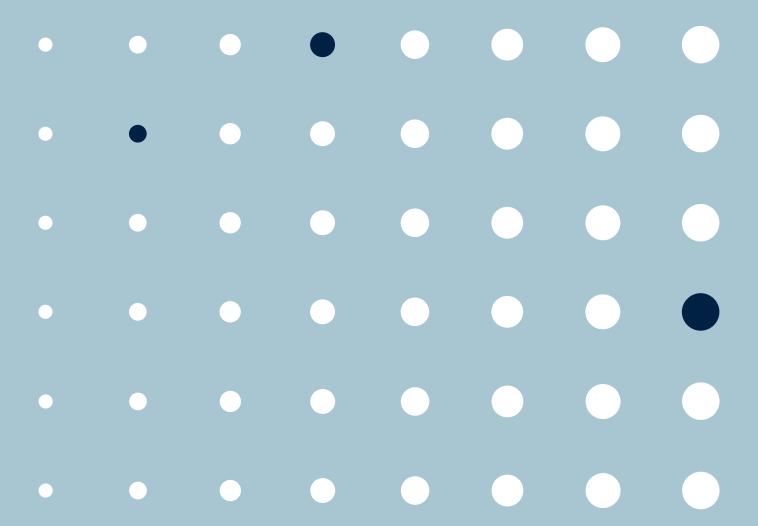
Process for Documentation of Compliance with Grid Connection Requirements for the Medium and High Voltage Grid:

# Power-generating facilities



# Power-generating facility – Type B

(Power Park modules and synchronous power-generating module)

When connecting a production unit to the electricity grid, you must go through the following documentation process.



You initiate the technical documentation approval process by submitting the relevant appendices for the power-generating facility to **driftdok@cerius-radius.dk**. This is the email address you must use for all documentation submissions throughout the entire process.

It is important to test and to ensure proper documentation for your facility in advance to ensure a smooth grid connection process. We recommend that you begin preparing your power-generating module document as early as possible. Typically, the time from submission of the first complete documentation to the issuance of an Energisation Operational Notification (EON) increases with the size of the facility — both due to the increased volume and complexity of documentation. For Type B facilities, you as the facility owner should expect a minimum of one month from the submission of the first complete documentation to the issuance of the EON.

Remember to update the documentation during the process if the facilities' electrical characteristics change.

## **Energisation Operational Notification (EON)**

An EON grants the facility owner the right to energize the internal network of the production facility via the grid connection point.

#### EON requires:

- The settlement meter and production meter are installed
- The High voltage interconnection agreement between DSO and the Customer is signed
- You have completed and received approval for these sections of Appendix 2.1 for Type B facilities:
  - o Facility description including technical data
  - o Power quality
  - o Protection

#### Once EON is granted:

• It is important that you immediately familiarise yourself with the requirements for obtaining an Interim Operational Notification (ION).

## Interim Operational Notification (ION)

An ION grants the facility owner the right to operate the production facility and generate electricity using the grid connection for a limited period. The main purpose must be testing and verification.

#### ION requires:

- Completed and approved entire Appendix 2.1 for Type B facilities
- Protection and information exchange (if required)
- Setup must be approved and operational
- The DSO's communication equipment must be operational and online

#### Once ION is granted:

• It is important to begin production and testing of your facility, as your ION is only valid for 3 months.

## Final Operational Notification (FON)

A FON grants the facility owner the right to operate the production facility using the grid connection.

#### FON requires:

- Completed and approved Appendix 2.2 for Type B facilities
- If the ION was issued on the condition that verifying measurements must be carried out to assess compliance with power quality
  requirements, such measurements and accompanying documentation must be received and reviewed by the DSO. If the assessment
  concludes that the requirements are not met, the facility owner must implement mitigating measures to ensure

# Power-generating facility – Type C and D

(Power Park modules and synchronous power-generating modules)

When connecting a power-generating facility to the electricity grid, you must go through the following documentation process.

Energisation Operational Interim Operational Final Operational Notification Notification Operation (EON) (ION) (FON)

You initiate the technical documentation approval process by submitting the relevant appendices for the facility type to driftdok@cerius-radius.dk. This is the email address you must use for all documentation submissions throughout the entire process.

It is important to test and to ensure proper documentation for your power-generating facility in advance to ensure a smooth grid connection process. We recommend that you begin preparing your power-generating module document as early as possible. Typically, the time from submission of the first complete documentation to the issuance of an EON increases with the size of the facility — both due to the increased volume and complexity of documentation. For Type C and D facilities, you should expect at least two months from the submission of the first complete documentation to the issuance of the EON.

Remember to update the documentation during the process if the facilities' electrical characteristics change.

## **Energisation Operational Notification (EON)**

An EON grants the facility owner the right to energise the internal network of the production facility via the grid connection point.

#### EON requires:

- The settlement meter and production meter are installed
- The High voltage interconnection agreement between DSO and the Customer is signed
- You have completed and received approval for:
  - o Appendix 3.1 for electricity-generating C/D facilities, or
  - o Appendix 4.1 for synchronous C/D production facilities
- The protection systems must be installed, approved, and operational
- For relevant facilities, it is recommended to initiate work on the simulation model.

#### Once EON is granted:

It is important that you familiarise yourself with the requirements for obtaining an ION. Your facility is not allowed to produce electricity
before ION is granted.

## Interim Operational Notification (ION)

An ION grants the facility owner the right to operate the production facility and generate electricity using the grid connection for a limited period, for the purpose of testing and verification.

#### ION requires:

- Completed and approved:
  - o Appendix 3.2 for electricity-generating C/D facilities, or
  - o Appendix 4.2 for synchronous C/D production facilities
- Real-time signal exchange capabilities via PCOM interface
- Approved and operational technical installation and protection systems, along with documentation proving compliance with technical requirements
- The DSO's communication equipment must be operational and online
- If relevant, a previously submitted simulation model must be approved

#### Once ION is granted:

• It is important to begin production and testing of your facility, as your ION is only valid for 6 months.

## Final Operational Notification (FON)

A FON grants the facility owner the right to operate the production facility using the grid connection.

#### FON requires:

- Completed and approved:
  - o Appendix 3.3 for C/D Power Park modules facilities, or
  - o Appendix 4.3 for synchronous modules C/D production facilities
- If the ION was issued with the condition that verifying measurements must be carried out to assess compliance with power quality
  requirements, such measurements and documentation must be submitted and reviewed.
- If the assessment concludes that the requirements are not met, mitigating measures must be implemented by the facility owner.
- If relevant, verification of the approved simulation model is required.

# Important Considerations – Applicable to All Processes

You can help ensure a smooth process by paying special attention to the following points, which apply across all documentation processes.

## **Documentation requirements**

Documentation must be complete and adequate before it will be reviewed. The minimum processing time for reviewing complete documentation is one month. "Complete" means the documentation is of sufficient quality to be assessed — further revisions may be required if compliance with requirements is not evident.

Always ensure that all fields are filled in and that references to documentation and page numbers are correct and included.

## Your ION is Temporary – Apply for Exemption if Needed

The ION is generally valid for 3–6 months. A longer period may be granted if deemed necessary for the facility owner to demonstrate the technical capabilities of the facility.

If the facility does not meet requirements within the validity period of the ION, an extension or exemption must be requested by submitting:

- Identification of the production facility
- Reason for the missing documentation
- A detailed plan for performing the required test

#### For Type D facilities:

If final documentation and operational approval cannot be achieved within 24 months, Energinet must provide an assessment to be submitted to the Danish Utility Regulator (Forsyningstilsynet). The regulator is responsible for approving or rejecting extensions beyond 24 months.

#### Contact info

 $All\ communication\ related\ to\ documentation\ for\ EON,\ ION,\ and\ FON\ must\ be\ sent\ to\ the\ DSO\ at: {\bf driftdok@cerius-radius.dk}$ 

### **Guidelines and Appendices**

Grid connection rules:

Grid connection (energinet.dk)

Technical requirements and guidelines, including appendices:

<u>Production – Technical Requirements and Guidelines</u> | Elnet (bottom of page)