L1 Preventive Maintenance of synchronous machine type AMS/GBA 710 - 1400

This document describes the scope of work during a level 1 (L1) preventive maintenance of a synchronous machine, type AMS/GBA 710 – 1400, and main terminal box.

Minor changes might occur during actual inspection, depending on site situation.

1. Service provides

Preparation

Before the preventive maintenance can take place the following tasks are performed:
- All necessary data on the machine is gathered from drawings and from our machine database
- Information from earlier preventive maintenances is gathered
- The Maintenance Report template is prepared
- The travel arrangements are made
- Travel risk review is performed
- Visa application is carried out
- Safety on site is planned

Preventive maintenance inspections and actions

Depending of the specification of the machine the following inspections and actions are performed.

Worn and faulty components will be replaced if available and according to agreement with the customer:

- Machine:
  - Go through received logged data
  - Visual inspection
  - Check replacing, cleaning and modification according to recommendation in earlier preventive maintenances and suppliers service bulletins

- Stator:
  - Visual inspection
  - Verify function of all RTDs, (temperature sensors)

- Main Terminal Boxes:
  - Visual inspection of general condition

- Rotor:
  - Visual inspection and check of cleanliness
  - Check of upper coil support insulation plates for movement

- Bearings:
  - Visual inspection and check for leaks
  - Visual inspection of air filter for air lock seal
  - Visual inspection of measuring instruments

- Run down tank *):
  - Visual inspection

- Lube oil unit **):
  - Visual inspection
  - Change pressure filter element
**Start Resistor (*)**:  
Visual inspection

**Exciter and Rectifier**:  
o Visual inspection of stator and rotor

**PMG (*)**:  
o Visual inspection of stator and rotor

**Rotor earth fault brush (*)**:  
o Visual inspection and check of brushes  
o Change brushes if needed  
o Cleaning of brush holder

**Rotor earth brush (*)**:  
o Visual inspection and check of brushes  
o Change brushes if needed  
o Cleaning of brush holder

**Air/water cooling system (*)**:  
o Visual inspection  
o Function check of casing water leakage detector

**Cooling fan motor and fan (*)**:  
o Visual inspection  
o Check of the condition of the motor

**Slip ring and brushes (*)**:  
o Visual inspection and check of brushes and slip ring  
o Change brushes if needed  
o Cleaning of slip ring house and brush holder

**Ex machines**:  
o Check of general installation items

*) Optional equipment, depending on the specification of the machine. Inspection and maintenance is performed if the equipment is installed.

**) Optional equipment, depending on the specification of the machine. Inspection and maintenance is not performed as standard, only on request.

**Conclusions and report preparation**
A Preventive Maintenance Report and protocol is made after completion of work

2. **Preventive Maintenance Report**
A preventive maintenance report is delivered after the finalization of the preventive maintenance. This report provides recommendations on additional measures to be taken for a smooth and reliable operation of the machine.

The Preventive Maintenance Report contains:
- Summary with recommendations
- Discovered irregularities and action taken
- All checkpoints with judgments of status
- The following protocols in applicable parts:
  o Logged data
  o Resistance measurements of RTDs
  o Control of coil support insulation plates
3. **Responsibilities of the customer before performing of the service**

- Fill out the logged data in protocol 1, which has been sent to the customer in advance
- To disconnect the machine electrical and to connect the outgoing lines to earth
- To supply solvent liquid and rags for cleaning
- To handle any waste of epoxy, oil, solvent liquid and inflammable material in a proper way
- To arrange for temporarily weather protection if machine is installed outdoor
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