
GENERAL GUIDANCE ON COMPLIANCE MONITORING

ENTSO-E guidance document for national
implementation for network codes on grid connection

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DESCRIPTION

Summary

What is the requirement in the CNCs for compliance?

It is a requirement of each of the Connection Codes that equipment connected to the system is compliant with the technical requirements forming part of the Codes at the time that such equipment is first connected and that it then continues to be compliant throughout its life.

Firstly, during the commissioning of any new equipment being connected to the system appropriate compliance testing, modelling and simulations have to take place as part of the operational notification process and as requested by the relevant system operator. The relevant system operator (RSO) shall also have the right to request that the power generating facility owner carry out compliance tests and simulations:

- according to a repeat plan or general scheme
- or after any failure, modification or replacement of any equipment that may have an impact on the power generating module's compliance with the requirements of this Regulation.

These requirements are in line with the ACER Framework Guidelines on Connection Codes Article 2.4 "the basis of the Compliance testing, compliance monitoring and enforcement" and are likely to be similar in principle to many of the existing national processes through which RSOs seek assurance that equipment connected to their systems is technically appropriate and is capable of meeting standards in terms of technical capability, behaviour or provision of services.

Each of the Connection Codes contains requirements relevant to compliance structured into three categories or sections. These are:

- An operational notification process – for new equipment being connected to the system
- Compliance monitoring - ongoing throughout the life of equipment
- Compliance testing

Operational
Notification
Procedure

The first aspect of compliance is the operational notification procedure that all new equipment falling within the scope of the connection codes is required to go through as part of the process of connecting to the system. Each of the Connection Codes includes similar provisions as summarised below.

RfG

Title III Chapter 1 - Operational Notification Procedure for New Power Generating Modules

This chapter sets out the requirements for new generators to demonstrate their compliance with title II (articles 13-28), being the detailed technical specifications for generators, as part of their connection process. The operational notification process sets out the steps through which demonstration of these requirements can be achieved including steady state and dynamic performance as required by chapters 2-7 of title IV.

The operational notification procedure are specified for each type A-D of power generating module and are broadly as follows.

Type A generators:

Submission of an installation document as required by the RSO to a minimum standard as detailed in article 30. Any equipment forming part of the installation is to be covered by equipment certificate(s) (EqCs) issued by an authorised certifier. There is no specific requirement against title IV to demonstrate performance, since Articles 40 and 41 specify that the owner of the power generating facility will rely upon EqCs.

For type A the installation document shall include the EqCs and other additional information such as source (e.g. PV) and kW rating. This is not the case for other types (B, C and D) which need significant site-specific supporting compliance evidence. For instance, a power unit can have a partial covered compliance, but a PPM cannot, because its compliance relies to a large extent on Power Park level control systems. EqCs validate equipment but not necessarily the power generating module.

In this case, type A, the RSO may use the EqCs issued by an authorized certifier to assess compliance.

Type B-D generators – use of equipment certificates (EqCs)

As part of the evidence against which compliance is assessed as detailed below, use of EqCs issued by an authorised certifier is allowed.

Type B-C generators:

A Power Generating Module Document (PGMD) is to be provided to the RSO for each power generating module by the power generating facility owner including a statement of compliance; the PGMD is to include information as specified by the RSO within the scope set out in article 32 and shall include where required compliance test reports as required by chapters 2-4 of title IV including use of actual measured values during testing and studies demonstrating steady state and dynamic performance as required by chapters 5-7 of title IV. On acceptance of a complete and satisfactory PGMD the RSO will issue a final operational notification to the facility owner.

Type D generators:

For type D generators the process is more involved which takes into account their scale and potential impact on the system, the extent of the services and technical capabilities that they should be able to provide or demonstrate, and their capability to engage in more detailed testing.

The operational notification procedure for **type D** generators comprises:

Energisation operational notification (EON)

An EON entitles the facility owner to energise their equipment using their connection but not to generate and is subject to the agreement with the RSO of protection and control settings.

Interim operational notification (ION)

An ION entitles the facility owner to operate their power generating module and to generate for a limited period of time – which is to be specified by the RSO but will be no more than 24 months (an extension of this period may be granted if a request for derogation is made to the RSO before the expiry of that period in accordance with the derogation procedure laid down in article 60). Issue of an ION is subject to completion of the data and study review as specified/requested by the RSO including simulation models and studies demonstrating steady state and dynamic performance as required by

chapters 5-7 of title IV, and details of the intended compliance tests that are to be undertaken to fulfil chapters 2-4 of title IV.

Final operational notification (FON)

A FON signifies the completion of the operational notification process and allows the power generating facility owner to operate a power generating module using their grid connection.

To progress a FON the facility owner must already hold an ION. Completion of the FON is subject to completion of any outstanding requirements set out in the ION and must include submission, by the facility owner, of an itemized statement of compliance and an update of the technical data, studies and models provided as part of the ION but now also validated and using actual values found through testing.

Limited Operational Notification (LON)

A type D generator holding a FON must inform the RSO with whom they hold a connection agreement in the case that their equipment is affected by a temporary loss of capability, is subject to significant modification affecting performance, or is affected by equipment failure affecting performance, in each case where this is expected to last for more than 3 months.

Issue of a LON by the RSO should be subject to identification of the means and timescales by which the non-compliance will be resolved and can last for a maximum of 12 months without requiring a further derogation. A further expansion of the period of validity of the LON may be granted upon a request for a derogation made by the RSO before the expiry of that period, in accordance with the derogation described in Title V

DCC

Title II Connection of Transmission Connected Demand Facilities, Transmission Connected Distribution Facilities and Distribution Systems

Chapter 3 – Operational Notification Procedure

The requirements in DCC are fairly similar to those in RfG. This chapter sets out that each transmission-connected demand facility owner or DSO to which one or more of the requirements in Title II (articles 12-21) apply shall confirm to the RSOs its ability to satisfy these by following an operational notification procedure.

Unlike in RfG there are no distinctions in terms of scale or connection voltage to the process which comprises:

Energisation Operational Notification (EON)

This allows energisation of the facility subject to satisfying the RSO of preparations including agreement of protection and control settings.

Interim Operational Notification (ION)

As with RfG, an ION entitles the facility owner to operate connected to the system for a limited period of time – which is to be specified by the RSO but will be no more than 24 months (an extension of this period may be granted if a request for derogation is made to the relevant TSO before the expiry of that period in accordance with the derogation procedure laid down in article 50. Issue of an ION is subject to completion of the data and study review as specified and including simulation models as specified in article 21 and studies demonstrating steady state and dynamic performance as required in articles

43 and 46-7. An itemised statement of compliance supported by any EqCs cited in this is also required.

Final operational notification (FON)

A FON signifies the completion of the operational notification process and allows the facility to operate without a time limitation.

To progress a FON the facility owner must already hold an ION. Completion of the FON is subject to completion of any outstanding requirements set out in the ION and must include submission, by the facility owner, of an itemized statement of compliance and an update of the technical data, studies and models provided as part of the ION but now also validated and using actual values found through testing.

HVDC:

Title V Operational Notification Procedure for Connection

The requirements in HVDC are very similar to those in RfG but are subdivided into two sections as follows:

Chapter 1 – Connection of New HVDC Systems

Chapter 2 – Connection of New DC-connected Power Park Modules

Each HVDC system owner is required to demonstrate to the RSO that it has complied with the relevant requirements set out in Titles II-IV articles 11-37 and 46-54 for general HVDC systems, and additionally title III for DC connected PPMs (articles 38-45 but also articles 13-22 of RfG) at the connection point through the operational notification procedure.

Similarly to DCC but again unlike in RfG there are no distinctions in terms of scale or connection voltage to the process which comprises:

Energisation Operational Notification (EON)

This allows connection and energisation of the facility subject to satisfying the RSO of preparations including agreement of protection and control settings at the connection point.

Interim Operational Notification (ION)

As with RfG, an ION entitles the facility owner to operate connected to the system for a limited period of time – which is to be specified by the RSO but will be no more than 24 months (an extension of this period may be granted if a request for derogation is made to the RSO before the expiry of that period in accordance with the derogation procedure laid in Title VII). Issue of an ION is subject to completion of the data and study review as specified and including simulation models as specified in article 54 and studies demonstrating steady state and dynamic performance as required in titles II-IV. An itemised statement of compliance supported by any EqCs cited in this is also required plus details of any intended compliance tests according to article 70 (general HVDC systems) or article 71 (DC-connected PPMs).

Final operational notification (FON)

A FON signifies the completion of the operational notification process and allows the facility to operate without a time limitation.

To progress a FON the facility owner must already hold an ION. Completion of the FON is subject to completion of any outstanding requirements set out in the ION and must

	<p>include submission, by the facility owner, of an itemised statement of compliance and an update of the technical data, studies and models provided as part of the ION but now also validated and using actual values found through testing.</p> <p><i>Limited Operational Notification (LON)</i> A DC connected PPM holding a FON must inform the RSO with whom they hold a connection agreement in the case that their equipment is affected by a temporary loss of capability, is subject to significant modification affecting performance, or is affected by equipment failure affecting performance, in each case where this is expected to last for more than 3 months.</p> <p>Issue of a LON by the RSO should be subject to identification of the means and timescales by which the non-compliance will be resolved and can last for a maximum of 12 months without requiring a further derogation.</p> <p>Derogations For each of the codes, under an ION or a LON where the period for this needs to be extended this will need to be subject to a derogation proposed by the equipment owner and approved by the NRA. The FON process also sets out that any remaining incompatibilities, where these cannot be resolved, can be addressed through the derogation process therefore also being subject to agreement of the NRA.</p>
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Compliance
Monitoring
Requirements

Compliance monitoring applies once equipment has been connected to the system and has fulfilled the operational notification criteria. The intent is to ensure the continued compliance of equipment with the codes throughout the lifetime of such facilities. The provisions in RfG and HVDC are broadly similar; for DCC this is expressed somewhat differently as the equipment involved will have more inherent and less active capabilities and the relevant sections are a number of articles dealing with general compliance provisions and a much briefer compliance monitoring chapter.

It is the responsibility of the owner of any facility to which the CNCs are applicable to ensure compliance throughout the lifetime of their equipment. Below it is reported a summary of articles in each code dealing specifically with the requirements for compliance and compliance monitoring:

RfG

Title IV Compliance: Chapter 1 - Compliance Monitoring

Article 40 – Responsibility of the power generating facility owner

It is the responsibility of the power generating facility owner to ensure compliance throughout the lifetime of the facility. Any planned modifications, incidents or failures that could affect compliance are to be informed to the system operator. Any test schedule and procedures to be followed for verifying the compliance should be notified to the system operator who should approve them and may also participate in such tests.

Type A generators may rely on EqCs rather than the detailed and case specific requirements as set out in title IV.

Article 41 – Tasks of the RSO

RSO

RSO shall assess compliance of the generator throughout the lifetime of the facility and will inform the facility owner of the outcome of such tests. v

RSO may rely on EqCs for type A generators.

RSO shall make publicly available certain the list information to be provided by the generator and requirements to be fulfilled and the allocation of responsibilities for compliance testing, simulation and monitoring.

The RSO may delegate (totally or partially) the performance of compliance monitoring.

The RSO shall have the right to request that the power generating facility owner carry out compliance tests and simulations:

- according to a repeat plan or general scheme
- or after any failure, modification or replacement of any equipment that may have an impact on the power generating module's compliance with the requirements of this Regulation

Article 42 – Common provisions for compliance testing

Compliance testing is required to demonstrate that a generator meets the requirements of the regulation. The facility owner is responsible for carrying out the testing in which the system operator may participate either on site or remotely.

The RSO is entitled to:

- allow the facility owner to carry out alternative set of tests, provided that those tests are efficient and suffice to demonstrate that PGM module complies with the requirements of RfG;
- require the facility owner to carry out additional or alternative tests in those cases where the information supplied to RSO in relation to compliance testing under the provisions of Chapter 2,3 or 4 of title IV is not sufficient to demonstrate compliance with the requirements of RfG;
- require the facility owner to carry out appropriate tests in order to demonstrate a power generating module's performance when operating on alternative fuels or fuel mixes. The RSO and facility owner shall agree on which types of fuel are to be tested.

Article 43 – Common provisions on compliance simulation

Simulation by the facility owner is required to demonstrate that the requirements have been met to the specification of the system operator. The facility owner and system operator are both required to provide simulation models; and the system operator is further allowed to run their own simulations to check the compliance of the generator.

The RSO is entitled to:

- allow the facility owner to carry out alternative set of simulations, provided that those simulations are efficient and suffice to demonstrate that PGM module complies with the requirements of RfG or with national legislation;
- require the facility owner to carry out additional or alternative tests in those cases where the information supplied to RSO in relation to compliance

simulation under the provisions of Chapter 5,6 or 7 of title IV is not sufficient to demonstrate compliance with the requirements of RfG;

DCC

Title IV Compliance: Chapter 1 - General Provisions, Chapter 4 – Compliance Monitoring

Article 34 - Responsibility of the demand facility owner, the distribution system operator and the closed distribution system operator HVDC

It is the responsibility of any such owner or operator to ensure compliance of their facility. Any planned modifications, incidents or failures that could affect compliance are to be informed to the system operator. Any test schedule and procedures to be followed for verifying the compliance should be notified to the system operator who shall approve them and may also participate in such tests and record the performance.

Where the requirements of DCC apply to equipment supplying DSR services tasks may be delegated by the owner to a third party (typically an aggregator) who may also act collectively on behalf of a number of equipment owners.

Article 35 – Tasks of the RSO

The RSO shall assess compliance of a facility throughout the lifetime of the facility and will inform the facility owner of the outcome of such tests. The system operator has the right to request the facility owner, DSO or CDSO to perform tests and simulations as required and in particular following any failure, modification or replacement of equipment.

Articles 46-7 - Compliance Monitoring

Specific to DCC more limited requirements for compliance monitoring are introduced in these articles covering just the requirement to measure reactive power at each connection point and to install the necessary equipment to do this in accordance with DCC article 15; the time frame for any such monitoring is to be specified by the RSO.

HVDC

Title VI Compliance: Chapter 1 – Compliance Monitoring

With a minor amount of reordering, the requirements for compliance monitoring are essentially identical in their intent, application and responsibilities to RfG. The following articles are included:

Article 66a – Common provisions for compliance testing

Article 66b – Common provisions on compliance simulation

Article 67 – Responsibilities of the HVDC system owner and DC-connected PPM owner

Article 68 – Responsibilities of the RSO

Compliance Testing and Compliance Simulations Requirements

Compliance testing and simulation requirements give the detail against which the operational notification of equipment and ongoing compliance monitoring during equipment lifetime are assessed. Each of the connection codes includes provisions which are split generally into classes of equipment taking into account technical capabilities, scale and the ability of the owner of such facilities to undertake testing.

These articles are detailed below.

RfG

Title IV Compliance: Chapters 2-7 – Compliance testing & simulations

Chapter 2 – Compliance Testing for Synchronous Power Generating Modules

Article 44 – Compliance tests for type B synchronous power generating modules

Article 45 – Compliance tests for type C synchronous power generating modules

Article 46 – Compliance tests for type D synchronous power generating modules

Chapter 3 – Compliance Testing for Power Park Modules

Article 47 – Compliance tests for type B power park modules

Article 48 – Compliance tests for type C power park modules

Article 49 – Compliance tests for type D power park modules

Chapter 4 – Compliance Testing for Offshore Power Park Modules

(Note that this is only for AC connected. DC connected offshore PPMs are covered under the HVDC code)

Selected criteria only drawn from articles 44 and 48.

Chapter 5 – Compliance Simulations for Synchronous Power Generating Modules

Article 51 – Compliance simulations for type B synchronous power generating modules

Article 52 – Compliance simulations for type C synchronous power generating modules

Article 53 – Compliance simulations for type D synchronous power generating modules

Chapter 6 – Compliance Simulations for Power Park Modules

Article 54 – Compliance simulations for type B power park modules

Article 55 – Compliance simulations for type C power park modules

Article 56 – Compliance simulations for type D power park modules

Chapter 7 – Compliance Simulations for Offshore Power Park Modules

Article 57 – Compliance simulations applicable to offshore power park modules

DCC

Title IV Compliance: Chapters 2-3 – Compliance testing & simulations

Chapter 2 – Compliance Testing

Article 36 – Common provisions for compliance testing

Article 37 – Compliance testing for disconnection and reconnection of transmission-connected distribution facilities

Article 38 – Compliance testing for information exchange of transmission-connected distribution facilities

Article 39 – Compliance testing for disconnection and reconnection of transmission-connected demand facilities

Article 40 – Compliance testing for information exchange of transmission-connected demand facilities

Article 41 – Compliance testing for demand response active power control, reactive power control and transmission constraint management

Chapter 3 – Compliance Simulation

Article 42 – Common provisions on compliance simulations

Article 43 – Compliance simulations for transmission-connected distribution facilities

Article 44 – Compliance simulations for transmission-connected demand facilities

	<p>Article 45 – Compliance simulations for demand units with demand response very fast active power control</p> <p>HVDC</p> <p><i>Title VI Compliance: Chapters 2-3 – Compliance testing & simulations</i></p> <p><i>Chapter 2 – Compliance Testing</i></p> <p>Article 69 – Compliance testing for HVDC systems</p> <p>Article 70 – Compliance testing for DC-connected PPMs and remote end HVDC convertor units</p> <p><i>Chapter 3 – Compliance Simulations</i></p> <p>Article 71 – Compliance simulations for HVDC systems</p> <p>Article 72 – Compliance simulations for DC-connected PPMs and remote end HVDC convertor units</p>
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Summary of
Common
Provisions for
Compliance
Testing and
Compliance
Simulation

The following table details the requirements against which testing and simulation is to be carried out in fulfilment of the requirements of the RfG code:

RfG Compliance tests:

Unit Type	A	B	C	D
Requirements to be verified				
Title IV-Chapter 2: Synchronous PGM				
LFSM-O	-	X	X	X
LFSM-U	-	-	X	X
FSM	-	-	X	X
Frequency restoration	-	-	X	X
Black start capability	-	-	X	X
Tripping to houseload	-	-	X	X
Reactive power capability	-	-	X	X
Chapter 3: PPMs				
LFSM-O	-	X	X	X
Active power controllability	-	-	X	X
LFSM-U	-	-	X	X
FSM	-	-	X	X
Frequency restoration	-	-	X	X
Reactive power capability	-	-	X	X
Voltage control mode, or	-	-	X	X
reactive power control mode, or	-	-	X	X
power factor control mode	-	-	X	X
Chapter 4: Offshore PPMs				
LFSM-O				
Active power controllability				
LFSM-U				
FSM				
Frequency restoration				
Voltage control mode				
Reactive power control mode				
Power factor control mode				

RfG Compliance simulations:

Requirements to be verified				
Chapter 5: Synchronous PGM				
LFSM-O	-	X	X	X
FRT type B	-	X	X	-
Post fault active power recovery	-	X	X	X
LFSM-U	-	-	X	X
FSM	-	-	X	X
Island operation	-	-	X	X
Reactive power capability	-	-	X	X
POD control	-	-	-	X
FRT type D	-	-	-	X
Chapter 6: PPMs				
LFSM-O	-	X	X	X
fast fault current injection	-	X	X	X
FRT type B	-	X	X	-
Post fault active power recovery	-	X	X	X
LFSM-U	-	-	X	X
FSM	-	-	X	X
Island operation	-	-	X	X
Synthetic inertia	-	-	X	X
Reactive power capability	-	-	X	X
POD control	-	-	X	X
FRT type D	-	-	-	X
Chapter 7: Offshore PPMs				
fast fault current injection				
Post fault active power recovery				
Island operation				
Synthetic inertia				
POD control				

With regard to the Compliance tests on voltage control mode, reactive power control mode and power factor control mode, the RSO may select only one of the three control options for testing

DCC compliance tests and simulations:

Compliance Tests	transmission-connected distribution facilities	transmission-connected demand facilities	demand units with DSR
capability of reconnection after an incidental disconnection	x	x	-
synchronisation test	x	x	-
remote disconnection test	x	x	-
low frequency demand disconnection	x	x	-
low frequency demand disconnection relays	x	x	-
low voltage demand disconnection	x	x	-
information exchange	x	x	-
demand modification	-	-	x
disconnection or reconnection of static compensation facilities	-	-	x
Compliance Simulations	transmission-connected distribution facilities	transmission-connected demand facilities	demand units with DSR
reactive power capability without onsite generation	x	x	-
active control of reactive power with onsite generation	x	x	-
very fast active power control	-	-	x

HVDC compliance tests and simulations::

Compliance Tests	HVDC systems	DC-connected power park modules	Remote-end HVDC converter units
reactive power capability	x	x	x
voltage control mode	x	x	x
reactive power control mode	x	x	x
power factor control mode	x	x	x
FSM response	x	x	-
LFSM-O response	x	x	-
LFSM-U response	x	x	-
frequency restoration control	-	x	-
active power controllability	x	x	-
ramping rate modification	x	-	-
black start	x	-	-
fast signal response	-	x	-
Compliance Simulations	HVDC systems	DC-connected power park modules	Remote-end HVDC converter units
fast acting additional reactive current injection	x	x	-
fault-ride-through capability	x	x	-
post fault power active power recovery	x	x	-
reactive power capability	x	x	x
POD control	x	x	-
active power modification in case of disturbance	x	-	-
fast active power reversal	x	-	-

With regard to the Compliance tests on voltage control mode, reactive power control mode and power factor control mode, the relevant TSO may select only two of the three control options for testing

Equipment certificate' means a document issued by an authorized certifier for equipment used by a power- generating module, demand unit, distribution system, demand facility or HVDC system. The equipment certificate defines the scope of its validity at a national or other level at which a specific value is selected from the range allowed at a European level. For the purpose of replacing specific parts of the compliance process, the equipment certificate may include models that have been verified against actual test results.

Role of Third Parties:
Authorised certifiers and equipment certificates

Operational notification of type A power generating modules

For type A power generating modules and where necessary the RSO shall ensure that the required information forming part or all of an installation document can be submitted by third parties on behalf of the power generating facility owner.

Delegation of RSO Duties

Under article 41 of RfG, 35 of DCC and 68 of HVDC, a RSO may totally or partially delegate compliance monitoring to third parties subject to the fulfilment of article 12 in RfG (DCC & HVDC similar) regarding confidentiality obligations and where necessary requiring confidentiality commitments to be entered into with the assignee.

Equipment Certificates

The use of EqCs issued by an authorised certifier is allowed as part of the fulfilment of the operational notification requirements.

According to the art. 41(3) (g) relevant system operator is obliged to elaborate and make publicly conditions and procedures for the use of relevant equipment certificates which can be used in the compliance monitoring process. These conditions and procedure have meet the frames requirements given in the NC i.e.:

- With regard to the on-site test:
 - For type A PGMs the relevant system operator may rely upon equipment certificates issued by an authorized certifier for the assessment (art. 41 (1), also art. 40 (1)).
 - For type B, and by default to the type C and D synchronous PGMs and PPMs the certificates can be used to demonstrate LFSM-O compliance with the relevant requirements (art. 44(1) and art. 47(1)).
 - For type D synchronous PGMs and PPMs instead of the relevant test RSO can use equipment certificates to verify PGM compliance with the relevant requirement (art. 46 (2) and art 49 (2)).
- With regard to the simulations:
 - For type B, C, D synchronous PGMs and PPMs instead of the relevant simulations RSO can use equipment certificates to verify PGM compliance with the relevant requirement (art. 51(1), art. 52 (1), art. 53 (1), art. 54 (1), art. 55 (1) and art 56 (2)).

With regard to the operational notification procedure:

- For type A PGMs compliance process based on the equipment's certificates included in the installation document (art. 30(2) (f)). The relevant system operator may rely upon equipment certificates issued by an authorised certifier for the assessment. Compliance tests and simulations are not required by the provisions of the NC RfG but possible to execute based on the art. 42 (2) (b) which authorizes RSO to require additional or alternatives tests, if information provided by the power-generating owner is not sufficient.
- In principle, for type B, C and D PGMs it is allowed to use the equipment certificates in the notification process. According to the art 32(6) Member States may provide that the Power Generating Module Document (PGMD) designed for Type B shall be issued by an authorised certifier.

Summarizing, in principle the equipment certificates should be used by RSO to verify compliance of the single components of the PGM with the relevant requirements and it should be treat as the additional (complementary) confirmation that the whole PGM meets the requirements. For the power generating facility owner these certificates should be primary guarantee that the used equipment will allow to meet the relevant requirements specify for whole PGM.

In conclusion, for type A units in principle equipment certificates is to be used by the RSO for the assessments in the compliance process. For type B,C,D PGMs equipment certificates can be used instead of the relevant test or simulations exclusively if It is provided in the rules and procedures elaborated by the TSO, according to the art. 41 (3)(g).

Accreditation of Third Parties

The definitions under RfG state that:

- An 'authorised certifier' means an entity that issues EqCs and power generating module documents and whose accreditation is given by the national affiliate of

	<p>the European cooperation for Accreditation ('EA'), established in accordance with Regulation (EC) No 765/2008;</p> <ul style="list-style-type: none"> An 'equipment certificate' means a document issued by an authorised certifier for equipment used by a power generating module, demand unit, distribution system, demand facility or HVDC system. The equipment certificate defines the scope of its validity at a national or other level at which a specific value is selected from the range allowed at a European level. For the purpose of replacing specific parts of the compliance process, the equipment certificate may include models that have been verified against actual test results; <p>Further information on the accreditation of suitable bodies and the process for this is given on the following link: http://www.european-accreditation.org/</p> <p>Since CNCs allow it, RSOs shall identify advantages and disadvantages for different compliance monitoring schemes:</p> <ul style="list-style-type: none"> - Completely performed by RSOs - Totally delegated to third parties - Partially delegated to third parties
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INTERDEPENDENCIES

Within CNCs This file covers the current 3 Connection Network Codes.

In other NCs No. It is possible that where further non-mandatory services (such as black start which is detailed in the Emergency & Restoration code) are offered to the TSO these may also be subject to compliance validation.

System characteristics N/A

Technology characteristics N/A

COORDINATION

TSO – MS-NRA In the event that compliance is not established the right to connect to the system or to import/export power through the connection point can be withheld or removed from the facility owner by the RSO; alternatively, a derogation could be sought from the NRA.

TSO – generator or owner – Compliance is required as part of the connection procedure and has to be maintained during the lifetime Compliance is the responsibility of the generator. Where connection is to a DSO it may be necessary for the TSO to have a coordinating role as well.

DSO-
CDSO

Annex

Provided by National Grid: (GB TSO)

Annexes to National Grid's internal Transmission Procedure TP130 – New Connections
Operational Approval:

- Compliance statement (document in the attachment)
- Operational notification compliance checklist (ONCC) (document in the attachment)

The ONCC is required to be completed as part of the Operational Notification process. The compliance statement is filled in as part of the testing, by National Grid, of a transmission connected generator.

Provided by Spain:

Procedure for verification validation and certification of the requirements of the Operation
Procedure 12.3 on the response of wind farms and photovoltaic plants in the event of voltage
dips (document in the attachment)

Provided by Germany. TR8 Certification procedure outline: (document in the attachment)