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CLIMATE CHANGE AND GLOBAL WARNING: OBLITERATED!

Donald Trump is one hell of a man. We've all been scratching our heads and wondering what to do about climate change for ages, and, thanks to this genius of a man, the problem is now a thing of the past! Isn't that great?



CHARLEEN CLARKE

I'm so grateful to Donald Trump. The planet should be, too. He has single-handedly ended our planet's climate change woes! Not that they were really ever there in the first place. After all, "the concept of global warming was created by and for the Chinese in order to make United States (US) manufacturing non-competitive".

You didn't know this? Come on! The Don announced this revelation in a tweet on November 6, 2012. So it certainly must be true.

It should, therefore, have come as no surprise when, just moments after his inauguration, climate change became persona non-grata on the White House's official website (you'll find it at whitehouse.gov). This is a good move! Why waste cyberspace chatting about nonsensical stuff? The website has better things to do!

Oh, sorry, I almost forgot. There was one detail that did survive the climate change purge – Trump's intention to eradicate the climate change policies promoted by that silly tree hugger, Barack Obama.

In 2013, Obama launched the Climate Action Plan, which aimed to address the challenges associated with climate change, but Trump believes that initiatives such as this plan are nothing less than "harmful and unnecessary policies". So, of course those silly plans need to be relegated to the annals of history. Maybe toss them over the wall between the US and Mexico? That way we can all really forget that they ever existed?

Some clearly misguided people cannot understand the eradication of all the climate change stuff on the White House's website. What is wrong with them? According to *The New York Times*, scientists are worried that other data could disappear, too. "Climate change data gathered and stored by the United States government is considered among the most authoritative in the world, but scientists

worry the data will be deleted during the Trump administration," it warns.

In fact, behind the scenes, scientists working for 314 Action – a non-profit group named for the first three numbers of the mathematical concept Pi – have been working frantically, trying to save and store this data.

"The concern is that the data may no longer be publicly available. It's a lot easier to deny climate change when you don't have data," Shaughnessy Naughton, the founder of 314 Action, told *The New York Times*. I mean ... really ... these conspiracy theorists need to get a life.

Meanwhile, the chaps at the Environmental Protection Agency (EPA) have been sweating it out, worrying that they won't have jobs any more, but they have nothing to fear. Agent Orange says that their jobs are secure. According to the aforementioned White House website, President Trump will "refocus the EPA on its essential mission of protecting our air and water". Clear message to EPA employees: forget about all those ridiculous projects related to climate change or global warming! Stop messing about, people; you have more important things to do!

I, for one, am so glad to see that America is finally getting its act together when it comes to those two mindless myths: climate change and global warming. At last the country has a true leader, a visionary who has put an end to all this fretting about problems that simply don't exist.

Actually, as the esteemed president of America notes, we sometimes wish that they could be a reality. As He Who Knows Everything tweeted on October 19, 2015: "It's really cold outside, they are calling it a major freeze, weeks ahead of normal. Man, we could use a big fat dose of global warming!"

Amen. SM



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VALUED CONTRIBUTION

I would like to thank you for the great magazine! It has been such a pleasure for me to receive this free issue since joining SaioSh!

As I am more focused on first aid within the health and safety field, I particularly enjoy the first-aid related articles and was pleased to see another article in Edition 6 of 2016.

The HHHABC principle that forms part of your primary examination is extremely important. I tend to train my students that there is a fourth H that gets placed before all the other Hs. This is for History. It forms an extremely vital role in the effectiveness of the treatment, the psychological impact of the situation on the patient and the first aider, as well as the accuracy of the diagnoses.

Knowing the patient's history allows you to mentally prepare for:

- The probability of certain injuries. If you were called for a stabbing, you can prepare for severe bleeding, unconsciousness, chest injuries, and so on;
- The probability of hazards, and to consider the most effective resolution to those hazards;
- Your equipment. For example, if you were told that one of your co-workers has burned her hand with steam, there will be no need to take any spinal immobilisation equipment, AND you can expedite the treatment by visualising your first-aid box and the location of the necessary equipment;
- The psychological aspect of treating a patient, both from the perspective of the first aider and the patient. The calmer you are while treating the patient, the higher the patient's confidence in you and, by default, the calmer the patient will be. It may also provide you with indications of which emergency services to call.

It is all about planning pre-patient, as explained in another article you feature on page 17, which is titled: Failing to plan is planning to fail.

But overall, THANK YOU to David Hough for the great article! It is great to see that SHEQ MANAGEMENT includes such informative articles!

Stefan Beytell
MD, PDA Health

David Hough replies:

Thank you so much for the feedback, Stefan. As this was my first ever article for SHEQ MANAGEMENT I was sincerely hoping to do the topic justice. To have someone read it and then take the time and effort to provide feedback is very much appreciated.

The fact that you found the content to be accurate and informative makes all my effort so much more worthwhile, so thank you to you for your effort, too.

As for the additional H that you have added ... that is a brilliant concept. People with extensive exposure and/or professional training already do this subconsciously; But, yes, for the "untrained" and "less exposed" it is a brilliant tool to have in your "box of tricks".

Also, by preparing mentally, emotionally and practically one can have the right equipment and know where to find it (and quickly), which is key to managing any emergency situation.

I most definitely agree that the calmer you are the more relaxed the patient (and those around the scene) will be. That said, calmness comes with confidence. When you know how to do what needs to be done quickly, efficiently and thoroughly, you seldom second-guess yourself and, by default, you are positioned "in control" of the scene.

Once again, thanks so much for the feedback. You have convinced me to seriously consider this "writing thing" as an additional way of further positively influencing the lives of others.



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BUILD YOUR BRAND AT SECUREX 2017

Securex 2017, Africa's largest security and fire exhibition, returns to Gauteng on May 30 and runs to June 1. Hosted at Gallagher Convention Centre in Midrand, it offers a platform from which products are launched to receptive target audiences. Joshua Low, Securex event director, says customers are keen to acquire information on best practice and seek out accessible ways to contact suppliers.



"Securex is the ideal interactive medium for the market to connect with leading manufacturers and suppliers of security and fire products and services," he comments. The organiser expects 6 000 visitors and more than 160 exhibitors representing 13 countries. "Securex 2016 was extremely successful,

with a 20-percent increase in visitors achieved over the three-day period," Low says.

In preparation for this year's event, new exhibitions have been added based on market research survey results, while popular exhibitions are due to return. "In order to remain as comprehensive in our technology coverage as possible, we continually review the security and fire sectors," Low explains.















CCTV and surveillance equipment, fire-protection products and systems, retail security as well as X-ray and body-scanner equipment are some of the many solutions to be showcased.

Visitor attractions at Securex 2017 will include a display of new products situated at the entrance to the exhibition, the Securex Seminar Theatre, the Fire Protection Association South Africa (FPASA) half-day workshop, the Electronic Security Distributors Association (ESDA) breakfast and the South African Intruder Detection Service Association (SAIDSA) Techman Competition.

With less than four months to the expo, and only 35 percent of planned stand space available for interested exhibitors, Low urges those interested in exhibiting to book their stands soon.

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FIGHT OR FLIGHT: DEALING WITH BIRD FLU

The avian influenza (H5N1), dubbed bird flu, has caused some panic in the European Union with 14 countries affected by the highly infectious strain. The disease has led to the slaughter of 63 000 broiler hens in Denmark, with countries such as Germany, France and the United Kingdom (UK) also affected. More worryingly, this particular strain also infects people.

According to the World Organisation for Animal Health (OIE), a total of 77 countries identified avian influenza in their poultry between January 2014 and November 2016. South Africa had a series of low-infectious avian influenza outbreaks in October 2016. The strain H7N2 affected a commercial ostrich farm in the Western Cape.

There are 13 strains of bird flu. Most affect only poultry, but some, such as the H5N1 virus, also infect people. Humans are most commonly infected after directly handling infected poultry, or through consumption of uncooked poultry products. Severe infection usually leads to pneumonia in both lungs. Around 60 percent of avian influenza patients die, mainly from respiratory failure.

Scott Safety offers assistance in the fight against avian influenza with its Duraflow Powered Air respiratory protection system – which it is now shipping to Denmark to aid in the fight against the outbreak of bird flu.

The respirator is lightweight with an ergonomic design. It offers protection against viruses, bacteria and other micro-organisms. It is designed to be fully compatible with other personal protective equipment and provides P3 particle filtration. This is an obligatory filtration level to protect against viral infections, according to the UK Department of Environment, Food and Rural Affairs.

Duraflow is equipped with sophisticated real-time air-flow control technology and is highly versatile. It is ideal for people involved in clean-up and clearance operations, or individuals concerned about contact and infection.



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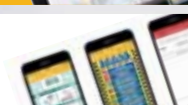
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THE NEW RULES OF SUSTAINABILITY



ANDREW SHARMAN offers a practical guide to “sustaining” sustainability throughout the whole year – and beyond

Sustainability is becoming an increasingly integral part of doing business. For organisations to balance their financial, social, safety and environmental risks, obligations and opportunities, sustainability must move from being an add-on to “the way we do things around here”.

BIG BANGS

Many of us will have started the New Year with a bang. In December 2016, the British Fireworks Association

advised that sales of “New Year’s fireworks” had increased to record levels. A spokesperson from the British Pyrotechnists Association anticipated that New Year’s Eve displays would “reach new heights”.

I spent the festive holidays in San Francisco and can confirm that, stateside, sunny Californian skies were transformed into sparkling disco mirror balls at night, with members of both the American Pyrotechnics Association and the National Fireworks Association gleefully suggesting that fireworks “make the New Year celebrations magnificent”.

In the United States (US) the fireworks industry generates an annual revenue of almost US\$ 1.1 billion (R14.8 billion), while in Rome the value of fireworks locally is around €3 million (R43.3 million).

Of course, we know that fireworks are inherently hazardous. In the US last year there were four deaths and 9 300 injuries caused by fireworks, of which 40 percent involved illegal fireworks. In Italy, two died and around 350 were injured. While each accident is sad news, to put the numbers in perspective, they each represent far less than a tenth of one percent of the population.

The days following the celebrations are not the best time to remind ourselves how to be safe around fireworks (although if you haven't used up all of your Catherine Wheels yet, please do read the label first).

“ I'm sure that I am not alone in living a warp-speed life; it seems to be the norm for so many of us nowadays.

TALKING ABOUT A RESOLUTION

The New Year provides us more opportunities than just colouring the skies. Research and anecdotal discussion reminds us that more than 75 percent of people around the world make New Year's resolutions, so there's a fair chance that you may have done so, too. How did you get on?

As the fireworks dimmed down, and the New Year began to open up, did you sit down with paper and pen and consider how you would make 2017 a good year? Setting resolutions has become a time-honoured tradition for many of us, and the usual stuff tops the popularity charts – eating better, going to the gym more, avoiding alcohol for a month, losing weight, and learning a language often feature in top ten lists around the world.

While most of us make lists, research from Harvard University in the US reveals that less than ten percent of us actually stick to our resolutions. Most of us don't even make it to the end of February!

How have you got on so far? (Cards on the table here, my plans for a "dry month" in January didn't quite work out the way I'd intended. They say you can take the man out of Scotland, but can't take Scotland out of the man...)

LOOKING BACK

On December 23, I was getting ready for the festive

holidays – that last mad rush to the finish line, trying to tick off as many items as I could from my to-do list before racing to the airport for the flight.

Now, following a bit of downtime, and a couple of weeks back at work, I realise that I have this "sprint to the finish" not just in December, but almost every month throughout the whole year.

This got me thinking. In a world that craves instant gratification, do we really take enough time to reflect fully upon the work we've done? Those problems that seemed impossible, but somehow worked out, the technical issues that seemed beyond our grasp ... despite the challenges, we somehow managed to succeed.

Scientists at the University of California found that the act of reflecting on what we've done deepens our learning, makes us more appreciative, and increases our positive bias. Sounds good, right? I'm sure that I am not alone in living a warp-speed life; it seems to be the norm for so many of us nowadays.

Perhaps that's the reason why the success rate for New Year's resolutions is so low: we set audacious goals that we anticipate we'll feel good about reaching, but then life somehow seems to get in the way.

So, this year, look back before you look forward: What did last year teach you? What new skills did you develop? What business lessons did you learn? In which areas do you want to focus more attention this year? How can you build in some regular reflection time each month?

LOOKING AHEAD

According to the recent United Nations global study entitled: A New Era of Sustainability, 93 percent of CEOs see sustainability as important to their company's future success, but only 17 percent feel confident that they are ready to face these challenges.

The global recession and subsequent re-growth of the world as we know it, means that values and behaviours matter more now than ever before. Society now places greater scrutiny on how organisations do what they do, and the media looks on ready to report on issues of foul-play, unethical behaviour, environmental pollution, workplace accidents and much more.

News stories, accident investigations and external governance frequently reveal stark disconnects between what many companies say they stand for, and what actually happens on a daily basis. How we do what we do has always mattered, but it matters more now than perhaps ever before.

RECALIBRATE

Over the last decade, sustainability – including the >

disciplines of safety, health and environment – has become an increasingly important part of doing business, no matter which industry sector we look at.

For organisations to balance their financial, social and environmental risks, obligations and opportunities, sustainability needs to shift from being an add-on to truly being "the way we do things around here". In my book *From Accidents to Zero* I use this line as a simple definition of culture.

Business leaders have recently started to recognise that organisational culture plays a fundamental part in the very necessary shift toward sustainability, but, despite myriad corporate sustainability reports that describe sustainability as "the way we do business", most business leaders lack a clear understanding of how, where and why to embed sustainability in their day-to-day decisions and processes.

There's an opportunity for all of us here. The big question, for us as practitioners, is how can we maximise our efforts and expand our impact, so that our good intentions turn into real, positive change? As you reflect and think about recalibrating, here's a simple framework to consider:

Engage – How do you connect with your stakeholders on the topic of sustainability? Do you tailor your communication to suit their needs? Think about fishing: you would use different bait, hook sizes and techniques depending on whether you're after grouper or sardines. Make sure you prepare your actions aimed at sustainability in the same way.

Educate – Recall that unforgettable quote from former US Secretary of State Donald Rumsfeld: "There are things we know we know ... and things we don't know we don't know..." What new information could you share with your stakeholders? What don't they know that might surprise and delight them?


Leverage – "Mighty oaks from tiny acorns grow" says the old saying, and it's true for us in sustainability, too. This year, think about how you can leverage the actions of others, particularly those at grass-roots level. Highlighting the great efforts of those who may not expect it can be a great way to amplify the focus and create positivity.

Collaborate – Business and markets no longer operate in isolation. Multiple stakeholders – shareholders, suppliers, regulatory bodies, local communities – now have a greater impact than ever before on how organisations work. Where are the opportunities for collaboration this year? Think broadly – look within the business, as well as to the industry sector as a whole and your own network.

Support – We all like to make things easy. Is it easy for employees within the organisation to make choices that enhance sustainability? What can you do to help others make progress?

Capture – Identifying "quick wins" builds momentum for change by building confidence among stakeholders that progress is real and happening. It also galvanises ongoing support. What "low-hanging fruit" have you identified to "capture" this year, and how will you share the news of this success?

Review – "Doing it differently" can be fun and bring about new results. How effective is the way you engage, share information and provide support and guidance?

Don't wait for the changing of the year before you sit down and reflect. Try scheduling an appointment with yourself at the end of each month to critically reflect on how you're doing what you do. Don't forget to celebrate the fireworks you create every month in 2017. 



Sharman on Safety is based on ideas and concepts from Andrew Sharman's new book: *From Accidents to Zero: a practical guide to improving your workplace safety culture*. Andrew is an international member of the South African Institute of Occupational Safety and Health (SAIOSH) and the Chief Executive of RMS – consultants on leadership and cultural excellence to a wide range of blue-chip corporates and non-government organisations globally. More at www.RMSswitzerland.com.

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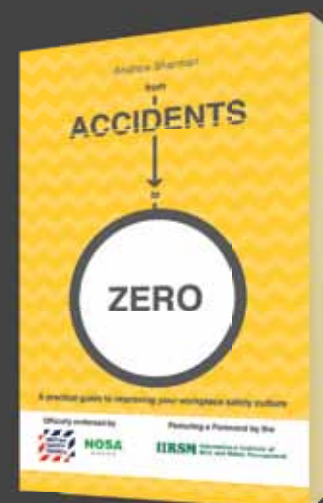
Thought-provoking and insightful. From Accidents to Zero progressively pushed me to see new connections, and new ways to address organisations' safety culture and risk management challenges.

Mieke Jacobs, Global Practice Leader – Employee Safety, DuPont

This A to Z of safety represents an eminently practical knowledge toolbox, one filled with tools which will add value to the CEO and the front line Safety Practitioner in equal measures. Relevant, accessible and applicable, this is safety distilled and a 'must-read'.

Steven Brown, Brewery Manager, Heineken

Read more at www.fromaccidentstozero.com



RISK MANAGEMENT: THE TIME IS NOW



When is it time to align risk management activities to the company strategy?

In every sphere of their operations, organisations face different types of risks. Inevitably, they need to adopt the old Boy Scout motto of "be prepared" in case these risks emerge. The setting of strategic objectives and the actions to achieve them is an endless battle to fulfil the mandate of shareholders and the expectations of stakeholders.

While pursuing these objectives, is risk management aligned to the strategy, before, during and after its formulation? While it is still difficult in some organisations to talk about risk management, it is important to align it with the overall company strategy.

Although it is by no means comprehensive, the following insight provides some tips on how this alignment can be established.

ESTABLISH A RISK MANAGEMENT STRATEGY

Alignment to the company strategy requires a formal approach to risk management. The methodology and tools – that are used when risk is identified, analysed, mitigated, monitored and communicated throughout the organisation – need to be defined in order to establish and implement a formal risk management strategy.

Thus, a risk assessment exercise can bring about potentially disruptive situations. These could be internal or external and could impact on the supply chain, operations, employees, and so on. As the strategy is cascaded to the various functions within the organisation, they will become more aware of risk.

ALLOCATE RESOURCES TO RISK MANAGEMENT ACTIVITIES

I often hear personnel saying: "I have not been trained to perform a risk assessment." Although it is important to impart the skills and knowledge required to conduct a risk assessment, it is equally vital to ensure that everyone in the organisation adopts a risk-awareness mindset. This will ensure that risks that impact on the company strategy are known to everyone in the organisation.

INVOLVEMENT OF KEY STAKEHOLDERS

There is no harm in disclosing to your key stakeholders the outcome of the risk analysis on the critical services they provide to your enterprise, and how these potential risks impact on your operational efficiency. That is why the revised ISO 9001:2015 Quality Management Systems standard requires the control of the outsourcing processes.


Further reference is made in clause 8.4 "control of externally provided processes, products and services". This cannot be done in isolation. It requires stakeholder involvement to be able to look out for the risks and opportunities that might influence the implementation of the company strategy.

ENSURE EMPLOYEES ARE TUNED IN

Any alignment intervention requires personnel who are tuned in to other key success factors. An effective risk management approach necessitates the assessment of the environment in which productivity takes place.

Just as in our normal lives where we are concerned about the neighbours, similar principles apply in the workplace. There is a need for continuous assessment of the well-being of the employees to identify the potential risks they encounter, so that interventions can be recommended, or implemented. After all, the main focus of a performance appraisal is on what has been achieved, and rarely on what hampered the achievement of departmental or company objectives!

We cannot underestimate the work undertaken by risk management teams to ensure their organisations anticipate potential risks and opportunities. However, the added value will be realised only when risk management activities are aligned to the company's strategic objectives.

A great source for analysis by all risk management colleagues is the 12th Edition of *The Global Risks Report 2017*, published by the World Economic Forum. 



Hope Mugagga Kiwekete is a managing consultant at the Centre for Enterprise Sustainability. He has practiced as a management systems consultant, trainer and auditor in different multicultural environments, which entailed environmental, occupational health and safety and quality management in various industry sectors in east and southern Africa and Asia. He is a Certified ISO 9001 Lead Auditor with the Southern African Auditors Training Certification Authority (SAATCA) and a member of the SABS Technical Committees for Quality Assurance, Environmental Management and Occupational Health and Safety Management Systems.

DEVELOPING A ROBUST SAFETY CULTURE

Having a culture that embraces safety as an ideal doesn't just happen; it needs to be forged

The importance of having a robust safety culture gained prominence after the 1986 Chernobyl disaster. The INSAG-7 report of the catastrophe concluded that the leading cause could be attributed to a deficient safety culture at all levels of the power station.

The Royal Commission into the Esso Longford explosion and Cullen Inquiry into the Piper Alpha tragedy had the same findings. The investigation into the Deepwater Horizon blowout concluded that "there was not a culture of safety on that rig". The oil spill was not an isolated incident; it was symptomatic of a larger issue. The report exposed the poor

safety culture in which it had become acceptable practice to take shortcuts and violate safety procedures.

Just like any other critical success factor, a culture of safety needs to be made a priority and receive the attention and resources that are necessary for success. Based on my conversations with Todd Conklin, I want to offer seven practical ideas that can be used to improve safety culture:

1. WHAT WE TALK ABOUT

What leaders emphasise in their regular conversations sends a strong signal of what is important to them. Naturally, meetings gravitate to the drivers of the

The collage features three business cards. The left card is for 'advantage a.c.t.' with an orange logo and lists 'SAFETY HEALTH ENVIRONMENT QUALITY' and 'AUDITING CONSULTING TRAINING'. The middle card is for 'steam LEGAL COMPLIANCE SOLUTIONS' with an orange logo and lists 'Your specialist SHEQ legal team to assist with legal registers, legal compliance audits, consulting and training.' The right card is for 'AGO CERTIFICATION' with an orange logo and lists 'Management System Certification for a-list clients.', 'ISO9001 | ISO14001 | OHSAS18001', and 'International Certification IRCA Lead Auditor Courses & System Consultation'. At the bottom, contact information is provided: 'Tel: +27 809 4210/1', 'Email: training@advantageact.co.za', and 'Websites: advantageact.co.za; steamlcs.com; agocert.com'.

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business; operational logistics, deadlines, budget and profitability. None of these will ever go away. The question is; if safety is truly an imperative, do we give it prominence by integrating it into our discussions regarding daily planning, production targets, strategy, HR and budgets?

2. WHAT WE MEASURE

It is insufficient to talk about safety and then to measure only process efficiency and production performance. If workers are measured solely against production targets, then that is where their focus will be. It is understandable to measure tonnes moved, structures erected, or minerals extracted; because they are tangible. It is a little more complex to measure whether someone is working safely.

That is why so many companies are over-reliant on compliance mechanisms and primarily monitor lagging indicators such as the frequency and severity of incidents. Unfortunately, this is a reactive approach as the near miss or accident has already occurred. It is an ineffective gauge of the health of the safety culture in the organisation.

Similarly, measuring the number of activities versus the quality of activities is usually futile. Knowing how many risk assessments were completed doesn't provide any significant insight. It would be better to measure how many hazards were identified and what actions were taken to make the conditions safe. In this way we are moving away from a paper exercise to expecting people to take responsibility for the safety of their work area.

The challenge is that it takes some effort and consideration to identify and proactively monitor the behaviours, processes and leading indicators needed to create the desired safety culture.

3. WHAT WE REWARD

There is a well-known principle in life: what is rewarded or recognised gets repeated. Most companies have a bonus system for meeting production goals. Surprisingly, not as many have a safety category in their reward scheme. In fact, many companies still have a punitive approach towards safety and focus on the things they don't want, instead of what they do want.

This is often because the leaders haven't taken the time to decide how they are going to measure safety.

If a reward programme is in place, it is often based on lagging indicators such as a million LTI-free hours. What is needed, however, is a recognition strategy that stimulates internal motivation, rather than one that encourages people to take shortcuts or hide accidents.

4. HOW WE REACT TO FAILURE

One of the most powerful messages leaders give out is the way in which they respond when something goes wrong. It is wonderful to have a lovely framed vision and set of value statements hanging in the foyer. However, the real values are seen in the way in which problems are addressed and resolved.

In these moments, do we try to assign blame by finding the guilty party and discipline them, or do we first make sure everyone is okay? Do we reinforce a learning culture by facilitating a comprehensive investigation that not only looks into what happened, but tries to find out why and how it happened?


5. THE ALLOCATION OF RESOURCES

There is a saying: "put your money where your mouth is". Nothing reveals what a company truly deems important than where its time and money is spent. Does the safety department receive a reasonable portion of the budget? Is it financially empowered to do what is necessary to build a resilient safety culture?

6. OUR CRITERIA FOR SELECTION, ADVANCEMENT AND TERMINATION

Workers experience safety as mere lip service when people are promoted because of their production achievements, irrespective of their attitudes towards safety. On the other hand, companies galvanise their safety culture when they overlook leaders that have a poor commitment to safety.

7. OUR DELIBERATE ATTEMPT TO COACH OR MODEL BEHAVIOUR

At the end of the day, creating a robust safety culture is going to take dedication and leaders who are willing to put the time, effort and resources into giving safety the precedence it deserves. "Walking the talk" is no longer a nice catch phrase, it is an absolute necessity. 



Brett Solomon is the CEO of The Kinetic Leadership Institute and is a recognised leader in combining neuroscience, change management and leadership theory to drive cultural transformation processes. Brett specialises in neuro-leadership, especially when it comes to understanding what drives human behaviour and how to influence it. He has been involved in numerous safety culture change initiatives in throughout South Africa, Australia, Canada and Saudi Arabia.


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SAFETY MANAGEMENT: IT'S LIKE WAR

As safety professionals who want to make a difference, we need to get out of our offices and practice "safety boots on the ground"

Obviously we all need to spend a certain amount of time in the office. However, it is important to get rid of those activities that do not add any value to the drive in reducing incidents and injuries.

Safety professionals should endeavour to find the right balance between time spent in the office and time spent on the shop floor. It is on the shop floor where safety and health conversations take place, where critical controls can be assessed and much-needed support and guidance can be provided to management, employees and contractors.

Being on the shop floor contributes to a reduced number of injuries and incidents, which, in turn, impacts positively on the demands of time placed on safety professionals and others.

In war, the strategic planning takes place in the offices and meeting rooms, but the battles are fought and won by the soldiers having boots on the ground. The same applies to safety management. So, while we can't avoid critical time spent in meetings (planning the strategy and related initiatives), we need to put on our personal protective equipment

(PPE) and get our "safety boots on the ground".

Safety and health professions should:

- Talk to people on the shop floor and listen to their concerns and suggestions to improve the safety standards and compliance to the rules.
- Forget about a checklist. Keep an open mind and address the high-risk issues as they are identified.
- Don't treat all concerns with the same level of attention. Focus more on the high-risk conditions that have the potential of fatal or life-altering injuries.
- Get involved with the teams. Don't only point out the issues of concern. Discuss them with the relevant people and try to assist in finding a practical solution.
- Forget about using a camera for everything. Sending e-mails with photographs does not always make the necessary difference. It is often more effective to get the responsible person to the area and resolve the issue in person there and then. Be part of the solution.
- Take along relevant managers and supervisors when walking through the high-risk areas. This will provide important coaching opportunities.

“ As in war, the strategic planning takes place in the offices and meeting rooms, but the battles are fought and won by the soldiers having boots on the ground.

- Allocate some time and attention to the positive issues and provide positive feedback.
- Always end the session with verbal feedback and agreement on the actions required.

WHAT IS THE ROLE OF MANAGERS?

Just as it applies to the safety and health professionals, the principle of "safety boots on the ground" also applies to management. Managers have the line responsibility to ensure that safe and healthy workplaces are provided, and work is undertaken in a manner that does not pose a risk to the safety and health of any employees.

Managers need to lead by example and practice visible leadership by making time to be on the shop floor, to discuss safety and health issues with their employees and contractors and ensure that all safety standards and rules are being observed.

Managers should:

- Allocate a percentage of their time to be on the shop floor, where they talk to employees and

contractors on safety and health matters;

- Include themselves in the safety and health audit schedules;
- Include safety and health matters in management meetings and allocate sufficient time to address these issues;
- Monitor action items closed out by due date for key safety action plans (developed from incident investigations, audit reports and minutes of meetings);
- Ensure the management team is aligned on the safety message to prevent confusion on the shop floor.

THE ROLE OF SUPERVISORS, FOREMEN AND TEAM LEADERS


If organisations want to develop the desired safety culture, it is critical that supervisors, foremen and team leaders spend this time on the shop floor directing their respective teams to ensure they are well aligned to the safety objectives of the company.

Supervisors, foremen and team leaders are key people in achieving the safety objectives. They are the ones that direct and oversee the work being done ... be it safely or unsafely. So it is critical that they, too, get their "safety boots on the ground", to ensure that their teams are working in a safe manner and that all standards and rules are being observed.

Supervisors, foremen and team leaders should:


- Conduct critical task audits in their areas of responsibility to determine whether safe operating procedures are still relevant, understood and being adhered to;
- Conduct regular safety toolbox talks with their teams, which add value and are specific to their working environment;
- Limit the use of off-the-shelf communication material – instead develop customised material that is more relevant to their teams;
- Be proactive and persistent in driving the desired safety culture in their area of responsibility;
- Have a zero-tolerance approach for non-compliance to safety rules. If the standard is allowed to drop, it will become the norm and be followed by the teams.

WORKING TOGETHER TO MAKE A DIFFERENCE

If managers, supervisors, foremen, team leaders and safety and health professionals are aligned in both messages and behaviour, and they adopt the principle of "safety boots on the ground", organisations will have a better chance of achieving higher standards and improved safety performances. 



Brian Darlington is the group head of safety and health for the Mondi Group, based in Vienna, Austria. He has filled the role since 2012 and is responsible for safety and health in more than 30 countries. Brian started working at Iscor before joining Mondi in 1987, working in Gauteng. In 2000 he transferred to the Kraft Division in Richards Bay. During 2005, Brian transferred to Europe, taking up the position of business unit SHE manager, responsible for SHE in paper mills in Austria, Hungary, Israel, Slovakia, Poland, South Africa and Russia, as well as forests operations in South Africa and Russia.



LIABILITY FOR BREACH OF STATUTORY OBLIGATIONS

The recent case of Joubert versus Buscor GLD 2016, December, is important because it touches on the question of civil liability where statutory obligations have not been met

I lana Joubert, the plaintiff (in other words, the party suing) was the wife of the deceased. Her late husband was an electrical apprentice with Lira Electrical. Buscor was the principal that had contracted Lira to do its electrical work. Joubert's husband was thus a contractor working on site. One of the contractor's jobs involved working on a submersible pump at the bottom of a sump.

As the name implies, a sump is a confined space situated below ground level, which poses substantial risks. Invisible gasses that are heavier than air can displace the breathable air, and working below ground level can, therefore, prove fatal.

To make matters worse, the invisible gasses could be toxic. Joubert entered the sump to carry out the required task. He was overcome by toxic gasses and died as a consequence. The case involved a wife suing Buscor for loss of support for herself and her two minor children.

PRELIMINARY MATTER

Readers can be excused for believing that the purpose of a court case such as this is to decide if one party is liable to the other. More often than not, the case revolves around secondary matters, not preliminary matters. This case involved a preliminary matter. The court, therefore, did not decide whether Buscor was liable to the wife and her two minor children – that was left for a later date.

When a plaintiff sues a defendant, the plaintiff sets out his or her case in what is known as the "particulars of claim", which is attached to the summons. After

the defendant has received the summons, he or she replies to the particulars of claim and the pleadings are closed.

The matter is then set down to be heard in court. It can be that the plaintiff, having considered the response of the defendant and having thought more deeply about the matter, decides that her particulars of claim should be changed. The defendant could be severely prejudiced by the change and thus the change to the claim may need the permission of the court.

In this case, Joubert decided to amend her particulars of claim and this was opposed by the defendant. The case thus involved the question of whether the court should allow the plaintiff, Joubert, to change her particulars of claim.

STRICT LIABILITY FOR BREACH OF STATUTORY OBLIGATIONS

For our purposes, the change we wish to concentrate on relates to paragraph 26, which she wanted to change to: "The defendant is strictly liable for the plaintiff's damages as a result of its breach of its statutory duties".

What the plaintiff wanted to argue was that the mere failure to meet statutory obligations leads to civil liability. What does strict liability mean in practice?

Assume you are driving a car through town at night at 61 km/h and the speed limit is 60 km/h, and a hopelessly intoxicated man, dressed in black, suddenly runs across the street into the path of your

car. There is absolutely nothing you can do to prevent the accident and he is killed.

Are you guilty of killing him? Should you go to jail for 15 years for culpable homicide, and are you personally liable to support his family – the wife for the rest of her life, and their children at least until they have graduated from university?

In terms of the common law, you are neither guilty of culpable homicide, nor liable to support the wife and children, simply because the accident occurred as a result of no fault on your part.

If, however, there is a doctrine of strict liability, then you become liable. The only question that becomes relevant in a world of strict liability is whether or not you broke the law. Well, travelling at 61 km/h means you were breaking the law.

Not surprisingly, strict liability for failure to comply with statutory requirements generally does not lead to civil liability. For example, in the 1986 Kinross mining disaster, welding was carried out, which caused the lining in a ventilation chamber to catch fire – leading to the death of 170 miners.

The mining regulations required that before welding could take place, a portable fire extinguisher had to be on hand. No such precaution was taken. The prosecution argued that the mere violation of the law meant Kinross would be liable – in terms of strict liability. The magistrate rejected that argument, since the evidence indicated that, even if the portable fire extinguisher had been on hand, it would have made no difference.

STATUTORY RISK CONTROL

Most statutory requirements are, in any event, sensible in order to design a system of work that protects the health and safety of employees who do the work and, in some cases, that of third parties.

This is set out in the textbook by Vasamakis, Vivian and Du Toit: *Fundamentals of Risk Management*. Each regulation is converted into a checklist and entered into the planned maintenance system. Where applicable, each item is then inspected against the checklist and a record of the inspection is retained in the planned maintenance system.

This may sound simple, but in practice it is not. In a large industrial complex it could result in thousands of inspections. This could require the training of hundreds of people and keeping a record of this training. The system can become highly complex and requires some skill to manage.

There is, however, still no guarantee that success will be achieved. For example, after a particular motor-vehicle accident, it was decided to check the inspection records and interview the person who completed the daily inspection sheet.

It soon became apparent that the person who filled in the daily checklist had never inspected the vehicles. Every morning, he took out a list and ticked off the blocks. He was not being lazy; he thought that his job was to fill in the checklist, first thing every morning.

In another case, the inspection logs had been filled in, not just tick blocks filled in. However, in order to fill in the log, the employee had to use his access card to go from the control room to the machine room.

The computer log was correlated against the checklist and it became apparent the employee had never gone into the machine room. He had copied readings from previous checklists. He admitted that that was what he had done, as he had hurt his leg, and had difficulty in walking, so he stayed in the control room.

Other human failures creep in. Usually the regulations require the employer, or the user, to do something. By definition, the employer and user can be a company, which of course does not exist as a "person", so cannot do anything. So, when the regulation requires an employer to do something, in fact it is an employee of the company who has to do something.


So, if the regulation requires that in a confined space the air must be tested, that means an employee must do the testing, since the employer (who does not exist as a person) cannot.

In one case, where work needed to be undertaken in a confined space, elaborate precautions were put in place. In the end, while in the confined space, which was oxygen tight, an employee decided to light a match and was burnt to death.

In this case, if strict liability applied, the employer would be liable because the safety regulation had been breached. The problem with this case, however, is that it was the safety officer who lit the match. It was his job to make sure matches (or lighters) were not taken into the confined space.

It should be clear that in most cases strict liability is unworkable. In the finance industry, regulators have produced more than 10 000 pages of regulations – which are impossible to read, let alone comply with. The United States Federal Register has now exceeded 85 000 pages.

In this modern age, strict liability for statutory instruments is an absurdity. In addition, Joubert was not an employee of Buscor, but a specialist contractor – which adds a host of additional problems.

As indicated, the Joubert case did not answer the question of liability – that was left for another day. Buscor argued against the amendment of the particulars of claim, which, inter alia, contained an argument based on strict liability. The court dismissed Buscor's objection and allowed the amendments. The matter is now to be taken to the courts to be dealt with on its merits. 



Legally Speaking is a regular column by Albert Mushai from the school of Economics and Business Sciences, University of the Witwatersrand. Mushai holds a master's degree from the City University, London, and was the head of the insurance department at the National University of Science and Technology in Zimbabwe before joining the University of the Witwatersrand as a lecturer in insurance.





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OHS IN 2017: LOOKING AHEAD

For the Saiosh Institute, the year 2016 was splendid. We hope to continue the trend as we enter 2017



ROBIN W JONES

I don't want to turn this letter into a story about statistics, so I will keep it relatively short.

However, before our seventh birthday on February 10, we will probably have passed the 8 000 member mark! Second, in addition to all the benefits that are already in place for our members, we've added another one: our Bursary Assistance Scheme.

The Bursary Assistance Scheme (not to be confused with the Student of the Year Award) is to assist members who are out in the field and want to increase their qualifications.

The Bursary Scheme is valid for one year at a time. More details are available on the Saiosh website.

WHO SAYS WISHES CAN'T COME TRUE?

In January 2016 this was one of my wishes:

When I read safety journals from the United Kingdom they contain articles which indicate where an accident

occurred. The article contains the name of the company, the contravention of the law as well as the consequences of such action, for example fines or criminal prosecution.

I would like the Department of Labour (DoL) to publish (make available) the same type of information so that the South African public is aware of all the major accidents that have occurred.

My purpose for such a request is to create a learning opportunity for industries across the board. If an offence occurred and it was due to say a lack of explaining a workman's scope of authority, then industry in general should be asking the question: "Have we covered that eventuality extensively in our organisation?"

I understand that the DoL is about to publish the intention to have a Register of Offenders. This may look like a name-and-shame register, but I see a storybook, which will help management and occupational health and safety (OHS) practitioners.



We can then identify situations where employees were hurt while working. From this we can learn to take extra precautionary action.

To the minister of labour and all our friendly inspectors, you've got my vote of thanks!

SOME LATERAL THINKING

Other people in authority are also getting tired of safety rules being ignored...

Everybody knows that driving and talking on a cellphone (or worse, texting) is a bad thing. In fact, it is illegal. Certain municipalities have instructed their traffic officials to confiscate cellphones from such offenders. There is a R2 000 fine to pay to get the cellphone back.

In addition, there are heavy fines if you are not carrying your driver's licence with you when stopped by an official. (I believe R1 000 has been considered, but it could be higher.) The Road Traffic Management Corporation is looking at taking the idea across the country. Again, all these enthusiastic people have my vote!

Not content with these few offences, the Justice Department cluster on legislation is going to look at upping the penalties for drunken driving, reckless and dangerous driving and perhaps a few other offences as well.

In some cases the legislation imposes a fine, which, in my personal opinion, is too small to make an offender sit up and correct the deviation. Take speeding for example. People with very expensive sports model vehicles (and who may speed) incur perhaps a R200 or R500 fine! And that would be in a vehicle costing in excess of R900 000.

Once again, legislators are putting on their thinking caps and the current idea is to match your income to the fine. This is very clever indeed.

A person who earns, say, R20 000 per month will then pay less for the same offence as a person earning, say, R450 000 a month.

In New Zealand, the authorities are strict on speed limits. The town speed is 60 km/h and they mean it! I was told by a South African visitor to New Zealand that it feels like driving in a slow motion movie.

Not so long ago, a man drove a Ferrari at 116 km/h in a 60 km/h zone. His penalty was a one-month confiscation of the Ferrari (plus a charge of reckless driving).

MOVING AHEAD

Preparations for our annual conference at Gallagher Estate on May 30 and 31 are well under way. We've increased the number of international speakers and have a nice solid range of relevant topics for the delegates.


For more precise details go to the Saioosh website. In fact, while you are there be bold and book early for your place at the conference

I was honoured to receive an invitation to the FEM Safety Awards function held recently in Durban. FEM acknowledged the fine work done by its members in reducing workplace accidents and injuries.

At the function it was explained that, having completed the current insurance cycle, the FEM Board was going to pay back to members a higher, once-off additional portion of their assessments based on their accident reduction rate.

Some members have had spectacular reductions in injuries through sound OHS programmes. Members who have achieved less than a specified figure could receive up to 50 percent of their assessment back.

That was not the only good news. FEM announced to the highest achievers in the accident reduction programme, that the FEM Board had, in addition, granted a 100 percent assessment pay back. The top achiever was to collect a refund of R900 000. This was because of that company's sustained efforts and diligence with regard to its safety programme.

How do you like that? Who said safety is expensive? Here is living proof that an excellent safety programme saves you money and as a bonus "pays back more money". 



MEDICAL EMERGENCIES: KNOW YOUR ROLE

Employers should expect the unexpected and be prepared when employees need emergency medical assistance. Companies are required by law to have employee information at hand, which can save a life, too

Anthing can happen to employees at work. This could include broken bones, dehydration or even a heart attack. Therefore, it is absolutely essential for employers to have employee information easily accessible on file in the case of medical emergencies, says Max Cohen, Emer-G-Med emergency services spokesperson.

"Patients are not always able to communicate information to paramedics, who are required to hand over sufficient information to hospital staff, so that they are able to contact the injured person's family," says Cohen.

According to Section 31 of the Basic Conditions of Employment Act of 1997, an employer is required by law to have the following information of each employee on record: name and occupation; the time worked; the remuneration paid; the date of birth of any employee under 18 years of age; and any other

prescribed information.

The "other prescribed information" includes, but is not limited to, contact details of next of kin, home address and contact details; and a copy of the employee's green barcoded ID book or passport (with a valid work permit if the employee is not South African).

"This information, together with any additional information requested by an employer, must be kept confidential under specific regulations as set out in the Protection of Personal Information (POPI) Act," says Cohen.

The POPI Act allows for personal information to be processed, or shared with other parties, to prevent or mitigate a serious and imminent threat to the life or health of an employee of a company.

To be prepared, companies can make it part of their regulations to keep a completed Employee Medical Emergency Information Record form to use in an emergency situation when an employee needs



LEFT AND BELOW:
Employers are required to keep prescribed employee information on file for emergency medical situations.

any kind of medical assistance.

This form should contain only the necessary personal, medical and emergency contact information. The personal information will help to identify the employee in case of any emergency.

The medical information may also help paramedics and other medical services to assess the employee's medical state. The medical



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information should include: the name, address and contact number of the employee's doctor, employee blood group, medical conditions, allergies, current medications and medical aid information.

Employees do have the right not to disclose their medical information to a company. They should, however, be encouraged to provide this information for their own safety. If an employee discloses their medical information, they must sign the form and indicate that the information is correct and that they have given the company permission to use the it in the case of an emergency.

Cohen says it is especially important to have employee information at hand when it comes to injury on duty (IOD). "Such information is required to complete the necessary Workmen's Compensation Act (WCA) / IOD documentation. All companies should be registered with their respective IOD provider," he says.

Cohen explains that employers are morally obligated to provide coverage for their injured employees. "All employers and managers should know how the WCA/IOD process works and should

be informed on how to complete the relevant documentation. They should also have their WCA number easily accessible. IOD coverage costs are negligible," he says.

If a company has a human resources department it is usually preferable for a representative from this department to keep each employee's information on file, and to be easily reachable in the event of a medical emergency.

"If the correct personnel within a company (managers, supervisors and human resources representatives) have access to personal information, it helps to reduce the time it takes to get the patient to hospital," says Cohen.

"It also assists in being able to transport patients to an appropriate hospital (IOD patients can go to a private hospital, even without medical aid), and with a non-critical patient, the hospital will wait for the relevant IOD forms to be completed before treating the patient."

It is best practice to put employee health and safety first in any industry, if not for the sake of the company, then for the sake of the employees and their loved ones. SM

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NEGATING HIV EXPOSURE

The risk of HIV exposure in the workplace is minimal, but environments such as mines, construction sites, factories and warehouses will always pose a higher risk of exposure, due to increased likelihood of accidents and injuries in these fields. ASTRID DE LA REY explores

Every company should have a clear policy or set of guidelines detailing the steps and precautions that need to be taken in the event of an injury. South Africa has one of the highest HIV infection rates in the world, so the logical route is to deal with every workplace injury as though there is a risk of exposure.

In a nutshell: first-aid equipment must be accessible, always use gloves, avoid any contact with bodily fluids (by using protective glasses if possible) and get a medical professional to take charge of the situation as soon as possible.

If an employee is exposed to HIV in the workplace, the employer should take immediate action. According to the Compensation for Occupational Injuries and Diseases Act:


- 1) An employee may be compensated if he or she becomes infected with HIV as a result of an occupational accident.
- 2) Employers should take reasonable steps to assist employees with the application for benefits including:
 - providing information to affected employees on the procedures that will need to be followed in order to qualify for a compensation claim; and
 - assisting with the collection of information that

will assist with proving that the employees were occupationally exposed to HIV-infected blood.

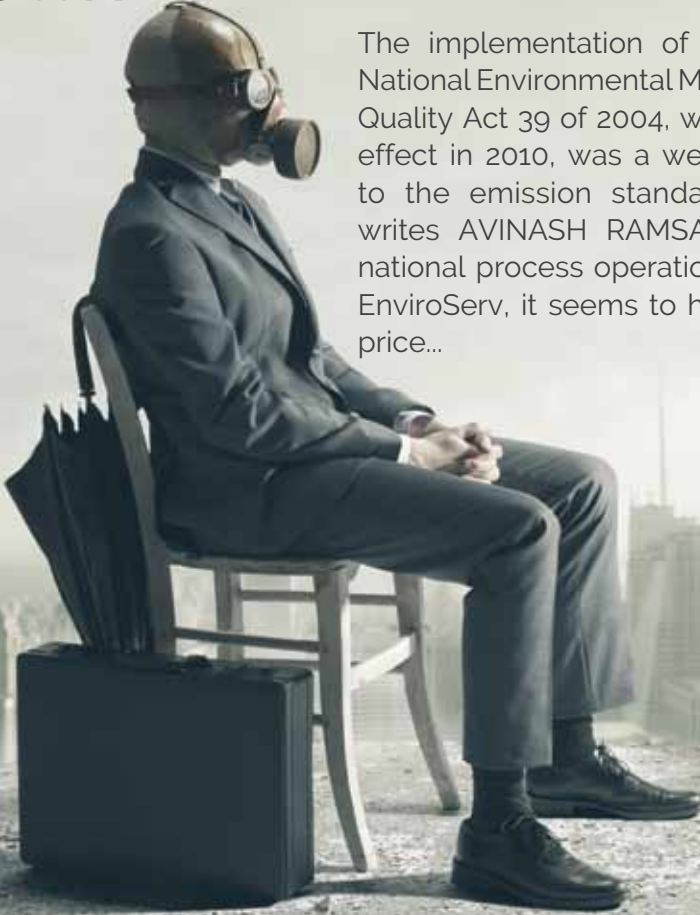
Although it's not yet written into the Act, best practice is for employers to assist the affected employees in getting immediate medical advice regarding antiretroviral therapy (ART). South Africa has one of the most progressive ART programmes in the world and the treatment is available to everyone.

It's important for companies and employees to be aware of the urgency of seeking immediate ART guidance. The treatment is not as simple as taking daily medication and there are many factors that will determine the specific course of treatment for each individual.

If detected early, ART significantly lowers the volume of the virus in an infected person's bloodstream, often to the point where that person is no longer contagious. Patients on ART stand a very good chance of living a long and healthy life.

Safety measures should be taken to try and prevent, or limit the risk of exposure to HIV infection at the scene of an accident, but once an employee has been exposed to the virus (or suspects that they have), the employer's immediate response should be to ensure they receive expert medical advice as soon as possible to determine the right course of action. 

THE COSTLIEST ACT IN TOWN

A man in a dark suit and a gas mask with a large circular filter is sitting on a wooden chair on a concrete rooftop. He is looking out over a hazy cityscape. A black briefcase and an umbrella are on the ground next to him.

The implementation of the remaining National Environmental Management: Air Quality Act 39 of 2004, which came into effect in 2010, was a welcome revision to the emission standards. However, writes AVINASH RAMSAYWOK, group national process operations manager at EnviroServ, it seems to have come at a price...

With the poor perception of incinerators as the least desirable technology to treat and dispose of medical waste, when the remaining provisions of the National Environmental Management: Air Quality Act 39 of 2004 (NEMAQA) came into effect on April 1, 2010, the legislation was welcomed.

While the revised air emission standards were intended to clean up the industry and remove the

stigma attached to incinerators, it was expected (and found) that the transition from the old Air Pollution Prevention Act (APPA) regulations to NEMAQA would bring challenges around applicability, practicality and interpretation.

The EnviroServ Group has a licensed modern health-care risk waste (HCRW) incineration facility in Roodepoort. The facility has a valid Air Emission Licence (AEL), which stipulates the minimum emission standards applicable to "new" facilities as per NEMAQA.

Compliance and reporting under NEMAQA has proved to be one of the main challenges experienced by the facility. In addition, the practicality and interpretation of the new legislation and its requirements has added further complexity and costs.

More stringent emission standards mean increased costs of compliance. The frequency, number of reports requiring external consultants, and emission monitoring equipment required to meet these standards have added a significant cost to the incineration of medical waste.

The Roodepoort facility experienced challenges complying with the required emission limit for acid

dioxins is that there are no accredited laboratories available in South Africa to analyse for this species. The costs associated with monitoring and measurement of dioxins and furans are, therefore, high.

One of the pollutants that must be monitored on a frequent (and in some cases continuous) basis is HF. Since the Roodepoort operations commenced in 2011, HF has been monitored regularly.

The results from external Isokinetic sampling have revealed this to be very low, to well below detectable limits in most cases. However, this pollutant must be monitored and measured on a frequent basis ranging from continuously online, to quarterly Isokinetic sampling.



gases using locally available lime for treatment. Trials of various alternative products and studies of overseas markets were conducted to identify more application-specific qualities of lime to effectively treat and optimally neutralise the acid gases in order to meet the new stringent standards.

The back-end gas cleaning systems of the new technologies, now required to meet the regulated emission limits, come with their own challenges. For example, ceramic filters for particulate removal from the gas stream are not available locally and have to be imported at high cost; their lifespan has proved to be much shorter than expected, resulting in more frequent replacement. Speciality gases required for calibration of the equipment to measure pollutants, such as hydrogen chloride (HCl) and hydrogen fluoride (HF), are also imported.

Dioxins, formed during incineration, are highly toxic and can cause reproductive and developmental problems, damage the immune system, interfere with hormones and cause cancer. Therefore, the testing for these compounds is included as part of the Air Emission Licence requirements.

The challenge associated with monitoring

“ The practicality and interpretation of the new legislation and its requirements has added further complexity and costs to the incineration of medical waste.

Both monitoring options are not cheap. And, with continuous monitoring, significant capex expenditure will be required to import an online monitor. This raises questions as to why this pollutant should be monitored so frequently (considering that past results have indicated very low concentrations to be present)?

Air pollutant concentrations, as measured or as calculated by air pollution dispersion modelling, must often be converted, or corrected, to be expressed as required by various governmental agencies.

Such regulations involve several different expressions of concentration. Some express the

concentrations as ppmv (parts per million by volume); some express the concentrations as mg/m³ (milligrams per cubic metre); while others require adjusting or correcting the concentrations to reference conditions of moisture content, oxygen (O₂) content, or carbon dioxide content. The NEMAQA standards for HCRW incinerators use O₂ content as the reference condition. A reference of ten percent O₂ is used in calculations for O₂ correction.

This appears quite simple to implement. However, in an incineration processes the relationship between O₂ and carbon monoxide (CO) is a tricky one to manage and with which to comply. It is noticed that during the loading cycles of a typical fixed grate incinerator, the CO spikes (increases) and O₂ depletes.

Therefore "excess air" is introduced into the process to ensure that there is enough O₂ to completely react with the fuel and waste and reduce the formation of CO, which is a toxic gas associated with incomplete combustion. The management of this balance between O₂ and CO in the incineration process has proved to be very challenging.

The challenges are further complicated by the fact

that HCRW incinerators in South Africa are typically small incinerators, when compared to similar facilities the United States of America (USA) and Europe, and normally operate at less than one tonne/hour of waste.















The incinerators operational in the USA and Europe are much larger units and run at higher throughputs (typically three tonnes/hour or more). Therefore it becomes easier to manage this relationship between O₂ and CO and control the spikes in CO during loading cycles, which leads to the question: Is the O₂ reference of ten percent realistic and practical for the HCRW incinerators currently operational in South Africa?

While the implementation of NEMAQA was a welcome revision to the emission standards, since it will certainly clean up the industry and remove the poor perception of incineration as a clean technology, it has come at a price.

The chartering of new territory with regard to revised emission standards has certainly proved over the past few years to be very challenging, and will continue to be an expensive treatment option going into the future. SM

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WANT A PRODUCT ARMAGEDDON? IGNORE QUALITY

Quality – or a lack thereof – can have a dire impact on a company. Just ask Samsung. CHARLEEN CLARKE reports...

We all know the drill: Samsung – the smartphone market-share leader in almost every region outside of North America and Japan (where Apple is top dog) and China (which is dominated by Chinese brands) – recalled 2.5 million Galaxy Note 7s in September last year, and subsequently discontinued the product after replacements also burst into flames.

The fiasco cost the company billions – estimates have ranged from at least US\$ 2.3 billion (around R31 billion) to US\$ 5 billion (around R67 billion) and even higher.

Irrespective of the actual loss, we're talking about a whole lot of money going down the drain, and it appears that it was all thanks to quality control (or,

rather a lack thereof).

The mobile telephone market is one of the most competitive in the world and, according to *Reuters*, Samsung was in a rush to pip Apple to the post – and it sacrificed quality control. "In its rush to beat rival products to market, notably Apple's new iPhone, Samsung accelerated new phone launch cycles," the news agency reports.

"Samsung might have over-exerted itself trying to pre-empt Apple," ponders Sea-Jin Chang, business professor at Korea Advanced Institute of Science and Technology and author of *Sony versus Samsung*. "It's an unfortunate event; it feels like Samsung rushed a bit, and it's possible that this led to suppliers also being hurried."

Jeff Fieldhack, a Counterpoint analyst, concurs.

He told *Reuters* that he believes that Samsung was trying to duplicate its successful strategy of launching a month earlier than its rival. Earlier in 2016, Samsung stole the thunder from its local rival LG Electronics when it started the sales of Galaxy S7 smartphones a month prior to the launch of LG's G5 smartphone.

He said that lab times and testing periods are shortened to advance approval and time-to-market of main devices. He added that, most likely, the technical department did not fully test all charging scenarios.

Practically speaking, this "hurried" approach meant that the company could, once again, bring forward a launch. It appeared to be the right move. The initial results were spectacular; profits soared to the best level in more than two years, but then, as we all know, Galaxy Note 7s started burning – and the same happened to Samsung's reputation.


Samsung has denied that quality was compromised. In a statement to *Reuters* it said that it conducts "extensive preparation" for its products and will release them to the market "only after proper completion of the development process", but a Samsung executive (who declined to be named) was not fully in agreement.

"Our production engineers and managers are extremely experienced, and if you ask them to find a solution to adopt a design change, they'd promptly bring things under control, but even that capability is under growing strain, as we try out new materials and everything is on a very tight schedule," the person warned.

Samsung's mobile business chief Koh Dong-Jin painted a similar picture. "I am working to straighten out our quality control process," he conceded.

Samsung is now saying it's going to do The Big Reveal – and tell the world what went wrong. At the Consumer Electronics Show (more commonly known as the CES), in Las Vegas this January, the president and COO of Samsung Electronics America, Tim Baxter, addressed the media at the company's press conference.

He said that "deep inquiries" had been made into what went wrong. "We continue our intensive efforts internally and with third-party experts to understand what happened, and to make sure it doesn't happen again. And very soon, we will be sharing the root cause report on the Note 7," Baxter said.

This is all very well, but, ultimately, the root cause must surely have been thanks to a failure in quality control. It's as simple as that. 



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THE STUPID ELEMENT OF MINING

One hears a lot about mining accidents caused by faulty structures or hazardous chemicals, but one rarely hears about accidents caused by miners themselves. ANLERIE DE WET talks to three South African miners who witnessed their colleagues neglect safety protocols – and lived to tell the tale

To protect the identity of the miners and to avoid causing unnecessary harm to any mine, pseudonyms have been used to tell the miners' stories.

Dave is a final-year mining engineering student, who has worked in various mines across the country during his studies. He says he has seen a couple of people do some crazy things underground, but nothing compares to what he witnessed a colleague doing with a pic.

"While walking in the mine, I saw this guy using his pic to try and open a box of explosives. I shouted at him to stop what he was doing and asked him if he was trying to kill us. I think he only realised how dangerous his action was after I stopped him," says Dave. If Dave hadn't stopped his colleague, there could certainly have been fatalities.

He says another example of reckless behaviour was when someone used a mono winch to move explosives. A mono winch is used to move specific materials up and down a travelway to get them to another level. Generally, the platform holding the materials being hauled bumps against the walls of

the travelway. "Just one bump could have caused an explosion," says Dave.

Andrew is a section manager at a mine in the Free State. He says: "Being in a mine makes you tired, but I don't think that's an excuse to be stupid.

"Not too long ago, one of the workers in my section started drilling underneath an overhanging rock. He was not authorised to drill there. He was wearing earmuffs, so he didn't hear me when I started yelling for him to stop and move away. I had to run to him and physically pull him away. His drilling could have caused the rock to fall down at any moment, and it would have squashed him into a pancake."

Jacob says he knows of many things that his colleagues have done that would get them fired for not complying with safety protocols.

"The other day I was with my charge hand and foreman at a link on top of a 22 kV overhead line. We had to isolate the line to allow others to work on it. My colleague called the millwright and asked him to let us know when he had isolated the mini substation, so that my colleague could pull the link




Every year, thousands of miners from around the world die as a result of mining accidents, both underground and on the surface. In 2015, 77 miners died in South Africa alone.

to isolate the line in order to prevent it from burning," says Jacob.

"The millwright called 20 minutes later to say everything had been isolated. My colleague is a 58-year-old man, who is 1.6-m tall and weighs 160 kg, but after pulling that link he leopard crawled away

as though he was in the army! All the grass within a one-kilometre radius was burnt."

Every year, thousands of miners from around the world die as a result of mining accidents, both underground and on the surface. In 2015, 77 miners died in South Africa alone. This number could have been noticeably higher if some of these stories had taken a turn for the worse. Of course there has been a vast improvement compared to the 615 deaths recorded in 1994.

As these men look back at these near-death experiences, they all reiterate the need to follow all the safety procedures. Sometimes, however, the human element slips in and undermines the best safety procedures. "These kind of stupid things don't happen every day, but you just need one person, who doesn't think straight for one second, to bring the house down," says Andrew. 



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WORKING AT HEIGHT IN SPORT

When talking about daring high-altitude jobs, workers in the construction industry almost always come to mind first, but there are other daredevils out there who also work at height. The difference is they call it a sport

These daredevils attract tourists and adrenaline junkies the world over. They are instructors, trainers and coaches of dangerous recreational sports. Their lives and those of their clients always hang by a thread. One mistake could see a life taken in seconds.

SAFETY FIRST

These are some of the most dangerous jobs at height, but most of the workers, and their clients, survive these sports because they take safety seriously.

Adventure operators offer activities and experiences on their own properties, or using their own equipment. To become an adventure sport operator in South Africa, one needs to register as a business and meet the standards and regulations set out in the Occupational Health and Safety Act No 181 of 1993 and the National Sports and Recreation Act No. 110 of 1998.

Safety equipment – including harnesses, helmets and gloves – is essential for the safety of workers and clients in the adventure sport industry. This equipment must be provided by the adventure operators, who are required to also have a thorough knowledge of the different types of equipment.

For example, there are different harnesses for different uses. Andreo du Preez, height safety trainer and fall protection planner at Nosa, says harnesses are designed for specific tasks at height, ranging from basic fall-arrest harnesses to top-of-the-range rope-access harnesses. "Employers must, therefore,

carefully consider the tasks that their workforce needs to perform before procuring safety harnesses," says Du Preez.

Safety equipment can, however, only work effectively with trained coaches and supervisors. In South Africa, there are two ways to get qualified in adventure sports: through the training programmes offered by an adventure organisation, such as the Mountaineering Development and Training and Parachute Association of South Africa, or to get an NQF-rated qualification from a certified education and training institute.

Here are a few facts about some of these high-altitude sports:

ZIP LINING

Researchers from the Nationwide Children's Hospital in Columbus, Ohio, in the United States (US) released a study in October 2015, in which they estimated that 16 850 non-fatal zip-line-related injuries were recorded in the country's emergency rooms between 1997 and 2012.

On average, 48 people are killed per year around the world by zip lining, of which at least six of these deaths are recorded in the US. Four out of the five people killed in the US, while taking part in this activity in 2015, were zip-line workers.

ABSEILING

Abseiling was originally used by rock climbers as a method to descend back to the ground. Over the



years it has become a sport in itself to find a cliff and abseil off of it. In 2015, a 29-year-old abseil worker fell 25 m from the Gold Coast Convention and Exhibition Centre in Australia, while cleaning the windows.

The longest commercially operated single-drop abseil of 204 m in height takes you off the edge of the Maletsunyane waterfall in Semonkong, Lesotho.


When abseiling, for the most part the scenery is quite magnificent, but anything from faulty gear to avalanches can ruin the moment and result in tragedy.

SKYDIVING

In 2012, 47-year-old skydiver, Felix Baumgartner, jumped from 39 km above the earth's surface and survived, but many aren't as lucky. An estimated 41 skydiving deaths were recorded in 2015, of which 18 took place in the US.

BUNGEE JUMPING

People have a one in 500 000 chance of dying while bungee jumping, which, as statistics go, isn't that bad; it's safer than cycling. Although, when bungee jumping accidents do occur, they usually involve a 50 to 100-m fall. This is unless you leap off the world's highest platform on the Bloukrans Bridge in the Western Cape, where the fall would be 216 m.

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MICRO-DOSING:

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When one thinks of lysergic acid diethylamide (LSD) and magic mushrooms, words like "out-of-body experience" and "hallucination" come to mind. Nowadays, however, these psychedelic drugs aren't used only by those looking for a "trip", but by young professionals wanting to perform better at their work. ANLERIE DE WET investigates



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Magic mushrooms and LSD are hallucinogenic drugs that alter perceptions and the senses. Over the last five years, people have used these drugs in micro doses to avoid seeing sounds and hearing colours (an effect normally associated with these drugs) and, ultimately, expand their minds to think more clearly and become more productive.

Psychologist James Fadiman published his book *The Psychedelic Explorer's Guide: Safe, Therapeutic, and Sacred Journeys* in May, 2011. This guide suggests that if LSD and magic mushrooms are used in micro doses (one tenth of a normal dose on day one, followed by four days with no dosing) then creativity and problem solving could come to the fore without the effects of a "high".

Since the publication of Fadiman's book, the practice of micro-dosing has become more and more popular with many business people in Silicon Valley – the southern part of San Francisco, California in the United States (US) – starting to do it continually.

Fadiman studied the work of Albert Hofmann, a Swiss scientist who amalgamated LSD in 1938 and the active agents in magic mushrooms (psilocybin and psilocin). Hofmann was considered to have taken the first intentional LSD trip in 1943, but he took micro doses of the drug for most of his life until he died in 2008 at the age of 102.

In 2007, he shared first place, with Tim Berners-



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Lee, in a list of the 100 greatest living geniuses, published by *The Telegraph* newspaper. In his work, Hofmann said that taking micro doses of LSD helped him to think more clearly and live more healthily.

However, the evidence of this is still purely anecdotal. Very few researchers can overcome the legal constraints to study illegal drugs – making the effects of taking micro doses vastly underexplored.

Many surveys have, however, been conducted on the matter. A forum on *Reddit*, devoted to the practice of micro-dosing of these drugs, grew its subscriber base from 1 600 at the start of 2015, to 7 500 in June 2016. Most of the people on the forum are young business people, particularly those in their twenties.

These users have shared their experiences on the forum indicating that micro-dosing helped them get ahead in the workplace by providing increased energy levels and enhanced moods, which improved

neither of them have been known to cause physical or psychological addiction. In fact, a study by the United Kingdom's Independent Scientific Committee on Drugs rated these drugs as two of the three least damaging recreational drugs.

However, according to the National Institute on Drug Abuse (NIDA) the catch with both of these psychedelics is that, more often than not, users have to increase their doses to get the same effect from the drugs as before. This increased dose can result in magic mushroom users experiencing fear and exerting dangerous behaviour, whereas LSD users may experience "flashbacks" and hallucinogen persisting perception disorder (HPPD).

Fadiman has been studying the effects of micro-dosing on users, with subjects keeping journals for him. With this research, several people have reported abnormal sweating on dose day, with some subjects reporting increased anxiety. However,

the number of people reporting these is minimal compared to users who have experienced no side effects.

As the long-term effects of micro-dosing haven't been studied as yet, it's difficult to fully assess the effects of the practice. *Live Science* says that using LSD on a regular basis, even in smaller doses, may have "unintended and far-reaching side effects that



ABOVE LEFT AND RIGHT: Micro-dosing of LSD and magic mushrooms is gaining prominence as a creativity and problem-solving booster.

their productivity. Some users even said micro-dosing has made them less depressed. Of course there have also been incidents where the users got the dose wrong and had a very difficult day at the office.

Both LSD and magic mushrooms are illegal in most countries, including South Africa, although

are as of yet unknown".

If studies on micro-dosing are given the green light, it may one day become an everyday substance in households to help with concentration. On the other hand, the studies may reveal side effects that could see the enthusiasm for the practice die down completely. **SM**



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REMAIN SEATED

FOR A SPEEDY EVACUATION

ROGER BUCKLEY, director of Edwards & Buckley Systems, explains why the Evac+Chair is a safety device that no building can do without

Edwards & Buckley Systems has been manufacturing the Evac+Chair in South Africa since 2004, under licence to Evac+Chair International, based in Birmingham, England. The company is the sole and exclusive manufacturer and distributor for the southern hemisphere, including South America, Australia, New Zealand and Africa.

What is an emergency evacuation chair and why is it necessary?

The Evac+Chair is a stairway evacuation chair for people with mobility impairments, including people with disabilities, injuries or ailments that render them unable to walk down stairs unassisted.

Emergency evacuation plans always prohibit the use of lifts as an evacuation route, but will take into account that people with injuries, disabilities or other medical impairments will need to be moved away from dangerous areas. In some cases, they will need to be carried down stairs to a safe area and wait until it is safe to go back upstairs, or transfer to hospital.

Corporate employers and government have recognised the need for these chairs in all their multi-storey buildings, recognising that anybody could be upstairs in these buildings at any time, and it will be their responsibility to ensure safe evacuation.

Is there any law that mandates use of the chairs?

Besides their constitutional rights, people with disabilities are protected specifically under various laws and regulations in terms of their rights to access and to leave buildings safely. These include:


- The Labour Relations Act;
- *The Public Service Reasonable Accommodation Handbook*, published by the Department of Public Service Administration;
- The New Building Regulations (SANS 10400).

What is unique about the Evac+Chair design?

This is the original stairway evacuation chair. It is easy to operate and lightweight, but safely carries people of up to 182 kg.

The Evac+Chair is certified TÜV GS compliant and tested by TÜV Nord of Germany at the company's factory in Wadeville. It is certified for safety (valid until October 2017, at which stage it will be retested). The company maintains strict quality policies and is certified by the South African Bureau of Standards (SABS) and is ISO 9001:2008 compliant.

What sort of maintenance does the Evac+Chair product require?

Inspections should be carried out annually, or more frequently where chairs are used extensively. 

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A NEW YEAR REQUIRES NEW GEAR

Personal protective equipment (PPE) manufacturers continue to develop better, stronger and more reliable equipment. ANLERIE DE WET takes a look at the focus of the PPE industry in 2017



In an era where technology is the order of the day, it is no surprise that wearable technology is being incorporated into PPE. Big companies, including PPE manufacturers, around the world are investing in wearable technology to track employees and measure their movements in order to help keep them safe.

Insurance company American International Group (AIG) and IBM invested in a start-up company, Human Condition Safety, to develop PPE for workers in dangerous occupations by using artificial intelligence and building information modelling (BIM) to bring the virtual and physical world together.

Typically hidden under, or worn on top of, PPE clothing, wearable technology can detect when a worker carries too much weight, takes a wrong turn, enters an environmentally risky area, or gets too close to dangerous equipment. The device captures the data and redirects it to the user.

The Frost & Sullivan research study (entitled: Wearables and smart technologies for industrial environment – A PPE perspective) shows that “wearable technologies are slowly entering the PPE market, with the promise of improving worker productivity, better safety and long-term cost savings through active prevention of accidents”.

The study says that PPE manufacturers will eventually have no option but to provide wearable

technologies to their customers in the industrial sector.

Although there are not many options for PPE that incorporates wearable technology currently entering the market, most of the innovators are conducting final trials on their devices, which may be available only later in the year, or at the beginning of 2018.

PPE manufacturers are also looking at enhancing their products to be more comfortable and stylish. Although the primary focus of PPE should be to keep workers safe, more and more customers are requesting safety features together with comfort and style in PPE products.

A survey, conducted at the 2008 National Safety Council (NSC) in the United States (US) Congress and Expo, showed that 89 percent of safety professionals said they had observed workers failing to wear PPE.

Workers – who have to wear PPE for at least eight hours per day – often complain that it is uncomfortable and doesn't look appealing. Manufacturers have recently been working on making their PPE fit better, while making the materials lighter and the styles more appealing.

PPE will always have to develop with the times, while taking the preferences of the workers into account. PPE manufacturers will continue to look for better ways to keep workers safe, while also making equipment that is attractive and comfortable. **F**



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DROMEX

GOES BIG IN 2017

Dromex, Africa's largest PPE wholesaler, released many new PPE products in 2016, including its Flat Fold Respirators, eight new Conti workwear colours and Barrier Fencing. And there's even more on the cards for 2017!

“The Dromex team has been hard at work keeping our promise to bring you innovative PPE solutions that always offer maximum safety protection,” says general manager, Stephen Mallett.

During 2017 the Dromex range will undergo expansion on all fronts. Here is a preview of what customers can expect in the first half of this year:

January: Five New Dromex Ear Plugs, re-styled Dromex Denims, new Dromex T-shirt colour range, new Dromex Specialised Mining Garments.

February: New Dromex S4 and S5 Gumboots.

March: New Dromex Poly Viscose Acid Workwear,

enhanced and re-certified 1000 Series Dromex Respirators.

April: New Dromex Full Face Mask, new Dromex gloves: Keto, CFC, Chem Plus and Neo Chem.

The Dromex team will also be present at the following events, offering visitors specialised and personal PPE advice:

- A-OSH 2017: May 30 to June 1 at Gallagher Estate;
- KZN Industrial Trade Exhibition: July 26 to 28 at the Durban Exhibition Centre;
- Regional Saioh Workshops in July, August, October and November (Durban, Johannesburg, Port Elizabeth, Bloemfontein and Cape Town). **F**

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SAVE MONEY

BY SAVING THE WORLD

Businesses don't need to think outside the box to cut their office waste in half. It's not even necessary to throw the box away, as ANLERIE DE WET discovers

Back in the 1970s, we all thought that we'd go paperless. That's when the term "paperless office" was first mooted. Now, we're living in the digital age – so that also means paper isn't really needed, right?

Not a chance. Look around. Calendars are still hanging against the wall, printers are still getting paper-jammed and there are still letters from an angry colleague on the office fridge door asking people not to steal their food.

Something has to change – if not for the environment, then for the protection of the company's bottom line. Making these changes does not involve rocket science. If companies want to halve the amount of office waste they produce, all they need do is tackle paper and packaging waste.

PAPER IS DOWNRIGHT NASTY

Incredibly, paper is responsible for 50 percent of office waste, while packaging contributes 33 percent. According to the Minnesota Pollution Control Agency in the United States, businesses rip through an estimated 10 000 sheets of paper per year for each employee.

This is seriously bad news for the environment, because ten litres of water is used to make one sheet of A4 paper, meaning that an estimated 100 000 litres of water is wasted per year for each employee. This does not take into account the trees that have been destroyed.

WHAT ABOUT RECYCLING?

Lots of people say that creating "mountains" of paper isn't necessarily bad because, after all, paper can be recycled. Yes and no. According to the Solid Waste Management Coordinating Board's Office Paper

Reduction report, recycling is a good idea, but it is not as cost-effective as reducing usage in the first place.

Reducing paper waste can result in savings in waste collection, maintenance of general office machines and the transportation of documents.

SO WHAT SHOULD COMPANIES DO?

Using digital software to store and send documents is definitely a big step forward. However, when using paper it is best to use smaller fonts and margins and print documents on both sides. One should also use scrap paper for notes and reuse envelopes.

Packaging is different. It is made mostly out of paper, plastic and glass, but, for some reason, people don't tend to recycle packaging. More often than not it is dumped in landfill sites or burnt. This creates more pollution, not counting the pollution caused by the manufacturing and transportation of packaging.

Other than making sure that used packaging at the office is recycled, try to think of ways to reduce the necessity to purchase more packaging. When shopping for the office milk, coffee and biscuits, for instance, reuse the carry bags. Also, buy in bulk; buying three big bags of sugar is better than buying ten small ones (because of the reduction in packaging).

Some packaging can be reused. For example, cardboard boxes can be used as stationary boxes and glass packaging can be used as vases for flowers. Introduce a competition within the company: ask employees to come up with novel ideas to reuse packaging and reward the most innovative idea.

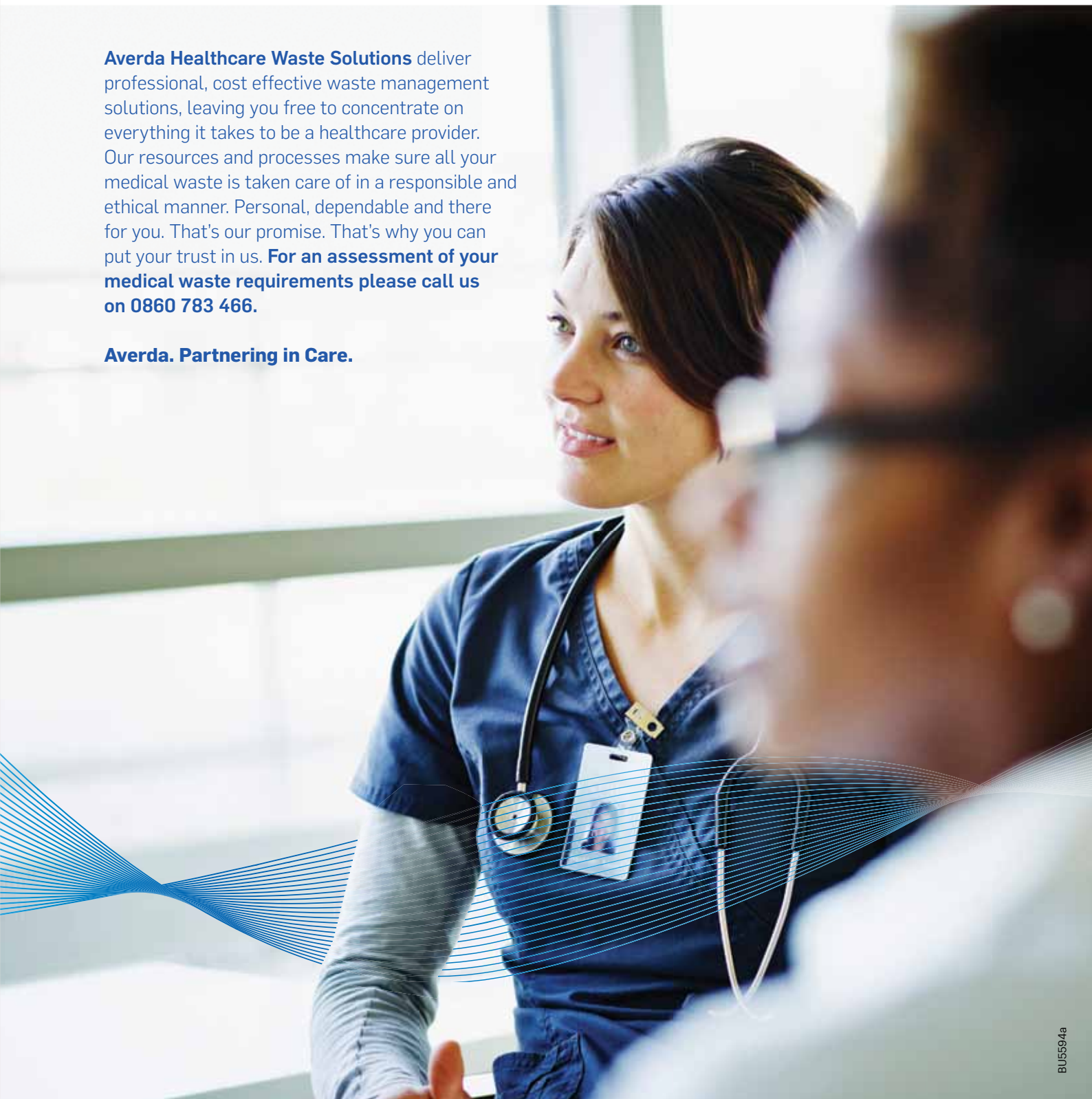
Reducing paper and packaging waste in the office will take time and effort, but the outcome will definitely be worth it. **SM**



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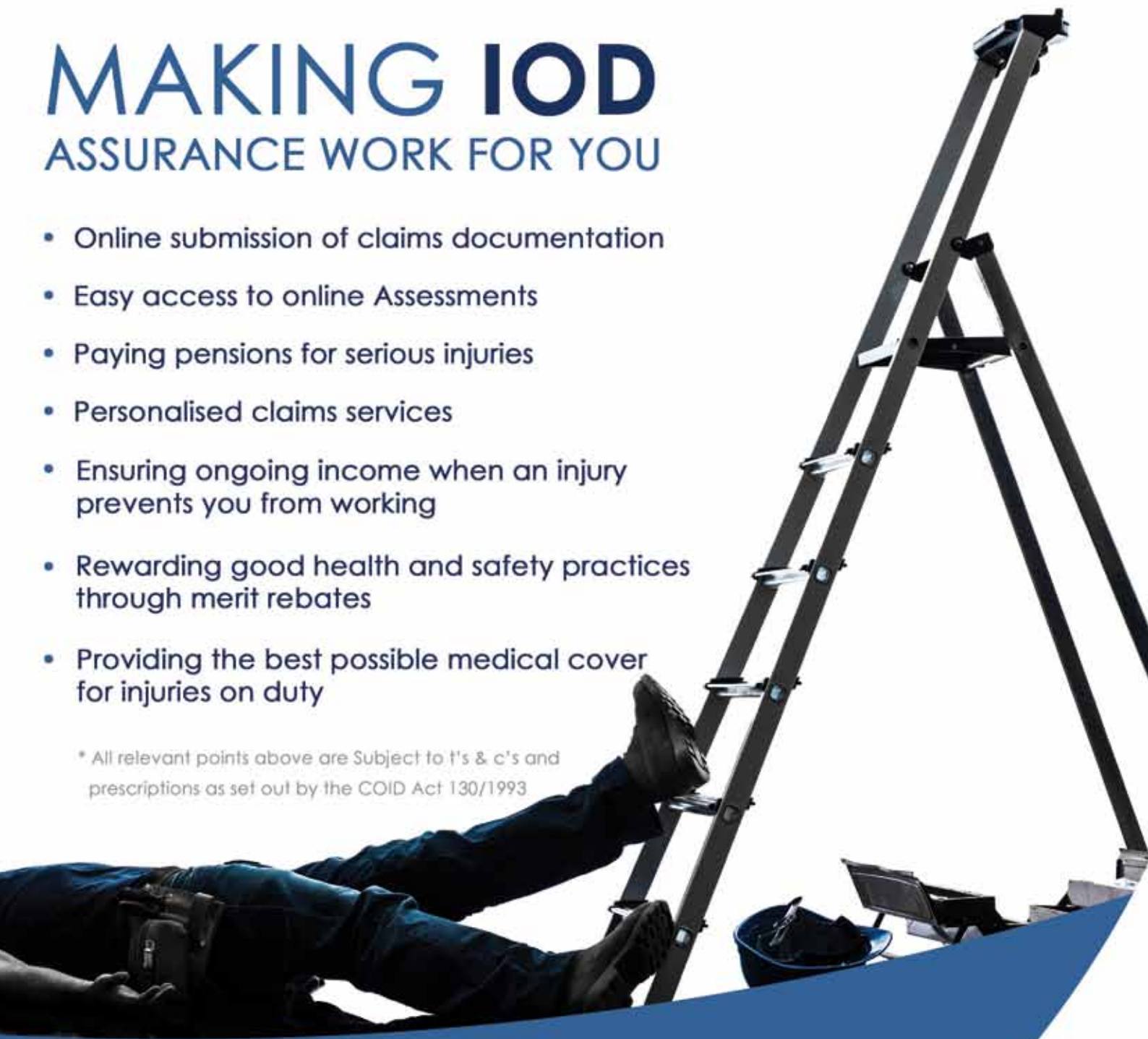
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