

Pigging Industry News

the newsletter of the Pigging Products & Services Association



President's letter

by **Dr Michael Beller**
NDT AG, Stutensee, Germany

Dear Members, Dear Readers,

WELCOME to the first issue of the PPSA Newsletter in 2003: I would like to use this opportunity to wish you all a happy, prosperous, and peaceful new year.

2002 has been a successful year for our Association. The PPSA welcomed a total of 15 new members, including nine Full, two Associate, and 4 Individual members. The new members include companies from the western as well as the eastern hemisphere, and I was pleased to note that interest in the PPSA has been particularly raised in Europe. The PPSA database now holds more than 3200 contacts, and the number of copies published of the PPSA *Buyer's Guide and Directory of Members* has reached 4000.

Increased membership is a good sign. It should motivate us further to carry on with the activities of the Association, but also to review where we stand and where we want the PPSA to go – what we want the PPSA to be. As I stated in my last president's letter, an association is made up of people. Whether you know the PPSA through being a Full or Associate (i.e., company) member, or as a personal member, it is always the initiative of the individual that is required. I would therefore like to thank everybody who has helped the PPSA, and who has contributed

her or his personal time in the last year.

This newsletter gives me the opportunity to revisit one of the items I addressed in the previous issue. Training: I mentioned PPSA Seminars Ltd, registered in the UK. The principal activity of the company is to arrange and run seminars, with a focus on pipeline pigging topics, sharing some of the wealth of knowledge that our members have. PPSA Seminars Ltd has successfully run a number of events in 2001 and 2002, including an in-house training course organized for a major operating company and run in Aberdeen. More recently, this was followed by a very successful Pipeline Pigging Seminar, again run in Aberdeen. PPSA Seminars Ltd reported an increase in delegate numbers, and the feedback we received through the assessment forms and by personal comments was very positive and encouraging. The topics covered in the seminar were elected based on feedback from previous events, as well as through requests received from the pipeline operators. A novel idea, and thanks to Tom Sowerby for chairing this session, was an 'ideas workshop'. This forum for discussion was well received, and several very interesting ideas were raised regarding the industry's needs

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Pigging Products & Services Association is at:
 PO Box 2, Stroud, Glos GL6 8YB, UK
 tel: (+44) (0) 1285 760597 fax: (+44) (0) 1285 760470
 e-mail: ppsa@gdhbiz.fsnet.co.uk
 web: <http://www.piggingassnppsa.com>
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Industry news

Åsgard pig tracking...

SYNETIX Services has recently completed the largest pig tracking job in its history as part of the recent Åsgard field development work for **Statoil** in Norway. Due to the importance of this project to Statoil, and the need for 100% reliability and location accuracy of the pig-tracking operations, Statoil specified that radio-isotopes had to be used for this purpose. Over a two-year period, working in conjunction with **Halliburton AS**, Synetix Services provided the topsides and subsea isotope tracking capabilities for hundreds of pigs. Over 50 radioisotopes were stored on both Åsgard A and B platforms during the project, and both platforms had permanent *Tracerco Diagnostics* pig-tracker units (see below) to confirm launch and receipt of each pig train. As well as the platforms, all of the vessels used during the operations had subsea pig-tracker units to aid in accurately locating and positioning the pigs in subsea receivers and for pipeline-repair operations. The reliability and accuracy of the isotope tracking system meant that every pig could always be located in each pipeline to within 50mm. ♦

...and new pig-tracking service

A NEW range of *Tracerco Diagnostics* pig-tracker units

is being launched by **Synetix Services**. Built upon the success of the previous range, all the tracking functions are now available in one unit that can be used down to 3000m water depth, with a battery life of 1000 hours. The new units contain more-sensitive detectors and can therefore be used with even smaller isotopes than the previous range. The size of the isotopes means that their use is extremely safe, and the nature of isotopes means that they can always be detected with 100% reliability and accuracy. They can be used in any size of pipeline, from umbilicals to 48-in diameter, as well as for pipe-in-pipe applications, and are not affected by pipe contents or pipe coatings. For these reasons, oil and gas operators world-wide are specifying isotopes as their preferred method for tracking pigs. For more information, see the company's web-site at www.synetix.com/services/oilandgas-subsea.htm. ♦

EMAT technology available from PII

AFTER four years of intensive research and development **GE Oil and Gas, PII Pipeline Solutions (PII)** has created the first in-line inspection tool based on electro-magnetic acoustic transducer (EMAT) technology. PII is one of the world leaders in assessing pipeline integrity, and has a successful track record for new product development. The

EmatScan CD is a unique solution for assessing longitudinal cracks that is now available to gas pipeline operators.

The new equipment detects and precisely measures longitudinal cracks in gas transmission pipelines without the need for a liquid coupling medium. Using it, operators of gas and other dry pipelines can therefore identify, early signs of fatigue, stress-corrosion cracking, and other forms of axially-oriented cracking. *EmatScan CD* delivers data that is said to be so accurate that it will set new levels for the integrity, safety, and profitability of the world's most critically-important pipelines.

EmatScan CD, designed to detect cracks as short as 30mm and as shallow as 1mm, is the first successful application of the well-proven EMAT technology to the in-line inspection environment. ♦

Pigtek strengthens board of directors

TWO NEW appointments have been made by **Pigtek Ltd**, the UK-based international pipeline pigging specialist; sales and marketing manager Richard Kershaw joins the board of directors, whilst Chris Kershaw becomes non-executive chairman.

Since founding his own pigging company in 1979, Chris has been synonymous with the industry, being a founder member, first president and treasurer of the PPSA, and having had an active involvement with the Pipeline Industries Guild. Following his 'retirement' in 1998, Chris has maintained his association with the industry as a pigging consultant and, with nearly 40

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years of management experience, Chris will bring an unrivalled wealth of general business and industry knowledge to his position at Pigtek. ❖

Leak-repair system upgraded

IN AN effort to focus more attention on the maintenance needs of plants and refineries, **Clock Spring Co** has improved the performance and capability of its leak-repair system. The *Leak Stop-02* system uses a new, patented, material to seal the leak, and a composite outer-wrap to reinforce the damaged area. This combination of material is said to provide an effective means of sealing leaks in all types of pipelines and pipework.

In addition to providing a permanent repair for leaking defects in mainline pipes, the system can also be used to repair leaking defects in irregular shapes as well as bends, fittings, tees, and other difficult repair applications. ❖

Multi-diameter pigs for Mardi Gras...

BP America has awarded **Pipeline Engineering** a contract to design, build, and test a suite of commissioning and production multi-diameter pigs for use in its *Mardi Gras* gas and oil transportation system in deep water in the Gulf of Mexico. The pigging operations include flooding, dewatering, cleaning, and dewaxing. The pigs will be run through various pipeline features, including large diameter changes, subsea wyes, and valves.

The design is based on PE's new *Paddle Pig* design, which is claimed to offer pipeline operators a solution to pigging dual- and multi-diameter pipelines during pre-commissioning, pre-inspection, and routine operations. The system works by using polyurethane 'paddles' to support the pig on the centreline of the larger pipe. Each paddle then collapses by rotation into the smaller-diameter pipe. Sealing is performed by standard disc seals in both diameters, and the new pig satisfies the fundamental requirement that it must have seals that provide the drive in each size.

Full-scale prototype pigs will be trialled in a BP purpose-built facility which will test the pigs at various pigging velocities in both water and air. ❖

... sphere launchers and receivers for Venezuela...

A 42-in diameter sphere launcher/receiver and a 30-in receiver system have been supplied by **Pipeline Engineering** to the *Hamaca* upstream project in Venezuela. Each system is made up of the sphere or pig launcher/receivers, structural steel support skids, motor-operated valves, motor-operated sphere-release-flap mechanisms, and all connecting ancillary pipework. The UK company has also provided engineering support staff to undertake and assist with pre-commissioning and commissioning for this equipment at the installation site near El Tigre in the Orinoco Delta, central Venezuela. ❖

...and caliper surveys

PIPELINE Engineering has introduced a caliper survey service using tools in the size range 8-48in. The company's tools have been designed to be lightweight, rugged, and to offer the latest in technology. The existing fleet of single-channel tools will soon to be complemented with multi-channel units which will have a patented measuring device. ❖

Leak repair clamps from India

IN ADDITION to its' regular range of products and services, including pigging and caliper surveys of pipelines, pig launchers and receivers, and pig-passage indicators, **Vee Kay Vikram & Co** is now regularly manufacturing on-line pipeline leak repair clamps pressure rated up to 900psi, and designed to be suitable for pipeline diameters of 3-32in. ❖

Top seal fittings video...

AN instructional video intended to demonstrate how to install the company's *Shortstopp* bolt-on top seal fittings on a pipeline has been released by **TD Williamson (TDW)** of Tulsa, OK. TDW has developed a range of 'bolt-on' fittings for use with its well-known tapping and plugging systems for use in a number of applications, such as isolations, main relocations, equipment tie-ins, lateral connections, line extensions and crossovers, all of

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which eliminate the need for a valve on the connection and making repairs without shutting down the pipeline. ❖

...and TDW buys Magpie

TD Williamson has expanded its pipeline integrity service with the acquisition of **Magpie Systems**, a Salt Lake City-based in-line inspection (ILI) company. Magpie has established itself as an innovative, cost-effective, and responsive ILI service provider, and has a full range of high-resolution magnetic-flux leakage (MFL) inspection tools in diameters from 4-in, supported by Windows-based anomaly analysis and characterization software. ❖

Pig detectors from Inline

INLINE Services Inc of Houston is now handling the *Pcom* range of pig detection and communication equipment for the US. Through clever use of microprocessor and advanced software, this range of non-intrusive pig detectors will register pig transmitters through most pipe materials and sizes. The time and date of the passage of the pigs can either be displayed on the detector or relayed by wireless transmission to a hand-held, or office-based, receiver. The detector's status can even be accessed via the web. Units can be battery or mains powered, and battery life is up to three years.

New pig tracking and benchmarking systems were released recently, and will be followed by leak-detection and

through-pipe communication systems. These, too, will be handled by **Inline** in the USA.

Pcom Technologies Ltd is a microprocessor-engineering company, specializing in data communication, magnetic field recognition, and tagging (programmable chips for inventory location/control and security), and is based in Horsham, UK. ❖

Interlocks ensure safe operation of actuated valves

WHENEVER VALVES are actuated by pneumatic, hydraulic, or electrical power sources, **Smith Flow Control** can supply key-exchange interlocks which can be easily integrated into the actuator operation. By allowing complete manual control of the actuators, the interlocks allow the actuated valves to be incorporated into a complete key-exchange interlock sequence with other critical process valves.

Due to the high torque applied during valve actuation, mechanical locking is not practical, and interlocking of the actuator control mechanism is preferred. As there are often two or more ways of operating actuated valves, they all need to be accommodated within the interlocking system. Smith's interlock systems for electrically-actuated valves have three main components: a switch panel interface interlock, a manual override interlock, and a valve-position proving device. These ensure firstly that the actuator's failsafe function is not compromised; secondly, that the valve 'absolute position' (open and/or closed) is independent of any

on-board instrument indication; and finally that the actuator manual override cannot be used to override the interlock function.

In addition, on electrical actuators where the key interlock system de-energizes the valve, any circuitry – for example anti-condensation heating circuitry – remains uninterrupted. A similar range of key interlock designs are also available for both spring-return and non-return hydraulic actuators and for spring-return pneumatic actuators. ❖

Apache Versi modular cast pigs

THE Apache Versi pigs are all-urethane, durable, and economical pipeline pigs, designed for versatility, and can be used for cleaning, batching, or displacement operations. The addition of wire or plastic brushes further enhances their usefulness. The flexibility of the solid urethane shaft allows even wear of the sealing elements, which is an inherent problem with heavy-steel mandrel shafts. ❖

4-in high-performance ILI MFL tools

AS ONE OF THE European market leaders in small-diameter MFL ILI tools, **3P Services** has further developed its 4-in diameter tools, which are now capable of negotiating standard elbows of 1.5D radius and are suitable for Schedule 40 as well as Schedule 80 line pipe. The existing 4-in tools, originally designed for flowline inspection of lines with a bend radius of 5D,

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have proven to be successful in inspection of many oil- and gasfield lines. For the new 4-in tool, the micro-electronics of the existing 3-in ILI MFL tool was used for data storage, and a newly-engineered magnetization and sensor unit capable of negotiating 1.5D elbows was successfully tested in the 3P Services' tests loop at its premises in Lingen, Germany.

Contracts have been awarded already to run this new tool in pipelines with different media and standard 1.5D radius elbows.

The 3P Services' design is based on standardized modules adapted to specific pipeline requirements; this means that the tools can be tailor-made to accommodate individual pipelines as well as, in many cases, so-called 'unpiggable' lines. All data is downloaded on site with the company's software system, and a quick first data assessment is carried out on-site. More details can be found at www.3p-services.com. ❖

Pipeline inspection technology development agreement

STUTENSEE, Germany, -based **NDT Systems & Services AG** (NDT S&S) has entered into an agreement with Houston-based **Tuboscope Pipeline Services**, a unit of Varco International, Inc, to develop ultrasonic technologies to inspect in-service pipelines. Under the agreement, Tuboscope has provided, along with other resources, a minority interest and equity investment in NDT Systems & Services, to develop and promote a 'smart' pig to investigate the condition of pipelines.

As many readers will know, smart pigs are sophisticated instruments which are pumped through pipelines by the flow of product, measuring the physical properties of the pipeline along the way, and are used by oil and gas pipeline operators to manage the safety and integrity of their

pipeline assets. NDT S&S and Tuboscope hope to provide ultrasonic inspection services commercially in 2003.

NDT S&S was founded in 2001 by a number of engineers and physicists experienced in non-destructive industrial testing. Through its close links with one of Germany's leading applied-research institutions, the Fraunhofer Group, the company has quickly established itself as a leading non-destructive testing company.

Tuboscope is a leading provider of pipeline inspection services world-wide, with operations in Houston, Bordon, UK, Nisku, Canada, Rio De Janeiro, Brazil, and Mexico City. ❖

New consultancy launched

TOM Sowerby has recently left PII and started up as a pipeline inspection consultant. His aim is to offer consultancy services to pipeline operators and oil companies covering all aspects of pigging operations, but specializing in the inspection of pipelines, both offshore and onshore.

Tom spent 34 years with British Gas working initially at the Engineering Research Station, Killingworth, and then moving on to the project that saw the creation of the On-Line Inspection Centre, which later became PII. Whilst working for PII he held a number of different roles throughout the company, including project manager of inspection operations, sales and marketing manager, and general manager of PII Kershaw (cleaning pigs) and PII Technomarine (pipeline isolation). During the last six years he has concentrated his efforts in a sales role, offering pipeline cleaning and inspection services in the UK offshore market. During this time he has helped establish PII as one of the market leaders in the area. Before he left PII, Tom was instrumental in securing a contract for the development of a multi-diameter

inspection system for use in the deepwater Gulf of Mexico pipelines.

Tom has been treasurer of PPSA for the past three years, and director for the past year. ❖

Magnus EOR project completed...

BJ Process and Pipeline Services (BJPPS) has successfully completed a range of pipeline engineering, testing, and commissioning services for **Allseas** and **Stolt Offshore** on behalf of **BP** and its *Magnus* enhanced oil recovery project (EOR). The project, which involved the construction of a subsea pipeline system to carry natural gas from the *Foinaven*, *Schiehallion*, and *Loyal* fields west of Shetland to the Sullom Voe Terminal in Shetland, is being carried out to increase the recovery of oil from the *Magnus* reservoir. The gas will then be treated at Sullom Voe, and enriched with liquefied petroleum gas (LPG), which is currently exported by tanker. An additional subsea pipeline will transport the enriched gas from Sullom Voe to the *Magnus* platform where it will be injected into the oil-bearing rock using wells specially designed for gas injection, thereby increasing the amount of oil recovered.

BP believes that the *Magnus* EOR initiative should increase its recoverable reserves by approximately 50 million barrels of oil, extending the life of the field several years beyond 2015. The new *Foinaven/Schiehallion-Magnus* pipeline system began operating last summer. ❖

...and hydrotesting safety initiative in Brazil

A \$multi-million contract has been awarded by **Petroleo Brasileiro SA** (Petrobras) to **BJ Process and Pipeline Services** to provide hydrotesting services on critical land lines that make up

portions of its pipeline network in northern Brazil, from the states of Rio de Janeiro and Minas Gerais to the northern boundaries of the country. During the next 18 months, BJ PPS will be responsible for planning, testing and certifying of hydrotests on about 30 pipelines, which comprise approximately 80% of Petrobras' pipelines located on land in the region specifically covered by this contract. These pipelines – which are used to deliver gas, crude, water and refined products – range from 4-42in diameter, and extend from several hundred meters to 425km in length.

These services are being provided to Petrobras by BJ PPS as part of a country-wide safety and inspection initiative being implemented by Petrobras to ensure that Brazil's pipeline network will continue to operate safely. The programme encompasses a rolling series of comprehensive inspection, repair, and re-evaluation operations.❖

More technology, more integrity

AFTER TWO years of study and testing NGKS International Corp has finalized the development and started the commercial application of its first of a series of ultrasonic crack-detection tools for identification and sizing of longitudinal or circumferential cracks. NGKS is a fast-developing intelligent-pigging company, and has a successful track record of high-resolution surveys in Europe and the FSU. Its ultrasonic crack detection tools are designed to detect and accurately measure cracks in both gas and liquid pipelines.

The new tool expands NGKS' list of services, which now includes pipeline cleaning, geometry inspection, corrosion and crack-detection surveys by ultrasonic and MFL tools of pipelines in the size range of 8-56in, and manufacture of acoustic emission testing equipment. NGKS also says it is launching its

first 'combo' 20-in ultrasonic WM + CD tool in mid - 2003 to provide complete pipeline integrity data at minimum operational costs.❖

Girard Industries serving pigging for 30+ years

HOUSTON-based Girard Industries began manufacturing pipeline cleaning pigs as Girard Polly Pig in 1968. Over the last 30 plus years, the company has considerably broadened its pigging products, from simple foam pigs to high-quality cups, discs, and other urethane products. Though the company has been building steel mandrel pigs for removing various types of pipeline debris for many years, its products had never been considered for drive and support material for expensive and sensitive intelligent pigs. Over two years ago, it became evident to three different intelligent pigging companies that if Girard's cups

Training courses from **Pipes & Pipelines International, UK** in association with **Clarion Technical Conferences, USA** 2003

| | |
|---------------------------------|---|
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Third edition of *All About Pigging*

THE well-known and respected reference manual *All About Pigging* was first published in 1995, and the second, revised and updated edition, was published in 1997. Since then there have been significant changes in both the technology and the companies serving this important part of the pipeline industry. As a

result, the authors, **Jim Cordell** and **Hershel Vanzant**, have been busy listing these changes, and plan to introduce the third edition of this book towards the end of February, 2003. There are now almost 1,000 of these manuals in pipeline operation and maintenance departments throughout the world. To make sure you are get the new edition as rapidly as possible, contact Jim Cordell at jlcordell@btopenworld.com. ❖

President's letter

(continued from page 1)

and requirements. The discussions clearly showed that the members should not only view the role of the PPSA from within our industry, from the point of view of a vendor, but also through the perspective of our clients, the pipeline operators.

You might ask, if they are so successful, why there have only been two seminars. Well, it is mainly a question of resource rather than a question of demand. A warm "thank you" therefore to Gill Hornby for all the hard work she has put into the organization of the seminars, in addition to all her other duties for the PPSA, to John Tiratsoo and Pipes & Pipelines International, for his constant and highly-appreciated support, to the speakers and, of course, to the delegates! As we all agree, I am sure, training is a highly-important issue. The PPSA, through its seminars, should and will aim to provide training seminars and a platform for the exchange of information and experience for its members and for the industry.

When this newsletter reaches you I will be handing over this job to the next President of the PPSA, Coleman McDonough. I wish him good luck and success.

Finally, as before, I would like to encourage invite you, the members, to play an active role in the PPSA, your Association.

Michael Beller

and discs were good enough to resist the rigorous wear-and-tear of pipeline, cleaning, the company could provide what was needed to drive and support an intelligent pig, and it is now supplying these materials to at least one intelligent pig manufacturer.

Most of Girard's product development and success is thanks to production manager Kiet Trinh. Kiet came from SE Asia with only a chemical-engineering degree and strong work ethic, and now has been with Girard for over 22 years. He is literally an icon for the company. In addition to the intelligent pigging industry, Kiet has assisted many other companies to design the right pig, or urethane product, for the pipeline conditions to be encountered. ❖

US Pipeline Safety Bill

IN WHAT IS seen as a bipartisan effort to secure the safety of the US' natural gas and

oil pipelines, the US House of Representatives unanimously approved the Pipeline Safety Improvement Act of 2002 (HR 3609) in November. House Energy and Commerce Committee chairman Billy Tauzin, who also chaired the House-Senate energy conference committee that shepherded the legislation to its successful completion, applauded the bill's passage calling it a vital step toward securing our nation's energy infrastructure.

"This will go a long way toward improving operation, construction, and safety of oil and natural gas pipelines, especially near homes, businesses, and recreational facilities," said Mr Tauzin.

The Pipeline Safety Improvement Act of 2002 requires inspections of all pipelines in the US within the next ten years, to prevent leaks and ruptures. More problematic pipelines will be inspected within the first five years, and all pipelines would then be re-inspected every seven years following the initial ten-year interval. ❖



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 Fax +81 (0) 3-5713-2100
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