

# PROCESS Safety Group



Welcome to the Chilworth group newsletter. In this issue, we cover developments in the UK, US and Italy as well as the launch of new offices in France and India.

## Group CEO

Dr Sampuran Singh

2003 was a year of great expansion for the Chilworth group with new branches opening in India and France and a merger of skills in Italy to complement our existing offices in the UK and America.



From our new teams in Mumbai and Delhi, India, lead by Balendu K Singh, we have added loss prevention and risk management services. This complements expertise we had already gained two years earlier within the UK team when we invited Phil Holland to join the Group as Managing Director of our UK head office.

In France our new branch is managed by Joseph-Marc Francois who brings years of process safety laboratory experience to the

## Chilworth Technology (UK)

Another successful year which saw the recruitment of a new Business Development Representative in the North East of England and an increasing demand for process safety expertise on DSEAR/ATEX compliance.

The importance of compliance can never be overstated and with increasing health and safety concerns in all areas of work, it is not surprising that extra emphasis is placed on the process industry. This has fuelled demand for specialist open courses and in-company training particularly on DSEAR and ATEX137 compliance and related subjects such as Hazardous Area Classification.

Chilworth ran a series of regional half-day seminars during 2003 to assist companies in understanding their obligations under DSEAR and ATEX137. For 2004 we will be providing a follow-on workshop which focuses on the practical aspects of achieving compliance using real world examples. Additionally we will also be offering a seminar on "IEC61508 Functional Safety" in recognition of the greater reliance many companies now have on safety instrumented systems.

European legislation impacts in all areas of life and with increasing regularity on environmental health. This is an arena where particularly high demands are placed on our water industry. We have been working very closely with the UK water industry on the drying of sewage sludge as it is no longer acceptable to dump sewage at sea or economically viable to continue to landfill the material. However it is not an easy material to dry, store or transport although the benefits for the environment and industry are huge once a safe working envelope is defined.

To support these initiatives in 2004 we have been improving and enhancing our Laboratory



Chilworth Offices

With the opening of each new office, we have looked to provide value added services to the group. Investing in new skills and facilities to broaden further the range of process safety expertise we can offer on a global basis.

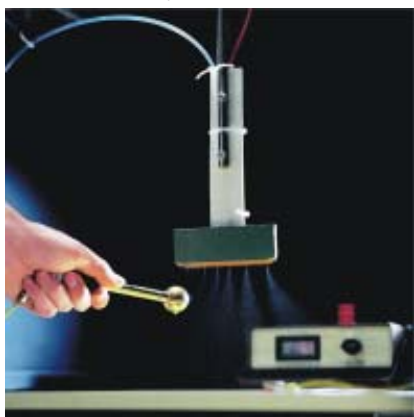
In Italy we have substantially increased our presence by merging with Luciano Vassallo's process design team to form Chilworth Vassallo. Based near Milan and with an impressive pedigree in process plant design for both national and international companies, this new base provides added infrastructure for continuing and broadening our services to the Italian process safety market.

field in support of our acknowledged expertise in process safety consultancy.

Demand for process safety expertise in the US continues to be buoyant with litigation and loss investigation seen as a particular growth area. Dr Vahid Ebadat has recruited a number of talented experts in these fields as he continues to lead the US branch to ever greater success.

The process of opening new markets and adding value to the services already provided will continue in the coming years. Chilworth group can draw upon talent from its global group to ensure we have the right expert for your process safety needs.

test facilities. A new Electrostatics Lab has been built with greater environmental control to evaluate the sensitivity of material to different relative humidity. We have also increased our capacity for thermal stability work in our existing Industrial Explosion Hazards laboratory.



On the consultancy side, we have brought on board three more safety consultants to strengthen our core areas of expertise in dust explosions, electrostatics and chemical process safety.

With our new satellite office in France, we will continue our growth in the European market during 2004 whilst offering enhanced support to our UK clients through the strategic location of regional Representatives.

## **Chilworth Inc. (USA)**



*Dr. Marty Kashef*

Dr. Marty Kashef joined CTI as Technical Director in December 2003. He will be focusing on business development and expanding our Applied Electrostatics Practice. Marty joins us after five years as Director of Technology Development for Elan

Pharmaceuticals and thirteen years in R&D with the Xerox Corporation.

Another valuable addition to the engineering staff was Dick Prugh. As a Senior Process Safety Engineer he brings considerable knowledge and experience from his years at DuPont and independent consulting with particular expertise in chemical process safety and industrial fire and explosion hazards. Dick is a licensed Professional Engineer (PE) in six states and a Certified Safety Professional (CSP). Dick is currently involved in a number of active projects in process hazard analysis (PHA), process audit and litigation.

In the US companies are prone to litigation and stringent loss investigation. To assist our clients in these areas we asked Joe Toscano to join the company. He has been involved in all aspects of the field of fire investigation and case management for the past twenty-five years. His expertise includes fire origin and cause analysis, large loss investigation management, curriculum development, claim division, special investigation unit (SIU) training, subrogation, and fraud investigation. He will be supporting Matt Paine who is expanding our fire testing capability, including bench and medium-scale flammability testing of clothing, furniture, and building materials. With a MS degree in Fire Protection Engineering we have a strong foundation to expand our services in this area.

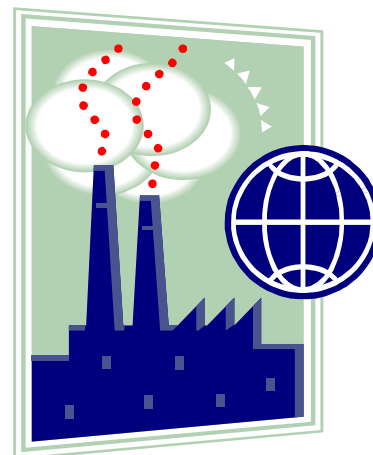
Our laboratories have also been increasing their capability under the direction of Dr. Dehong Kong, Manager, Gas and Vapour Flammability Testing. His expanded lab includes additional reactors that allow him to conduct tests at high temperature and pressure, up to 900 barg. His current projects include evaluating the flammability of proprietary chemicals at 150 barg in pure oxygen and evaluating the flammability of methylene chloride. Additionally, Dr. Kong has been providing technical support in litigation projects.

The capabilities of our US Chemical Process Evaluation (CPE) Group continued to increase in 2003 with the addition of new equipment and test processes. These capabilities include testing for class 1 explosives and other materials in accordance with United Nations (UN) and U.S.

Department of Transportation (DOT) requirements. These tests are used as screening tools to determine whether research substances are detonable. In this regard, research samples we received increasingly have potentially explosive functional groups, including nitros, nitroso, azos, diazos, and peroxy, as pharmaceutical companies search for new drugs.

Some of the projects undertaken recently by the CPE Group include: (1) providing all thermal data for the scale-up of a process involving the production of active pharmaceutical ingredient, Grignard, Von Braun, hydrolysis, methylation, and cyclization reaction steps; (2) determining safe conditions for quenching phosphorous oxychloride with water, (3) self-accelerating decomposition temperature (SADT) determination for tetrahydrofuran complex, (4) optimizing a Vislmeier reaction involving a proprietary compound, and (5) using a high-pressure reactor to simulate a flash fire.

CTI also continued its tradition of informing and educating clients and all those interested in process safety. This included fly Courses; in-Company courses, technical articles, technical bulletins and a new program, called "Round Table Discussion" that provided a new format for sharing and dissemination of information among interested companies and professionals. The program will be continued in 2004.



**Late Breaking News:** Chilworth Inc. is on the move. Following successful negotiations on new offices Chilworth's US branch will be relocating during March to larger premises at Plainsboro, New Jersey (approximately 1 mile from their present location).

## **Chilworth Vassallo (Italy)**

Effective March 2003, the Chilworth Group has widened the range of services offered to industry, through the merger with Studio Vassallo, a process consultancy firm operating in Italy, since 1987, especially for fine chemicals and pharmaceutical companies.

The staff of the newly formed company, Chilworth Vassallo boasts up to 30 years of experience in chemical processes, safety and environmental protection. Their activities are focused on process design and risk analysis.

Chilworth Vassallo can provide a full service to its clients for the development of chemical reactions through material and energy balances, P&IDs performed by Autocad, along with the specifications for materials, equipment and instrumentation, compilation of operating manuals, and assistance in the plant start-up. The services provided include ATEX and SEVESO compliance activities as well as hazardous area classification, HAZOP studies, training courses and fixed fire protection design.

Chilworth Vassallo frequently conducts public seminars to facilitate the dialogue between companies and Inspection Agencies and to establish a common standard for safety in Italian industry.

Recently, the staffing of Chilworth Vassallo has been increased with two graduates in chemical engineering:



*Chilworth Vassallo Team*

Marilena Noviello, who earned a Doctorate on Hydrocarbon Science and will act as Process Safety Engineer. She brings significant experience in the oil and gas process industry, and will focus her activities on Process Design and ATEX/Seveso compliance.

Maria Pasquariello, who followed a post-graduate Master programme on Industrial

Safety and will hold the position of Business Development Engineer. Maria has several years of experience in marketing and sales activities for industrial companies.

## **Chilworth SARL (France)**

The French branch of Chilworth, has started its activities in June 2003. Joseph-Marc François is in charge of the development of this new subsidiary. Joseph-Marc has a 6 year experience in the domain of process safety: between 1997 and 2002, he managed the process safety lab of Rhone-Poulenc - then Rhodia - Group. Between 2002 and 2003, he worked as a process safety engineer, involved in various process safety studies.



*Joseph-Marc François*

Based near Lyon, Chilworth SARL activities cover France and all adjoining French-speaking areas. All laboratory testing is

subcontracted to the Chilworth process safety labs, based in Southampton. These lab's are GLP compliant and fully equipped to provide process safety data in all areas of process safety including gas and dust explosions, thermal stability of substances, electrostatics and chemical reactions hazard. The reports, containing the results, their interpretation and recommendations, are all provided in French.

Other areas of consultancy such as ATEX compliance, hazardous area classification, HAZOP studies, training courses, instrumentation supply are all undertaken directly by our French branch.

For the future, we are developing a French language version of our UK website and hope to have this available in July 2004.

## Chilworth Safety & Risk Management (India)

The East has long been known for ancient wisdom and culture but today is increasingly recognised as a sleeping giant waking to the opportunities of commercial industrial enterprise. If the last century in India was focussed on agricultural growth then the last 25 years has seen the focus change to industrial development and education.

India is a vast country with a huge resource of highly educated and motivated people who wish to develop their country into a mainstream supplier of chemical, pharmaceutical and other highly processed materials. With many green site industrial parks, India has been able to jump straight into modern production methods without the decommissioning of old and inefficient plant. India has benefited from the experiences of other countries that have gone through the development phase. The fruitful aspects of the growth process have been adopted along with an understanding of how the achievements of decades can and have been quickly lost through incidents and accidents. This understanding and the recognition of the very real industrial developments within India

encouraged Chilworth to establish branches in Mumbai and Delhi.



*Process Safety Seminar in Delhi*

In the first year of operation by concentrating on the core strengths of Chilworth, that of process safety consultancy and high quality process safety test data, Chilworth Safety & Risk Management Pty. Ltd. have been able to establish a growing client base.

India's process industries have readily adopted modern European practices in process material handling and human resources management.

Business in India has been encouraging with many blue chip companies commissioning Chilworth to undertake consultancy studies. The range of tasks has been varied, from projects on fire/explosion hazards, electrostatic audits, dust explosion hazards, R&D solutions for process optimization,

energy audits, fugitive emission analysis for volatile organic compounds, incident investigations, HAZOP studies, job safety analysis, quantitative risk analysis, to hazardous area classification (HAC).

Apart from organising consultancy work, Chilworth have also arranged five very successful seminars held in Mumbai, Delhi, Hyderabad and Baroda. Experts from our UK and US offices presented seminars on 'Fire And Explosion Hazards in Handling & Processing Of Gases/Vapours/Solvents and Powders', 'Industrial Electrostatic Hazards' and 'Hazards in Industries-Prevention and Control'. Chilworth's experts have worked extensively for chemical, pharmaceutical and food industries and published numerous technical papers and articles. This accumulation of expert knowledge from the Chilworth group ensured that the seminars included many real life situations and case studies.

Chilworth are committed to inculcating India's process industry with the concepts behind all our process safety training and to the provision of relevant expertise and material test data.

## faxback

Please faxback to Marketing on +44 (0)23 8076 7866

Dr/Mr/Ms/Mrs: ..... Job Title: .....

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### My particular interests are:-

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|------------------------------------|--------------------------|--|--------------------------|--|--------------------------|
| DSEAR / ATEX audits .....          | <input type="checkbox"/> | Dust/Gas/Vapour Explosion.....               | <input type="checkbox"/> | Electrostatic Hazards / Problems ..... | <input type="checkbox"/> |
| Hazardous Area Classification..... | <input type="checkbox"/> | Runaway Chemical Reaction Hazards.....       | <input type="checkbox"/> | Emergency Relief Vent Sizing.....      | <input type="checkbox"/> |
| Regulatory Testing .....           | <input type="checkbox"/> | Incident Investigation / Expert Witness..... | <input type="checkbox"/> | Training.....                          | <input type="checkbox"/> |
- I would like a FREE and confidential telephone call from a consultant regarding a process safety matter .....

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