Hazard Risk Assessment Procedure

Procedure Owner: Director Human Resources Services

Keywords: 1) Health and Safety 2) Hazard 3) Risk 4) Assessment

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1. INTENT

The purpose of this document is to outline the procedure for completing health and safety (HS) hazard risk assessments (HRAs) in order to identify hazards, assess the level of risk associated with them and identify controls to eliminate, reduce or manage the risk to an acceptable level.

This procedure supports requirements of the Health and Safety (HS) risk management framework outlined in the Health and Safety Hazard Identification and Risk Management Guideline.

2. ORGANISATIONAL SCOPE

All ECU workers and students.

3. DEFINITIONS

<table>
<thead>
<tr>
<th>TERM</th>
<th>DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>As low as reasonably practicable (ALARP)</td>
<td>Risk that is tolerable on the basis that the risk is acceptably low and cannot be further reduced effectively considering the cost, time and resources involved.</td>
</tr>
<tr>
<td>Consequence</td>
<td>The impact of an event expressed qualitatively and/or quantitatively, being a loss, harm, disadvantage or gain.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Control(s)</td>
<td>Actions and tasks undertaken to eliminate or minimise hazards so far as reasonably practicable, in order to prevent or minimise injury, reduce adverse health effects and damage to plant or equipment.</td>
</tr>
<tr>
<td>Current risk</td>
<td>The risk as it currently exists considering the effectiveness of the existing controls. In Riskware, this is referred to as ‘Current Rating’.</td>
</tr>
<tr>
<td>ECU</td>
<td>Edith Cowan University</td>
</tr>
<tr>
<td>Hazard</td>
<td>In relation to a person, anything that may result in injury to the person; or harm to the health of a person. In Riskware this is referred to as a ‘Risk Factor’.</td>
</tr>
<tr>
<td>Hazard Risk Assessment (HRA)</td>
<td>A formal tool used to identify hazards; assess, control and review risks for an activity/project.</td>
</tr>
<tr>
<td>Hierarchy of Control (HoC)</td>
<td>Methods of controlling risks, ranked from the highest level of protection and reliability to the lowest. The HS Regulations require duty holders to work through this hierarchy when managing health and safety hazards.</td>
</tr>
<tr>
<td>Incident</td>
<td>An incident resulting in:</td>
</tr>
<tr>
<td></td>
<td>a) personal injury;</td>
</tr>
<tr>
<td></td>
<td>b) damage to equipment &amp; property;</td>
</tr>
<tr>
<td></td>
<td>c) personal injury and damage to equipment and property;</td>
</tr>
<tr>
<td></td>
<td>d) death; or</td>
</tr>
<tr>
<td></td>
<td>e) a combination of death and damage to equipment and property.</td>
</tr>
<tr>
<td>Likelihood</td>
<td>The most realistic or credible chance that a particular event will occur, resulting in the ‘consequence’, expressed as a qualitative or quantitative description of probability or frequency.</td>
</tr>
<tr>
<td>Near Miss</td>
<td>An incident that has actually happened and in which no actual injuries, illnesses, environment or property damage has occurred.</td>
</tr>
<tr>
<td>Occupational Exposure Limits (OEL)</td>
<td>Levels of agents in workplace air, which it is believed are low enough to protect nearly all workers from adverse health effects over a series of eight-hour (8h) shifts for a working lifetime.</td>
</tr>
<tr>
<td>Reasonably Practicable</td>
<td>That which is, or was at a particular time, reasonably able to be done to ensure health and safety, taking into account and weighing up all relevant matters including: (a) the likelihood of the hazard or the risk concerned occurring (b) the degree of harm that might result from the hazard or the risk (c) what the person concerned knows, or ought reasonably to know, about the hazard or risk, and ways of eliminating or minimising the risk (d) the availability and suitability of ways to eliminate or minimise the risk, and (e) after assessing the extent of the risk and the available ways of eliminating or minimising the risk, the cost associated with available ways of eliminating or minimising the risk, including whether the cost is grossly disproportionate to the risk.</td>
</tr>
<tr>
<td>Residual Risk</td>
<td>The risk remaining after implementation of proposed risk control(s). In Riskware, this is referred to as the ‘Residual Rating’.</td>
</tr>
<tr>
<td>Risk</td>
<td>The chance or probability that a person will be harmed or experience an adverse health effect if exposed to a hazard. It may also apply to situations with property or equipment loss, or harmful effects on the environment.</td>
</tr>
<tr>
<td>Riskware</td>
<td>ECU’s online risk management software solution used for recording</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Risk Approver</td>
<td>Person with the appropriate delegation level to accept the level of risk in accordance with ECU's risk acceptance criteria.</td>
</tr>
<tr>
<td>Risk Description</td>
<td>A description of how the hazard / risk factor could potentially result in a consequence.</td>
</tr>
<tr>
<td>Risk Management</td>
<td>A set of co-ordinated activities aimed at ensuring hazards and risks are eliminated or minimised as far as reasonably practicable.</td>
</tr>
<tr>
<td>Risk Owner</td>
<td>Person responsible for completing the Risk Assessment in Riskware. This person is responsible for ensuring controls are identified and allocated to a responsible person for implementation.</td>
</tr>
<tr>
<td>Risk Tolerance</td>
<td>Risks that the University will accept with consultation.</td>
</tr>
<tr>
<td>Safety and Employment Relations (SER) Team</td>
<td>A team that provides advice on health, safety and employment relations, as part of the Human Resources Services Team.</td>
</tr>
<tr>
<td>Semi-Quantitative risk assessment</td>
<td>Semi-quantitative risk assessment provides an intermediary level between the textual evaluation of qualitative risk assessment and the numerical evaluation of quantitative risk assessment, by evaluating risks with a score.</td>
</tr>
<tr>
<td>University Risk Acceptance Criteria</td>
<td>Criteria providing guidance on the acceptability of risk, action to be taken, review periods and level of delegation required to accept the risk based upon the residual risk rating.</td>
</tr>
</tbody>
</table>
| Worker(s)                                 | A person is a worker if the person carries out work in any capacity for ECU, including work as:  
  a) an employee  
  b) a contractor or subcontractor;  
  c) an employee of a contractor or subcontractor;  
  d) an employee of a labour hire company who has been assigned to work in the person's business or undertaking; or  
  e) an apprentice or trainee;  
  f) a student gaining work experience;  
  g) a volunteer.                                                                                                                                                                                            |

4. GENERAL REQUIREMENTS

4.1 Description

A HRA is a team-based, semi-quantitative risk assessment process which provides an efficient and effective method of identifying hazards, assessing and evaluating risks and developing risk controls and actions to implement the controls. Risk ratings are applied using the University risk matrix and hazard risk assessments should be recorded within the WHS Risk module of Riskware. The Create a New Risk Assessment Riskware Information Sheet provides step by step guidance of how to record HRAs in Riskware.
HRA’s may be conducted in a workshop situation. If a workshop is to be held, the processes of planning, preparation and workshop coordination should be conducted in accordance with sections 6.2 of the *Health and Safety Hazard Risk Register Procedure*.

### 4.2 When to conduct a HRA

HRA’s should be conducted:
- For risks with a residual risk rating of substantial and above following a Job Safety Analysis (JSA)
- To assist in quantifying the level of risk associated with a task, activity, piece of equipment or structure to enable the development of appropriate controls
- To assist in resolving specific health and safety hazards or issues
- Upon request from Regulators or external stakeholders
- For new or changed activities including
  - Teaching activities
  - Purchasing new equipment
  - Travel including study tours and fieldwork
  - Events e.g. Open Day
  - New projects e.g. research and infrastructure including those requiring ethics applications and clinical trials grant applications
- Prior to changes with the organisation
- Upon recommendation from an audit and/or management review

### 5. ROLES AND ACCOUNTABILITIES

#### 5.1 Risk Owner

The Risk Owner who conducts the HRA is accountable for:
- Setting the scope and forming the risk assessment team
- Where a workshop is conducted to develop or review the HRA, undertaking the required preparation and facilitating the workshop
- Systematically following the hazard risk assessment process as outlined in section 6 of this procedure.
- Ensuring the HRA is recorded in Riskware and approved by the appropriate level of delegation.
- Reviewing risk descriptions at appropriate frequencies, as per Section 7.2 and relevant risk factors are selected.
- Ensuring the “Existing controls” field is kept up-to-date with a list of all current controls categorised by the Hierarchy of Control (HoC) level
- Recording the title of the training where training or procedures are used as an administrative control.
- Ensuring identified radiation, biosafety and hazardous substances hazards that meet the Radiation Biosafety Hazardous Substances Committee (RBHSC) classification criteria have been approved for use by the RBHSC.
- Communicating the outcome of the hazard risk assessment

#### 5.2 Risk Approver

The Risk Approver is accountable for the overall management of the hazards for the work being undertaken. This includes:
• Where relevant, working with the Risk Owner to set the HRA scope and form the risk assessment team
• Ensuring the HRA is developed, recorded in Riskware, maintained and reviewed in accordance with the requirements of this procedure;
• Controls are in place, effective, inspected and maintained as required and in a timely manner;
• If a level of risk is not within their appropriate delegation level to accept the level of risk in accordance with ECU’s Risk Acceptance Criteria, escalating to the appropriate level of delegation;
• The approved HRA is available to workers and students, as required.

6. CONDUCTING A HAZARD RISK ASSESSMENT

6.1. Step 1: Hazard Risk Assessment Context

6.1.1. Scope

The Risk Owner should determine the scope and details of the HRA and record this information in the WHS Risk module of Riskware. This should include:
• The objective of the risk assessment e.g. project/task/activity assessed
• The effect and location (boundaries) of the risk being assessed
• The business unit(s) affected
• Documents referenced including any legal and other requirements, previous incident reports, operating manuals, procedures, Hazard Risk Register (HRR).

6.1.2. Risk Assessment Team

The HRA team should include participants with knowledge and experience of the area, activity and/or equipment being assessed. Safety and Employment Relations team members and technical professionals may also be included in the risk assessment team as required.

The team members should be recorded in the WHS Risk Register module of Riskware.

6.2. Step 2: Hazard Identification

The purpose of the hazard identification step is to describe the hazardous situation (documented as the Risk Description in Riskware) and identify the hazards (risk factors) that could potentially result in a consequence in the work locations/ activities/ equipment and/or work group being assessed.

Hazards can be identified by;
• Identifying and analysing tasks and activities including those where equipment is used
• Conducting inspections in work locations
• Consulting with workers and students, including Health and Safety Representatives
• Review of hazard and injury/illness information from incidents, hazard reports and external sources such as designers/manufacturers, operational manuals, industry and regulators
• Review of approved HRAs and HRRs already conducted for the School/Support Service locations available through the WHS Risk Register in Riskware.
The HS Hazard and Risk Factor Prompt Sheet provides a checklist of hazards for consideration.

The following impacts should be considered:

- **Safety**: An injury that has occurred, or may occur, and/or damage or potential damage to equipment and property e.g. burn, pinch, graze, crush, fire, deformity etc.
- **Health**: Occupational health concern / disease / illness that has occurred, or may occur, due to immediate exposure (acute) or exposure over a period of time (chronic) e.g. sunburn, noise induced hearing loss, musculoskeletal damage, respiratory reaction to inhalation of fumes, occupational exposure limit (OEL) exceeded etc.

Within the WHS Risk Register module of Riskware, the Risk Owner must:

- Ensure that text in the risk description is succinct, clear and contains enough information to sufficiently convey the hazardous situation and resulting consequence to any person that may need read it. Abbreviations and slang should be avoided;
- Select the hazard (risk factor) that best describes the situation. There may be more than one and if this is the case choose the most prominent and provide the details of the others in the risk description.
- Consequences are sufficiently clear and specific enough to make a reasonable risk assessment.

6.3. Step 3: Identification of Current Controls in Place

For each risk factor and risk description, identify and record all existing controls in place and categorise by Hierarchy of controls as below:

- **Elimination** – the hazard is eliminated to avoid the risk.
- **Substitution** – the activity, process and/or material is substituted for one that is less hazardous.
- **Isolation** – separate the hazard by enclosing or physically guarding it.
- **Engineering** – redesign the equipment, work process or automated processes to prevent interaction between the hazard and personnel and/or the environment.
- **Administration** – including management strategies, procedures (e.g. isolation, temporary barricading, spill response), SWI’s, training, inductions, signage, etc.
- **Personal Protective Equipment (PPE)** – equipment or clothing to protect an individual in accordance with the University PPE management requirements.

6.3.1. Controls for exposure to radiation, biosafety and hazardous substances

The RBHSC is the University’s reference and referral point for all matters relating to the approval and purchase of radiation, biological and hazardous chemical materials, including Genetically Modified Organisms (GMOs) and carcinogens, mutagens and teratogens.

Hazardous situations involving potential exposure to these hazardous materials should be controlled to as low as reasonably practicable (ALARP), since meeting an occupational exposure limit (OEL) is not an adequate form of risk management.

6.4. Step 4: Current Risk Rating

With the current controls in place, use the University Risk Matrix to evaluate each risk description:
• Identify the level of consequence as Minor, Disruptive, Serious, Critical or Catastrophic. The assigned consequence rating should correspond to the consequence descriptors using the University Risk Matrix e.g. if medical treatment is the result, the consequence assigned should be Disruptive.
• Identify the level of likelihood of the consequence occurring as Rare, Possible, Occasional, Likely or Almost Certain
• Use the University Risk Matrix to determine the overall risk rating from the sum of the consequence and likelihood as below*:
  o Extreme (20 – 25)
  o High (15-19)
  o Substantial (10-12)
  o Moderate (5-9)
  o Low (1-4)

* Note: the risk matrix in Riskware does not have a numerical value assigned

6.5. Step 5: Proposed Controls to Reduce Risk

If the current risk is not reduced to ALARP or is intolerable, further controls should be identified to achieve risk levels deemed to be ALARP, with emphasis and priority being placed on those risks evaluated above the established risk acceptance criteria threshold.

Proposed controls should consider the hierarchy of controls as well as:
• Any potential follow-on impacts, should a proposed action be implemented.
• Where higher level controls are being considered, they must be:
  o Designed to be compatible with process, maintenance and emergency requirements;
  o Designed in accordance with good engineering practices particularly in the case of higher risks;
  o Cost effective in achieving control of potentially hazardous exposures;
  o Documented and any actions incorporated into improvement plans and tracked to completion; and
  o Regularly inspected, assessed, maintained and reviewed for effectiveness.
• Where procedures are used as a control method, they should be understood and followed because of training and enforcement
• The use of PPE as a control is limited to:
  o Reaching compliance with OELs or safe working conditions;
  o When controls that are higher in the hierarchy of controls are being developed and implemented;
  o Tasks that are short in length; and
  o Where the use of higher level controls is inconsistent with the amount of risk and cost.

Where ongoing measuring/monitoring of controls is required, these programs should be documented. The data from these programs (once analysed and validated) may be used to re-evaluate the risk assessment.

For each proposed control, the person responsible and required due date must be determined and the action allocated within Riskware. Once proposed control actions are completed and
the completion is recorded in Riskware, the system automatically amends the proposed control to a current control within the HRA.

### 6.6. Step 6: Residual Risk Rating

Considering the proposed controls, the risk must be re-evaluated using the *University Risk Matrix* to determine the residual rating. If the residual rating is reduced to ALARP and acceptable according to the University risk acceptance criteria, the current and proposed controls are considered effective.

Work must not commence / continue in work locations, activities, equipment and groups where risks remain inadequately controlled or intolerable.

### 6.7. Step 7: Peer Review

The draft HRA should be reviewed by one or more subject matter experts with specific expertise or knowledge on the hazards associated with the work activity and location before it is submitted for approval.

The Riskware process steps to invite a subject matter expert to conduct a peer review, as well as the process to complete a peer review are available from the following information sheets:

- *Invite a User to Peer Review a Risk Assessment Riskware Information Sheet*
- *Complete a Peer Review Riskware Information Sheet*

### 6.8. Step 8: Risk Approval

Once Peer review feedback has been received and incorporated; the HRA must be submitted to the Risk Approver for approval in line with the ECU risk acceptance criteria delegations.

The *Approve or Reject a Risk Assessment Riskware Information Sheet* provides information on the process steps within Riskware.

Once approved, the HRA will appear in the WHS Risk Register within Riskware.

### 6.9. Communication of Risk Assessment Outcomes

The approved HRA should be communicated to assessment team members and applicable stakeholders.

### 7. HAZARD RISK ASSESSMENT REVIEW

#### 7.1. Riskware Process

HRA’s should be reviewed within Riskware either by:

- Using the Formal Review process – note that the HRA cannot be saved in draft using this process and is automatically submitted for approval.
- By creating a clone of the original risk (with new reference number) so the HRA may be worked with in a draft format in a workshop situation or over multiple sessions. In instances where the HRA is cloned, the original HRA reference number should be recorded within the ‘Notes’ section and once the reviewed HRA has been approved, the original (previous version) should be archived referencing the new HRA reference number.
For more details on the Riskware review process refer to the Review a Risk Assessment Riskware Information Sheet.

7.2. Review Frequency

- HRA’s should be reviewed:
  - When new hazards are identified or equipment, activities or locations change
  - Periodically in accordance with the University Risk Matrix acceptance criteria

<table>
<thead>
<tr>
<th>Current Risk Rating</th>
<th>Review Period not exceeding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extreme</td>
<td>One Week</td>
</tr>
<tr>
<td>High</td>
<td>Three Months</td>
</tr>
<tr>
<td>Substantial</td>
<td>Six months</td>
</tr>
<tr>
<td>Moderate</td>
<td>Twelve Months</td>
</tr>
<tr>
<td>Low</td>
<td>Periodically as required</td>
</tr>
</tbody>
</table>

- When related legal or other requirements change
- Where incidents associated with the activity, equipment or location assessed identify new hazards that haven’t been captured.

8. ARCHIVING RISK ASSESSMENTS

- Where HRA’s are no longer current e.g. where the work activity is no longer undertaken, equipment has been removed or location no longer utilised, the risk assessment should be archived within Riskware with the reason noted.
- Archived risks will still be visible and retrievable within Riskware by system administrators.

9. RELATED DOCUMENTS

This procedure is supported by the following documents, available from the Work Health and Safety page of the HR Services website:

- Health and Safety Hazard Identification and Risk Management Guideline
- Health and Safety Hazard Risk Register Procedure
- Health and Safety Hazard and Risk Factor Prompt Sheet
- Create a New Risk Assessment Riskware Information Sheet
- Review a Risk Assessment Riskware Information Sheet.
- Invite a User to Peer Review a Risk Assessment Riskware Information Sheet
- Complete a Peer Review Riskware Information Sheet
- Approve or Reject a Risk Assessment Riskware Information Sheet

Other documents which are relevant to the operation of these procedures are as follows:

- ECU Integrated Risk Management Policy
- ECU Integrated Risk Management Guidelines (includes ECU’s Risk Criteria)

10. CONTACT INFORMATION

For queries relating to this document please contact:
11. APPROVAL HISTORY

<table>
<thead>
<tr>
<th>Procedure Approved by:</th>
<th>Director Human Resources Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date Procedure First Approved:</td>
<td>February 2019</td>
</tr>
<tr>
<td>Date last modified:</td>
<td>February 2019</td>
</tr>
<tr>
<td>Revision History:</td>
<td>V1.0</td>
</tr>
<tr>
<td>Next Revision Due:</td>
<td>February 2022</td>
</tr>
<tr>
<td>HPRM File Reference</td>
<td>HSMS/30</td>
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