The safety and operability of an electrical system is fundamental to its performance.

Safety and Operability (SAFOP or eHazops) studies use a structured approach to assessing the safety and operability of electrical power systems to identify modifications to enhance the safety of personnel who will operate and maintain the equipment. Early use of the SAFOP process will minimise potential costs associated with the study outputs.

Electrical systems can present major hazards to operation and maintenance personnel if they are not designed with safety and operation properly taken into account.

A SAFOP review typically comprises:

- Safety Analysis (SAFAN) which considers the layout of plant and facilities to assess potential hazards
- System Security and Operability Analysis (SYSOP) which considers the way the system is designed to function, reviewing the design and assessing security of supply. It covers the main equipment items and auxiliaries including multiple supplies, on-site generation, changeover schemes, standby generation and UPS systems
- Operator Task Analysis (OPTAN) which examines probable tasks to be undertaken by local and remote operators during both normal and abnormal conditions

These three elements, when combined, form a complete SAFOP. In the early stages of a project it is advisable to carry out a SAFAN and SYSOP once the basis of design is established. A complete SAFOP, including OPTAN, should be undertaken when the details of the design and the selected equipment have been established in enough detail. It is also possible to undertake SAFOP Reviews on existing installations.

What we offer
ABB offer professional services to chair and document SAFOP studies for electrical power systems. Using structured methodology the studies include input from the client’s project managers, electrical system designers, process designers, operators, maintainers, safety engineers and manufacturers if required. It is important that the chairman is independent and not involved in the project. Our engineers have widespread experience in the design, construction, operations and maintenance of electrical power systems and are well qualified to chair and guide SAFOP studies.
Benefits
SAFOP studies identify design deficiencies and enhancements which will lead to safer and more efficient operations. This is a structured approach to provide guidance during the design of a project to ensure that the operation and safety requirements of stakeholders are taken into account.

Why ABB?
ABB have highly experienced engineers who have excellent knowledge of industry best practices with regard to safety, design, plant maintenance and operations. We are able to carry out SAFOP studies at most locations worldwide.