ABB Ability™ LEAP for HV motors and generators
(Life Expectancy Analysis Program) – Customer presentation

Motors & Generators Service
Presentation overview

- Introduction
- Key benefits
- The process
- Deliverables
- ABB Ability LEAP in short
- More information
ABB Ability™ LEAP for HV motors and generators

Introduction

The service

ABB Ability LEAP is an advanced service for analyzing the condition and expected lifetime of the stator winding insulation – the most uptime critical component in high voltage motors and generators.

ABB Ability LEAP detects potential problems in the stator winding insulation well before they become critical and cause extended downtime. By providing information on the actual condition and expected lifetime of the insulation, it enables the customer to plan short and long term maintenance actions.

Our service includes condition assessment, expected lifetime and recommendations for operation and maintenance actions.
Key benefits
Providing efficient, predictable and safe operation

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<tr>
<th>Early warning</th>
<th>Predictive maintenance planning</th>
<th>Reduced cost of ownership (COO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provides adequate time for maintenance planning</td>
<td>Enables you to move from time-based to condition-based maintenance</td>
<td>Supports efforts to extend lifetime and thereby increase return on investment (ROI)</td>
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Key benefits

Providing efficient, predictable and safe operation

**Better decision-making**
Facilitates decision-making on short and long term maintenance and run/repair/retrofit/replace options

**Improved risk mitigation**
Minimizes unplanned downtime by reducing risk levels

**Comprehensive analysis**
Can be used on your entire HV fleet, including non-ABB motors and generators
Mapping of the installed base
Review your installed base with a local ABB technician and decide which motors and generators to analyze.

On-site measurements
A local ABB technician brings all the equipment needed for the tests and performs the measurements during a normal maintenance break. The data is uploaded to a portal.

Data analysis
An ABB expert analyzes the data using an advanced empirical model that is based on the results of more than 10,000 tests.

ABB expert report
You receive an expert report on the condition and expected lifetime of the motors and generators. The report also includes ABB’s short and long term operation and maintenance recommendations.

Making the right decisions
Accurate and up-to-date information on the status of the motors and generators informs your decisions about the maintenance and management of your equipment.

Planning maintenance activities
Prioritize and optimize the maintenance plan and secure high reliability for your motors and generators.
ABB Ability™ LEAP

Deliverables

ABB LEAP provides information on the condition of the stator insulation with respect to:

- Contamination / charge storage
- Aging / insulation material degradation
- Condition of bonding resin
- Void content within main insulation
- Partial discharges

Life expectancy analysis

Condition based inspection and maintenance plan
ABB Ability™ LEAP

**Condition assessment**

- Stator winding condition assessment

**Remaining lifetime**

- Provide remaining lifetime of stator winding
  - Helps make long term maintenance plan
  - Different confidence levels depending on package

**Recommendations**

- Provide recommendations
  - What maintenance needs to be done
  - When maintenance needs to be done
  - What winding areas need attention
  - When to perform rewinding or buy new stator

Extensive report with clear recommendations and all measurement details

10 000 measurements establish confidence in the analysis in a combined analytic and empiric model
**ABB Ability™ LEAP in short**

<table>
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<tr>
<th>Why</th>
<th>What</th>
<th>Value</th>
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<tbody>
<tr>
<td>– Stator failure is the most uptime critical failure for large motors and generators</td>
<td>– Condition assessment</td>
<td>– Reduce downtime</td>
</tr>
<tr>
<td>– Detect problems long before they become critical</td>
<td>– Expected lifetime</td>
<td>– Optimize maintenance planning</td>
</tr>
<tr>
<td>– Several measurements -&gt; high reliability</td>
<td>– Recommendations for maintenance actions</td>
<td>– Extend lifetime</td>
</tr>
<tr>
<td></td>
<td>– All documented and presented in a report</td>
<td></td>
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<table>
<thead>
<tr>
<th>~ 60%</th>
<th>&gt; 10.000</th>
<th>70%</th>
<th>40</th>
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<tbody>
<tr>
<td>Of the failures on large machines are stator winding failures</td>
<td>Measurements in our database</td>
<td>are non-ABB machines</td>
<td>Countries with equipment</td>
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More information...
Visit our new webpage
