BMA Safe: From 42 different tools to 1.

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OHS Principal

Where are we?

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Background

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- *2000 – 2003:*
  - *7 BMA sites independently developed and implemented their own site specific pre-task risk management tool (e.g. SAM, Take 5).*
- *August 2008:*
  - *Recognised that BMA had 42 different tools.*
  - *This situation created a multitude of issues, particularly for personnel required to work across multiple BMA sites.*

Current problems

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- *Inefficiencies in training, printing and supply.*
- *Knowledge gap re. tool purpose and its role in risk mgt.*
- *Some tools were too complex in relation to intent.*
- *Site tools using different risk matrix's, consequence and likelihood definitions.*
- *Some tools had evolved into a control audit process.*
- *Inconsistent link to risk management process.*
- *Hazard checklists not aligned with risk profile.*

Project Initiation / Deliverables

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- **Project Initiation:**
  - *To align with the One BMA strategy, in September 2008 a project was initiated to develop one pre-task risk management tool for all operations.*
- **Deliverables:**
  - *July 2009;*
  - *BMA Safe,*
  - *BMA Safe training and assessment package.*

Hazard Checklist – front page

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Checklist

Name: Joe Blogs Date: 30/5/09 Time: 1.30 ~~am~~ pm

Job Location: Ramp 42 South

Job Description: Relocate dragline cable

	Tick if applicable YES	Tick if applicable NO		Can I manage this Hazard? YES	Can I manage this Hazard? NO
1.	✓		Can I be injured by being caught in, on or between anything?	✓	
2.		✓	Can I strain or overexert myself?		
3.		✓	Can I fall onto or from anything?		
4.	✓		Can I slip or trip on anything?	✓	
5.		✓	Can I be struck by a moving object?		
6.	✓		Can I come into contact with or be exposed to something that may harm me? (electricity, heat, gas, hazardous substances or stored energy).		
7.		✓	Does anything need to be isolated and tested for dead?		
8.		✓	Can something fall on me or can I cause something to fall onto someone else?		
9.	✓		Can I be injured by nearby activities or can my activities injure others nearby?		✓
10.		✓	Could there be any uncontrolled movement, like ground movement, machine movement?		
11.		✓	Can I spill or pollute something?		
12.	✓		Can weather conditions, work environment or poor lighting affect job safety?	✓	
13.		✓	Do I need a permit?	✓	
14.	✓		Will I be working below, on or near a highwall or crest? (if yes refer to site geotechnical guidelines).	✓	
15.		✓	Are there any other hazards present?		
Is the task a change to a current process, procedure or design? If yes, complete Change Management Form 1.					

Where hazards are managed, write the controls on the back of this sheet.

If you ticked **NO** to managing a hazard, or YES to question 13 or 14, contact your Supervisor as a JSA will be required.

Hazard Checklist – back page

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Hazard Number	Controls put in place to manage hazard	Will controls effectively manage the hazard? YES	NO
1	Check guarding is in place	☑	☐
4	Move loose rocks and tools	☑	☐
9	Put barricading in place	☐	☑
14	Check task with geotech	☑	☐
		☐	☐
		☐	☐
		☐	☐

If you ticked NO to any of the above contact your Supervisor as a JSA will be required

BMA Safe Booklet contents – hazard prompt list, hazard / near miss form, change management form.

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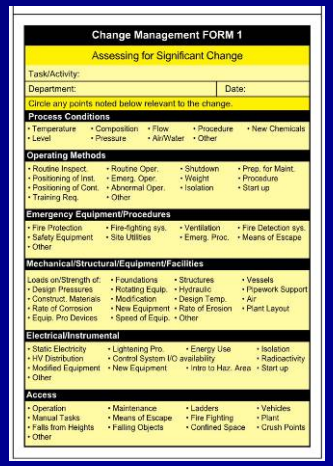
Hazard Prompts

1. **Can I be injured by being caught in, on or between anything?**
   - *Pinch points, rotating machinery, conveyors, caught between vehicles or machinery, roof and rib conditions.*
2. **Can I strain or overexert myself?**
   - *Does the task require repetitive movement, pushing, pulling, lifting, awkward postures, sustained postures.*
3. **Can I fall onto, into or from anything?**
   - *Working above 1.8m, fall onto sharp objects, fall from machinery.*
4. **Can I slip or trip on anything?**
   - *Tools/equipment, wet/slippery surfaces, poor housekeeping, uneven surfaces.*
5. **Can I be struck by a moving object?**
   - *Moving vehicles, projectiles, moving machinery.*
6. **Can I come into contact with or be exposed to something that may harm me? (electricity, heat, gas, hazardous substances, or stored energy).**
   - *Electricity, pneumatics, oil, grease, acids.*
7. **Does anything need to be isolated and tested for dead?**
   - *Electrical, water, hydraulic.*
8. **Can something fall on me or can I cause something to fall onto someone else?**
   - *Falling tools / equipment, can I drop tools / equipment, people working above / below me.*
9. **Can I be injured by nearby activities or can my activities injure others nearby?**
   - *People working above / below me, dust or fumes, noise, sparks, projectiles.*
10. **Could there be any uncontrolled movement, like ground movement, machine movement?**
    - *Ground failure, high wall / low wall failure, roof / rib failure, runaway vehicle.*
11. **Can I spill or pollute something?**
    - *Oil spill, release into waterways, pitwater release.*
12. **Can weather conditions, work environment or poor lighting affect job safety?**
    - *Extreme temperatures, lack of lighting, fog storm.*
13. **Do I need a permit?**
    - *Hot work, confined space, digging / excavation, land disturbance, working at height, working under / near power lines, cultural heritage.*
14. **Will I be working below, on or near a highwall or crest? (if yes refer to site geotechnical guidelines).**
    - *Within 5m of the crest, 10m of the toe of a <60m continuous highwall slope or 15m of the toe of a >60m continuous highwall slope in an open pit.*

Event Type: ☐ HAZARD ☐ NEAR MISS **FPE Event No:**

Outcome	Consequence Severity *(please circle potential consequence level)*				
Potential	Level 1	Level 2	Level 3	Level 4	Level 5
Investigation	Complete pages 1 & 2		STOP form & contact Supervisor		

Department:	Reported By:
Occurred Date:	Occurred Time:
Reported Date:	Reported Time:
Location of event:	Supervisor at time of event:
Person Involved (if any):	Equipment Involved *(if any)*:
Work activity being performed:	
Brief Description (of event):	
Immediate Action Taken and Recommendations:	



Change Management FORM 1

Assessing for Significant Change

Task/Activity:

Department: Date:

Circle any points noted below relevant to the change.

Process Conditions
• Temperature • Composition • Flow • Procedure • New Chemicals
• Level • Pressure • Air/Water • Other

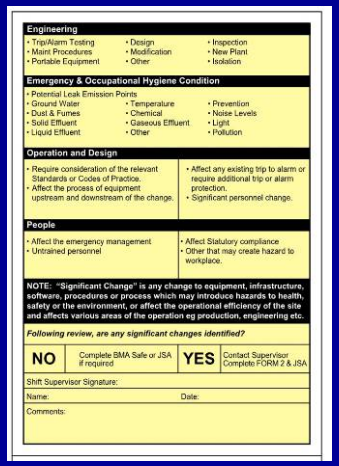
Operating Methods
• Routine Inspect. • Routine Oper. • Shutdown • Prep. for Maint.
• Positioning of Inst. • Emerg. Oper. • Weight • Procedure
• Positioning of Cont. • Abnormal Oper. • Isolation • Start up
• Training Req. • Other

Emergency Equipment/Procedures
• Fire Protection • Fire-fighting sys. • Ventilation • Fire Detection sys.
• Safety Equipment • Site Utilities • Emerg. Proc. • Means of Escape
• Other

Mechanical/Structural/Equipment/Facilities
Loads on/Strength of: • Foundations • Structures • Vessels
• Design Pressures • Rotating Equip. • Hydraulic • Pipework Support
• Construct. Materials • Modification • Design Temp. • Air
• Rate of Corrosion • New Equipment • Rate of Erosion • Plant Layout
• Equip. Pro Devices • Speed of Equip. • Other

Electrical/Instrumental
• Static Electricity • Lightening Pro. • Energy Use • Isolation
• HV Distribution • Control System I/O availability • Radioactivity
• Modified Equipment • New Equipment • Intro to Haz. Area • Start up
• Other

Access
• Operation • Maintenance • Ladders • Vehicles
• Manual Tasks • Means of Escape • Fire Fighting • Plant
• Falls from Heights • Falling Objects • Confined Space • Crush Points
• Other



Engineering
• Trip/Alarm Testing • Design • Inspection
• Maint Procedures • Modification • New Plant
• Portable Equipment • Other • Isolation

Emergency & Occupational Hygiene Condition
• Potential Leak Emission Points
• Ground Water • Temperature • Prevention
• Dust & Fumes • Chemical • Noise Levels
• Solid Effluent • Gaseous Effluent • Light
• Liquid Effluent • Other • Pollution

Operation and Design
• Require consideration of the relevant Standards or Codes of Practice.
• Affect the process of equipment upstream and downstream of the change.
• Affect any existing trip to alarm or require additional trip or alarm protection.
• Significant personnel change.

People
• Affect the emergency management
• Untrained personnel
• Affect Statutory compliance
• Other that may create hazard to workplace.

NOTE: "Significant Change" is any change to equipment, infrastructure, software, procedures or process which may introduce hazards to health, safety or the environment, or affect the operational efficiency of the site, and affects various areas of the operation eg production, engineering etc.

Following review, are any significant changes identified?

NO Complete BMA Safe or JSA if required **YES** Contact Supervisor Complete FORM 2 & JSA

Shift Supervisor Signature:

Name: Date:

Comments:

BMA Safe Booklet contents

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BMA Life Saving Rules

Your life depends on them.

- Apply a personal isolation lock and 'test for dead' before working on equipment.
- Protect yourself against a fall and falling objects if working above 1.8m, within 2m of an edge and before approaching high-walls, low-walls and operating faces.
- Never stand, walk or work under a suspended load or unsupported roofs (underground).
- Use safety protection devices correctly, without interference.
- Establish positive contact with operating heavy equipment before approaching.
- Park equipment securely so that it cannot move in an uncontrolled way.
- Only operate equipment for which you are trained, assessed and authorised.

USING THE MATRIX BELOW DETERMINE THE RISK CATEGORY

		CONSEQUENCE SEVERITY				
PROBABILITY FACTOR		Level 1 Low	Level 2 Minor	Level 3 Moderate	Level 4 Major	Level 5 Critical
A	Happens often	High	High	Extreme	Extreme	Extreme
B	Could easily happen	Moderate	High	High	Extreme	Extreme
C	Could happen and has occurred here or elsewhere	Low	Moderate	High	Extreme	Extreme
D	Hasn't happened yet but could	Low	Low	Moderate	High	Extreme
E	Conceivable, but only in extreme circumstances	Low	Low	Moderate	High	High
		TOLERABLE	ALARP	ALARP	INTOLERABLE	

DETERMINE THE LEVEL OF ACTION AND APPROPRIATE CONTROL STRATEGIES

THE FOLLOWING CONTROL OPTIONS MUST BE CONSIDERED AND MAY BE APPLIED INDIVIDUALLY OR IN COMBINATION

1	**ELIMINATION** - Complete removal of the hazard	Most Effective
2	**SUBSTITUTION** - Replacing the material or process with a less hazardous one	
3	**RE-DESIGN** - Redesign the equipment or the process **SEPARATION** - Isolation of the hazard by guarding or enclosing it	
4	**ADMINISTRATION** - Providing controls such as training or procedures	
5	**PERSONAL PROTECTIVE EQUIPMENT** - Use of PPE where other controls are not practical	Least Effective

ESTABLISH THE CONSEQUENCE OR SEVERITY & ASSIGN A RATING OF LEVEL 1 TO 5

Consequence	Injury	Property Damage or Process Loss	Environmental Impact (eg hydrocarbon spills)
Level 1 Low	Very low short term injury. Minor injury or report only.	Low financial loss (<$20,000)	Limited damage to minimal area of low significance
Level 2 Minor	Reversible disability or impairment. (eg Disabling and short term lost time injuries)	Medium financial loss ($20,000 - $200,000)	Minor effects on biological or physical environment
Level 3 Moderate	Moderate irreversible disability or impairment (<30%)	High financial loss ($200,000 - $2M)	Moderate short term effects but not affecting eco-system
Level 4 Major	Single fatality and/or severe irreversible disability (>30%)	Major financial loss ($2M - $20M)	Serious medium term environmental effects
Level 5 Critical	Multiple fatality and/or significant irreversible effects to >50 people	Financial loss (>$20M)	Very serious long term environmental impairment of eco-system

ESTABLISH THE PROBABILITY OF THE EVENT OCCURRING ASSOCIATED WITH THE SELECTED EVENT SEVERITY

		Description	Frequency examples
A	Almost Certain	Happens often	More than 1 event per month
B	Likely	Could easily happen	More than 1 event per year
C	Possible	Could happen and has occurred here or elsewhere	1 event per 1 to 10 years
D	Unlikely	Hasn't happened yet but could	1 event per 10 to 100 years (eg within a single mine life)
E	Rare	Conceivable, but only in extreme circumstances	Less than 1 event per 100 years (eg within life of BMA)

BMA Safe Booklet Innovations (for BMA)

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- *The tool aligns with its original intent.*
- *Hazard checklist is based on incident taxonomy.*
- *Defined link to JSA process*
- *Accountability for the person completing the hazard checklist.*
- *Use of injury mechanism language.*
- *repository for 'on the job' risk management tools.*

One BMA & Project Methodology

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- One BMA
  - From a HSEC perspective is about standardisation of processes across the group.
  - Even though a relatively simple project, BMA Safe was the first significant One BMA safety project.
- Project Methodology:
  - It was critical that all project activities were robust, credible and transparent to ensure;
    - Alignment to One BMA guiding principles,
    - Compliance with Legislative and Corporate requirements, and
    - Potential organisational impacts were effectively managed.

Key Project Activities

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- *Strong project team structure;*
  - *Site and contractor representatives (Steering Committee),*
  - *BMA SSE (Project Sponsor),*
  - *BMA OHS Principal (Project Manager).*
  - *Minor stakeholder groups (supply personnel, printing contractor, site HSEC Managers, training personnel).*
- *Thorough data review to define the problem (site tools / processes).*

Key Project Activities

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- *Prototype used 'on the job' during consultation phase.*
- *Site reps performed all site consultation activities.*
- *Early and regular formal and informal project communication*
- *Regular communications to other BMA SSE's by project sponsor.*

Benefits

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- *Realised benefits = elimination of current issues.*
- *Unexpected benefits;*
  - *One BMA is the right strategy.*
  - *Belief in One BMA projects.*
  - *'Thin end of the wedge' for next HSEC projects;*
    - *One BMA Job Step Analysis Process, and,*
    - *One BMA Facilitated Risk Assessment Process.*
  - *Challenged thinking of 'ours is best' and 'it can't be done'.*
  - *Allowed site representatives to contribute to a strategic safety project.*
  - *Sites owned deliverables.*
  - *Safety Advisor Relationships.*

Key Learning's:

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- *Change management: evolving process, requires regular review.*
- *Early involvement of printing organisation ↓ time and effort.*
- *Feedback – single point of accountability, feedback template.*
- *Use of prototype and tool feedback = informal project communication.*

Key Learning's:

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- *"It may be different but it won't be wrong"*
- *Using the final product during consultation focuses feedback.*
- *Be willing to concede on deliverable design to obtain final approval.*
- *Powerful question - 'Is this issue a show stopper?'*
- *Line management sponsor is critical for success.*

Thank You

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- *Further information* *Christian.Young@bmacoal.com*
- *Copies of booklet.*