

# solutions



## Nuisance alarms reduced by 50%

Reducing the impact of nuisance alarms for SABIC

PEL software ensures Syngenta plant reopens on time

A rapid approach improves Ensus' plant efficiency

ExxonMobil and ABB jointly awarded RoSPA gold medal

Major decommissioning and demolition project at Ferrybridge power station

ABB to support Milford Haven refinery as Principal Designers



**Peter Hunt**  
Business Development Director  
ABB Consulting

## Welcome to the winter edition of the ABB Solutions newsletter.

In this edition we discuss strategies for getting things right at the front end of the project lifecycle, including RAPID, a technology driven approach to developing a sanction estimate, we also have great case studies from Sabic, Syngenta and Ensus covering issues such as alarm management, plant improvement and process engineering software.

Recognising the continuing challenges facing industry to manage assets both safely and cost effectively, and safely through late life into end of life, we celebrate the achievements of the ABB site investigation, demolition and remediation team, who have, jointly with ExxonMobil, been awarded their 9th RoSPA gold medal.

The team has also been appointed as the project Construction Design and Management (CDM) principal designers for the dismantling of a former refinery in Milford Haven, South Wales. Approximately 60% of the process units will be dismantled and rebuilt outside the UK and ABB's track record of safety and bringing projects of this type in on time and budget was key to this significant achievement.

As always we have selected a round-up of recent ABB conferences and seminars, and key industry events. Extra to the ABB program this year are a number of IEC 61511 breakfast briefings with great feedback from the delegates so far on the shared learning.

We hope you enjoy the newsletter and if you have any feedback or comments we would love to hear from you.



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1. Delegate engineers at the event. | 2. The delegate engineers in the control room. | 3. The delegate engineers in the carbon capture pilot plant.

# ABB hosts process industries technical development day

ABB has collaborated with Imperial College, London, in equipping the largest carbon capture pilot plant in any academic institution and the only one of its kind in Europe. Although the primary use of the plant is teaching undergraduate and postgraduate students ABB is ensuring that the facility provides training in the latest technologies for those already working in industry.

ABB's process industries technical development day was attended by engineers from the chemical, pharmaceutical, and energy industries across the UK and included a number of technical inputs from ABB consultants and Imperial College lecturers covering:

- The history and future of automation
- Considerations in instrument design
- Effective trips and alarms across the safety management lifecycle

After the lecture sessions the engineers had the opportunity to walk the plant, identifying different measurement technologies and discussing the reasons behind their use on different fluids, or in different locations. They were able to engage with the control room systems and examine the capabilities that could be harnessed in the event of an emergency response.

They were also taken 'into the classroom' to identify control loops and philosophies on the P&ID.

ABB has invested close to £1 million in supplying the very latest equipment including measurement products such as flowmeters, level control equipment, pressure and temperature transmitters, positioners, paperless data recorders, analysers, variable-speed drives, motors, enhanced operator workstations and a distributed control system. The plant also includes wireless technology and the most up-to-date management of alarms in safety critical applications.

All communication protocols including Foundation Fieldbus, Profibus DP and PA and wireless Hart are utilised. At the heart of the plant is the ABB Control Room housing Extended Operator Workplace (EOWs) and our system 800xA distributed control system from where operators can control and supervise the installation.

This years technical development day will be held on the 29<sup>th</sup> March.

If an event like this would be of interest to your engineers or for more information please contact Andy Smith.

"This was a great and interactive course. I will definitely recommend it for all our graduates. Thank you all!"

Johnson Matthey

"The ABB engineer was great in the pilot plant, I would be happy to have him walking us through more of the instrumentation on show."

JM Davy Technology

"The knowledge of the people involved along with the hands on activities made it a very informative day - Thank You."

Ureco

For more information please contact:  
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Email: andrew.j.smith@gb.abb.com



# Reducing the impact of nuisance alarms by 50%.

SABIC UK Petrochemicals Limited operate two ethylene pipelines in the UK. Using ABB's Alarm Insight software, the team were able to analyse the alarm and event messages in accordance with the EEMUA guidelines. SABIC are now able to demonstrate to the HSE that important alarms are being properly managed to help ensure safe operation of the pipeline, meeting the improvements in alarm management mandated by government regulators and insurers and demonstrating good practice to stakeholders including consumers, neighbours and the wider community.



Figure 1: Pipeline map.

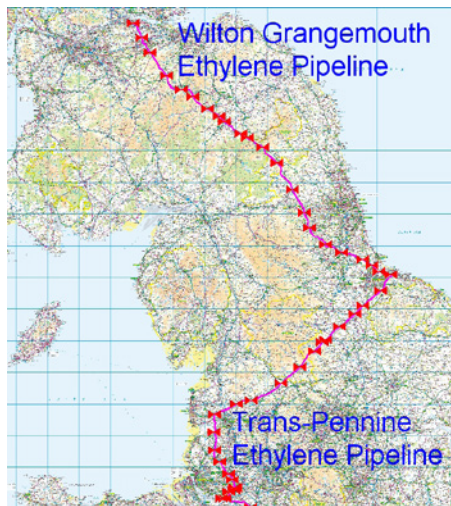
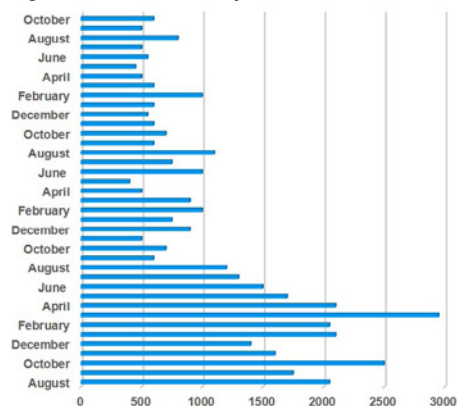


ABB Consulting have managed the SCADA (Supervisory Control And Data Acquisition) system controlling the SABIC Ethylene pipeline network for many years. Ethylene is a highly volatile chemical transported at high pressure in underground pipelines between the major producers and consumers in the UK.

The SCADA system collects process information from a number of unmanned valve stations located along the length of the pipeline via telemetry links. In addition to the process conditions, (pressure, flow, temperature etc.) the system monitors the state of the cathodic protection system, and the valve station installation. The pipeline maintenance team routinely test all the alarm systems at the valve stations, and it is this activity which results in significant fluctuation in the number of alarms recorded each month as shown below in fig 2.

Fig 2: CCPL alarm history.



SABIC (Saudi Arabia Basic Industries Corporation) is a Saudi diversified manufacturing company, active in chemicals and intermediates, industrial polymers, fertilizers, and metals.

SABIC wished to meet best practice in alarm management and engaged ABB to carry out an alarm rationalisation project.

- The impact on operators was reduced by 50% as average alarm rates were reduced to 1 alarm per hour and the peak alarm rate reduced from 28 alarms in a 10 minute period to 14
- SABIC were able to demonstrate to the HSE that leak detection and other important alarms are being properly managed to help ensure safe operation of the pipeline
- Meeting the improvements in alarm management mandated by government regulators, insurance companies and the businesses own corporate standards
- Demonstrating good practice to stakeholders including consumers, neighbours and the wider community

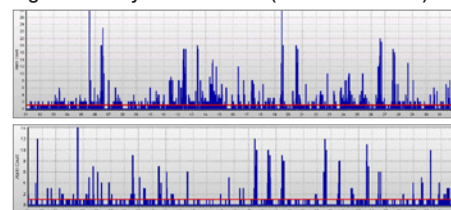
A multi-disciplinary team comprising of SABIC personnel from operations and maintenance along with ABB consultants performed a fundamental review of the alarm system looking at a number of factors.

- The capabilities of the SCADA application software
- Operational requirements (e.g. process, maintenance, leak detection system)
- Alarm priorities and message groups
- Alarm limits and hysteresis to minimise nuisance alarms
- Derived alarms, recognising process conditions giving rise to multiple alarms
- Alarm flooding as a result of telemetry or other system upsets
- Reclassification of alarms as events where no operator action is required

The exercise was successful in eliminating problem alarms. Nevertheless, limited evidence to demonstrate system performance was being collected, due in part, to the lack of analysis capabilities in the SCADA system.

To overcome this, ABB introduced routine monitoring of the alarm system performance. Using ABB's Alarm Insight software, the team were able to collect and analyse the alarm and event messages produced by the SCADA. Alarm Insight allows alarms and events to be analysed in accordance with the EEMUA guidelines, and provides metrics for alarm rate and individual alarm frequency. This information was reviewed on a monthly basis to identify possible areas of further continuous improvement.

Fig 3: Monthly alarm statics (before and after).



The reduction in alarms generated is illustrated in fig 3. The system operates within the EEMUA 191 guidelines of less than one alarm every ten minutes (the red line on the graph). The number of peaks (primarily associated with routine testing) is about the same as expected, but the impact on the operators of nuisance alarms since the analysis has been reduced by 50%.

SABIC have since upgraded the WGEF SCADA system to a new hardware platform, and are planning to upgrade the TPEP system in the near future. By conducting a formal alarm review as part of their project process, SABIC will ensure that the lessons learned from many years of operation will be properly captured and applied to the new systems.

For more information on alarm management please contact Colin Bartliff on: +44 (0)1642 372141 or Email: colin.bartliff@gb.abb.com

# ABB's software used for technology development



Syngenta India's site at Goa faced an issue with fumes after commissioning new venting equipment while the active ingredient manufacturing plant was closed for annual maintenance.

Unless a quick solution to the health hazard could be found, the plant start-up would have been delayed with a potential loss of \$1 million. After attempting various fixes, the local team found itself contemplating an expensive and time consuming re-engineering solution suggested by the supplier of the equipment.

As a last resort the local engineering team posted an appeal for help on Syngenta's internal process technology discussion board.

Within days of the appeal being posted, a process engineer in the UK, familiar with PEL Flonet, having used it over a number of years on different projects, recommended using ABB's PEL software to model the venting systems to identify the source of the problem.

After gathering further details, he was able to guide the Goa team through the construction of a model of the venting system. PEL's shallow learning curve allowed the Goa team to identify the cause of the venting problem quickly. Once identified, they were then able to simulate potential solutions, and rapidly identify a cost effective solution so that the plant could re-open on time.

"I know Flonet well and was confident the software, for which Syngenta already had a license, would provide the team in Goa with the information they needed to make a simple and speedy fix."

David Sparkes,  
Contract Process Engineer,  
Syngenta - Grangemouth



Syngenta AG is a global Swiss agribusiness that produces agrochemicals and seeds. They apply world-class science and the most productive research and development in the industry to achieve a step change in agricultural productivity.

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## Feasibility study to improve plant efficiency

Ensus UK Ltd at the Wilton site operate one of the largest bioethanol production plants in Europe.

Crop Energies, Ensus' parent company, have continued investment at the Wilton facility on Teesside, including considering options for uprating parts of the process and projects that explore improving plant efficiency.

Over the last 10 years ABB Consulting have been involved at the Ensus plant providing services ranging from

supporting the team with technical engineering, process safety consultancy and legislative compliance for the statutory inspections of pressure equipment.

More recently ABB have been working with Ensus on a basic engineering package and estimate that considers options for improvements in the evaporation section of the plant.

Using ABB's rapid approach to cost estimates our multi-functional teams kept costs to a minimum by using our process and guiding philosophy that the estimate should drive the engineering deliverables produced, thereby keeping

them focused and to a minimum whilst retaining flexibility as the project develops at this early stage.

This approach provides a robust cost estimate and also allowed for a quick response to meet Ensus' tight time frame, with the work completed in just seven weeks and to budget. Commercial risk reviews were also held with the Ensus team and these identified areas requiring further definition during the next planned phase of the investment.



Ensus UK Limited, operates one of the largest production plants for bioethanol in Europe. Ensus is a member of the CropEnergies Group, which is one of the leading European manufacturers of sustainably produced bioethanol for the fuel sector.

For more information on feasibility studies contact: Mike Hird on +44 (0)7703 504341 or Email: [mike.hird@gb.abb.com](mailto:mike.hird@gb.abb.com)



# Safety by design

## The inherent safety way

Major accidents causing harm to people and the environment and massive costs to businesses occur too frequently in the process industries.

Investigations typically reveal a familiar catalogue of failures to control the risks associated with processing large quantities of hazardous materials. Preventing such accidents traditionally relies on multiple safety systems, but experience shows that complacency can lead to a situation where all of these barriers have become impaired.

An alternative to relying on multiple layers of protection to control risks is to eliminate or minimise the underlying hazards within an operation, using an inherently safe approach.

Investigations into major accidents are increasingly focussing on the need to improve the inherent safety of processes.

### **Inherent safety principles**

Traditional process safety approaches generally result in 'add-on' safety features such as safety instrumented systems and relief streams, that are costly to install and maintain.

By comparison, Inherent Safety in Design (ISD) provides an opportunity to eliminate hazards or reduce their

severity by improving the fundamental design, whilst potentially reducing the overall capital and operating costs.

Table 1 describes the principles of inherent safety, which can be applied to specific hazards to identify options for increasing the inherent safety of the basic process design.



**Table 1: Inherent safety principles.**

Principle	Interpretation	How
Elimination	Avoid the hazard completely	Change the process, design, layout or activity
Substitution	Reduce the hazard severity by changing nature of hazard	Use less hazardous substance or process equipment
Minimisation Also called 'Attenuation'	Reduce the hazard severity by changing quantity of hazard	Reduce the inventory of hazardous substance
Moderation	Reduce the hazard severity by minimising the impact of a release	Use less hazardous form of a substance or moderate the processing conditions
Segregation	Limitation of effects reducing potential for hazard to cause harm	Use of physical separation distance or physical barriers between source of hazard and people / environment
Simplification	Reduce the hazard likelihood	Design of equipment and procedures to reduce complexity or reduce frequency of hazardous activity or eliminate opportunities for error or increase the chance of recovery

### Benefits of applying ISD

The benefits of, and opportunities to apply inherent safety are greatest early in the project, before decisions have been made on the choice of equipment. At this stage the design only appears on paper, allowing significant changes to be made that can achieve substantial reduction in risks, at relatively low cost.

The most inherently safe process will not always be the most economic to build, but elimination of failure mechanisms, major accident scenarios and inspection / maintenance requirements that ISD can deliver will reduce cost throughout the plant life cycle.

### Legislative drivers

There is increasing expectation from Regulators that inherent safety is assessed during the early stages of design, and failure to comply with these requirements could result in significant delays and costs at later stages of the project.

The EU Seveso Directive for requires duty holders to demonstrate "all measures necessary" to prevent and mitigate Major Accident Hazards (MAHs).

Guidance on the preparation of safety reports states that "inherent safety should be considered first, when feasible i.e. hazards should always be removed or reduced at source".

### Energy Institute (EI) guidance

The scope of the revised EI guidance on ISD states that companies should develop procedures to ensure that options to improve Inherent Safety are systematically reviewed throughout the design lifecycle, to ensure that all opportunities to eliminate or minimize hazards at source have been assessed.

Table 2 is an example of a common hazard on process facilities and contrasts the traditional approach taken by design teams with an alternative inherently safer design option.

The EI guidance provides a staged methodology for applying ISD, starting with an Inherent Safety workshop during the early concept stage and linking with traditional HAZID and HAZOP studies at later stages of the project. The concept stage workshop has the objective of identifying process safety hazards and assessing options to eliminate the hazard or reduce severity.

A HAZID study at the subsequent FEED stage further identifies foreseeable hazard scenarios, and assesses if further measures are required to reduce risks to a tolerable level. It is recommended that procedures for HAZID studies are reviewed, to ensure that teams are encouraged to firstly explore inherently safer design options.

**"An inherently safer approach to hazard management is one that tries to avoid or eliminate hazards, or reduce their magnitude, severity, or likelihood of occurrence, by careful attention to the fundamental design and layout. Less reliance is placed on 'add-on' engineered safety systems and features, and procedural controls, which can and do fail."**



**Graeme Ellis**

Graeme is a Principal Lead Consultant with ABB Consulting and Fellow of the IChemE, with extensive experience of risk assessments in the high hazard process industry. With a long-time interest in Inherent Safety dating back to his days in ICI, Graeme was selected to author the EI Inherent Safety in Design guidance published in 2014.

For more information on inherent safety in design please contact: Graeme Ellis  
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Email: [graeme.ellis@gb.abb.com](mailto:graeme.ellis@gb.abb.com)

**Table 2: Example of inherent safety reducing overall costs.**

Hazard	Traditional approach	Inherent safety approach
Overpressure and rupture of vessel resulting from loss of pressure control at upstream HP/LP interface	Vessel designed for normal operating pressure and provided with high pressure trip isolating upstream pressure source plus pressure relief system designed for maximum flowrate	<b>Elimination</b> Provide vessel with design pressure above maximum credible pressure with contents at heating medium temperature
	<b>Comment</b> Additional costs to provide safety systems and maintain these during the facility lifecycle	<b>Comment</b> The cost of the vessel will increase due to requirement for thicker plates, but the costs of safety systems will be eliminated

# Front End Engineering Design

## A RAPID approach

It is becoming increasingly important to have a rapid and effective way of generating reliable project cost estimates and of knowing that the business case for an investment is viable.

Combining modern software packages with experienced project development engineers, allows reliable estimates to be produced for around a fifth of the cost of traditional approaches.

Front End Engineering Design (FEED) is the phase of a project during which a percentage of the overall engineering required for a project is completed, with the purpose of developing a sanction estimate. Capital cost has a major bearing on return on investment, so the sanction estimate is an important part of the investment decision.

Projects in the process industries vary enormously in terms of cost makeup, but generally engineering costs somewhere between 10% and 20% of the Total Installed Cost (TIC). FEEDs are often referred to in terms of shallow or deep, which relates to the quantity of engineering performed. Given shallow FEEDs start at 10% of engineering with deep FEEDs approaching 25%, a conventional FEED can cost in the region of 2%-3% of TIC.

### **A technology driven approach**

Over the last decade the UK market for FEED has changed as smaller operating companies have limited access to funds. As an alternative to the conventional FEED, powerful, software based estimating tools were developed. These made use of key data contained within commonly used engineering tools to generate more accurate estimates through the use of algorithms and data sets.

Process simulation software packages, used globally throughout the process industries, find the optimal conditions for a given process through the creation and manipulation of a heat and mass balance. Primary data is extracted from the process simulators and used as the basis from which to build a TIC estimate.

Based upon typical process plant configurations and densities, the estimating software can then approximate piping and cabling meterage, primary and secondary steelwork and foundations for the main structures and equipment items.

The costs for process control, emergency shutdown and power distribution systems are estimated from the instrumentation count and number of electrical drives. Line temperatures are assessed and where necessary, an allowance for thermal insulation is calculated.

Engineering and construction man hours are factored on the basis of these quantities. Costs for these services are then generated using rates contained within look up tables which are periodically updated.







### Accuracy improvement

Changes to the estimating model can progressively be made by the estimator to improve accuracy. The actual plant layout can be entered into the estimating model when known thereby improving the accuracy of calculated steelwork, piping and cabling quantities. Also, the estimated costs of main plant items can be replaced with manufacturer quotations.

Various other refinements to improve accuracy are possible including specific labour rates for different geographic locations, adjustments for local climatic and seismic conditions, various design codes, productivity rates and an annual update of the cost databases to reflect latest inflation.

### How accurate are the new software estimating tools?

Experience indicates TIC estimates generated straight from a process simulator without any additional data or refinements made by the operator are 40% accurate or better.

The input of the actual unit layout, vendor quotations for main equipment items, electrical distribution details, ground conditions, etc. will progressively improve the accuracy to 30% and better.

### Advantages

The primary benefit of the streamlined approach is it provides the information required for an investment decision at a fraction of the cost of conventional FEED. Instead of spending 2%-3% of TIC expect to spend around 0.5% using the streamlined approach. This offers a quicker route to sanction than the conventional approach.

A less obvious benefit is the flexibility for optioneering. The costs for differing capacities, configurations, technologies or locations can be relatively quickly evaluated without substantial rework. This allows value engineering studies to be completed in order to improve the overall business return for the project.

### Disadvantages

The estimating algorithms are driven solely by the equipment items contained within the process simulation and as such the costs for the infrastructure, offsites, utilities, instrumentation, electrical systems and distribution must be added or scrutinised by an experienced estimator.



**Peter Laing**

Operations manager for projects and engineering with over 25 years experience of delivering projects in the refining, chemicals and power sectors.

For more information on Front End Engineering Design please contact: Peter Laing on +44 (0)1642 372101 or Email: [peter.laing@gb.abb.com](mailto:peter.laing@gb.abb.com)

# ABB wins prestigious health and safety prize in the UK

ABB has won a top safety award from the country's Royal Society for the Prevention of Accidents (RoSPA), for the rigorous safety management, standards and performance applied in 2015.



Steve Andrew, ABB, receiving the RoSPA Gold Medal Award from Errol Taylor, RoSPA.

The joint ABB / ExxonMobil site investigation, demolition and remediation project team has been awarded the 9th RoSPA Gold Medal, its 12th RoSPA award in total.

With this accolade the ABB team has been recognised for setting the standard for safe site investigation, demolition and remediation projects, through leadership, dedication and commitment to delivering health and safety excellence.

“To win an award at such a highly-regarded event as the RoSPA awards is a great achievement for our winners. It recognises their commitment to maintaining an excellent health and safety record and raises the bar for other organisations to aspire to. We offer them our congratulations.”

Julia Small,  
Head of Awards and Events, RoSPA

The work associated with the award-winning project is predominantly located within city centre locations where land is for sale. To enable the land to be sold, it needs to be remediated to remove any potential historical environmental issues.

In delivering the project, ABB as the project managing contractor had overall responsibility for decommissioning, isolation, construction design and management co-ordinator / principal designer, land remediation and project management. ABB has applied its five stage demolition methodology to the project to offer ExxonMobil a safe, cost effective and complete solution.

The award was presented during a ceremony at the Hilton Glasgow hotel, as the event marked its diamond anniversary.

ABB is currently working on a number of other major decommissioning, demolition and remediation projects, including for clients in the pharmaceutical, oil & gas and power sectors.

“To win one award is a major achievement, but to keep driving and improving performance for over 13 years is incredible, and is tangible proof of the safety culture of the project team and the individuals involved. This has resulted in accident frequency rates on sites managed by ABB being significantly better than the national average.”

Steve Andrew, Demolition and Remediation Manager, ABB Consulting





Left: Jon Sowerby (Decommissioning and Demolition Consultant, ABB), Paul Hook (Decommissioning Manager, Ferrybridge Power Station, SSE), Steve Andrew (Head of Decommissioning and Demolition, ABB) and Simon Smith (Director of Decommissioning and Demolition, SSE).

# ABB wins major decommissioning and demolition project at Ferrybridge power station

ABB's engineering and consultancy group has been awarded a framework agreement contract to support SSE with decommissioning and demolition activities at Ferrybridge power station.

Ferrybridge Power Station ceased generating in March 2016, after some 50 years in service.

ABB has been appointed as the project Construction Design and Management (CDM) Principal Designers, in addition to providing a range of specialist consultancy and engineering advice on decommissioning and demolition activities.

"We are pleased to appoint ABB to this critical role following a comprehensive tender process and look forward to integrating their experience and best practice in decommissioning and demolition with SSE's approach to managing large capital projects to achieve a safe and cost effective outcome to enable the site redevelopment."

Simon Smith, Director of Decommissioning and Demolition, SSE

ABB's support started earlier in 2016, and will continue up to appointment of demolition contractor with the facility to provide further project support through the demolition phase. ABB has a worldwide reputation as a leader in supporting industry assets throughout their full lifecycle and was appointed following a competitive tender process.

Matthew Capstick, Account Manager for ABB's engineering and consultancy group said "ABB has a long-standing relationship with SSE, having delivered a range of engineering consultancy support across its power generation and gas storage assets over many years. This success will see that relationship continue to grow and develop for many years to come."

The size and scale of Ferrybridge Power Station, its strategic location near key infrastructure, and the continued presence of the multi-fuel waste-to-energy plants on the site all contribute to this being a potentially challenging project.

ABB will need to work closely with the client, the demolition contractor and stakeholders to ensure this project is managed correctly. Delivering within the agreed schedule while achieving world-class safety, health and environmental performance is of paramount importance, to both SSE and ABB.

For more information on decommissioning and dismantling please contact:  
Steve Andrew on +44 (0)1642 372025 or  
Email: [steve.andrew@gb.abb.com](mailto:steve.andrew@gb.abb.com)



## Milford Haven refinery to be dismantled and rebuilt outside UK

ABB has been awarded a contract to support the dismantling of a former refinery in Milford Haven, South Wales.

At its close the refinery produced 108,000 bpd. This project started in July 2016 and is planned to be completed in the next two years.

ABB Consulting has been appointed as the project Construction Design and Management (CDM) Principal Designers. The team will work closely with Waste Recycling and Decommissioning Ltd (WRD), the dismantling contractor, to identify and manage the hazards during the execution of the project.

The Milford Haven Refinery ceased production in November 2014. Approximately 60% of the process units will be dismantled and rebuilt at an existing facility located outside the UK.

ABB has a worldwide reputation as a leader in supporting process industry assets throughout their full lifecycle and was appointed following a competitive tender process.

“The refinery has been shut down for some time now, and although it has been decommissioned, there always remains a risk of a residual level of contamination. Due to the site's scale and complexity ABB will work closely with the client and WRD to develop safe systems of work, to ensure the project is successfully completed within the agreed schedule whilst achieving world class SHE performance.”

Steve Andrew, Demolition and Remediation Manager, ABB Consulting

For more information on decommissioning and dismantling please contact:  
Steve Andrew on +44 (0)1642 372025 or  
Email: [steve.andrew@gb.abb.com](mailto:steve.andrew@gb.abb.com)

## Chemical Industry Awards 2016 Liverpool

ABB sponsored the annual CIA awards in Liverpool. ABB presented the 'Manufacturing and Resource Efficiency Award' to FMC Chemicals UK Ltd, who beat other shortlisted firms SABIC, BASF, GSK and Macfarlan Smith.



Left: Phil Hardwick, FMC Chemicals UK Ltd, receiving the Manufacturing and Resource Efficiency Award from Peter Hunt, ABB.



## Manufacturing excellence conference Leeds

ABB held our annual Manufacturing Excellence conference in Leeds. Over 50 delegates listened to presentations from CIA, LyondellBasell, SABIC, BASF, GSK and Macfarlan Smith. Kevin Senior and Martin Brown, ABB, also gave presentations.



Conference speakers (from left): Kevin Senior, ABB, Liam Mills, Macfarlan Smith, Martin Brown, ABB, Doug Smith, GSK, Mike Rosedale, BASF, Tony Porritt, SABIC, Chris Forsyth, SABIC and Paul Everard, ABB.



## GPA young professional day Manchester



ABB graduates at the GPA young professional day.

ABB graduates attended the Gas Processors' Association (GPA) young professional training day at Manchester University. Both young professionals and also undergraduates interested in the gas processing industry were treated to a day of informative presentations explaining the challenges for the future of natural gas along with the complexities of current design and equipment technologies. The presentations were delivered by University of Manchester academic staff and GPA members who have spent their careers in the gas processing industry, all passionate about their subject and determined to pass on their wealth of knowledge to a new generation of engineers.



## JIP breakfast briefing Aberdeen

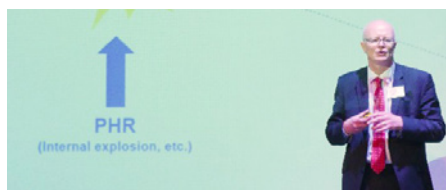
ABB held a breakfast briefing in Aberdeen on Joint Industry Project (JIP) that is being delivered to help operators reduce decommissioning costs through the development of safety case guidance. The JIP delivery team was being led by ABB and includes operators Centrica, Marathon and Repsol. Speakers included the UK Health and Safety Executive and the Oil and Gas Authority with ABB speakers - Alison McKay, Steve Andrew and Alan D'Ambrogio.

## Asset integrity management Abu Dhabi

Laza Krstin, ABB, presented at IQPC's asset integrity management conference in Abu Dhabi. His presentation was titled 'Cost optimisation in asset integrity - learning from the UK continental shelf' and was well received by a varied audience including attendees from BP, ADCO, ADMA, Borouge and ZADCO.

## Back to basics conference Coventry

ABB sponsored and exhibited at the back to basics process safety conference for the Water Industry Sector. ABB's input involved Graeme Ellis, discussing risk assessment and Tony Atkinson discussing 'human factors'. The event was well attended by around 150 delegates and was very well received.



Graeme Ellis, ABB, presenting at the back to basics conference.

## Hazardex 2016 conference Runcorn

ABB presented at the Hazardex 2016 conference. Peter Hodgson, ABB, presented a workshop on 'Hazardous area classification to the latest standards and guidance' to 48 attendees.



Peter Hodgson, ABB, presenting at the Hazardex 2016 conference.



ABB's Process Engineering Library (PEL) software is a highly effective solution for generating and managing process engineering data.

### Benefits

- Allows engineers to be more efficient and productive. With fewer manual calculations to do, tasks are carried out more quickly
- Improves QA and standardises procedures, through everyone using same set of data and calculations
- Human errors in calculations are reduced
- Improves production as bottlenecks can be identified quickly so a solution can be sought

PEL webinar - <http://bit.ly/PELWebinar>

### 30 day free, no obligation evaluation

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## North Sea open for business conference Aberdeen

ABB sponsored, presented a paper and exhibited at the oil and gas conference in Aberdeen. Martin Brown, ABB, presented a paper jointly with Neil King, Petroineos, on reliability culture, reflecting on the work that ABB have been doing with Petroineos. The event attracted 500 delegates and was very well received.

# Forthcoming events for 2017

February			
7 <sup>th</sup>	Inspection workshop	Hull	Workshop
8 <sup>th</sup>	How to do a Hazardous Area Classification (HAC) periodical review	Internet	Webinar
8 <sup>th</sup>	SIL awareness for control / electrical technicians	Grimsby	Training course
8 <sup>th</sup> - 9 <sup>th</sup>	Shutdown, turnaround and outages management	Manchester Airport	Training course
9 <sup>th</sup>	IEC 61511 edition 2.0	Hull	Breakfast briefing
9 <sup>th</sup>	Mechanical legislation awareness	Manchester Airport	Training course
10 <sup>th</sup>	Rapid and accurate project development	Grimsby	Lunchtime forum
21 <sup>st</sup>	PEL roadshow	Humber	Roadshow
21 <sup>st</sup> - 23 <sup>rd</sup>	Effective alarm management - the practitioners course*	Leeds	Training course
22 <sup>nd</sup>	Improving the efficiency of RHR**, the challenges of cost and resource	Internet	Webinar
23 <sup>rd</sup>	Construction (Design and Management) (CDM) awareness	Teesside	Training course
24 <sup>th</sup>	PSM audits - picking the right type of audit	Daresbury	Lunchtime forum
March			
1 <sup>st</sup>	ATEX / DSEAR training for mechanical technicians	Grimsby	Training course
1 <sup>st</sup> - 2 <sup>nd</sup>	IEC 61508 / 61511 and SIL determination*	Frodsham	Training course
2 <sup>nd</sup>	CDOIF* - environmental risk assessments	Grangemouth	Lunchtime forum
3 <sup>rd</sup>	Mind your header	Teesside	Lunchtime forum
7 <sup>th</sup> - 8 <sup>th</sup>	Design and operation of piping systems*	Edinburgh	Training course
8 <sup>th</sup>	An engineers guide to DSEAR	Manchester Airport	Training course
8 <sup>th</sup>	CDOIF - environmental risk assessments	Internet	Webinar
9 <sup>th</sup>	IEC 61511 edition 2.0	Grangemouth	Breakfast briefing
10 <sup>th</sup>	Developing effective bowtie diagrams	Hull	Lunchtime forum
14 <sup>th</sup> - 16 <sup>th</sup>	Human factors in the workplace	St Neots	Training course
14 <sup>th</sup> - 16 <sup>th</sup>	Pressure relief*	London	Training course
22 <sup>nd</sup>	Decommissioning and demolition in power generation	Yorkshire	Seminar
22 <sup>nd</sup>	Developing effective bowtie diagrams	Internet	Webinar
23 <sup>rd</sup>	Introduction to reliability	Teesside	Training course
27 <sup>th</sup> - 31 <sup>st</sup>	Hazard study leaders	Edinburgh	Training course
28 <sup>th</sup>	Why front end engineering matters	Edinburgh	Seminar
29 <sup>th</sup> - 30 <sup>th</sup>	Shutdowns, turnarounds and outages	Edinburgh	Conference
30 <sup>th</sup>	Construction (Design and Management) (CDM) awareness	Teesside	Training course
31 <sup>st</sup>	Why do projects fail? - the importance of front end definition	Daresbury	Lunchtime forum
April			
4 <sup>th</sup> - 5 <sup>th</sup>	Area classification*	Edinburgh	Training course
5 <sup>th</sup>	Benchmarking your FEED	Internet	Webinar
21 <sup>st</sup>	Non-Destructive Testing (NDT)	Grimsby	Lunchtime forum
25 <sup>th</sup> - 26 <sup>th</sup>	How things fail - lessons from process industry incidents	York	Training course
26 <sup>th</sup>	Future proofing your fired equipment	Internet	Webinar
27 <sup>th</sup>	Process safety	Grangemouth	Seminar
28 <sup>th</sup>	Cost effective maintenance	Daresbury	Lunchtime forum

\*CDOIF - Chemical and Downstream Oil Industries Forum

\*\*RHR - Retrospective Hazard Reviews

The full calendar is available at: [www.abb.com/uk/consulting/training](http://www.abb.com/uk/consulting/training)

**Conferences** are major industry forums focusing on key topic areas and include inputs from external speakers.

**Seminars** are focused on industry hot topics and include inputs from external speakers.

**Training courses** provide in-depth knowledge on key subjects as part of an engineer's professional development.

**Lunchtime Forums** provide an update on key industry topics and share best practice.

**Webinars** provide an update on key industry topics and share best practice which are accessed over the web.

**Others** provide an update on key industry topics via breakfast briefings, workshops or roadshows.

All of these events are organised and delivered by ABB Consulting.

For more information on:

Seminars, conferences, forums, webinars please contact:

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\* IChemE accredited training courses

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