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EMERSON
Process Management

Emerson wins US\$6.4 million Taiwan Lungmen nuclear power contract



Emerson Process Management has scored a winning contract from Taiwan Power Company (also known as Taipower) in what is to-date the fourth and single largest investment since the liberalization of Taiwan's utility market, for increased process monitoring. Expected to be fully operational after 2007, the Taipower project involves a 2,700 MW plant consisting of two 1,350 MW units at Yenliao, on the north-eastern tip of Taiwan, near the capital Taipei.

Emerson also has an edge over its competitors with its credible validation as a qualified vendor.

Emerson Valves meet Taipower's operational needs

In meeting the demands of Taiwan's and Taipower's extensive needs, Emerson will supply 600 units of control valves, of which 100 units are large size ANSI 600# rated stainless steel (SST) valves with weld-on connections at inlet/outlet; 24 units will be built in specialty materials such as 6% Molybdenum stainless steel for seawater applications. In addition, 110 units of remote mount FIELDVUE® DVC6000 (digital valve controllers) will also be supplied for valves located within the nuclear island.

Excellent user experience is the winning key

Precise technical advice and superior product capabilities offering predictive diagnostics, and remote mounted DVCs which enable the end user to monitor process, run diagnostic checks, calibrate and maintain records through remote control are differentiating points for Emerson's scoreboard on Taipower.

Emerson also has an edge over its competitors with its credible validation as a qualified vendor backed by Nippon Fisher and Malaysia Nilai factories, including past accolades for excellent user experience by Taipower.

TRAINING PROGRAMS

All-year training now available for customers

Emerson Fisher Valve Division's Asia Pacific Control Valve Engineering School now has training courses designed specially for customers with the aim of increasing their knowledge and expertise of the company's control valves. Also available to staff and Local Business Partners (LBP's), this objective has been embraced as an ongoing process for 2006.

The Control Valve Engineering School started initially with only one trainer and as the need for more trainers evolved, the team of trainers grew to seven talents.

Last year, the training program received noteworthy responses. A total of 285 participants, consisting of customers, staff and LBP's, have completed eight such schools so far.

Training is imperative to develop the ability to meet the ever-increasing challenges in the industry. The Asia Pacific region, in particular, is experiencing tremendous growth, and customers and Fisher alike are adding new

staff to support this. As such, training takes precedence in equipping these new recruits with the necessary skills to take on opportunities that abound in the region.

Customers and regional offices are encouraged to partake in these training courses for staff development and to stay relevant in the ever-changing industry. For those who are planning to send staff for training, here's a calendar of upcoming courses. Contact your nearest Fisher Local Business Partner (LBP) for further information. Information is accessible to LBP's on the AP-FishWeb.



		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Training School	Industry School (Internal Only)	China 16-18 Jan 3 days	Fieldvue Service Level II (Internal Only)	Course 1759 Valvelink & Diag Fieldvue - Data Interpretation	Course 1751 Fundamental of DVC	Course 1300 Control Valve Engineering I	Industry School (Internal Only)	Course 1350 Control Valve Engineering II	Course 7036 Fieldbus DVC's	Course 1400 Valve Technician I	Valve Service and Fieldvue Level I (Internal Only)	Fieldvue Mgr Program (Internal Only)	
	China 16-18 Jan 3 days	China 20-24 Feb 5 days	Spore 14-15 Mar 2 days	Spore 10-11 Apr 2 days	Thailand 15-19 May 5 days	Malaysia 12-14 Jun 3 days	China 3-7 Jul 5 days	Spore 14-15 Aug 2 days	Spore 11-15 Sep 5 days	Spore 16-20 Oct 5 days	Spore 13-14 Nov 5 days		
	New	New	New	New	New	New	New	New	New	New	New	New	New
	Product Overview (Internal Only)	Product Overview (Internal Only)	Course 1300 Control Valve Engineering I	Course 1752 Valvelink & Diag Fieldvue - Opn	Power School (Internal Only)	Product Fundamental School (Internal Only)	Control 1300 Control Valve Engineering I						
	Malaysia 18-20 Jan 3 days	Vietnam 21-24 Feb 4 days	Malaysia 20-24 Mar 5 days	Spore 12-13 Apr 2 days	China 29 May - 1 Jun 4 days	Spore 21-23 Jun 3 days	Spore TBA 5 days						
	New	New	MRO School (Internal Only)	Fieldvue Service Level II (Internal Only)									
			China 9-11 Mar 3 days	China 3-7 Apr 5 days									
			New	New									

PRODUCT & INNOVATION

In-house Cryogenic testing heightens efficiency

Cryogenic control valve requires special design, manufacturing process and special testing to withstand temperatures as low as -198 degrees celcius in LNG plants.

With greatly enhanced and improved testing capabilities, Emerson undoubtedly stands out as the leader in the industry having their own in-house cryogenic testing facilities. Nippon Fisher Sakura factory in Japan has the largest cryogenic test facility that can test globe valves up to 24" size. The other facility exists in Marshalltown, USA.

The Cryogenic valves are typically made of 316 grade stainless steels to withstand the low temperatures and use special extension bonnets to prevent freezing of stem packing. The plug seal is made up of UHMWPE (ultra high molecular weight polyethylene) and the seat design uses a unique soft metal construction. The cage inner wall is specially machined to smoothness for a good sealing between the cage and seal ring to achieve tight shut-off requirements. Typically the seat leakage is less than 0.0005% of the rated valve capacity. Customers often require the seat leak test to be done at cryogenic temperatures of -198 deg C which the cryogenic test facility would use. The test valve is placed in the cryogenic pit and filled with liquid nitrogen to lower the temperature to the required value. 99.995% purity helium gas is used as the test medium.

The Emerson's Cryogenic Test Procedure conforms to Shell International Petroleum Maatschppij B.V. (SIPM)'s requirements. Recent mega size LNG projects that Emerson clinched use the Sakura test facility to test all the cryogenic valves in the project.



New AMS ValveLink® 7.2 innovation ups plant availability



Emerson has released the improved AMS ValveLink® 7.2, which can communicate with both HART® and fieldbus devices to realize the full capabilities of digital technology.

A core component of the PlantWeb® digital plant architecture, the AMS ValveLink® allows for predictive maintenance, performance monitoring and economic optimization. It is available either as a stand-alone application, a SNAP-ON™ to Emerson's AMST™ Intelligent Device Manager or a PLUG-IN to PRM.

What's new in AMS ValveLink 7.2

- The HART® One Time StepUp now temporarily tiers the Digital Valve Controller (DVC) to the PD tier
- The Help system is now available in HTML format
- The references to Emergency Shutdown Device (ESD) have been changed to Safety Instrumented System (SIS) in the interface and in the documentation
- The SNAP-ON™ versions can communicate with both HART® and fieldbus DVC

AMS ValveLink SNAP-ON™ to AMS Intelligent Device Manager

The enhanced AMS ValveLink SNAP-ON™ application enables users to continuously monitor Fisher FIELDVUE® DVCs (HART® & fieldbus) to obtain complete performance diagnostics from valves while the process is in operation, thus determining the optimal time to schedule the valve for maintenance.

AMS ValveLink PLUG-IN for PRM

ValveLink PLUG-IN for PRM now supports both HART® and FOUNDATION™ fieldbus DVCs, providing multi-tag support, instrument step-ups and batch runner. When HART® multi-tag support is configured, ValveLink PLUG-IN for PRM can simultaneously access devices on different paths, though simultaneous access to multiple devices on the same path is not recommended because of performance limitations inherent in HART® serial communication.

SECCO: The world's largest FOUNDATION™ fieldbus complex - From greenfield to on-spec in record time

At the Shanghai SECCO (Shanghai Ethylene Cracker Complex) Petrochemical Company startup press event held from July 28 - 29, 2005, SECCO applauded Emerson's contribution to the successful startup of the largest petrochemical complex at the Shanghai Chemical Industry Park, China.

A total of 100 Emerson Chinese customers and 30 global editors and analysts representing China, Germany, Indonesia, Japan, Korea, Mexico, Singapore, Thailand, UK and USA attended the event. The guest list included prominent industry names such as Fujian Refinery, Aramco, CNOOC, Zhen Ha Refinery, Qing Dao Refinery, Conoco Philips, PetroChina, Dow Corning and AMEC.

The two-day bilingual event started with an opening speech by Mike Train, President, Emerson Process Management Asia Pacific. This was followed by a SECCO site tour on the second day for the editors. The press event also covered how FOUNDATION™ fieldbus (Ff) benefited SECCO, the execution of the project and how Emerson delivered results. A demo on PlantWeb® operation was also conducted.

A winning combination - Emerson's technology and people

SECCO comprises 10 plants (each one the largest of its kind in the world) within an integrated facility. At the core is the ethylene cracker that is capable of producing 900,000 tons of ethylene a year. Other plants make a further two million tons of polyethylene, polypropylene, polystyrene and aromatics. Each plant has a lead EPC (engineering, procurement, construction) contractor.

"With so many contractors, partnering with one main automation supplier would be critical for the success of the project," explained Danny McHuge, Process Control Manager Styrenics on why SECCO placed Emerson in charge of supplying the instrumentation and control needs of the complex.

Jack Brinly, SECCO Deputy Project Director, cited the reasons why

Emerson was chosen:

- Global industry leader
- Local China and Asia Pacific experts, resources and commitment
- FOUNDATION™ fieldbus expertise and compliant products
- Most advanced technology

According to Mike Train, it was the right blend of technology and people that made Emerson the preferred partner in realising SECCO's vision. Emerson's advanced automation architecture based around PlantWeb® and FOUNDATION™ fieldbus accessories, combined with an exceptional project execution organization, ensured that Emerson delivered the project three months earlier than originally planned.

Operating with PlantWeb® at SECCO

Fully fitted with Emerson equipment, SECCO recorded no problems with its measurement and control infrastructure. SECCO's single, centralized control room, about 1.5 times bigger than NASA's famous mission control centre in Houston, is equipped with the DeltaV automation system - an Emerson's DCS (distributed control system), which has a stable operator interface with no issues in graphics call-up time.

Other components of PlantWeb at SECCO include Fisher valves and digital valve controllers, Rosemount measurement and analytical devices, and Micro Motion Coriolis flowmeters. The AMS Suite, Emerson's asset management system, is also in operation at SECCO, receiving diagnostic data from digital field devices and providing early information about component health. This has contributed to SECCO's maximum plant reliability and availability.

FOUNDATION™ fieldbus Technology at SECCO enhances operational excellence

The decision to use Ff technology at SECCO was apparent for the following benefits:

- Enhanced diagnostic information from networked devices to facilitate predictive maintenance
- Major cost reduction and space saving using Ff's cabling topology
- The capability of the filed instruments to continue executing and operating the process at the set point, regardless of a DCS fault



SembCorp Utilities embraces PlantWeb®

As a sole provider of integrated utilities (water and steam) to chemical and petrochemical companies on Singapore's Jurong Island, SembCorp Utilities (SUT) recognizes that it is crucial to increase uptime. They also recognize that equipment health monitoring would enable predictive maintenance to minimize unscheduled downtime. Emerson demonstrated the power of PlantWeb® at the Dynamic Performance Loop and showed SUT how they can achieve their objectives.

The state-of-the-art PlantWeb® Dynamic Performance Loop is a working mini-plant built on the PlantWeb Digital Plant architecture. It can be remotely accessed via Internet from anywhere in the world 24 hours a day. The Loop consists of all the Emerson intelligent HART and fieldbus devices including the FIELDVUE® DVC6000PD and DVC6000SIS. From the live demo, SUT witnessed the FIELDVUE® promise of tight process control, offline and on-line valve diagnostics and how predictive maintenance can be realized.

The off-line diagnostics captures information on valve friction, dead-band, linearity, supply air pressures, seat load and actuator bench set to evaluate the health of the valves. The on-line diagnostics provide the ability to monitor valve friction, dead-band and travel deviation while the valve is in service, to examine whether the data has deviated from the off-line information. This health monitoring information allows SUT to plan the maintenance needs of the valves.

Convinced with the benefits of PlantWeb®, SUT invested US\$100,000 to upgrade the valve positioners to FIELDVUE® DVC6000PD and AMS ValveLink diagnostics solutions. Emerson is currently working closely with SUT to help them achieve their predictive maintenance goal.

Emerson hosts user conference in Xiamen, China

Emerson organized a user conference for its customers from the Refinery and Ethylene industries in China from September 14-16, 2005. Held at the Xiamen International Seaside Hotel, the conference was a communications and exchange platform for sharing the latest developments in process technology and control valve applications as well as best practices for the process industry.

Attended by over 100 participants, including customers from SECCO, SEI, Qilu Petrochemical, Shanghai Petrochemical and Huanqiu Engineering, Emerson shared the latest developments in the PlantWeb digital plant architecture and severe service control valve technologies for the Refining and Ethylene applications. Participants were also treated to a display of the latest Fisher instrumentation, control valve products and the PlantWeb mobile display station. A PlantWeb® Dynamic Performance Loop demonstration was also conducted live via the Internet.



The secret behind Emerson's success in China

Offering a wide selection of products ranging from measurement, flow and analytical equipment to control valves, pressure regulators and automation systems, Emerson's success in China undoubtedly rests on its proud heritage and numerous strong brands under its wing.

An employee with Emerson for the last 12 years in the Fisher valve business, Tan Koon Meng, Senior Manager in China, attributed Emerson's phenomenal performance to two significant factors: the growing China market and the '3C' core values espoused by Emerson. The 3Cs are namely Customer, Competition and Company.

Emerson focuses on understanding its customers' needs and provides innovative solutions to help customers improve productivity and reduce operating costs. The company also practices LEAN management through efficient material and information flow, effectively reducing business and operation costs in all areas.

Competition, according to Koon Meng, means a thorough understanding of market dynamics to maintain leadership. The company prides itself on using a differentiated business and sales model through Local Business Partners (LBPs). Each of the six major regions in China is served by a dedicated LBP, some of whom were former Fisher employees with a deep understanding of company culture, thus winning customers' trust and preference for the Fisher brand.

Plans for Wuqing facility

With increased opportunities in China, Emerson projects that China will become the world's next largest valve and instrumentation market after America. To meet this growing market need, Emerson invested US\$150 million in a new state-of-the-art valve manufacturing, research and engineering

development centre in Wuqing, China in 2003.

Occupying 10,000 square metres and equipped with the latest technology, the facility will be instrumental in bringing Emerson to new service levels in meeting customers' needs. Customers will benefit from a wider product range, enhanced quality and improved service level. A new service center will be set up in 2006.

People matter

Holding the largest share of China's and the world's control valve market, Emerson has a strong foothold in the industry. The Fisher brand name has remained consistently strong amidst intense competition around the world.

Emerson's belief in people development has led to a stable team of loyal employees, some of whom have served between five to ten years with the company. The company supports learning and development with training and succession plans. Aware of the demands of rapid growth in China, Emerson has the local expertise to meet customer needs.

Offering intelligent products

China customers today embrace the latest technology to improve productivity and environmental protection. Emerson is at the forefront of offering advanced technology solutions that offer the best total cost of ownership. Fisher FIELDVUE® instrumentation, for example, integrates seamlessly with the digital plant architecture, providing customers with tremendous value in valve diagnostics and excellent process control by reducing variability.

Emerson is committed to investing and growing market share in China.



Emerson is one of 'Hottest Companies' for eighth consecutive year



Emerson Process Management has been named one of the 'Hottest Companies of 2005' by

START Magazine for the eighth consecutive year. The award recognizes industry leaders who overcome challenges and achieve their corporate goals through the use of leading-edge technology. START Magazine is a leading trade publication from the US that focused on manufacturing technologies and innovation.

Emerson named Best Technology Provider

In the Chemical Processing Magazine's inaugural 'Reader's Choice Awards', Emerson Process Management was ranked No. 1 by more than 50 percent of its readers, helping the company to clinch the Best Technology Provider in seven product categories.



- Flow instrumentation (63%)
- Pressure instrumentation (53%)
- Valve/Actuators (44%)
- Temperature Instrumentation (40%)
- Process Automation Systems (36%)
- Level instrumentation (31%)
- Process analyzers (26%)

Readers were asked to vote only in those categories in which they have had firsthand experience with the technology in a production environment.

Emerson named Process Control & Industrial Automation Company of the Year by Frost & Sullivan

Emerson Process Management has been named the 2005 Process Control & Industrial Automation Company of the Year by Frost & Sullivan, for the second consecutive year. This accolade recognises the company for visionary leadership in the world market and for providing exceptional technologies and services that enable customers to improve overall efficiency.

The key factors in Emerson's success are financial growth, product innovation, and superlative customer feedback. With this award, Frost & Sullivan recognises Emerson's ability to create winning teams to complement its capacity for technology innovation. The company's people practices provide its employees with an enabling vision, empowering them to exceed targets. Their focus on customer support and responsiveness ensures repeat business.

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Global Users Exchange 2005 a resounding success



The 2005 Emerson Exchange held in Orlando, Florida, USA registered an attendance of more than 1800 industry professionals and guests, exceeding the 2004 conference by 20%. Run by Emerson users for Emerson users, the event offered 300 workshops, short courses and presentations for users to update their knowledge. Emerson users flocked from all around the globe to learn new skills and explore innovative technologies.

This year's Emerson Global Users Exchange will be held from October 2 - 6 in Nashville, Tennessee at the Gaylord Opryland Resort & Convention Centre. All Local Business Partners (LBPs) can visit the event website at www.emersonexchange.org for more information.



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