

Electrical Systems for Oil, Gas and Petrochemical

Recognising the industries need for safe, reliable and secure power. ABB has formed an electrical systems business that combines solutions, knowledge, and the proven track record of its vast portfolio for the oil, gas and petrochemical markets.

ABB, takes responsibility for providing total solutions whilst delivering safe, reliable and secure power, efficiently.

ABB is the leading integrated solutions provider to the Oil, Gas & Petrochemical industry, delivering the following systems and services:

- Electrical Systems – Power distribution and control
- Integrated Control and Safety Systems (ICSS)
- Telecommunication Systems
- Instrumentation and measurement systems
- Consulting services
- Lifecycle services
- Engineering and Project Management Services

As a leader in the power distribution industry, ABB has a full range of expertise and ability to draw upon existing and proven solutions:

- As a Main Electrical Contractor (MEC), ABB can take a single point of responsibility and offers to undertake “design & engineering, procurement and supply, project management, installation, commissioning and smooth start-up” of the overall electrical system for the customer
- As a Main Automation Contractor (MAC), ABB can also offer the above services for automation or integrated control and safety systems
- As a total integrated solution provider, ABB also offers both MEC and MAC together

An optimal operation philosophy starts with the right system design in the early field development concept phase.

Early involvement from ABB expertise on integrated operations ensures the right decisions are made throughout a development project to gain maximum benefits across the asset lifecycle.



When would you use a MEC?

When you want the responsibility for managing the total power distribution package, from the project concept stage through to operations healthcare, to reside with an experienced MEC such as ABB.

What is the role of the EPC?

ABB's product and industry knowledge can add value to the EPC's core skill base. Often the MEC role is totally integrated into the EPC's project team, taking over the risk and responsibility for work packages from the EPC adding value to the EPC and the end user.

The Electrical Systems Group offers the MEC solution.

Engineering value into your electrical system

- Conceptual design and Engineering
- Product definitions, specifications
- Electrical System Engineering
 - Short circuit calculations
 - Protection and coordination study
 - Network study
 - Load flow analysis and calculations
 - Heavy motor starting
 - Arc flash calculations
 - Harmonic calculations
- Interface Engineering – control signal exchange
- Layout designs/plans
- Detailed/Volume engineering, cables sizing, earthing etc.
- Installation Engineering

Project Management

High quality and professional project management services.

ABB's Electrical equipment offerings

Design and Engineering, Procurement and Supply, Project management, Installation and commissioning ensuring smooth start up of the asset:

- 220KV or 110kV Gas Insulated Switchgears (GIS) with IED's & control panels
- Power transformers – typically from 10MVA-100MVA
- 35KV GIS with mounted IED's or Relays
- 11KV, 6.6KV, 3.3KV Air Insulated Switchgears (AIS) panels with mounted Relays
- Distribution transformers – typically from 50KVA-4MVA (Oil type & Dry type – Cast Resin, Resibloc)
- LV MCCs (690V, 400V) – conventional type
- Intelligent LV MCC – with UMCs, MNSiS
- MV and LV Variable Speed Drives (400V, 690V, 6.9KV) including Drilling drives
- Large variable-speed synchronous motor drives (LCI) from 2 to 72MW
- Motors (MV and LV)
- Generators with control panels
- Power Management Systems, SCADA or EDCS based on IEC61850 communication with Relays

Third Party items (including but not limited to)

- Local Equipment Rooms, Electrical Houses in steel – Blast proof, Fire rated etc.
- UPS, DC systems, NGRs, PF Capacitors, Harmonic filters, Cables

Site services and Management

- Supervision of Installation and Commissioning of all the equipment in scope
- Training
- Smooth start-up services

Lifecycle Services (post warranty)

Offer site Operational and Maintenance support post warranty for all equipment, Third party and customer supplied equipment for fixed agreed long term time periods.



Why choose ABB

ABB is the world number one supplier of high and medium voltage technologies and distribution transformers. Focused factories, strategically located close to all of its main markets, ensure reduced shipping costs, on-time delivery and comprehensive after-sales support.

ABB has the ability, experience, tools and product offerings to turn a client's single line diagram into a fully installed, documented and maintained integrated electrical power distribution and protection system. Very few other companies have this scope of supply and product offering.

ABB can supply a common hardware and software solution for the integrated process automation, electrical control and power management systems, thereby reducing cost/risks and increasing operational efficiency.

What is the alternative to a MEC?

The traditional engineering and procurement cycle is the only alternative to a MEC.

This leaves interfaces unmanaged and disparate non-compatible supply chains. It requires heavy interface management by the EPC or client.

Benefits of the MEC service

- Competent system and product engineering – all done from single source and location reducing total hours
- Efficient engineering and interface management
- Proven technology and solutions – provide enhanced reliability
- Professional project management to ensure timely progress
- High quality documentation – all from a single source
- Overall reduced commissioning and start-up time (due to good interface engineering and compatible technology – all from a single source)
- Global presence for after sales service and support
- Excellent value to end customer. ABB has unique benefit of offering Electrical, ICSS and Telecom engineering and project management - all from the same location as a combined MAC/MEC solution
- Overall huge cost savings for any customer over the life cycle of the project (considering CAPEX+OPEX).

Assured and certified products, services, delivery and execution.

For further information please contact:

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