



Oil and Gas UK

Life cycle services for control and safety systems

World class service support

ABB has world class experience in specifying, installing, maintaining, managing, developing and troubleshooting industrial control, safety and information systems. This has allowed a long and proud tradition to be built up providing service support to industry both in the UK and worldwide. ABB's commitment to the long-term support of its systems is recognised in the industry with some 1970's systems still in operation and supported today.

Oil and gas service centre of excellence: Aberdeen.

Aberdeen is the location of ABB UK's oil and gas service centre of excellence, the support engineers of which are managed, trained and equipped to provide hardware, software and development support for ABB's oil and gas customers. Support engineers can be quickly mobilised to site as service response is available 24 hours a day, 365 days a year.

This centre specialises in the offshore and onshore support of critical control and safety systems, providing customers with an appropriate mix of services to ensure their production, safety and development requirements are met. The oil and gas service centre of excellence has control system engineers trained and experienced in control, fire and gas, emergency shutdown and general information technology applications. In addition to having a strong presence in Aberdeen, ABB has service engineers located throughout the UK.



Support services

System support is an essential element in the life of any system, regardless of size, and the oil and gas service team is ready to provide you with the appropriate mix of services for your needs. ABB's large and varied suite of support services are specifically designed to meet your production requirements in normal operating conditions and in critical, emergency situations.

For emergency support ABB offers 24 hour technical support and mobilisation to site within hours. A response to an emergency support call at any time of the day or night is typically answered within 30 minutes. This is enhanced with ABB's managed problem escalation service which gives access to ABB's research and development engineers.

For support during normal conditions, ABB's services include healthcare, system development, modifications, spares, training and advanced specialist support.

ABB welcomes the opportunity to discuss your site's support philosophy to ensure operational requirements are fully met from initial commissioning to the final years of site operation. Examples of ABB's core services are detailed within this brochure.



Emergency response services

ABB's oil and gas service team offers a range of emergency support services. On-call engineers respond to customer's emergency requests for telephone and on-site assistance and resolution of equipment problems 24 hours a day, 365 days of the year.

Telephone technical support

Telephone technical support is available through a qualified engineer. It lets your staff report relevant faults and expedite solutions via the telephone. It also acts as the first point of contact for call outs and problem escalation. Outside of office hours it provides access to emergency spare parts supply.

Emergency response to site (engineer call-out)

ABB's on-call engineers are fully trained, mobile and equipped to respond to customer requests for on-site assistance and resolution of equipment problems. ABB can mobilise an engineer to arrive at a heliport within 12 hours. This is a maximum and ABB will endeavour to reach site as quickly as possible in the event of a breakdown.



Emergency response services

Fault escalation through ABB's worldwide Support Line

Access to ABB's worldwide managed problem escalation system is available via Support Line. The Support Line is staffed by engineers who are experts in their field, using a "follow the sun" methodology to provide worldwide 24 hour x 7-day support. The managed escalation system run by this team gives access to research and development and design level engineers, should this be required. Support is provided remotely to an engineer on site.

Solutions Bank

Solutions Bank is the global ABB portal of web based support services for the location and sharing of technical knowledge and information. It offers state of the art communication tools to improve the quality and efficiency of ABB product support and problem resolution. Solutions Bank functions include:

- (1) an effective and efficient means of keeping up-to-date with all issues pertinent to the ABB equipment installed at site;
- (2) access to valuable product operation and maintenance information; and
- (3) fast, easy, around-the-clock access to a knowledge base containing valuable up-to-date hardware and software solutions.

24 x 365 access to ABB's worldwide parts logistic service

ABB has a UK and worldwide emergency spare parts logistic team that supports ABB's on-call engineers out of office hours. It is available 24 hours a day, 365 days of the year. This allows priority part replacement orders to be placed at any time of the day or night with access to ABB inventories worldwide. Similarly, warranty failures or repairs can be handled at any time of the day or night.



Preventive maintenance

ABB's oil and gas service team offers preventive maintenance services consisting of regular, planned inspections and core healthcare activities which deliver an effective life cycle performance in terms of longevity, quality and reliability.

Healthcare visits

ABB healthcare visits provide key planned maintenance and site support activities carried out by an ABB engineer at regular times throughout the year. Such activities include monitoring the ICSS and associated systems; organising and performing corrective actions to return ICSS to specification; recommending changes to parameters within the ICSS; recommending amendments to control procedures, technical procedures and work instructions for work on the ICSS; providing hands on training for site personnel; providing first line maintenance including general cleaning and visual inspections; checking of system alarms and recording of errors; perform obsolescence reviews; provide application software support; provide system software and hardware upgrade support.

Resident engineer

ABB can provide a resident engineer for those sites requiring continuous daily support. ABB can organise and manage all daily maintenance and site support activities. In addition to providing weekly healthcare services (see above) ABB's aim is to become an integral part of your production support personnel.

Reference system storage and maintenance

With this service, key system components matching those in use on the live plant are built into a customer reference system and can be housed at ABB's Aberdeen offices. This provides a safe and secure environment in which to validate and test system changes without impacting production in any way. ABB ensures the reference system is maintained and made available for modification work, testing, proof of concept work, training etc.

Engineering hours bank

Engineering support in the form of an "hours bank" can be provided for use in the contract year. This brings stability to the planning of operational expenditure and keeps administrative overheads to a minimum. Delivery of the hours is managed by ABB through office based engineers. The hours bank can be used for provision and management of engineering changes, workpacks, software engineering and healthcare.



Spare parts logistic support

ABB offers spare parts support tailored for your needs. Aberdeen is the location of ABB UK's spare part logistics department where staff are specifically trained in the acquisition and delivery of spare part services for ABB's customers. In addition to providing a professional parts replacement, warranty and repairs service the department holds and manages bonded system spares for individual customers and sites.

A variety of parts stock holding services are offered including:

Parts management

ABB gives peace of mind with a comprehensive parts management service. ABB provides, manages and replenishes an ABB owned stock of spares, typically held at two locations:

- Priority 1 spare parts considered critical to the operation of the ICSS. These are held at the system location for use by ABB or the system owner.
- Priority 2 spares of a less critical nature or as a back up to the Priority 1 items. These are held at an ABB location.

As part of an all 'inclusive' service, delivery and restocking of all items used is managed by ABB.

Parts lease arrangement

Where ABB can offer a store of spare parts to be placed on site, under cover of a leasing agreement for an agreed period of time.

Bonded stock, ABB managed

Where ABB can offer to hold a bonded store of customer owned parts. This agreement will provide ABB inventory management of the bonded store for an agreed period of time.



Evolution

ABB provides a cradle to cradle, step-wise system evolution approach that protects your major automation system investment. This delivers a robust, reliable and supportable system throughout its lifetime. ABB assists customers in choosing the evolution path and pace that is right for them and their business goals. Regardless of whether your investment is 1, 5, 10, or 15 years ago, your automation system remains a vital part of your business and manufacturing strategy. With Evolution your investment is enhanced and extended for years to come in a way that presents the lowest life cycle cost and lowest risk. ABB can provide a traffic light analysis report on your system status which captures the life cycle status and supportability of your system as follows:

RED: The equipment is no longer current and is also beyond its Classic life cycle phase whereby limited support is available from ABB with no guarantees of support or parts being available. The earliest possible replacement of this equipment should be considered with ABB's recommendation of the most suitable Evolution product / system.

AMBER: The equipment is in its Active life cycle phase but not the latest revision and ABB recommends upgrading to latest revision. Alternatively the equipment is now in its Classic life cycle phase with limited support being available for X years only and replacement with ABB's recommended Evolution product / system should be considered for installation prior to expiry of its Classic life cycle phase.

GREEN: The equipment is in its Active life cycle phase and is fully supported.

Evolution site audit / plan with yearly updates

When you wish to address the evolution of your system, a comprehensive audit will be carried out securing an understanding of your business drivers and resulting in the following:

- ABB will submit a 3 to 5 year plan to be reviewed and revised as necessary. ABB's incremental approach supports flexibility, and allows for changes to the plan as may be required over the course of time.
- ABB will identify and target which facilities are at greatest risk for production loss and those that have the greatest potential for increased production. As each phase is identified, ABB will provide value assessments and return-on-investment support for consideration in order to facilitate successful project appropriation requests.
- The long-term plan will be reviewed and updated yearly to reflect your changing business needs. This approach helps to stabilise your budgeting process. As part of this planning, specific projects can be identified and initiated.
- ABB will issue a separate proposal and quotation for the supply of equipment and/or services in order to implement planned recommendations for year one, and annually thereafter on the basis that the previous year's recommendations have been implemented.



ABB works with you throughout the life cycle of your system ensuring that it is fully supported at every stage.

Training

ABB's university based in Stone, Staffordshire offers a broad choice of automation courses. The university provides operation, maintenance and engineering training on a wide variety of ABB products, solutions and know-how. The university delivers training at its premises in Stone or other ABB facilities in the UK. Many of the courses are also available as e-learning where learning can be accessed anytime from any location.

The university runs a programme for new starters in the oil and gas industry. Mapped over a four month period, the module accelerates the learning pace and prepares each employee for the practical challenges of working on a live oil and gas installation.

In order to assist customer's in assessing their employees technical training requirements on installed ABB equipment, ABB offers a needs assessment survey whereby ABB will investigate with you the current knowledge level of your operators, maintainers etc with regard to the ABB equipment / system with which they are working, ABB will then make recommendations, within a needs assessment report, on best-fit training courses to fill any knowledge gaps.



Advanced services

ABB offer a range of services that go beyond the normal day to day support activities associated with a modern control and safety system. The following examples are just some of the additional advanced services which ABB offers.

Engineering modifications

A core element of healthcare services is the ability to safely execute modifications on your control and safety system following alignment with the relevant IEC standards. ABB has a wealth of experience in delivering such modifications whether they are minor or involve a significant upgrade. As part of an ABB service contract ABB can provide such modification work at reduced, preferential rates.

ABB “SPOC”: your dedicated system and asset specialist

ABB can offer you a dedicated system and asset specialist who will provide core healthcare management of technical issues and queries; consistent handling and management of engineering changes, workpacks and software engineering; while controlling costs within budget without compromising safety and integrity. Through your “SPOC” ABB will provide

a continuous improvement philosophy for your system’s reliability and availability. This is achieved through proactive preventative maintenance, defect elimination, planned and shutdown maintenance. Furthermore, alignment of high potential risk modifications will be planned in conjunction with appropriate production opportunities.

Other examples of advanced services include:

- SIL determination
- CHAZOP planning
- Human factors and alarm management consultancy
- Slug mitigation (advanced flow control)
- Digital security
- Remote support

The above services are only some of those available from ABB’s vast experience and broad portfolio of industrial solutions. ABB prides itself on the ability to tailor support strategies which increase the productivity and reduce the energy consumed for customer’s assets.



Contracts

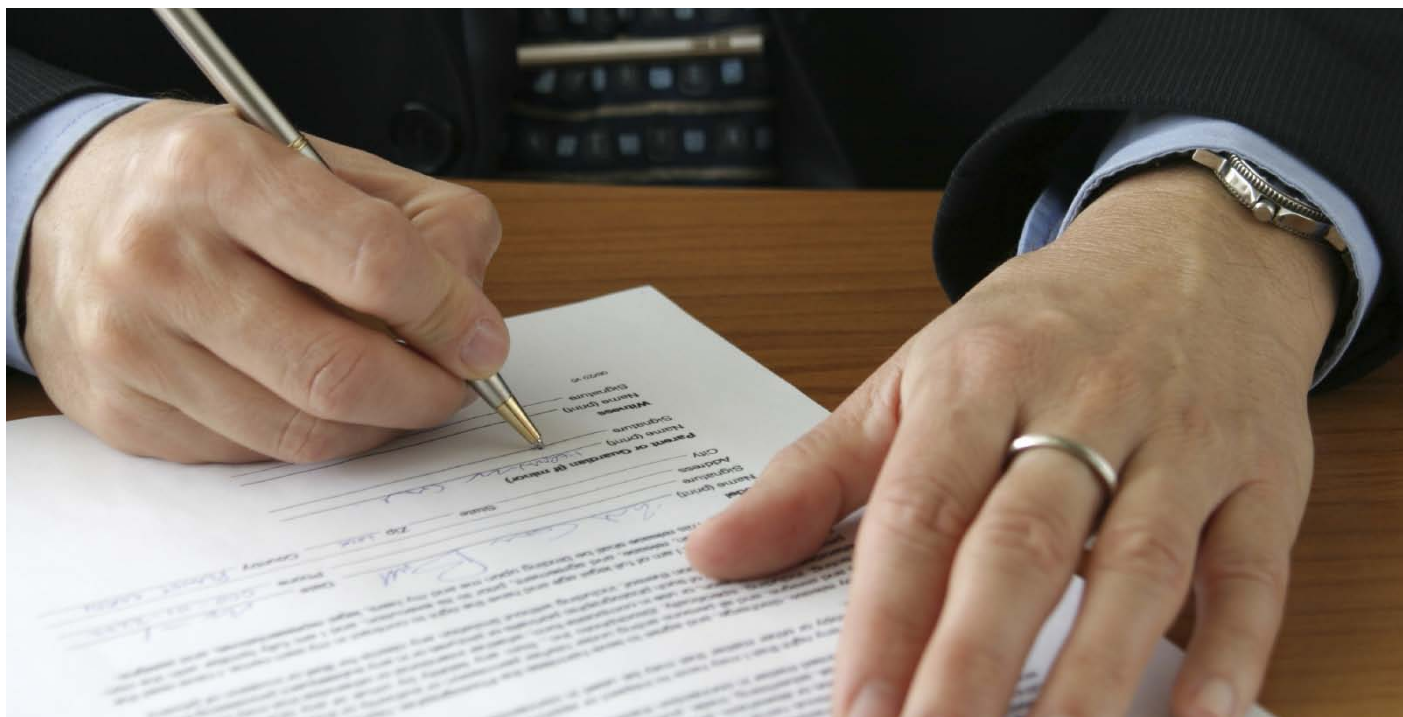
ABB offer a full range of support agreements for delivery of the services described within this brochure. These support contracts vary from the provision of a few core emergency response services (where the operator takes ownership of all “day to day” support needs) through to complete system support with an ABB presence on site to implement changes required on the system and respond to operational issues within minutes. Often, combination agreements are set up where intensive system support is provided for an initial period, with support being scaled down during a later phase to match the long-term support philosophy of the site. As a further step, ABB can offer a site-wide full service offering which assumes full responsibility for all site maintenance operations.

Preferential rates

Preferential rates will be provided for all modification and maintenance work carried out under a service contract agreement. The preferential rates represent a significant saving on the rates that apply for customers who do not have a service agreement with ABB. An agreement also ensures maintenance requests are prioritised over work requested from non contract customers.

Contract management

Labour pool and resource management will be provided to ensure efficient delivery of the contract scope; including management of legal and contractual issues, cost monitoring, remedy negotiation, performance evaluation and the management of technical, performance and relationship issues.



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