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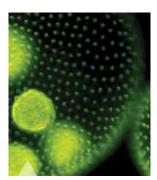
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It is possible to eliminate accidents - if a company has health and safety in its blood. That's according to Marek Rolinec, who is responsible for occupational health and safety at the Mochovce Nuclear Power in Slovakia ...



would imagine that some of our readers are surprised that I am quoting someone from Slovakia. The reason is that Rolinec is speaking at the tenth annual HSE Excellence Europe Forum and I'm interested in his opinions, because I will be representing SHEQ MANAGEMENT at this prestigious and very important event.

I find his attitude refreshing. We live in a world of complacency, and Rolinec is anything but. He's worked at the plant since 2009 and tells SHEQ MANAGEMENT that its owner, Slovenské elektrárne, is passionate about the safety of workers

"Slovenské elektrárne, which is part of Enel, takes safety as a priority during all activities performed, with extraordinary value placed on the health of workers," he confirms.

Training is key. "While we were completing the plant, 32 925 people were retrained until the end of 2015. Another special key activity is inspections, and there is zero tolerance for unsafe behavior. Slovenské elektrárne hired 50 health, safety and environment (HSE) specialists (half of these were safety supervisors). They identified and corrected almost 10 000 shortcomings.

This system helps the organisation to minimise exposure to hazards to the shortest possible time. All findings are recorded and evaluated using a special tool called Construction Safety Indicators (CSI Mochovce).

"At the same time, methods of positively motivating workers are also important, with disciplinary tools on the other side as well. Unfortunately, in Slovakia the disciplinary system is more effective than positive motivation and rewards," Rolinec reveals.

Last, but not least, communication plays a key role. "For this purpose, we do conduct a number of events and communication campaigns on a regular basis. The goal of these campaigns is to change the thinking of workers on site from 'I have to' to 'I want to'. It is, however, a long process and time is the only aspect we are always missing," he concedes.

Via these methods, Slovenské elektrárne is striving for zero accidents. "A company with occupational health and safety in its blood is able to define an effective system that is capable of functioning for a long time and is able to achieve a zero accident rate," he notes.

Sadly, this isn't always achieved. "When we were completing the plant, we achieved six years of operation and approximately 40-million man-hours without any severe accident. Then one person died on the construction site. The father of a one-year-old daughter did not go back home.

"During the investigation process, no violation from the side of Slovenské elektrárne was proved. Despite this, the fact is that a person died in our project and this must never happen again."

Since this tragedy, there has been even more focus on the behavior of workers at the site. "All workers have to understand that the consequences resulting from the violation of rules are much more severe than any perceived benefits.

"I do not in the least reject zero as a goal. If you want to be the best, you must set your goal at the top level and then it is crucial to do the best you can to meet that goal. If, by accident, something fails, then the efforts need to be doubled."

Speaking of "the best", what are the most important qualities of an HSE leader? "Diplomacy, empathy, strategy, analysis, theory, courage, decisiveness and resolution," Rolinec reports. I look forward to learning more from him next month!



HELP TESTING FOR TOXIC EMISSIONS

I have a client who owns large factory premises, which is split into several smaller sub units. These units are rented by tenants, who each have their own individual operations.



We have recently noticed that a factory renting one of these units, which specialises in industrial spray painting and sandblasting, has been producing an enormous amount of toxic fumes and dust.

I decided to do some research on the matter and discovered section 16 of the National Environmental Management Act. It makes mention of a permit that needs to be applied for by this company.

Would you be able to refer me to an individual body or company, able to perform the relevant emissions tests for approval – better known as "ergonomical testing"? This body would need to authorise that readings are accurate and that the correct legislations are in place. As soon as these tests have been verified, we will be able to proceed from there.

I really hope you can point me in the right direction.

Bronwyn Grenz B Optimum Safety

Thank you for your letter, Bronwyn. We are aware that the occupational hygiene Approved Inspection Authorities (AIA) within NOSA performs sampling. We have sent your details on to them, and are sure they will be in touch. Good luck! - Ed



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"GO FOR ZERO" WITH LOCKOUT/TAGOUT

Fifteen to 20 percent of workplace accidents can be avoided with lockout/tagout solutions, which is why the procedure should be part of any ambitious "go for zero" programme that bans accidents from the workplace, says Brady.

For every energy isolation point including handles, buttons, valves, levers and others - a lockout/tagout device exists that blocks them in the off-position. A padlock will lock the device, itself, in place, so that machinery that is being serviced cannot be accidentally re-energised.

"To implement lockout/tagout in the workplace, machine-specific procedures need to list the necessary steps to isolate every machine. Writing these procedures requires some expertise and a thorough knowledge of lockout/tagout principles," says Robert Kubis, MarCom specialist at Brady Europe, Middle East and Africa.

"Brady proposes the LINK360 software to easily introduce, approve or edit, scale and communicate machine-specific procedures for lockout/tagout," Kubis adds.

"Once approved, LINK360 enables users to upload on-site pictures of the machinery and its energy isolation points. Once finished, the cloud-based software can print the machinespecific procedure for communication, which can then be placed near the machine."

With best-practice machine-specific procedures, appropriate software and the tools to isolate any machine from its energy sources, companies can avoid accidents during machine interventions and push a "go for zero" programme to the next level.

Brady has recently summarised useful information about lockout/ tagout and released the new guide book: Safer Machine Interventions.





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PREVENT HEARING LOSS IN MINING

In many ways, mining operations present one of the most difficult challenges for hearing conservation: loud, heavy machinery in confined reverberant space, coupled with a need for critical communication among co-workers. These are potent ingredients for noise-induced hearing loss (NIHL).

Nearly three out of four South African miners are overexposed to hazardous noise levels, and one study of coal miners over the age of 50 found that up to 90 percent have debilitating hearing loss.

"Several companies have successfully reduced the rates of hearing loss among their noise-exposed workers," says Brad Witt, director of Hearing Conservation, Honeywell Safety Products. How?



1) VARIETY

The prevailing assumption is that "anything in my ear will protect my hearing – it doesn't really matter what it is". In reality, ear canals come in different sizes and shapes, affecting both fit and protection levels, as well as comfort. A mine site that offers only one size or style of earplug sabotages its own hearing conservation efforts, as few workers will be adequately protected.

Like a cork in a bottle, an earplug that is too large, or too small, will never achieve an acoustic seal. A variety of hearing protection sizes and styles can be accomplished with little or no increase in cost.

A recommended mix of sizes or styles to optimise the fit of earplugs at a mine site would be: large foam earplug; smaller foam earplug; large reusable earplug; and smaller reusable earplug.

2) COMMUNICATION

It is a myth to assume critical communication and hearing protection cannot co-exist. Studies show that communication levels improve for most workers wearing protectors in loud noise. Hearing protectors are now available that reduce the overprotection and communication interference found in conventional protectors.

Several earplugs and earmuffs have been designed to maximise communication through uniform attenuation; allowing wearers to hear important sounds (such as co-workers, warning signals, radio and communication systems, and maintenance sounds from machinery) more naturally, while still protecting the wearer from harmful noise levels.

If a miner feels the earplugs are isolating him from co-workers and warning signals, he will avoid using them, or simply insert them halfway, providing minimal protection.

3) TRAINING

The motivation to protect hearing must focus on how using hearing protection today affects long-term health and well-being tomorrow. Quality of life deteriorates over time as workplace-induced hearing loss becomes more noticeable.

One-on-one training far exceeds group training in the fit and effectiveness of the hearing protector, even if this is just a one-minute explanation of how to fit earplugs at the time of new-hire orientation. Many hearing-protector manufacturers can provide training tools to assist in this effort.

4) FIT-TESTING

In addition to ensuring each worker is adequately protected, fit-testing provides employers with good documentation of protection. If a spurious claim for hearing loss is filed, the employer who has administered fit-testing can show that a worker was properly fitted with adequate protection, and properly trained in its use.



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recently returned from a week of work in Siberia: three flights, two taxis and a train ride; it was certainly a long way from my home in Switzerland. It's Russia at its most remote.

I'm no stranger to long-distance travel: the previous week I'd been working in Johannesburg, one of my favourite places in my most favourite country in the world; glorious South Africa, where it had been upwards of 30°C with scorching sunshine and warm, happy faces everywhere.

In Siberia I had been well wrapped up in my goose-down jacket, woolly hat and gloves and thermal underwear: -25°C is no joke.

As I wandered downtown, dodging Russian drivers - keen to get wherever they were going - while simultaneously focusing on the snow and ice beneath my feet, it was clear that the relaxed flip-flops and the sunshine smiling "sawubona" of South Africa had been replaced with heavy boots and a sombre attitude of "let's just do what we need to do and then get back into the warmth".

With a temperature difference of almost 60°C between my work locations, and a physical distance of 11 366 km, it felt as though I really was on a different planet.

No matter where I find myself in the world, I'm always intrigued by the local culture. In South Africa I always feel that there is a real and true burning desire for learning and growth.

During each visit I make to the Rainbow Nation, many

people I meet are keen to point out that their South Africa is "second world" by comparison to Europe. Yet, despite still being "under development", there's such a strong sense of pride regarding the journey completed so far, and a calm, understated confidence that the future

For many countries, pride and optimism can seem like a veneer, but in South Africa, in my experience, there is typically a deep and reasoned commitment, too. Working with South African clients always brings a smile to my face, as I see people from different backgrounds coming together to demonstrate a strong sense of community, team spirit and a mindful dedication to improving workplace safety.

KEEPING COOL: A BALANCED APPROACH TO LEADING

Despite the chill in the air, Siberia showed similar signs of humility and hunger when it came to improving safety. Working with the top team of an oil company, during our Safety Leadership masterclass workshops we'd been discussing how to develop safety culture and build authentic safety leadership.

We'd been exploring classical styles of leadership and with many of the executives present coming from engineering backgrounds, they identified with the transactional style as their own natural or "default" style.



Typically process-oriented, transactional leaders are skilled in planning, direction and facilitation. They quickly get things under control and are expert at identifying and driving appropriate action. These are leaders who "find and fix" and "make things happen".

The Siberian oil company in question is, unusually, run by two chief executives. Nicolay is the visionary, having strategically plotted out the corporate direction well into the future.

Transformational leaders (like Nicolay) are those who have energy and drive in abundance. Like prophets, they look far ahead to create a vision for the prosperity of their organisations. Usually highly charismatic and attentive to the needs of others, they then paint clear pictures that persuade others to follow and support their cause.

For Marina, a tightly focused former lawyer with a disarmingly warm smile, nothing is a

problem. Her natural style is to operate as a servant leader. Servant leaders, like nurses, can appear selfless, concentrating on how they can support others in achieving their tasks and goals.

Totally committed, with high levels of awareness and empathy, they – like nurses – are also excellent listeners. Servant leaders actively seek out opportunities to help; bringing teams together and building a sense of pride and community.

The combined joint leadership at the oil company got me thinking. It's not unusual for an engineering company to have a wealth of transactional leaders – after all, getting oil out of the ground is key – but could the blend of servant and transformational leaders at the top provide a more effective climate for engineering mindsets to prosper and safety excellence to flourish? I suspect it does.

THE MECHANIC LEADING FORWARD

It would be easy to conclude from my Siberian trip that transformational and servant leadership styles give the biggest bang for our buck when it comes to improving safety culture and performance.

While there is plenty of scientific research supporting the value that each style brings to safety, it was while reflecting on a South African leadership masterclasses that I noticed something important.

The previous week, back in Joburg, a quietly confident chap sat at the front of the room, occupying the very end seat on our boardroom table; the nearest seat to where I stood. Seventeen of his colleagues were in the remaining places.

As the first session unfolded and each delegate made their introductions, this quiet man waited his turn before explaining that he was the MD of the business, a leader in the South African construction industry. His name was Marc.





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Now it's not unusual to find the top executive in the room when we deliver these leadership programmes. Often they arrive bang on time, state the importance of what's about to follow, assure everyone of their utmost personal commitment to safety – and then depart.

Not Marc. For two full days he listened carefully and participated fully – not even once playing the "hierarchy card" – and, impressively, resisted the temptation to taptap-tap away on his Blackberry. For two days, Marc was, in his words, "just one of the senior team interested in learning how to be a better safety leader".

Over coffee on the second day I was keen to pick his brain. "Why are you really here? Why are you giving up two full days of running your business to sit and talk safety?" I asked.

Looking at me with a relaxed and friendly face his response was as perfect as it was simple: "If I don't walk the talk, Andrew, how can I expect others to?" And there it was; the most senior leader in the organisation demonstrating his own personal commitment to sending people "home without harm" every day.

By investing his time and effort in the workshop with his management team, Marc was, at the same time, learning about and resolving (or "finding and fixing") many of the most important safety issues in his business. He was both setting the tone, and making things happen. He was facilitating the future actions of his team, as well

as very subtly ensuring they would move forward in the right direction.

When the group exercise came around and the delegates identified their own default leadership style, it came as no surprise that Marc was a transactional leader. Just like a great mechanic, he uses his skills to discern when things are not running as well as they might, makes his adjustments to improve things, and then sets off leading by example to make things happen.

THE SAFETY LEADERSHIP CHALLENGE

While leadership style should certainly be relevant to context, great safety leadership – combining transactional, servant and transformational elements – may just be the secret to bringing smiles to faces, warming the team spirit and keeping us on the right track in creating safety excellence ... no matter where we are in the world.

So what's your natural leadership style? Are you a nurse, a prophet or a mechanic? How can you adapt your style depending on the situation in which you find yourself?



Sharman on Safety is a series of extracts that SHEQ MANAGEMENT is running this year, 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 chief executive of RyderMarshSharman – consultants on leadership and cultural excellence to a wide range of blue-chip corporates and non-government organisations globally. More at www.rydermarshsharman.com. SHEQ MANAGEMENT readers will receive 20 percent off the price of Sharman's book at: www.fromaccidentstozero.com using the code SHEQSA.

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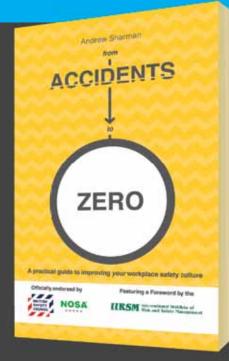
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Some studies estimate that the brain is bombarded with 1 850 bits of information every 1/18th of a second. It is simply too much information for the brain to process. Everything the brain doesn't believe to be critical, at that moment, immediately gets stored on the sub-conscious. BRETT SOLOMON asks whether your strategy includes a plan to make sure that safety is on the forefront of your people's minds?

here is a very distinct criterion that the brain uses to determine what goes directly and unprocessed to the sub-conscious and what we pay attention to. This criterion is known as the DIPI factor and has a hierarchical order.

The brain will always give priority to and place on the foremost of our attention anything it perceives to be "D" - dangerous. For good reason, the safety community likes to play this card. We constantly remind our people of the harmful consequences of working unsafely. It is a logical strategy ... at first.

Unfortunately, the potency of this "D" factor is determined by the brain's perception. What the brain feels is dangerous today can become inconsequential tomorrow. I will never forget the first time I drove around in a large open-cast pit. I was so aware of all the dump trucks driving around me, however, it wasn't too long before I became accustomed to all of the moving machinery.

Knowing this, what can you do doing to keep the dangers vivid in your worker's minds? Otherwise, the brain becomes so used to them that it dismisses the information into the sub-conscious along with all the other trivial information.

The next factor the brain gives attention to is

everything it experiences as "I" - important. Perhaps you have experienced this ... You will be in a crowded room with a lot of noise and are struggling to hear the conversation in which you are engaged. Then someone mentions you name. Irrespective of all the noise you pick it up. Why?

This is because our names are extremely important to us. Through all the noise and racket your brain singles out your name, and, even though you didn't hear one word of that conversation, you immediately become curious to find out what they are talking about.

In the same way leaders have a responsibility to help workers see the importance of safety, which has to go beyond merely complying to regulations, as this is not important to most people. Safety needs to become a value, have personal meaning, be an entrenched belief system. When that happens, workers will not only comply, their brain will constantly be on the lookout for anything that might place them in harm's way.

This is followed by what is "P" – pleasurable. Marketing companies seemed to best understand this dynamic. To use an extreme example; if they want to sell dog pellets to 30-year-old males I doubt that much of the advertising will focus on the dog, or the pellets. Somehow a few attractive young ladies and beer will be

more likely to come into the picture.

Now, if the target audience is five-year olds a cute puppy might become part of the advertising campaign. So can we "sell" safety outside of the normal "do it or get into trouble" approach? Can we position safety as something that is enjoyable?

We have an array of tools and techniques at our disposal to stimulate the "pleasure" side of safety. We don't have to be bound to the past approaches of threatening people with discipline (which people will always resist).

We can even go beyond the alluring reward schemes. We can make safety attractive where people see the value and benefit of working safely. We can tap into our people's intrinsic reward system. For some of us, it may be time to revamp how we communicate the importance of safety to a way where our teams are actually excited about safety.

Lastly, the brain will focus on anything that is "I" – interesting. Some time back, I was walking through a mall with a colleague. Being an avid photographer, I

couldn't help notice a huge banner of a stunning scenic image. I was instantly drawn to it.

But was it possible that she couldn't see and appreciate the masterful composition? Easy, her brain saw it and made an evaluation that wasn't within her field of interest. It was so big that there is no way she couldn't have seen it. However, it never registered on conscious thinking as her brain placed that information straight onto the sub-conscious.

We were both walking in the same environment, but, because of what is interesting to us, we picked up different things. I wonder how many of our people see safety as interesting, or are casually walking by hazards, because the only strategy in place is around danger, which effect wore off long ago?

Does your safety strategy have a plan that includes all of the DIPI elements? This is a powerful tool we can use to keep safety alive in our people's hearts and minds. By mixing them up at different times, we can ensure our desire of keeping our people safe remains fresh and exiting and at the forefront of their minds.



Dr Brett Solomon is a principal consultant at Sentis, and has been involved in numerous safety culture change initiatives with progressive thinking organisations such as Anglo American, Glencore Alloys, PPC and Aveng Moolmans. Currently he is working closely with BHP in South Africa and Impala Platinum.

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Saving Lives – at Work, Home and Play



ver the past few years we have often pointed out that compensation for occupational diseases in the mining industry is in need of reform. We have argued that there is only one way this can go; statutory reform. It is, thus, interesting to read that the discussions currently taking place in Johannesburg are coming to the same conclusion.

One wonders why the process of getting reform on track has taken so long. The fact that the system should be reformed, along the lines being proposed, was recommended by a commission in 1980. This means 36 years have elapsed and very little progress has been made. Reforms were being considered two years ago, but the process lost steam.

Workmen's Compensation in South Africa is provided via two systems.

First, in general industry, compensation is governed by the Compensation for Occupational Injuries and Diseases Act (CODIA). As the name implies, this Act covers accidents and diseases. However, as a quirk of history, it does not cover compensation for occupational diseases in the mining industry.

This Act accommodates two different systems; a state-administered fund, and compensation provided by the employer, who is individually liable and is insured in terms of a policy issued by a mutual fund. The most well-known of the mutual funds is, of course, Rand Mutual, which covers the mines.

Historically, in industry in general, legislation covering compensation for accidents came first. This was followed at a later stage by compensation for diseases. When it became clear that occupational

diseases could be compensable, the Workmen's Compensation Act of the time, which covered industry in general, was amended to include occupational diseases. To make diseases fit into the legislation, they were treated as accidents.

So, occupational diseases, in general industry, were resolved holistically, early on in one single piece of legislation.

That solution did not apply to the mining industry, however, which had encountered occupational diseases at a much earlier date. Specific legislation to deal with compensation for occupational diseases in the mining industry was subsequently passed.

This underwent many changes over time, and is currently dealt with in the Occupational Diseases in Mines and Works Act (ODIMWA). So, for a long time, both the general and mining sectors have had statutory schemes to provide compensation for occupational diseases.

The scheme for the mining industry was introduced before the one for industry in general. It was introduced specifically to deal with a serious problem in the mines. At the time, it was a pioneering scheme and paid some of the best, if not the best, benefits by far in the world.

Since the scheme was specifically set up for the mines, and at that time mines were at the heart of the South African economy, it was not extended to cover the general industry. Therefore, when it comes to compensation for occupational diseases, two schemes exist: one for the general industry and one for the mining industry.

General industry did not face a problem of a similar magnitude to the mines, so it dealt with the problem



best it could, which was simply to append it to the then Workmen's Compensation legislation. Even at that time, it would have made sense to deal with compensation in South Africa in terms of one piece of legislation, instead of two.

The compensation for diseases in mines proved to be a complex issue from the outset and was subject to a large number of investigations. Finally, in 1980, a commission recommended a single statutory system. That recommendation was, however, never implemented.

Over time, the system in the mines fell further behind. In 2011, the deficiencies were brought to the fore by the Mankayi Constitutional Court decision, and it became clear that the matter would need to be addressed; reform could not be delayed forever.

It is unclear why the system has been neglected for so long. There are many who could have agitated for reform. First, there is the fund established in terms of ODIMWA. One would have thought that those charged with oversight of the fund would have realised the system was in need of updating.

Second, the fund is established in terms of an Act of Parliament, which usually requires an annual report to parliament via a minister. This is another avenue, which one would have thought

would have attracted attention initiating reform; from the minister, members of parliament, political parties

Third, occupational diseases are contracted by employees and one would have thought that unions would have overseen regular updates of the system.

Independent, qualified medical doctors are employed in the mining industry and they do commendable work. One would have thought this is another avenue that would have resulted in reform of the system. There are a number of standing committees dealing with health



Does your Safety Management System...??



and safety that could also have agitated for reforms.

Whatever the reason for the slow pace of reform, the good news is it does now appear to be underway.

ECONOMICS OF COMPENSATION FOR OCCUPATIONAL DISEASES

What does not get any attention, and indeed little seems to be known about it, is the economics of compensation. The economic consequences of providing compensation are not generally understood.

Economic theory can provide great guidance in this matter. When the Constitutional Court ruled that the Workmen's Compensation Act does not preclude a civil claim from being brought against employers, it simply assumed that employers have limitless funds to pay compensation.

This point was made a long time ago by the then most famous judge in the United Kingdom, Lord Denning. He noted that when courts make awards against large companies, they just assume these companies have limitless funds, or are insured by companies that have limitless funds. That assumption is, of course, incorrect.

It can be anticipated that additional compensation costs imposed on mining companies will run into billions of rand. This will constitute a current cost, and not a future expense. It cannot be passed on to consumers and hence can only be borne by shareholders.

If historic compensation costs totalling billions of rand are imposed, investment in the mining industry will be unattractive, to the point that already-battling mines may not attract any investment at all.

This happened to Lloyd's of London where, in the end, it was found necessary to establish a separate special-purpose vehicle, Equitas, to take over these liabilities, or face the very real possibility that Lloyd's would have to close its doors.

In South Africa, all this drama should be avoided. No special-purpose vehicle should be necessary – rather transfer the liabilities to the existing fund and reform it.

Although this reform has taken 36 years, it looks as though we are at least now heading in the right direction – let us trust that the process does not, once again, run out of steam!



Legally Speaking is a regular column by Professor Robert W Vivian and Albert Mushai, both in the school of Economics and Business Sciences, University of the Witwatersrand. Robert W Vivian is a leading authority on insurance and risk management. He has written a number of books on South Africa's business history. Albert 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 Wits University as a lecturer in insurance.



Public Course Schedule: 2016 - Johannesburg

NAME OF COURSE	DAYS	PRICE	DATES			
SHE AUDITING						
Legal Compliance Auditing: OHS Act	3	R 5 950	27-29 June			
SHELEGAL						
Compliance Management - Module 1: OHS Act (Week 2)	5	R 12 020	18-22 July			
Compliance Management: Module 2 (HIRA, LCA & COID)	5	R 8 610	1 June			
Construction Regulations	1	R1650	24 May			

NAME OF COURSE	DAYS	PRICE	DATES		
SHE STANDARDS					
OHSAS 18001 Implementation	2	R2870	9-10 May		
SHE MANAGEMENT					
GMR 2(1): Supervision of Machinery	1	R1 540	6 July		
Incident Investigation Course (CAM)	3	R3880	25-27 July		
NEBOSH: International Certificate in Construction Health and Safety (ICC)	15	R 20 220	4-22 Juy		

NAME OF COURSE	DAYS	PRICE	DATES		
SHE TECHN ICAL					
First Aid Level 1 (NFAA)	2	R1120	27-28 June		
First Aid Level 2	3	R1600	4-6 July		
SHE GENERAL					
HIRA (Hazard Identification & Risk Assessment)	1	R1460	7 July		
SHE Representatives Course	1	R1250	25 May		







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Contact us for more information about

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Health and Safety Conference Gallagher Convention Centre



www.saiosh.co.za



Saiosh is recognised by the South African Qualifications Authority (SAQA) as the professional body for Occupational Health and Safety in South Africa.



ROBIN JONES, president of the South African Institute of Occupational Safety and Health (Saiosh), welcomes Neels Nortjé as the Institute's new CEO



n the brief six years since being formed, Saiosh has grown continuously. We received recognition from the South African Qualifications Authority (SAQA) as the Professional Body for Occupational Safety and Health in South Africa and have grown our numbers to over 5 800 individual members. In addition, we have more than 350 corporate companies that recognise and support the work of the Institute.

As the Saiosh has grown, so have the functions and responsibilities of its (voluntary) council, which, therefore, took the decision to create the position of a chief executive officer to manage the business of the Institute, with specific reference to membership matters and financial activities.

We are pleased to announce that Neels Nortjé has been appointed CEO. He has performed the function of registrar for Saiosh on a voluntary basis for six years, with a precise and clear "hands-on" approach to the tasks.

Nortjé brings 30 years' experience in occupational health and safety, as well as 20 years' experience in managing a membership organisation. He holds a National Diploma in Safety Management as well as a Mechanical and Electrical N6 qualification. He currently serves on the minister of labour's Advisory Council for Health and Safety.

The Council wishes Nortjé well in the new position and looks forward to an even bigger Institute which advances our two simple objectives:

- ·We will do everything we can to educate, promote, mentor, guide and lobby for the occupational health and safety (OHS) profession as a whole;
- · We will do exactly the same for the OHS professionals.

REGISTRATION OF MEMBERS IN THE CONSTRUCTION INDUSTRY

It is a requirement of OHS practitioners working in

the construction industry to be registered with the South African Council for Project and Construction Management Professions (SACPCMP). This is as a result of the Department of Labour appointing the SACPCMP to regulate levels of competence for practitioners in the construction field.

Available statistics suggest there are over 7 000 practitioners waiting for their application for registration to be approved. At the current rate of processing applications, it will take more than ten years to complete the outstanding applications, never mind the new applications which will still be coming in.

Legally it means that both our individual and corporate members can't find work without the required registration, nor tender for work without the official registration certificate. Saiosh is liaising with both parties to find a solution to this sad state of affairs.

OHS CONFERENCE AT THE A-OSH EXHIBITION AT GALLAGHER ESTATE IN MAY

We will be announcing the Top Student of the Year as well as the OHS Practitioner of the Year. Then a special prize will go to the lucky member who submitted his (or her) annual subscription payment by February 29. Details will be published in the next issue of SHEQ MANAGEMENT.

Remember you can register for the conference directly on line. If you do so, you will be joining the more than 150 delegates who have already booked. There are still some sponsorship packages available, which provide a great opportunity to market your health and safety-related products and services.

Health and safety regards,

Robin W Jones

How to Improve Floor Safety in the Workplace









Taking slips seriously

Across South Africa, slips in the workplace are a real concern. It's not just sprains and bruises. Slips all too frequently result in bone fractures, and in the most extreme cases, fatalities. Slipping is especially dangerous if the individual falls onto a sharp or moving object, or comes into contact with hot surfaces, or chemicals.

What are the causes?

Contaminants on floor surfaces are very often the culprit. This can be water, ice, oil, grease, chemical spillage, etc. It is not just spill liquids that make floor surfaces dangerous. Swarf, powders and other dry debris can act like marbles on a floor surface. Uneven and poorly maintained floor surfaces can also cause both slips and trips.

What can be done?

Floor safety should be evaluated frequently, with regular risk assessments. Carefully consider any risks. Initiating preventative measures, such as the installation of anti-slip matting, flooring or coating can dramatically improve safety underfoot.

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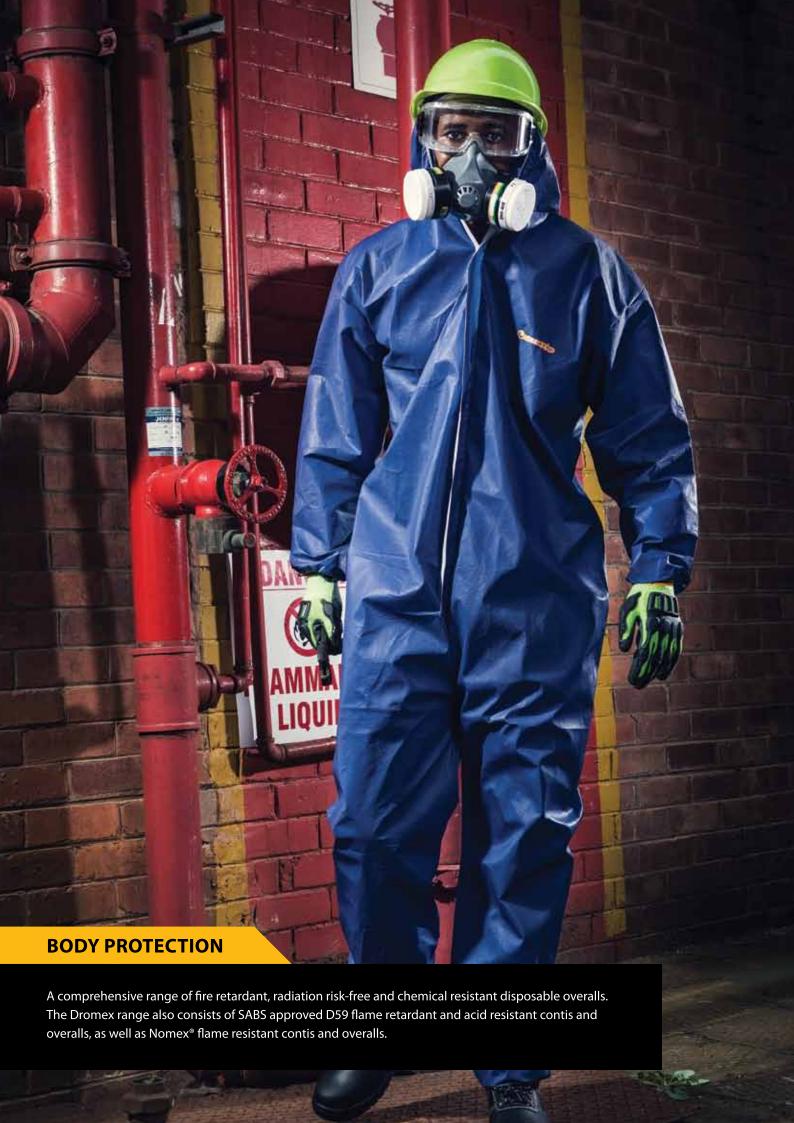
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"We believe that all employees in any work environment are entitled to maximum safety protection and that employers should not have to compromise on the quality of the PPE products they provide for their staff."

Stel Stylianou, CEO





rguably Africa's leading occupational health and safety exhibition, A-OSH EXPO 2016, to be held at Gallagher Convention Centre in Midrand, Johannesburg, from May 24 to 26, has been strategically designed to provide a carefully orchestrated combination of products, services and educational sessions.

"The exhibition represents high-quality brands from more than 80 leading local and overseas occupational health and safety manufacturers, suppliers and service providers. It's no idle boast that A-OSH EXPO is able to provide risk assessments and mitigation for a multitude of identifiable issues across a large number of industries," says Joshua Low, A-OSH EXPO event director at Specialised Exhibitions.

Now in its sixth year, A-OSH EXPO boasts a number of visitor attractions that make the show experience even more worthwhile. These include the comprehensive South African Institute of Occupational Safety and Health (Saiosh) conference and the Business Matchmaking Service sponsored by Ideco.

The latter initiative allows visitors to be prematched with relevant exhibitors, whereby meetings are arranged in advance of the exhibition, thereby maximising the visitor's time.

"There is no OSH problem that does not have a solution at A-OSH EXPO 2016," says Low.

OSH SOLUTIONS AT A-OSH

Master Lock's range of padlocks include laminated, specially coated aluminium and the Zenex range of thermoplastic padlocks. All padlocks are supplied by local distributors IB McIntyre & Company.

Charnaud introduces a new product in their Survive-ARC range of personal protective clothing. The True Comfort long-sleeve shirt comes in a plush navy blue and can protect a wearer in an electric-arc flash up to 10.9 cal/cm².

Besides being a manufacturer of PPE, Safeco also promotes and distributes local manufacturer's products where they are of compliant quality. The range also includes products from internationally accredited and reputable manufacturers and covers head-to-toe protection.

Sabinet's new Legal Registers platform, in association with Standards & Legal, takes the stress out of managing sustainability and legal compliance. The company's South African legislation service, Netlaw, includes all updated and consolidated South African principal rules and regulations and Acts since 1910.

HSP Group SA has a constant and established team of qualified experts in the field of occupational health care and safety services, and extremely well-equipped referral centres, mobile units and on-site clinics, offering solutions for organisational occupational health and safety compliance.

Visitors can meet the lecturers from The University of South Africa (Unisa) Centre for Business Management (CMB) at the organisation's stand and get answers to all their study-related questions. Each day at the exhibition, Unisa CBM will give away one bursary to study its programme in Safety Management.

Etekweni Safety Health and Environmental (SHE) Services has developed the SHE PPE range for the working women. This range is aligned with women's bodily structures and anthropometric data.

The design articulates what women want in order to be comfortable and safe.

Dräger South Africa supplies and services a diverse range of safety products for a number of industries. Dräger will showcase its new comfort vest for chemical protection suits, drug and alcohol-detection equipment, airline equipment, as well as gas-detection equipment.

Affsaf provides a cost-effective OSH management system that is accessible from the cloud, ensures legal compliance and is OHSAS 18001 aligned. The system is interactive and designed to create actions and reminders.

ALCO-Safe provides assistance in the formulation of alcohol and substance-abuse programmes and the provision of police-grade breathalysers and drugtesting equipment to ensure high quality and consistent results. The company undertakes calibrations and maintenance on all of the equipment that it supplies, and can assist with expert witnesses in Commissioin for Concililation, Mediation and Arbitration (CCMA) cases and labour court hearings.

BE EDUCATED

In addition to the widest variety of OSH products and services under one roof, A-OSH EXPO also offers visitors the opportunity to learn about current trends and best

practice in the free-to-attend Noshebo Seminar Theatre (sponsored again this year by Ansell) and the PASMA Working at Height Theatre.

As in the past few years, Saiosh will also be running its comprehensive conference alongside A-OSH EXPO.

In a clear show of confidence, A-OSH EXPO 2016 enjoys the endorsement of a number of leading industry associations, including: the Institute for Working at Height (IWH), Institute of Safety Management (IOSM), National Examination Board in Occupational Safety and Health (Nebosh), Fire Protection Association of South Africa (FPASA), National Occupational Safety, Health and Environment Board (Noshebo), Prefabricated Access Suppliers and Manufacturers' Association (PASMA), the Safety First Association, Southern African Institute for Occupational Hygene (SAIOH), Southern African Protective Equipment Manufacturing Association (Sapema) and Saiosh.

A-OSH EXPO will again be co-located with Securex, Africa's leading source for security and fire products and services. The exhibition covers all aspects of security and fire-risk analysis and alleviation and for the first time will include a conference that addresses cyber security.

Visitors can pre-register on the A-OSH website to avoid the queues at the exhibition.

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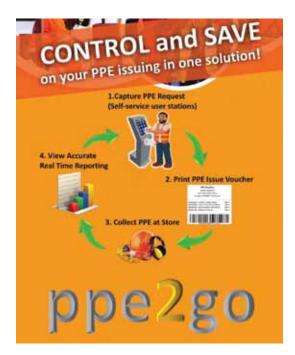


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- · Barcoded scanner;
- $\cdot \, Thermal \, barcoded \, voucher \, printer; \,$
- · Online verification and workflow approvals;
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Chillibush3705Unisa







his year, the Indaba was held at the Sandton Convention Centre on February 16 and 17. Participants contemplated issues and opportunities regarding the utilisation of renewable technologies with the possible inclusion of nuclear energy.

More than 50 senior energy luminaries and 11 African energy ministers from countries including Senegal, Sierra Leone, Namibia, Lesotho and Ghana, were present to advise and decide on the most resilient energy system for the future.

Businesses and investors discussed opportunities for development and the potential impact of green innovation on a macroeconomic structure. Liz Hart, managing director of AEI, said: "They are feeling the pressure to move, and to make the most of the promising opportunities available."

According to the 2016 Climate Economy Report: "Africa's energy sector requires an annual investment of US\$ 40 billion (R624 992 billion) with a further production requirement of 7 000 megawatts per year to ensure energy access to all Africans."

Factors for utilisation of each technology have to be weighed against cost, climate flexibility, reliability and sustainability. Christoph Frei, secretary general of the World Energy Council, said: "Innovation and the ability to deliver the most effective solution at scale will be fundamental in developing a sustainable future."

The nuclear forum panel, held on the first day of the conference, addressed key issues and opportunities

for nuclear energy. It was moderated by Coenraad Bezuidenhout, managing director at Faculty Training Institute (FTI) Consulting and was sponsored by the Nuclear Industry Association of South Africa (Niasa).

Knox Msebenzi, managing director of Niasa said: "The ideal solution should be viewed in terms of an energy mix, where nuclear forms part of that mix." A recent study, undertaken by North West University, has proved that a combination of renewables, mixed with nuclear energy, will sufficiently provide a reliable and competitive supply of base load.

Msebenzi said South Africa has the opportunity to become highly competent in specific technological developments, which are not found in other forms of energy. He believes nuclear promises a guaranteed and constant availability of sustainable energy.

In addition, Phumzile Tshelane, chief executive officer for the South African Nuclear Energy Corporation (Necsa) noted: "It will be possible for industries to increase productivity without contributing towards the carbon emission problem and to successfully operate, maintain and refurbish a fleet of nuclear plants with high sophistication."

One challenge in setting up a nuclear plant is that strategic partnerships are needed to access intellectual property and to maintain its operational life. Tshelane continued: "Localisation will reduce the cost of setting up consecutive plants, with the last set being the cheapest and able to produce great returns in terms of job creation and skills development."

Another challenge is the safety aspect of a nuclear plant. Tshelane added: "The safety of South Africa's nuclear plants is governed by legislation, which is governed by a nuclear regulator."

Government has also allocated 17,8 GW towards renewables and only 9,6 GW towards nuclear. According to Tshelane: "The benefits of setting up a nuclear plant

far outweigh the initial capital expenditure required, with the potential of supplying an abundance of cheap electrical power with a lifespan of approximately 60 years.

"Necsa is gearing up for the export market through specialised engineering and manufacturing and is the only manufacturing organisation in Africa to have acquired the American Society of Mechanical Engineers (ASME) III Nuclear Certification.

"We are ready to support the South African nuclear build programme and to supply nuclear components to the international market," he said.

In closing, Des Muller, director of Nuclear Construction Services at Group 5, claimed that: "Nuclear is the cheapest, cleanest and most sustainable form of energy."

The second day of the conference saw a focus on renewable technologies for innovation and storage. The green-technologies panel was moderated by Jason Schäffler, managing director for Nano Energy.

Opening the panel, Schäffler said: "The rising narrative in Africa revolves around production, and choices need to be made." He focused on development and training as part of the requirements in utilisation of renewable technologies.

Pam Sitienei, CEO for African Energy Association, noted: "Research and development should drive private and public sector integration. There is also a need to train, develop and build talent with an adequate rate of return."

"A decentralised system also requires the necessary management expertise to operate successfully," said Aaron Leopold, deputy director for Power for All. He stressed that remote communities require significantly



LEFT AND BELOW: Nuclear and renewable energy are expected to work in harmony.



less energy than a populated city.

"Education, especially at government level, is important in order to understand emerging technologies," said Vicky Basson, chief executive officer for KES Energy Services Company. She added: "Decision-makers will need to decide on and plan the most applicable solution for their country, based on assessment and differentiation between areas."

Renewable technologies pose vast benefits for impoverished communities, in terms of safety, health and education, while providing them the ability to sustain their communities.

Exploitation of technology should be avoided especially if the resources are not available. Basson added: "Intellectual property should be nationalised in order to improve developing technology."

Arthur Hanna, senior managing director for Accenture,





continued: "Despite much-needed investment, renewable technologies will need to be incorporated into off-grid solutions. A more workable structure will facilitate optimal usage."

In terms of a decentralised system, Schäffler explained: "Battery systems charged with solar energy are gaining popularity for use in homes. Storage is a main component for off-grid usage, and will need to be able to compete with residential tariffs."

Despite Africa's abundance of resources, a large percentage of people have limited access to modern energy services. Africa needs to finance grassroots projects to encourage regional integration and involvement, as well as to address viable implementation with regard to competitive domestic tariffs on decentralised systems.

Demands for energy have also increased with the pace of change. Proactive optimisation is needed to address specific needs relevant to a macro-economic structure.

Schäffler noted: "Funding for renewable technologies is dependent on the layers of bureaucracy and, therefore, a paradigm shift needs to take place, with clear initiative for both customers and cost drivers.

"Much time has been wasted on improvisation without correct procedures in place. Funding needs to be localised with cohesive policy and resource alignment. We need to incorporate institutions for research and developmental

Brian Statham, conference chairman, also quoted United Nations Secretary-General Ban Ki-moon: "Energy is the golden thread that connects economic growth, social equity and environmental sustainability."

He added: "Governments must involve the private sector in planning and implementation, and, in turn, the private sector must realise its developmental goals, in addition to pure commercial objectives."

Christoph Frei, secretary general for the World Energy Council, said: "Regional integration projects will play a crucial role as they bring down capital requirements by as much as 30 percent, as well as improvements in energy security, by combining supply schemes and increased resilience."

The benefits of implementing green technology into our macroeconomic structure will provide a guaranteed abundance of sustainable energy, but the energy sector needs to embrace global technological and government support through role clarity, management, accountability and solid commitment towards a project plan with effective long-term execution.

Work has already begun on the 9th annual Africa Energy Indaba, which will be hosted at the Sandton Convention Centre on February 21 to 22, 2017.







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ince the beginning of time, cheap and abundant supplies of oil have given rise to the mass production of automobiles. As a result, the world has become critically dependent on oil.

The burning of non-renewable fossil fuel has created implications for our planet in terms of global warming: air pollution, climate change and wilderness destruction. As we continue to damage the environment, the search for a "greener" fuel is gathering greater momentum.

American journalist, Richard Heinberg, writes in his book Afterburn: A Society Beyond Fossil Fuels, that "the average global temperature has increased by 0,7°C and scientists predict a further warming by 1,4 to 5,8°C". He adds that we will need increased financial and energy resources to repair the damage.

On the website A Brief History of Oil, environmentalist David Suzuki says: "Despite short periods of increased energy efficiency and development of alternative forms of energy, demand and use of oil have continued to climb." The commitment to oil consumption in the United States has led to dangerous impacts for energy efficiency and self-sufficiency. The answer might lie in a green fuel, better known as biofuel.

Biofuel is derived from 80 percent renewable materials, and is able to remove carbon dioxide from the air during production. Biofuels have been around since the first combustion engine was designed to run on a blend of ethanol and turpentine made from pine trees. Researchers and scientists have often recommended the replacement of fossil fuel with biofuel in order to reverse the negative effects of fossil fuel on the environment.

Despite the benefits of biofuel, its negative effects on global warming, coupled with an increased awareness of food shortages, has resulted in a need for an even "greener" fuel. This has created a decline in the popularity of biomass for fuel.

Scientific studies have shown that specific biofuels emit greater greenhouse gasses than fossil fuel, depending on methods of production.

According to an annual 2014 State of Food and Agriculture report: "Unintended negative impacts on land, water and biodiversity, are among the side-effects of agricultural production, and with particular concern to biofuels."

The report notes: "Nitrogen fertilisers release nitrous oxide; a greenhouse gas with a global-warming potential 300 times greater than carbon dioxide. In addition, fertilisers and pesticides continuously release greenhouse gases during production."

The most suitable biofuel would ideally need to be sustainable in nature and must be able to be mass produced economically, without releasing dangerous carbon emissions. This has led our focus to shift towards

Algae consists of a diverse group of organisms and is grown in damp and moist ponds. During photosynthesis algae uses carbon dioxide, sunlight and water for energy and growth.



RIGHT AND BELOW:

As the oil industry reaches its peak, scientists are doing extensive research into alternative forms of fuel.



Compared to traditional farming methods for biomass, algae produces double the amount of material, which is easily harvested. Furthermore, it can easily be converted into a net carbon-neutral process called algae biodiesel, which is cleaner burning than petroleum and traditional biomass.

Algae-based fuels complement the environment and have proven to be a feasible option as they do not compete for valuable resources during production. If utilising algae has immeasurable benefits, why is our global economy not relying solely on algae as the main source of fuel?

The greatest challenge for algae biofuel is to economically mass produce it. The editor of *Biofuels Diges*t, Jim Lane, says: "Algae would need to reach a market-ready cost per litre to successfully compete with oil-based products."

What does "market-ready" involve? The founder of Algae Biomass Organisation, John Benemann, says: "It will cost at least US\$ 5 000 (R78 796) to produce one tonne of algae."

In his article on the website *Biofuels Digest*, Benemann says: "If you optimistically presume that each tonne of

algae has 30 percent oil embedded in it, this will translate to US\$ 50 (R788) per litre of oil, before extraction and conversion to diesel."

However, extensive research is being conducted on economically viable means for mass production, and the answer may be genetic engineering by biotechnologists like Craig Venter.

Venter is known for discovering the human genome sequence and for transfecting a cell with a synthetic genome. His company, Celera Genomics, together with the Institute for Genomic Research and Exxon Mobil (an international oil and gas company), is actively testing genetic manipulation for purposes of rapidly increasing production, while reducing atmospheric CO₂.

Venter says: "There might be an absence of a key nutrient that only genetically engineered species can compensate for." Through these nuclear genome sequencing projects, relevant tools are being developed and specifically designed for algae transgenes and gene knockdown.

Moreover, technology and research advancement has created the possibility of a bioengineered algae strain to significantly reduce mass-production costs for global market success.

As the oil industry reaches its peak and threatens global warming, scientists are doing extensive research into alternative forms of fuel. Algae has proven to be a feasible option in terms of renewability and sustainability. It also does not compete for valuable resources during production. Algae can positively impact the planet's sustainability and significantly reduce carbon dioxide. It might also be the friendly fuel we have all been waiting for. §3)

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ith the pressing global need to reduce greenhouse gas and other toxic emissions, all sectors of industry are seeking new solutions in order to move forward. New technologies are being explored, boundaries are being pushed and gains are being made.

One company that makes it a priority to explore new technology, push boundaries, make gains in efficiency and reduce emissions is Mercedes-Benz. This is not only happening internationally, either – Mercedes-Benz South Africa is taking the lead in the introduction of eco-friendly products in all spheres of its business, with the notable inclusion of public transport.

Mercedes-Benz, itself, has been promoting alternative-drive technology in public transport since the 1950s, when the O6600 T trolleybus (an electric bus that draws power from overhead wires), based on the O6600 H diesel bus, was created. In 1969, the company introduced its first fully electric bus, and, in 1971, a natural-gas-fuelled version débuted.

Hydrogen, electric hybrids, methanol, compressed

natural gas (CNG) and fuel cells (which convert the chemical energy from a fuel, such as hydrogen, into electricity) all ensued in the following years.

Today, its international alternate-drive public transport portfolio consists of CNG and dual-fuel (both offered locally), and hybrid fuel cells (also offered overseas).

"The main benefits of these alternative-fuel technologies is that they are less harmful to the environment, while noise pollution is also reduced as the engines are quieter in operation," Henry explains. "The tail-pipe emissions are lower than Euro-5 or Euro-6 engines with better fuel consumption."

The Euro-6 standard is currently in force in Europe, and is the most stringent yet. To provide some context, Euro 6 limits a new diesel engine's emissions to 0,08 g/km of CO₂ and 0,005 g/km of particulate matter - respectively 97 and 95 percent less than the Euro-1 standard of 1992.

Henry adds that the maintenance requirements of these vehicles are also reduced thanks to the modern, cutting-edge technology, which reduces waste and



makes them even more eco-friendly.

These benefits, says Henry, are increasingly being noticed by local public transport operators and municipalities alike.

"Large corporates are investigating the use of low-emission vehicles, including those using alternative fuels. Municipalities are showing the biggest interest at present, while there are others who are adopting a wait-and-see approach."

Why the wait-and-see approach, though? The answer lies in South Africa's current legislation, which lags behind the likes of Europe and the United States of America.

"South Africa's current legislation requires vehicles to meet only the Euro-2 standard - which was introduced in 1998. As such, customers are under no obligation to purchase vehicles featuring the latest technology; the implications thereof are obvious," says Henry.

He explains: "Supporting infrastructure, and the subsequent availability and accessibility of low-sulphur 10 and 50 parts per million (ppm) diesel, is required

for advanced diesel-fuelled vehicles. Mercedes-Benz South Africa continually lobbies for the widespread availability of these cleaner fuels, which will enable the introduction of latest-technology vehicles into South Africa.

"As far as CNG and charging circuits for electric vehicles are concerned, this is based on customer demand and acceptance, or changes in legislation," notes Henry. "For these fuels to become widely available, customer demand and, of course, the number of products in operation would need to be higher."

Regarding the numerous alternativefuelled Mercedes-Benz buses soon to be operating in two major municipalities in Gauteng, these challenges are overcome by the implementation of dedicated routes with special filling stations, or special facilities at the bus depots.

Nonetheless, Mercedes-Benz South Africa is doing its bit to promote the benefits of environmentally friendly vehicles locally, as well as provide information on how its products can be operated in this manner.

Henry elaborates: "Eco-friendly vehicles should never be considered for just the vehicle alone. On the contrary, the right product in the wrong hands will yield the wrong results. Mercedes-Benz South Africa will continue to promote our entire value chain proposition in this case with specific focus on our FleetBoard telematics system, which can monitor driver behaviour in real time and pinpoint areas of improvement.

"FleetBoard driver training is the next natural step, ideally using the data collected from FleetBoard telematics to mould the perfect driver.

maintenance product, CharterWay, will ensure that the vehicles operate optimally for as long as possible. Of course, with so many touchpoints, our customers become part of the family!"

Henry continues: "We also promote the use of better quality fuel and work out regular, scheduled fleet renewal programmes. Finally, we encourage our customers to embrace technological advancement and change."

After all, this is what Mercedes-Benz is all about. "Mercedes-Benz prides itself on offering first-to-market solutions for the past 120 years, and will continue to invest in researching and developing new technologies to support the customer and the environment," Henry concludes. SM





Farming is filled with respiratory hazards: pesticide vapours, dusty fields, dangerous hydrogen sulphide accumulations in manure pits and pump sumps, nitrogen dioxide in conventional silos ... the list goes on. CLAIRE RENCKEN takes a closer look

o-called "farmer's lung" and organic dust toxicity syndrome are allergic reactions to dust from mouldy hay or grain and may result in costly medical treatment, permanent lung damage or death. In many cases, an inexpensive respirator could prevent farmers from acquiring nagging, permanent lung damage caused by long-term exposure to dusts, mists, gases and vapours.

The first step to choosing a respirator is determining the type of respiratory hazard. Three basic categories of respiratory hazards are found on farms.

The first consists of particulate contaminants, which include dusts, mists and fumes. Dusts are usually the largest particles, but not all dusts can be seen with the naked eye. Mould spores, for example, are microscopic.

They are released when mouldy hay, silage, or grain is disturbed. Mists are suspended liquid droplets and are usually found near mixing, spraying and cleaning operations. Fumes are solid particles of evaporated metal. They are microscopic and are formed during activities such as welding.

The second category comprises gases and vapours. Gases are chemicals that are gaseous at ambient (room) temperature. Examples include: hydrogen sulphide, the deadly manure-pit gas; nitrogen dioxide, which can be found in conventional silos; and carbon monoxide from operating internal combustion engines. Vapours are released from liquids such as pesticides, paints, adhesives and lacquer thinner.

The third category is an oxygen-deficient atmosphere. Causes of this include: manure storage, oxygen limiting (sealed) silos and controlled atmosphere storage for fruits and vegetables.

In such structures, the oxygen content of breathable

air, normally about 21 percent, is reduced to levels as low as five percent. The reduction in oxygen may occur deliberately, such as with controlled atmosphere storage, or oxygen may be displaced by other gases as in manure storage and conventional silos.

Once you've pinpointed the hazard (or hazards), and before resorting to a respirator, try to reduce or eliminate the source of the problem. For example, use a different management practice when harvesting and storing crops to reduce dust and mould; provide improved ventilation in your barn; and use a non-toxic or less-volatile pesticide. If, after trying to reduce or eliminate the hazard, you are still at risk, use a respirator.

Please note that a nuisance dust mask is not an approved respirator. This type of mask offers some protection against large particles of dust, but not against smaller particles that may enter deep into the lungs and cause respiratory distress or disease.

TYPES OF RESPIRATORS

There are two categories of respirators: those that purify the air and those that use supplied air. Air-purifying respirators are equipped with filters through which the user breathes. These respirators do not supply oxygen. Therefore, they should not be worn in areas considered immediately dangerous to life or health, such as oxygendeficient areas (oxygen-limiting silos, for example) or highly toxic atmospheres (manure storage pits).

Air-purifying respirators are good in areas such as barn lofts with mouldy hay, fields during tilling or pesticide application, as well as construction sites where fibreglass or wood dusts are likely to be found.

For most air-purifying respirators, the user must pull air through the filter with their own breathing. This

type of respirator is often referred to as a "negative pressure" respirator because the user must draw in oxygen (inhalation) through the respiratory unit.

Supplied-air respirators are the only ones to be used in areas considered dangerous to life or health. There are two types: air line respirators, which provide clean air through a hose, which is connected to a stationary air pump or tank; and a self-contained breathing apparatus, which has a portable air tank that is carried on the back like those worn by scuba divers and fire-fighters. 🕥

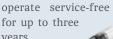
Breathe easy

In 2014, North Safety Products Africa launched the lightweight and highly portable CleanSpace2 – the world's smallest powered air-purifying respirator.

The one-piece unit weighs less than 500 g. North marketing manager Lizette Kasselman says that a soft silicone mask and cushioned power unit fits around the back of the neck. "This ensures that the user is screened from hazardous particle matter from 0,3 microns. To prevent contamination, the breathresponsive respirator intelligently adjusts airflow, thereby maintaining positive pressure inside the mask."

This also serves to maximise filter life by only purifying air that the user breathes in. The CleanSpace2 is compatible with other head-worn personal protective equipment (PPE) and can support work in the harshest conditions with a continuous running time of six hours.

"Care is made easy with an improved filter cover for quick and intuitive replacements, and the mask can be washed in warm soapy water or on the top shelf of a dishwasher," observes Kasselman. CleanSpace2 should







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lcohol is the most widely used and commonly available intoxicating substance. Alcohol testing has become commonplace in the industrial sector; primarily driven by health and safety legislation, which encourages testing to mitigate risk.

Many companies have implemented "zero tolerance" policies, meaning that testing has become compulsory, in addition to initiatives such as awareness programmes, site inductions and clinics.

BEST-PRACTICE ALCOHOL TESTING

A transparent and repeatable procedure is imperative to the integrity of any alcohol control policy. We encourage a minimum two-test procedure. The initial test can be a simple passive screen test on a portable or fixed tester (such as the Alcolizer WM Lite) at the access point.

Should there be a failed test, the subject should be allowed a 20 to 30 minute window period before being tested with an active tester, such as our Alcolizer Series 5 device. This gives the employee the benefit of the doubt, while allowing the employer to mitigate the use of alcohol in the workplace.

THE ADVANTAGES OF A WALL-MOUNTED ALCOHOL TESTER

We have a guiding philosophy within our business: "The right to not offend". This means that we want everyone to be able to understand and self-manage themselves, in order to avoid being prosecuted, or, in the case of labour

law, face disciplinary action.

The use of wall-mounted self-testers by our mining clients has led to positive behaviour changes among their employees. It has also reduced pressure on human resource departments and security personnel to constantly "police" staff.

Apart from the self-testing concept, fixed, mounted breathalysers at turnstiles reduce human error and improve reporting on exceptions back to management – either via the access-control software, or Runrite's own AlcoCloud management tool.

DEVICE CALIBRATION IS VITAL

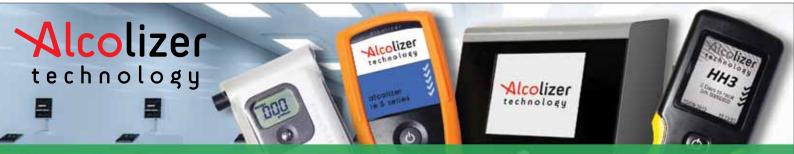
Calibration of equipment is vitally important and should always be done by a certified technician. The references should always be traceable to ensure the integrity of the calibration.

Equipment by Runrite Electronics makes use of unique, patented, modular calibration. This means that equipment never needs to leave the site; a simple swop of a module gets the equipment in order within 60 seconds.

YOU MAY NEED TRAINING ...

Training requirements vary by company and industry. We tailor-make our training programmes to meet the demands of our clients; whether these are awareness programmes for employees, or familiarisation programmes for security personnel using the equipment.

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n November 2015, a group of armed men entered the premises of French bank, Société Générale in Rosebank, Johannesburg. In the apparent armed robbery, the men accosted the bank's director before pushing him into a service lift and making off with his laptop and cellphone - thankfully leaving him unharmed.

However, in August of the same year, a Mpumalanga businessman was not as lucky when a group of unknown men entered his business premises and gunned him down in front of his employees.

These are just two examples of robberies that have taken place on business premises around the country. South Africa has been reported to be one of the most unsafe countries in the world. The Institute for Economics and Peace (IEP) 2015 Global Peace Index (GPI) report ranked South Africa at 136 out of 162 countries measured for national peacefulness.

Moreover, the 2014/15 national crime statistics, showed that business robberies had increased significantly, with armed robberies at businesses peaking at 19 170. This equates to 52 robberies at South African businesses daily!

These statistics show why workplace safety and security is so important. To help create a stress-free working environment, organisations must ensure that their place of work is secure for all who enter it including employees and customers.

Investing in basic safety and security equipment is essential for businesses that wish to reduce risks of robberies, vandalism or intrusions. Although different organisations have different safety requirements, there is basic security equipment, which is universally applicable to every business. This includes:

SECURITY CAMERAS

Cameras allow businesses to monitor activities in and around the premises. Placing your cameras strategically in areas such as parking lots, entry and exit points, reception areas, or high-risk and sensitive areas can help deter theft. However, always be sure to adhere to the rules and regulations of camera use.

ALARM SYSTEMS

Alarms and armed-response systems help protect the employees and assets on your business premises. Different alarm types are available and organisations must ensure that they source a system in accordance with their individual security concerns.

CARD OR BADGE IDENTIFICATION SYSTEM

With these systems, businesses can ensure that only verified persons are given access to business premises. Card systems that require employees to swipe their cards to gain entry to buildings will help to control and restrict access.

SAFES

If you keep cash on your premises, then it is important to have a safe. Only authorised people should have access to the safe's code and this information should be kept confidential at all times.

This list is not complete and can be expanded upon depending on a company's budget and requirements. Additional safety measures that a business can include are: exterior lighting, security doors, locks and latches.

Organisations also need to understand the importance of conducting thorough employee reference checks as part of their safety and security procedures. Cash Connect Management Solutions explains that opportunity, especially opportunity from within, is one of the biggest pre-emptors of theft.

Cash Connect is an end-to-end cash-management solutions company serving the wholesale, retail and corporate sectors in removing cash-related risks. It lists internal theft and insider participation to business crimes as some of the most common threats to the livelihood of any business. Opportunities should, therefore, always be prevented where possible.

Beyond this, when it comes to safety, good old common sense should always prevail. Companies should foster a culture of vigilance within the business and ensure employees always remain alert and avoid making risky mistakes. SM

WRONG REASONS

Today, private opinions that your staff express on social media can, ultimately, affect your company's reputation. THATO TINTE looks at social-media usage guidelines for employees and how these risks can be managed

erhaps you thought nothing travelled faster than the speed of light. Today, however, it may be safe to say that nothing moves faster than the internet and irresponsible social media posts – ask Penny Sparrow, Velaphi Dlamini, Chris Hart, Gareth Cliff and others.

After the individual naming and shaming, the companies at which these employees worked also began to bear the brunt of their employees' conduct. Estate agency Jawitz Properties, Standard Bank and M-Net were put under the spotlight as pressure mounted for them to prove that they didn't endorse or condone the views expressed by their employees.

This can happen to any employer – so how do you ensure that it doesn't?

According to audit firm, KPMG, organisations need to be aware of, understand and manage the risks that online conversations may present to their businesses. This means that companies must watch what their employees and the public are saying and be careful how they respond to online conversations.

A 2011 study, by global public relations firm Weber Shandwick, on how corporate brands and reputations have evolved, showed that 70 percent of consumers surveyed agreed that they would avoid buying a product or brand if they didn't "like" the parent company behind it.

The report revealed that consumers expected more from leading companies and had no trouble "boycotting" those that fail to live up to their standards... Any disconnect between corporate and product reputation triggered sharp consumer reaction, which could, ultimately, affect the bottom line.

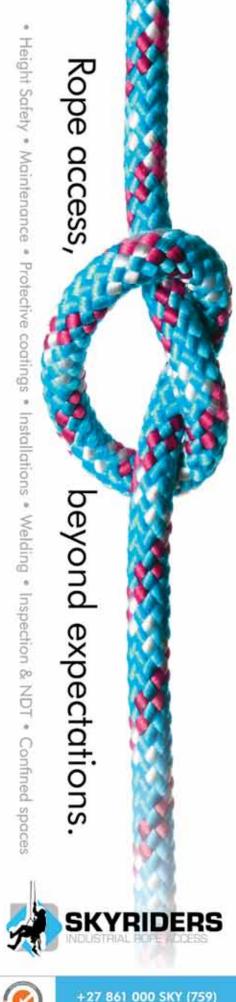
How businesses manage their social media reputation is important. International online reputation management company, Igniyte, advises companies to "strike a balance" between having stringent social-media policies, which set out appropriate and inappropriate online behaviour, while still allowing employees to have a relaxed social-media culture that takes their opinions into account.

Employees are a company's ambassadors and it is important that they are educated on the pivotal role they play. Igniyte warns employers to never assume that common sense and good judgement will prevail when it comes to social media and employees. It suggests that a documented, well-communicated and enforced policy be shared, which clearly sets out the dos and don'ts of communicating on social media.

Igniyte recommends that social media policies should include: whether indirect company mentions (such as #IHateMyJob) constitute as inappropriate talk; what the rules are when talking about clients and customers; what content is deemed to be offensive and damaging to the company; and what information is regarded as private and may not to be shared publicly.

Igniyte adds that building a culture of pride and ambassadorship within the organisation is also worthwhile – this way employees view themselves as part of the brand and not just numbers. Being proactive and enforcing a highly regarded corporate identity for all employees can help avoid running into damaging online reputational risks. (SI)





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CLAIRE RENCKEN takes a look at some basic measures that can assist businesses to keep their places of work safe

RAINING AND
SUPERVISION
Providing the correct training and supervision allows workers to do their jobs properly and safely. Induction sessions, as well as site and task-specific training must be given to workers when they are employed at a company and should, at a minimum, cover the following:

- •The people who have specific workplace safety responsibilities;
- $\cdot \mbox{How to report hazards or other safety issues;} \\$
- $\cdot \mbox{The safe work procedures for the job;}$
- ·The available information to help workers to do their job safely (for instance a machine operators' manual).

Supervision is required to ensure health and safety in the workplace. The level of supervision required depends on the age and experience of the workers and the hazards associated with their tasks. Young and inexperienced workers will usually require a higher level of supervision.

CONSULTATION

Employers who consult with their workers will gain a better idea of

the hazards that are present in their workplace. It is also a legal requirement to consult with workers when making decisions that will affect their health or safety.

Consulting with workers on health and safety issues demonstrates an employer's commitment, and will encourage workers to communicate with them regarding any health and safety concerns they may have.

RISK MANAGEMENT

Employers should assess the risks to health and safety in their workplace including: identifying any health and safety hazards; assessing the risks; eliminating or controlling these risks; and monitoring and reviewing the control measures to ensure ongoing safety.

REPORTING PROCEDURE

Setting up a procedure for workers to report safety issues, hazards, incidents, injuries and illnesses will assist an employer to: identify potential issues early; understand why incidents happened; decide how to prevent future incidents; measure how well safe work procedures are working; and meet requirements for reporting workplace injuries and incidents.



essential part of any organisation's safety plan. In addition to saving lives in the event of an accident, PPE also helps protect against injuries and work-related illnesses.

There are many factors contributing to PPE noncompliance and it's important that organisations are aware of all the reasons and excuses used by employees.

Safety programmes have become the main focus of many companies across the different industry sectors. In a bid to educate employees on the correct safety practices to follow, organisations often develop policies, which, if misinterpreted, can result in poor practices being adopted.

We have summarised the most common reasons for PPE noncompliance found on safety-smart online websites:

Myth: This job will only take me a few minutes, so there's really no need to put on my PPE.

Truth: The reality is that it only takes a few seconds for an accident to occur. Noncompliance leads to injuries, and injuries can lead to death.

Myth: The more PPE that I wear, the better!

Truth: This couldn't be further from the truth. According to Kimberly-Clark Professional, over-protection is just as dangerous as under-protection when it comes to PPE. The company suggests employees wear only the right PPE for the job at hand and ensure the chosen item provides protection against the particular hazard to which they are exposed.

Myth: This PPE is uncomfortable, so I don't have to wear it.

employees with the correct and well-fitting PPE. If PPE is required to be used at all times within a specific job, it is the manager's duty to enforce compliance and, if necessary, to implement punitive measures that will lead to correct behaviour change.

Myth: As long as I am wearing PPE, I'm safe.

Truth: This is false. According to development organisation, Industrial Health Resource Group, the hierarchy of hazard controls must be followed at all times when it comes to safety and health. This chart is used to control exposure to occupational hazards.

In the hierarchy, PPE is the last priority in controlling hazards. Elimination of the hazard is the first priority, followed by the minimising factors in their order of priority: substitution, engineering controls, administrative control and, finally, PPE (as the fourth priority).

Wearing PPE therefore does not automatically equal safety; all the other controls must be adhered to first.

Myth: I have many years of experience in this job, so I don't need PPE. It's for the inexperienced and vulnerable.

Truth: Accidents happens anywhere, anytime and to anyone. Whether young, old, experienced, or vulnerable, PPE must be worn to prevent injuries or death.

Accidents can happen to anyone, so employers must encourage greater PPE compliance. This should be done through: continuous education, noncompliance penalties, constant monitoring and incentivising compliance.

Help protect your workers by not allowing them to become another statistic. SN



A quality manager is expected to measure, monitor and maximise a company's total performance for continuous improvement. AIMEE SHAW investigates

uality management and total quality management are terms used to describe a business structure, or system, that operates according to the accepted industry standards.

Any business wanting to improve and achieve its objectives would ideally consider a quality management system: a form of maintenance necessary to ensure credibility for customer confidence and continual use.

A quality management system ensures and maximises quality for continual improvement and sustainability of a business. The procedures aim to increase business credibility by management of a system's operational, organisational and financial elements.

According to the website, Quality Management System Education and Resources: "A manufacturer making a product that performs only 99,9 percent of the time as expected, will continuously lose one-tenth of its market share if an unhappy customer is not properly appeased when there is an issue."

A company will be able to guarantee product and service quality by ensuring its system conforms to the ISO 9 000 family of international quality standards, which recognises systematic approaches for effective quality system management. It creates a strong foundation from which to work.

Quality managers oversee the entire production process, and must be familiar with accepted procedures relating to internal and external customer feedback. Quality auditors are referred to as the "internal customers" and will measure and test products for maximum improvement.

Quality managers are responsible for all aspects of the process, from implementation and development to delivery and feedback. In addition, they manage, analyse and detect underlying issues, while looking for areas of improvement that will maximise profitability.

The role of the quality manager is to inspect, test and review processes by utilising technical recordings, observations and distribution of statistical information.

According to an article written by Isin Akyar, entitled: Standard operating procedures: What are they good for, and listed on the website Intech: "Operational results such as revenue, export, profitability and market share are among the benefits of implementing a management system." Akyar has undertaken extensive studies on quality control and adds that a management system ensures process alignment for total improvement of results.

It is beneficial for a quality manager to have a bachelor's or postgraduate degree in business management, quality management, or business studies. A Masters of Business Administration (MBA) in project management is an option for further study.

A technical background, or equivalent work experience in quality management, could be acceptable qualifications. Experience is evident through demonstrated ability in leadership and an ability to run quality programmes.

A quality manager should be self-motivated with excellent communication and interpersonal skills. He or she would need to work closely with the internal and external processes to ensure product or service efficiency.

To become a quality manager, it is crucial to be highly skilled, qualified or experienced and to have the correct attitude and profile.

A quality management system is important in that it aims to avoid a product or service defect, by combining its people, processes and technology for optimal functionality. The role of the quality manager is to improve the internal and external structures of a business for effective market competency. SM



owards the end of last year, The Institute of Waste Management of Southern Africa (IWMSA) released a statement saying we need to make every effort to divert waste from landfill sites.

Stuart Gower-Jackson, a member of the IWMSA, says, "When organic waste breaks down in landfills, it produces methane gas, a major contributor to greenhouse gas emissions. There are numerous benefits of composting organic waste as it produces mulch, soil amendments, organic fertilisers and blended products that can assist in saving costs such as chemical fertilisers."

Organic waste suitable for composting includes garden waste such as grass, leaves, plants, branches and tree trunks. General food and wood waste can also be included, as well as straw, manure, mulch, paper-processing sludge and non-synthetic textiles.

Materials that are not suitable for composting include hazardous waste such as cleaning products, pesticides, broken glass, medicine and treated timber. Painted wood

and recyclable materials (glass, metal, aluminium, paper, plastics and cardboard) are also not suitable for composting.

Prof. Suzan Oelofse, president of the IWSMA, says, "Composting of organic waste is relatively simple and we encourage residents to set up their own composting system at home." She indicates that it usually takes up to a year for the composting heap to fully decompose, with little turning and effort.

She also gives some tips on how to start your own composting heap at home:

- 2. Start mixing your waste: Mix two parts of brown matter (dry leaves, small twigs, straw) with one part of green (grass clippings, food waste).
- 3. Make large pieces smaller: Cut or break any twigs and large pieces of fruit and vegetable waste so that materials can break down faster.
- 4. Add water: Water your compost to keep it moist, but not saturated.
- 5. Turn your compost: Compost needs air. Turning the compost will help to break it down and will prevent it from smelling unpleasant.
- 6. Rich soil: When the compost is ready, it should look and smell like rich soil. Use finished compost to feed your garden, flowers, potted plants and lawn.

"Composting is a wonderful way to keep soil fertile and helps reduce waste sent to landfill sites. We encourage everyone to start their composting garden," concludes Oelofse. SM



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