

CONTACT US TO PROVIDE THE FOLLOWING SERVICES FOR YOUR BUSINESS:

- EHS Risk Assessments
- Occupational Hygiene Surveys
- Ergonomics Surveys
- EHS Management System Development and Implementation
- Environmental Monitoring
- Identification of EHS Legal Requirements and Compliance Audits
- Construction EHS Services
- Construction H&S Files
- Internal Auditor Training
- General EHS Training



Department of Employment and Labour Approved Inspection Authority (OH0049-CI-09)



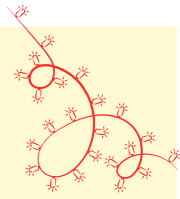
OH0049



OHAIA-A 005 (2023)

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Our Elf & Safety Message to you this Christmas!



If you feel as if you always get sick when it's holiday time, you're not alone. Taking time off work is good for your health and wellbeing, and there is nothing worse than being sick when you're supposed to be relaxing. We've all been there! Spending your well-deserved time off stuck in bed with Med-Lemon and a hot water bottle is nobody's idea of fun...

So, what causes the sudden onset? There are a number of factors that may lead to you succumbing to illness when you stop working. One of the key factors however, is the stress hormone, adrenalin, which keeps your body going for as long as you need it. But when you suddenly come to a stop and start to relax, it throws your hormones off balance. This then affects your immune system and makes your body vulnerable to bugs.



Often, the weeks leading up to your time off tend to be even more stressful than usual, as you may be under pressure to get all of your work completed.

Look after your body: try and stay away from people who are poorly, make healthy food choices, drink enough water and take regular exercise. You may also want to consider a good supplement to boost your immune system in the weeks leading up to your holiday.

Wishing all our customers a blessed Christmas and a prosperous New Year
From the Safetech Family

We leave you with this Christmas Conundrum

WHAT KIND OF MOTORBIKE DOES SANTA RIDE?

Answer: A Holly Davidson

LINDSAY SMIT IS Retiring

New seasons can often be bitter-sweet and this is definitely how we feel about her decision to retire at the end of 2023.

We were blessed to have Lindsay join Safetech in 2011, where she assisted with admin and general office duties. But it wasn't long before we realised that this lady was full of potential! In 2015 she accepted a position as Financial Administrator.

Lindsay is one of those people who go above and beyond... her quiet strength, happy demeanour and helpful nature make her the GO-TO person at Safetech. For someone who is almost perfect, she's extremely humble too!!! Her absence in the office will leave a huge gap.

We wish her all the best for her next chapter....



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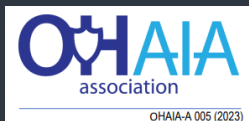
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BATTERY ENERGY STORAGE SYSTEMS
Mitigating the Risk of a Thermal Runaway **BESS**

Although energy storage and rechargeable batteries are key to unlocking the potential of renewable energy, there are trends and pitfalls which are beginning to emerge in this rapidly evolving field. Battery Energy Storage Systems (BESS) use batteries to store and distribute energy in the form of electricity to the grid when required. This optimisation of energy output to the grid means that renewable energy projects can provide power at both peak and non-peak times,, stabilising the distribution network.

Battery energy storage system (BESS) users need to understand these risks and take steps to mitigate them. Fires caused by thermal runaway are one of the biggest risks of BESS, and result in losses, not only in the industry, but also tragic loss of life in some cases.

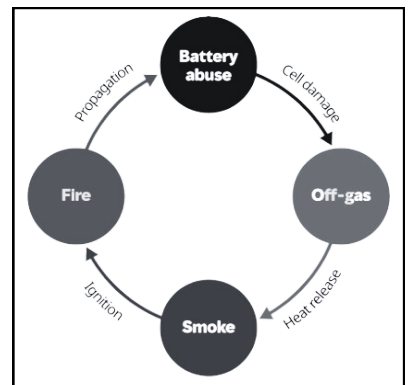
WHAT IS THERMAL RUNAWAY?

Batteries which power many items used in our daily lives such as our cars, laptops and mobile devices are small-scale batteries (such as Ni-Cad and Li-ion batteries) which are fairly robust but have limited power and duration.

BESS are batteries deployed on a much larger scale, with enough power and capacity to provide meaningful storage for electric grids. BESS projects are also deployed as a power storage solution for remote areas of the country that are not connected to a power grid. There are four key components of BESS: 1) a battery system, 2) an inverter or power conversion system (PCS), 3) a battery management system (BMS), 4) an energy management system (EMS). The most common types of battery systems are: lead/acid, lithium-ion, lithium iron phosphate and flow.

Whenever a large amount of energy is stored (whether in traditional liquid/gas forms or in batteries) there is a risk that an uncontrolled release of the energy could result in a fire or explosion.

In batteries, thermal runaway describes a chain reaction in which a damaged battery begins to release energy in the form of heat, leading to further damage and a feedback loop that results in rapid heating. Left unchecked, the heat generated can cause a fire. The only way to stop thermal runaway is rapid cooling of the affected cell or cells. Alternatively, the affected battery module can potentially be separated, so that the reaction is allowed to reach its destructive conclusion in a safe location.



Thermal runaway is a chain reaction that leads to a destructive feedback loop

- Batteries must be protected from day one of construction and there must be a zero-tolerance approach to battery abuse.
- Battery management systems must be sophisticated, monitored and responded to.
- Gas detection, explosion prevention, fire detection and fire suppression, as well as a robust emergency response plan are essential to mitigating damage if a thermal runaway event occurs.

METALWORKING: LOOKING AFTER YOUR METALWORKING FLUID (MWF)

Maintenance of fluid quality is key to controlling risk. Water-mix metalworking fluid deteriorates over time and can become contaminated with harmful bacteria and other contaminants and can cause skin irritations and lung problems.

Fluid quality checks are simple to carry out using basic equipment such as:

- Dipslides (for detection of bacteria)
- Dipslide Incubator
- pH Test Strips and electronic pH Meter
- Refractometer (measures concentration of fluid)

Visual and odour checks should be done daily; concentration, pH and dipslides should be weekly.

Who should carry out the fluid quality checks?

The important thing is that the checks are carried out at the recommended frequencies and corrective action taken if the results are outside recommended levels. Whilst the requirement to have appropriate fluid quality checks in place is with the user of the metalworking fluids, the checks themselves can be carried out by users, the supplier or another third party.