



WEC COMMISSIONING INSPECTION

In the customary contractual agreements, the transfer of risk to the operating company/investor is regulated with acceptance after the successful trial operation of the plant delivered. Commissioning inspections are carried out by the Veltrup Technical Inspection Bureau on behalf of the operating company/investor, the manufacturer and the finance companies to ensure that the contractual obligations are met from a technical point of view and that there are no deficiencies that stand in the way of acceptance.

The outcome of the inspection is a written report (a so-called Inspection Report), which comprehensively lists the outstanding points and possibly confirms the freedom from fundamental deficiencies.

Inspection

The primary aim of the commissioning inspection is to document the state of the newly installed and commissioned system prior to acceptance by the customer/operating company.

A statement must be made as to whether:

- the official regulations have been adhered to,
- the plant constructed conforms with the documents submitted,
- there are any safety issues that would preclude operation,
- there are fundamental deficiencies that would justify refusal of acceptance by the customer/operating company.

Scope of inspection:

In order to protect possible claims, the inspection should be carried out after commissioning and before the expiry of the contractually agreed trial operation as required. Inspection of the following is standard:

- Conformance of the plant with the documents submitted (type testing, individual inspection, building permit) as well as the plant documentation (e.g. maintenance records, expert opinion)
- Foundation of the tower, the machine mounting as well as random inspections of screwed/bolted connections
- Mechanical engineering and electrical components, including the gearbox,
- Welding seams of load bearing parts and safety-relevant screwed/bolted connections,
- Material thickness of the tower wall in the case of tubular steel towers, taken at random,
- Tests of safety-relevant components and their function (safety chain, over-speed test, etc.),
- Rotor blades (*)

(*) With the commissioning inspection it often lends itself to postpone the detailed inspection of the rotor blades until the warranty or recurring periodic inspection on the grounds of costs. A detailed inspection of the rotor blades can optionally be carried out within the scope of the commissioning inspection. Extensive tests are carried out during the inspection. The function of the wind energy converter, including the safety procedures, is tested extensively. The thickness of the conservation coating of essential components is determined. Screwed/bolted connections are inspected for abnormalities. Furthermore, if technically possible and conceptually reasonable, the alignment of gearbox/generator is checked by dial test indicator/laser. (laser measurement at extra cost) The gearbox is listened to and opened up in order to inspect the gearing. In the case of lubricant abnormalities, a lubricant sample is drawn off after consultation with the client and an independent analysis of the condition and further usability is carried out. In the event of abnormalities in the main bearing, gearbox or generator bearings, an optional vibration measurement (at extra cost) will be carried out. The participation of the client/operating company/investor in the on-site inspection is possible. It is advisable that a representative of the manufacturer (e.g. commissioning manager) participates to operate the system.

Inspection Result

We value your cooperation in reducing the impact on the environment. Therefore, the client/operating company/investor will receive a detailed digital condition report of every plant in the shape of a Word or PDF file in which all deficiencies identified are named, described and documented to a large extent by photos. The inspection report is used for submission to the manufacturer or construction company, in order to request rectification of the deficiencies that were found. It can also be used for submission to an insurance company or possible prospective buyer. A certificate, for submission to the authorities, can be provided upon request. The recommended deadlines for follow-up inspections are also included in the inspection report. Special attention is drawn to fundamental deficiencies which could impair the usability of the wind energy converter and which, in accordance with customary contractual agreements, would justify refusal to accept the plant.