SPED Update

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Will Dimensional Control Eliminate Field Fit-Ups?

Most pipers know that the last step in piping construction is the Field Fit-Up (FFU) process. FFU is the practice of allowing extra length on selected pipe spools to mate the pipe runs as actually cut, prepared and installed in the field. A survey technique, termed "dimensional control" uses more accurate survey techniques to precisely determine the pipe runs and mating flanges so that the final Hook-Up / Close – Out Spool can be shop prefabricated.

There are cumulative errors in laying foundations, fabricating equipment and pipe spools, field welds, assembly, operational break in, material creep and modifications over time. Because these cumulative errors cannot be realistically predicted, welders determine the as built position and orientation of equipment and pipe and close the gap with a final piece cut and welded in the field. This is easy for small diameter yard pipe in new or hazard free existing construction where hot work permits are easy to get and there is plenty of room for welding stands and clamps.

It is rare, however, to find a vapor-free environment with plenty of room for field fabrication materials, tools and trades in today's safety conscious, remote worksite, multi-contractor/supplier jobsite.

Dimensional Control Surveying and Laser Scanning have been available for some time but the software to reconcile and manage their data has matured. Modern Dimensional Control quickly corrects multiple 3D measurements using 3-dimensional mathematical calculation and modeling software. According to Tom Greaves, CEO of Spar Point Research LLC, "the key is cost-effective, real-time updates to dimensional databases that can be checked against the design model. The technology to capture field dimensions is getting both more accurate and faster. Here's where rapid survey acquisition with total stations, laser scanners, GPS/RTK systems with small crews comes to the fore."

Example: FPSO Riser Hookup

BP Plutonio FPSO Project represents a typical application of high accuracy Dimensional Control to fabrication onshore for exact fit offshore. The joint development uses 43 subsea wells – 20 producers, 20 water injectors and three gas injectors – tied back to a single spread moored FPSO facility to process produced fluids and export crude. The FPSO connects to a network of subsea flowline and control systems that include 150km of flowlines, nine manifolds and 110km of instrument and control umbilicals.

Onshore pre-fabricating of the offshore piping hook-up spools offers the opportunity to make significant cost and schedule savings. Hi-Cad/Intertek used an accurate Dimensional Control technology / process developed on multiple worldwide onshore and offshore Hook-Up Projects. Dimensional Control surveying techniques and a specialized software application were used to precisely determine the tie in between the riser (Dummy Head) and existing FPSO Flange. Using the highly accurate surveyed data of the flanges establishes the dimensional information required for the Hook-Up Spool pre-fabrication including flange perpendicularity and bolt hole orientation when applicable. Final verification survey work of the completed spool provides confirmation of dimensional quality to given tolerances and assurance of first time fit.

The actual spool in the pictures was prefabricated, tested and painted prior to the FPSO departing to the offshore location (there were 11 similar configurations Hook-Up Spools). Once the Flow-line / Riser was pulled up from the seabed and locked into position above the FPSO Riser Guide, the Hook-Up Spool was quickly positioned and the fit-up successfully made. No hot work, clashes or rework, just first time fit. (Photos on page 2)

Conclusion

Clearly pipers will have to learn how to work with laser survey and scanned data in a variety of forms. The payoff is worth it for many applications.

by William G. Beazley, Ph.D,
Executive Director, SPED

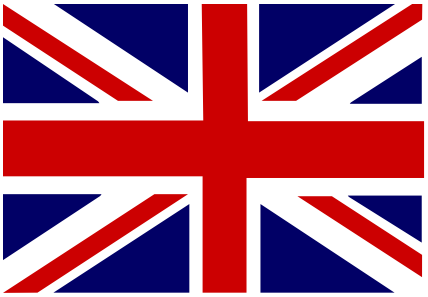
Inside This Issue

Will Dimensional Control Eliminate Field Fit-Ups?	1-2
SPED U.K. / Eire	3
What Does a Piping Designer Need to Know	4-6
Welcome to our newest Corporate Member	6
Thank you, Andrea Macejak for your Contribution to SPED	7
SPED TIPS: Piping For Tank Washing; Tips from the Experts	8
Unemployment Tips: D.R.E.S.S.ing For Success	9
Industry News	9-11
Industry Training Calendar	12
Calendar of Events	13
Changes in SPED Contact Information	13

continued from page 1

Will Dimensional Control Eliminate Field Fit-Ups?

Photos - Plutonio FPSO Project Riser Hook-Up Spools (Courtesy of Hi-Cad/Intertek)



U.K. & Eire CHAPTER NEWS

SPED in the UK & Ireland

In the last few days, I had a meeting in Ireland with Anton Dooley, the first European SPED PPD Certification Level IV. The Irish economy is still weak and of course, they gave the uncertainty of an election on the 25th February. As ever, Anton is upbeat about the prospects for himself and his family.

Another meeting was with the leading offshore wind farm strategy company in Europe. They were certainly bullish.

The positive note in the professional engineering magazines that I read is that applications for Chartered Engineer status (equivalent to US PE status) are booming – a sure sign that the outlook for engineering commercially is weak. But applications to study engineering in universities and colleges are also up which is good without any mitigation.

The IMechE signed a Memorandum of Understanding with the governmental organisation which sets the strategy and standards for training in Process & Nuclear engineering for the UK industry. We are indeed short of the skills, but also the jobs for the newly skilled people to do. But the word Apprentice has re-entered the English language, although outside engineering Intern seems to be growing in popularity.

UK Process News

One of the two bidders for the construction of nuclear electric plants in the UK is now reported to be entering into serious dialogue with around 60 suppliers. Again, a little hope for the future.

The Buncefield accident of December 2005 continues to make the news with process engineers incredulous that the tank level gauging could have been so poor in design and maintenance. It is reckoned to have cost $1.600m and caused the biggest bang in Europe in peacetime. As it took place at 6AM on a Sunday morning, it meant that the only person involved was one security guard on his way home being blown off his bicycle. On a weekday and a little later in the day, the death toll could have equalled the London Transport terror bombings of 2002.

Electricity production from every potential source continues along with electric cars, automation and process control, to fill the column inches.

Norman Harris
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What does a Piping Designer need to know?

By: James O. Pennock

The term "Piping Designer" as used in this document refers to that person responsible for the overall plant layout, the Plot Plan, the equipment location, the pipe routing, the development of the CAD models, the piping isometrics. It does not refer to the Piping Material Engineer or the Pipe Stress Engineer who each are involved in the "design" of a piping system but in a totally different means and manner.

What does the Piping Designer need to know? Piping design is more than just knowing how to turn on the computer, how to find the piping menus and the difference between paper space and model space. So, appropriately, what else does the designer need to know about piping design besides how to operate a keyboard and a mouse or connect a piece of pipe to a fitting? Here is a list of the most basic of things that a good piping designer should know. Thinking about every one of these items should become as natural as breathing for a good piping designer.

• **Pipe, Fittings, Flanges and Valves** All designers need to know and understand the broad spectrum of items that make up the "vocabulary" of the piping language. This includes the many types of fittings, the many different schedules, the wide variety of common piping materials, the flange class ratings and the types and function of the different valve designs.

• **Relationship of other Engineering groups** All designers need to know and understand the relationship, activities and contribution of all the other engineering and design groups on the project. These include: Process, Civil, Structural, Mechanical Equipment, Vessels & Tanks, Electrical and Instruments/Control Systems. These groups have a responsibility for contributing to Piping's success just as Piping has a responsibility for contributing to their success.

• **Piping Execution** All designers must understand how piping design progress is linked to P&IDs, equipment vendor drawings, instrument vendor drawings, stress analysis and structural support design in order to identify areas where the piping design is being held up.

• **Process Documents** All designers need to be able to read, understand and know how to use the two major documents produced by the Process Engineering team. These documents are the PFD (Process Flow Diagram) and the P&ID (Piping and Instrument Diagram). The PFD is used by the more experienced Piping Designer early in the project for plot plan development before the P&ID's are available. The P&ID's are used by Piping Designers of all levels during activities throughout the Detailed Design phase of the job; the drawing production phase and any possible field follow up.

• **Process Variables** All designers must know and understand the four basic process variables: pressure, temperature, flow and level, and the instrumentation used to regulate and/or measure these variables.

• **Process Plant Equipment** All designers need to know and understand what the different types of equipment are. They also need to know and understand the piping related issues there are for each type of equipment. They must know which types of equipment have the nozzles fixed by the manufacturer and which types of equipment need to have the nozzles located (by the piping designer). The designer also needs to know and understand the operational, maintenance and installation/construction issues for each type of equipment.

• **Equipment Operation and Internals** All piping designers need to understand the equipment process function and the equipment internals in order to orient process and instrument nozzles/connections, and locate manway, platform, ladder and staircase access.

• **Equipment piping** – All piping designers need to know the right and the wrong way to pipe up (connect pipe to) different kinds of equipment and for maintenance/disassembly space requirements. This includes pumps, compressors, exchangers, filters or any special equipment to be used on a specific project.

• **Allowable pipe spans** All designer need to know and understand the span capabilities of pipe in the different schedules for a wide variety of common piping materials. When a new project introduces a new material with severely reduced span capabilities; supplemental training may be required.

• **Expansion of pipe** All piping designers must understand that they need to treat a piping system as though it is alive. It has a temperature and that temperature causes it to grow and move. That growth and movement must be allowed for and incorporated in the overall design. Not just of that specific line but for all other lines close by. The process of expansion in a pipe or group of pipes will also exert frictional forces or anchor forces on the pipe supports they come in contact with.

• **Routing for flexibility** All piping designers must understand how to route pipe for flexibility. Routing for flexibility can normally be achieved in the most natural routing of the pipeline from its origin to its terminus. Routing for flexibility means (a) do not run a pipe in a straight line from origin to terminus and (b) building flexibility into the pipe routing is far cheaper and more reliable than expansion joints.

• **Weight and loads (live loads and dead loads)** All piping designers need to understand the effects of weight and loading. They need to know and understand that everything has a weight. They need to be able recognize when there is going to be a concentrated load. They need to have access to basic weight tables for all the standard pipe schedules, pipe fittings, flanges, valves for steel pipe. They also need to have the weight tables for other materials or a table of correction factors for these other materials vs. carbon steel. They need to be able to recognize when downward expansion in a piping

continued on page 5

continued from page 4

system is present and is adding live loads to a support or equipment nozzle.

• **Standards and specifications** All piping designers need to understand the content and application of the client and engineering company standards and specifications used on the project. In particular the designer must have intimate knowledge of the primary standards and specifications he/she will use; these being pipe supports and piping classes.

• **Vessel piping** All piping designers also need to understand about the connecting, supporting and guiding of piping attached to vessels (horizontal or vertical) and tanks. They need to know that nozzle loading is important and does have limitations.

• **Rack piping** All piping designers need to understand that there is a logical approach to the placement of piping in (or on) a pipe rack and the setting of rack elevations. It does not matter how wide or how high the rack or what kind of plant, the logic still applies. Starting from one or both outside edges the largest and hottest lines are sequenced in such a manner that allows for the nesting of any required expansion loops. Another good guideline is; Process lines on the lower deck(s) and Utility Lines on the upper deck(s). The spacing of the lines must also allow for the bowing effect at the loops caused by the expansion. One rule of thumb for setting the distance between piping levels is three times the largest pipe size.

• **Expansion loops** All designer need to understand and be able to use simple rules and methods for sizing loops in rack piping. This should include the most common sizes, schedules and materials.

• **Cold spring/Pre-spring** All piping designers should understand the basics rules of cold spring and pre-spring. They need to understand what each one is along with when to and when not to use each.

• **Design production methods** All piping designers need to be able to make all types of piping documents (sketches, layouts, detail piping plans, isometrics, etc) using different methods. These methods include first and most important, manually. Every piping designer must be able to go to the field or sit in front of a client and make proper, intelligent, and understandable piping sketches. They must also be able to produce detailed final drawings manually. Today, piping designers also need to know (or be able to learn) a wide range of electronic 2D or 3D design tools.

• **Fabrication and Construction methods** All piping designers need to understand shop spool fabrication, modularization and field erection construction methods, and be able to determine “shop’ and “field” material splits, shipping box sizes, field welds and field (or final) fit-up welds.

• **Heat Tracing** All piping designers need to understand the purpose of

continued on page 6

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continued from page 5

process heat conservation, know the different methods (Jacketing, Tracer Tubing or Electric), Tracer commodity (Steam, Oil, Hot Water, etc.) and Tracer system requirements and be able to design heat tracing circuitry.

• **Deliverables** All piping designers need to understand the purposes of each of the piping deliverables, such as plot plans, key plans, piping plans and sections, and isometrics.

• **Drawing Content** All piping designers must understand how to present their designs. Drawing content and dimensioning practices must be well thought out in order to clearly communicate the designs to construction personnel.

• **Economics** All piping designers must be aware of economics. For instance, move a piece of equipment to reduce costly high pressure and alloy piping runs; reduce the number of fittings and welds, and eliminate unnecessary supports whenever possible to save on material, fabrication and erection costs.

Any person that has this type of training, this type of knowledge and then consistently applies it is indeed a piping designer. He or she will also be a more valuable asset to their company and to themselves in the market place. On the other hand anyone who does not know or does not apply the knowledge about these issues while doing piping work is nothing more than a piping drafter or a CAD operator.

Acknowledgements:

Thanks to Richard Beale: Co Author of the book "The Planning Guide to Piping Design" (Gulf Publishing) for his insightful input and editorial contribution.

James O. Pennock has more than forty-five years in the process plant design profession. He has been involved in home office engineering and design, pipe fab shop engineering and job site assignments on refinery, chemical, petrochemical, power and other projects. His experience ranges from entry level designer to engineering manager. Much of this was with Fluor. He is also the author of the book "Piping Engineering Leadership for Process Plant Projects." He is now retired, living in Florida, USA and does only occasional consulting work. Mr. Pennock can be contacted via E-Mail at jopennock@netscape.net.

Welcome! To our Newest Corporate Member, AMEC Natural Resources Americas

Welcome to our newest Corporate Member, AMEC Natural Resources Americas in Alberta. In addition to joining SPED, AMEC has signed the SPED PPD 100% Club. The Natural Resources division covers AMEC's activities in oil and gas services, oil sands and mining. The division has global experience of delivering large and complex projects and service, with life of asset capabilities in deep water and hostile conditions including Arctic environments and earthquake-prone regions. For more information, visit www.amec.com.

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Thank You, Andrea Macejak for your Contributions to SPED

Thank you, Andrea Macejak for your outstanding service to SPED. Coordinating with Houston Community College, and the Texas Workforce Commission, Andrea administered two federal grants: the 2007/2008 Accelerated Piper Program, and the 2010 Green Process Piping Program. She helped many Houston-area Pipers obtain employment in the Houston Community.

As Manager of Operations, Andrea worked closely with Dr. William G. Beazley, Executive Director, Jack Belden, President, the SPED Board, her staff, and the Membership of SPED providing invaluable service resulting in the growth of SPED.

Andrea is leaving SPED to pursue other opportunities in the Houston area. We thank her for her hard work through five years of service, and we wish her well in her future endevours.

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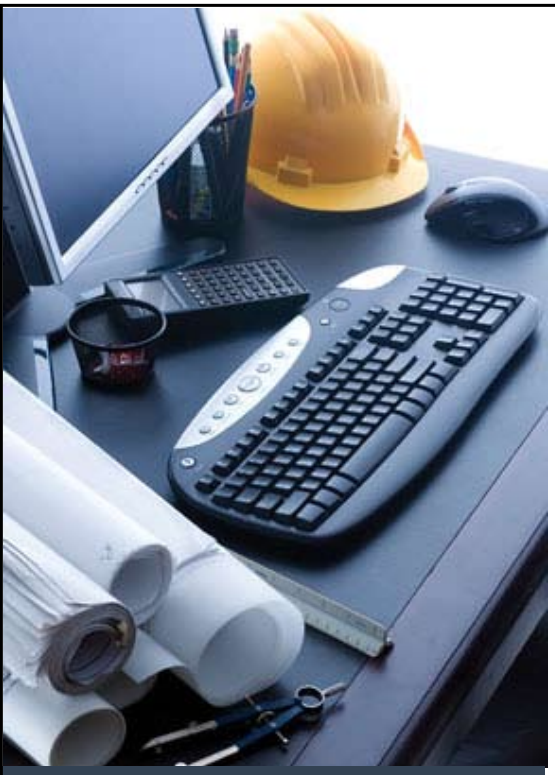

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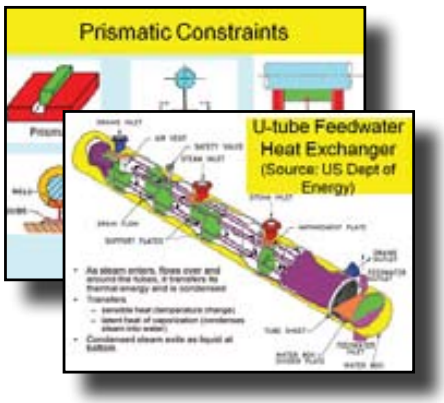

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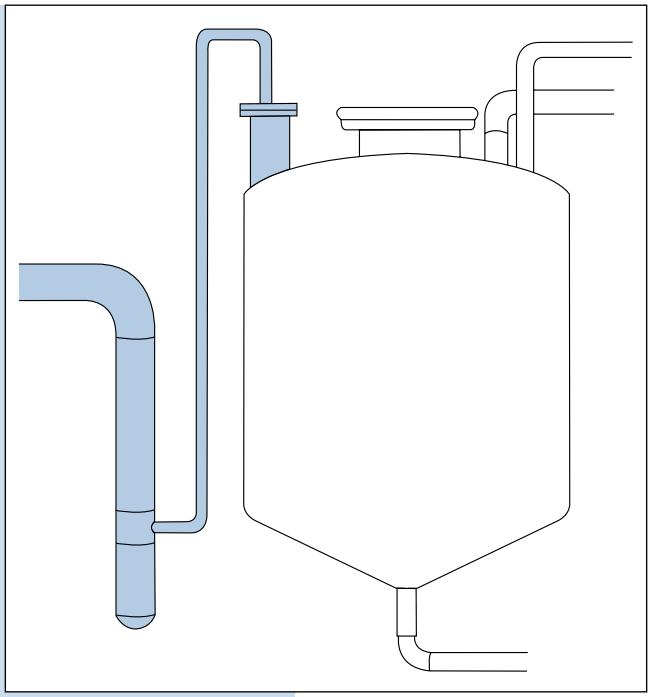
New project? Staffing issues?

This article has been reprinted from Winter 2000 as a courtesy to SPED Pipers.

Chemical Industry Application Notes

Engineering to help you optimize nozzle applications

Piping for tank washing: Hints from the experts



This tank washing piping (shaded blue) will give no end of headaches with mixed pipe sizes, sections that won't drain, a dead leg and a long spud. These should be cleaned up for better operation.

At some point, manual tank washing gets to be a chore. Even when you're using an effective nozzle just for the purpose (such as a Lechler ACCUClean or Whirling Nozzle) the process of opening the cover, making the hose connection and climbing up the ladder can get old.

The real advantage for tank washing is the ability to leave the nozzle mounted in place so the whole process can be done with the turn of a valve. Systems that use this technology are called CIP for "clean in place" and use combinations of tank washing nozzles, cleaning solution storage tanks, cleaning solution injectors and controls to automate the process completely. The dairy industry developed the approach given their need for very thorough and consistent sanitation of all their process equipment. Pharmaceutical manufacturers soon followed for the same reasons.

While you may not need to build a complete CIP system, there are some tips you can learn from these designers that will make your job easier for simple permanent installations:

- **Size the tank washer properly.** For most cleaning, the rule is 0.2 to 0.5 gallons per minute per square foot of interior surface.
- **Avoid interior shadows.** Make sure you have enough tank washers positioned throughout the interior that will clean around internal obstructions such as mixing vanes.
- **Avoid piping dead legs.** This is good advice at any time, but especially with cleaning systems. Otherwise product can be contaminated with cleaning solutions.
- **Keep tank spuds short.** Long spuds are no better than dead legs and are difficult to clean.
- **Make sure gravity will drain everything.** Once the cleaning sequence is finished, the whole system should drain easily on its own. That means properly pitched piping.

Unemployment Tips: D.R.E.S.S.ing For Success

by Andrea Macejak

As the market returns and your fellow pipers are calling you with their good news, we have a couple of tips to help until YOU receive the call from the hiring manager. A simple adage of D. R. E. S. S. will help you keep the blues at bay and then when recycled help you in the interview process as well.

First, D.R.E.S.S. for optimum well being. While studying at LSU, the psychology department handed out a flyer on 5 tips for student health. To my surprise they spelled, DRESS. Simple tips but once utilized will prevent depression enabling you to be ready for the interview process.

D – Diet. Proper nutrition is not just what our mothers wanted for us. A diet of potato chips, soda, and ice cream do not fuel the body and leaves you feeling sluggish and lacking mental alternateness. Eating well may mean the difference between seeming a savvy skillful piper or dead weight. Eat the recommended fruits, vegetables, and protein for fast neurons and overall health. Better nutrition allows your body to deal with stressors more effectively.

R – Rest and Relaxation. While it may seem that all you are doing now is resting, the good old fashioned term R&R is needed whether you are unemployed or employed. For the unemployed it is crucial. You desperately need time removed from all problems, bills, and employment issues. Be creative. This could mean a day trip to visit friends, camping at a nearby wildlife preserve or as simple as fifteen minutes of mediation to clear your mind and restart. Don't forget that relaxation could be only a library card away. The library is free, offers books, magazines, newspapers, and DVDs for checkout.

E – Exercise. Yes, the doctor's recommendation of exercising three to five times a week for 30 minutes holds true. It helps deal with stress factors, regulates insulin, and prevents heart disease. If you can't afford the gym or the weights, try taking bags of beans and using them as hand weights or cans of soup to pump it up. It may seem silly at first but once you do ten repetitions you will feel the burn as well as any pro in the gym. For extra heavy weights we recommend boxes of laundry detergent with a strap or even balanced cat litter with a wash cloth around the handles. Remember to start out light and increase first with repetitions over weight poundage. Also, don't forget walking. Just take out those tennis shoes and walk out the front door. Start out slow with just a few blocks. For the stress reduction alone, exercise is critical for keeping your systems ready to return to work not to mention the fact you will look your best in your interview clothes.

S – Sleep. This may seem an overkill at first but a regular sleep schedule is critical. Most adults need 7-9 hours of sleep for maximum productivity. Too much sleep could be a sign of depression and too little could indicate anxiety. Exercise helps regulate sleep, so make sure you engage at least 3-4 hours prior to bedtime. If sleep is a major problem, visit your doctor for recommendations. Quality sleep is critical for overall health.

S – Structure. Even if you are unemployed, act as if you have a work day. Set times for "working" on finding employment, exercise, and R&R. This will help regulate your activities and assist you with maintaining your productivity. Try mini deadlines, like you would have at work, to quickly complete tasks. Do tasks you are most likely to put off in your peak productivity hours and reward yourself with a fun activity after you finish.

While these tips are truly common sense, they will keep you ready for that call for the hiring interview you have been waiting for. Do not to forget to enjoy your friends and family. They are free and good solid support helps you through the tough times. Since managers are now speaking about projected shortages you should anticipate that paycheck really soon.

Industry News

BP to Sell Package of UK Upstream Assets

February 22, 2011

BP announced today the intention of selling its interests in a number of operated oil and gas fields in the UK.

The assets involved are the Wytch Farm onshore oilfield in Dorset and all of BP's operated gas fields in the Southern North Sea, including associated pipeline infrastructure and the Dimlington terminal.

BP anticipates that the staff currently working on these assets will transfer employment to the new buyer when the divestments are completed.

These divestments will allow BP to focus resources and investment on its diverse central North Sea, northern North Sea, West of Shetland and Norway assets and on successful delivery of its new major projects.

Trevor Garlick, Regional President, BP North Sea said:

"The North Sea is a significant business for BP and we are currently investing here at the highest level for more than ten years, with four major new field development projects underway in the UK and two in Norway. The assets we intend to divest are of high value but find it difficult to compete for capital and resource within our North Sea portfolio. We believe they will attract earlier investment and be of greater value to a new buyer.

"Ensuring continued safe operation of these assets will continue to be our priority as we seek potential purchasers and support our staff through the transition process which will follow."

BP aims to complete the divestments around the end of 2011, subject to receipt of suitable offers and regulatory and third party approvals.

Industry News

AMEC acquires qedi

February 21, 2011

AMEC has acquired qedi, a market-leading project delivery company, focused on delivering specialist completion and commissioning services for major projects in the oil and gas industry.

Headquartered in Aberdeen, qedi employs more than 350 professionals who provide 'technical integrity' project delivery services to international oil companies (IOCs) in the UK, Gulf of Mexico, Middle East, the Caspian and Australia. Managing the technical integrity of the completion and commissioning phase is critical in ensuring any major project is delivered satisfactorily and the facility meets the operating criteria for which it was designed.

"This acquisition strengthens AMEC's project delivery capability across our key sectors, supports the Vision 2015 strategy, and reinforces AMEC's excellent track record through commissioning into operation," said Neil Bruce, Chief Operating Officer of AMEC. "Our capability, geographic coverage and customer relationships, combined with qedi's specialist technology and expertise, provide us with the ability to deliver integrity across the whole life-cycle of a project for our customers."

Stuart McLeod, Managing Director of qedi added:

"I am delighted with this acquisition. It allows us to gain access to AMEC's global networks and customer relationships, retain our independent position and cement our market-leading position. We are already working with AMEC on a number of projects, which has made clear what a great opportunity this is for qedi, AMEC and our combined customer portfolio."

With international capital expenditure in the oil industry expected to rise by 12 percent in 2011 to over $360 billion*, the acquisition of qedi will provide AMEC with the technical capability to provide specialist integrity services to major oil and gas customers throughout the life of their projects. qedi's customers include major IOCs, two of whom have global agreements with qedi for the provision of technical services, including their specialist Go Technology® completions and commissioning management software.

In addition to the traditional oil and gas sector, qedi's services can be applied to many of AMEC's other market sectors where integrity and capital costs are major factors in project delivery. qedi's technology-based applications enhance and differentiate AMEC's project delivery capability, which supports the company's growth plans.

AMEC (LSE: AMEC) is a focused supplier of high-value consultancy, engineering and project management services to the world's natural resources, nuclear, clean energy, water and environmental sectors. With annual revenues of over £2.5 billion, AMEC designs, delivers and maintains strategic and complex assets for its customers. The company employs some 23,000 people in around 40 countries worldwide.

qedi is a leading completions, commissioning and technology provider with more than 20 years of providing technology and expertise in completions and commissioning services to the oil and gas sector.

The company's continuous improvement and investment in technology and competence has led to the development of a suite of products called Go Technology® designed to successfully manage construction, completions, pre-commissioning, commissioning, start-up and de-commissioning activities in the industry.

About completions and commissioning management (CCM)

Completions and commissioning management is a high-value and specialised project management service required to oversee the implementation and safe operations of complex facilities.

Operators and owners make significant capital investment into energy infrastructure and their return on the investment is dependent on start-up being achieved safely and on schedule. The role of CCM is to ensure that the start-up and integrity of the plant is maintained and delivered on time and on budget.

The key barrier to entry into the CCM market is to have both the skills and the tools that ensure that the vast number of tasks, processes and work-streams are all integrated and brought online with the operator's asset plan. AMEC's track record in project delivery combined with qedi's skills and tools offer a new differentiated service to this market

SNC-Lavalin Joint Venture Awarded Contract for Geothermal Project in New Zealand

Montreal | February 22, 2011

SNC-Lavalin is pleased to announce that Contact Energy (Wellington, NZ) has awarded the McConnell Dowell/SNC-Lavalin/Parsons Brinkerhoff joint venture an engineering, procurement, construction (EPC) contract for the construction of the 166 MW Te Mihi geothermal project.

Two new geothermal power units of 83 MW each will be constructed near the Wairakei geothermal power station, northwest of Taupo, NZ. Once completed, approximately 45 MW of the existing Wairakei geothermal station will be decommissioned, resulting in a net increase from the combined Te Mihi and Wairakei stations of 114 megawatts.

“We are pleased to be expanding our experience in the worldwide renewable energy market, and to be working with a leading green energy company like Contact Energy” said Patrick Lamarre, Executive Vice-President, SNC-Lavalin Group. “Geothermal power is playing an increasingly important role in the industry, and our mandate to execute on this contract is a testament of our ability to successfully deliver complex projects all over the world.”

Contact Managing Director, David Baldwin, says the commitment to Te Mihi reflects the company’s view that geothermal is New Zealand’s most cost effective new base load generation.

“The additional 114 megawatts is expected to be required by the market by 2013 as economic growth resumes, and will also contribute to lowering Contact’s average cost of generation,” he said.

SNC-Lavalin (TSX:SNC) is one of the leading engineering and construction groups in the world and a major player in the ownership of infrastructure, and in the provision of operations and maintenance services. SNC-Lavalin has offices across Canada and in over 35 other countries around the world, and is currently working in some 100 countries. In business since 1911, the Company celebrates its 100th anniversary in 2011.

Industry News

Intergraph® CAESAR II® training course on static and dynamic piping analysis scheduled for April 4-7 in Mexico City

February 23, 2011

Intergraph® CAESAR II® training course on static and dynamic piping analysis scheduled for April 4-7 in Mexico City

HOUSTON, Texas, February 23, 2011 – An Intergraph CAESAR II Productivity Training course will be held on April 4-7, 2011, in Mexico City, hosted by ModelSoft, the Intergraph CADWorx & Analysis Solutions reseller in the region. The training provides managers, engineers, and designers involved in piping design and pipe stress analysis with knowledge about static and dynamic considerations based on case studies developed from helping thousands of users solve real-world problems. Course contents include piping code requirements for piping models; pipe and pipeline analysis; modeling and analysis of transmission lines, jacketed risers, FRP piping systems; building and interpreting dynamic analysis models; solving field vibration problems using harmonic analysis; performing seismic analysis using the response spectrum method; evaluating relief valve discharge and transient loads; and more.

For more information on the course and a link to register (in Spanish/Espanol), visit ModeloSoft http://www.modelosoft.com/. For information on CAESAR II and other Intergraph analysis products visit http://www.intergraph.com/ppm/analysis.aspx. For more information on Intergraph CADWorx, visit http://www.intergraph.com/products/ppm/cadworx/.

About Intergraph CADWorx & Analysis Solutions The Intergraph CADWorx & Analysis Solutions (CAS) products allow design and engineering to share relevant information seamlessly, thereby maintaining accuracy and improving efficiency. They include CADWorx Plant Design Suite for AutoCAD®-based intelligent plant design modeling, process schematics and automatic production of plant design deliverables; CAESAR II, the world's most widely used pipe stress analysis software; PV Elite for vessel and exchanger design and analysis; and TANK for the design and analysis of oil storage tanks. For information on Intergraph CAS, visit www.coade.com.

Technip awarded an EPIC subsea contract for the Gygrid project in Norway

Paris | February 23, 2011

Technip was awarded by Statoil a contract, worth approximately €90 million, for the Gygrid field development located in the Norwegian Sea at a water depth of 265 - 330 meters.

This contract covers:

engineering, procurement, welding and installation of flowlines*, including a 19.5 kilometer pipe-in-pipe production flowline, a plastic-lined water injection flowline and a gas lift flowline of the same length, subsea equipment installation, installation and tie-ins of new risers and umbilicals.

Technip's operating center in Oslo, Norway will execute the contract. Flowline welding will take place in the Group's spoolbase in Orkanger, Norway, while installation will be performed by the Apache II, a pipelay vessel from Technip fleet, in mid-2012.

The contract is subject to approval of the plan for development and operation of Gygrid by the Norwegian authorities.

* Flowline: a pipe, laid on the seabed, which allows the transportation of oil/gas production or injection of fluids. Its length can vary from a few hundred meters to several kilometers.

Bechtel Selected by Xcel Energy for Nuclear Plant Services

FREDERICK, MD | February 24, 2011

Bechtel today announced it has been selected by Xcel Energy to provide engineering, field engineering, and construction services at the utility's Monticello and Prairie Island nuclear generating plants in Minnesota.

As part of a five-year contract, Bechtel will manage projects and provide project engineering and construction services. It will also have on-site engineering, construction, and project controls staff at each plant. The agreement is significant because it represents a shift in how plant services are provided. Typically, utilities rely on a mix of internal and external contractors to provide the services, as had been the practice of Xcel Energy. This agreement relies on a single provider.

"The integration of engineering and construction activities is a forward-thinking approach for our industry that will increase plant reliability and improve the end product for customers," said Carl Rau, president of Bechtel's nuclear division.

"We expect the integration of services into a single provider will result in more predictable and efficient completion of capital projects and delivery of plant services, which ultimately will benefit our customers and stakeholders by providing more cost-effective and reliable electricity," said Dennis Koehl, Xcel Energy vice president and chief nuclear officer.

Bechtel employees will perform the following types of work:

Construction activities associated with capital projects and modifications; outage maintenance and modification craft augmentation; day-to-day support for scaffolding construction and disassembly; and construction labor.

Engineering services, including detailed design activities in performance of capital projects modifications such as security projects, equipment reliability modifications, and plant infrastructure upgrades, and specialized engineering analyses for plant operation.

Field engineering, including performing detailed work planning and field implementation support for capital projects and modifications, such as major equipment replacements and upgrades. Read more..

Chevron Corporation Announces Completion of Atlas Energy Acquisition

SAN RAMON, Calif., February 18, 2011

Chevron Corporation (NYSE: CVX) today announced that its acquisition of Atlas Energy has been completed following approval by Atlas stockholders.

"We look forward to welcoming the highly talented employees from Atlas Energy into the Chevron family," said Vice Chairman George Kirkland. "The assets provide Chevron with a solid position in the prolific Marcellus Shale, located in Southwestern Pennsylvania, and complement our global position in developing unconventional gas resources." Read more.

Industry Training Calendar				
Dates and Times	**Day(s)**	**Location**	**Cost**	**Registration**
Intergraph PV Elite Productivity Training March 7 - 9, 2011	M/W	Houston, Texas	See website	Register
Total CAD, Inc. AutoCAD Fundamentals, March 7-10, 2011	M/Th	Total CAD Systems Houston Office	$595 for Customers, $895 for Non-Customers	Register at www.tcadsys.com/training.html
Fluid Fundamentals: Total Pump Training, March 8-10, 2011	T/Th	SpringHill Suites by Marriott Houston Hobby Airport	$1295.00	http://shop.fluidfundamentals.com/cgi/display.cgi?item_num=FF_Training-PumpSystem
Plant 3D Webinar: Modern 3D Modeling to Your Everyday Plant Design Projects, March 24, 2011	Th	Online	FREE	Email nhong@tcadsys.com or call 281.445.6161 to register
AutoCAD P&ID Fundamentals, March 28-29, 2011	M/T	Total CAD Systems Houston Office	$795 for Customers, $1195 for Non-Customers	Register at www.tcadsys.com/training.html
AutoCAD Fundamentals, April 4-7, 2011	M/Th	Total CAD Systems Houston Office	$595 for Customers, $895 for Non-Customers	Register at www.tcadsys.com/training.html
AutoCAD Plant 3D Essentials, April 25–28, 2011	M/Th	Total CAD Systems Houston Office	$795 for Customers, $1195 for Non-Customers	Register at www.tcadsys.com/training.html
AVEVA Webinars: 12 informative webinars available anytime.	M/W	Online	FREE	www.avevawebinars.com
FIATECH Tech Tuesday Webinar Seriesl	M/Th	Online	FREE	http://fiatech.org/tech-connections/techtuesday.htm
SPED Process Plant Layout Course, Ongoing	T/Th	Online	$1,650	www.spedweb.com
SPED Piper BootCamp Course, Ongoing	TBD	Online	$1,650	www.spedweb.com
SPED PPD Review and Exam Levels I or III, Ongoing	TBD	Online	$375	www.spedweb.com

Most vendors have their webinars listed in an online library for viewing; go to the webinar hosting site and search in their online library for a chance to see what you missed. SPED will give a PDU credit for viewing it from the vendor's library.

Have you renewed your SPED PPD Certification? Renewals for any PPD Level of Certification are only $90 annually, and due from the date on your original certificate.

For more information about certification, or to renew, visit www.spedweb.com.

Calendar of Events				
Dates and Times	**Day(s)**	**Location**	**Cost**	**Registration**
SPAR 2011, March 21-24, 2011	M/Th	The Woodlands Waterway Marriott Hotel and Convention Center, The Woodlands, TX	See website	www.sparllc.com/spar2011.php
Fiatech Technology Conference & Showcase, April 18-20, 2011	M/W	Sheraton Wild Horse Pass, Chandler, AZ	See website	www.cvent.com/EVENTS/Info/Summary.aspx?e=d34c790ad13d-40a3-8acd-c29709050ae3
Offshore Technology Conference, May 2-5, 2011	M/Th	Reliant Park, Houston, TX	See website	http://www.otcnet.org/2011/index.php
Intergraph, International Users Conference, June 6-9, 2011	M/Th	Orlando, FL	See website	www.intergraphusersconference.com
ChemInnovations, Sept 13-15, 2011	T/Th	George R. Brown Convention Center,Houston, Texas	See website	www.cpievent.com
2011 SPED Corporate Member Showcase and 31st Annual General Business Meeting,November 2011	TBD	Houston Marriott Energy Corridor, Houston, TX	N/A	www.spedweb.com
SPED Review and Exam CADWorx, September 18, 2011	Su	The Woodlands Waterway Marriott Hotel and Convention Center, The Woodlands, TX	N/A	N/A
CADWorx, September 19-21, 2011	M/W	The Woodlands Waterway Marriott Hotel and Convention Center, The Woodlands, TX	N/A	N/A

SPED Contact Information Changes

The table below reflects changes in responsibilities and contact information for SPED staff members, and the addition of contact emails for SPED Calgary and SPED U.K. / Eire. We have also added a payment option for International Membership online at www.spedweb.com. The cost is $100 USD.

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