

Pigging Industry News

the newsletter of the Pigging Products & Services Association



President's Letter

by **Bryce Brown**
H Rosen USA Inc, USA

IT HAS been my pleasure to serve as the President for 2005.

As most of you are aware, the PPSA sponsors a great number of industry events annually, and it is able to do this because of you, the members. Some of you attend these events and are able to represent the PPSA as well, and this is always greatly appreciated. If you have not already, get involved and use your membership.

Again, the PPSA ran two seminars in Aberdeen and London, in November. The theme of 'Emerging issues' was repeated this year, and more than 100 delegates attended in total. I was fortunate to have attended, and presented at, the seminar in London: I have to say that the range of subject matter covered in one day was impressive. In today's rapidly-changing pipeline industry and technology applications, seminars such as these are a must in order to keep abreast of the latest developments. Moving forward, it would be interesting

to see the PPSA sponsor more similar opportunities at other locations. Remember: all PPSA members are welcome to take part in the seminars, as speakers, exhibitors, and delegates. Please contact Gill Hornby on how you can get involved.

For the first time, we have been able to distribute the 2005-06 *Directories and Buyers' Guides* in the Middle East, at the Pipelines Management Summit held in Abu Dhabi, on 16-17 January.

This year marks the first time the PPSA has sponsored a golf tournament. This will take place on 12 February in Houston, prior to the 18th Pipeline Pigging and Integrity Management conference and training courses being held on 13-16 February. Please visit www.clarion.org/ppim/ppim06/golftournament.php for more details.

John Lambley now steps in as the President for 2006.

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New members

Full

TOPLINE Ltd, Prt Harcourt,
 Nigeria,
**ADVANCED PIPELINE
 INSPECTION Ltd**,
 Horsham, UK

Associate Member

**MULTITEX PIPELINE
 DIVISION**, New Delhi, India

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Industry news

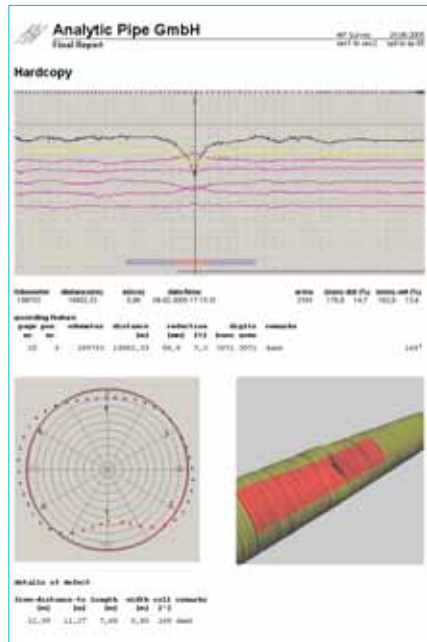
Multi-channel calliper tool

IN 2005 **Analytic Pipe** launched its multi-channel calliper tool, which has now been proven in different projects from 12-48in diameter. One special dual-diameter project for a big gas company client in Europe presented some interesting challenges, requiring a specially-designed 36-in/42-in dual-diameter tool. The outcome underlined the company's reliability, which it says results in a first-run success rate of almost 100%.

The new range of tools' operating time (battery capacity) has been increased to up to 1,200hrs, depending on the tool size, and detected defects can be illustrated in a 3-D view highlighted in red, enabling clients to get a real impression of the defect. As shown on the screenshot of the company's new software (*right*), a separate sheet is produced for each defect containing all important information about the o'clock position, and the length, width, depth, and distance from and to the next reference points. ●



Analytic Pipe's 36-42in tool.



A screenshot of Analytic Pipes' report format.

TCPL awards BJ its second consecutive contract

BJ Pipeline Inspection Services has been awarded a multi-year contract to provide in-line inspection services for TransCanada PipeLines Ltd. This is the second consecutive multi-year contract that has been awarded to the company by TCPL, and the three-year contract is scheduled for completion in summer of 2008. Since 1997, BJ has inspected over 11,000km of pipeline for TCPL, ranging in size from 12in to 42in, in both Canada and the United States.

BJ will be inspecting approximately 4,500km of pipeline

during the contract period. The first inspection will consist of an MFL metal-loss of a 30-in line in Northern Alberta. To provide the in-line inspection services, the pipeline inspection specialist will be using a fleet of state-of-the-art inspection equipment, including its *Geopig* mechanical calliper and its *Vectra* MFL tool. The gas bypass feature on the *Vectra* makes it possible to perform inspections without disrupting gas flow, which is highly beneficial to TransCanada and its customers in Canada and the United States who rely upon a consistent supply of natural gas year-round. BJ's technology allows for accurate sizing and location for metal loss and/or mechanical damage along the inner walls of the pipeline, which will give TransCanada the ability to implement its risk-based management model of pipeline integrity with confidence. ●

Intelligent pigging in Iran

LIN SCAN Advanced Pipeline and Tank Services has been awarded six contracts for intelligent pigging operations for **NIGC** in Iran. The project includes in-line inspection of gas pipelines ranging from 16in to 56in diameter, with a total length of almost 3000km.

For this work, Lin Scan will use its newly-developed 56-in and 36-in MFL tools each of which is equipped with a removable velocity-control unit capable of reducing the tool's velocity to an acceptable level in pipelines with flow velocities up to 10m/sec. The programmable velocity-control unit's operation depends on speed-

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measurement readings received from special odometers, and is not based on differential pressure; the probability that the tool gets stuck in the line because of full by-pass being opened to reduce differential pressure is therefore claimed to be eliminated. The velocity-control unit allows by-pass only when actually required by the tool's velocity.

In 2005 Lin Scan expanded its activities as a supplier of pig-tracking equipment, having developed what is intended to be an easy-to-use transmitter/receiver system designed for localization of in-line pigs in above-ground and buried pipelines. The first batch of these has been supplied to **ADCO** in the UAE. Lin Scan also started mass production of above-ground benchmarking systems with inbuilt GPS units, designed by its R&D division. The markers are lightweight and have user-friendly control interface.

The company has also recently carried out cleaning and in-line inspection works for **GASCO** in the UAE which included inspection of a 48-in gas pipeline with a flow rate of 7m/sec. The inspection was conducted with only one run of the 48-in MFL tool. ●

Preventing lift-off

LIFT-OFF is a serious problem for intelligent inspections. It typically occurs when the inspection tool loses contact with the pipe wall, or sensors are deflected from the pipeline and the information given is not creditable or able to be reported.

The usual causes of the problem are sediment build-up on the interior of the pipeline, excessive speed of the tool, extreme protruding welds, or wrinkles and dents along the interior of the line – areas that typically need detailed inspection.

Similarly, where debris has collected and mechanical pigging or gel cleaning is unable to remove it, it is likely that under-deposit corrosion could exist.

One of the solutions to this problem is through using the cleaning technology developed by the **Coastal Chemical Co** division of **Brenntag**. This cleaning technique uses specially-designed chemicals which are absorbed by the debris in the pipeline. As this occurs, the debris' molecular attraction for itself and the pipe wall is changed, allowing the material to be loosened and subsequently removed by utility pigging. ●

ISO and OHSAS award for Weatherford

WEATHERFORD'S Pipeline & Specialty Services division has been awarded a combined ISO-9001:2000 and OHSAS 18001 certification. The ISO certificate applies to industries involved in the design and development, manufacture, installation, and servicing of products, while the OHSAS specification ensures that these activities are carried out in a safe manner; regular external auditing of ISO/OHSAS-certified companies makes certain the continuing compliance to standards of performance.

Weatherford's conformance to the ISO quality-assurance standard and the OHSAS specification has required the company to implement procedural changes, further training programmes, improved documentation, and adjustments to operating systems on every level of its operational and service processes. ●

Halliburton expands teams

HALLIBURTON Pipeline Hand Process Services has appointed Neil Gray as operations manager for Africa to support its expansion into the African market, and David McNeill as account leader for Australasia to support the company within the region. Neil has 15 years of experience, and will be the focal point for all African operations, and will also support business development activities. David has 13 years of experience in operations and business development. ●

BJ forms global business-development group...

A NEW "global business-development group", reporting to division technical manager Andy Barden, has been formed at **BJ Process and Pipeline Services**. Based in Houston, the new group will be responsible for strategic growth and development of the company's services worldwide, and will identify the need for new technologies, and develop and disseminate them in specific target markets around the world.

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As a result, two BJ PPS managers have been promoted. Tony Bokas has become business-development manager, process services, for the division, and Steve Barber has been promoted to business-development manager, chemical-cleaning services. In his new role, Tony will be responsible for the global management and co-ordination of all sales and marketing activities of process services, and the delivery of strategic world-wide growth in this sector. Prior to his promotion, Tony was based in Dubai, and served for the past two years as sales manager in the region. He joined BJ in 1995, and has worked in a variety of engineering, technical, and commercial positions in Dubai and Leeds.

Steve Barber now is responsible for the global management and co-ordination of all sales and marketing activities for the company's chemical-cleaning services. Prior to his promotion, Steve was based in Houston and worked for the past five years in the company's chemical-cleaning services business in Canada, the USA, and South America. He joined BJ in 1999 after 29 years experience in the industrial-services sector. During his career, he has worked in various sales and management roles for The Dow Chemical Co, Dowell Schlumberger, and HydroChem Industrial Services. ●

... and opens new base in Newfoundland

BJ has opened a new base near St John's in Mount Pearl, Newfoundland, Canada. The new

facility replaces the previous office in Mount Pearl that had been operating since 1996, and joins existing bases in Sarnia, Ontario, and Halifax, Nova Scotia, that serve eastern Canada. David Tizzard, the company's operations manager for Eastern Canada, has operational responsibility for the new base. ●

Pipeline design and integrity services expanded

UK-BASED **Intetech** has reorganized and expanded its on-and offshore pipeline services with the formation of a dedicated pipelines division. With its head office in Chester, Intetech was established in 1991 by Dr Liane Smith, an expert in materials, welding engineering, corrosion risk assessment, and corrosion modelling. Growth of the company, establishing a dedicated workforce of skilled and experienced engineers, has enabled the company to broaden the scope of its activities in the pipeline field, whilst building on its core strengths.

The company's new division is under the leadership of Dr Waheed Al Rafai, who has experience both as a pipeline operator and as a design project manager. Intetech Pipelines now offers a broad range of design and pipeline integrity-management services to the international pipeline industry, including conceptual and feasibility studies, routeing studies, front-end engineering design, pipeline project audits, procurement of linepipe quality assurance and quality control, operational advice,

integrity management, pipeline remnant life assessment, and future operability evaluations of old pipelines.

A key area of strength for the company is its comprehensive knowledge of the integrity challenges facing pipelines throughout the operational life. Many years of working with operators facing the realities of pipelines damaged by corrosive environments internally and externally have given the company a strong background for offering a pipeline integrity-management system which addresses the impact of current operating conditions on the future pipeline integrity. The company is building on its established product, the web-based *Intetech well-integrity toolkit*, and expanding the scope of that system to incorporate the pipelines up to the production facilities as a first step. The *Pipeline-integrity toolkit* analyses on-line production data to diagnose, and hence prevent, the occurrence of problems whilst operating pipelines in a cost-effective manner for long-term operability and safety. ●

Dolphin Gas Project LoI

A LETTER of intent (LoI) has been signed between **Weatherford Oil Tool Middle East Ltd** and **Saipem (Portugal) Comercio Maritimo Lda** for the precommissioning work on the Dolphin Gas Project pipelines in Qatar and the UAE. Weatherford's Pipeline & Specialty Services division recently began work on this



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contract, worth approximately \$10 million, and expects to finish in mid-year.

Weatherford's workscope includes filling, cleaning, gauging, calliper survey, hydrotesting, dewatering, drying, and nitrogen purging/packing services for the project's three pipelines. These are the 36-in 70-km Sealine 1 and the 36-in 86-km Sealine 2, both exporting to Ras Laffan, and the 48-in 361-km export pipeline system from Ras Laffan to Al Taweelah. Project management is being co-ordinated from the company's office in Dubai, with support from four other bases in the UAE and Qatar. ●

Smith Flow Control consolidates in China

PROCESS-safety specialist **Smith Flow Control** has consolidated its position in China by appointing **KXTEC** as its exclusive Chinese distributor. KXTEC has extensive experience in the petrochemical sector, and will be promoting the UK company's range of key-exchange valve interlocks and valve operating devices throughout the country. KXTEC's headquarters are in Shanghai, but the company is rapidly expanding and will soon be opening branch offices in Beijing, Guangzhou, and Chengdu.

Smith Flow Control's interlocks are designed to ensure that all valve-operating procedures are carried out in the correct sequence, reducing the risk of serious accidents due to operator error. In addition to valve

interlocks, the company also produces a range of fully-mechanical, low-maintenance devices for operating valves remotely, and an accompanying range for testing critical valves without shutting down the process flow. ●

Precommissioning offshore Libya

HOUSTON-based Weatherford International Ltd's Libyan subsidiary **Weatherford LAMB Libya**, working on behalf of **Saipem Libya**, has completed flooding, cleaning, hydrotesting, dewatering, nitrogen packing, and calliper pig inspection activities for the pre-commissioning of the five Bahr Essalam NC-41 pipelines offshore Libya, part of the Western Libya gas project. The company's Pipeline & Specialty Services division began work on this contract, worth approximately \$4.5 million, in September, 2004.

The Bahr Essalam pipelines and the Sabratha platform are located in the NC-41 field, 110-km off the Libyan coast, in waters approximately 220m deep. Gas from the subsea production wells and pipeline manifold structures passes through a 22-in gas pipeline and 8-in insulated pipe to the Sabratha platform for initial processing. Products are then exported from the production platform to the Mellitah onshore facility via a 107-km, 36-in gas pipeline, and a 10-in



The Sabratha platform, (above) and a view of some of Weatherford's plant for precommissioning (below).

condensate pipeline. Final processed gas is compressed and sent to Europe via the Greenstream pipeline. A 4-in service line was also included in the pre-commissioning package.

The workscope was divided into two phases: the first comprised simultaneous onshore and offshore flooding, cleaning, gauging, and initial hydrotesting of all the lines. The second phase involved testing of the pipelines after final tie-ins, including further hydrotesting, dewatering, air drying of the export pipelines, methane-rich-gas swabbing of the infield pipelines, and nitrogen purging and packing of all the pipelines.



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Given the difficulties in sourcing a reliable supply of cryogenic nitrogen in Libya, Weatherford's membrane nitrogen technology was ideally suited to this project. Based on the Sabratha platform, the membrane nitrogen units occupied much less space than nitrogen tanks, and provided an unlimited source of nitrogen for purging and packing of the export and interfield pipelines.

Part of Weatherford's temporary air compression station (TACS), previously deployed for Saipem during the Greenstream project, was used offshore for the dewatering operations, and another part of the TACS was used onshore, at the Mellitah terminal, for the dewatering of the 36- and 10-in export pipelines. ●

Weatherford acquires Valkyrie

WEATHERFORD International Ltd has completed its acquisition of **Valkyrie Commissioning Services, Inc.** Headquartered in Houston, Valkyrie is a provider of pipeline and process commissioning and decommissioning services, and will now become part of Weatherford's existing Pipeline & Specialty Services (P&SS) division.

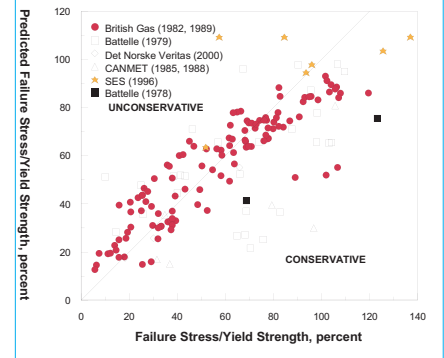
Weatherford has amassed an impressive track record, which includes projects such as Blue Stream (Russia to Turkey) and Green Stream (Italy to North Africa), in addition to holding records for subsea hydrotesting of the deepest pipelines in the Gulf of Mexico. Bringing together both

teams will now enable Weatherford to offer additional quality project management and engineering, reliable equipment, the latest in proprietary technology, highest standards of safety, and total commitment to customers. ●

Penspen develops the Pipeline defect-assessment manual

PIPELINE operators regularly inspect their pipelines with intelligent pigs, and these pigs find a variety of defects, the effects of which the operators need accurately to be able to assess. A joint-industry project entitled the *Pipeline defect-assessment manual* (PDAM) has now produced a manual-based procedure that contains all the methods available to assess defects in pipelines. The project has been sponsored by 16 companies (Advantica Technologies, BP UK, CSM Italy, Chevron USA, DNV Norway, Gaz de France, GE PII UK, the Health and Safety Executive, MOL Hungary, Petrobras Brazil, Promigas Colombia, Saipem UK, Shell Global Solutions, SNAM Rete Gas Italy, Statoil ASA, Toho Gas, and Total UK), and **Penspen UK** has carried out the research and is the author of PDAM, which started in 1998 and was issued in 2002.

PDAM presents a considered view of the 'best' currently-available methods for assessing the fitness-for-purpose of defects in oil or gas pipelines, both on- and offshore, manufactured from steel linepipe. The project is continuing, and the *Manual* will be regularly updated to take account of test results,



Penspen's PDAM provides operators with solutions to difficult defect-analysis questions.

developments in defect-assessment knowledge, and materials.

PDAM is based on a comprehensive, critical and authoritative review of published pipeline defect-assessment methods. This review included a compilation of all of the published full-scale test data used in the development and validation of existing defect assessment methods, and a comparison of the methods with the test data.

The *Manual* is accompanied by 16 separate, detailed, background literature reviews, and both these and the chapters of the manual have been independently reviewed by international experts in the field of pipeline defect assessment. The deliverables of PDAM are



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available on a CD and as hard copy, and 26 spreadsheets for easy implementation of the 'best' assessment methods given in PDAM are included on the CD. ●

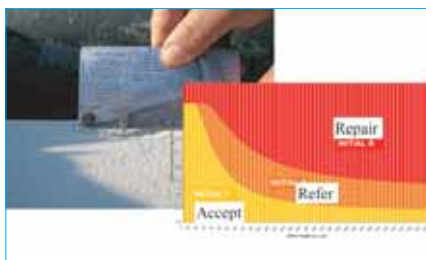
...and rapid assessment procedures

PIPES-integrity specialist **Penspen UK** has developed a number of pipeline-specific defect-assessment procedures that can be easily followed in the field and which are designed to give quick, safe, assessments of a selected range of defects. The procedures were developed for assessing the significance of defects found by inspection or excavation for BP's Finnart-Kinneal crude oil and multi-product pipelines in Scotland, its deepwater Mardi Gras system in the Gulf of Mexico, and the BTC pipeline in Azerbaijan and Georgia; however, they are, of course, applicable to any pipeline.

These procedures, known as pipeline defect evaluation procedures (PDEv), have as their objective the provision of procedures that give guidance on the identification, investigation, and assessment of defects in a pipeline system. The requirements and timescales for remedial actions are also defined.

The procedure gives details of the following:

- identification of defect types (using photographs and diagrams);
- inspection requirements (what should be measured) for different defects;



An example of Penspen's pipeline defect evaluation procedures being put into practice.

- assessment and categorization of defects according to their type and location;
- actions to ensure safety following defect identification (e.g. pressure reduction);
- actions to be taken, with timescales, following defect categorization;
- the reporting procedure for the defect assessment;
- the requirement for further inspection or expert referral of defects;
- options for defect repair (such as cut-out, sleeve, composite, grind). ●

Girard acquires Ura-Flex Manufacturing

TEXAS-based **Ura-Flex Manufacturing**, previously located in Mansfield, TX, has been acquired by **Girard Industries** of Houston. Ura-Flex has for many years manufactured solid-cast polyurethane pipeline cleaning pigs, which are just like the Girard *Turbo* series of pigs.

Girard will continue to manufacture its *Uraflex I*, *Uraflex II*, and *Uraflex III* cleaning pigs under the *Turbo* series. Because these pigs have no metal components, they are lightweight

President's letter (concluded)

We all wish John well, and know that the Association will be in good hands.

I would like to express my appreciation to Gill Hornby for her effort and dedication to the PPSA.

Remember, the PPSA is available to assist you and your company with your needs when it comes to provision of high-quality products and services: visit us at www.ppsa-online.com. ●

and designed to be excellent for internally-coated pipelines. In sizes from 2-36in, their hollow polyurethane bodies allow for greater flexibility through 1.5-D radius bends and other reductions that some steel-bodied pigs are not capable of safely passing. This hollow-body construction also allows these pigs to expand slightly under pressure for a more-aggressive cleaning of the pipeline surface. Many of the pigs in the *Turbo* range can be fitted with steel brushes for heavy-duty cleaning of gas pipelines contaminated with black powder, iron oxide, and other debris.

Though these pigs are light in weight, their design combines cups and discs, which makes them suitable tools for batch separation, dewatering after hydrostatic testing, product evacuation, and general pipeline cleaning. The pigs are also available in three different durometers to meet specific pipeline-cleaning needs. ●

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 - ☆ free copies of *An introduction to pipeline pigging*
 - ☆ free access to the PPSA's database of pipeline pigging contacts
 - ☆ free technical information and problem-solving
- ☆ free copies of the PPSA Buyers' Guide and Directory and regular copies of *Pigging Industry News*
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