**Response to ACER consultation of NC RfG 2.0 and NC DCC 2.0**

# Amendment proposals for NC RfG

## Whereas Section

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| **Whereas** | **Comment on the ACER draft amendments** | **Alternative legal text amendment proposal (if applicable)** |
| 9 | Oesterreichs Energie thinks that the whereas (9) legal text proposal of ACER does not reflect the proposed requirements of RfG.   An extension of the text in the preamble makes it massively more difficult to interpret the type classification of non-synchronous power generation plants and, in the worst case, could lead to a large number of sub-power plants behind a grid connection point. Our proposal aims to add clarity and coherency between the legal text and the whereas. | The significance of power-generating modules should be based on their size and their effect on the overall system. Synchronous machines should be classed on the machine size and include all the components of a generating facility that normally run indivisibly. An installation containing a set of synchronous machines that cannot be operated independently from each other, such as combined-cycle gas turbine installation, should be assessed on the whole capacity of that installation. Non-synchronously connected power-generating units ~~of the same underlying technology~~, where they are collected together to form an economic unit and where they have a single connection point should be assessed on their aggregated capacity.  ~~Moreover,  to ensure an appropriate harmonisation or rules for mass-market products, capacities of units of different classes, for instance, photovoltaic, electricity storage, combined heat and power installations, or V2G electric vehicles, should not be aggregated for the purpose of the determination of significance.~~ Electricity storage modules integrated to a power-generating module, where the module is either non-synchronously connected to the network or connected through power electronics, used solely for the purpose of meeting the requirements of this regulation should be considered as part of such module while its capacity should not count towards the power-generating module capacity. |
| (\*\*) | The amendment should be clarified and justified. A fully autonomous energy island isn't clearly defined in mentioned directive. Additionally, NC RfG should define technical capabilities for PGM's and shouldn't be mixed with market entities.  From our point of view, a fully autonomous energy community shall not be allowed if it does not comply with the RfG code since it may also connect to a public grid years after the creation of this community. |  |

## Definitions (Article 2)

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| **Article** | **Comment on the ACER draft amendments** | **Alternative legal text amendment proposal (if applicable)** |
| 2(15) | *"or determined by other appropriate means"* needs to be explained and justified as it is unclear from legal prospective.  At the end of the definition "by the relevant SO" should be inserted. Our proposal aims to add clarity and coherency. | ‘connection point’ means the interface at which the power-generating module, demand facility, distribution system or HVDC system is connected to a transmission system, offshore network, distribution system, including closed distribution systems, or HVDC system, as identified in the connection agreement or as agreed between the relevant system operator and the demand facility owner, power-generating facility owner or HVDC system owner, ~~or determined by other appropriate means~~, where an agreement is not required by the relevant SO; |
| 2(16) | *"or determined by other appropriate means"* needs to be explained and justified as it is unclear from legal prospective.  At the end of the definition "by the relevant SO" should be inserted. Our proposal aims to add clarity and coherency. | ‘maximum capacity’ or ‘Pmax’ means the maximum continuous active power which a power-generating module can produce, less any demand or losses associated solely with facilitating the operation of that power-generating module and not fed into the network as specified in the connection agreement or as agreed between the relevant system operator and the power-generating facility owner, ~~or determined by other appropriate means,~~ where an agreement is not required by the relevant SO; |
| 2(34) | Minor change of text is proposed. | synthetic inertia’ means the facility provided by a power park module or HVDC system to emulate ~~replace~~ the effect of inertia of a synchronous power-generating module to a prescribed level of performance |
| 2(68) | *"or determined by other appropriate means"* needs to be explained and justified as it is unclear from legal prospective.  At the end of the definition "by the relevant SO" should be inserted. Our proposal aims to add clarity and coherency. | maximum consumption capacity’ means the maximum continuous active power which an demand unit or electricity storage module can consume, less any demand or losses associated solely with facilitating the operation of that demand unit or electricity storage module, as specified in the connection agreement or as agreed between the relevant system operator and the demand facility owner or power-generating facility owner, ~~or determined by other appropriate means,~~ where an agreement is not required by the relevant SO. |
| 2(69)  2(70)  2(73)  2(74) | From our point of view it is important that V1G/V2G electrical charging parks should fulfil additional requirements (on top of V1G/V2G EVs), similar to standard Type B, C or D. Particularly, if the aggregated installed capacity is e.g. greater than the A/B threshold the V1G/V2G electrical charging park should be also treated as SGU and fulfil the relevant data-exchange requirements of SOGL.  SOGL does not yet cover the new EV types introduced in RfG/DCC 2.0.  Furthermore, we think that is important to further distinguish the specific requirements between AC- and DC-connected EVs. With AC charging, the regulation has to be fulfilled by the EV itself, whereas with DC charging the charging infrastructure is responsible for fulfilling the regulation. |  |

## TITLE I

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| **Article** | **Comment on the ACER draft amendments** | **Alternative legal text amendment proposal (if applicable)** |
| 5(4) a | It shall be possible to decrease the threshold to 5 MW regardless of the existing national B/C or C/D thresholds |  |
| 5(6) c | We would like to raise awareness that the A/B-Threshold is harmonized to a maximum of 500 kW in the synchronous area CE (see table 1). It seems illogical that the threshold for EV3 goes up to 1 MW. |  |

## TITLE II CH. 1

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| **Article** | **Comment on the ACER draft amendments** | **Alternative legal text amendment proposal (if applicable)** |
| 13(2) | We think that it is possible to fully harmonise the f-ranges in both RfG and DCC. Currently it is possible to specify different f-ranges for e.g. V1G and V2G, which may be counterproductive. | Harmonised frequency range according to table 2:  **47,5 Hz-48,5** Hz for 60 min **48,5 Hz-49,0** Hz for 90 min **49,0 Hz-51,0** Hz for unlimited **51,0 Hz-51,5** Hz for 30 min |
| 13(9a) | From experience with existing national regulations we know that this function is already available in the majority of infeed converters and it helps solving voltage problems in many cases. | Type A power-generator modules shall be capable of providing reactive power with regard to U/Un  specified by the relevant system operator. |
| 13(9b) | From experience with existing national regulations we know that this function is already available in the majority of infeed converters and it helps solving voltage problems in many cases. On top issues with power quality (flicker) can be mitigated. | Type A power-generator modules shall be capable of providing active power with regard to U/Un starting at 110% Un. |
| 13(12) | We ask to change the voltage threshold to 1 kV, since this is the usual threshold for LV or MV connection requirements. | With regard to voltage stability, unless otherwise provided in this Regulation, the power-generating module shall be capable of staying connected to the network and operate continuously within the range of 0,85 pu - 1,1 pu at the connection point, should that be at or below **~~400 V~~ 1 kV**. With regard to voltage level above **400 V** **1 kV** and below 110 kV the relevant system operator, in coordination with the relevant TSO, shall specify ranges of the network voltage at the connection point within which a power-generating module shall be capable of staying connected to the network and operating. The specification shall include minimum time periods during which a power-generating module must be capable of operating for voltages deviating from the reference 1 pu value at the connection point without disconnecting from the network. The voltage ranges shall cover at least the range of 0,85 pu - 1,1 pu. |
| 13a(1) | We think that it is possible to fully harmonise the f-ranges in both RfG and DCC. Currently it is possible to specify different f-ranges for e.g. V1G and V2G, which may be counterproductive. | See 13(2) |
| 13a(2) | Wording for "cyber-protected data exchange interface" should be aligned with other wordings used in RfG or DCC; We propose to use a more generic definition, such as "communication interface". |  |
| 13a(5) | Mistake in figure (should be s=5%) |  |
| 14(3) c | Besides new HVRT requirements, Oesterreichs Energie proposes to add in parallel further clarifications. These additional clarifications take into account, that the recommended over-voltage protection settings in national grid codes usually require the fulfilment of voltage quality criteria (EN 50160) and the risk mitigation of high voltages for customers. With typical protection relays (U>, U>>) there could be a contradiction between the relevant system operator’s protection concept and the full activation of HVRT in certain grid areas.  Furthermore, we ask to clarify the per-unit basis for the HVRT requirements. Is it Urecf (i.e. the maximum per-unit value according to 14(2)) or Uref = 1 pu? Finally, we think that the proposed HVRT values are in contradiction with the isolation coordination, particularly if the per-unit basis for the HVRT requirements is Urecf. Therefore, we propose to define Urecf = Uref = 1 pu. | Add additional text after HVRT figure:  *"The respective over-voltage protection settings must not counteract the HVRT requirement. The relevant system operator may define other over-voltage protection settings, in order to ensure voltage quality criteria or the risk of high voltages for customers.”* |
| 14(3) a  14a(3) a  16(3) a | The clause "when operating above the minimum stable operating level" may complicate the interpretation. Some stakeholder may misunderstand it. |  |
| 16(3) | Requirements regarding consecutive faults are missing. We believe that this is a cross-border issue and should be addressed in RfG. |  |

## TITLE II CH. 2

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| **Article** | **Comment on the ACER draft amendments** | **Alternative legal text amendment proposal (if applicable)** |
| 19(4) | A power related threshold for SPGMs does not make sense from a technical point of view. It is clear that specific SPGM technologies have issues with the current RoCoF requirements. However, there are also a other SPGM technologies that can fulfil the current RoCoF (2 Hz/s) requirements. |  |

## TITLE II CH. 3

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| **Article** | **Comment on the ACER draft amendments** | **Alternative legal text amendment proposal (if applicable)** |
| Y(7) | We do not support the part activation and deactivation.  On/off switching of GF may also trigger a lot of operational risks. Who really knows what is activated/deactivated in lots of decentralized inverters, particularly in times of OtA-Updates that may inadvertently "overwrite" important setup parameters. Concluding, we propose to delete the "switching" of GF. |  |