-zonal gate closure time, the continuous trading matching algorithm shall determine which orders to select for matching such that matching:*

(a) *aims at maximising economic surplus for single intraday coupling per trade for the intraday market time-frame by allocating capacity to orders for which it is feasible to match in accordance with the price and time of submission;*

(b) *respects the allocation constraints provided in accordance with Article 58(1);*

(c) *respects the cross-zonal capacity provided in accordance with Article 58(1);*

(d) *respects the requirements for the delivery of results set out in Article 60;*

(e) *is repeatable and scalable.*

2. *The continuous trading matching algorithm shall produce the results provided for in Article 52 and correspond to the product capabilities set out in Article 53.*

Article 52 of Regulation 2015/1222:

1. *All NEMOs, as part of their MCO function, shall ensure that the continuous trading matching algorithm produces at least the following results:*

(a) *the execution status of orders and prices per trade;*

(b) *a single net position for each bidding zone and market time unit within the intraday market.*

2. *All NEMOs shall ensure the accuracy and efficiency of results produced by the continuous trading matching algorithm.*

3. *All TSOs shall verify that the results of the continuous trading matching algorithm are consistent with cross-zonal capacity and allocation constraints in accordance with Article 58(2).*

Article *3* of Regulation 2015/1222***:***

This Regulation aims at:

(a) *Promoting effective competition in the generation, trading and supply of electricity;*

(b) *Ensuring optimal use of the transmission infrastructure;*

(c) *Ensuring operational security;*

(d) *Optimising the calculation and allocation of cross-zonal capacity;*

(e) *Ensuring fair and non-discriminatory treatment of TSOs, NEMOs, the Agency, regulatory authorities and market participants;*

(f) *Ensuring and enhancing the transparency and reliability of information;*

(g) *Contributing to the efficient long-term operation and development of the electricity transmission system and electricity sector in the Union;*

(h) *Respecting the need for a fair and orderly market and fair and orderly price formation;*

(i) *Creating a level playing field for NEMOs;*

(j) *Providing non-discriminatory access to cross-zonal capacity*

Article 9 of Regulation 2015/1222

1. *TSOs and NEMOs shall develop the terms and conditions or methodologies required by this Regulation and submit them for approval to the competent regulatory authorities within the respective deadlines set out in this Regulation. Where a proposal for terms and conditions or methodologies pursuant to this Regulation needs to be developed and agreed by more than one TSO or NEMO, the participating TSOs and NEMOs shall closely cooperate. TSOs, with the assistance of ENTSO for Electricity, and all NEMOs shall regularly inform the competent regulatory authorities and the Agency about the progress of developing these terms and conditions or methodologies.*
2. *(…)*
3. *(…)*
4. *(…)*
5. *Each regulatory authority shall approve the terms and conditions or methodologies used to calculate or set out the single day-ahead and intraday coupling developed by TSOs and NEMOs. They shall be responsible for approving the terms and conditions or methodologies referred to in paragraphs 6, 7 and 8.*
6. *The proposals for the following terms and conditions or methodologies shall be subject to approval by all regulatory authorities:*
    - *(f) (...)*
    - *(g) the algorithm submitted by NEMOs in accordance with Article 37(5), including the TSOs' and NEMOs' sets of requirements for algorithm development in accordance with Article 37(1);*
    - *(h) (…)*
7. *(…)*
8. *(…)*
9. *The proposal for terms and conditions or methodologies shall include a proposed timescale for their implementation and a description of their expected impact on the objectives of this Regulation. Proposals on terms and conditions or methodologies subject to the approval by several or all regulatory authorities shall be submitted to the Agency at the same time that they are submitted to regulatory authorities. Upon request by the competent regulatory authorities, the Agency shall issue an opinion within three months on the proposals for terms and conditions or methodologies.*
10. *Where the approval of the terms and conditions or methodologies requires a decision by more than one regulatory authority, the competent regulatory authorities shall consult and closely cooperate and coordinate with each other in order reach an agreement. Where applicable, the competent regulatory authorities shall take into account the opinion of the Agency. Regulatory authorities shall take decisions concerning the submitted terms and conditions or methodologies in accordance with paragraphs 6, 7 and 8, within six months following the receipt of the terms and conditions or methodologies by the regulatory authority or, where applicable, by the last regulatory authority concerned.*
11. *(…)*

12. *In the event that one or several regulatory authorities request an amendment to approve the terms and conditions or methodologies submitted in accordance with paragraphs 6, 7 and 8, the relevant TSOs or NEMOs shall submit a proposal for amended terms and conditions or methodologies for approval within two months following the requirement from the regulatory authorities. The competent regulatory authorities shall decide on the amended terms and conditions or methodologies within two months following their submission. Where the competent regulatory authorities have not been able to reach an agreement on terms and conditions or methodologies pursuant to paragraphs (6) and (7) within the two-month deadline, or upon their joint request, the Agency shall adopt a decision concerning the amended terms and conditions or methodologies within six months, in accordance with Article 8(1) of Regulation (EC) No 719/2009. If the relevant TSOs or NEMOs fail to submit a proposal for amended terms and conditions or methodologies, the procedure provided for in paragraph 4 of this Article shall apply.*

II. The Algorithm Proposal

The All NEMO Algorithm Proposal, dated 14 February 2017, was received by the last Regulatory Authority on 17 February 2017. Article 9(10) of Regulation 2015/1222 requires All Regulatory Authorities to consult and closely cooperate and coordinate with each other to reach agreement, and make decisions within six months following receipt of submissions by the last Regulatory Authority concerned. A decision is therefore required by each Regulatory Authority by 17 August 2017.

The Algorithm Proposal consists of three different documents:

- The "All NEMOs' proposal for the price coupling algorithm and for the continuous trading matching algorithm, also incorporating TSO and NEMO proposals for a common set of requirements, in accordance with Article 37(5) of the Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management."
- The "Proposal for a common set of requirements for the DA price coupling algorithm"
- The "Proposal for a common set of requirements for the continuous trading matching algorithm"

Each of these is subject to the All Regulatory Authorities approval process, as outlined in Article 9 of the Regulation 2015/1222.

The Algorithm Proposal contains, as required by Article 9(9) of the Regulation 2015/1222, a description of the timeline for implementation as well as a description of the expected impact of objectives of the Regulation as listed in Article 3.

Finally, following the requirements in Article 12(3) on the transparency of the outcome of the public consultation, a consultation report including the views of the stakeholders and the assessment of NEMOs' has been sent along, for information, with the approval documents by the All NEMO Committee on 14 February 2017.

On 11 April 2017, all NEMOs submitted, via the Interim NEMO Committee, a supporting document entitled "Algorithm Proposal: Day Ahead Supporting Document". This document contains a more in-depth description of the functioning of the DA price coupling algorithm and is submitted for information. It is not part of the Algorithm Proposal, submitted for approval on 14 February 2017.

III. All Regulatory Authority position

a) In general

All Regulatory Authorities request NEMOs to improve the Algorithm Proposal, avoiding any inconsistencies between Articles, the Annexes and with all other NEMOs' terms and conditions or methodologies, in particular:

- All NEMOs' proposal for products that can be taken into account by NEMOs in single day-ahead process in accordance with Article 40 of Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management
- All NEMOs' proposal for products that can be taken into account by NEMOs in intraday coupling process in accordance with Article53 of Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management
- All NEMO's proposal for harmonized maximum and minimum clearing prices for Single Day Ahead Coupling in accordance with Articles 41(1) of Commission Regulation (EU) 2015/1222 of July 2015 establishing a guideline on capacity allocation and congestion management
- All NEMO's proposal for harmonized maximum and minimum clearing prices for Single Intra Day Coupling in accordance with Article 54(2) of Commission Regulation (EU) 2015/1222 of July 2015 establishing a guideline on capacity allocation and congestion management
- All NEMOs' proposal for the back-up methodology in accordance with Article 36(3) of the Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management

All Regulatory Authorities consider it of paramount importance that these terms and conditions and methodologies are aligned and drafted taking into account the interdependencies between them. Furthermore, for practical reasons, NEMOs are requested to standardize the format of the submitted terms and conditions and methodologies.

b) Specific requirements

In accordance with Article 38(1) and 51(1) of Regulation 2015/1222, all Regulatory Authorities agree that maximizing economic surplus (optimality), repeatability and scalability of the algorithm are important objectives of the algorithm now and in the future. Taken together, these three concepts can be measured (cf. below) in order to assess the performance of the algorithms. Regulatory authorities consider that, given the lack of clear definition in the Regulation 2015/1222 or elsewhere, a common understanding of these concepts – even though they do not represent a legal definition – is useful here. All Regulatory Authorities have provided their understanding of these concepts below.

- Optimality: an "optimal" solution for the algorithms is the solution that, taking into account the capacity and allocation constraints, aims for the highest welfare measured as the economic surplus (i.e. consumer surplus, producer surplus and congestion income) for the coupled markets.
- Repeatability: a "repeatable" algorithm is an algorithm that delivers the exact same result for two different runs of the algorithm, [2]
- Scalability: a "scalable" algorithm ensures that the proposed set of rules and the architecture of the algorithm can be extended to new markets, new bidding zones, new NEMOs, and an increasing volume of bids and offers, taking into account the proposed and approved set of products, without any modification to the approved methodologies for both the algorithms and the products while ensuring equitable treatment for both existing and newly coupled markets.

Regulatory authorities agree that NEMOs must deliver an algorithm that is compliant with Regulation 2015/1222. The implementation timeline required by the Regulation 2015/1222 shall indicate when the above will be achieved. For this purpose, NEMOs should develop metrics in order to assess and monitor the algorithms and its solutions on their optimality, their repeatability and their scalability.

c) On the DA algorithm

Taking into account Article 9(6)(g), Article 37(1) and Article 37(5) of Regulation 2015/1222, Regulatory Authorities fail to see that the submitted Algorithm Proposal actually describes the algorithm. The DA algorithm is briefly described in Article 4 of the Algorithm Proposal, in 9 points which elaborate the general framework of the DA algorithm, rather than propose a DA algorithm.

Regulatory Authorities request that the *"heuristic rules"*, shortly touched upon in Article 4(2) of the Algorithm Proposal, be described in a manner which can be easily understood by market participants and Regulatory Authorities, as Regulatory Authorities understand that these rules form the core of the DA algorithm. These rules are needed for Regulatory Authorities to be able to perform their legal tasks to assess the proposal on its compliance with Regulation 2015/1222, including both the general objectives (Article 3 of Regulation 2015/1222) and the specific requirements for the DA algorithm (Article 38 and Article 39 of Regulation 2015/1222). Moreover, these rules are needed for market participants to understand how the algorithm will function.

In addition to the general and specific objectives of the DA algorithm, Regulatory Authorities, as well as TSOs, need to be able to assess whether the DA algorithm allows for the requirements (mainly the Initial Requirements but ideally also Future Requirements in future versions of the DA Algorithm) can be fulfilled. From the current Algorithm Proposal, this is not possible and Regulatory Authorities request further information from NEMOs on this matter.

[2] As defined above, "repeatability" needs to be distinguished from "reproducibility", as defined by NEMOs in – among other occasions – the PCR presentation to the MESC of 9 December 2016.

As an initial remark (without prejudice to further analysis based on a more comprehensive description of the DA Algorithm), Regulatory Authorities remark that Article 4(7) of the Algorithm Proposal related to the output of the DA algorithm only lists the price for each relevant market time unit and each bidding zone (and PUN area). Article 39(2)(b) and (c) clearly obliges the NEMOs to propose a DA algorithm which provides for net positions (i.e. net volumes in MW, as understood by Regulatory Authorities) and the execution status of submitted orders per bidding zone, and not per NEMO hub (as proposed by NEMOs). Regulatory Authorities request that NEMOs consider this Article 39(2) and amend the Algorithm Proposal accordingly.

From the Algorithm Proposal, it is impossible to assess whether the DA algorithm allows for a repeatable solution. On the contrary, NEMOs suggest that Euphemia 10 only allows for repeatability through auditability. Regulatory Authorities request more explanation on how this corresponds to the all Regulatory Authorities' interpretation of a repeatable solution, as explained under point b) above.

Linked to the above remark on repeatability, Regulatory Authorities request that NEMOs do not reference existing solutions, such as the different versions of the Euphemia algorithm, in the Algorithm Proposal. As an example, NEMOs are requested to remove from Article 4(1) of the Algorithm Proposal the references to "the PCR Euphemia algorithm" and "the MRC and 4MMC regions", but referring to "already agreed solutions" as stated in Article 36(4) of Regulation 2015/1222. The Explanatory Note, which is not subject to regulatory approval, may be used for more specific references as this document is not legally binding.

d) On the ID algorithm

Regulatory Authorities, as well as TSOs, need to be able to assess whether the ID algorithm allows for the requirements (mainly the Initial Requirements but ideally also Future Requirements in future versions of the ID Algorithm) can be fulfilled. From the current Algorithm Proposal, this is not possible and Regulatory Authorities request further information from NEMOs on this matter.

All Regulatory Authorities understand that the draft all TSO proposal for the Single Methodology For Pricing Cross-zonal Intraday Capacity (CZIDCP) under Article 55 of Regulation 2015/1222 appears to propose a mix between continuous trading and auctions. All Regulatory Authorities request that NEMOs coordinate with TSOs to consider the interaction between the ID algorithm and CZIDCP further.

All Regulatory Authorities understand that Article 5.8 of the Algorithm Proposal states that contracts shall be executed in the SOB on the price-time-priority principle. Regulatory Authorities request further explanation how this can be achieved for multiple-time-unit (i.e. block) orders and explicit capacity requests for which only a first-come-first-served treatment is applied (Article 5.11). All Regulatory Authorities request a solution ensuring a non-discriminatory treatment of the different types of orders available in the continuous trading environment. Regulatory Authorities recall the general requirement set by Article 2.7 of Annex 1 of Regulation 714/2009 requiring non-discrimination and the selection of the highest value bids.

All Regulatory Authorities understand 'local contracts' to be outside of the scope of Regulation 2015/1222. As such all Regulatory Authorities request NEMOs to delete all references to local contracts from the algorithm proposal.

e) On Algorithm Performance

In order to allow for effective Performance Monitoring, Regulatory Authorities request that NEMOs take into account at least the different specific requirements which, taken together, contribute to the Algorithm Performance: optimality, repeatability and scalability. Regulatory Authorities set out their understanding of these concepts earlier in this document.

Furthermore, Regulatory Authorities ask for the inclusion of clear minimum performance indicators, in the Algorithm Proposal. These indicators will be approved by Regulatory Authorities and used for the monitoring of the Algorithm Performance. Regulatory Authorities request that the Algorithm Management Principles also allow for rules and a clear proposal for performance amelioration, in addition to the rules for the detection and correction of performance deterioration.

All Regulatory Authorities request NEMOs to include measurements detailing algorithm performance in relation to particular products, to be calculated per market time unit. These should be made available to market parties, TSOs and Regulatory Authorities on a continuous basis in order to allow all relevant stakeholders to assess the algorithm performance. These measurements should, in addition to the already included indicators in Article 6 of the Algorithm Proposal, include for every bidding zone the number and volume of bids per product, the number and volume of accepted bids per product, paradoxically rejected bids per product and the time needed for the algorithm to find the final solution. These metrics should be added to the indicators listed for the monitoring procedure foreseen in the Algorithm Proposal.

f) Performance improvement

Regulatory authorities emphasize the need for a DA and ID algorithm which are fully compliant with Regulation 2015/1222, and therefore provide optimal, repeatable and scalable results as explained above, as a necessary and crucial cornerstone of the single day-ahead and intraday market coupling.

The algorithm must therefore be able to address the needs of new markets, new bidding zones, new NEMOs and to accommodate an increasing volume of bids and offers, taking into account the proposed and approved set of products and to offer equitable treatment for both existing and newly coupled markets, without a decrease in algorithm performance below what is agreed under the arrangements for performance monitoring. Regulatory Authorities encourage NEMOs to consider how best to achieve this noting, without prejudice to any final decision, the initial options considered in, among others, the PCR presentation of 11 January 2016 at the MESC.

Regulatory Authorities also expect NEMOs to continuously improve the algorithm performance and suggest that NEMOs include in the Algorithm Proposal:

(i) a set of quantitative metrics for monitoring the objectives of optimality, repeatability and scalability;
(ii) a timescale and a path for monitoring improvement; and
(iii) minimum performance thresholds to assess performance deterioration

g) Usage Limits

All Regulatory Authorities take note of the introduction of Usage Limits in Article 7, points (10) to (14) of the Algorithm Proposal. Regulatory Authorities do not accept the proposed Usage Limits, as these:

- imply that the DA and ID Algorithms are not scalable, in the strict sense as described earlier;
- lead to discrimination between NEMOs, both existing and new, and are therefore not compliant with Article 3(i) of Regulation 2015/1222;
- do not allow for effective competition in the trading of electricity, and are therefore not compliant with Article 3(a) of Regulation 2015/1222;
- suggest NEMOs cannot ensure that the DA algorithm can accommodate orders from the proposed products, and are therefore not compliant with Article 40(2) of Regulation 2015/1222;
- could be in breach of European competition law, more specifically Article 101 of the Treaty on the Functioning of the European Union;
- do not allow for equal treatment of market participants, and are therefore not compliant Article 3(e) of Regulation 2015/1222; and
- are not transparent.

h) On the common set of requirements

Regulatory Authorities request that NEMOs elaborate on the need to classify requirements, either from TSOs or from NEMOs, as either “initial” or “future”. NEMOs are asked to elaborate on the interaction between future requirements and the legal obligations which the Algorithm Proposal needs to comply with.

On the list of requirements, regulatory authorities consider that at least the following requirements should be implemented immediately and therefore a classification as “future requirement” cannot be approved by all regulatory authorities:

- DA Algorithm Requirements, Title 1 - 1.a.v
- DA Algorithm Requirements, Title 1 – 1.i
- DA Algorithm Requirements, Title 5 – 3.a
- DA Algorithm Requirements, Title 5 - 5
- DA Algorithm Requirements, Title 5 – 2.f
- DA Algorithm Requirements, Title 5 – end
- ID Algorithm Requirements, Title 1, 1.v
- ID Algorithm Requirements, Title 1, 4.a
- ID Algorithm Requirements, Title 4.a.ii
- ID Algorithm Requirements, Title 4.d

Regulatory Authorities consider that at least the following requirements are lacking from the Algorithm Proposal and request that these are included:

- The deadlines for the delivery of single day-ahead and intraday coupling results, in accordance with Article 37(1)(a) of Regulation 2015/1222
- The publication of the information on aggregated executed volumes and prices, in accordance with Article 62(2) of Regulation 2015/1222

Regulatory Authorities request that the Algorithm Proposal allows for NEMOs, TSOs, regulatory authorities and market participants to assess if and how the proposed algorithms are able to accommodate all initial requirements.

Finally, NEMOs should set out the process and timeline for implementation of Future Requirements, or confirm in which methodology this will be defined.

The DA and ID Algorithm Requirements describe a Scheduled Exchange Calculation (“SEC”) Function that relates to the joint responsibility of TSOs to calculate and publish scheduled exchanges in accordance with Article 8(2)(g) of Regulation 2015/1222. The proposals for DA and ID Algorithm Requirements state that the requirements linked to the SEC Function are not yet specified and that the calculation might be performed outside of the algorithms for DA and ID. No reference is made to the methodologies developed by TSOs to calculate scheduled exchanges for intraday and day-ahead according to Article 43 and 56 of Regulation 2015/1222.

Regulatory Authorities request NEMOs to describe clearly the link between the SEC Function and the methodologies to calculate scheduled exchanges. Regulatory Authorities also request NEMOs to state whether or not the SEC Function will perform a calculation of scheduled exchanges and to explain the link with the designation by TSOs of scheduled exchanges calculate pursuant to Article 8(2)(g) of Regulation 2015/1222.

i) On the Change Management Principles

It is important that the established change management process is not unnecessarily onerous and bureaucratic as this could restrict innovation and the ability of NEMOs to respond as the market evolves. At the same time the process and for which changes approval of All Regulatory Authorities are necessary must be clear to all parties.

Regulatory Authorities do not approve any provision restricting their ability, or their right, to approve or request an amendment to the Algorithm Proposal once approved by Regulatory Authorities. Therefore, all Regulatory Authorities request that NEMOs include a provision stating that all modifications to the any document (the Algorithm Proposal including the DA and ID Algorithm Requirements) shall be dealt with via the procedure foreseen in Article 9(13) of Regulation 2015/1222.

Regulatory Authorities request that NEMOs elaborate on the method via which prioritization of the execution of change requests will be given and how the NEMOs plan to deal with conflicting change requests.

The Change Management Principles can only be used for changes to the algorithm which do not change the Algorithm Proposal as approved by all Regulatory Authorities. Such changes need to be documented and transparently and actively communicated to Regulatory Authorities and Market Participants. Market Participants should be consulted before implementing changes through the Change Management Principles. This does not affect the amendment process foreseen in Article 9(13) of Regulation 2015/1222.

j) On the implementation timeline

The proposed timeline for the implementation of the Algorithm Proposal is not justified. Regulatory authorities request more information on why the implementation of the Algorithm Proposal should only take place after the moment of setting up the Common Grid Model, the Capacity Calculation Methodology and the Coordinated Capacity Calculator in accordance with the relevant TSO obligations in Regulation 2015/1222. It's also unclear why implementation is dependent on implementing (a) the Article 57 arrangements in the case of day-ahead as this Article refers to intraday only, and (b) in **all** Bidding Zones where there is more than one NEMO regardless if other Bidding Zones are ready to implement. The implementation timescale doesn't distinguish between day-ahead and intraday so this will make the day-ahead contingent on intraday arrangements for more than one NEMO.

As explained in the chapter on performance improvement, regulatory authorities request that the NEMOs propose in the Algorithm Proposal a timescale for elaborating and establishing a solution which allows for optimal, repeatable and scalable results of the algorithms. This should include a timeline for implementation of Future Requirements.

IV. Actions

Based on the above rationale, All Regulatory Authorities agree to request an amendment to the Algorithm Proposal. This amendment should contain the following elements:

(i) Further alignment and standardization of the Proposal with other terms and conditions or methodologies submitted by all NEMOs, pursuant Article 36(3), Articles 40 and 53 and Articles 41(1) and 54(2) of Regulation 2015/1222, to maximize the consistency between these proposals.

(ii) A description of the metrics to monitor the performance of the algorithms, with regards to the descriptions provided by all Regulatory Authorities of optimality, repeatability and scalability. Statistics related to the usage of different products with regards to their impact on algorithm performance, should be included.

(iii) A description of the heuristic rules applied by the price coupling algorithm.

(iv) A description of the way in which the price coupling algorithm and the continuous trading matching algorithm deliver the Initial and Future Requirements requested by all NEMOs and all TSOs.

(v) A modification of the DA Algorithm in order to comply with the requirement in Article 39(2) of Regulation 2015/1222.

(vi) A deletion of all references to specific existing solutions and, where necessary, inclusion of a general reference to "already agreed solutions" as mentioned in Article 36 of Regulation 2015/1222.

(vii) A high-level description of the interaction of the continuous trading matching algorithm with the all TSOs' draft proposal for a methodology for intraday capacity pricing. In parallel, NEMOs are requested to coordinate with all TSOs on the interaction between the pricing of intraday capacities and all aspects related to intraday continuous trading.

(viii) A description of the application of the price-time-priority principle in the continuous trading matching algorithm to the proposed set of products for intraday market coupling. Regulatory Authorities request that the proposed solution ensures a non-discriminatory treatment of the different order types.

(ix) A deletion of all references to “local contracts” as these are understood to be out of the scope of single intraday market coupling.

(x) The introduction and detailed elaboration of rules for performance improvement, in addition to the already proposed actions in case of performance deterioration.

(xi) A proposal for a solution for the price coupling algorithm and continuous trading matching algorithm which is fully compliant with Regulation 2015/1222. NEMOs are requested to propose, in the implementation timeline, a clear path towards this solution, including:
   a. Metrics for the monitoring of algorithm performance
   b. Minimum thresholds for these metrics
   c. A timescale and a path for the improvement of the performance of the algorithms, including a description of which options for improvement will be pursued and, where possible, prioritized.

(xii) A deletion of the proposed Usage Limits or a modification of the proposed Usage Limits with a clear, unambiguous justification of how these limits will be applied in a way that disproves the arguments made by all Regulatory Authorities in this position paper.

(xiii) A modification of the Initial and Future Requirements as requested by all Regulatory Authorities in this position paper, including a process and timeline for implementation of the Future Requirements.

(xiv) A description of the link between the SEC Function and the all TSOs’ methodology for calculating scheduled exchanges pursuant Articles 43(1) and 56(1) of Regulation 2015/1222.

(xv) A modification of the Change Management Principles proposed in Article 7 of the Algorithm proposal, avoiding any restrictions on all Regulatory Authorities’ possibility to approve or request amendments to any approved version of the Algorithm Proposal, including a method via which prioritization of the execution of change requests will be given and how NEMOs plan to deal with conflicting change requests.

(xvi) A duly elaborated timeline for implementation, including:
   a. A description of the interdependencies with other terms and conditions or methodologies, established within Regulation 2015/1222. These interdependencies need to be justified within the proposal.
   b. A timescale for elaborating and establishing a solution which allows for an optimal, repeatable and scalable price coupling algorithm and continuous trading matching algorithm.
   c. A timescale for the implementation of Future Requirements as described under Action point (xii).