

# What QLD Mines Still Need to Do on Critical Controls

Christian Young – CEO

# Tell us about you

- Ensure your 'zoom' name matches your name
- Where are you watching from?
- On a scale of 1-10 how familiar are you with the revised Critical Control Management requirements?

# What QLD Mines Still Need to Do on Critical Controls

Christian Young – CEO

## 3 Gets

Get your  
tools

Get rid of  
distractions

Get in state

**What's the impact if you don't get  
the management of Critical  
Controls, right?**

# Where are we with CCM & Legislation?



What's The  
Problem?



How do we know  
this to be true?



My Promise

# I help you save lives at work



**BHP**

 **AngloAmerican**

**Teck**

**GLENCORE**

 **NEWCREST**  
MINING LIMITED

  
**OCEANA**GOLD

 **AMPOL**

 **stanmore**

 **fitzroy**

 **ANGLO**GOLDASHANTI

 **SOUTH32**

**Peabody**  
ENERGY

 **MIMIG**

 **KESTREL**COAL  
RESOURCES

 **Aeris**  
RESOURCES

 **YANCOAL**  
兗煤澳大利亚有限公司

 **sojitz**

 **Resources Safety & Health**  
Queensland

 **Ensham**  
RESOURCES

**Coronado** 

 **OZ** MINERALS

 **Mitchell**  
SERVICES

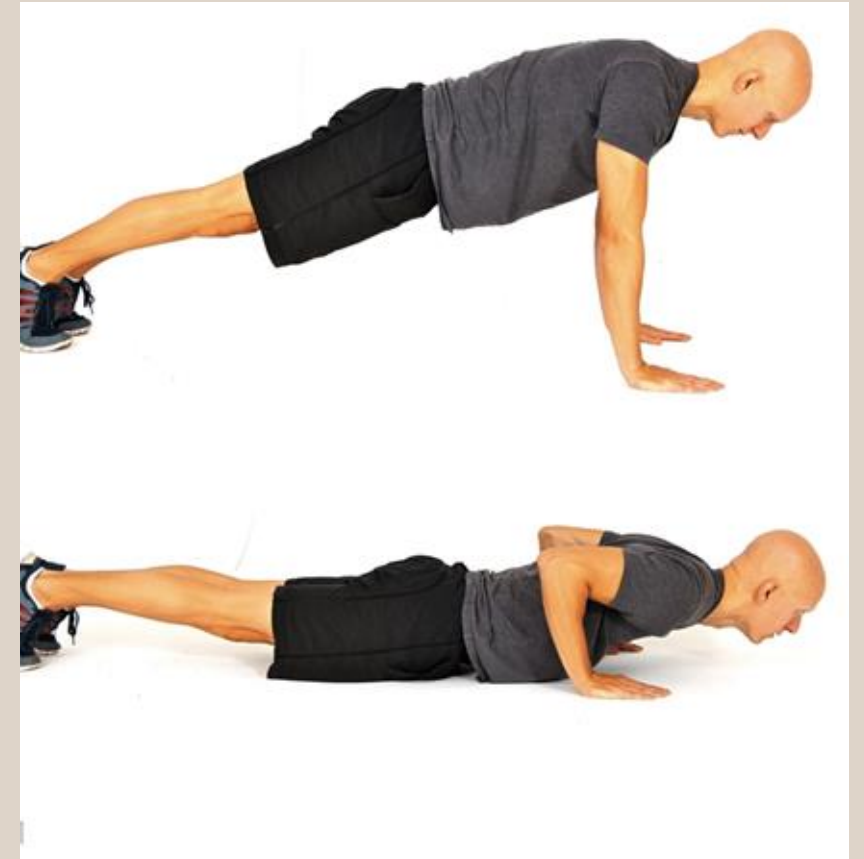
# My style

UMM!!!!

Shorten it to “CCM”

We'll move fast

I need you



# Content

The Fundamentals

Q&A

My all won't be enough



# Stick around

Slides

This Recoding

Free bonus?



**What are the changes and where did they come from?**

# Resources Safety and Health Legislation Amendment Bill 2024



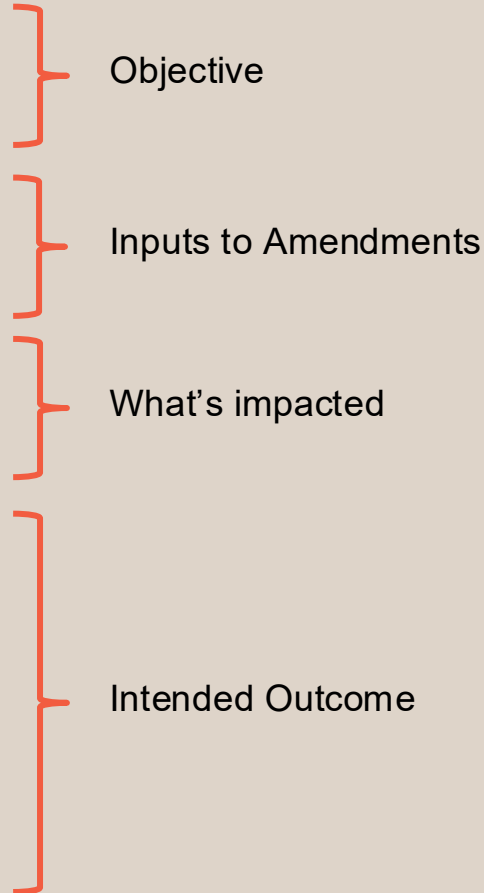
## Policy objectives and the reasons for them

The principal policy objectives of the Bill are to improve the sector's safety and health performance to reduce the occurrence of fatalities and serious accidents. It facilitates growth in high-reliability organisation (HRO) behaviours within the resources sector, modernises regulatory enforcement powers and ensures resources safety and health legislation is contemporary and effective.

The reforms have been informed by: a review of all fatal accidents in Queensland mines and quarries from 2000 to 2019 (Brady Review); the Queensland Coal Mining Board of Inquiry (Coal Mining Board of Inquiry) finalised in May 2021; and the Queensland Government's mining industry-wide safety resets in 2019 and 2021.

The Bill contains a package of preventative and proactive reforms that amend the *Resources Safety and Health Queensland Act 2020* (RSHQ Act), the *Coal Mining Safety and Health Act 1999* (CMSHA), the *Explosives Act 1999* (Explosives Act), the *Mining and Quarrying Safety and Health Act 1999* (MQSHA), and the *Petroleum and Gas (Production and Safety) Act 2004* (P&G Act), collectively referred to as the Resources Safety Acts, to:

- facilitate the growth in HRO behaviours within the resources sector—these amendments place emphasis on reforms that improve the implementation of critical controls by industry, increased competency requirements for critical roles, improved training, continual professional development requirements, information sharing and incident notification and reporting, and strengthening protections for workers against reprisals;
- modernise regulatory enforcement powers—these amendments will enhance existing compliance and enforcement tools under the Resources Safety Acts, such as the directives framework, as well as introduce enforceable undertakings and further court orders;
- provide for more contemporary legislation; and
- enhance the operation and administration of the legislation through a range of minor operational amendments.



# What's included

- Facilitating the growth in high-reliability organisational (HRO) behaviours
  - **Critical Control Management**
  - Competency for key safety critical roles
  - Continuing professional development (CPD)
  - Improved data and incident reporting
  - Information sharing to improve safety
- Modern regulatory enforcement
  - Enforceable undertakings
  - Court orders
  - Directives
- Contemporary legislation
  - Labour hire agencies, contractors and service providers
  - Industrial manslaughter
  - Remote operating centres (ROCs)
  - Safety critical roles at or near the mine site
  - A contemporary Board of Examiners

# Passed on 12<sup>th</sup> June 2024

- 12-month window started on 1st June 2025
- Mines are required to comply with legislative requirements for critical controls by 1 June 2026

## Resources Safety and Health Legislation Amendment Bill 2024

Introduced by: **Hon S Stewart MP** on 18/4/2024

Stage reached: PASSED with amendment on 12/6/2024

- ▶ Bill
- ▶ Exp Note
- ▶ Statement of Compatibility
- ▶ Explanatory Speech
- ▶ Committee
- ▶ AiNC govt agreed
- ▶ AiNC exp note
- ▶ AiNC statement of compatibility

# What are the Critical Control Management Requirements

# Objective

## Critical controls

The policy objective is achieved by amending the CMSHA and the MQSHA to integrate critical control requirements within the SHMS. These amendments will ensure critical controls are clearly and specifically incorporated as a component in the overall SHMSs for all coal mines, metalliferous mines and quarries, so that there is a clearer focus on critical controls and their effectiveness and ensuring that risk to persons from operations are kept at an acceptable level. The focus is on the most serious risks to safety and health and the critical controls definition aligns with the International Council on Mining and Metals' guidelines.

# Amendment of Coal Mining Safety and Health Act 1999



## Amendment of s 30 (How is an acceptable level of risk achieved)

*Clause 6* amends section 30(2) to add critical controls to what risk management elements and practices the systems at a coal mine must incorporate to achieve an acceptable level of risk.

## Amendment of s 47A (Obligation of officers of corporations)

*Clause 15* subclause (1) amends section 47A(3)(b) and (d) so that the due diligence required of officers of corporations will also include gaining an understanding of critical controls associated with the coal mining operations, and to ensure the corporation's processes for receiving and considering information regarding incidents, hazards and risks and responding in a timely way, also includes receiving and considering information regarding critical controls.

## Amendment of s 62 (Safety and health management system)

Subclause (2) amends section 62(5) to include identifying critical controls as a measure to ensure that an SHMS is adequate and effective to achieve an acceptable level of risk.

## Amendment of s 63 (Principal hazard management plan)

*Clause 34* amends section 63(1) to require that a principal hazard management plan must also include critical controls.

## Amendment of sch 3 (Dictionary)

The definition of "critical control" is inserted and means a risk control measure for a coal mine that is critical to prevent a material unwanted event at the coal mine or mitigate the consequences of a material unwanted event at the coal mine; and the absence or failure of which would significantly increase risk despite the existence of other risk control measures. This new definition supports amendments made by this Bill to introduce critical controls as part of SHMS requirements under the Act. It is based on the definition used in the International Council on Mining and Metals' *Health and Safety Critical Control Management: Good Practice Guide*.

The definition of "material unwanted event" at a coal mine, means an unwanted event in relation to which the potential or real consequence to safety or health exceeds a threshold defined by the coal mine operator as warranting the highest level of attention. It is based on the definition used in the International Council on Mining and Metals' *Health and Safety Critical Control Management: Good Practice Guide*.

## Timeline

Section 329 (Deferral of requirements relating to critical controls) provides that new sections 30, 47A, 62(5) and 63(1) do not apply until the day that is 1 year after the commencement. Former sections 30, 47A, 62(5) and 63(1) continue to apply until that day that is 1 year after

the commencement. This will provide 1 year for SSEs to have critical controls included in the principal hazard management plans and SHMS for a coal mine.

# Amendment of Mining and Quarrying Safety and Health Act 1999



## Amendment of s 27 (Risk management)

Clause 153 amends section 27 to add critical controls to what risk management elements and practices the systems at a mine must incorporate to achieve an acceptable level of risk.

## Amendment of s 44A (Obligation of officers of corporations)

Clause 162 subclause (1) amends section 44A(3)(b) and (d) so that the due diligence required of officers of corporations will also include gaining an understanding of critical controls associated with the operator's mining operations, and to ensure the corporation's processes for receiving and considering information regarding incidents, hazards and risks and responding in a timely way, also includes receiving and considering information regarding critical controls.

## Amendment of s 55 (Safety and health management system)

Subclause (2) amends section 55(5) so that the requirements for a mine's SHMS to be adequate and effective to achieve an acceptable level of risk also includes identifying **critical controls**. Under other subsections of section 55 this will also require implementing and monitoring critical controls as part of the SHMS.

The definition of "critical control" is inserted to mean a risk control measure for a mine that is critical to prevent material unwanted event or mitigate the consequences of a material unwanted event at the mine; and the absence or failure would significantly increase risk despite the existence of other risk control measures. This new definition supports amendments made by this Bill to introduce critical controls as part of SHMS requirements under the Act. It is based on the definition used in the International Council on Mining and Metals' *Health and Safety Critical Control Management: Good Practice Guide*.

The definition of "material unwanted event", at a mine, means an unwanted event in relation to which the potential or real consequence to safety or health exceeds a threshold defined by the operator as warranting the highest level of attention. It is based on the definition used in the International Council on Mining and Metals' *Health and Safety Critical Control Management: Good Practice Guide*. The amendment is necessary because the term is now used in several provisions within the Act.

## Timeline

Section 296 (Deferral of requirements relating to critical controls) subclause (1) provides that new sections 27, 44A, and 55(5), as amended by the *Resources Safety and Health Legislation Amendment Act 2024*, do not apply until the day that is 1 year after the commencement.

# How to comply with CCM Requirements

# Definitions

# Material Unwanted Event

## Coal Mining Safety and Health Act 1999

The definition of “material unwanted event” at a coal mine, means an unwanted event in relation to which the potential or real consequence to safety or health exceeds a threshold defined by the coal mine operator as warranting the highest level of attention. It is based on the definition used in the International Council on Mining and Metals’ *Health and Safety Critical Control Management: Good Practice Guide*.

## Mining and Quarrying Safety and Health Act 1999

The definition of “material unwanted event”, at a mine, means an unwanted event in relation to which the potential or real consequence to safety or health exceeds a threshold defined by the operator as warranting the highest level of attention. It is based on the definition used in the International Council on Mining and Metals’ *Health and Safety Critical Control Management: Good Practice Guide*. The amendment is necessary because the term is now used in several provisions within the Act.

# Suggested Action

- Review current definition of your “Critical Risk” and ensure alignment to legislation.
  - If you use a different term (e.g. Material Risk. Critical Risk) ensure alignment to definition and linkage to legislated term.
  - Ensure reference to “exceeding a threshold”
- If you don’t have this term, consider accepting this definition.
- Ensure the definition is documented within your SHMS (e.g. Risk Management Procedure, Glossary of Terms, etc)
- Self Assessment - How compliant is your organisation to this requirement? (rating out of 10)

# Materiality Threshold

- The legislation does not 'tell you' which of your risks are material unwanted events. You need to work it out.
- To calculate which risks are material you need to define a threshold based on consequence.
- So how do you do this?

# Materiality Threshold

**Material Consequences** will be classed a Material Unwanted Event and included within the Broad-Brush Risk Assessment

## Materiality Threshold

**Immaterial Consequences** will not be included within the BBRA Managed via other Risk Management (WRAC, JSA, SLAM)

	Health & Safety	Environment	Financial Impact	Image & Reputation / Community	Legal & Compliance
<b>5 Catastrophic</b>	<ul style="list-style-type: none"> <li>Multiple fatalities (2 or more fatalities in a single incident)</li> <li>Multiple cases (5 or more) of Permanent Damage Injuries or Diseases that result in permanent disabilities in a single incident</li> </ul>	<ul style="list-style-type: none"> <li>Unconfined and widespread</li> <li>Environmental damage or effect (permanent; &gt;10 years)</li> <li>Requires major remediation</li> </ul>	<ul style="list-style-type: none"> <li>&gt;\$600M investment return</li> <li>&gt;\$100M operating profit</li> <li>&gt;\$20M property damage</li> </ul>	<ul style="list-style-type: none"> <li>Loss of multiple major customers or large proportion of sales contracts</li> <li>Sustained campaign by one or more international NGOs resulting in physical impact on the assets or loss of ability to operate</li> <li>Security incident resulting in multiple fatalities or major equipment damage</li> <li>Formal expression of significant dissatisfaction by government</li> <li>Grievance from internal or external stakeholder alleging human rights violation resulting in multiple fatalities</li> </ul>	<ul style="list-style-type: none"> <li>Major litigation / prosecution at corporate level</li> <li>Nationalisation / loss of licence to operate</li> </ul>
<b>4 Major</b>	<ul style="list-style-type: none"> <li>Single incident resulting 1 Fatality Permanent Damage Injury or Disease that results in a permanent disability-less than 5 cases in a single incident</li> </ul>	<ul style="list-style-type: none"> <li>Long-term (2 to 10 years) impact</li> <li>Requires significant remediation</li> </ul>	<ul style="list-style-type: none"> <li>\$60-600M investment return</li> <li>\$20-100M operating profit</li> <li>\$2-20M property damage</li> </ul>	<ul style="list-style-type: none"> <li>Security/ stakeholder incident resulting in single loss of life or equipment damage</li> <li>Grievance from internal or external stakeholder alleging human rights violation resulting in single fatality or serious injuries</li> <li>Topic of broad societal concern and criticism</li> <li>Negative media coverage at international level resulting in a Corporate statement within 24 hours</li> <li>Investigation from government and/ or international (or high-profile) NGOs</li> <li>Complaints from multiple "final" customers</li> <li>Loss of major customer</li> <li>Negative impact on share price</li> </ul>	<ul style="list-style-type: none"> <li>Major litigation / prosecution at Department level</li> </ul>
<b>3 Moderate</b>	<ul style="list-style-type: none"> <li>Lost Time Injury (LTI)</li> <li>Lost Time Disease (LTD)</li> <li>Permanent Disabling Injury (PDI)</li> <li>Permanent Disabling Disease (PDD)</li> <li>Single incident that results in multiple medical treatments</li> </ul>	<ul style="list-style-type: none"> <li>Medium-term (&lt;2 years) impact (typically within a year)</li> <li>Requires moderate remediation</li> </ul>	<ul style="list-style-type: none"> <li>\$6-60M investment return</li> <li>\$2-20M operating profit</li> <li>\$200K-2M property damage</li> </ul>	<ul style="list-style-type: none"> <li>Negative media coverage at national level over more than one day</li> <li>Complaint from a "final" customer</li> <li>Off-spec product</li> <li>Local Stakeholder action resulting in national societal scrutiny</li> </ul>	<ul style="list-style-type: none"> <li>Major litigation / prosecution at Operation level</li> </ul>
<b>2 Minor</b>	<ul style="list-style-type: none"> <li>Medical Treatment Injury (MTI)</li> <li>Medical Treatment Disease (MTD)</li> <li>Restricted Work Injury (RWI)</li> <li>Restricted Work Disease (RWD)</li> </ul>	<ul style="list-style-type: none"> <li>Near source</li> <li>Short-term impact (typically &lt;week)</li> <li>Requires minor remediation</li> </ul>	<ul style="list-style-type: none"> <li>\$600K-6M investment return</li> <li>\$200K-2M operating profit</li> <li>\$10-200K property damage</li> </ul>	<ul style="list-style-type: none"> <li>Negative local/ regional media coverage</li> <li>Complaint received from an internal or external stakeholder</li> </ul>	<ul style="list-style-type: none"> <li>Regulation breaches resulting in fine or litigation</li> </ul>
<b>1 Negligible</b>	<ul style="list-style-type: none"> <li>First Aid Injury (FAI) or illness (not considered disease or disorder)</li> </ul>	<ul style="list-style-type: none"> <li>Near source and confined</li> <li>No lasting environmental damage or effect (typically &lt;day)</li> <li>Requires minor or no remediation</li> </ul>	<ul style="list-style-type: none"> <li>&lt;\$600K investment return</li> <li>&lt;\$200K operating profit</li> <li>&lt;\$10K property damage</li> </ul>	<ul style="list-style-type: none"> <li>Negligible media interest</li> </ul>	<ul style="list-style-type: none"> <li>Regulation breaches without fine or litigation</li> </ul>

# Materiality Threshold

- Who formally defines the threshold?
- The Operator

## Coal Mining Safety and Health Act 1999

### 21 Meaning of *coal mine operator*

- (1) A *coal mine operator* for a coal mine is—
- (a) the holder; or
  - (b) if another person has been appointed as the coal mine operator under section 53 and the appointment is notified to the chief inspector under section 49, the other person.

## Mining and Quarrying Safety and Health Act 1999

### 21 Meaning of *operator*

- (1) An *operator* for a mine is—
- (a) for a mine where there is a holder—
    - (i) the holder; or
    - (ii) if another person has been appointed as the operator under section 48 and the appointment is notified to an inspector for the region under section 46, the other person; or

- How they communicate the threshold will be organisation specific.

# Materiality Threshold



- Once you have identified your threshold - define the threshold within your SHMS e.g.
  - *“A risk is classed as a Material Unwanted Event if its potential consequence is equal to or exceeds the following Criteria;*
    - *Health and Safety Consequence equal to or exceeding Level 4*
    - *Environment Consequence equal to or exceeding Level 3*
    - *Etc, etc,”*
- Self Assessment - How compliant is your organisation to this requirement? (rating out of 10)

# Materiality Threshold



- Does this mean that potential single fatality consequence events will be classed as Material Unwanted events?

# Materiality Threshold



- Once you have identified your threshold you need a mechanism to formally identify which risks meet or exceed your materiality threshold.
- What is a mechanism you can use for this?



# Critical Controls



## Coal Mining Safety and Health Act 1999

The definition of “critical control” is inserted and means a risk control measure for a coal mine that is critical to prevent a material unwanted event at the coal mine or mitigate the consequences of a material unwanted event at the coal mine; and the absence or failure of which would significantly increase risk despite the existence of other risk control measures. This new definition supports amendments made by this Bill to introduce critical controls as part of SHMS requirements under the Act. It is based on the definition used in the International Council on Mining and Metals’ *Health and Safety Critical Control Management: Good Practice Guide*.

## Mining and Quarrying Safety and Health Act 1999

The definition of “critical control” is inserted to mean a risk control measure for a mine that is critical to prevent material unwanted event or mitigate the consequences of a material unwanted event at the mine; and the absence or failure would significantly increase risk despite the existence of other risk control measures. This new definition supports amendments made by this Bill to introduce critical controls as part of SHMS requirements under the Act. It is based on the definition used in the International Council on Mining and Metals’ *Health and Safety Critical Control Management: Good Practice Guide*.

# Suggested Action



- Review current definition of your “Critical Control” and ensure alignment to legislation.
- If you don’t have this term, consider accepting this definition.
- Ensure the definition is documented within your SHMS (e.g. Risk Management Procedure, Glossary of Terms, etc)
- Self Assessment - How compliant is your organisation to this requirement? (rating out of 10)

# Check question



- Does this mean that potential single fatality consequence events will have Critical Controls?

# Determining Critical Controls

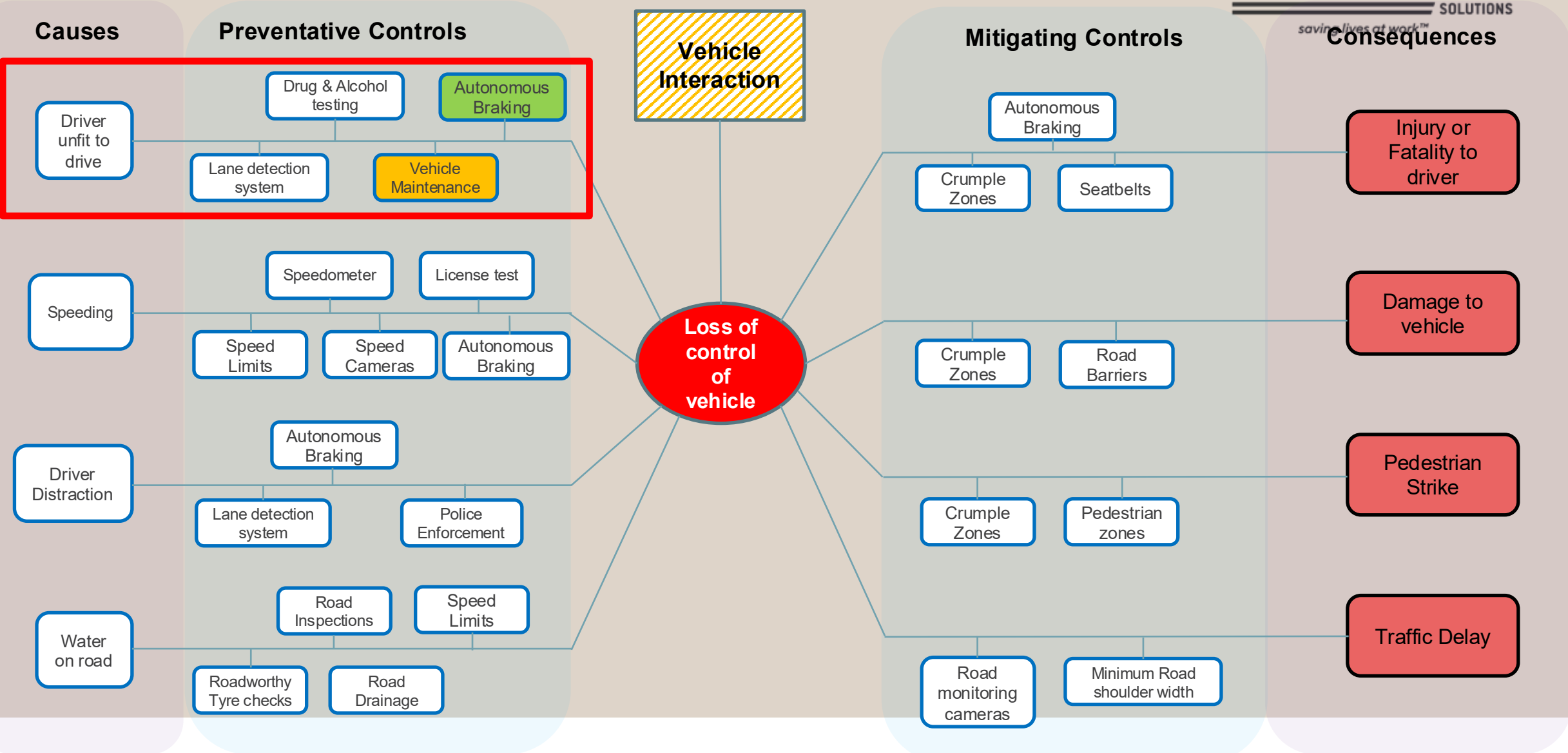
# What is your process for determining Critical Controls?

- Do you have one?





# Simple Bowtie Analysis Example





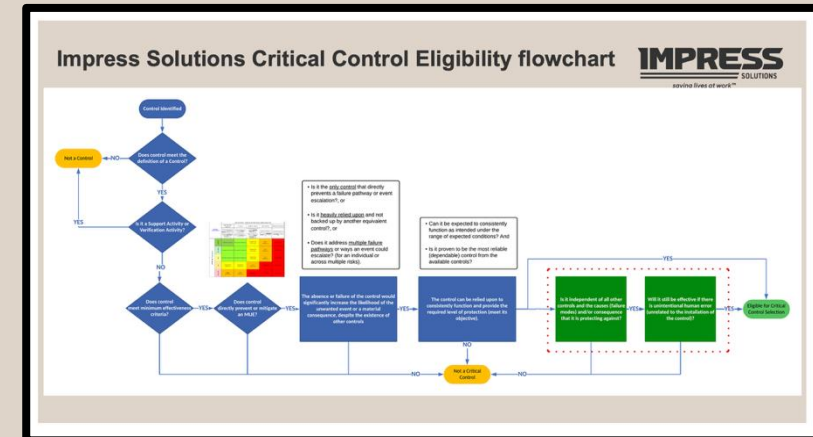
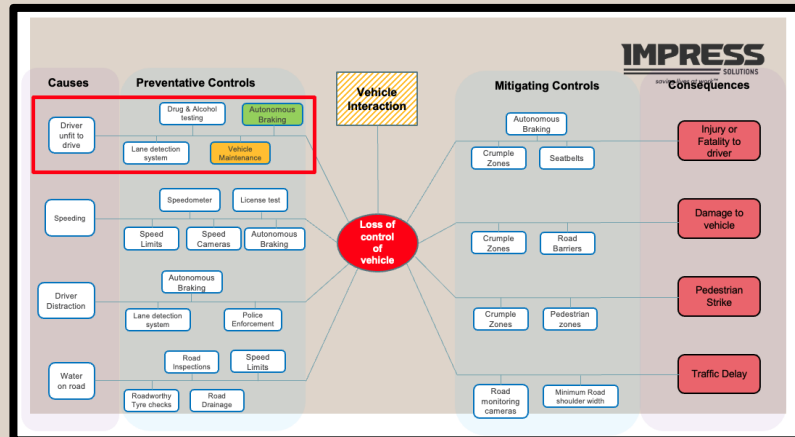
# Critical Control Selection



- Think very carefully about how many Critical Controls you have.

# Critical Control Selection

- Self Assessment - How compliant is your organisation to this requirement? (rating out of 10)



# A word of caution for U/G Coal Mines



## **273 Withdrawal of persons in case of danger**

(1) If a coal mine is dangerous, all persons exposed to the danger must withdraw to a place of safety.

- (7) For this section, a coal mine is taken to be dangerous if—
- (a) sealing operations are to commence; or
  - (b) the coal mine or part of the coal mine has been sealed; or
  - (c) the controls detailed in a principal hazard management plan have not been implemented or maintained.

# Critical Controls and the Risk Management Framework

# Requirement



## Coal Mining Safety and Health Act 1999

### **Amendment of s 30 (How is an acceptable level of risk achieved)**

*Clause 6* amends section 30(2) to add critical controls to what risk management elements and practices the systems at a coal mine must incorporate to achieve an acceptable level of risk.

## Mining and Quarrying Safety and Health Act 1999

### **Amendment of s 27 (Risk management)**

*Clause 153* amends section 27 to add critical controls to what risk management elements and practices the systems at a mine must incorporate to achieve an acceptable level of risk.

How would you comply with this requirement?

# Suggested Action



- Update your Risk Management Procedure to at a minimum;
  - Provide definitions i.e. Critical Control, Material Unwanted Event.
  - Describe what Material Unwanted Events are, how they are identified (Broad Brush Risk Assessment), how they are managed / monitored / improved to achieve an acceptable level of Risk.
  - Describe what Critical Controls are, how they are identified (Bowtie Analysis, Critical Control Selection Process), how they are managed / monitored / improved to achieve an acceptable level of Risk.
- Review / Update other risk management processes (template, procedure, training) to support management of Material Unwanted Events and Critical Controls
  - Risk Register, JSA, Take 5, SLAM, Work Instructions, SOPs, MPs, PHMPs, Work Management Process, Contractor Management, Training Management, Change Management, Safety Interactions, Visible Felt Leadership, Planned Task Observations, Workplace Inspections, Statutory Inspections, internal / external audit process, Incident Reporting & Investigation.
- Self Assessment - How compliant is your organisation to this requirement? (rating out of 10)

# Critical Controls and the Safety and Health Management System

# Requirement



## Coal Mining Safety and Health Act 1999

### Amendment of s 62 (Safety and health management system)

Subclause (2) amends section 62(5) to include identifying **critical controls** as a measure to ensure that an SHMS is adequate and effective to achieve an acceptable level of risk.

## Mining and Quarrying Safety and Health Act 1999

### Amendment of s 55 (Safety and health management system)

Subclause (2) amends section 55(5) so that the requirements for a mine's SHMS to be adequate and effective to achieve an acceptable level of risk also includes identifying **critical controls**. Under other subsections of section 55 this will also require implementing and monitoring critical controls as part of the SHMS.

How would you comply with this requirement?

# Suggested Action (from a compliance perspective)



- Update your Risk Management Procedure to at a minimum;
  - Provide definitions i.e. Critical Control, Material Unwanted Event.
  - Describe what Material Unwanted Events are, how they are identified (Broad Brush Risk Assessment), how they are managed / monitored / improved to achieve an acceptable level of Risk.
  - Describe what Critical Controls are, how they are identified (Bowtie Analysis, Critical Control Selection Process), how they are managed / monitored / improved to achieve an acceptable level of Risk.

# Suggested Actions (from an effectiveness perspective)



- There should be a one-to-one relationship between the Material Unwanted Event, the Bowtie Analysis and SHMS document which describes the risk and how it will be controlled.
  - e.g. MUE : Falling from height > Falling from height Bowtie Analysis > Working at Height Management Plan
  - Consideration should also be given to any legislated SOPs and their overlap with MUE documents.
    - E.g. MUE of Underground Fire and Legislated requirement of Action to be taken in the event of Fire
- Determine how Critical Controls will be documented within PHMPs, MPs, SOPs. At least two options;
  - Write the Critical Controls into Material Unwanted Event PHMP / HMP / SOP, or,
  - Create a Register of Material Unwanted Events and Critical Controls and provide this as a reference to the PHMP / HMP / SOP
- Self Assessment - How compliant is your organisation to this requirement? (rating out of 10)

# Critical Controls and Officers of Corporations

# Requirement



## Coal Mining Safety and Health Act 1999

### Amendment of s 47A (Obligation of officers of corporations)

*Clause 15* subclause (1) amends section 47A(3)(b) and (d) so that the due diligence required of officers of corporations will also include gaining an understanding of **critical controls** associated with the coal mining operations, and to ensure the corporation's processes for receiving and considering information regarding incidents, hazards and risks and responding in a timely way, also includes receiving and considering information regarding critical controls.

## Mining and Quarrying Safety and Health Act 1999

### Amendment of s 44A (Obligation of officers of corporations)

*Clause 162* subclause (1) amends section 44A(3)(b) and (d) so that the due diligence required of officers of corporations will also include gaining an understanding of critical controls associated with the operator's mining operations, and to ensure the corporation's processes for receiving and considering information regarding incidents, hazards and risks and responding in a timely way, also includes receiving and considering information regarding critical controls.

Who might be an officer within your organisation?

How would you comply with this requirement?

# Who is an officer?



If a corporation has an obligation under this Act, an officer of the corporation must exercise due diligence to ensure the corporation complies with the obligation.

*officer*, of a corporation, does not include a person appointed as, or whose position reports directly or indirectly to, the site senior executive for a coal mine.

An officer of a corporation may be convicted or found guilty of an offence under this Act relating to an obligation of the officer whether or not the corporation has been convicted or found guilty of an offence under this Act relating to an obligation of the corporation.

My interpretation - Organisational roles not on the site management structure, who's level of responsibility is such they could be convicted if they did not act on Critical Control / Critical Risk Information

Who might be an officer within your organisation?

# Suggested Course of Action



- Determine who are 'Officers of Corporations' for your organisation.
- Identify how you will monitor and report on the health of the Critical Controls.
  - E.g. Critical Control Verification Program
- Identify how you will provide this information to these Officers in a timely manner for their review and potential action.
  - Example - include information on Material Unwanted Events and Critical Controls within the Monthly H&S report and ensure this is socialised with all key stakeholders (officers).

# Critical Controls and Principal Hazard Management Plans

# Requirement



## Coal Mining Safety and Health Act 1999

### Amendment of s 63 (Principal hazard management plan)

*Clause 34* amends section 63(1) to require that a principal hazard management plan must also include **critical controls**.

## Mining and Quarrying Safety and Health Act 1999

# Suggested Course of Action

## Suggested Actions (from an effectiveness perspective)

- There should be a one-to-one relationship between the Material Unwanted Event, the Bowtie Analysis and SHMS document which describes the risk and how it will be controlled.
  - e.g. MUE : Falling from height > Falling from height Bowtie Analysis > Working at Height Management Plan
  - Consideration should also be given to any legislated SOPs and their overlap with MUE documents.
    - E.g. MUE of Underground Fire and Legislated requirement of Action to be taken in the event of Fire
- Determine how Critical Controls will be documented within PHMPs, MPs, SOPs. At least two options;
  - Write the Critical Controls into Material Unwanted Event PHMP / HMP / SOP, or,
  - Create a Register of Material Unwanted Events and Critical Controls and provide this as a reference to the PHMP / HMP / SOP
- Self Assessment - How compliant is your organisation to this requirement? (rating out of 10)

# What is a failure of a Critical Control?

# Critical Control Failure

- There may be several strategies that provide insight on the status of the Critical Control.
- Is a Critical Control that is deviating off course classed as a failure?
- How do you document off course vs failure?

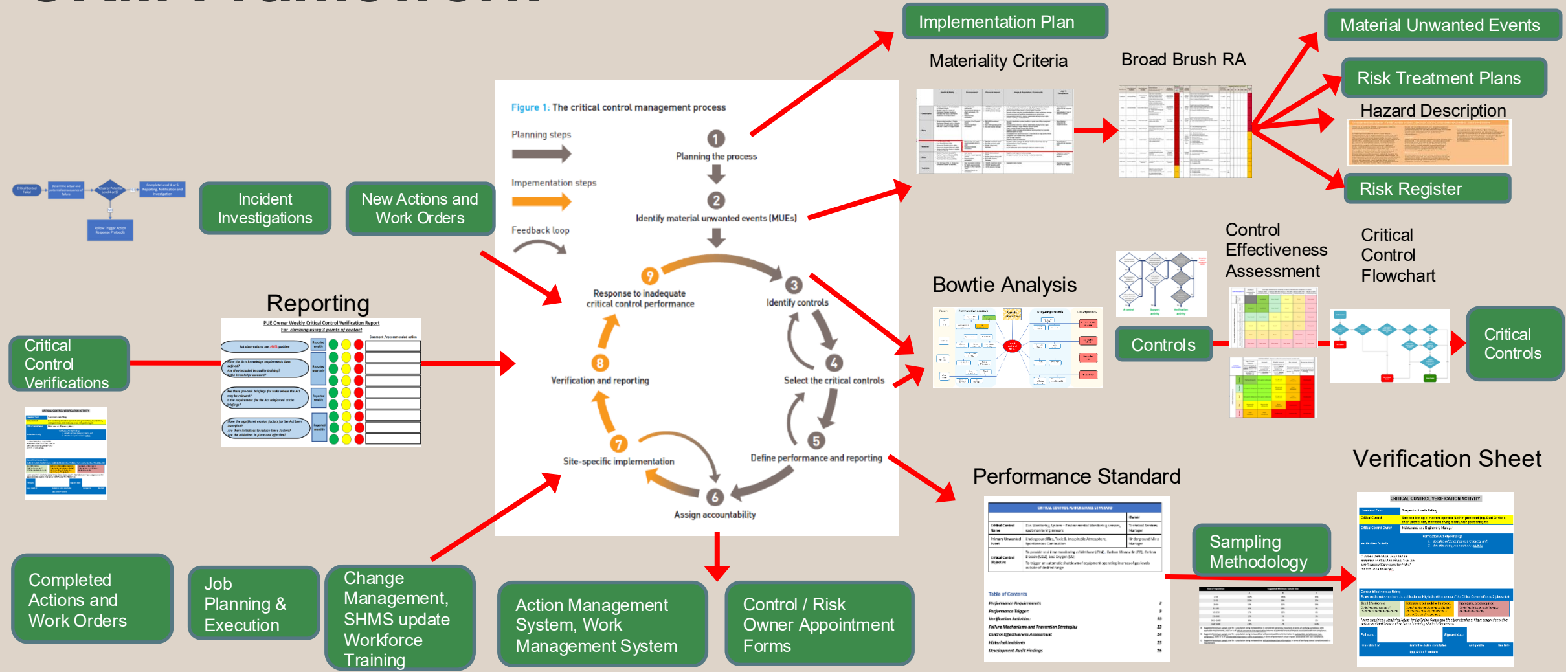
# Critical Control Performance Criteria



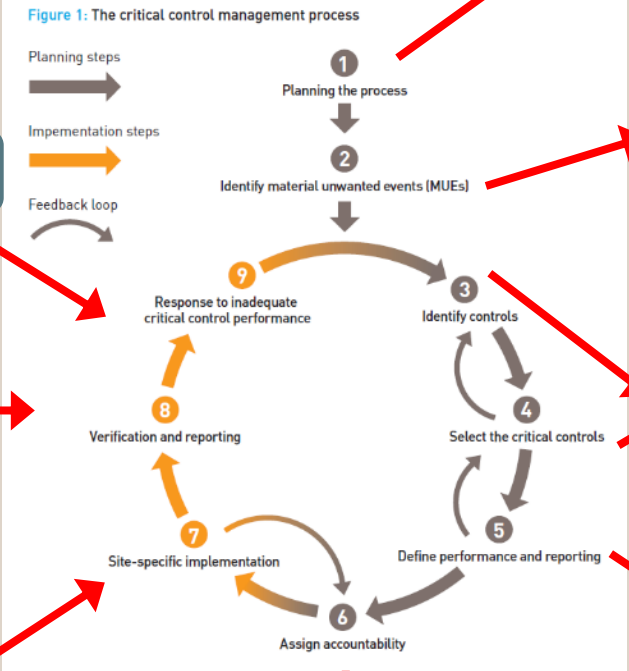
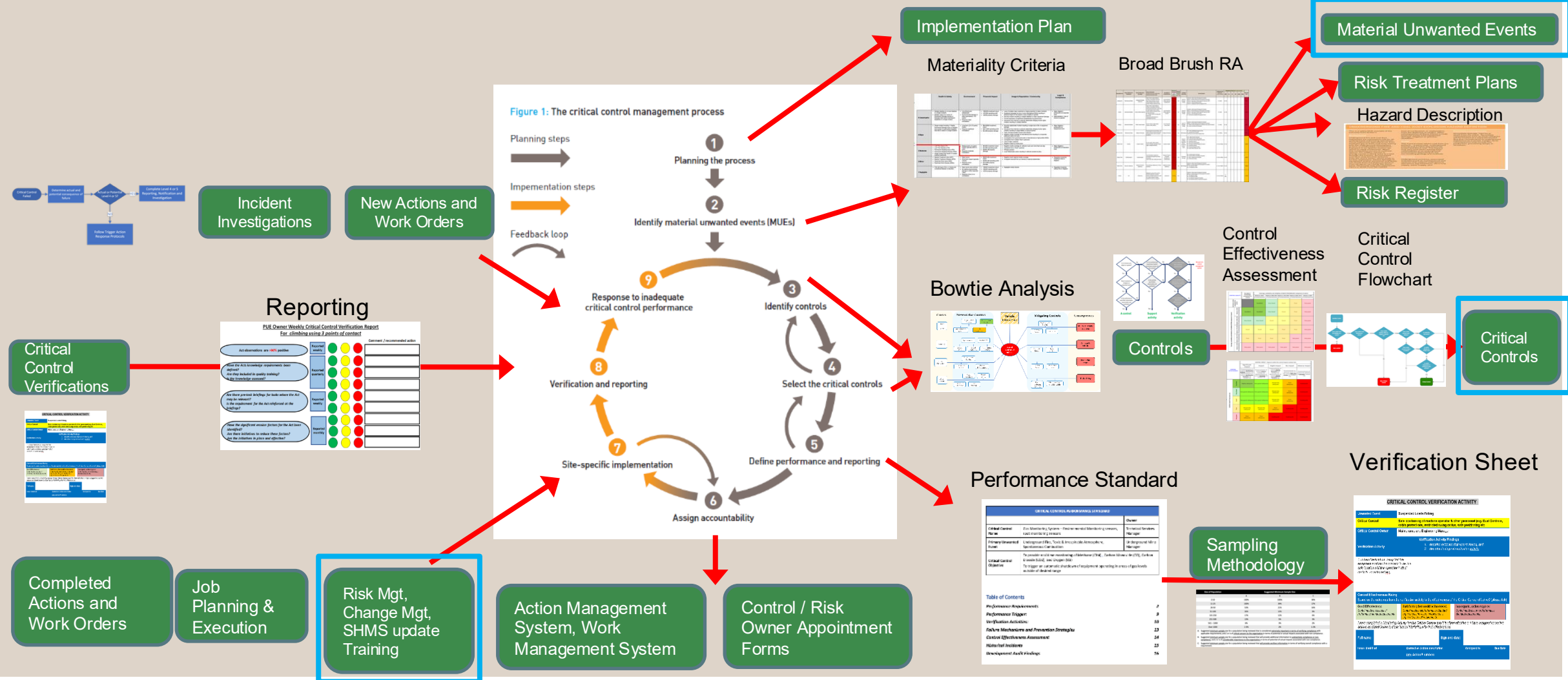
<b>FAILURE MODES AND PREVENTION STRATEGIES</b>			
<i>Failure Mechanisms: What can cause the degradation or failure of the control</i>	<i>Degradation / Failure Prevention Strategies: What are the Specific, Measurable strategies that can prevent this failure or degradation? (Who does what, and when?)</i>	<i>Management System requirement What management system ensures these failure prevention strategies are performed?</i>	<i>Responsible Role Which role within the organisation is responsible for ensuring the management system requirement is achieved?</i>
Pedestrian or vehicle breaches the exclusion zone due to inadequate physical barriers or signage.	EWP Operator / Spotter / mobile equipment operator / truck driver and responsible persons to perform Ensure physical barriers (cones/fencing) are continuous and clearly visible. Stop work immediately if a breach occurs. Before and during operation	Site Safety Rules / SWMS	EWP Operator / Spotter / Mobile equipment operator / truck driver
EWP boom or tail swing and any other moving or mobile equipment extends beyond the established exclusion zone (zone too small).	EWP Operator, supervisor, mobile equipment operator to perform Calculate maximum reach and tail swing during pre-start risk assessment. Extend zone boundaries to include a safety margin. Planning / Pre-start	Risk Management / SWMS	EWP Operator / Spotter / Mobile equipment operator / truck driver
Spotter or supervisor or operator or mobile equipment operator or truck driver fails to warn operator of proximity to structure or powerline due to distraction or communication failure.	PCBU / Supervisor to perform Ensure Spotter or operator or supervisor have a dedicated communication system (radio/whistle) and no other duties (e.g., not working while spotting). During operation	Training / Supervision / procedures	EWP Operator / Spotter / Mobile equipment operator / truck driver / PCBU
<b>PERFORMANCE TRIGGER &amp; ACTION RESPONSE: <i>Criteria that will trigger for shutdown, critical control review or investigation</i></b>			
<i>Performance Trigger</i>	<i>Action Response What specific, measurable action will be taken when this performance trigger is reached (Who does what, and when?)</i>	<i>Management System requirement What management system ensures this action response will be performed?</i>	<i>Responsible Role Which role within the organisation is responsible for ensuring the management system requirement is achieved?</i>
Unauthorised entry of person or vehicle into the exclusion zone.	Operator / Spotter / mobile equipment operator to Activate Emergency Stop or cease all movement immediately. Direct intruder to leave. Reevaluate zone effectiveness. Immediate	Incident Reporting / Emergency Response / procedure	EWP Operator, supervisor, mobile equipment operator
EWP or mobile equipment approaches within the prohibited approach distance of overhead power lines and overhead structures.	Safety Observer or spotter or mobile equipment operator to perform Signal operator to stop immediately. Verify distance. Report near-miss. Immediate	Electrical Safety Management Plan, Exclusion zone procedure	Safety Observer, spotter, mobile equipment operator
Loss of communication between Operator and Spotter or mobile equipment operator.	MEWP operator or spotter or mobile operator to Cease all movement immediately until communication is restored.	SWMS / Operating Procedures	EWP Operator, spotter, mobile equipment operator

# Reflection

# CRM Framework



# Legislation Vs CRM Framework



Incident Investigations

New Actions and Work Orders

**Reporting**

PVE Owner Weekly Critical Control Verification Report  
 For climbing using 3 points of contact

Control / Recommended action	Control Status	Control / Recommended action
Are observations and MUEs positive?	Green	
Are all CCs knowledge requirements being followed?	Yellow	
Are MUEs included in weekly meetings?	Red	
Are there positive MUEs for each critical control?	Green	
Are MUEs included in the logbook for the last 30 days of the shift?	Yellow	
Are the appropriate control actions for the MUEs identified?	Red	
Are there MUEs to reduce these MUEs?	Green	
Are the solutions in place and effective?	Yellow	

Critical Control Verifications

Control	Control Status
Control 1	Green
Control 2	Yellow
Control 3	Red

Completed Actions and Work Orders

Job Planning & Execution

Risk Mgt, Change Mgt, SHMS update Training

Action Management System, Work Management System

Control / Risk Owner Appointment Forms

Implementation Plan

Materiality Criteria

Control	Materiality	Control	Materiality
Control 1	High	Control 2	Medium
Control 3	Low	Control 4	High

Broad Brush RA

Control	Risk	Control	Risk
Control 1	High	Control 2	Medium
Control 3	Low	Control 4	High

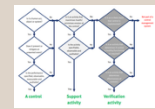
Material Unwanted Events

Risk Treatment Plans

Hazard Description

Risk Register

Bowtie Analysis



Control Effectiveness Assessment

Critical Control Flowchart

Controls

Control	Control Status
Control 1	Green
Control 2	Yellow
Control 3	Red

Critical Controls

Performance Standard

Control	Performance Standard
Control 1	Control 1: 100%
Control 2	Control 2: 100%
Control 3	Control 3: 100%

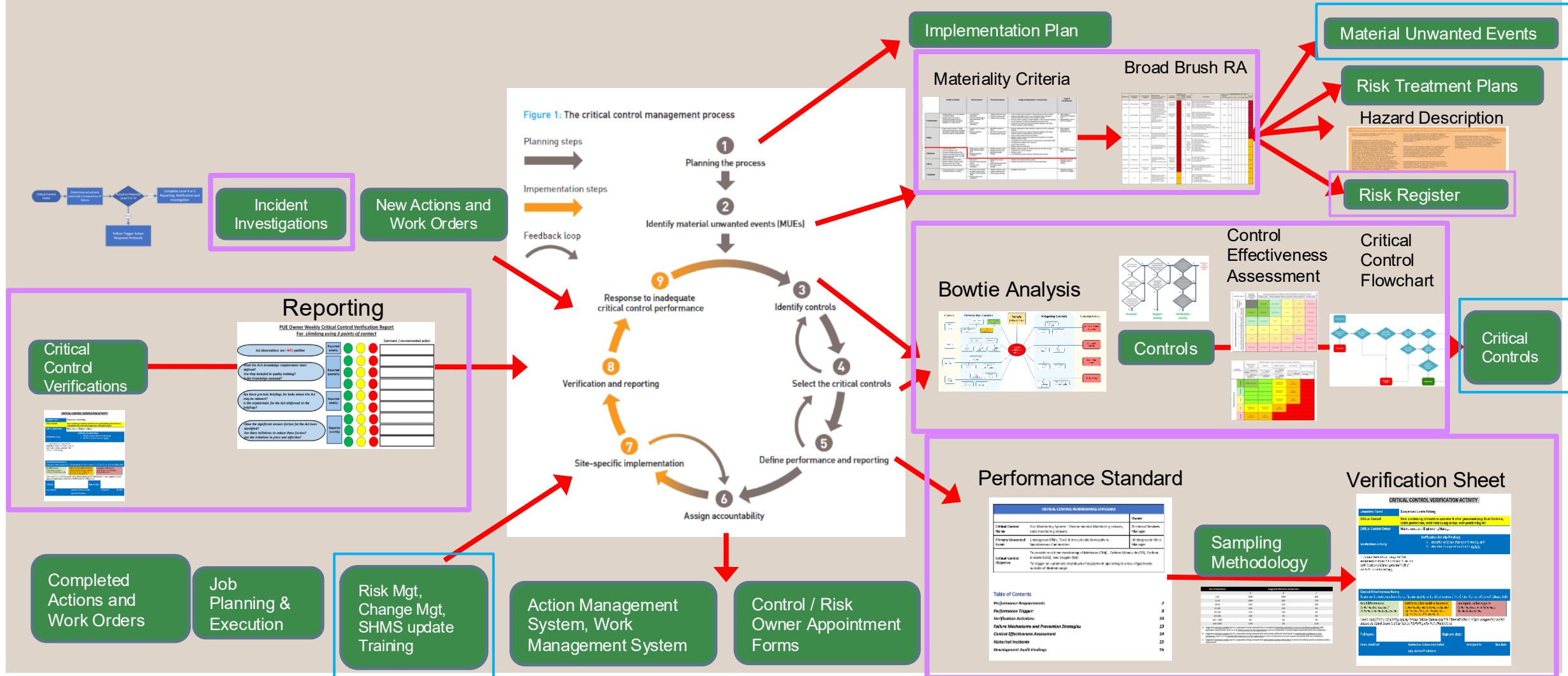
Sampling Methodology

Control	Sampling Methodology
Control 1	Control 1: 100%
Control 2	Control 2: 100%
Control 3	Control 3: 100%

Verification Sheet

Control	Verification Sheet
Control 1	Control 1: 100%
Control 2	Control 2: 100%
Control 3	Control 3: 100%

# The journey to legislative compliance



What has been your biggest “ah-hah” moment?



# Company rating

- Based on the content we've just been through what rating out of 10 would you rating your organisations level of preparedness for these changes



## **Key Learning:**

**There is a considerable amount of work required**

**If you rush or take shortcuts you will be 'compliant' but not 'effective'**

# The obvious question

How do I do it?



# Slow or Fast

Trial and Error Vs system

**Help is here – To reduce how much work you need to do**

**Free trial access to our  
Critical Risk software  
platform**

**It's not for everyone**





**Save lives at work**

Complete the application form



Receive your login details



Produce a bowtie with Critical Controls for 1 x Critical Risk

**Request Free Trial License - Critical Risk AI**

Request a Free Trial of Critical Risk AI to help you build, test, and improve critical risk controls (e.g., bowties, critical controls, and performance standards). Submit your details and we'll provision access and send the trial to your email. Register quickly now.

When you submit this form, I will not automatically collect your details for other purposes and will delete them when you provide a product.

\* Required

1. Full name \*

Enter your answer

2. Phone \*

Enter your answer

3. Email \*

Enter your answer

4. Company \*

Enter your answer

5. Role \*

Enter your answer

6. Business Department/Role (Company, etc. etc.) \*

Enter your answer

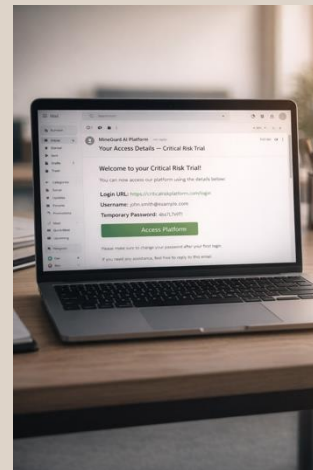
7. What does your organization most struggle with regarding Critical Risk Management? \*

Enter your answer

8. What are you hoping to do in the trial? (Choose 3 top priorities) \*

Please select 3 options

- Identify critical risks
- Develop critical controls
- Identify critical controls
- Develop critical controls
- Identify critical controls



# Benefits



You get the right Critical Controls in 5 minutes not 5 years



Don't pay \$10K for a Consultants to do the same



Use our 25 years of CRM expertise and critical risk library.



Identify low hanging fruit for immediate implementation.

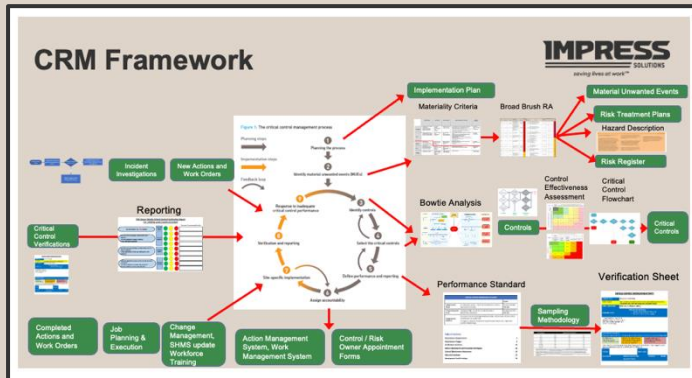
# Help is here – If you want the knowledge, tools and template to implement the CRM framework



2-day Critical Risk Management Masterclass Brisbane 9<sup>th</sup> / 10<sup>th</sup> June



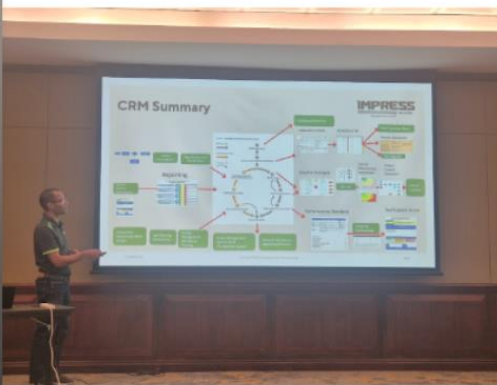
- The Future of CRM** Industry trends and future developments
- Elements of a CRM** Key components of a successful CRM program
- Identification of Critical Risks** Developing and delivering a leading Baseline Risk Assessment
- Analysis of Material Critical Risks** Bowtie Analysis, Layers of Protection Analysis, Identification of Controls and Critical Controls
- Critical Control Performance Standards** Developing statistically significant verification processes
- Site Implementation** Ensuring successful and sustainable CRM implementation
- Verification, Reporting, and Response** Effective CRM reporting and response strategies



**JMR**  
2 reviews · 1 photo

★★★★★ 3 weeks ago **NEW**

This training was to a very high standard and I would highly recommend it to others. Christian has a very good understanding of the material which made it easy for us to ask questions and receive relevant answers. All safety and risk professionals should do this training.



**Bob Hayes**  
6 reviews

★★★★★ 3 weeks ago **NEW**

Christian made a complex subject palatable, kept the group engaged, a fun learning experience, great resources to take back to site, individual and team based activities. If you need to learn about critical risk management, this is the course to do.

**Martin West**  
5 reviews

★★★★★ a month ago

Very impressed! Christian ran a great virtual workshop which provided us with in depth information and resources that will enhance our critical control risk approach. Highly recommend!

**Tanya Cambetis**  
5 reviews

★★★★★ 3 weeks ago **NEW**

I completed the two day masterclass on critical risk management with Christian, it was incredible. I have never had someone explain nor present such heavy content in a way that is both easy to absorb and take way for immediate implementation in your own workplace.

**Jack Farry**  
1 review

★★★★★ 4 months ago

Impress Solutions have developed a comprehensive training package for businesses starting the Critical Control Management journey or even for those that have already ventured down that road. The step by step process is delivered expertly by a seasoned health and safety professional who draws on a wealth of experience, providing plenty of practical examples and know-how.

**Phoebe Westaway**  
2 reviews

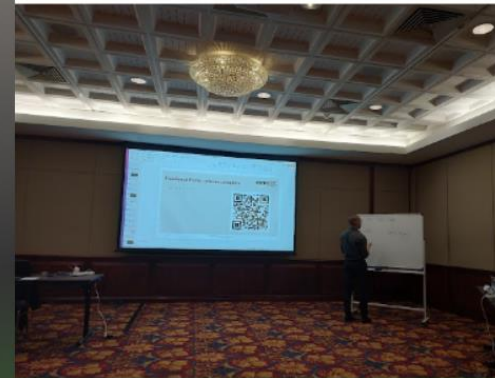
★★★★★ 5 months ago

The Critical Risk Management Masterclass is worthwhile for anyone interested or invested in Critical Risk Management. The course is interesting and engaging, touching on the full lifecycle of critical risk and critical control management. Highly recommend!

**Radical Bravo**  
Local Guide · 56 reviews · 4 photos

★★★★★ 5 months ago

This is the best CRM training available in Australia and well worth the time and investment.



**Gianluca Nigro**  
3 reviews

★★★★★ a month ago

Highly recommend this course, very well run and a lot of knowledge and useable resources come with it

**Ho ki Leung**  
1 review

★★★★★ a month ago

Great session on Critical Risk Management with Christian 🙌 many useful tools and was able to get a refresh on some fundamental risk management concepts ...

**Xtine Eats**  
Local Guide · 48 reviews · 7 photos

★★★★★ a year ago

This was much more interactive than I expected for a Risk Management course has plenty of good technical content



**Snezana Bajic**  
8 reviews

★★★★★ 4 months ago

Great training, critical risk management from different perspectives, very useful and practical

# Questions?

CRM Masterclass



<https://www.impresssolutions.com.au/event/brisbane-2-day-critical-risk-management-masterclass>

Critical Risk AI Application



[https://forms.office.com/pages/responsepage.aspx?id=s4kOOsXfT0GQ54vKHFB00M\\_tLJOj3yVGs5ovIX1\\_yK1UMFQ2QjY3SFNGR1FNRVZLWERYV0ZPRVIXSy4u&route=shorturl](https://forms.office.com/pages/responsepage.aspx?id=s4kOOsXfT0GQ54vKHFB00M_tLJOj3yVGs5ovIX1_yK1UMFQ2QjY3SFNGR1FNRVZLWERYV0ZPRVIXSy4u&route=shorturl)

# Resources

- Slides + Recording
- Once recording is edited, we will send through materials



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### CEO | Managing Director

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[www.impresssolutions.com.au](http://www.impresssolutions.com.au)



**Thank you**