



‘Safety First Culture’ in Australian Laboratories

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Content

CSIRO in brief

HSE risk profile and governance

Laboratory safety culture

Engaging our people



CSIRO

(Commonwealth Scientific and Industrial
Research Organisation)

Who We Are

People ~5000

Sites 55

Budget \$1B+

64% university degrees
Over 2000 doctorates
Over 500 masters

We develop over 800
postgraduate research
students with our
university partners



Global Connections: impact partnerships



HSE Risk Profile and Governance

What does a scientist look like?

Where do they work?

ScientistsThen.....



An early CSIRO laboratory in 1932

ScientistsNow.....

Wet and dry labs, clean rooms

Physical containment

Pilot plants

Animal shelters

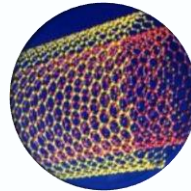
Glasshouses

Field stations

National facilities



Health, Safety and Environment Hazards



Key High Risk Areas

Chemicals and gases

Mechanical equipment

Electrical hazards

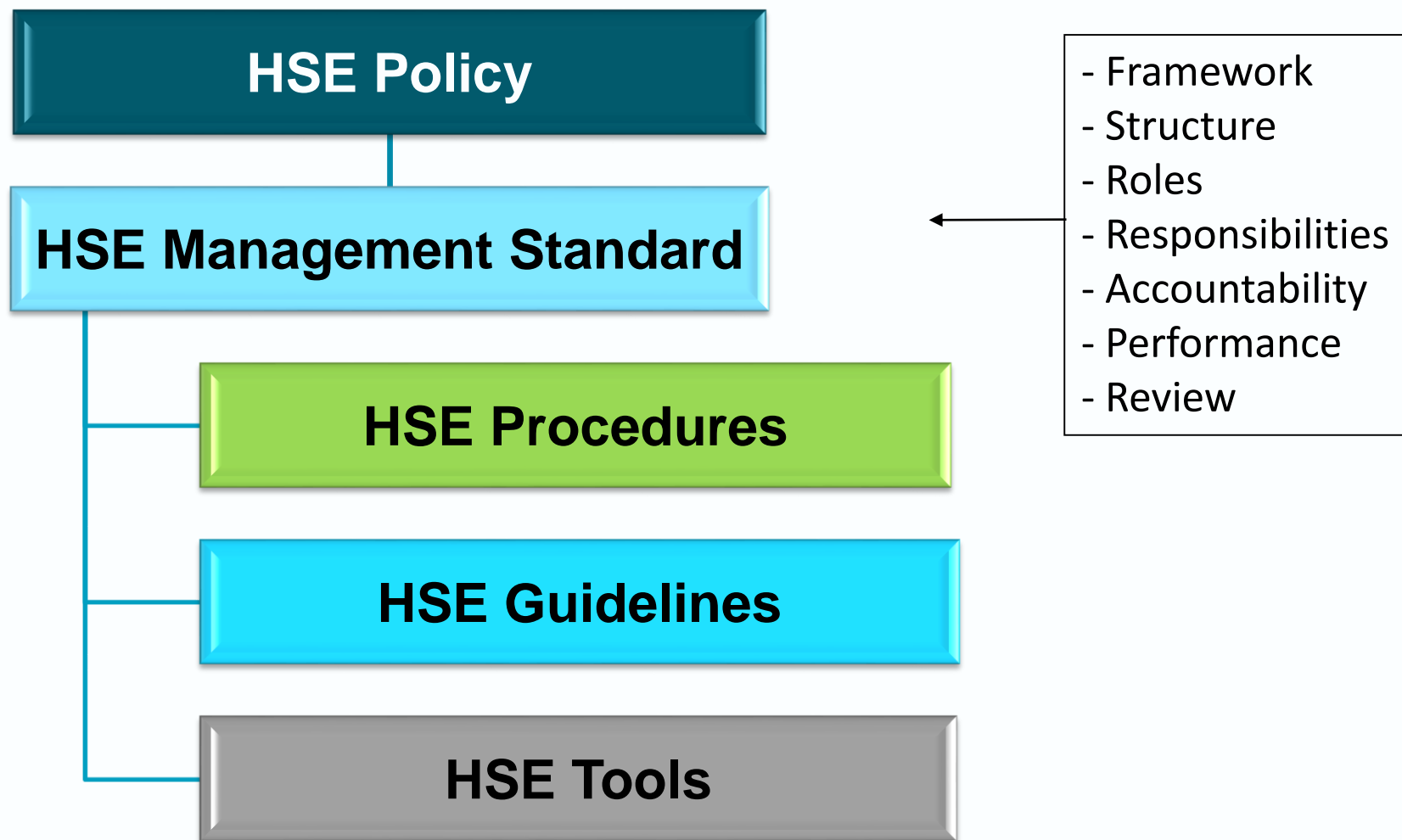
Fieldwork

Working on water /diving

Psychosocial factors



HSE Governance Structure



Laboratory Safety Culture

How CSIRO Works



R&D *versus* Risk Assessment

Research and Development

Identify a hypothesis
Test the theory - conduct
experiments
Validate the results
Modify the hypothesis

Risk Assessment

'Plan, Do, Check, Act'

Identify the hazard
Assess types of controls
Validate the
controls/mechanism
Modify the work practice



Engaging our Scientists

Link safety to the science

Provide knowledge and tools

Focus on philosophy, not just compliance

Communicate and consult widely

Motivation programs



Key Elements of a Laboratory Safety Culture

Planning experiments

Risk assessment and control

SOPs

Training and competency

Emergency plans and practices

Audits and inspections



CSIRO Laboratory Safety







Laboratory custodians – awareness, Community of Practice

Lab signage – entrance door

Lab induction and training on equipment

Housekeeping checklist and blitzes

Safety noted in lab notebooks

HAZARDS in this Lab		
		
		
Precautionary Measures Required		
		
Bld 222 Lab 2	Name	Out of Hours Phone Number
Laboratory Supervisor	John Smith	9222 2222
Other	Joe Bloggs	9888 8888
Striving For Zero Harm		

Engaging Our People

Awareness

Safety induction

- Rules for working safely

Risk assessment

- Identify hazards & risk controls

Manuals, checklists, work instructions

- Instructions for safe operation

Awareness

**Hazards, incidents,
injuries, near-
misses**

- Prevent a recurrence

Safety performance

- Lead and lag indicators, workers compensation, safety initiatives

Posters, intranet

- Reminders, access to info & tools

Safe people Safe work Safe science

Manufacturing Flagship



Lead by example

- Our words will match our actions
- Take the initiative to make the workplace safe – don't wait for others



Foster open communication

- Encourage talk about health and safety
- Speak up if you are unsure



Share ways to work safely

- Discuss learnings from incidents, injuries and near-misses
- Leverage best practice



Our people are more important than deadlines

- Plan ahead
- If there is difficulty in meeting deadlines, discuss with your supervisor



Think about tasks and risks in advance

- Don't rely solely on your own judgement
- Check your actions independently – ask for assistance when required



Inspire safe behaviour

- If you see someone being unsafe, tell them
- Give corrective coaching when people display at-risk behaviour
- Challenge the status quo and complacency



Celebrate success

- Identify people that do the right thing
- Recognise and reward positive behaviours and performance



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HSE Leadership, Promotion & Culture



HSE Compliance



HSE Risk Management



Specific Operating Instruction (SOI)



Incidents 2014-15



HSE Training Tools



Manufacturing HSE Contacts

TrainingThen.....



TrainingNow.....

WORKPLACE LEARNING

70:20:10

70%
Experience

70% real life, on-the-job roles,
tasks, problem solving

20%
Exposure & Exchange

20% feedback, observations,
mentoring, networks, collaborations

10%
Education

10% formal programs, e-learning,
reading, study

HSE Risk Training

Chemicals, gases, cryogenics

Ergonomics, manual handling

Radiation safety

Plant – forklifts, cranes

Emergency – fire safety, first-aid

Contractor management

Incident investigation

Mental health



HSE Leadership Training

CSIRO leaders think and behave personally and collectively in a way in which health and safety is not compromised

The standard you walk past is the standard you set



On-the-job Learning

Buddy system

Team meetings

Peer and manager observations and feedback

Human factors –
(physical, safety, psychosocial)

Shadowing



Conclusion

Key Conclusions

Science and laboratories have risks

Good safety culture lowers risk

Scientists and students to be risk-aware

Apply science to make labs safe



Thank you

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