



AUSTRALIAN
DEFENCE FORCE

I don't care about your risk matrix

Why trying to make an explosives activity's residual risk 'low' isn't OK

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Let's talk about ..

- Where we've come from
- Where we are now
- Defence's approach
- What does it look like?



Australian Government

Defence

The context for this presentation is for ADF explosives activities



Where have we come from?

- “acceptable” levels of risk
 - Why is it acceptable?
 - Something to aim for ... right?!
- Communication issues?
 - Who? How?

This is a detailed risk matrix for equipment failure. It includes columns for 'Event Count per Year', 'Time Scale', 'Occurrence Rate', and 'Historic Description'. The matrix is color-coded based on risk levels, with green representing low risk and red representing high risk.

	Insignificant 1	Minor 2	Significant 3	Major 4	Severe 5
5 Almost Certain	Medium 5	High 10	Very high 15	Extreme 20	Extreme 25
4 Likely	Medium 4	Medium 8	High 12	Very high 16	Extreme 20
3 Moderate	Low 3	Medium 6	Medium 9	High 12	Very high 15
2 Unlikely	Very low 2	Low 4	Medium 6	Medium 8	High 10
1 Rare	Very low 1	Very low 2	Low 3	Medium 4	Medium 5

(A5) LOW	(B5) MEDIUM	(C5) HIGH	(D5) VERY HIGH	(E5) VERY HIGH
(A4) LOW	(B4) MEDIUM	(C4) HIGH	(D4) HIGH	(E4) VERY HIGH
(A3) VERY LOW	(B3) LOW	(C3) MEDIUM	(D3) HIGH	(E3) HIGH
(A2) VERY LOW	(B2) VERY LOW	(C2) LOW	(D2) MEDIUM	(E2) MEDIUM
(A1) VERY LOW	(B1) VERY LOW	(C1) VERY LOW	(D1) LOW	(E1) LOW

Medium	High	High
Low	Medium	High
Low	Low	Medium



Where are we now?

The main object of this Act is to provide for a balanced and nationally consistent framework to secure the health and safety of workers and workplaces

- WHS legislation mandates elimination of risks So Far As is Reasonably Practicable (**SFARP**)
 - If you can't eliminate risks SFARP, then minimise risks SFARP
- No risk “limit”, need to justify why your risk can't be eliminated or minimised!
 - Informed decision to conduct activity
- How do we* go about it for EO?
 - *Remember this is context-specific!



Work Health and Safety Act 2011
No. 137, 2011

17 Management of risks

A duty imposed on a person to ensure health and safety requires the person:

- (a) to eliminate risks to health and safety, so far as is reasonably practicable; and
- (b) if it is not reasonably practicable to eliminate risks to health and safety, to minimise those risks so far as is reasonably practicable.

Subdivision 2—What is reasonably practicable

Defence's approach

- Establishment of Explosives Safety Regulatory Framework
- Deliberately aligned with WHS
- Outcome focussed, principles based approach
- Provides *what*, not *how*

Fundamental Concept	ESRF Principle
Safety Management System	<p>Principle 1. Defence must comply with applicable Explosives and WHS legislation and demonstrate means of compliance in a safety argument.</p> <p>Principle 2. All capability systems that involve explosives and munitions and the activities associated with research and development, procurement, testing, transportation, operation, firing (in trials, training or use) or disposal of explosives and EO must be developed, authorised and conducted in accordance with the applicable Service or Group Safety Management System and Defence Security Service Framework (DSSF).</p> <p>Principle 3. Safety Management Systems (SMS) developed and maintained by Capability Managers, Service Chiefs and Group Heads must incorporate ESRF policy requirements with respect to explosives safety hazards.</p>
EO Materiel Safe and Suitable for Service	<p>Principle 4. Service Chiefs and Group Heads, commanders, managers and supervisors must obtain explosives safety hazard and risk management advice from personnel and organisations competent in explosives safety management.</p> <p>Principle 5. Explosives and munitions are designed, manufactured and controlled throughout their life to eliminate explosives safety hazards and/or minimise the risks of an explosives safety mishap so far as is reasonably practicable.</p>
Safe Location	<p>Principle 6. The explosives safety hazards and residual risks of explosives and munitions shall be determined and communicated to affected Services, Groups and others (including non-Defence entities) so that risks can be controlled and managed.</p> <p>Principle 7. Sites, facilities, platforms and transport routes used for research and development, procurement, manufacture, handling, maintenance, storage, transfer, testing, transportation, operation, firing (in trials, training or use) or disposal of explosives and munitions are to be designed, constructed or selected and maintained/monitored to minimise the exposure of explosives and munitions to safety threats and conditions that are reasonably known to deteriorate or render ineffective the inherent explosives safety risk controls.</p> <p>Principle 8. Sites, facilities, platforms and transport routes used for research and development, procurement, testing, transportation, handling, maintenance, storage, transfer, testing, transportation, operation, firing (in trials, training or use) or disposal of explosives and munitions are to be designed, constructed or selected and maintained/monitored to minimise the exposure of workers, others and property from the risk of an explosives safety mishap so far as is reasonably practicable.</p>
Safe Work Practices	<p>Principle 9. The explosives safety hazards and residual risks of sites, facilities, platforms and transport routes intended for the research and development, procurement, manufacture, handling, maintenance, storage, transfer, testing, transportation, operation, firing (in trials, training or use) or disposal of explosives and munitions shall be determined and communicated to affected Services, Groups and others (including non-Defence entities).</p> <p>Principle 10. Explosives and munitions are stored, handled, processed transported, used and disposed of using identified risk controls such that the minimum number of personnel are exposed to the minimum quantity of explosives for the minimum time.</p> <p>Principle 11. Emergency management plans must be prepared, maintained and implemented. These plans must address the consequences of the explosives safety hazards at all sites, facilities, platforms and transport routes used for explosives and munitions, research and development, procurement, testing, transportation, operation, firing (in trials, training or use) and disposal of explosives and EO. Explosives safety mishaps must be responded to and managed so as to preserve life and assets so far as is reasonably practicable.</p> <p>Principle 12. Disposal and de-militarisation of explosives and munitions are planned and conducted, minimising the risk of an explosives safety mishap and minimising harm to workers, people and property so far as is reasonably practicable.</p>



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(Emphasis added)



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	<p>Principle 8. Sites, facilities, platforms and transport routes used for research and development, procurement, manufacture, handling, maintenance, storage, transfer, testing, transportation, operation, firing (in trials, training or use) or disposal of explosives and munitions are to be designed, constructed or selected and maintained/monitored to minimise the exposure of workers, others and property from the risk of an explosives safety mishap so far as is reasonably practicable.</p>
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Defence's approach

- ESRF obligations met = WHS obligations met
 - *Not* definition of acceptable limits
 - SFARP!
- Outcome focussed, principles based
 - A lot of “what” to do
 - Not “how” to do
- Easy to talk about in theory ...

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What does it actually look like?

- First stop – SMS!
 - First fundamental concept
 - Owned by Groups and Services
- EO is only one part...
 - *Outcome focussed*, principles based
- Adherence to Standards – SFARP?
 - Are other controls available?



What does it actually look like?

- Residual risk doesn't disappear ...
 - Decision to proceed is *informed*
 - What language do you use?
 - “Associated risks have been demonstrated to be eliminated SFARP and where not able to be eliminated, have been minimised SFARP”
 - Elimination/minimisation reflects the decision maker's obligations!
 - Do you even need a risk matrix?!
 - I don't care about your risk matrix!

36 Hierarchy of control measures

- (1) This regulation applies if it is not reasonably practicable for a duty holder to eliminate risks to health and safety.
- (2) A duty holder, in minimising risks to health and safety, must implement risk control measures in accordance with this regulation.
- (3) The duty holder must minimise risks, so far as is reasonably practicable, by doing 1 or more of the following:
 - (a) substituting (wholly or partly) the hazard giving rise to the risk with something that gives rise to a lesser risk;
 - (b) isolating the hazard from any person exposed to it;
 - (c) implementing engineering controls.
- (4) If a risk then remains, the duty holder must minimise the remaining risk, so far as is reasonably practicable, by implementing administrative controls.
- (5) If a risk then remains, the duty holder must minimise the remaining risk, so far as is reasonably practicable, by ensuring the provision and use of suitable personal protective equipment.

Note

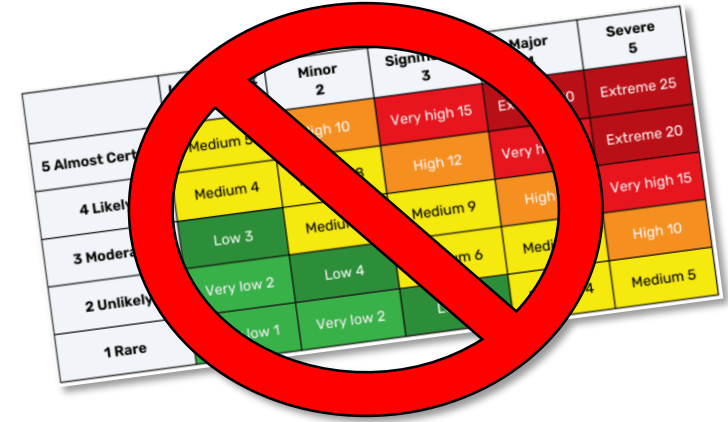
A combination of the controls set out in this regulation may be used to minimise risks, so far as is reasonably practicable, if a single control is not sufficient for the purpose.

What does it actually look like?

- Who's the authority?
- Who are the stakeholders?
- Start with big picture
 - Define your scope!
- Justify decisions



Conclusion



- I don't care about your risk matrix!
- Explosive Safety Regulatory Framework
- Declaration that risks have been eliminated/minimised SFARP
 - What wording does your organisation use?!
- What about operations?





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Questions?

I don't have all the answers...!

How flammable can I make McDonalds?

- Elimination:**
Physically remove the hazard
- Substitution:**
Replace the hazard
- Engineering controls:**
Isolate people from the hazard
- Administrative controls:**
Change the way people work
- Denial:**
Threats can't hurt you if they're not real

