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## 2011 eNEWSLETTER – VOLUME II

In this edition of the DuPont Sustainable Solutions eNewsletter, you will find extensive information on how to prevent those disasters we can control – industrial accidents - and to prepare for those we cannot – natural disasters. Further, we will present the findings of a new survey that brings to light the real state of workplace safety in Europe. In addition, we invite you to visit our new DSS EMEA website: [www.sustainablesolutions.dupont.co.uk](http://www.sustainablesolutions.dupont.co.uk)

If you would like further information on these topics, you may contact a DuPont representative through our website [www.safety.dupont.com](http://www.safety.dupont.com).

### Safety Contact



#### **Disaster and Emergency Preparedness**

As recent events have shown, natural disasters can severely affect your company's bottom line. Are you prepared?

### Case Study



#### **Developing Process Safety at MOL: The Second Building Block of an Effective Safety Culture**

How the MOL Group improved general safety and PSM performance.

### Feature Article



#### **Survey Shows Workplace Safety Sideline By Business Pressures**

To discover why accidents and incidents persist in Europe, DSS commissioned a comprehensive study. The results are rather surprising.

### Interview



#### **Interview with Albert Walrave – Director of Process Safety Management, Europe**

Albert Walrave, PSM leader for Europe, provides insight into the strategic relevance of PSM within DuPont.

### News and Events



#### **Final Call for Applications - 2011 DuPont Safety Awards**

Last chance to apply for the 2011 DuPont Safety Awards, a prestigious event taking place in Istanbul.

## **Disaster and Emergency Preparedness**

As recent events have shown, natural disasters can severely affect your company's bottom line. Are you prepared?

As recent events such as the tsunami in Japan, tornados in the south-eastern United States and the volcanic eruption in Iceland have shown, natural disasters have the potential to not only destroy or disrupt the lives of millions of people, it can severely affect the competitive advantage or bottom line of businesses across the world. Aside from the damage to physical assets, supply chain interruptions, power failures or damage to transportation infrastructure can lead to both short-and long-term business interruptions. In light of this, it is important for business leaders to prepare in advance, should disaster strike.

The best means of preparation is a comprehensive preparedness plan, developed in conjunction with training programs that keep employees informed and educated. To be considered are the following:

### ***Know your region and insure appropriately***

- Research what emergencies are endemic to your area, such as proximity to seismic faults, flood plains, nuclear power plants and other potential hazards.
- Consider the capacity of your facilities to resist damage.
- Take appropriate insurance.

### ***Develop a plan to protect the business and each employee before, during and after an emergency***

- Obtain appropriate personal protection equipment (PPE), first aid kits, fire extinguishers, smoke detectors and other supplies that could prove necessary if stranded – food, water and basic medicines.
- Maintain emergency shutdown equipment and generators properly. Ensure that employees are familiar with shutdown procedures.
- Create an internal committee responsible for the emergency response plan
- Develop communication channels for warning employees. Ensure that contact information is updated.
- Create an evacuation plan and meeting point. Develop a system for accounting for each person.

### ***Prepare a business continuity plan***

- Set up back-up systems for data in case of power failure.
- Establish emergency procedures for suppliers and vendors.
- Identify essential human and financial resources.

### ***Integrate emergency preparedness into your workplace safety culture***

- Train a significant number of employees in first aid, CPR and evacuation.
- Define roles in the employee handbook, orientation, staff meetings and ongoing training programs.
- Test smoke and carbon monoxide alarms regularly.
- Practice evacuation plans and emergency response systems. Audit performance.
- Encourage employees to develop customized emergency preparedness plans for their home.



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Indeed, companies can do much to protect their employees, as well as their bottom line. The introduction of a comprehensive emergency preparedness plan can supplement their ability to not only survive a natural disaster, but thrive as well.

## Developing Process Safety at MOL: The Second Building Block of an Effective Safety Culture

How the MOL Group improved general safety and PSM performance.

Once a state-owned Hungarian oil and gas company, the MOL Group, since privatization in 1995, has developed into Central Europe's most influential player in the energy market and now has holdings in Hungary, Slovakia, Croatia, Bosnia-Herzegovina, Serbia, Slovenia, Austria, Italy, Romania, the Czech Republic, Russia, Oman, Yemen, Syria and Pakistan. On an aggressive expansion drive to become a leading multi-national company, MOL Group's senior management wanted its safety performance to be in line with the top quartile of its peers to demonstrate the company's operating excellence. In 2003, MOL had recorded 55 Lost Time Injuries (LTI) and a Lost Time Injury Frequency (LTIF) rate of 2.6, an indicator measuring LTI cases against one million hours worked. By comparison, the International Association of Oil and Gas Producers in its 2003 safety performance report<sup>1</sup>, recorded an average rate less than half that of MOL - 1.16 LTIF - among its 36 member companies.

"We set ourselves the goal of getting our LTIF rate below 1 by 2008," Cseh says. "Our overall key safety performance indicators were not satisfactory in certain businesses and, what was in some ways more worrying, was that there was a big gap in safety culture and results between business units."

### *Stepping up safety*

To address this disparity, MOL's first step was to work with DuPont on a shift in cultural attitude to safety. "We decided to invite a safety consultancy which is described as best-in-class, which also manages hazardous processes and assets that are similar to ours; one which brings with it genuine practice and experience, not just a booklet," Cseh explains. "DuPont consultants are not just trainers, but have practical, up-to-date experience and can explain what we need to do in everyday words. They really practice what they teach others."

DuPont carried out an initial evaluation in 2004 and made recommendations, at first only for the MOL operations in Hungary. However, the program was soon extended to TVK in Hungary and Slovnaft in Slovakia, two companies MOL had recently acquired and was in the process of integrating into its operations.

MOL decided to approach the safety issues in two phases: laying the foundations for an overall shift in mindset and attitude to safety, then building on the continuous cultural change with a program focusing on a properly structured and adapted process safety management (PSM) system once this had taken hold. DuPont therefore began to work with MOL on developing an effective safety culture that would motivate and engage the more than 14,000 employees in the group. Together with DuPont, MOL set up what eventually became known as the Safe Workplaces Project.



### ***Safety at the grass roots level***

The implementation of a safety management system decided on by senior management might not be seen as something that the wider workforce might buy into. However, as production expert István Jászapáti, from the upstream division of MOL in Hungary, says: “You can never claim that your organization is perfectly safe, but DuPont has helped us bring standards up to a more acceptable level. They have introduced regular monthly safety meetings attended not only by the HSE experts, but also by our managing director and the local operating team. Information from the meeting is transmitted back to shop floor employees, so they are also informed of what is happening.”

Cseh expands, “Employees are now more disciplined. They understand that safety steps are there for them, that they are taking care of themselves and others. They know that warning each other about missing personal protective equipment for example is not a way of telling each other off, but of looking out for each other. They have also taken part in the development of safety management steps by making suggestions, some of which are very simple, but very effective, like changing safety glasses and helmets so that they fit together better.”

Kornélia Procházková, project manager at MOL Group, draws attention to another notable change, “Even executives conduct behavioral audits and when they come to visit a plant, operatives can see that they now wear safety helmets, safety glasses and safety shoes; in other words the same equipment the operatives themselves have to wear. That sends an important and positive message.”

MOL Refining took a leading role in setting up the safety management system introduced by DuPont and today carries out an impressive number of behavioral audits — over 800 in 2007. Behavior audits focus on a dialogue with employees about safety. These dialogues are conducted with employees working safely to acknowledge their positive behavior, and with employees working unsafely to convince them of the unnecessary risks they are taking. The next step is to jointly develop a safer approach towards the work conducted.

Extensive studies have shown unsafe behavior to be the main source of injuries rather than engineering deficiencies. Attila Csala, Refining HSE Manager of MOL Group Refining, explains, “Refining used this superb tool to improve our safety performance and build up an extensive behavior auditor system. There are now nearly 70 trained auditors in MOL Refining and 30 in Slovnaft Refining.” As a result of the consequent execution of the HSE action plan, the number of Lost Time Injuries at MOL Group Refining dropped from 9 in 2005 to 3 in 2007 and the LTIF rate decreased from 1.53 in 2005 to 0.67 in 2007.

### ***Statistics indicate a shift in attitude***

DuPont completed its safety management consultancy engagement in mid 2007. By the end of 2007, the overall LTIF rate for MOL Group had already dropped from the 2003 figure of 2.6 and 55 Lost Time Injuries to 1.52, which equates to 37 Lost Time Injuries. As Cseh says, “We are heading in the right direction and based on the January to October 2008 figures, I’m convinced that we can meet our year end 2008 LTIF target which is to be at or below 1.00.”

### ***Why do more?***

With safety statistics at MOL Group improving at this pace, indicating a positive change in attitude throughout the organization, many organizations would have rested on their laurels. However, MOL Group had always intended to support behavior safety management with a process safety program. Positive safety statistics can easily lead to complacency and a misinterpretation of safety performance, because serious process incidents happen relatively

infrequently. But when they do, the outcome can be fatal and can affect not only the site, but also the company's business, its customers, the environment and the local community — in other words, the company's reputation. For this reason process safety errors are more critical than conventional hazards which are addressed by behavioral safety systems. Inadequate preventive maintenance, poor technical design, insufficient emergency planning, and incomplete hazard analyses are just a few of the reasons for major incidents. Process safety management addresses these and other likely causes.

### ***Tailored support***

DuPont ran its first series of workshops on process safety with MOL Group in early 2006, but as Procházková explains, “We weren't getting the desired results in the timeframe we wanted, mainly because we expected everyone who had taken part to immediately act as they had been taught. That was when we realized we needed a dedicated DuPont consultant on site, someone with a lot of practical experience.” DuPont sent in Christophe Prajer, a consultant with more than 20 years' experience working with critical chemical processes and implementing the PSM system at DuPont Teijin Films in Luxembourg. According to Procházková, he practically became a well respected MOL Group employee and was permanently on-hand to advise and help.



DuPont and Prajer not only presented and popularized the PSM system at MOL Group, but provided practical support. Prajer suggested PSM network structures, helped with developing an implementation plan at MOL Group level and, with the benefit of his experience at DuPont and other organizations, as well as his in-depth knowledge of MOL

Group structures, set realistic deadlines. He participated in task forces, conducted site visits, held discussions with leaders and field workers, carried out analyses and then proposed specific solutions.

DuPont and Prajer also introduced Key Performance Indicators (KPI) to evaluate PSM at group level. Vojtech Harča, PSM manager MOL Group, elaborates, “The KPIs became part of our PSM manual which was prepared with substantial support from Chris. He also helped us design the site level Management of Change regulation structure, to fulfill the requirements of our insurance company.”

Prajer got to know the organization so well that he collected examples of everyday work experiences for use in a second series of workshops. Starting in 2007, DuPont trained 120 employees — from first line supervisors to process safety engineers and specialists — from 10 individual legal entities in Hungary, Romania and Slovakia.

Peter Augsten, DuPont project manager, explains, “With the number of different languages and businesses involved, we tailored these workshops together with MOL Group to address the specific issues the participants face and developed customized training material. We also used examples from everyday work experiences at MOL Group that Christophe had gathered and presented them at the workshops, so that DuPont consultants could advise on how to tackle concrete local issues rather than working with general examples.”





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In addition to Prajer, other DuPont specialists from a range of European DuPont operations came in at various stages to work with MOL Group on the introduction of specific elements of the process safety system, giving the group “specialist to specialist” support.

***Helping MOL Group become self-sufficient***

The objective for DuPont had always been to make MOL Group self-sufficient and give MOL Group employees the skills to carry the PSM program forward themselves. Harča says, “We wanted DuPont to help us identify the right people in MOL Group and then train them so that they could become trainers themselves. This part of the program was called Train the Trainers.” During a transitional period DuPont consultants accompanied new MOL Group process safety trainers as they rolled out the program to different sites. By mid-2008 MOL Group had become self-sufficient and established a large, dedicated process safety network with more than 120 expert members.

To ensure that everyone in the group knows what is expected of them, all process safety management requirements have now been set out in the new MOL Group PSM Global Operative Regulation. Process safety management has been made mandatory for all hazardous operations and contractors are also given a set of standard requirements they have to abide by if they want to work for MOL Group.

“Overall, the change is big, though difficult to express in numbers,” Harča says. “The most important difference, in my opinion, is that people are taking action to make operations safer in divisions such as retail, what does not belong to our ‘closely watched’ risky operations.”

The process safety management project has been judged to be so successful within the MOL Group, and the company has such confidence in its efficacy, that it is being extended to other companies in the group in Pakistan and Russia.

## Survey Shows Workplace Safety Sidelined By Business Pressures

To discover why accidents and incidents persist in Europe, DSS commissioned a comprehensive study. The results are rather surprising.

Every year, more than five thousand people in the European Union die as a result of work-related accidents. Though the rate in workplace fatalities is decreasing - from 3.6 deaths per 1,000 employees in 1996 to 2.1 in 2007 - and many companies claim to put safety first, the workplace safety as whole appears to be stagnating. Why this disconnect?



To find out what lies at the root of this issue, DuPont Sustainable Solutions, a DuPont consultancy that helps organizations to become safer, more efficient and more environmentally sustainable, commissioned a survey of 300 leading companies across Europe to investigate attitudes to and strategies for dealing with work safety. Participating companies had at least 2,500 employees in the industrial manufacturing, oil & gas, construction, automotive, energy and utilities, food, transport, steel or logistics sectors and were operating in France, Germany, Italy, Poland, Portugal or Spain.

The results of the survey, which can be found at [www.sustainablesolutions.dupont.co.uk/news](http://www.sustainablesolutions.dupont.co.uk/news), suggest that there is a conceptual “breakdown” due to a lack of overall leadership commitment. While it is clear that the importance of safety is well understood, there are gaps in implementation which translates into an aversion to accountability for safety, an absence of clear frameworks for implementing safety in workplaces and even more importantly insufficient measurement of safety performance both in quality and quantity.

### ***Lack of safety performance measurement and targets***

Although many organizations list safety as a top priority, it is rarely a top concern due to less than inspiring drivers - 65 per cent of respondents cited compliance with legislation or corporate image as key motivators. Only 15 per cent of participants named increased productivity, reduced cost or improved quality as the impetus for safety, showing that few believe the benefits of improved safety translate into better business performance.

Beyond this, one-third of the companies surveyed do not even measure safety performance and not one participant could provide a statistic about their company’s safety performance. Furthermore, almost one in five companies does not set specific safety targets at all. Of these the highest number are in Italy, France and Germany. Shockingly, 51 per cent of HSE professionals believe that their company does not set adequate safety performance targets. This begs the question: how much monitoring is actually taking place?

### ***Are all injuries preventable?***

When asked this question, opinion was divided. Companies in the Northeast of Europe are more likely to believe injuries are not preventable, as automated industries such as manufacturing predominate. In Southern Europe, where more labor-intensive industry sectors are prevalent and behavioral safety plays a larger role, injuries are more often thought to be preventable. In Spain



this belief is so strong that 96 per cent of respondents said they believed injuries could be avoided.

***Responsible yes, accountable no***

If workers in some sectors feel that a certain number of incidents is acceptable, and senior leaders do not communicate otherwise, all parties are less likely to act on safety. The study shows that such attitudes resonate throughout the company, manifesting in a lack of clarity about accountability affecting people’s perception of their empowerment when it comes to observing unsafe acts. One in three workers from France does not feel empowered to stop operations to prevent an injury, and participants from Portugal and Italy were also reluctant. In Spain, 70% of companies interviewed considered safety to be a group effort compared to Italy where only 30% believe this to be the case and only 25% in Germany. Arguably, one of the most effective means of improving safety performance is to incentivize safety. However, less than half the companies surveyed incentivize safety, and interestingly, those that do are more likely to be in Southern Europe.

***Senior commitment to safety and leadership***

Additionally, the data suggests that despite strong verbal commitment, business leaders frequently do not translate this into actions. German and French participants were most critical of their senior management, with approximately one third saying their business leaders did not do enough to demonstrate their commitment to improving safety. Further, only 20% of respondents believe that senior leaders in their company consider safety when making business decisions.

***Conclusion***

This sidelining of safety, especially if a business disruption occurs, sits uneasily with the belief of 95% of survey participants that improved safety leads to better business performance. Fundamentally, it is apparent that safety is a large concern among companies throughout Europe. However, this survey lays bare the fact that weaknesses within the system have the potential to reduce its effectiveness, decreasing overall efficacy and manifesting in a consistently higher frequency of incidents or accidents.

When viewed as a whole, it is clear that most companies are not applying themselves fully. The basic elements for effective safety management may be in place, but without proper impetus, safety performance stagnates. This survey showed that a lack of a coordinated, uncompromising approach to safety, means injuries and fatalities are likely to continue to plague companies across Europe, eroding their right to operate and ability to attain their bottom line.

For further information, or to view the results of the survey in full, please visit [www.sustainablesolutions.dupont.co.uk](http://www.sustainablesolutions.dupont.co.uk).

**Interview with Albert Walrave – Director of Process Safety Management, Europe**

Albert Walrave, PSM leader for Europe, provides insight into the strategic relevance of PSM within DuPont

***What exactly is Process Safety Management?***

Process Safety Management (PSM) is the application of programs, procedures, audits and evaluations to a manufacturing or industrial process to identify, understand and control process hazard risks, creating systematic business improvements and safety standards. Most major process incidents result from errors or conditions that can ultimately be traced to breakdowns in management systems and control.

***Can you describe the history of PSM within DuPont?***

Rigorous management of risk and process safety has been a cornerstone of the DuPont operating culture for more than 200 years; we consider safety to be our duty. We pioneered the concepts and implementation of a PSM system in the 1960s. By the late 1980s, the US Occupational Health and Safety Administration enlisted our assistance in developing American PSM regulations. In the mid-1990s, PSM once again became a focus – PSM competency leaders were appointed in each facility, triggering a significant improvement in performance. We have since become the global benchmark for excellence in PSM excellence.

***Why is PSM so important for companies in hazardous industries?***

The main purpose of PSM is to prevent major incidents that have the potential to harm employees, the environment and local communities. Further, such incidents could threaten a company’s bottom line, and ultimately, their right to operate.



In recent years, we have seen countries develop more strict regulations for hazardous industries. We at DuPont endeavor to stay ahead of regulation though, applying the local law or the DuPont standard – whichever is more stringent.

***How does PSM fit into the wider SHE policies of DuPont?***

PSM is fully integrated into DuPont SHE policies. Indeed, it dovetails strongly with behavioral safety, as a sound behavioral safety management system is the necessary basis for setting up good PSM practices. People need to be acclimated to the discipline that behavioral safety management instills, so they have the habit of following procedures. Such discipline can be applied across the SHE spectrum.

***What type of framework is necessary to build a well-integrated PSM system?***

What is really critical for PSM to function well is strong leadership. Employees need to see that their leaders will invest the appropriate time, effort and resources into safety. Managers must be humble, and shirk complacency. Further, they must have the authority to override productivity pressures to ensure optimal performance.

***What advice would you give to a company trying to strengthen their process safety management system?***



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PSM is not difficult to implement, especially given a strong culture of workplace safety. There is plenty of evidence that hazardous operations can be run well for years, as long as the PSM system has well-established multiple lines of defense are routinely checked and maintained.



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## **Final Call for Applications - 2011 DuPont Safety Awards**

Last chance to apply for the 2011 DuPont Safety Awards, a prestigious event taking place in Istanbul.

Companies are increasingly recognizing the financial and social benefits of improved safety within the workplace, and, as a result, are augmenting their safety programs to deliver an improved safety performance.

In order to recognize and reward companies or organizations for extraordinary achievements in the field of safety, DuPont Sustainable Solutions will announce the five winners of the prestigious DuPont Safety Awards on the 12th of September at the XIX World Congress on Safety and Health at Work, taking place in Istanbul. Further, a networking event will be held to allow the sharing of best practices in HSE management between senior-level leaders.

There is still time to submit an application, though the deadline is fast approaching: an application form including a brief abstract of the project should be submitted by 31 May 2011, while complete entries must be received by 20 June 2011.

Prizes will be awarded in five categories: Sustainable Business Impact, Cultural Evolution, Visible Management Commitment, Innovative Approach and Performance Improvement. The jury, composed of reputed personalities within the field of occupational safety and health, will select three finalists per category, according to the following five criteria: design and innovation, scope, results, replicability and risk. Of these finalists, one winner will be selected by category at the award ceremony.

Should you have any questions, please do not hesitate to contact Ms. Doris Sultan at [info@nexdor.ch](mailto:info@nexdor.ch)

Also please visit the DuPont Safety Awards webpage for further information.  
([http://www2.dupont.com/Sustainable\\_Solutions/en\\_GB/dupont\\_safety\\_awards\\_62.html](http://www2.dupont.com/Sustainable_Solutions/en_GB/dupont_safety_awards_62.html))

