RSPE - RISK ASSESSMENT GUIDELINES

This guideline contains two sections that must both be considered when performing the risk assessment.

Section 1 ANU DRMA from the Risk Management and Audit office and

Section 2 ANU OHS from the ANU Occupational Health and Safety Office

SECTION 1

Source: (ANU DRMA) Director, Risk Management & Audit http://info.anu.edu.au/Policies/_DRMA/Procedures/RM.asp

Identification, Assessment and Management of Risks

Risk Matrix **Consequence**

Likelihood	Insignificant	Minor	Moderate	Major	Catastrophic
Rare	L	L	M	H	H
Unlikely	L	L	M	H	E
Possible	L	M	H	E	E
Likely	M	H	H	E	E
Almost certain	H	H	E	E	E

Low risk (L) – managed by routine activities

Moderate risk (M) – management responsibility should be specified

High risk (H) – senior management notified

Extreme risk (E) – immediate action

		Strategic	Operational	Routine
Rare	May only occur in exceptional circumstances	Less than once in every 50 years	Less than once every 10 years	Less than once every 5 years
Unlikely	Could occur at some time	At least once in 20 years	At least once in 5 years	At least once in 3 years
Possible	Might occur at some time	At least once in 5 years	At least once per year	At least once per year
Likely	Will probably occur in most circumstances	At least once per year	At least once per quarter	At least once per month
Almost Certain	Expected to occur in most circumstances	More than once per year	At least once per month	At least once per week

Measures of Consequence

	Reputation & Image	Financial Loss	Safety & Injury	Operation loss	Legislative compliance
Insignificant	Low impact, no media coverage	<$50k	No injuries	Minor or no damage to assets. Minor or no interruption to daily activities.	Compliant
Minor	News item with low impact or is unsubstantiated	$50k-$500k	Minor injuries/first aid required	Minor damage. Loss of operation no more than one day.	Minor breach of statute/ regulation.
Moderate	Substantiated news item, moderate news profile with embarrassment	$500k-$10m	First aid and ongoing medical treatment. Probable lost time	Significant damage to assets. Loss of operation 1 day to 1 week	Formal warning from regulator
Major	Substantiated news item, high impact news profile with embarrassment, possible 2nd or 3rd part involvement	$10m -$100m	Extensive injuries/possible multiple injuries or single fatality	Major damage to assets. Loss of operation 1 week to 1 month	Suspension of activity and prosecution/financial penalty.
Catastrophic	Substantiated widespread news item, significant reputation damage, third party actions, impact on ability to achieve research and education strategic objectives	>$100m	Fatalities	Significant loss of assets. Loss of operations >1 month	Prosecution, financial penalty, cessation of activity

Key Definitions

Risk appetite is simply defined as how much risk the University is prepared to take.

Risk assessment is the process of risk identification, analysis and evaluation.

Inherent risk refers to the level of risk that exists without the mitigating effect of controls.

Residual risk refers to the level of risk that remains after the mitigating effects of existing controls are applied.

Consequence is the outcome of an event that is expressed qualitatively or quantitatively.

Likelihood is the qualitative description of probability or frequency.

Risk controls are those elements of the organisation that support people within the organisation to achieve the organisation's objectives. They include but are not limited to structures, governance arrangements, policies, delegations, processes and procedures.

Business Continuity is a limited return to business operations following a significant and disruptive natural or man-made event.

Risk types

Strategic – These risks relate to the overall objectives and long-term viability of the university. An example may include the ability to acquire adequate funding or the ability to maintain the integrity of the University's reputation and relevance;

Business and operational – These are risks concerned with 'day to day' business practices that assist the University to meet its strategic objectives and would include risks associated with contract management, financial and asset management, stakeholder management (internal/external);

Enterprise–wide – These risks have a systemic focus such as knowledge and information management, HR management and facilities management;

Specialist - Relates to areas of risk that are often externally regulated and require specialist expertise but relate to the whole of the university. Examples would include OH&S, security and fraud.

END Section 1

SECTION 2

Source: ANU Occupational Health & Safety Policies http://info.anu.edu.au/Policies/_DHR/Guidelines/Plant_Risk_Assessment.asp

Guideline: Plant (Equipment) Risk Assessment Guidelines

Scope

This guidance material is to support the University's Plant management policy and procedure to achieve a safe and healthy workplace where plant is involved in endeavours associated with undertaking University business.

Risk Management Process

A risk management approach is used in this guideline. This is a four-step process:

Step One – Identify Hazards

Step Two – Assess risks

Step Three – Determine risk controls

Step Four – Monitor & review risk controls

Specialist technical advice and assistance is available from Occupational Health and Safety (OHS) and other advice on risk assessment and management is available through the regulator, Comcare.

The risk management process at the University is developed around the life cycle stages of plant. Use of the Plant – Risk Assessment and Management Summary (PRAMS) and Plant pre-purchase assessment checklist is the suggested means of documenting the risk assessment, management decisions and operator guidance. The PRAMS also identifies the hazard level of an item of plant and its risk category when in use. Once the hazard level is identified, the required actions to reduce risks are indicated.

Risk assessment should be undertaken on new and existing items of plant to achieve safety, compliance and best use of University resources, as far as is reasonably practicable. The process is best incorporated into the purchasing and operating procedures and/or associated guidance material for plant available in a Budget Area.

The preferred risk management process for plant involves four (4) steps:

Step One – Identify Hazards

Identify the hazard/s – identify aspects of the plant that may cause harm (injury or illness) in all aspects of:

the physical plant;
the operation or work practice involving use of the plant; and
the environment in which the plant is used.

From this step, the hazard level of the plant can be determined as low, medium or high.

Classes of hazards identified for plant include:

Physical hazards e.g. electrical, hot/cold e.g. boilers, autoclaves, liquid nitrogen and cold rooms, entanglement; crush; explosion e.g. high pressure systems, pressure vessels, compressed air; noise and vibration e.g. powered mobile plant, impact tools;
Chemical hazards e.g. corrosive, toxic, or poisonous substances;
Biological hazards e.g. mould and mildew, vermin, pathogens, viruses;
Radiation hazards e.g. x-ray equipment, infrared or ultraviolet light, microwaves; and
Ergonomic hazards e.g. A plant operator's posture during operation, machinery controls design; psychosocial environmental hazards e.g. work targets, workplace relationships.

Step Two – Assess risks Assess the risk posed by the identified hazard/s (at least in terms of likelihood and consequence). For each identified hazard –

Determine the likelihood of the identified hazard causing harm to an operator, people in area, or the environment.

Determine the consequence of injury, illness, damage or harm occurring in its intended use by operators or its interaction with the environment.

Assign a risk level using the matrix as per the PRAMS form or the following table (other risk assessments models may be applicable).

Table: Risk Matrix

Likelihood	Consequences				
	1 Insignificant	2 Minor	3 Moderate	4 Major	5 Catastrophic
A Chronic	M	M	H	VH	E
B Frequent	L	M	M	H	VH
C Likely	N	L	M	M	H
D Unlikely	N	L	L	M	M
E Rare	N	N	N	L	M

Code:

Risk Rating*:*

(N) - negligible (L) -low (M) - moderate (H) - high (VH) - very high (E) – extreme

Likelihood of harm:

A Chronic The event is expected to occur in most circumstances

B Frequent The event probably will occur in most circumstances (e.g. weekly to monthly).

C Likely The event should occur at some time i.e. once in a while.

D Unlikely The event could occur at some time

E Rare The event may occur only in exceptional circumstances.

Consequence *(Significance of associated impact)*

5	Catastrophic	Disaster with potential to lead to collapse
4	Major	Critical event, which with proper management , will be endured
3	Moderate	Significant event, can be managed under normal procedures
2	Minor	Consequences can be readily absorbed but management effort is still required to minimise impacts
1	Insignificant	Not worth taking action over

Modified from the Australian / New Zealand Risk Management Standard. AS/NZS 4360:1999.

Consultation

Consultation with operators, specialists and management is an important facet of risk assessment along with consideration of existing risk controls e.g. regulations, industry standards, operator certification etc. Specialist advice and resources are available from OHSIM.

Documentation

Consider collecting a Plant Dossier on the Plant or equipment, and make this available to relevant personnel.

Use the Plant – Risk Assessment and Management Summary (PRAMS) form to document risk and actions. The hazard level indicates the extent of the required assessment of risk for the use of plant in its environment. Refer to existing documented risk assessments for similar plant.

The risks associated with the identified hazards are assessed individually and then collectively, to determine their interaction in the context of the plant's intended use. It is important to differentiate minor and acceptable operational risk, from major strategic and operational risks.

Where a variance in risk assessment occurs between assessors, a competent person familiar with the plant should undertake a technically objective assessment to determine risks and appropriate controls.

Risk categories

– As an Example

The current ANU workshops procedure for plant allows equipment to be categorised into the following risk categories:

A. Low risk

B. Medium risk

C. High risk

D. Extreme risk.

This category system is also being used in ANU's *Maximo system*.

For **Risk Category A plant**, complete the recommendations in the table below. The guidance material may provide some assistance. No formal risk assessment documentation or registration of plant is needed where the plant can be identified as low risk i.e. it is not likely to cause injury due to its inherent low hazards and any consequence, if injury were to occur, is negligible.

For **Risk Category B, C and D plant** – continue with the risk assessment process. To identify the most appropriate risk controls and obtain the preferred residual risk, higher category plant needs to be assessed in detail in the context of its intended use, operators and environment (using PRAMS).

Table: Examples of common plant and their risk management at the ANU.

Examples of Common Plant at ANU	**Required Action For Risk Management**
Non-powered hand tools e.g. screwdriver, chisel, hammer etc. Small office equipment e.g. manual stapler, Computer, Table, Chair. Category A PLANT	No formal assessment required beyond pre-purchase risk assessment (or similar documentation for existing equipment) Normal maintenance procedure No operating procedures beyond that provided by supplier Consult Ergonomic guidelines for office based equipment use No requirement to register
Powered hand tools, bending equipment, hydraulic press, bench grinder, power hacksaw, cold saw, Large office equipment e.g. photocopier, printer Category B PLANT	Plant Pre Purchase assessment · Risk assessment documented prior to operation Document operational procedures Consider Registering item of plant (onto Maximo database)
Drill press, lathes, milling machine, welding equipment, bandsaws, router, circular saw Tractors, electric vehicles, arc welding, vehicle hoists. Category C, D PLANT	Develop maintenance schedule In addition to the above, extreme hazard level plant (D) requires specialist advice from OHSIM and management approval prior to purchase or manufacture.

Step Three – Determine risk controls

Take action to eliminate or reduce the risks to a reasonably practicable level, ensuring that no new hazards are introduced.

The overall risk must be reduced to reasonably acceptable levels. Purchasing and design controls are the most effective to avoid introducing risk into the workplace (i.e. elimination of the hazard). Budget Area must take all reasonably practicable steps to ensure that:

- risk control measures are maintained and effectively monitored;
- effective and safe systems of work are implemented and appropriately supervised;
- training programs support risk management principles.

If the plant/equipment is categorised as medium or high risk, then risk management action by the responsible Budget Area includes:

- Completion of a Pre-Purchase Risk Assessment and/or PRAMS forms;
- Develop a standard operational procedure for use and associated training;
- Development of procedures for the safe shutdown in the event of unsafe or emergency response;
- A maintenance schedule; and
- **Registering the plant item (using PRAMS form) with RSPE Facilities and Services Office. -** *(Other documents to be kept at local level)*

All plant categorised as **extreme risk** requires:
- the PRAMS to be completed prior to the plant being purchased or manufactured, and for existing plant;
- Research, planning, senior management approval, and specialist advice from OHSIM must support this assessment;

Any significant risks must be addressed (ideally) prior to purchase/manufacture and managed to an acceptable level of risk in operation.

Residual (remaining) risk may be acceptable and the delegate in the budget area must document recommended risk control strategies and safe operating instructions.

Responsibility for risk controls across the life cycle of the plant should be clear in operating procedures. Existing systems in use at the ANU (e.g. job cards, Maximo database, quality systems) can support documentation of risk control strategies. The ANU's Workshop and Trade Safety Course and manual may provide further guidance.

The risk assessment documents should be supplied to the user if the budget area is manufacturing or supplying plant.

Step Four – Monitoring & review of risk control

Review and monitor the effectiveness of the risk reduction measures.

The budget area must review the risk assessment upon receipt/ redesign or modification/installation /commissioning of the plant to revise controls and documentation.

Consideration of changes in business practice, external controls (regulations), and the operating environment is required to ensure the risk is adequately managed. The frequency of this review is determined as part of the area's risk management plan or as imposed by external factors. An annual review is suggested.

Access to shared ANU knowledge is recommended during this review. Advice and resources are available from OHSIM.

END Section 2