NZOHS Work-Related Health Conference 2023 Reconnect

Conference day presentation abstracts

Concurrent session 1: 10:30-11:00

How effective collaboration between sectors took place during the hydrogen cyanamide exposure study

Alice Thomson

In 2022 Air Matters undertook the first dermal exposure study on kiwifruit orchard workers spraying hydrogen cyanamide in New Zealand. The study was published on the NZ EPA website and has aided in their decision making regarding the reassessment of the use of hydrogen cyanamide in New Zealand.

The study was only made possible in the short available timeframe through effective collaboration with various sectors in the occupational health and wider fields. This short talk will cover the different groups that were involved in the study, highlight the expertise that each group contributed to the study and delve into how this type of collaboration could be useful for other studies and occupational hygiene work.

Update on enforcement trends and case law

Joseph Lill

Regulators cannot investigate every event. Joseph will explore data available from WorkSafe around notifications and interventions. The discussion will then canvass what to do during the investigation process as well as case studies of prosecutions arising from exposure risks.

The cases to be covered are:

- Maritime NZ v ISO Limited [2022] NZDC 7619; and
- A current asbestos prosecution which I am involved in and which should be sentenced in February.

Working through an emerging risk – new H2S risk at Hastings landfill

Nick Browne

Hastings District Council and Air Matters Ltd have worked together at Omarunui Landfill (combined council owned landfill for Napier City and Hastings District) since 2015 with exposure monitoring taking place at this site regularly over this time. The measurement of hazardous exposures has changed and shifted focus over this time period and this presentation will focus on the identification, assessment and control of exposure risk around hydrogen sulphide in particular.

Recent exposure assessments at Omarunui Landfill have focused on an issue with the release of high levels of hydrogen sulphide from the receipt of animal wastes (namely skins and other tannery wastes).

Omarunui Landfill began to accept larger and larger quantities of animal skins and tannery wastes as the market for these changed and more were being dumped. As the volume of this waste increased the gas monitors began to alert the site to an additional hydrogen sulphide gas risk from the tip face as the raw waste is dumped.

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Concurrent session 2: 11:05-11:35

Microbiological Considerations for the Safety Practitioner

Adrienne Burnie

Some of the most obvious risks from microbiological hazards are to be found in the food industry, which over the years have developed extensive processes to assess, monitor and minimise these hazards. Less obvious, and less developed are the assessments, monitoring and minimisation of potential microbiological health hazards that may come in the form of work places temporarily or permanently no longer fit for purpose following leak or flooding events that result in microbial proliferation.

In this presentation I will cover the different methods for the microbiological testing of air, the swabbing techniques of a variety of surfaces, building material examinations, and testing for specific indicator microorganisms following a scenario such as a black water flooding event. I will also explore the issues surrounding why there are no definitive standards associated with microbiological environmental parameters. This information will aid the Safety Practitioner in delivering a logical pathway to helping resolve potential health hazards that may be associated with the world of microbiology.

Applying Māori Health Models to Occupational Hygiene Practices in Carving

Alex Smith

WorkSafe NZ has put a focus on Māori hauora health and safety needs in the face of data demonstrating disproportionate harm on Māori at work.

During the accelerated silica response, it was identified that traditional and contemporary Māori stone carvers may have a risk of exposure to respirable crystalline silica through their work. These carvers mostly worked in businesses that would have limited or no interaction with WorkSafe as a regulator and in many cases would be unaware of how to effectively manage the health risk.

This session will explore the strategy formed by WorkSafe's internal working group involving technical specialists, Inspectors and members of WorkSafe's Te Pou Ora team to engage with and educate carvers.

In this session we will look at:

- Māori traditional health models (Te Whare Tapa Wha & Te Pae Mahutonga) and their application to occupational health risks
- Learnings from the carving project
- How WorkSafe is including Maori health models in its operations.

Sodium Fluoroacetate (1080) decontamination – What happens when it all goes wrong!

Sage Robinson

Sodium Fluoroacetate, better known as 1080 is an effective rodenticide with widespread use in New Zealand. During the Covid-19 pandemic supply shortages lead to an NZ company to synthesize the material in house. Loss of containment during the production process resulted in significant building contamination requiring remediation.

This case study presents the multi-disciplinary approach to developing acceptable surface contamination limits, development of the analytical testing methodology, and our approach to validating the effectiveness of the building decontamination procedure.

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Concurrent session 3: 11:40-12:10

NZICC Fire Response

Nick Browne

A large inner city building caught fire in October 2019 and burnt for several days with significant levels of smoke produced during the first few days in the surrounding CBD. Urgent assistance from hygienists was requested by smoke-affected businesses adjacent to the scene of the fire. Their primary concern was that the health of the staff and public was not at risk and that it was safe to re-occupy their buildings and get back to business.

In our presentation we will cover aspects of how we collaboratively worked to assess health risk, the challenges we faced and the rewarding aspects of this type of work.

From our involvement in this incident the following question is posed: How prepared are occupational hygienists in New Zealand for future emergency response situations?

Case Study: Basic Characterisation of the Workplace at a Large Enterprise

Alex Baboshko and Fiona Groome

WSP were engaged by Air New Zealand to provide occupational hygiene consultancy. At the first step, time and effort were invested to conduct an initial basic characterisation of the multiple workplaces across the Air NZ portfolio. This provided a qualitative assessment and high-level ranking of the exposure risks and revealed gaps in understanding. This guides decisions around prioritising and budgeting of mitigation controls and future monitoring activities.

Eighteen health hazards were identified. The workforce was broken down into eleven Similar Exposure Groups (SEGs) and thirty-one potential subgroups. Hazards are classified and prioritised for mitigation. In some instances further investigation is required as data gaps exist to further inform the risk classification and validate the SEGs by sampling. The top 5 health risks for the company workforce were recommended for priority treatment. This work is now in progress.

IAQ Standards for the Future

Dr Sue Reed

Indoor air quality (IAQ) standards have become a major issue for the 21st century as most people spend more time indoors that out. Also the high acceptance of indoor species being mechanically ventilated and temperature and humidity controlled.

Though IAQ has been an issue since approximately 500 BC it really became an issue in the mid 1970's with the outbreak of Legionnaires disease in the USA. Many countries implemented IAQ standards in the 1990s, which were not well used, and it has only been in the last 10 to 15 years with the development of green buildings that they have really been discussed as many countries tried to setup building quality systems.

The advent of COVID has again given emphasis on IAQ and what standards should we be using going forward. This paper will cover the history of IAQ while promoting what IAQ standards we should be looking at adopting for the future.

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Concurrent session 4: 12:50-13:20

Critical Control Adequacy

Dr Ross Di Corelto

The identification of key critical controls in place or required is a key step when assessing potential exposure scenarios. The hierarchy of controls is often employed to determine the most appropriate and effective approach to address the situation. Whether it is related to an industrial exposure or as we have seen more recently, in the public health sector, the issue of control adequacy needs to be addressed.

The identification or initial selection is only the first part of the process. Is the control in place performing as designed? What about practicality, dependability, workforce involvement or ongoing monitoring of its performance. If these are not addressed, then the system is destined to failure. This session will look at the questions that need to be asked when designing or reviewing health exposure control systems.

Lead Paint – Friend or Foe of the Occupational Hygienist?

Brian Murphy

A Youth Detention Centre in Australia was providing its detainees with training and skills in wood woodwork to discover that the public donated wood had containing paint at greater than 1%. During this period the woodwork teachers, detainees and security were potentially exposed to the lead dust generated from the preparation and working with the wood.

This study provides an insight into an Occupational Hygienists approach to assess the hazard - initial assessment of the building and occupants' exposure to lead together with the application of a qualitative and quantitative Health Risk Assessment to assess personnel exposure, followed by the development of a comprehensive practical decontamination Remediation Action Plan to decontaminate the area and Clearance Assessment.

Occupational Health and Hygiene – Case studies of how a collaborative approach works for the PCBU.

John and Kristen

This talk is to present the benefits to business and workers as to how a collaborative approach between allied Occ Health Professionals works.

John Watson – Occupational Hygienist and Kristen Gawn – Occupational Health Nurse have collaborated closely in several workplaces and the examples and benefit to the business will be discussed. We have collaborated for the last 15 years at various times. This collaboration ensures the workplace health monitoring is undertaken with appropriate health assessments based on the known quantified risks. This collaboration has lead to professional services ensuring the PCBU receives quality products and understands the scope of services available for them. This ensures the health information is kept appropriately in relation to privacy and storage, appropriate biological monitoring is also undertaken.

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Concurrent session 5: 13:25-13:55

She'll be Right – an Introduction to Biosafety in New Zealand

Emma Morris

New Zealand is uniquely vulnerable with respect to biological risk. New Zealand relies heavily on the exportation of our meat, dairy, and other bioproducts to the international market, with the food and fibre sector contributing significantly to our Gross Domestic Product. Laboratory acquired infections (LAIs) are also an ongoing occupational hazard to those who package, transport, and work with human and animal pathogens. Everyone, including those doing high-risk work, deserves the assurance that their PCBU is doing all that they can to protect the health and wellbeing of their workers.

Maintaining containment in laboratories is a matter of national importance. So, where do you go to find a qualified BSO to consult with? And how does New Zealand keep pace with international biological risk management best practice with limited in-country expertise and without a robust regulatory framework?

Occupational Hygiene Underground

Suzanne Broadbent

City Rail Link includes excavation and construction of twin 3.45 Km tunnels under Auckland City. It will CONNECT Auckland – doubling capacity and revolutionising the way we move around the city. It's a massive project with huge potential impacts to workers. From demolition of existing buildings in early 2020 to installation of rail (2023), HaS Expertise has been assessing health risks in this constantly changing work environment.

A systematic, focused and statistically valid sampling programme was clearly required. We were fortunate to be involved at the beginning of the project, with excellent Health and Safety team support. We were given a fairly free reign to ensure we could understand, communicate and contribute to controlling health risks throughout.
This presentation will give you some insight to the risks/hazards, the complexities, challenges and our approaches to make this work.

Containment Performance Assessments

Shilpa Nerpanda

Containment Performance assessments (CPAs) involve measuring the particulate containment capability of pharmaceutical equipment. The purpose of CPAs is to check the effectiveness of containment systems to prevent escape of hazardous materials that could compromise safety, cause potential exposure to the operator and uncontrolled release of pharmaceutical ingredients. This presentation will cover the what, why and how of CPAs, including setting a containment performance target, execution of the protocol, data analysis and reporting.