

CBC DECISION/CLARIFICATION SHEET

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INTEGRATION OF CERTIFIED COMPONENTS WITHIN TYPE CERTIFICATION - CLARIFICATION SHEET

Introduction

Component certification according to IEC 61400-22: 2010 is to confirm that a major component of a wind turbine is designed, documented and manufactured in conformity with design assumptions, specific standards and other technical requirements. A Component Certificate covers a major wind turbine component such as a rotor blade or tower.

Component certification consists of the following modules:

- design basis evaluation;
- design evaluation;
- type testing;
- manufacturing evaluation; and
- final evaluation.

These modules as well as their application for the type certification process are illustrated in IEC 61400-22: 2010, Figure 3. The procedures for component certification should be in line with the type certification procedures described in Clause 8.

Furthermore, the aim of component certification is to enable the integration of already certified components within a type certification of a wind turbine. Component Certificates to be included in type certification should be limited to the extent not to affect the overall system integrity of the wind turbine.

Hence, there will be type certification projects where different certification bodies might be involved. The Certification Body issuing the final Type Certificate will thus in some cases face the situation to include evaluation work carried out by other certification bodies. Therefore, special attention shall be given to the specification of the interfaces between components and the rest of the wind turbine system as well as to the specification of essential and critical conditions, such as operating conditions, loads and structural properties, et cetera.

This clarification sheet will thus outline how sufficient recognition between Certification Bodies can be established and what information is required to facilitate type certification using different Certification Bodies and integration of certified major components.

Definitions

Accepting Certification Body: The Certification Body that is responsible for issuing the Type Certificate partly based on another Certification Body's component certificates and/or Conformity Statements.

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Type Certificate Applicant : the entity applying for Type Certification
Component Certification Body : the certification body that has issued the component certificate
Component Manufacturer : the entity holding the component certificate

IAF and MLA

The International Accreditation Forum, Inc. (IAF) operates programs for the accreditation of product certification bodies and bodies providing other conformity assessment services. Accreditation Bodies which are members of IAF and their accredited conformity assessment bodies are required to comply with appropriate international recognized standards and IAF mandatory documents.

Signatories of the IAF Multilateral Recognition Arrangement (MLA) conduct regular evaluations of each other to assure the equivalence of their accreditation programs.

Recognition of Component Certificates This guideline is limited to recognition of Component Certificates covered by an accreditation of an IAF MLA signatory. The accreditation scope shall include type certification according to IEC 61400-22.

Further information on recognition arrangements is given by section 5.3 of IEC 61400-22. The applicant is responsible for providing the necessary documents as stated below to the Accepting Certification Body.

The Accepting Certification Body shall review the evaluation work to an extent sufficient for recognition of the work as part of the type certification. The review shall initially be conducted by means of a documentation review of evaluation reports, certificates / statements and underlying documents if needed.

The review should cover the following aspects:

- i. scope of work falls within the accredited scope of the Component Certification Body;
- ii. scope of work and evaluation work process of the Component Certification Body;
- iii. quality of the technical reporting;
- iv. the IEC 61400-22 defined scope of work for the subjected component certification is completed and concluded;
- v. the complete file of component certification shall be handed-over to the Accepting Certification Body, including:
 - Component Certificate
 - Final Evaluation report including referred evaluation reports
 - Conformity Statements (design evaluation; type testing, manufacturing evaluation)
 - QM-Certificates
 - technical documentation required for integration of the certified components
- vi. interface description of components and the rest of the wind turbine system as well as specifications of essential and critical conditions regarding compatibility
- vii. conditions for validity is understood such that they can be considered in the final type certification;
- viii. the status of outstanding issues and provisions is clearly described such that they can be accounted for in the finalization of the type certification; documentation needed to handle these outstanding issues/provisions shall be handed-over;

The Accepting Certification Body may request further clarification. This may include clarification meetings involving the other certification body and in some cases also his client (applicant). The accepting body shall have access to the full technical support documentation during such a meeting enabling spot checks.

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The Accepting Certification Body's decision of acceptance/rejection shall be communicated to the Type Certificate Applicant.

Validity of Component Certificates

Special attention shall be given to the validity of Component Certificates. The validity of a Type Certificate including Component Certificates is no longer valid when the validity of the Component Certificate lapses. To maintain a Type Certificate, all Component Certificates shall be maintained as per Clause 6.5 in IEC 61400-22.

Type Certification

The Accepting Certification Body shall not take responsibility for other Certification Bodies' work and this should be stated in the Type Certificate. The Type Certificate should list all Certification Bodies involved and their scope of work e.g. by stating the component certification and corresponding certificates or statements.

Example - Integration of certified rotor blade type within Type Certification

The Component Certificate of a rotor blade type to be used in a Type Certification is issued by the Component Certification Body named "C-CB" and the Type Certification is issued by the Accepting Certification Body named "A-CB".

In this case, A-CB will be the "Accepting Certification Body".

- 1) The wind turbine manufacturer appoints the A-CB to carry out type certification according to an agreed scope of work for type certification which is in line with IEC 61400-22 and this document. The agreement between the wind turbine manufacturer and the A-CB specifies that an already certified rotor blade type issued by C-CB should be integrated within the Type Certificate.
- 2) An agreement between wind turbine manufacturer, rotor blade manufacturer (owner of Component Certificate) and A-CB, considering the handling and use of intellectual property such as certificates, Conformity Statements, certification reports, drawings or calculations et cetera shall be established.
- 3) The rotor blade manufacturer provides the A-CB with the Component Certificate, Final Evaluation report, Conformity Statements (design evaluation, type testing and manufacturing evaluation), Evaluation reports (design evaluation, type testing and manufacturing evaluation), QM-Certificates, description of interfaces and specifications of essential and critical conditions as well as further technical documentation required for integration of the certified components.
- 4) The A-CB will review the certificate, statements and reports as well as accreditation certificate for the C-CB according to item i-viii in this document. Based on this review, the A-CB decides if a meeting or further documentation will be required. In this example it is assumed, that the rotor blade deflection in regard to the blade tip clearance is not specified in detail for the application.
- 5) The A-CB will together with the wind turbine manufacturer arrange a clarification meeting with the C-CB and rotor blade manufacturer (C-CB client). A-CB will ask for rotor blade deflection and interface documents to support the clarification.
- 6) The meeting is held and the clarifications are recorded in the minutes of meeting by the A-CB. The A-CB finalises its evaluation of the certification documentation considering the clarifications from the meeting. The conclusion, in this case acceptance is assumed, is communicated to all parties involved.
- 7) The A-CB proceeds in the type certification work.