# smartEn positions in regards to NC DC

* Network Codes (NC) should apply at home/small building connection point
  + Equipment shall participate as soon as they are installed and compliant with NC DC requirements even if all equipment at home/small building are not able to fulfil the NC DC requirements
* Remote power control with standards (such as IEC 61850-7-420)
* Type tests
  + Home and small building equipment are based on small size (power) equipment which are mass produced. To minimize associated end-user costs, all associated certification should be based type tested including family grouping features that have to be harmonized across the Member States
  + Type test certification should include tests for the communication protocol
  + electronic exchanges through a single interface with harmonized documents provided in English. Associated repositories should be organize to facilitate reuse of approvals across European countries
* Requirements for units providing demand response services
  + Requirements should be included in the future NC on Demand Side Flexibility.

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| Article | Amendment proposal | Reasoning | Relation to other provisions |
| 3.1 | The relevant system operator shall refuse to allow the connection of a new transmission-connected demand facility, a new transmission-connected distribution facility, or a new distribution system, which does not comply with the requirements set out in this Regulation and which is not covered by a derogation granted by the regulatory authority, or other authority where applicable in a Member State pursuant to Article 50. The relevant system operator shall communicate and justify such refusal, by means of a reasoned statement in writing, to the demand facility owner, DSO, or CDSO and, unless specified otherwise by the regulatory authority, to the regulatory authority. |  |  |
| 3.2 |  | Storage devices in charging mode should fall as well under the DCC code rules.  Storage devices, which are set in a load only mode should be considered simply as loads and therefore fall ONLY under the DCC code as they never intend to use the generation mode. This would include car batteries, charging stations and emergency power batteries. |  |
| 3.3 | In case of demand facilities or closed distribution systems with more than one demand unit, these demand units shall together be considered as one demand unit if they cannot be operated independently from each other or can reasonably be considered in a combined manner or controlled as one aggregated load. | More and more electrical loads produced in mass and installed in homes and small buildings are smart and equipped with IoT communication means. They will be aggregated. |  |
| 5 | **Application to pump-storage power generating modules, electric vehicles, and industrial sites** |  |  |
| 5.4 (new) | 1. Any electric vehicle or charging station that only works in charging mode, even if physically able to do otherwise, shall be subject to the requirements of this Regulation and shall be treated as demand unit. | Electric vehicles' primary purpose is mobility and this need, and with it the need to charge, shall not be limited by additional RfG requirements if no bidirectional charging is desired. |  |
| 6.3 | (f) offer at least one draft regulation for the public to provide review and comment; | Member States regulatory authorities, SOs should provide drafts with explanation, reason, justification for the adaptations of this regulation. |  |
| 6.4 | The relevant system operator or TSO shall submit a proposal for requirements of general application, or the methodology used to calculate or establish them, for approval by the competent entity within two years of entry into force of this Regulation. The methodology and calculation shall be made available to the public for review and comment. |  |
| 16.1 | The relevant TSO shall specify the functionalities required to protect the transmission network in accordance with the characteristics of the transmission-connected demand facility or the transmission-connected distribution system. The relevant TSO and the transmission-connected demand facility owner or the transmission-connected distribution system operator shall agree on protection schemes and settings relevant for the transmission-connected demand facility or the transmission-connected distribution system. | This wording is less prescriptive. The original wording, including "devices", could lead to TSOs requiring specific brands, products, etc. that could lead to various types of discrimination, based on cost, sizing requirements, etc., that would be favorable for certain installations and not for others.  Instead, TSOs should specify what functionalities are required to protect the transmission system and applicants/facilities can find the right devices and technologies for their installations that will satisfy these requirements. |  |
| 18.1 | Transmission-connected demand facilities as well as distribution-connected demand facilities shall be equipped according to the IEC 61850-7-420 and IEC 62325 standards in order to exchange information between the relevant TSO and the grid-connected demand facility with the specified time stamping. | Data exchanges should be based on already published standards such as IEC 61850-7-420 and IEC 62325 that are also relevant for NC RfG and the future NC on Demand side flexibility. | NC RfG  NC on Demand side flexibility |
| 18.2 | Transmission-connected distribution system shall be equipped according to the IEC 61850-7-420 and IEC 62325 standards in order to exchange information between the relevant TSO and the transmission-connected distribution system with the specified time stamping. |
| 18.3 |  |
| 22.3 | The relevant TSO shall specify and make publicly available further details concerning the operational notification procedure. Operational notification procedures defined by TSOs shall not favor or be discriminatory to any asset type or size of installation. | It is crucial that procedures and requirements for operational notifications do not preclude or present barriers to any asset type. As this industry has decades of favouring large power plants and large commercial installations, it is important that TSOs ensure that their processes, requirements, and paperwork is not exclusionary. |  |
| 29.3 (new) | 1. Small demand units with flexibility capabilities on household level, e.g. storages, heat pumps and electric vehicles, shall offer their fast demand response to the overall system. Maximum reaction times and measurement precision should be made public by the manufacturer. However, no external certification or notification to SO shall be required. A single self-declaration of the offered capabilities shall be sufficient for all European SOs. If the manufacturer cannot offer the required measurement precision (2g), measurement resolution (2f) or adequate reaction time, the manufacturer shall notify the SO, but the SO shall not exclude the relevant generation unit from the market for these reasons.   Further requirements in different member states shall be prohibited to ensure open market conditions for small, decentralised loads. | Small DER assets cannot be required to have the same sophistication of sensors, steering capabilities, etc. as medium and large assets. Small assets, at an individual scale, have an entirely different value proposition to end purchasers. For this reason, adding the same sophistication and capabilities as large assets inherently cost prohibitive and can also be effectively impossible.  Therefore, the manufacturers should not be forced to achieve certain thresholds, but to transparently show their maximum capabilities to the SO. |  |
| 32 | **Procedures for demand units within a demand facility or a closed distribution system connected at a voltage level of or below 1 000 V,** **and of power levels higher than 1 MW** | Demand flexibility services of DER (demand and generation) to SO should be dealt with in a separate demand response code. (see ACER policy paper from August 2022)  For small devices, aggregators and national platforms are required to enable mass market implementation. |  |
| 32.6 | (d) the demand unit certificate and the type-test certificate as relevant for the demand response service, or if not available, equivalent information; | Type test certificate based on family grouping will ease the certification process by authorised certifiers (be more cost effective for all parties) | NC RfG |
| 35.3 | (f) conditions and procedures including scope for registering equipment or type-test certificates;  (g) conditions and procedures for the use of relevant equipment or type-test certificates issued by an authorised certifier by the demand facility owner, the DSO or the CDSO. |
| 37.8 | An equipment or type-test certificate may be used instead of part of the tests provided for in paragraph 1, on the condition that it is provided to the relevant TSO. |
| 39.7 | An equipment or type-test certificate may be used instead of part of the tests provided for in paragraph 1, on the condition that it is provided to the relevant TSO. |
| 40.3 (new) | For demand unit below 22 kW, type-test certificates shall be used instead of part of the tests provided for in paragraph 1, on the condition that it is provided to the relevant TSO. |