Health and Safety Compliance

By Dr Ian Lane, University of Queensland School of Mathematics and Physics
Health, Safety & Wellness Manager

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You've suddenly realised that the idea you've had has real world application. You're about to draft the funding grant(s) to realise the dream. Right now is the time to get to know your organisation's Safety Manager and start asking questions. You have arrived at the part of the research cycle where the proposed design of your lab, your protocols and your quantum product will intersect with Australia's Work Health and Safety (WHS) legislation (WHS Act, WHS Regulations and Codes of Practice) and scientific regulation and it's time to firmly insert safety into your Gantt chart. Australian Academic research is undertaken within some of strictest regulatory guidelines in the world. From Border Security concerns regarding imported materials, equipment manufacture, genetic modification work, radioactive materials, to chemical use, storage and disposal, there is a seemingly endless legislative quagmire that you may not yet be aware of, but must skilfully navigate for your research to succeed.

Why is it relevant?

People don't expect to be injured or killed when conducting their work. The protection of workers' health and safety should be at the core of any organisation's culture. Working safely must be instilled into an organisation and made a priority. It needs to start with CEO, Group Leader, or Chief Investigator and work down.

Practical Steps

1. *Meet your organisation's Workplace Health and Safety Manager in the planning stages of your research and discuss exactly what you wish to do and how*. Where do you plan to set up your lab? What equipment will you require? Are you going to manufacture your own equipment? Will your research involve fieldwork? Does your work involve biological and/or chemical samples and protocols? Will your research involve others? All of these questions will involve workplace health and

safety and will require detailed explanation and planning regarding how to fully prepare for the risks and implement controls.

2. *Read up to begin to understand risk management*. The ability to identify hazard within your research and the implementation of robust risk management are the most effective ways of keeping you and your people safe during scientific endeavour.

3. *Check State/Territory WHS legislation*. Some states and territories in Australia have their own implementation of the National Model WHS laws which are developed by Safe Work Australia. [1] Even the regulation of radioactive sources differs between states.

4. *Revise, review and append*. Your safety documentation is not set in stone. Risk management is dynamic and must change as your protocols, equipment and even staff change. You might through your research and experimentation introduce new risks that you did not intend. These will then also need to be managed.

5. *If you've had an incident, accident, or near miss, report it*. Effective, transparent reporting of what's gone wrong will help inform, educate and benefit not just you and your team, but others working on similar projects. How to keep people safe and well is not a secret – let's learn what not to do!

Case Study

In 2008, Professor Patrick Harran was prosecuted when his student, 23-year-old research assistant Sheri Sangji was severely burned in Harran's laboratory when an air-sensitive chemical she was manipulating ignited, setting her clothing on fire, as she was not wearing a protective lab coat. Sangji passed away 18 days later. This was a landmark case, as an academic was charged in relation to laboratory safety failure. [2]

References

1. Safe Work Australia. (n.d.). Safe Work Australia. Available at: https://www.safeworkaustralia.gov.au/

2. American Chemical Society. (2019). *10 years after Sheri Sangji's death*. Chemical & Engineering News. Available at: https://cen.acs.org/safety/lab-safety/10-years-Sheri-Sangjis-death/97/i1

3. Office of the Gene Technology Regulator. (n.d.). *Office of the Gene Technology Regulator*. Available at: https://www.ogtr.gov.au/

4. Australian Government Department of Agriculture, Fisheries and Forestry. (n.d.). *Biosecurity*. Available at: https://www.biosecurity.gov.au/

5. Australian Radiation Protection and Nuclear Safety Agency. (n.d.). *Australian Radiation Protection and Nuclear Safety Agency*. Available at: https://www.arpansa.gov.au/

6. Australian Nuclear Science and Technology Organisation. (n.d.). *Australian Nuclear Science and Technology Organisation*. Available at: https://www.ansto.gov.au/

7. Therapeutic Goods Administration. (n.d.). *Therapeutic Goods Administration*. Available at: https://www.tga.gov.au/

8. Australian Industrial Chemicals Introduction Scheme. (n.d.). *Australian Industrial Chemicals Introduction Scheme*. Available at: https://www.industrialchemicals.gov.au/

9. AS ISO 31000:2018 Risk Management – Principles and Guidelines. (2018). *Risk management – Principles and guidelines*.

10. ISO 45001 Occupational Health and Safety Management Systems. (2018). *Occupational health and safety management systems – Requirements with guidance for use*.

11. Model Code of Practice: Managing electrical risks in the workplace. (n.d.). *Managing electrical risks in the workplace*.