For effective asset management and well-founded investment planning, grid owners need to be aware of the condition of their substations, which components are most likely to fail and why, and how a potential failure would affect grid stability.

ABB offers customers comprehensive risk assessment and an objective basis for decision-making.

Why assessment?
Properly serviced substations can operate trouble-free for 40 years or more. However, some components or systems age faster, require more maintenance, and are more important to the substation’s operational reliability and lifetime than others. Assessment of the status of components of different generations, technologies and makes, and their importance for grid stability facilitates well-founded maintenance and investment planning.

What is assessment?
ABB’s assessment services support grid owners in gaining a comprehensive overview of the substation’s condition. Besides electrical components and systems, health and safety aspects as well as the condition of grounding, foundations, buildings and structures that affect, or may come to affect, the operational reliability and lifetime of the substation, are assessed.

How is assessment performed?
ABB staff will visit the facility and carry out a thorough visual inspection. Findings are documented and photographed and existing documentation inventoried. Careful analysis of the condition and importance of the equipment, the service and operational history as well as the availability of spare parts and maintenance competences, allows risk levels on component, system and substation level to be assessed. The result is presented in a technical report that contains detailed recommendations for further study or action, along with chronological priorities.
Choosing the right partner
ABB’s assessment model is based on the combined experience of more than 100 years of development, manufacturing and delivery of leading-edge electrical infrastructure to the global power industry – and on the continuous feedback of experiences from customers and users.

Offered scope in brief
- Visual inspection of your substation
- Assessment of age, condition and failure risk level of the equipment
- Results presented in a technical report
- Recommendations for further action

ABB’s Substation services – supporting customers throughout the equipment lifecycle
Assessment is the first stage of ABB’s suite of substation services. Based on the results, further study or action might be recommended – eg, diagnostics, consulting or upgrading. Assessment of the status of the facility can also be carried out in certain time intervals and serve to close the loop with ABB maintenance services delivered throughout the life cycle of your substation.

Reliability-centered maintenance – a highly cost-effective strategy
ABB’s risk assessment method is based on reliability-centered maintenance (RCM). It takes into account the equipment’s condition – eg, age, spare parts availability and previous operational experiences, as well as its importance to factors such as grid stability, power quality and personal safety – making it one of the most cost-effective maintenance strategies available today.

Maintenance prioritized according to risk exposure – red, yellow or green risk level
With ABB’s methodology, the risk level of individual components, systems and complete substations is defined and compiled in a priority list. This enables customers to plan and perform maintenance, giving due priority to high-risk equipment to achieve the most effective risk reduction.

Assessment – scope of service
The purpose of assessments is to ensure that the necessary system, operational and safety-related requirements are being met.

The assessment covers the following items
- Transformers and tap changers
- HV equipment – eg, circuit breakers, disconnecting switches, instrument transformers, surge arresters
- MV switchgear
- Protection and control system
- Station auxiliary equipment
- Infrastructure – eg, steel structures, foundations, fencing, grounding
- Health and safety

For more information please contact:

ABB Switzerland Ltd.
Power Systems
CH-5400 Baden, Switzerland
Phone: +41 58 585 77 44
Fax: +41 58 585 55 77
E-Mail: substations@ch.abb.com

www.abb.com/substationservice

Note:
We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB does not accept any responsibility whatsoever for potential errors or possible lack of information in this document. We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents – in whole or in parts – is forbidden without prior written consent of ABB.