Submission to Victorian Government on Proposed Amendments to the Implementation Guidelines to the Victorian Code of Practice for the Building and Construction Industry

April 2014

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INTRODUCTION

The Australian Constructors Association (ACA) welcomes the opportunity to respond to the Victorian Construction Code Compliance Unit invitation for public consultation on proposed drug and alcohol and site security amendments to the Implementation Guidelines to the Victorian Code of Practice for the Building and Construction Industry.

The ACA and its members are committed to working with Australian governments and industry stakeholders to ensure that workplace health and safety remains at the forefront of focus for industry operations, and is enhanced through an ongoing process of review and improvement.

However, as an overarching concept, the ACA submits that whatever proposals are ultimately adopted, the outcome should not result in any of the following:

- Administrative inefficiencies or confusion.
- Additional red tape.
- Additional cost to contractors or clients.
- Potential for contractors to be excluded from tendering for what may be regarded as minor non-compliance issues.

AUSTRALIAN CONSTRUCTORS ASSOCIATION

The ACA represents the nation's leading construction contracting organisations. A list of ACA members is attached (Annexure A). The ACA is dedicated to making the construction industry safer, more efficient, more competitive and better able to contribute to the development of Australia**.**

ACA member companies operate in a number of market sectors including:

- **Engineering construction incorporating public and private sector infrastructure**
- **Commercial and residential building**
- **Contract mining**
- **Oil and gas operations**
- **Process engineering**
- **Telecommunications services**
- **Environmental services**
- **Maintenance and related services**

Association members operate globally, with member companies operating in Australasia, Europe, Asia, North and South America, Africa and the Middle East. Collectively ACA member companies have a combined annual revenue in excess of $50 billion and employ over 100,000 people in their Australian and international operations.

The ACA has four (4) key objectives:-

1. **To require the highest standards of skill, integrity and responsibility of member companies.**
2. **To represent the interests of major contractors to government and other decision makers.**
3. **To enhance and promote the status of construction contractors and the industry which they serve.**
4. **To facilitate the exchange of technical information and encourage further research.**

ACA RESPONSE TO GENERAL ISSUES

Legislate or Regulate

The initial issue that needs to be resolved relates to whether the Victorian Government intends to implement the amendments to the Guidelines by underpinning them by legislative or regulatory action (ie amendment of a relevant Act or implementation by way of regulation).

ACA submits that it may be useful to amend current workplace health and safety regulations to provide a core legal basis to support the amended Guidelines. This would provide greater certainty for industry and potentially avoid legal or other action to overturn or circumvent the proposals.

As part of this approach, ACA is concerned as to the potential for contractors to develop policies based on a minimum requirement acceptable to the CCCU but which may subsequently be regarded by WorkSafe Victoria as being inadequate in terms of responsibilities under OHS legislation. It would be unhelpful for contractors to have to meet two sets of requirements.

Public v Privately Funded Projects

A further issue that contractors may need to address arises where private sector clients determine that a contractor's compliance with standards acceptable for CCCU purposes may be inadequate for private sector clients.

There is also risk of the alternative occurring i.e. contractors implementing policies based on the minimum requirements may then fail to properly identify those projects or situations that warrant a higher level approach. In these circumstances, ACA can see the potential for confusion and misinterpretation as to the appropriateness of the different options available.

SITE SECURITY

Site Security- General

In the view of ACA members, all projects, irrespective of their nature and size, need to have appropriate site security measures in place. However, the nature and extent of site security measures and related infrastructure are dependent on the nature and footprint of the project and not necessarily the value of the project.

By way of example, traditional building projects will generally have a relatively concise, well defined and generally unchanging footprint. In these circumstances, measures such as permanent fencing and hoardings, access and egress points, card readers, CCTV and other security infrastructure is essentially a one-off cost.

On the other hand, a project with a more civil nature will have a much larger footprint, sometimes not clearly defined, but certainly one that changes regularly as work progresses. Here, site security is an ongoing cost based on the regularly changing nature of the project. By way of example, on large road or rail projects there will be a significant amount of fencing and gates, and many may not have appropriate or easy access to services.

Location of the project is also a factor. High rise or large projects in the central business districts of major cities have specific site security issues that may not apply to road or rail projects in remote locations. Each project must also be assessed against a range of risks and security measures implemented on the basis of that assessment.

Site Security Question 1 – What is a reasonable project value threshold for the introduction of increased site security requirements?

ACA submits that there should not be any minimum project value threshold on the basis that each project needs to be considered on its merits and security requirements may vary during the course of specific projects based on assessed risk from time to time.

ACA suggests that one approach to addressing the issue may be for the CCCU to produce a construction site security guide that industry may use to assist it to develop individual site security management plans. The CCCU could then achieve its intended purpose through the following:

- Analysing the site security management plan against the published guide.
- Audit implementation of the plan from project to project.

While the ACA does not specifically endorse it, the CCCU may wish to consider examining the British Security Industry Association January 2012 Construction Site Security Guide (Annexure B) as a possible template for adoption/adaptation in Victoria.

Site Security Question 2 - Do you have a view as to the best way to improve site security?

ACA submits that site security is an ongoing responsibility for a contractor and related stakeholders who must respond appropriately and expeditiously to security risk issues as they arise or are identified and upscaled as a result of threat assessment.

ACA considers that appropriate and ongoing monitoring of security issues by contractors pursuant to a site security management plan coupled with an appropriate audit function by the CCCU is the most appropriate means of improving site security.

As part of this process, there also needs to be in place an arrangement for the flow of intelligence and other information between the regulator and contractors to support site security to enable the relevant parties to act as and when necessary.

DRUGS AND ALCOHOL

Drugs and Alcohol – General

The ACA notes that in October 2009, WorkSafe Victoria issued a handbook for the earth resources industry titled "Management of alcohol and drugs in mines" (Annexure C), and that responsibility for the issue arises from regulations under the Occupational Health and Safety Act 2004.

Industry needs certainty to avoid confusing and costly outcomes for all concerned. At present, industry is governed by WorkSafe Victoria and the relevant Victorian safety legislation that already imposes responsibilities in areas such as drugs and alcohol.

There are no minimum standards governing the responsibility of contractors pursuant to current Victorian OHS legislation. Accordingly, imposing minimum standards for drug and alcohol testing etc. for Victorian government worksites may only lead to confusion and disputation if compliance with those standards is regarded adversely by WorkSafe Victoria or through the courts pursuant to legal proceedings.

A further issue of complexity may arise from issues relating to the development or interpretation of enterprise agreements, contracts of employment and company policies that may operate against full implementation of standards.

ACA is also concerned that the setting of minimum standards may also lead to on-site issues and argument as to what is or is not appropriate and this is to be avoided at all costs as it could seriously affect productivity on worksites or cost substantial moneys in time lost through delays.

In the circumstances, ACA would prefer the following regime:

- Responsibility for drug and alcohol issues to be governed by the OHS legislation and regulations.
- Drug and alcohol issues should be the subject of regulations establishing appropriate legal basis.
- If no legislative backing for the proposal, there should not be any minimum standards established but, instead, CCCU could monitor the development and implementation of policies and practices and audit implementation as and when considered appropriate.

Drug and Alcohol Questions

As the ACA is of the view that there should not be any minimum standards set for the implementation of drug and alcohol policies, it is not considered necessary for ACA to respond to the individual questions. However, ACA does make the following observations that may be of assistance:

- It is considered that drug and alcohol testing should be seen as one limb of a fitness for work program as there are potentially many other factors that need to be considered when assessing action relating to drug and alcohol testing i.e. it should not operate as a standalone process.
- The options, timing and methodology for implementing drug and alcohol testing are many and varied and would be implemented having regard to a range of known or suspected circumstances. Accordingly, it could be counterproductive to adopt minimum standards under a potentially one size fits all approach.
- Minimum standards have the potential to "dumb down" the process of assessment of individuals and circumstances so that the process merely becomes driven by

statistical outcomes rather than human factors. Drug and alcohol testing should thus be implemented or available on a random basis for cause (following an incident) or for concern based on observable or other factors or knowledge regarding the particular person.

- Drug testing is considerably more expensive than alcohol testing and is considerably more onerous. Setting minimum standards may result in significant cost implications for no apparent benefit if the relevant persons are not targeted.
- What is needed in the industry is a cultural change on worksites and a proper recognition of the problems of drugs and alcohol impaired persons on worksites. The Government should work with industry to develop educational and other programs to facilitate cultural change.

IMPLEMENTATION ISSUES

The ACA is concerned that adequate consideration is given as to the timing of the commencement of the proposed changes to the Guidelines and relevant transitional issues.

There may be some contractors currently undertaking work on Victorian Government projects where they may not have site security or drug and alcohol plans that would meet the expectations of the Government pursuant to the proposed policy changes. These organisations should not be penalised should they be unable, for legal or operational purposes, to meet the Government's proposed changes by the date determined for commencement of the new arrangements.

A further issue relates to those contractors that are currently bound by contractual or other reasons (eg enterprise bargaining agreements) that may be difficult, if not impossible, to change at this time. Some leeway should be provided to enable these entities to adjust their position at the appropriate time.

A third category relates to those entities that have lodged tenders on Government contracts but the tenders have not yet been awarded or work has not commenced (or may not commence until after the commencement date). These entities need to be able to continue with their current positions as otherwise there may be significant financial cost and disruption if they are required to adjust their operational positions on those contracts.

Accordingly, the amended Guidelines or other processes should only apply from the relevant commencement date to those projects that are advertised for tender at any time following the commencement date.

Lastly, consideration needs to be given to the impact that the proposals may have on contractors operating across jurisdictions and subject to differing legal and administrative requirements. It would be preferable if the Victorian proposals could be the subject of consultation and feedback from interstate jurisdictions so that industry is able to assess how it ought to address its responsibilities in those jurisdictions.

CONCLUSION

The ACA assessment of the issues suggests that the following approach may be the most effective in achieving the policy objectives of the Victorian Government:

1. Implement the policy based on regulations pursuant to the Occupational Health and Safety Act 2004.
2. Do not set minimum standards for site security or drug and alcohol issues.

3. CCCU/WorkSafe to develop and issue handbooks/guides for construction site security and drugs and alcohol to assist industry to develop appropriate policies and procedures.
4. Ensure that site security and drug and alcohol issues all fall under safety management plans of contractors.
5. Require contractors to have developed policies and procedures that will meet their responsibilities under OHS requirements as a condition of contracting for government work.
6. Implement an audit program to ensure that contractors are able to demonstrate their ongoing compliance and implementation of relevant policies.
7. Work with industry to develop cultural change in the attitudes of people at worksites.
8. Appropriate transitional provisions should be implemented to ensure that the commencement of amended Guidelines does not financially or otherwise adversely affect those contractors operating under existing contracts or related processes.

April 2014

Annexure A

MEMBERS OF AUSTRALIAN CONSTRUCTORS ASSOCIATION

BGC Contracting Pty Ltd

Brookfield Multiplex Australasia Pty Ltd

CH2M Hill Australia Pty Ltd

Clough Limited

Downer EDI Limited

Fulton Hogan Construction Pty Ltd

Georgiou Group Pty Ltd

John Holland Group Pty Limited

Laing O'Rourke Australia Construction Pty Ltd

Leighton Holdings Limited

Leighton Contractors Pty Ltd

McConnell Dowell Corporation Limited

Lend Lease Building Pty Ltd

Lend Lease Construction and Infrastructure Pty Ltd

Lend Lease Engineering Pty Ltd

Thiess Pty Ltd

UGL Limited

Watpac Limited

Annexure B

bsia
british security industry association

construction site security
– a guide

January 2012

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Introduction

Construction sites are easy targets for the opportunist thief; the high value of plant and equipment can lead to quick and easy profit for the successful thief. Depending on locality, each site will have its own issues of concern. Construction sites are subject to a number of threats, against which security should be applied by the site operator. These include theft, vandalism and deliberate damage and terrorism.

Theft is common. The high value of construction plant and materials and the nature of a construction site, with its constant change and movement make this crime tempting for the opportunistic, as well as the carefully planned crime.

Vandalism is also common and may occur as a result of political or commercial concerns on the part of the perpetrators as well of mindless lust for damage and destruction.

Terrorism is potentially an issue as well; not only is there a threat of politically-motivated attacks on construction sites to delay or prevent construction; there is also a risk of terrorist pre-positioning of devices or materiel to allow or perform destructive acts after completion of construction.

Building and construction sites provide a security challenge due to their constant change; both physically in the value and accessibility of the property they contain, and the frequent access needed by a wide variety of outside contractors.

This guide is intended to provide a recommended approach to security to be taken by site operators both before and during construction and during the handover of the construction site to the eventual site operator, landlord or owner.

As every construction site will differ in terms of scale, location, duration of work and the security risks it is not possible for a single guide to cover all possibilities. The approach of this guide is to describe the techniques of threat assessment and risk analysis. The general principles of risk mitigation are then described before some practical examples are given.

1. Scope

These guidelines are designed to provide site managers and operators with an overview of the common considerations of risk assessments and security measures to be taken into account on construction sites. It is not intended to be a detailed manual, but should be used to help frame thinking about security and to outline the process to follow in preparing risk assessments and the necessary mitigation measures to be taken. In general, it is assumed that managers and operators will either have internal specialist resource to assist in the development of a security plan or will retain a security consultant to assist in this development. It is also assumed that the security operational package will be delivered by a commercially-procured third-party.

2. Terms, definitions and abbreviations

2.1 Definitions

2.1.1 Event

Occurrence or a change in a particular set of circumstances.

2.1.2 Guard Force

The term guard force in this document refers to the people with the responsibility for protecting the site. On a larger site this may be a permanent contingent of guards. On smaller sites this might be a guard patrol or an individual with responsibility for security among other responsibilities.

2.1.3 Hazard

An event with negative consequences, brought about through natural, environmental or non-malicious human intent (e.g. flooding).

2.1.4 Impact

The outcome of an event that affects objectives. In the context of this guide an impact is something that will prevent or hinder the operation of the construction site. (Also known as a consequence).

2.1.5 Raw Risk

The risk as assessed before mitigation.

2.1.6 Residual Risk

The risk as assessed after mitigation.

2.1.7 Risk

A threat or hazard assessed for likelihood and impact.

2.1.8 Risk Appetite

'The amount of risk that an organisation is prepared to accept, tolerate, or be exposed to at any point in time.'
NOTE: This definition is taken from The Orange Book: Management of Risk – Principles and Concepts, HM Treasury, 2004.

2.1.9 Threat

An event with negative consequences, brought about through malicious human intent (e.g. arson).

2.2 Abbreviations

ACS Access Control System
CCTV Closed-Circuit Television
CTSA Counter Terrorism Security Advisor
IDS Intruder Detection System

3. Threat assessment and risk analysis

3.1 Introduction

Fundamental to security is the concept of **risk**. The definition of risk used throughout this guide is:
"A **threat** or **hazard** assessed for likelihood and impact"

A **threat** is defined throughout this guide as:
"An event with negative consequences, brought about through malicious human intent"

A **hazard** is defined throughout this guide as:
"An event with negative consequences, brought about through natural, environmental or non-malicious human intent"

The risks that may affect a construction site can change rapidly during the construction process and it is important to regularly re-assess the situation. For example preventing travellers from occupying an area of land may be important prior to construction but after building commences theft of materials may be more likely. To make it easier to maintain an awareness of the risks it is recommended that a register be created. The register will contain a list of all of the perceived threats and hazards and details of the actions taken with regard to each. Registers can have many forms, for example a spreadsheet or a folder with a separate page for each threat. It is important to separate the contents into two identifiable parts (although they could be on the same page):

Raw Risk Register (see 3.2)	A catalogue of the risks identified as being of concern, together with an assessment of their likelihood and impact before they have been addressed. This information forms the input to the analysis. For each risk a "Risk Appetite" is decided and then measures determined to mitigate the risk so that it is below the level of acceptable risk appetite.
Residual Risk Register (see 4.3)	Details how the measures to mitigate the risks have reduced the perceived level of risk (hopefully below the "risk appetite"). This forms the output of the analysis.

The method for completing the registers is described in more detail below.

Both registers are living documents and the process of risk assessment and mitigation is iterative, i.e. it continues constantly through the life of the project. Not only can the risks change but also the risk appetite and the available methods of mitigation. When a risk is re-assessed reference can be made to the information in the register to reduce the work required.

3.2 Raw Risk Register

3.2.1 Threat and Hazard Assessment

A useful method of threat assessment is to categorise threats and hazards by type. Hazard assessment will often include health and safety aspects, as well as contingency planning, especially where extreme weather, accident or other 'accidental' or environmental events are concerned. Nonetheless, hazard-derived risks should be included in the site risk register and their mitigation recorded just as with threat-derived risks.
Generally, threats and hazards fall into these categories:

- Threats to life
- Threats to property and assets
- Threats to operations

This categorisation may be helpful when first considering the range of threat and hazard to which a site or development may be subject.

Typical threats for a construction site

Threats that may be considered typical will vary according to the type and location of the site. The following are suggestions but each site will be individual.

- Theft of plant
- Theft of fuel
- Theft of materials from the site
- Vandalism
- Arson
- Breaches of security into existing buildings
- Robbery or attacks on the construction workers
- Reconnaissance of development to discover details of completed building
- Bombs (perhaps planted for detonation after completion)
- Intruders intent on committing suicide
- Protesters (either related to the site activity or simply for publicity)

Whilst considering threats the risk assessment should take into account hazards. In part this is because the methods of mitigation (see below) may help for both threats and hazards. The following hazards are typical:

- Flooding, storm damage, etc
- Landslide, earthquake, etc
- Project issues (Staff injury, Failure of supplier's business, Finance, etc)

3.2.2 Risk Analysis

As noted above, risks are threats or hazards, analysed by likelihood and impact. For assessment purposes, a number of methods may be employed to 'score' these; generally, it is suggested that a simple traffic light system (Red-Amber-Green) may be best used, as numeric scores give a false impression of precision. Whichever means is used, the risk score is the product of **likelihood** x **impact**.

It is important to bear in mind that impact may take various forms – some impacts are straightforward and are defined by danger to life or property, others are less tangible and may involve reputational impact which might, for example, reduce shareholder value in a company or damage reputation sufficiently to impact the winning of new business.

For example, a given threat – perhaps opportunistic pilferage from site – will be assessed. The likelihood is quite high (bearing in mind that this initial assessment will be conducted on the basis of things as they are at the time, not as they will be after mitigation), but the impact is relatively low. Using rough numeric values, a high likelihood is 5, a low impact is 1 – the risk score is thus 5 x 1 = 5. Referencing the table below, it can be seen that the resultant raw risk is Amber. Note here that the precise numbers used will vary according to the risk appetite (see below) of the assessor. Also note that likelihood is often conditioned by local circumstances and demography, as well as relative attractiveness of target assets to criminals or other malicious elements.

Risk Score	Categorisation	Notes
0-1	White	No significant risk
2-4	Green	Low risk – **may** be mitigated
5-10	Amber	Medium risk – **should** be mitigated
10+	Red	High risk – **must** be mitigated

3.3 Example Raw Risk

If we consider the threat of theft of fuel then the details in the raw risk register could appear as follows (the actual details will be specific and different for each site).

Raw Risk Register (Sample extract)		
Risk	Theft of fuel	
Owner	Site manager	
Description	Fuel used for vehicles and generators is a desirable commodity for thieves as it is not easily traced and is of relatively high value. During and following theft of the fuel it is likely that fuel will be spilled causing environmental damage with associated clean up costs. Loss of fuel may prevent operation of machinery causing delays. Damage to fuel tanks will be costly to fix.	
Likelihood	Very high (5/5)	
Impact	High (4/5)	
Raw risk		= Likelihood x Impact, 5 x 4 = 20. High Raw Risk (must be mitigated)

3.4 Risk Appetite

A key concept to understand is that of risk appetite. A site operator or manager must understand the extent to which he is comfortable with carrying risk – i.e. to what extent he is prepared to commit resource to mitigate risk and what level of risk he considers acceptable. Without this understanding and without tying the risk register and risk rating to risk appetite, risk assessment, analysis and management will become an empty exercise.

Continuing our example of fuel theft we may consider that the risk appetite is rated at perhaps 5 (out of 25). It would be wrong to assume that the risk appetite is going to be zero. Achieving a zero residual risk normally involves a high cost in terms of security measures that might be more costly than suffering the loss.

4. Mitigation

4.1 Introduction

Once raw risks are assessed and categorised in order of severity in the raw risk register, mitigation should be applied. Broadly, mitigation may take three forms:

- Ignore / Accept
- Export / Transfer
- Address

Ignoring a risk is sometimes appropriate, where the cost (in terms of financial or resource exposure) of any mitigation exceeds the impact of the event which defines the risk. Risks should only be ignored, however, after careful analysis of mitigation cost and impact. Ignoring a risk means that no action is taken to counter it but does not mean it is forgotten. Such risks should still be reviewed in case the situation has changed.

Exporting a risk can be performed through insurance or contracting of a third party to deliver mitigation. While this is entirely sensible, for example, where this can be done for the expenditure of less resource than if directly mitigated by the operator or manager, it is important to remember that this does not export responsibility for, or ownership of, the risk, but merely for its management. This presents a risk in itself, in that management of the risk falls mainly outside of the control of the operator or manager.

Addressing a risk is the application of mitigation measures directly by the operator or manager. Generally, this will involve the application of people, processes or technology to an issue to reduce the impact or the likelihood (or, ideally, both) of a risk, in order to bring its rating down to below the operator or manager's risk appetite. This document necessarily concentrates on direct addressing of the risk.

Using the numeric risk analysis method briefly described above, if we consider a raw risk with a likelihood of 4 and an impact of 3 then we have a risk score of 12. Let us assume that a risk appetite of 4 is accepted. This means that to address the risk mitigation measures should be put in place so that either the likelihood is reduced from 4 to 1, the impact is reduced from 3 to 1, or a combination of mitigation reduces both to at most 2. The risk after mitigation is the residual risk.

Whilst it may be possible to reduce the risk to a very low level ("zero risk"). The cost of doing so may be higher than the impact or the method of mitigation could itself have an unacceptably negative impact on the operation. This is a possibility that should always be considered and included in any assessment.

It is impractical to protect a construction site against every conceivable threat. The strategy used should be based on an assessment of the risk of each form of threat considered against the relative costs of protection (i.e. the mitigation).

On some sites of critical national importance it may be necessary to identify everybody entering the site and to carry out searches. This may also apply for health and safety reasons or for working in dangerous environments such as tunnels.

4.2 Mitigation Strategies

Mitigation strategies selected may include the following:

- Restriction of access to site
- Surveillance of persons on site
- Protection of site assets
- Site safety provisions
- Provision for controlled and monitored site evacuation
- Liaison with police, local authorities and other stakeholders

Generally, a construction site will have some, or all of these measures applied. Particular characteristics of greenfield and brownfield sites will have an influence on which, and how, measures are applied.

Greenfield (new build) sites will give the operator or manager maximum flexibility in deployment of both physical and operational measures to mitigate risk. The site can be laid out and designed in such a way as to maximise advantage from, say, perimeter fencing, or surveillance and thus provide good security at minimum cost.

Brownfield (redevelopment) sites will often constrain the operator or manager either to compromise site security through unchangeable elements of the site layout or devote relatively more resource, in terms of physical barriers or operational measures, to provide appropriate security than would be the case in a greenfield site.

In either event, it is important that the risk mitigation plan be designed in close cooperation with the site manager or other entity responsible for site planning and operation and that both sides remain in dialogue in order to ensure maximum value is obtained from the sometimes significant resource investment required. It should always be borne in mind by the security planner that the aim of the exercise is to allow the operation of a construction site and that security measures should, as far as possible, support this.

4.3 Residual Risk Register

As previously described, the information about the assessed risk following mitigation, the "residual risk", should be recorded in a Residual Risk Register. This facilitates the updating of the risk analysis following changes in circumstance.

4.4 Example Residual Risk

If we continue the consideration of the threat of theft of fuel then the details in the residual risk register could appear as follows (the actual details will be specific and different for each site).

Residual Risk Register (Sample extract)		
Risk	Theft of fuel	
Mitigation measures	1. Restriction of access to site (as part of general measures). 2. Addition of surveillance and on site guards (as part of general measures). 3. Reducing the amount of fuel stored on site. 4. Parking and fuelling of vehicles in a more secure location off site where possible. 5. Remaining fuel storage in a secure compound.	
Residual likelihood	Low (1/5) The overall effect of the measures should significantly reduce the likelihood,	
Residual impact	Medium (3/5) Impact is less because quantity of fuel on site is reduced.	
Residual risk		= Likelihood x Impact, 1 x 3 = 3. Low Residual Risk

The residual risk is now within the agreed risk appetite (4/25) but as noted the risks can change. For example at some point in time the secure compound around the fuel store may have to be removed and use temporarily made of a fuel bowser thereby significantly increasing the likelihood of theft.

5. General principles of mitigation

5.1 Deterrence, Detection, Delay and Response

Successful crime prevention strategies should aim to reduce the risk to the construction site by increasing the risk to the thief or other criminal. The types and level of security and protection used should be determined by the results of the risk assessment. Consideration should be given to the use of the site and the level of security should reflect the time when the site is most at risk.

A simple piece of advice is to not to place all hope in a single solution. Security provisions should be used in combination to achieve four things: Deterrence, Detection, Delay and Response. In many cases a solution will contribute to more than one of these. For example, a strong fence will deter a burglar and also cause a delay gaining entry.

Deterrence

Deterrence takes many forms. A ramshackle site will appear easier to break into and may imply less protection. Alternatively the fitting of solid fencing, high quality locks, intruder alarms, CCTV and signs advertising guard patrols shows a potential thief that the owner takes the issue of security seriously and may make them go elsewhere.

Detection

Detection is the identification of the presence of a threat such as a burglar. Identification is used in two senses. There is the immediate identification to alert those affected by the threat or request response by protectors (e.g.

the police) and there is also the use after an event to identify criminals. The latter does not just mean CCTV. Detection can include monitoring of visitors to ensure only authorised people are on site.

Delay

One view is that no barrier is impenetrable if an attacker is determined enough to break it. The measure should therefore be in terms of the delay provided. The fitting of an intruder alarm will detect a crime but will not prevent theft unless sufficient delay can be caused to slow the action of a burglar. Any delay during the committing of crime increases the danger to a criminal that they will be caught and therefore acts as a deterrent to completion of the crime. It is not just whether a solution can be defeated that should be taken into account but how long it takes to defeat and what effort is required.

Response

If a criminal is not completely deterred then at some point a form of response is required. Response could be actions of a security guard or the arrival of police. To determine the security provisions the form of response must be known. If it is going to take fifteen minutes for guards or police to arrive then the delay provided should match this.

5.2 Layered Security

The principle of layered security is basically not "putting all your eggs in one basket". The idea is to spread the security features in an appropriate way. This means starting with the property boundary and considering each possible feature on the route to the most secure location. For example returning mechanical plant to a central compound means that a shorter length of more expensive fencing can protect it.

Security can be compared to the layers of an onion made up of a series of physical security measures, starting with a perimeter fence or barrier with controlled entry points. Each layer may be used in combination with electronic detection systems. This means that, after overcoming one layer, detection methods can prompt for a response to arrive while the next layer delays the criminal.

6. Securing the site

This section covers specific measures which may be applied to secure a construction site. The bulk of the approach used covers crime, whether opportunistic or planned, as these measures will also mitigate against 'routine' terrorist risks, invasion of the site by protestors or the need to exclude those intent on suicide.

Where the risk of terrorist attack is considered significant (for example, where the facility under construction is likely to be a terrorist target, or one of the commercial entities participating in the project is itself a terrorist target), operators and managers will have been made aware of this and police and other external stakeholders will take a proactive approach to supporting the site security operation, probably through the local police Counter Terrorism Security Advisor (CTSA). It is good practice to consult the local CTSA in any case and it is recommended that security planners at least make courtesy contact with these (through the responsible local Police area) when planning is complete.

6.1 General Guidance

Security is applied through the application of physical and operational measures. Physical measures are infrastructure designed and deployed to support security; operational measures are those human activities and processes designed and performed to support security.

6.2 Physical Measures

These fall generally into the following fields:

- Containment and Obstacles (fences, barriers, bollards, gates, secure storage etc)
- Technical Systems (lighting, CCTV, access control systems, intruder detection, asset management and control systems etc)

6.2.1 Containment

Containment is applied to the perimeter of construction sites, to delineate the area under control, prevent accidents to non-site personnel and to deny access to unauthorised personnel. Dependent upon circumstances and requirement, actual perimeter design may take any number of forms, although it is recommended that part of the mitigation strategy development include definition of required containment. Appropriate standards with which suppliers should be invited to comply will be found below.

Gates and other perimeter openings should also be designed in such a way as to permit control – and blocking – of inbound and outbound foot and vehicular traffic. By virtue of their nature, construction sites see many vehicle movements in and out and each movement represents a discrete threat. It is recommended that busy/high value sites consider protection of vehicular interfaces through the perimeter with deployable traffic control measures such as gates or mobile bollards (a list of appropriate standards can be found later in this guide).

High-value assets are necessarily often left on site when the site is unmanned or partially manned. Consideration should be given to secure storage for high-value tools and equipment and for control and secure parking of high-value plant. It may be appropriate to establish contained and secured parking areas (where space and resource permits) for such items of high-value plant.

Procedural issues for construction sites

Providing the containment for a site is a first step to improving security but it is important to ensure that the workers on site realise the importance of returning plant and materials to the secure areas. Always ensure that keys for vehicles are not left in them and are secured properly when not in use.

6.2.2 Technical Systems

Technical Systems, where deployed, should be properly integrated in the overall security plan. Surveillance systems (i.e. CCTV) can have a deterrent effect and can be used to good effect for forensic purposes and for monitoring of the site for health and safety purposes. When used with a suitable, planned response capability surveillance systems can provide good mitigation of many security risks. It is important to note that, when procuring systems for deployment on a construction site, the requirement for physical robustness and resistance to dust and water ingress is extremely important.

Surveillance systems also require lighting to be effective – and lighting also has a key role to play in supporting security operations (see below) and site health and safety. Lighting should eliminate impenetrable shadow at key locations and consideration should also be given to the need to minimise light pollution, possibly through focusing of lighting downwards and inwards into the site or development – and to the need to limit excess energy expenditure. Use of photo-electric activation, which allows lighting to remain inactive when ambient light levels are at an acceptable level, should be considered.

Access control systems (ACS), where deployed, using database-driven identity management and token-based access, allow not just control of access, but also up-to-date and accurate accounting for personnel on site. This greatly aids health and safety. There is an administrative overhead on management of these systems and the requirements for robustness above apply equally to them, but the cost-benefit ratio is usually sufficiently compelling for a larger site to elect deployment.

Intrusion Detection Systems (IDS) have a role to play in the control of perimeter segments or areas of sensitivity not covered routinely by other surveillance, whether electronic or other.

Alarm Systems take the form of covert alarms, which are designed to alert the security staff of breaches and allow them to take reactive measures and overt alarms, which may be used to signal to site occupants, notably for evacuation purposes.

Communications Systems take in both fixed (telephony) and mobile (radio, cellular) communications systems. On larger sites, it is assumed that the guard force will have use of its own dedicated security communications systems.

All infrastructure (network cabling, switching, power supply, antennae etc) deployed to support technical systems should be protected in its own right from damage, whether applied through environment, vandalism or deliberate attack. Vital infrastructure should be securely contained and access limited to authorised personnel only and consideration should be given to protecting cable runs and cable containment systems similarly. All equipment deployed on a construction site should be robust, weather- and temperature-resistant and be capable of continued operation under challenging environmental conditions. It should be noted that this protection should also extend to protection of security-related IT systems and their connecting networks and that best practice IT security measures and associated policies must be applied to these. In addition, it is necessary that the systems operator also ensure that Data Protection Act and Computer Misuse Act protection is in place through technology and policy. This must be explicitly demonstrated to the site operator or manager before final introduction into service of these systems.

Technical Systems on Construction Sites

The temporary nature of construction sites including issues such as lack of continuous mains electricity and constant movement of cables and supports should be considered. Battery powered devices are available and the use of wire-less equipment can alleviate some cabling issues. Wire-less systems can also be quicker to deploy and easier to move as the site develops. Care is needed to ensure detectors and CCTV views are not blocked by stored materials (either accidentally or as part of a deliberate action).

Equipment on construction sites is also subject to all environmental elements and the likelihood of damage from the normal activities on site.

6.3 Operational Measures

These fall generally into the following categories:

- Guarding Activities
- Policy and Process

6.3.1 Guarding Activities

These are the actions performed by the guard force (typically provided by a third party under contract to the site operator or manager). They typically include patrolling, static guarding, in- and out-processing of personnel and vehicles, management and operation of technical systems, generation of response to incidents and issues and liaison with the site operator or manager.

It is clearly important that the guard force is thoroughly trained and qualified to operate all equipment and perform its duties. It is equally important that the site operator or manager makes appropriate arrangements for the management of the provision of the guard force and that regular liaison is undertaken to ensure consistency of standards and quality of performance, measured against the service level agreement which will underpin the guard force service contract.

Where the guard force is not directly employed by the site operator, it is the obligation of the security guard force provider to ensure that all guarding staff deployed on site hold a current Security Industry Authority (SIA) licence to meet the legal requirements set down under the Private Security Industry Act for employment in the private security industry. The site operator should also be aware that it is illegal to employ a contract guarding service whose security guards do not hold SIA licences. The contracted guard force will carry out their duties in line with the current British Standards for security guarding and any other criteria required under the contract with the site operator or manager.

6.3.2 Policy and Process

All security operations on site should be performed in accordance with the Site Security Policy, which should be owned by the site manager or operator and which will support a number of processes. These processes should be developed by the guard force operator in agreement with the manager and operator and should underpin the Site Security Policy. These processes should be managed, monitored and their performance measured and form part of the service level agreement above.

The Site Security Policy should explicitly state the requirements of site security and the means and extent of its enforcement. It should define, for example, the classes of person to be granted access, the requirements for gaining site access (such as agreement to exit searches, for example), the powers of the guard force and all other requirements for security. A clear condition for site access must be explicit acceptance of the Site Security Policy and persons not accepting it should be denied access.

The Site Security Policy should also cover the obligations and responsibilities of personnel employed on or visiting the site. This should include traffic circulation, responsibility for reporting safety or security breaches and the requirement to cooperate with the guard force.

7. Case Study

A large construction company had taken what it thought to be adequate security measures for a school construction site in that it was totally enclosed by a close-board fence, access was through turnstiles for workers and an air-lock for vehicles, they had installed remotely monitored (but not recorded) CCTV and there was a manned guarding presence 24/7.

The site had a history of sporadic unauthorised access by young people. However, during a weekend of the spring half-term several young people gained access to the site and caused tens of thousands of pounds worth of damage to the fabric of the building. When challenged by the security guards, they subjected the guards to verbal abuse and threw bricks and scaffolding poles at them.

The same thing happened on the following weekend. The police were called, and whilst good descriptions of the offenders were provided, no arrests were made.

A BSIA Security Consultancies Section member company was asked to provide advice and guidance. They recommended that a "Security Partnership" be formed with the school, local police and the construction company, to help educate young people on the dangers of construction sites. The CCTV cover was adjusted and included image capture to "identification" standards, which was then used by the school and police to identify the culprits. Better lighting was installed and the manned guarding contract was changed to include dog-handling duties.

The incidence of unauthorised access to the construction site by young people was significantly reduced.

8. Practical suggestions for addressing risks

8.1 Introduction

This section outlines a number of practical suggestions that could be employed as methods of risk mitigation. This list is not exhaustive and not every suggestion will be practicable in all cases. It is recommended that site managers make use of consultants to give expert advice about security measures and solutions. Independent consultants, i.e. those not promoting their own products or services, will give the best advice. Whilst security measures can sometimes be seen as an expensive grudge purchase the use of a consultant with knowledge of construction site operation can prevent wasteful and unnecessary purchases and can lead to overall cost savings.

8.2 Site Access

Apart from the desire to ensure that criminals do not enter a site, there exists under The Construction (Design and Management) Regulations, 2007, a duty for the principal contractor to "take reasonable steps to prevent access by unauthorised persons to the construction site".

One action is to minimise number of vehicles on site. By ensuring that only authorised vehicles are on site it makes it more obvious when other vehicles are present. Even users of authorised vehicles may be criminals, as may be those working on site. If possible construction workers should park off-site and enter on foot. Ensuring that all deliveries are scheduled in advance and access by delivery vehicles logged the amount of vehicular access can be minimised.

Minimising the number of entrances and the use of full-height turnstiles can restrict workers and others entering a site on foot. Entrance can be controlled by guards or electronic access control measures which can use PIN codes, magnetic cards, proximity tokens, biometric devices or a combination of these.

8.2.1 Boundary hoardings

Where appropriate, perimeter hoardings should be installed to protect the peripheral space around the construction site or building. Flat sided hoardings are considered better than fences because they are more difficult to climb and prevent viewing of the site interior. It is recommended that hoardings or fences should be a minimum height of 2.4m and high security fences at least 3m.

Where fences are used the type selected should not help climbers by offereing hand and foot holds.
Avoid temporary fencing where possible.

Angled extensions ('Fans') on top of hoardings make climbing difficult and can reduce problems with material (including litter) being thrown over the hoarding and potentially damaging materials or injuring site workers Intruders may also attempt to burrow under a boundary. Placing hoardings along existing concrete surfaces can deter against this.

Viewing windows in hoardings have advantages and disadvantages. On the positive side they allow curious people to see the site without trying to climb hoardings. It also means that criminals can be spotted by passers-by or patrols. If the visible area has nothing to attract criminals then it acts as a deterrent to crime. As a negative they allow criminals to view the interior and observe site contents and plan attacks.

Bear in mind that intruders could stand on top of vehicles or other objects (e.g. waste bins) to gain access. If anti-climb features (e.g spikes, barb wire, etc) are fitted then the lower the fence the more likely that the owner will be required to take further action (such as provision of signs) or they will be breaking the law. Your attention is drawn to the Occupiers Liability Act 1984.

For long-term construction projects with a relatively fixed boundary and high risk of intrusion it may be appropriate to consider the installation of a perimeter intrusion detection system (PIDS).

8.2.2 Gates and Entrances

Minimising the number of entrances and the use of full-height turnstiles can restrict workers and others entering a site on foot. Entrance can be controlled by guards or electronic access control measures which can use PIN codes, magnetic cards, proximity tokens, biometric devices or a combination of these.

It is recommended that there not be gaps underneath gates.

Hinges on gates should be designed to prevent the gate from being lifted free; they should also be shielded from use as steps to scale the fencing. Gates should be secured by a lock conforming to BS 3621 protected by lock protection plates welded to the gate and the frame or by a padlock and padlock fittings conforming to grade 5 or 6 of BS EN 12320.

8.2.3 Barriers

Where a perimeter fence is considered vulnerable to penetration by ramming with a vehicle, provision of a purpose designed vehicle barrier such as a trench, a high kerb outside the fence, or a series of substantial steel posts just inside the perimeter should be considered.

8.3 Lighting

Lighting can be a deterrent to site intruders and a positive aid for patrolling security staff. Lighting should be sturdy and resistant to adverse weather conditions, tampering and vandalism. Directing the lighting inwards should be considered, as it will reveal intruders either directly or by silhouette. Additional lighting may be required to ensure that all possible entrance and exit points are illuminated.

To ensure that security lighting is effective, it should be used at all relevant times. The use of a photoelectric cell, which switches on when daylight fades and off when it returns, is suitable.

Wiring for security lighting should only be accessible to authorised persons. Cables for perimeter installations should be buried with the supply for individual luminaries, teed-off through a fused spur. Exposed cables should be enclosed in a steel conduit. An interference detection circuit connected to an alarm may also protect cables. Security lighting systems should be routinely inspected and maintained.

8.4 CCTV Surveillance Systems

CCTV can be used to aid the security of a site and can act as a deterrent to criminal activity. It is important that the intended use of the CCTV system is known at the planning stage as this will affect the type, quality and quantity of equipment required. The availability of power to the CCTV system and lighting should be considered. Many different types of equipment are available with low light or infrared operation or combined with white or infrared lighting units.

CCTV images can be recorded or monitored on site or monitored remotely.

Portable CCTV systems are available that can be rapidly deployed or moved around a site for temporary or short term use. These can be wireless systems that include the capability to transmit live or recorded images to a hand held PDA, laptop or to a remote video response centre (RVRC). By combining detectors with CCTV it is possible to enhance the performance of the system by alerting those monitoring the system that there is an event to pay attention to. The applicable standard for this is BS 8418.

Remote operations can include the ability to control the direction and view of a camera using pan, tilt and zoom (PTZ) mechanics. It is also possible for the system to include integrated audio amplifiers and speakers to allow the remote operator to issue commands, for example to warn intruders to leave a site.

It is recommended that cameras are mounted on masts but it is possible on a construction site to make use of existing structures or tower crane towers, etc.

8.5 Security Guards

The use of guards has already been mentioned in 6.3 Operational Measures. On larger sites the use of 24 hour manned guards may be appropriate whereas on smaller sites the use of a guard patrols, particular night patrols can be beneficial.

8.6 Scaffolding, Ladders and Stair towers

Use scaffold protection beams to detect people attempting to climb scaffolding.

Ladders should be protected to protect climbing (e.g. by chaining planks to stop use of the rungs) and also against theft as they are often stolen to enable crimes to be committed elsewhere.

As with ladders and scaffolding, stair towers should be protected to avoid their use by intruders. It is important for health and safety reasons that semi-permanent stair towers are properly assembled and the possibility of unauthorised persons attempting to dismantle or relocate the towers should be reduced. Suitable clamps and locks should be used for this purpose.

8.7 Tower cranes

Additional security surrounding the base of tower cranes should be considered to prevent access to the tower. This may include construction of a welded cage up to 3m high with secure locks (e.g. combination locks) on access gates.

8.8 Vehicles and plant

The amount of plant on-site should be minimised. Construction sites should not be used as storage areas for other plant used at other locations. Outside of working hours move plant to a more secure compound or cage (either inside the site or at a nearby location). Road construction sites are particularly vulnerable because of their size and the inability to provide perimeter hoarding. In this case the use of extra measures is more important. If possible store vehicles and plant out of sight of criminals.

Cover windows with locked grilles, shields or plates to prevent smashing of the glass (for attempted theft or vandalism). Immobilise vehicles or plant using physical security (chains, clamps, towing hitch locks), mechanical or electronic devices. Careful arrangement of certain vehicles (such as positioning of the buckets of backhoes and excavators) can assist with immobilisation. Purchasers should ensure (by referring to a consultant) that

electronic immobilisers are suitable for the working conditions of the equipment. Electronic immobilisers can be operated remotely. Hydraulically powered equipment can also be fitted with hydraulic immobilisers. Vehicles and other equipment may also be fitted with audible alarms although the usefulness of these depends on the location of the construction site.

Tracking devices can be fitted. Although these do not prevent theft, by advertising their use thieves can be deterred. A variety of different types exist. Tracking devices and plant registration schemes can both be of great benefit for retrieving stolen plant and deterring criminals.

Use a secure property marking and registration system from a properly accredited organisation to mark tools and parts of vehicles and plant. The combination of robust marking technologies and registration on a secure database with a 24/7 verification service enables the legitimate owner of the property to be identified. It reduces the value of items to thieves and acts as a deterrent to theft in the first instance. The Loss Prevention Certification Board (LPCB) and Thatcham Quality Assurance provide appropriate accreditations.

The **CESAR** Scheme (the **C**onstruction & Agricultural **E**quipment **S**ecurity and **R**egistration **S**cheme) is the official security marking and registration scheme for all plant and agricultural equipment (**www.cesarscheme.org**). The Scheme is supported by the Home Office and ACPO and promoted by the Construction Equipment Association (CEA) and the Agricultural Engineers Association (AEA). Asset marking using this important scheme is now fitted as standard at no cost by most major construction and agricultural equipment manufacturers and receives support from most of the leading insurance companies. The scheme has proved to be a powerful deterrent to theft and a vital aid in the identification and recovery of stolen plant and equipment.

In addition, cars and commercial vehicles can be protected by window etching and registration, provided as a standard feature with various vehicle brands sold in the UK and available in the automotive aftermarket. Accredited suppliers can be found at **www.thatcham.org**

A particular threat on a construction site may be the theft of a catalytic converter from a van or other high ground clearance vehicle. Consideration should be given to the marking and registration of this item and to fitting it with a physical protection device.

In general marks added to assets may be overt (easily seen) or covert (hidden, so that attempts by the criminal to overcome the mark are hampered). To act as a deterrent covert marks require additional signage.
A method sometimes used to mark vehicles is to add extra VIN plates thereby increasing the efforts required by criminals to remove them.

Use of a company paint livery or addition of company logos can deter theft in comparison to retaining the plant manufacturer's paintwork.

8.9 Site offices

Huts should include protection against fire both because of operational hazards and the possibility of arson. Consideration should be given to the use of steel huts with steel doors, multiple locks and fold over window shutters locked from inside the hut.

8.10 Protection of existing / completed property

For construction work involving alterations to existing buildings it is important to consider the security implications affecting those buildings.

When handover of a construction site is delayed or other buildings on site are vacated during construction it may be appropriate to consider the securing of buildings by security doors and screens. Temporary alarm systems can also be used. Vacant or void property security companies specialise in provision of this type of security.

8.11 Small tools

Steel tool vaults with shielded padlocks can be used for storage of tools. Ensure that these vaults cannot be removed in their entirety.

8.12 Materials and fuel

Thieves can sell all building materials fairly easily but metals and fuel are particularly high value targets. Ensuring that metals such as cable and copper tubing are hidden from view and stored in locked containers is recommended. Likewise fuel stores should be protected as well as fuel in vehicles.

8.13 Police Liaison

A number of different activities could cause disruption to a construction site and increase the likelihood of a security risk. Good liaison with the local police can alert site managers to potential problems. Examples could be crowd trouble at local sporting events, political demonstrations, etc. These are just part of the environment and not related directly to the construction. Where the construction site itself may the target of activists (e.g. animal rights or environmentalists) then greater liaison is recommended along with the engagement of expert consultants.

9. Bibliography

9.1 Referenced Documents

Computer Misuse Act, 1990
Construction (Design and Management) Regulations, 2007
Data Protection Act, 1998
Occupiers Liability Act, 1984
Private Security Industry Act, 2001

9.2 Further Reading

9.2.1 Recommendations from BSIA

The BSIA publish a large number of guides related to Access Control, Property Marking, CCTV, Physical Security Equipment, Intrusion Alarms, Security Guarding and many other areas of security.

For further information refer to www.bsia.co.uk/publications

9.2.2 Other Guides

Plant and Equipment Theft: A Practical Guide, 2007, The Off-highway Plant and Equipment Research Centre (OPERC)

9.2.3 Risk Management – Risk Assessment Techniques

- **BS EN 31010:2010:**
  Risk management. Risk assessment techniques.

9.2.4 Fencing

- **BS 1722 series, including:**
  Fences - Specification for chain link fences.
  Steel wire and wire products for fences.
  Zinc - and zinc-alloy - coated steel barbed wire.
  Specification for strained wire and wire mesh netting fences.
  Specification for electric security fences.
  Design, installation and maintenance.
  Steel wire and wire products for fences.
  Steel wire welded panels. For fencing.

9.2.5 Locks and Key Systems

- **BS 7984:2008:**
  Key-holding and response services. Code of practice.

- **BS 3621:2007+A1:2009:**
  Thief resistant lock assembly. Key egress.

- **BS EN 12320:**
  Building Hardware. Padlock and padlock fittings. Requirements and test methods.

9.2.6 CCTV Systems

- **BS EN50132 series:**
  Locally controlled CCTV systems for use in security applications.

- **BS 8418:2010**
  Remotely monitored and detector-activated CCTV systems.

- **BS 8495:2007**
  Code of Practice for Digital CCTV recording systems for the purpose of image export to be used as evidence.

9.2.7 Access Control Systems

- BS EN 50133 series:
  Access Control

9.2.8 Alarm Systems

- PD 6662 (including BS EN 50131 series, BS 8243, DD 263)
  Alarm systems. Intrusion and hold-up systems.

9.2.9 Security Guarding

- BS7499:2007
  Static site guarding and mobile patrol services. Code of practice.

- BS7958:2009
  CCTV Management and operation. Code of practice.

Acknowledgements
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Construction site security checklist

This checklist is designed as a tool to help conduct a crime risk assessment for construction businesses. It is intended to help identify internal and external crime risks at construction sites and the buildings associated with a construction business, and to make suggestions for improvement if needed. The checklist may be adapted for individual needs.

No.	Item	Yes	No	Further action needed
CRIME PREVENTION COORDINATION				
01	Has a crime prevention coordinator been designated? • This should be someone that can serve as the direct liaison with the Police • This person should be someone with management level communication such as the Project Director or construction manager • All construction site losses should be reported immediately			
02	Do you have the names and contact numbers for responsible persons during non-working hours?			
ASSET AND PROPERTY IDENTIFICATION				
03	Are all assets on the construction site marked? Suggestions: • Identification number • Corporate logo or spray paint of a distinct colour displayed • Large equipment or plant should be marked in two prominent places and one additional covert place.			
04	Have all tools, equipment, and machinery been identified and asset registered? This should include: Make, Model, Serial number, Owner applied Identification number, and Value of each item.			
05	Do all employees have their personal property (e.g. tools) marked with their own unique identification number?			
06	Is there signage to indicate that all assets on the construction site have been marked and registered?			
INVENTORY CONTROL				
07	Have procedures been established for checking material on and off the construction site?			
08	Are there processes for maintaining inventory control of all materials and tools delivered to site? Each invoice/delivery note should be carefully checked for accuracy. Shortages or overages must be reported.			
09	Are materials and equipment checked frequently?			
10	Has a member of staff been made responsible for supervising waste disposal? Remove empty crates and cartons as soon as possible. This helps to eliminate the possibility of tools, materials and equipment being hidden and carried off of the construction site.			

No.	Item	Yes	No	Further action needed
11	Are keys issued to authorised persons only and issue records maintained?			
12	Are spare keys secured in a location with limited access?			
13	Have all key control numbers been removed from the padlocks?			
INTERNAL THEFT				
14	Has a policy on employee theft been established and are employees/contractors aware of the policy? Information should be posted prominently.			
15	Is there a tool check-in and check-out system? • Record data on individuals responsible for specific tools. Include date, what was taken and by whom. • Secure tools stores at all times.			
SITE SECURITY				
16	Is there a security fence/boundary • Type of fence; Heras temporary fence/Closeboard/Chain-link/Steel-mesh/palisade/wall/other • The fence line should be clear of shrubbery, equipment, or buildings to eliminate possible hiding places. • Employees should either park their personal vehicles outside the fence or have a specifically designated parking area within the site to minimize the theft of tools, material and equipment.			
17	Is the fence inspected regularly? • Make sure that there are no holes or weak spots. • Check areas under the fence to ensure that offenders haven't gained entry underneath the fence			
18	Are "No Trespassing" signs displayed in a prominent place on the fencing or the perimeter of the construction site?			
19	Have gates been kept to a minimum? How many?_____			
20	Are gates closed and secured at night and during weekends?			
21	Are there two sets of gates operated in an "airlock" system?			
22	Are drivers of unrecognized vehicles challenged and confirmation sought that they should be on site?			
23	Are manned guards used to check vehicles entering and leaving the construction site?			

No.	Item	Yes	No	Further action needed
24	Are there storage containers or fenced areas provided for tools, plant and equipment? • Heavy plant should be placed in front of storage shed doors to enhance security. • Doors of storage containers facing toward the perimeter of the construction site so that they are easily observed.			
25	Are vehicles locked and ignition keys removed?			
26	Are large items of plant, equipment and other machinery disabled? • Remove spark plugs or disconnect batteries • Install a hidden cut-out switch			
27	Are metal shields or screens utilized on windows to reduce vandalism?			
28	Are fuel supplies, including vehicle and plant fuel caps secured?			
29	Are blades and buckets of earth moving equipment dropped to the ground to make it difficult to move?			
30	Is equipment parked so that it is obvious if something is missing? Use designated or marked areas			
31	Are there tracking devices on large equipment and plant?			
32	Are there access control measures in place for contractors and visitors to site? Type of access control – Turnstiles/pass gates/biometric/PIN/Card or token			
33	Are there adequate control measures in place for the management and control of passes and tokens?			
CCTV				
34	**Has CCTV been installed on site?**			
35	Has an Operational Requirement (OR) for the CCTV been produced? • The OR should specify the areas to be covered by CCTV (Access Points, Fence Lines, Equipment Stores, Office areas) • The OR should specify the image type: • Monitor • Detect • Recognise • Identify			

No.	Item	Yes	No	Further action needed
36	Is it monitored and recorded? • CCTV should be monitored and recorded either on site or by a Remote Monitoring Station • CCTV should be recorded and the images retained for at least 31 days • Ensure CCTV is used in accordance with the Information Commissioner's Code of practice for CCTV (www.ico.gov.uk)			
37	Are Data Protection Act notices displayed?			
LIGHTING				
38	**Is there adequate lighting on the construction site(s)?** • Lighting should be illuminated to a minimum consistent with applicable local regulations and should be visible from the roads bordering the construction site. • Direct lighting toward the construction site to illuminate plant and buildings. • Lights triggered by motion detection or passive infrared sensor are recommended. • Consider the following location for lights: Access points, office complex, equipment storage area, materials storage area, area under construction.			
39	Are the lights checked regularly to ensure that they are working properly?			
ALARMS				
40	Is there an alarm system? • Type of alarm system- PIR/Active IR/Microwave other • Consider portable alarm systems that detect motion, activate lights and sound alarms. It is recommended that alarms sound locally at construction sites. • Consider an alarm that goes directly to a security monitoring centre that in turn notifies the local police. • Consider integration the alarm system into the CCTV system.			
MANNED GUARDING				
41	Is there a SIA licensed manned guarding company to providing either static, or mobile security presence at site? • The advantage is that they can be given access to patrol inside the job-site as well as the perimeter. They can also be given the responsibility for checking lighting and alarm systems on the construction site, as well as the integrity of fencing on a regular basis. • The use of dog patrols may be considered.			
42	Are there Assignment Instructions issued for the site? Examine Assignment Instructions to ensure duties reflect what is required to secure the site (patrols, checks of equipment, emergency procedures etc).			

Annexure C

WorkSafe VICTORIA

A handbook for the earth resources industry

Management of alcohol and drugs in mines

Edition No. 1
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State Government Victoria

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Introduction

Workers adversely affected by alcohol consumption and drug use (illegal or prescription drugs) can pose a risk to themselves and others in the workplace. This is a recognised health and safety risk in many industries, including earth resources, and can prevent people from functioning within normal boundaries.

By law, a mine operator must protect people at a mine from health and safety risks associated with alcohol consumption or drug use. This handbook aims to assist mine operators establish a workplace alcohol and drug management strategy so the issue can be dealt with ethically, legally and to the benefit of both the organisation and employee.

This handbook contains advice about developing strategies to manage alcohol consumption and drug use at a mine during work hours, including information about possible control measures.

This handbook provides practical guidance to mine operators and workers in earth resources on how to comply with duties under the *Occupational Health and Safety Act 2004* (OHS Act) and *Occupational Health and Safety Regulations 2007* (OHS Regulations). However, it is not an exhaustive guide or substitute for the detail required by the OHS Act or Regulations.

It outlines how **employers** may:

- develop a workplace alcohol and drugs management strategy and meet their duties and obligations under the OHS Act and Regulations
- consult with employees in relation to managing the risks associated with alcohol consumption and drug use in the workplace
- conduct a risk assessment that takes into account the risk factors in the workplace commonly associated with alcohol consumption and drug use
- apply control measures, as appropriate, to adequately control the risks
- document details of the assessment and control measures in the mine's health and safety management plan.

And how **employees** may:

- participate in the development of a workplace alcohol and drugs management strategy, and meet their duties and obligations under the OHS Act and Regulations
- recognise what is meant by health and safety risks associated with alcohol consumption and drug use
- appreciate what factors – both work and non-work related – may contribute to risks arising from alcohol consumption and drug use
- identify their role in the development of a workplace alcohol and drugs management plan and procedures
- manage their non-work activities to arrive at work in a non-affected state from alcohol and drugs.

Legal requirements

The OHS Regulations place obligations on the operator of a mine in relation to the management of alcohol consumption and drug use. The Regulations deal with specific aspects of alcohol and drugs in mines and should be consulted, together with this handbook, to achieve compliance. The operator of a mine must develop and implement strategies to protect persons at the mine from any risk to their health or safety arising from the consumption of alcohol or the use of drugs to any person.

Strategies must include the introduction of risk control measures for the presence and use of alcohol and drugs at a mine during working hours. A person is adversely affected by alcohol and/or drugs if the person's judgment or capacity is impaired to the extent they may expose their own or another person's health or safety to a risk.

Risk control measures

The operator of a mine must adopt risk control measures that eliminate or reduce, so far as is reasonably practicable, risks to health or safety associated with hazards at the mine. This includes hazards arising from the consumption of alcohol and the use of drugs. These control measures must be reviewed and, if necessary, revised when required.

In eliminating or reducing risks, the operator of a mine must use one or any combination of the following risk control measures:

a) substitute a new activity, procedure, plant, process or substance for that activity which is related to the relevant mining hazard

b) isolate persons from the mining hazard

c) use engineering controls (such as physically changing a workplace).

If a risk to health and safety still remains, the operator must, so far as is reasonably practicable, use administrative controls (such as new procedures and policies).

To ensure appropriate risk control measures are being used, the mine operator must review, and if necessary revise, the:

- identification of mining hazards
- assessment of risks to health and safety associated with mining hazards
- risk control measures adopted.

A review must be done:

- before any mine modification is made and in any event
- after any incident involving a mining hazard occurs at the mine
- in any event, at least once every three years.

A review may also be appropriate:

- after an incident where impairment and/or inappropriate behaviour from alcohol consumption or drug use has occurred
- if the operator has removed or assigned a person alternative work after receiving a health surveillance report that indicates a person has detrimental health effects (note: the operator must notify WorkSafe in writing when this happens)
- after receiving a request from a health and safety representative (HSR).

Legal requirements

Employer responsibilities

The specific recognition of alcohol consumption and drug use as a potential health and safety hazard means it must be managed as part of the OHS responsibilities of the employer. This means:

- ensuring employees are informed of the risks associated with alcohol consumption and drug use and how to control the risks
- ensuring the definition of 'adversely affected by alcohol and drugs' is understood through consultation with employees
- ensuring systems of work are structured and managed to minimise the effects and impairment of alcohol and drugs
- ensuring a process through which an employee can inform their supervisor that they or someone else may be in an adverse state following the alcohol consumption or drug use
- ensuring the use of drugs prescribed by a registered medical practitioner are authorised.

Employee responsibilities

Employees, including independent contractors and their employees, must cooperate with the measures in place to control hazards pertaining to alcohol consumption and drug use at a mine. This means an employee must:

- follow the instructions given by the operator in relation to controlling risks associated with alcohol consumption and drug use
- inform their supervisor if they suspect they are in an impaired condition due to alcohol consumption or drug use
- inform their supervisor if they suspect or observe another employee is in an impaired condition due to alcohol consumption or drug use
- not enter or remain at the mine if adversely affected by alcohol or drugs
- not take alcohol into a mine without permission of the operator
- not take drugs into a mine that may adversely affect an employee (regardless of whether a registered medical practitioner has prescribed the drugs and authorised their use at work)
- understand through consultation with the employer what is meant by 'adversely affected by alcohol and drugs'
- arrange activities outside working hours so they are not in an adverse state from alcohol or drugs when arriving to work.

Consultation

Mine operators must consult with employees and HSRs (if any) when developing and implementing risk controls to health and safety associated with the presence and consumption of alcohol and/or drug use at a mine.

Employers should consult with employees and HSRs:

- when the presence and consumption of alcohol and/or drug use is identified as a hazard or there are indications alcohol or drugs are affecting the health and safety of workers
- when carrying out risk assessments and taking steps to eliminate or control risks
- when developing and implementing educational programs for the control of any risks to health and safety associated with alcohol and drug use
- post-incident or after a 'near-miss' occurs.

It is important to consult employees to establish a common understanding of alcohol consumption and drug use in the workplace and how their presence and use is different from other physical hazards.

Using a risk management approach

Using a risk management approach is a key part of managing alcohol consumption and drug use in the workplace. The table below shows an example of such an approach. Consultation should take place at every step of the process.

Risk management approach to alcohol consumption and drug use

Getting started	1. Establish a joint approach to controlling the risk through consultative forums.	Consult the workforce throughout the process
Agreeing how to do it	2. Agree on a process that supports effective control, including an education and communication strategy and adequate resources.	
	3. Identify hazards that can cause the use of alcohol and drugs in the workplace.	
	4. Assess the risk factors.	
	5. Decide how to control the risks associated with the presence and use of alcohol and drugs, ensuring employees are closely involved.	
	6. Document the control measures in an alcohol and drugs management plan.	
Setting it up	7. Implement agreed controls.	
Making it work	8. Evaluate the effectiveness of controls.	
Review	9. Monitor and review.	

Overview of alcohol consumption and drug use

Before developing a plan, it is critical to understand that the hazards associated with alcohol consumption and drug use in mines can be greater than other workplaces due to their nature and type of work.

Both alcohol and drugs have hangover effects that can continue beyond alcohol consumption and drug use. It is important to note that other factors (such as fatigue) may also display hangover effects. Signs that may indicate a person is adversely affected by alcohol or drugs include:

- initial stimulation, euphoria
- loss of inhibition
- impairment of co-ordination, judgement, intellectual capacity and ability to act quickly
- blurred vision
- slurred speech
- hangover-headache, shakiness, nausea and vomiting
- in the longer term, toxic to the brain, liver, heart and stomach.

In some occupations, an employee impaired by alcohol consumption and/or drug use could be more likely to jeopardise the health and safety of others (eg drivers or pilots). Specific factors to consider in relation to increased risks of injury or harm by impaired employees include:

- operation of machinery
- work-related driving
- situations where concentration or motor coordination is relied on to carry out a task
- use of hazardous substances
- performing duties as part of a team.

A range of factors, both at the workplace and in employees' personal lives, can impact on the ability to work safely. Alcohol consumption and drug use may be one of them. Many factors may contribute to the misuse of alcohol and other drugs including:

- shift work
- high risk of personal injury or illness at work
- dirty, noisy work environment
- poorly designed, difficult to use equipment
- poor job design, including boring or extremely demanding work

- unrealistic deadlines and performance targets, or inadequate resources
- lack of participation in any decision making process
- inadequate training and supervisory support
- harassment, bullying or victimisation in the workplace
- access to alcohol and/or drugs at work or a culture tolerating or encouraging alcohol consumption and/or drug use during work hours
- fear of losing job
- conflict with peers or supervisors
- discrimination or prejudice
- peer pressure
- marital or personal relationship problems
- grief or bereavement
- trauma or stress
- health issues or concerns
- gambling or financial problems
- habituation or addiction.

Alcohol consumption and drug use is an occupational health and safety issue if an employee's ability to exercise judgment, coordination, motor control, concentration and alertness at the workplace is impaired, leading to an increased risk of injury or incidents to himself/herself or others (see the Glossary on page 22 for further information on the possible effects and consequences of alcohol and drugs).

Being adversely affected by alcohol consumption and drug use may damage physical and mental health. Colleagues may be placed in the uncomfortable position of feeling obligated to cover for poor work performance or to dob in a mate.

Use of medications

The management of employees impaired by prescription or over-the-counter medication may be addressed in the workplace alcohol and drugs management plan or considered separately.

A number of steps taken to minimise the risk of injury or harm caused by this medication use include:

- if an employee's ability to work safely is impaired as a result of medication, their employer, supervisor, HSR should be notified. The employee does not need to disclose their illness
- the employee providing verification of the side-effects of the medication (eg a medical certificate)
- where a company nurse or doctor issues medication at work (including non-prescription), the potential of impairment must be assessed when determining if the employee should return to usual duties
- if an employee can work safely, depending on the situation, a person should be assigned to monitor their safety performance
- if an employee is unable to perform their usual work tasks safely, they should be given reasonable alternative work until the use of medication stops.

Developing a workplace management plan

Employers should develop a workplace management of alcohol and drugs plan with supporting procedures that address specific circumstances at the workplace.

A workplace alcohol and drugs management plan should be a written document that applies to all employees at the workplace. It should be developed by management, employees and an HSR and/or union representative working together. It should also have the total commitment of management. Evidence suggests that workplaces with good employee consultation have good OHS outcomes.

A workplace alcohol and drugs management plan should outline the workplace's aims to eliminate or reduce hazards and risks, so far as reasonably practicable. The supporting procedures should provide strategies and action plans to meet this objective.

There are a number of reasons for workplaces developing a workplace alcohol and drugs management plan. These include:

- the OHS Regulations require strategies be implemented to control any risks to health and safety associated with the presence and use of alcohol and drugs at a mine
- preventing uncertainty when such situations arise – without a clear plan and supporting procedures in place it may be difficult to deal with certain situations when they arise
- demonstrating management commitment to a safe workplace and informing employees and others about acceptable behaviour. Having a plan also provides a means of informing employees and other persons at the workplace about changed behaviours in relation to someone adversely affected by alcohol consumption and drug use
- facilitating peer support – policies that facilitate peer involvement will be useful in encouraging peers to pick up on changes in behaviour of those at the workplace and assist in workplace cultural change.

Steps to develop a workplace alcohol and drugs management plan

1. Establish a specific, representative group to form and implement the plan

The more diverse and encompassing the representative group, the more likely the plan will be viewed as relevant and appropriate. An existing health and safety committee may be utilised or a specific working group formed. Larger companies may establish a steering committee to oversee the development of the plan and the associated implementation program.

2. Develop the plan through consultation with all employees

The plan should be developed through an open, participatory process. Consideration may also be given to consulting employee and employer organisations. Regular consultation and feedback to employees should be adopted to give employees confidence that their views have been considered.

The following table lists steps to consider when consulting employees.

Develop procedures and a timetable for implementation of the plan, starting with an education program.	☑
Develop a preliminary draft plan and have it reviewed by the representative group overseeing its development.	☑
Seek feedback on a draft plan from all at the workplace who may be affected by its operation. Where appropriate, feedback received should be incorporated into the document.	☑
Present a draft plan to the health and safety committee for consideration.	☑
Formal management endorsement of the final plan.	☑
Distribute endorsed plan to all employees and people at the workplace.	☑
Ensure the plan is readily available (eg on the company notice board or intranet).	☑

Consultation and input from employees and HSRs in the development and implementation of strategies to protect against health and safety risks from the consumption of alcohol or use of drugs is required by the Regulations. There is also a duty upon the employer to consult with employees under the OHS Act (see WorkSafe's *Consultation on health and safety – A handbook for workplaces* for further information).

3. Ensure there is clear communication and provision of information throughout the development stage

It may be necessary to take steps to overcome anxiety among employees. Employers should point out that, while not responsible for the private lives of their employees, it is the employer who carries the primary responsibility for maintaining a healthy and safe working environment. The impact of unsafe behaviour caused by the consumption of alcohol and the use of drugs should be emphasised when communicating the plan.

Dealing with an employee impaired by alcohol consumption and/or drug use

The approach taken when dealing with an employee whose work performance is affected by alcohol and/or drugs depends on:

- the workplace culture and structure
- the position of the employee
- the personality of the employee
- whether the case relates to long-term harmful use or a 'one-off' situation.

Designated persons, who should approach workers who appear to be affected by alcohol and/or drugs, may include managers, supervisors, OHS representatives and fellow workers. They should all be properly trained in the most effective style of approach. Care needs to be taken when making this judgement in case the worker is ill or injured, taking prescribed medication or in some other form of distress, that may account for their behaviour.

Developing a workplace management plan

The workplace alcohol and drugs management plan should outline a chain of responsibility for approaching an impaired person if initial contact produces a negative or hostile response. When approaching an impaired employee it can be more effective and less confronting to talk about their safety and work performance rather than their alcohol consumption or drug use.

A company Enterprise Bargaining Agreement (EBA) should detail counselling and discipline procedures to be followed. The WorkSafe *Alcohol in the workplace – Guidelines for developing a workplace alcohol policy* provides an example of a counselling and discipline procedure.

Information, education and training seminars

It is important that employees are made aware of the plan. Copies should be readily available at the workplace and widely publicised.

It is also important for the employer to provide ongoing information, education and training to show that management actively supports the workplace alcohol and drugs management plan and procedures. Information on alcohol and drugs should be included as a preventative strategy (see Appendix 1).

It may be appropriate for the employer to hold an information and training session on the workplace alcohol and drugs management plan for employees. Employers, supervisors and nominated employees should be aware of the contents of the plan so they can appropriately advise employees and answer questions about the operation of the plan.

Providing information about alcohol consumption and drug use to all employees contributes to the development of a workplace culture where employees are aware of the potential risks to health and safety and encourages them to work safely. To be effective, it should be clear and transparently supported by management.

Training programs should outline:

- the need for a workplace alcohol and drugs management plan and supporting procedures and the rationale for their implementation
- how the workplace alcohol and drugs management plan defines acceptable and unacceptable behaviour in relation to alcohol consumption and drug use
- the effects of alcohol consumption and drug use on health, safety and work performance. This could include the impact of late night drinking and/or drug taking
- health and safety hazards that could arise at the particular workplace
- relevant occupational health and safety laws and obligations and other legislation regarding alcohol consumption and drug use
- an employee's responsibility to ensure health and safety at work
- how to handle a situation in relation to alcohol consumption and/or drug use
- where assistance can be obtained at the workplace or from external agencies
- workplace procedures for referral of employees to internal and external services
- training supervisors, managers and elected HSRs.

Developing a workplace management plan

Workplace induction

Supporting procedures should be raised in a workplace induction to ensure new employees are aware of and understand the workplace alcohol and drugs management plan.

Confidentiality

Procedures dealing with confidentiality and protection of privacy should be included in the workplace alcohol and drugs management plan.

Rehabilitation, counselling and employee assistance programs (EAPs)

As part of addressing alcohol and drug issues at the workplace, an employer can introduce a confidential rehabilitation program or an employee assistance program (EAP) – a coordinated group of strategies designed to encourage employees to seek professional, confidential counselling for personal problems that may affect their work performance, health or safety.

If a rehabilitation program or EAP is used, the workplace alcohol and drugs management plan should outline:

- the means and conditions of referral. This must be clearly communicated
- the level of support an employer will provide. Some employers will only provide a referral if an employee voluntarily refers
- the absence from work procedure. Some employers allow use of sick leave and annual leave, while others allow use of leave without pay and insist on a thorough medical before return to duties
- how employees will return to work. Employers may not return employees to some designated duties.

A referral to a rehabilitation program or EAP for alcohol and drug use should relate to concerns about safe job performance, rather than attempts to identify symptoms of alcoholism or drug abuse.

In smaller workplaces, implementing an EAP may not be appropriate, but employees with alcohol and drug problems should be referred for professional help. If an EAP is not available, the employer can provide information about general assistance available in the local community (see Appendix 1). It may also be necessary for employees experiencing problems to seek medical advice. The details of access to rehabilitation should also be clearly communicated in the plan.

Evaluation

It is important to evaluate the workplace alcohol and drugs management plan after implementation. Supporting procedures may provide a time frame and criteria for such an evaluation.

Other people at the workplace

It may be appropriate to include supporting procedures to deal with the situation where customers, clients or visitors enter the workplace impaired by alcohol and drugs. Supporting procedures should specify safety precautions and procedures to minimise the risk of problems.

Work sponsored functions

If work functions include alcohol, include an additional section in the supporting procedures outlining the organisation's policy on consumption of alcohol at social functions. Alternatively, a separate policy or set of procedures dealing with work-sponsored functions may be developed. The document should clearly outline the employer's expectations of appropriate behaviour in relation to the consumption of alcohol.

There are also a number of steps that can be taken by management to minimise the risk of alcohol and drug related problems at functions including:

- communicating the responsibility of employees for safe behaviour at the workplace and expectations about low risk alcohol consumption
- providing non-alcoholic drinks and low alcohol beverages and substantial food
- ensuring an intoxicated employee gets home safely
- ensuring workplace social activities do not centre around alcohol (eg hosting family friendly functions during the day as an alternative to evening functions)
- encouraging employees to arrange alternative transport prior to a function where alcohol is available. This can minimise the risk of employees driving under the influence of alcohol.

Testing for alcohol and/or drugs

If a workplace is considering alcohol and drug testing, consider the strengths and limitations, the costs and potential unintended consequences, as well as the benefits. When considering the introduction of alcohol, illicit drug or impairment testing, employers should ensure workplace policies and programs are appropriate to the level of risk by doing a risk assessment. Ultimately, testing is one of a variety of control measures that can be used and its applicability in the workplace should be considered and agreed upon.

Note: The OHS Act and Regulations do not mandate, require or prohibit testing. Some workplaces may require testing as part of their drugs and alcohol management plan and industrial agreements.

If alcohol or drug testing is introduced:

- written procedures for testing and an implementation timetable should be included in the supporting procedures
- procedures for managing an employee testing positive from the presence of a drug at a workplace should be developed through a consultative process and communicated to everyone at the workplace
- the follow up action and outcomes from positive drug tests should be made clear in the supporting procedures.

Under the OHS Act, employees have a duty to take reasonable care for their own health and safety as well as a duty to take reasonable care for the health and safety of other persons who may be affected by their acts or omissions at the workplace. If a risk to health and safety is identified (through impairment of an employee by alcohol/drugs), it is important to assess whether an employee is still able to work without risks to health and safety.

When formulating identification strategies, potential difficulties should be considered. An employee can be impaired through other causes such as fatigue or stress.

The following steps may assist in developing an identification process.

Self-assessment by employees

The workplace alcohol and drugs management plan should state that employees must not present themselves for work if they have recently consumed alcohol or used drugs. The plan should also state that employees should not remain at the workplace if they become impaired by alcohol consumption and/or drug use.

A simple self-assessment may be useful in assisting people to assess problems and attitudes. These tools can be developed by the workplace or obtained from other services (see Appendix 1).

Self-assessment tools can also have a positive impact on behaviour (eg providing employees with a breathalyser). An employee who identifies impairment could take voluntarily leave (eg sick leave or unpaid leave).

Education, training and healthy lifestyle programs can also have a positive impact on behaviour and educate employees about the safety and health risks of alcohol consumption and/or drug use.

Advantages and disadvantages of testing

Testing may be intrusive and raises confidentiality and privacy issues.

If a risk assessment suggests a level of risk from alcohol consumption and/or drug use employers should consider that:

- drug testing does not measure impairment. It only detects whether somebody has been exposed to drugs. Saliva testing measures the presence of a drug, not how much has been consumed or how intoxicated a person is and urine testing usually measures the presence of metabolites of drug use
- breath testing for alcohol measures the direct presence of alcohol and is a reliable indicator of level of intoxication.

Excluding alcohol testing, a positive drug test is not directly related to impairment, nor does it provide a reliable indicator of impairment. Other issues to consider with a drug testing program include:

- current testing techniques do not disclose the quantity of drugs consumed, when consumed or the level of impairment resulting from drug consumption
- saliva testing, which measures the presence of a drug and shows recent usage, is in early stages of development with limited independent testing or review
- a possibility of inaccurate results and false positives in drug testing. Other issues relate to insufficient integrity of the testing process and the interpretation of results. Drug testing has limits and can be subject to legal challenge. Testing procedures should comply with quality assurance and for initial positive results, a confirmation test by a quality assured individual or organisation should be obtained
- inconclusive evidence as to whether drug testing improves safety at the workplace
- drug testing should only be introduced as a part of a comprehensive health and safety program and all parties at the workplace should be consulted and aware of the program
- a range of other issues associated with testing for illicit drugs including confidentiality and employees' concerns about privacy.

Impairment testing

Impairment testing, also referred to as fitness for work or fitness for duty testing systems, measures actual impairment (rather than the presence of alcohol and/or drugs or drug by-products in the system). Tests vary and can include testing reaction times on a computer and eye reaction to light. Although it may be a viable alternative to drug testing, evidence of its effectiveness is limited. Some employers in Australia are using impairment testing as an alternative to, or in conjunction with, alcohol and other drug testing at the workplace. Such testing has limits and should be carried out as part of comprehensive alcohol and drugs management plan at a workplace.

Drug testing

If after careful consideration a workplace decides to introduce drug and/or impairment testing:

- it should form part of a comprehensive alcohol and drug program (eg a policy, education and rehabilitation or counselling program). The rationale for drug testing should be clearly communicated and employees should be informed of relevant workplace processes at the time of taking a drug test
- it should not be assumed the employee is intoxicated if they refuse a test. Procedures should be developed to address the next step if this arises
- issues relating to confidentiality and concerns about privacy should be dealt with prior to implementation.

Appropriate safeguards include:

- ensuring the policy is written simply in clear language and regularly communicated to all staff
- ensuring cut-off points for a positive result are selected and clear
- stating the types of drug testing (eg pre-employment, after probation, after accident, random or voluntary)
- ensuring there is no discrimination in the selection of employees for testing
- ensuring there are well defined procedures indicating to whom the final result will be communicated
- ensuring confidentiality is protected and the procedure identifies who will have access to the results, who will interpret them, how the results will be stored and for how long
- ensuring there is a grievance and complaints process included in the procedure, including accepted procedures to challenge the outcome of a drug test.

If testing is introduced, written procedures on workplace testing should be in place and independent expert guidance sought.

Testing for alcohol

Employers should adopt the least invasive means of testing. Breathalysers for example, use less invasive processes and eliminate the need for chain of custody considerations, as the employee and person testing are both present during the process. Breathalysers may also provide a more cost-effective solution than other testing options.

Procedures for identification should be clear in the workplace alcohol and drugs management plan and supporting procedures, and made clear to all people at the workplace.

A cut-off point must be indicated in the management plan and communicated (eg some companies use a cut-off point of 0.05mg% for general staff and a cut-off point of 0.0-0.02mg% for safety sensitive or designated jobs).

If a workplace does not have a plan, written procedures should be in place to assist identifying impaired employees.

Independent advice should be sought before using a breathalyser to ensure they are reliable and accurate. To maintain accuracy regularly calibrate breathalysers following manufacturer's guidelines.

Risks associated with alcohol and drugs

Impaired performance and inappropriate behaviour are the risks from alcohol consumption and drug use in the workplace. The hazard factors that could lead to these risks may include:

- **patterns of alcohol consumption or drug use** – different patterns of use create different risks. For example, people who use large amounts on single occasions may create different risks compared to people who are regular users
- **type of workplace culture** – there may be a culture at work that encourages or accepts consumption of alcohol and use of drugs at the workplace or socially
- **availability of alcohol and other drugs** – at some workplaces, employees are more likely to be exposed to usage and the risk of being impaired may increase. In other workplaces, they may be more exposed to the consequences
- **isolation from family and friends** – employees in isolated/remote areas or separated from family and friends sometimes report they are more likely to consume alcohol and/or drugs due to boredom, loneliness or lack of social activities
- **inadequate job design and training** – unrealistic performance targets and deadlines, excessive responsibility, monotonous work or low job satisfaction may, in some instances, be risk factors. For example, symptoms of stress are sometimes associated with poor health, including alcohol and drug related problems. Inadequate training, supervision and communication may also contribute to this risk factor
- **inadequate supervision** – jobs where there is inadequate supervision and performance management may increase the risk of alcohol and/or drug related problems. For example, inadequate supervision and communication about expected roles and behaviour on the job could allow impaired behaviour to continue and consequences of unacceptable behaviour to eventuate
- **extended working hours or shift work** – illicit drugs, such as amphetamines or prescription medication, may be taken by employees to keep awake if they are working long hours or engaged in shift work
- **interpersonal factors** – bullying at work may increase risks (see WorkSafe's *Preventing and responding to bullying at work*).

Assessing alcohol and drug risks

A number of strategies should be adopted to prevent health and safety issues arising from alcohol consumption and drug use at the workplace.

In assessing alcohol and drug risk factors, it is important to recognise many of them will be interrelated and should not be considered in isolation. The risk assessment should place the hazards in order of priority for the implementation of risk control measures.

A generic risk assessment may be completed for similar work groups where the risk factors are the same. However, employers should further consider individual circumstances to ensure that any generic assessment is valid for each employees within each group (eg holiday season).

The aim of an alcohol and drugs risk assessment is to eliminate related health and safety risks so far as reasonably practicable. It is also to ensure people adversely affected by alcohol or drugs do not enter or remain at a mine. This can be achieved through adopting a number of approaches.

The varying factors and extent of drug consumption and alcohol use, the nature of the industry and size and resources of the business will determine the controls used.

Assessment of the risk should be tailored to meet the needs of the workplace. Factors to consider when assessing alcohol and drug risks include:

- employees arriving at work in an adversely affected state
- employees arriving and entering at the workplace in an adversely affected state
- employees adversely affected by prescribed and authorised medication.

Controlling alcohol and drug impairment risks

Each workplace should conduct a risk assessment on factors that have the potential to create alcohol and drug-related issues. Implementing and maintaining the control strategies to minimise health and safety risks relating to the presence and use of alcohol and drugs can then follow.

Employer and employee responsibilities should be taken into account when assessing the suggested risk factors and any other factors identified during the risk assessment process. These responsibilities should also be taken into account when implementing control measures.

Control measures

The following table shows examples of risk controls that focus on the source of the risk and measures they rely on to work effectively.

Alcohol and drug risk	Examples of risk controls
Preventing isolation	• establishing support networks for new employees that may not have family/friends (eg migrant workers) • encouraging social interaction outside the workplace (eg sporting clubs or social groups) • establishing and communicating the existence of employee assistance programs (EAPs) • providing and promoting educational information about the risks of isolation.
Minimising work impact	• eliminating excessive physical demands from an activity • considering job rotation for repetitive or monotonous work and work that involves physical exertion • redesigning the activity to include a variety of mental and physical tasks • utilising rest periods in addition to scheduled meal breaks to reduce the physiological demands of the activity • eliminating or reducing the need to work extended hours or overtime which may create stress • eliminating the need to work long shifts or too many consecutive days without a day off • implementing safeguards on tasks, processes and equipment that require a high level of concentration or motor coordination, where a hazard identification and risk assessment identifies a high level of risk if employees are impaired by alcohol consumption and drug use • identifying and responding to factors that may contribute to symptoms of stress (eg redesigning jobs) • ensuring there are adequate resources (eg staff and tools) to do the activity without placing excessive demands on other employees • reducing time employees spend doing physically and mentally demanding activities. Shift length and rosters should not place employees (including contractors and subcontractors) at risk of fatigue or sleep deprivation that may lead to drug use to stay awake • identify and address other factors that may impact someone's alcohol consumption and drug use in the workplace (eg bullying).

Controlling alcohol and drug impairment risks

Alcohol and drug risk	Examples of risk controls
Monitoring for impairment	• responding non-punitively to declarations of possible impairment • watching for possible impairment of employees taking authorised and prescribed medication • training supervisors to identify changed behaviour (eg horseplay or aggressive attitude) and make enquiries about possible impairment from alcohol consumption and drug use • considering a testing regime to include invasive and non-invasive means • offering self assessment opportunities for employees to test for possible impairment • communicating the policies and procedures on alcohol consumption and drug use, related issues arising and the general expectations for occupational health and safety • providing information, education and training to employees including the risks from alcohol consumption and drug use.
Support of rehabilitation	• providing information about employee assistance programs and education material available • clearly defining voluntary and non-voluntary support for employees seeking rehabilitation • managing return to work programs in support of rehabilitation • arranging suitable work alternatives during a return to work program.
Individual factors outside of work	• for employers: informing employees who are required to work compressed, extended schedules or shiftwork of the potential for increased levels of stress and educating them on ways they can help to control it • for employees: managing out-of-work activities to ensure they are available for work in a non-impaired state as a result of alcohol consumption and drug use • where boredom might be a risk factor, providing recreational options (eg where employees are isolated from family and friends).

Monitoring and review

To effectively manage alcohol and drugs in the workplace, procedures must be monitored, evaluated and reviewed. Answering the following questions will assist in driving the monitoring and review activity:

- Have control measures been implemented as planned?
- Are the control measures working?
- Are there any new problems?

In determining the frequency of the monitoring and review processes, consider:

- the level of risk
- the type of work practice, schedule or plant involved
- a regular review of the process for hazard identification, risk assessment and risk control to ensure the risks are effectively managed
- reviewing incidents, near-misses, injuries and any other appropriate data (including staff turnover and absenteeism) to establish if these could attribute to impairment from alcohol consumption and drug use
- further reviewing control measures when methods, tasks, equipment, hazards, operations, procedures, rosters or schedules are introduced or the environment changes or there is any indication that risks are not being controlled.

A program that monitors and reviews the workplace alcohol and drugs management plan and procedures should be established to ensure control strategies are applied and remain valid. Reviews or changes to the plan should be done in conjunction with employees and documented in the health and safety management plan.

Glossary – Information on alcohol and drugs

Drug	Possible effects	Consequence
Alcohol	• delayed reaction time • impaired coordination, memory and other cognitive functions • decreased ability to concentrate and communicate.	Hangovers can decrease work performance, increase hazards or increase time off work.
Cannabis – Marijuana. Hashish and hashish oil also come from this plant.	• tiredness • poor coordination • glazed eyes • slow reaction times.	Cannabis consumption may lead to psychological dependence and paranoia. When mixed with alcohol, there is an increased risk of incidents.
Opioids – Opium, morphine, heroin and pethidine.	• nausea/vomiting • drowsiness • reduced vision • poor appetite.	People dependent on opiods spend more time acquiring drugs and less time on other behaviours related to work, family and recreation.
Stimulants – Amphetamine stimulants (speed or ice), MDMA (ecstasy), cocaine, hallucinogens and solvents or inhalants (eg paint thinner or petrol).	• agitation/anxiety • convulsions • chest pain • psychosis • hallucinations • paranoia.	Prolonged methamphetamine use is associated with dependence, extreme paranoia, argumentativeness, loss of appetite and hyperactivity.
Prescription medications – Morphine, codeine and ibuprofen.	• drowsiness • slowed reaction times • decreased physical coordination.	

Appendix 1 – Further information

Education, counselling and medical and self-help services available in Victoria.

Name	Contact details
Drugs and Alcohol in Victoria	Confidential 24-hour service 1800 888 236 health.vic.gov.au/drugs
Alcoholics Anonymous	alcoholicsanonymous.org.au
Incolink	1800 337 789 incolink.org.au
Turning Point Alcohol and Drug Centre	Confidential 24-hour service turningpoint.org.au Advice (toll free) 1800 812 804
Family Drug Help	1300 660 608 familydrughelp.org.au
Victorian Drug and Alcohol association	03 9416 0899 vdha.org.au
Australian Drug Foundation	03 9278 8100 adf.org.au
DrugInfo	1300 858 584
Family Drug Helpline	1300 660 068
Youth Substance Abuse Service (YSAS line)	03 9418 1020 1800 014 446 (rural)

References

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OSHAID International, 2009, Drug and alcohol testing policy in Australia: A case study, *Australasian Mine Safety Journal*, volume 2, number 4, summer 2009, pp 25-30.

AS/NZS 4308:2008 Procedures for specimen collection and the detection and quantitation of drugs of abuse in urine.

AS 4760-2006 Procedures for specimen collection and the detection and quantitation of drugs in oral fluid.

OHS reps at work (fatigue, impairment and shift work: more info). ohsrep.org.au

WorkSafe Victoria

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Local Offices

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Bendigo 03 5443 8866
Dandenong 03 8792 9000
Geelong 03 5226 1200
Melbourne
(628 Bourke Street) 03 9941 0558
Mildura 03 5021 4001
Mulgrave 03 9565 9444
Preston 03 9485 4555
Shepparton 03 5831 8260
Traralgon 03 5174 8900
Wangaratta 03 5721 8588
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