2011 eNEWSLETTER – VOLUME IV

In the latest edition of the DuPont Sustainable Solutions eNewsletter, we provide details on how companies can reduce risk and ensure the safety of workers while working with electricity, and during maintenance. Further, we explain why DuPont is ready to send contractors home if they work unsafely.
Also, we would like to take this opportunity to wish you all a very happy holiday, as well as a safe, and successful 2012.
If you would like further information on these topics, you may contact a DuPont representative through our website www.sustainablesolutions.dupont.co.uk

Safety Contact

Electrical Safety in the Workplace
Electricity does not smell, it does not make noise and it has no presence. As such, it can be challenging to identify electrical hazards in comparison to other typical workplace hazards.

Case Study

A Solid Foundation for Sustainable Business
The largest privately owned construction entity in Australia, Grocon, was able to reduce TIFR by 76% from 2008 to 2011, and concurrently help contractors to improve their safety performance through targeted programmes.

Feature Article

Managing the Safety of Contractors in Large Capital Projects
Why DuPont will send contractors home if they are found to be working unsafely, according to Glenn Kmecz, Global Practice Leader for Contractor Safety Management.

Feature Article

EU-OSHA Article
This guest contribution from EU-OSHA elaborates upon some key success factors for managing risk during maintenance.

News and Events

News & Events
The latest news about DuPont Sustainable Solutions and where you will find us in Q1 2012.

Electrical Safety in the Workplace

Electricity does not smell, it does not make noise and it has no presence. As such, it can be challenging to identify electrical hazards in comparison to other typical workplace ones. This leads many to relegate efforts to prevent electrical injuries and fatalities to electrical experts, or to rely on Personal Protection Equipment (PPE) and general industry safety standards to keep employees safe. This is insufficient.

Indeed, electrical safety should be administered through an integrated safety management system in which electrical experts, safety experts and management can work together to ensure a safe and healthy workplace.

Prior to taking specific actions to minimize electrical hazards, it is important to develop a solid infrastructure within your company:

- Form an electricity management team that includes all stakeholders
- Establish a corporate performance standard for electrical safety management
- Create a corporate network used to share best practices and leverage innovative ideas and procedures
- Develop regular communications around electrical hazards, both at work and at home
- Establish an "Electrical Safety Month" to both show management commitment and disseminate knowledge

Once these are established, some specific actions that you can take include the following:

- Conduct a full hazard assessment
- Develop a comprehensive set of control measures
- Leverage the strengths of your electrical management team: have electrical experts locate problems and identify weaknesses while safety professionals focus on holistic integration of electrical safety in facility design
- Adopt a safety administration process that emphasizes the cultivation of a robust safety culture
- Conduct frequent audits on employee behaviour and facility integrity
- Ensure that a continuous dialogue about electrical safety is taking place

With such a system, it is possible to significantly reduce the frequency and intensity of injuries and accidents, and ultimately enhance profitability through operational efficiency.

The Grocon Culture: A Solid Foundation for Sustainable Business

The Highlights

- 76% reduction of Total Injury Frequency Rate from 2008 to 2011
- Increased work productivity and efficiency contributing to building completion ahead of scheduled time
- Improved industrial relations environment
- Injusry reduction and improved performance of subcontractors

A Challenging Environment

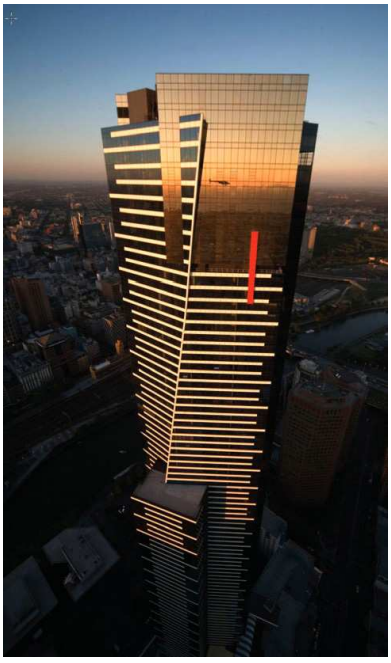
Research conducted by Safe Work Australia in 2005 and 2006 revealed construction workers experienced injury at a rate 25% higher than that of all Australian workers[1]. Senior managers of construction and development giant, Grocon, knew they wanted to achieve a safety record better than that of industry peers. However, translating aspirations into reality faced several challenges:

- The construction industry had traditionally accepted safety records deemed unacceptable by world class performers.
- The longer serving employees and leaders at Grocon had spent much of their careers working with attitudes that could lead to prioritising project deadlines before safety considerations.
- The safety management traditionally practised was compliance driven and of a policing nature, with a focus on disciplinary action.

With these issues, the challenge for Grocon was to shift its safety culture to a state in which every employee adopted safety as a core value that shapes how work is performed.

Building a Safety Culture

Whilst Grocon had a reputation as a safe company, did its performance match global safety standards? Daniel Grollo, Grocon's CEO, did not have to look far for an answer.



In 2006, Grollo and management toured an Australian steel manufacturing site that had undertaken a safety journey guided by DuPont. They were introduced to DuPont methodologies and tools that could assist Grocon to achieve world class safety standards.

In 2008, Grocon commissioned DuPont to assess its practices and performance in a number of critical areas. The findings were benchmarked against world class safety standards and the ensuing gap analysis showed some areas of excellence and some opportunities for improvements.

As a result of this initial activity, DuPont worked with Grocon's leaders to develop a detailed and tailored improvement plan. It aimed to integrate safety into the organisation's strategy, structure and culture, with a plan that catered for every employee and subcontractor.

[1] http://safeworkaustralia.gov.au/AboutSafeWorkAustralia/Whatwedo/Publications/Pages/SR200910WRIConstruction2005To2006.aspx

Grocon's safety culture transformation involved a three year intensive partnership with DuPont. Training involved key modules such as conducting safety observations and incident investigations, as well as developing the most effective interpersonal skills required to deliver and adopt the safety message. Managers received one on one DuPont coaching to develop the leadership skills to understand, feel and demonstrate an active commitment to safety.

"The guidance that DuPont has given us, the tools and measures, the training and the way to position ourselves to tackle the right things, and to sequence our plans appropriately, were quite enlightening," says Daniel Grollo.

Grocon took an unprecedented step in encouraging its sub-contractors to undertake the same training and coaching. A selection of them took it up and they have seen great improvement not only in the safety of their workforces, but also in their alignment to Grocon's values and expectations[2].

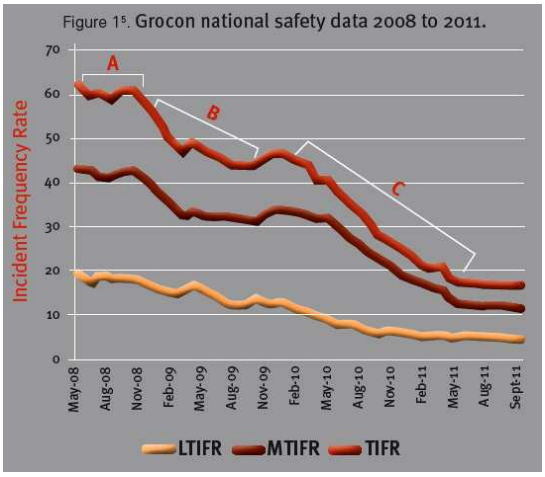
Shifting Mindsets

Grocon's journey was not without effort and was not uniformly adopted across the organisation. The speed with which the state teams progressed varied: whilst Victoria and New South Wales were quick to embrace change, Queensland took longer to adapt. Reflecting on the three years of transformation, senior managers recall being introduced to some challenging ways of thinking.

"The initial challenge was getting alignment with subcontractors and a fair bit of education was needed to get them onto the same wavelength as Grocon. It took time for them to adjust. "- Dayne May, Queensland Project Manager.

Once the Queensland team understood and accepted the concepts of safety leadership and the program was fully underway, there was an acceleration of injury reduction. By the end of September 2011, Queensland had achieved a 78% reduction, from 80 down to 17 Total Injury Frequency Rate (TIFR)[3] over three years.

Figure 1[5]. Grocon national safety data 2008 to 2011.



Celebrating achievements

Despite differences in the rate of acceptance, hard work and the safety leadership of its managers saw Grocon nationwide achieve a 10% reduction in TIFR in eight months, (point A of figure 1).

As the journey picked up momentum, further improvements were made. By the end of 2009, a 12% reduction of TIFR was achieved, (point B of figure 1).

In quarter 4 of 2011, Grocon achieved an overall injury reduction (TIFR) of 76%, with an impressive 52% reduction of TIFR in just one year (point C of figure 1). This means 70 people have not been injured over the 12 months prior to September 2011, who might otherwise have been.

Grocon's achievements are the result of strategic implementations that filtered from the CEO's office, through line management to site workers and sub-contractors. The strategy stimulated a

[2] Apps Electrics Pty Ltd is an example of a Grocon subcontractor. Apps Electrics Pty Ltd story is included in this case study

[3] Total Injury Frequency Rate (TIFR) is a DuPont measurement of a combined Total Loss Time Injuries and Medical Treatment Injury per 1000,000 man-hours.

growing belief that all incidents can be prevented. The integration of safety as a core value of business strategy, and the adoption of safety as a personal belief for every member of the Grocon community, has shaped the business as a whole and how everyone performs their day to day tasks.

A raft of accomplishments contributed to Grocon's impressive safety performance, including:

- The implementation of a robust safety organisational structure, driven by the CEO.
- The execution of personal safety action plans, to drive individual performance.
- The implementation and sustaining of a formal incident investigation process and the sharing of learning outcomes.
- The adoption of leading and lagging indicator metrics, which allowed the monitoring of trends, highlighting where more focus was required and what practices were yielding the best results.

"Now, we are investigating near misses, whereas three years ago, we would only have been investigating lost time and injuries" - Jason O'Hara, Grocon's Victorian Construction Manager.

In 2011, Grocon's safety culture was recognised by WorkSafe Victoria with the awarding of the 'OHS Management System of the Year'. This prestigious award acknowledged Grocon's unique approach in including subcontractors as part of the overall safety management system, as well as its sophisticated safety metrics through leading and lagging indicators.

Culture and Sustainable Business

The results of this project go beyond the benefits of an excellent safety performance. Whilst the primary aim of any safety journey is to prevent harm to people, Grocon's transformation has proved a catalyst for advancing overall business performance.

"Safety for us is not just an indicator of how we are performing from the perspective of not hurting people but also of how the business is running. Our safest sites are safe because they are run efficiently." - Daniel Grollo.

Improved communication has proved beneficial. The management, site leaders, sub-contractors and workers are close-knit and aligned in achieving the aims of safety, efficiency, quality and productivity to deliver industry leading projects. Grocon cites significant benefit to its engagement with unions and associations, reporting it to be more effective.

Grocon has also found an exemplary safety record serves as a useful marketing tool in a business environment increasingly sensitive to sustainable business practices and social responsibility. Using safety as a competitive advantage, Grocon won an opportunity to provide construction services to the Australian Government.

Relentless Energy

Today, everyone at Grocon sees safety in a new way, the kind that goes beyond compliance and legislation to a lifestyle. People make safe choices because it's what they want.

Grocon continues working to become the industry leader in safety, sustainability, community and innovation. It will continue to set high benchmarks and strive towards becoming world-class. As John Van Camp, Head of People and Culture, observes: "This engagement process has certainly paid great dividends - it is an ongoing journey and we cannot relax. It needs to be relentless."

About Grocon Pty Ltd

Grocon Pty Ltd is Australia's largest privately owned development, funds management and construction company. Grocon has built some of Sydney's and Melbourne's most admired icons such as the Eureka Tower, AAMI Park and 1 Bligh St in Sydney, as well as others in the Middle East and India. By pushing boundaries and reaching greater heights, whilst staying true to its core values, Grocon is creating environments that inspire people.

Visit Grocon: www.grocon.com.au

Managing the Safety of Contractors in Large Capital Projects

"Not Working Safely? Go Home", Says DuPont

With over 150 sites worldwide, DuPont leverages its extensive capital base to create products that improve people's lives and help to protect the environment. As the company grows and evolves in response to increasing demand and the mission to reduce corporate footprint, so too does the capital base. As such, large capital projects involving significant numbers of contractors and considerable risk are relatively commonplace. Watching over these projects is an experienced team of operational managers, one of whom has since become the Global Practices Leader for Capital Effectiveness and Contractor Safety Management, Glenn Kmecz.

Glenn began his career with DuPont in 1972 at the Spruance Fibres Plant in Richmond, Virginia. Over the course of the next two decades, he held various leadership positions in operations and maintenance, as well as supplier integration. "In the beginning, DuPont had its own construction organisation. Within this context, we were able to refine the capital project management process, both in terms of safety and efficacy" stated Glenn. When DuPont began to utilize contractors in ever greater numbers, however, the company began to confront issues that many companies face today: contractors do not share the same safety culture as permanent employees. "It was not a question of whether to accept responsibility for the safety of contactors, but rather how we adapt our existing capital project management system to encompass temporary workers that were unfamiliar with the DuPont safety culture – the key to our success in safety management," continued Glenn.

Glenn experienced this first hand in 2007, when he served as Venture Manager and Project Team Leader for the Protection Technologies division of DuPont – a business that, among other things, manufactures Nomex®. Glenn oversaw the US$ 200 million expansion of a Nomex plant and "greenfield" chemical ingredients facility in Asturias, Spain– a capital project involving a high number of local contractors. "There were numerous factors that made these expansions challenging: the presence of highly toxic materials, a high ratio of contractors to DuPont employees and an extremely tight schedule. In order to ensure the safety of all workers on site, we had to work closely with each of the contracting companies to ensure that their employees knew the rules, were committed to following them and understood the consequences of not doing so. However, once we had the processes, procedures and commitment in place, the DuPont system was proven effective: the project was completed under budget, on time, and without any recordable injuries in over 1 million man hours," said Glenn.

"Though it seems daunting to train and monitor temporary workers, by establishing safety as a condition of work, framing the contract with this tenet in mind, and partnering with the contractor firm to properly train and monitor behaviour, it is possible to complete a large capital project without injury" stated Glenn.

Working Safely, or Not Working at All

"We have frequently sent contractors home if they are not working safely – it is not uncommon. Of course, this is not done haphazardly, and always in line with the contract. However, it is of utmost importance that each individual contractor understands that we take safety seriously; if

they are sent home because they were found to be working unsafely, it sends a strong message to others and reinforces our commitment to this core value" according to Glenn. "I recall an incident where a contractor violated one of our cardinal rules about fall protection while working at heights. . In response, he was removed from the site immediately and not allowed to return, and meetings were held with the contractor's management to make sure our safety procedures were henceforth taken seriously."

Glenn continues, "certainly, it is the owner that sets the tone and the pace of the project. When the owner is proactive and attentive to the needs of contractors, there is a higher chance of avoiding life threatening situations."

The DuPont Approach to Contractor Safety Management

In order to consistently deliver improved safety outcomes for contractors, DuPont developed an approach to contractor safety management that has proven effective in decreasing the frequency of injuries and accidents among its contractors. The system is composed of six complementary processes: (1) the selection of contractors with satisfactory safety records, (2) the inclusion of safety standards in contractual obligations, (3) clarification of expectations upon award of bid, (4) orientation and training of contractor teams, (5) managing the contractors and administering the contract, and (6) a post-contract evaluation to assess success and lessons learned. The first four steps are considered "front-end loading", and should be the focus for owner companies, as it is here that the owner can define the relationship with the contractor, and thus add the most value.

(1) Contractor Selection – While the owner firm plays an integral role, it is the contractor that is ultimately responsible for ensuring the safety of its employees. By selecting a contractor with an exemplary safety record, it is much more likely that the work will be performed safely.

(2) Contract Preparation – The contract establishes the rules and conditions in which the contractor will operate. It is at this stage that the owner company is able to create a structure to ensure that safety is fully integrated into operations, thus making it the main point of leverage when interacting with the contracting party during execution.

(3) Contract Award/Establish expectations and standards – On awarding the contract, the owner company must communicate and test understanding of safety expectations that are defined in the contract. The owner must not assume that contractors will read and understand all safety requirements and must walk supervisors through the rules.

(4) Orientation & Training – While the contracted party maintains primary responsibility and accountability for contractor safety, the owner company also has a role in ensuring contractor safety. The owner should utilize their own knowledgeable, experience employees to provide effective orientation and safety training.

(5) Managing Contractors and Administering the Contract – In order to ensure compliance to safety rules, the owner must develop a robust system for daily monitoring work activities, and have already defined this programme within the context of the contract.

(6) Evaluate safety performance against contractual expectations – The owner must critique contractor performance against contractual expectations, and also provide detailed, constructive feedback to the contractor to facilitate improvement. If the contractor has not performed sufficiently as it relates to safety, they should not be selected for further contracts

Key success factors in the prevention of risks during maintenance operations

Management commitment and safety culture in the organisation
Management commitment and safety culture are essential for safety and health at work in general and even more so during maintenance operations. Management commitment may be the single most important determinant of the safety culture of an organisation. It determines the resources (time, people, money) allocated to safety and health and produces higher levels of motivation for health and safety throughout the organisation.

Involvement and participation of the employees
Active employee participation in safety and health management is important to build ownership of safety at all levels and exploit the unique knowledge that employees have of their own work. Quite often they already know and can suggest practical ways of eliminating or mitigating risks.

A well-conducted risk assessment
Before starting any maintenance work, a risk assessment should be carried out. Workers should be involved in the initial risk assessment. They may need to conduct further assessments during the task.

Preventive measures according to the prevention hierarchy
Preventive measures can be identified and implemented according to the results of the risk assessment. It is important to apply the principle of the prevention hierarchy (elimination — substitution — engineering — administrative controls — use of personal protective equipment) at all times.

Combination of preventive measures
Preventive measures are more successful when used in combination. For example, conducting risk assessments and implementing safety procedures and safe systems of work should be backed up with behavioural safety initiatives, training and information.

Safe work procedures and clear guidelines for maintenance work
A well-defined workflow for each maintenance task needs to be prepared and safe work procedures must be clearly communicated and understood. Procedures need to be in place for unexpected events. Part of the safe system of work should be to stop work when faced with an unforeseen problem or a problem exceeding one's own competence.

Effective and continuous communication
All relevant information related to the maintenance operations should be shared between all parties concerned. This includes not only the workers directly involved in the maintenance task, but also those likely to be affected by it or who may be working in the immediate vicinity. Communication between maintenance and production staff, as well as between the different contractors involved, is crucial.

Continuous improvement/development
Safety and health performance during maintenance operations should be continuously evaluated and improved based on audits and inspections, the results of risk assessment, incident, accident and near-miss investigations and feedback from employees, contractors and OSH personnel.

Safety training
Workers performing maintenance tasks, including contractors, should be competent in their professional areas of responsibility. They should also receive safety and health training, and be informed about the hazards related to specific jobs and about safe working procedures. There is a legal obligation for employers to provide information and training on health and safety to all employees who need it, including temporary staff and contractors.

Maintenance included in the comprehensive health and safety management system
Maintenance tasks and their health and safety aspects should be an integral part of a company's comprehensive health and safety management system, including all the elements mentioned above. The safety management system should be continuously developed and improved.

Source: "Factsheet 96 - Safe Maintenance in Practice - Success Factors". European Agency for Safety and Health at Work. 2011. http://osha.europa.eu/en/publications/factsheets/96.

News & Events

News

Corporate Responsibility (CR) Magazine recently unveiled its first-ever Top 10 Best Corporate Citizens rankings by industry category. DuPont was ranked No. 1 in the materials sector.
This is the first year that *CR Magazine* recognized companies by industry, applying the methodology from its 100 Best Corporate Citizens List. Companies were judged on performance in seven categories: environment, human rights, governance, financial, climate change, employee relations and philanthropy.

Upcoming Events

You can find DuPont Sustainable Solutions at the following events:

Global ManuCHEM Strategies 2012 - 13-14 February 2012
The "Global ManuCHEM Strategies" will discuss improvements in chemical manufacturing in a changing business environment.
Speaker: Andreas Speh, Senior Business Development Manager, DSS Central Europe
Topic: Step by Step Developing and Implementing a SHE Culture Project

Behavioural-Based Safety Conference - 13-16 February 2012
The 8th Annual Behavioural-Based Safety Conference 2012 focuses on equipping senior managers and decision-makers with the tools and expertise required to significantly reduce the risk of accidents in the workplace.
Speaker: Karl Zander, Principal Consultant, DSS Sub-Saharan Africa
Topic: Leading for Sustainable Safety Excellence

ME-TECH + Russia CIS Conference & Exhibition - 13-17 February 2012
ME-TECH 2012: the essential meeting place and must-attend event in the Middle East for the downstream industry and a comprehensive platform where companies can be updated on the latest technologies for Gas Processing, Petrochemicals, Refining & Residue-Upgrading.

ASSE-MEC & Professional Development Conference and Exhibition - 18-22 February 2012
The American Society of Safety Engineer (ASSE) is an independent and non-profit professional organization. Its mission is to foster the technical, scientific, managerial and ethical knowledge, skills and competency of SH&E professionals for the protection of people, property, and the environment.
Speaker: Johan van der Westhyuzen, Regional Leader, DSS Turkey, Middle East, North Africa and Pakistan
Topic on 20 February: Ensuring Contractor Alignment with Safety Culture
Topic on 21 February: Managing Process Safety to Enhance Business Performance

