Attendant profile

Attendant profile: WTG Service technicians, Site Managers, Wind farm owners and operators

Course duration

1 day, 7 lessons

Pre-requisites for participation

None

Course outcome

To qualify participant to perform inspection and documentation of Lightning Protection System [LPS] on all types of WTG blades, according to GBS documentation.

Objectives

After the training, the participant has achieved knowledge for:
- General construction of WTG lightning protection system on blades.
- Electrical resistance and measuring units
- Health risk involved working on LPS
- Replacement of wear parts on LPS

And have achieved the following competences:
- Carry out General Visual Inspection from ground level
- Carry out Close Visual inspection of lightning receptors
- Measure out resistance in LPS using milliohm meter
- Recognize typical lightning damages on blade surface and structure
- Use correct terms for LPS communication.
- Fill in documentation.

Training method

Theoretical training
Practical exercises

Success criteria

Minimum 80% correct answers on theoretical test
Approval of practical test

Training modules

1 Training information

- Practical information on the training course
- Presentation of participants
- Reason for training
- Objectives for training course
- Success criteria

2 LPS construction in blades

- Purpose for installing LPS
- Function of LPS
- Various LPS
- Terms and definitions

3 Basic electric

- Resistance
- Cables and connectors
- Test equipment
- Measuring units

4 Health and safety

- Risk when working on LPS
- Weather conditions
- Handling tools
- Chemicals

5 Lightning damages

- Statistics of blade damages
- Root causes for damages
- Typical lightning damages
- Lightning damage catalogue

6 Inspection from ground

- Photo equipment
- Photo inspection
- Assessing photos

7 Inspection from height

- Surface inspection visual
- Measure function of lightning protecting system
- Investigating external damages
- Internal inspection visual
- Investigating internal damages
- Replace lightning registration card

8 Documentation of LPS function

- Purpose for blade status report
- Categorization of lightning damages
- Filling in report template

9 Replacement of receptors

- Best practice for replacing receptors
- Spare parts
- Tools
- Sealing materials
- Test of function

10 Practical exercises

- General Visual Inspection
- Close Visual inspection – function test
- Detailed Visual Inspection of damage
- Replace lightning receptors
- Reading and replacing lightning card

11 Tests

- Theoretical test representing objectives for training course