

E-House solutions For oil, gas and petrochemical industries

Introducing ABB

ABB is a leading solutions supplier of power and automation products for the oil, gas and petrochemical industries. In addition to the supply of leading edge equipment, ABB provides fully engineered solutions in accordance to the individual needs of each customer.

Customized E-House solutions



An E-House is a pre-fabricated, walk-in, modular, outdoor enclosure designed to house a range of electrical, automation and telecom equipment and ancillaries.

A self-contained customized solutions.

Traditionally companies in the oil and gas industry receive their switchgear, drives, periphery distribution equipment and automation systems from multiple electrical equipment suppliers and obtain the electrical house from a fabricator. But the need to reduce risk, costs and delivery time has steered the industry away from this practice.

Today, there is a clear trend toward delivering an integrated, installed and pre-commissioned electrical and automation system together with the complete electrical house. ABB has just the right portfolio to meet this demand and has already delivered many such installations.

Expertise earned through experience

The footprint, layout and management of E-Houses are indirectly affected by the dynamic changes in industry requirements and the introduction of enhanced systems and products. Over the years, ABB has built up flexibility in its design and execution methodologies that constantly optimize each of these factors to ensure a cost-effective solution is provided to the customer.



Application

ABB's E-Houses are customized to suit various environmental conditions and applications. Our extensive experience and proven engineering, design, fabrication, assembly, testing and transportation allows us to customize effectively in accordance to requirements. This has resulted in successful projects that meet international standards with the highest level of professionalism.

Offshore E-House buildings:

- FPSO
- FSO
- FLNG
- Wellhead platform
- Processing platform

Onshore E-House buildings:

- Onshore Oil & Gas upstream and downstream facilities
- Petrochemical & chemical plants
- Mining



Typical structural details

Structural codes	As per AP1 RP 2A WSD
Module analysis software	Using SACS or STAAD Pro software
Structural materials	ASTM A36 or ASTM A53 or EN 10025 (2004) Grade S275JR or BS 4360 grade 43B for beam and plates API 5L or ASTM A106 for tubular pipes ASTM A500 or EN 10219-1:1997 for structural tubing in rounds and shapes
External steel wall	Mild steel crimped plate, thickness in accordance to project requirement
Internal steel wall	Thickness in accordance to project requirement
External roof	Mild steel plate, thickness in accordance to project requirement
Base frame, columns and flooring	Floor thickness in accordance to project requirement Thermally insulated underside Floor construction meets A60 fire rating
Lift arrangement and devices	Lifting pad-eyes provided on the lower deck Single point lifting arrangement provided
Wall mounted equipment	Equipment, panels and cabinets secured by steel angels or 'u'channels
Fire and blast rating	Exterior wall, roof and underside insulated with non-combustible mineral wool Internal partitions and internal roof insulated with metal liner panels and rockwool All the external and internal doors and frames are made of SS316 material and designed according to A60 fire rating



Typical equipment in E-House

Electrification and instrumentation	
Emergency lighting	Emergency lighting with 1.5hrs battery power pack
Multiple cable transit (MCT)	Mild MCTs' provided
Cable ladders/trays	Outdoor cable ladders/trays are made of SS316L material Hot dipped galvanized for indoor
Switchgears	Designed based on project requirement
Transformers	Designed based on project requirement
Drives	Designed based on project requirement
UPS and DC supply	Designed based on project requirement
Bus ducts	Designed based on project requirement
Automation	Distributed control system and safety system, designed based on project requirement
Heating, ventilation and air-conditioning (HVAC)	Ex'd or non-Ex'd rated 2 x 100% HVAC unit Split air-conditioner with climate control for specific applications Zone 1 ventilation system for battery applications Ventilation system for transformer and drives applications
Fire protection system and communication system	
Fire detection system	Smoke/heat detectors and manual call points will be installed and wired up to fire alarm panel (FAP) All FAPs' are connected to the main FGS panel
Fire suppression system	Inergen or CO2 system Portable CO2 fire extinguishers provided at each entrance throughout the E-House
Warning sign	WARNING SIGN for the discharge of fire extinguishing agent provided
Communication system	Communication equipment is provided throughout the E-House meeting the requirements of the certification
Lighting	Internal and external lighting

One stop solution

ABB has a complete suite of electrical and automation products required for a complete E-House solution. Coupled with full engineering capabilities ranging from structural, electrical to instrumentation, we are able to provide greater flexibility and minimizes interface for customers.

E-house utilities

- Heating, ventilation and air-conditioning (HVAC)
- F&G detection system
- Fire suppression system
- Internal and external lighting system
- PA/GA system

Electrification & Instrumentation

- Low voltage MCC and switchgears
- Medium voltage MCC and switchgears
- Low voltage and medium voltage drives
- Transformers
- Integrated controls and safety system
- Power management system
- UPS and DC supply
- Bus ducts



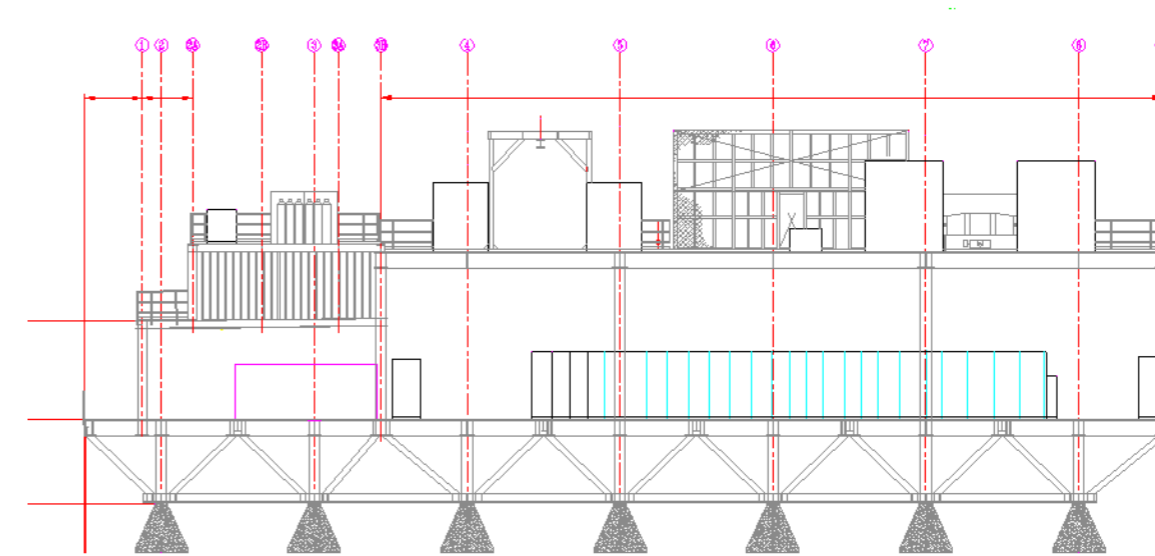
A partnership you can rely on

ABB believes in long term partnership built through credibility and expertise.

Market credibility. ABB adheres to our Code of Conduct, which contains our core set of values and guiding principles. It sets a group-wide culture where employees are expected to uphold the highest standard of ethical behavior and integrity. This translates to high business ethics and integrity to our customers.

Engineering. Customers can be assured of the highest engineered E-House solution by a team of highly competent engineers with backgrounds ranging from structural and electrical engineering, to automation and instrumentation. These multi-discipline engineers are responsible for front end engineering design to detailed engineering design. ABB also ensures every project goes through rigorous engineering good practices and adheres to international or industrial standards.

Service. ABB believes in smooth transition from project execution to post-execution support, to minimize support disruption to customers. We are able to provide customized service plans based on our customer's needs. These include troubleshooting, 24/7 hotline support, spare parts delivery, repairs, system upgrades and maintenance.





Management



Benefits of ABB's E-House solution

- Low investment risk
- Shorter lead time
- Operational effectiveness and flexibility
- Effective change management during project execution
- Product life cycle support
- Standardized equipment gives ease of service and maintenance
- Responsibility for interface engineering provided
- Field proven technology
- Products from a comprehensive portfolio ensuring ease for future modifications
- Engineering application expertise
- Comprehensive documentation provided
- Professional project management
- Certified in accordance with ISO quality standards
- Occupational health and safety design features
- Single contract for different functional disciplines

Project management

ABB understands project management is a key driver for value creation throughout the project life cycle and fulfils the expectations of the customer and other stakeholders. Hence, all project managers go through rigorous training and are certified before they are tasked with project responsibility.

A dedicated project manager will be assigned to the project from the initial design phase right up to the construction phase, where he will be assisted by a site/construction supervisor/manager.

Construction and site management

Health, safety and environmental issues are of utmost importance to ABB. Hence, a site/construction supervisor/manager is assigned once the project moves to construction phase. He will be in charge of managing site related issues, including maintaining safety at site and adhering to the OHSAS 18001 standard.

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