## EHSE Fieldwork Risk Assessment Form

### School / Centre / Institute
- SEnv/RIEL

### Activity (the scope of this risk assessment)
- Working at waste stabilisation ponds

### Risk assessment carried out by (name and title)
- Dr Anna Padovan

### Location (of activity)
- Wastewater ponds, NT

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This document is only applicable for a maximum period of 12 months and the following conditions apply:

1. Activity and participants must remain the same. Any variation to the activity that significantly increases the level of risk will require the Onsite Activity Leader to revise and update the risk assessment and submit to their supervisor for approval.
2. Risk Assessment must be revised/updated and submitted for approval if found to be inadequate. Incidents and accidents in field or concerns expressed by anyone associated with the activity must trigger the Onsite Activity Leader to review and resubmit the risk assessment for approval.
3. Applicable for a period of 12 months. For ongoing activities (e.g. a long term project that spans several years) the Onsite Activity Leader is required to submit a revised/updated version for approval before commencement of the new activity each year.

### Activity
- Driving to pond and back
- Collecting water and taking measurements at waste stabilisation pond; deploying and retrieving chambers and equipment from pond/s

### Hazards Identified
- Fatigue during drive
- Poor road conditions
- Immersion in water or splashing water onto body
- Exposure to pathogens

### Risks Identified
- Vehicle accident causing injury or death
- Drowning
- Illness

### Risk Level (initial)
- High
- High
- Medium

### Proposed Risk Control Measures
- For trips >4hr, take regular breaks & swap drivers. All drivers to have 4WD certificate when 4WD vehicles are used.
- Wear closed shoes with good tread; take care near waters edge; remove potential trip hazards; keep number of people near water edge to a minimum. Tap water (10 L) will be taken on site to wash down splashes then person can be taken back to accommodation for full shower if necessary. Antiseptic wipes after every sampling event. If someone falls into the pond, a pole will be used to help retrieve them. They will be taken to the local clinic for medical advice. Discuss activities with PWC and complete their Job Safety Environment Analysis (JSEA).

### Risk Level (final)
- Medium
- Collecting water and taking measurements at waste stabilisation pond; deploying and retrieving chambers and equipment from pond/s

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Issued May 2014
<table>
<thead>
<tr>
<th>Exposed field work</th>
<th>Heat stress &amp; sunburn</th>
<th>Nausea, illness</th>
<th>Medium</th>
<th>Ensure personnel wear appropriate sun protection, provide adequate water and consider erecting temporary shade if prolonged exposure is expected.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dehydration</td>
<td>Nausea, illness</td>
<td>Medium</td>
<td>Drink fluids regularly (water and electrolytes) to reduce core body temperature and rehydrate. Sit in shade. If a person is suffering from heat stress and dehydration, give fluids, sit in air conditioned car, wet clothing with tap water and take to clinic for saline drip if necessary.</td>
</tr>
<tr>
<td></td>
<td>Biting insects</td>
<td>Irritation, illness</td>
<td>Medium</td>
<td>Wear appropriate clothing and DEET to protect against biting insects. Avoid working at dawn and dusk.</td>
</tr>
<tr>
<td></td>
<td>Wildlife</td>
<td>Injury or death</td>
<td>Medium</td>
<td>Ensure pond and work area is free of wild animals, snakes, crocodiles, buffalo and feral/community dogs prior to starting work. If animals are present suspend work until removed from site. If a person is attacked by an animal, then they will be taken to the clinic (if safe to approach the person) or dial 000.</td>
</tr>
<tr>
<td>Behaviour &amp; culture</td>
<td>Offending others</td>
<td>Offending others</td>
<td>Low</td>
<td>Be aware of customs, restrictions (e.g. no alcohol) while on Aboriginal land; liaise with PWG Community Engagement Group; liaise with local council prior to entering; be aware of areas of cultural significance; abide by CDU code of conduct; don't travel or work alone. Obtain permit from NLC to enter land.</td>
</tr>
<tr>
<td></td>
<td>If too much dye is added, red/pink colour may be visible in wastewater, irrigated grass or billabong during pond overflow.</td>
<td>Colouration of water, grass and nearby billabong.</td>
<td>Low</td>
<td>Only restricted amount of dye will be taken and added. If ineffective, tracer study will be abandoned (i.e. more dye will not be added). Dye study has already been trialled interstate with no adverse effects. Study taking place in Dry season so chance of pond overflow is minimal.</td>
</tr>
<tr>
<td></td>
<td>Spill and body contact</td>
<td></td>
<td>Low</td>
<td>Wear gloves &amp; face mask. Have colleague help to open/close container.</td>
</tr>
</tbody>
</table>
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#### Notes:
1. Refer to Attachment A
2. Generally at CDU, if a risk cannot be eliminated. Control measures must be implemented to reduce the final (residual) risk level to Low. Depending on specific circumstances, a low risk level may not be achievable, and a higher risk level (e.g. Medium) may be, as far as is reasonably practicable, acceptable. However, acceptance of a higher risk level should be discussed with and approved by a Manager with the commensurate authority to approve such a higher risk level (e.g. Director, HOS or PVC).
3. Refer to Attachment B. Use of the Action Plan template may assist with the implementation of proposed (new) risk control measures.

#### Attachment A: Risk Matrix

<table>
<thead>
<tr>
<th>Consequence</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major</td>
<td>Death or extensive injury</td>
</tr>
<tr>
<td>Moderate</td>
<td>Medical Treatment</td>
</tr>
<tr>
<td>Minor</td>
<td>First Aid Treatment</td>
</tr>
<tr>
<td>Insignificant</td>
<td>No Treatment</td>
</tr>
</tbody>
</table>

### STEP 1 Consider the CONSEQUENCES

Consider what is known and what could reasonably be expected to happen.

Look at the descriptions and choose the most suitable.

### STEP 2 Consider the LIKELIHOOD

What is the likelihood of the consequence identified in Step 1 happening?

Look at the descriptions and choose the most suitable.

<table>
<thead>
<tr>
<th>Likelihood</th>
<th>Description</th>
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<tbody>
<tr>
<td>A</td>
<td>Is expected to occur</td>
</tr>
<tr>
<td>B</td>
<td>Could probably occur</td>
</tr>
<tr>
<td>C</td>
<td>Could occur, but only rarely</td>
</tr>
<tr>
<td>D</td>
<td>May occur, but probably never will</td>
</tr>
</tbody>
</table>

### STEP 3 Calculate the RISK LEVEL

1. Select the appropriate column for Step 1 on the matrix below.
2. Select the appropriate line for Step 2 on the matrix below.
3. Circle the risk score where the two intersect.

<table>
<thead>
<tr>
<th>CONSEQUENCE</th>
<th>Insignif.</th>
<th>Minor</th>
<th>Moderate</th>
<th>Major</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>B</td>
<td>Medium</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>C</td>
<td>Low</td>
<td>Medium</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>D</td>
<td>Low</td>
<td>Low</td>
<td>Medium</td>
<td>Medium</td>
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#### The Hierarchy of Controls

When assessing/selecting risk control measures, the following priorities must be applied:

1. Elimination of the risk
2. If it is not reasonably practicable to eliminate the risk, the risk must be reduced through:
   a. Substituting the hazard with one that presents a lesser risk
   b. Isolating the hazard from workers to contain the risk
   c. Changing the design of plant or equipment to reduce the risk (referred to as engineering controls)
3. If there still remains a risk, administrative controls (procedures, signage, etc.) must be implemented
4. If there still remains a risk, the provision and use of suitable personal protective equipment (PPE) must be ensured.

Note: Risk treatment may consist of a combination of several risk control measures.

DEFINITIONS

Reasonably practicable

When trying to establish during a risk assessment, if risk control measures are reasonably practicable, consider the following matters:

- the likelihood of the hazard or risk concerned occurring;
- the degree of harm that might result from the hazard or risk;
- what the person concerned knows, or ought reasonably to know, about the hazard or risk, and ways of eliminating or minimising the risk;
- the availability and suitability of ways to eliminate or minimise the risk; and
- after assessing the above, consider the cost associated with available ways of eliminating or minimising the risk, including whether the cost is grossly disproportionate to the risk.

Hazard

A hazard is a source or situation that has the potential to cause injury or disease to people, damage to the environment, equipment or property, or a combination of these. It can also be expressed in terms of unwanted or excess energy with the capacity to cause injury or disease.

Examples include the workplace environment itself (poor lighting or slippery floors), the work organisation (inappropriate work flow or inadequate procedures) or the equipment/plant used (noisy machinery or unsuitable PPE).

Risk
In the context of a risk assessment, risk is referred to as the combination of the frequency (or probability of occurrence) and the consequences associated with an identified hazard or hazardous event.

For example, the workplace hazard of poor lighting has associated risks such as injuries due to slips/trips. There could also be security related risks. The consequences of a fall related injury may, for example, range from ‘minor’ (some bruising – first aid) to ‘moderate’ (broken hip – hospital admission) depending on the particulars of the person who falls. The likelihood for this to occur may range from ‘could probably occur’ to ‘could occur but only rarely’. Consider what is known about previous incidents, similar incidents elsewhere and/or what could reasonably be expected to occur.
Attachment B: Action Plan

<table>
<thead>
<tr>
<th>Proposed (new) risk control measures (what and how)</th>
<th>Accountability (who is responsible for implementation)</th>
<th>Completion Date</th>
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DECLARATIONS

Onsite Activity Leader

I declare that I have completed the above Risk Assessment to the best of my knowledge and where necessary I have consulted with all relevant parties to assist in this process. I understand that it is my responsibility to ensure that all participants in this activity are sufficiently briefed about the hazards/risks identified and the risk control measures in place as documented above.

Name: Anna Padovan
Signature: [Signature]
Date: 23/06/2014

Supervisor of Onsite Activity Leader

As the Supervisor of the person conducting the Risk Assessment, I declare that I have thoroughly checked this Risk Assessment. I acknowledge that I have a responsibility as a supervisor to ensure that all risk control measures are in place.

Name: Karen Gibb
Signature: [Signature]
Date: 230614

Head of School / Director / PVC

I declare that I have positively confirmed that the supervisor has thoroughly checked the Risk Assessment, and that I have ensured that appropriate resources are available for this activity to proceed safely.

Name: Andrew Campbell
Signature: [Signature]
Date: 2.7.14

This Risk Assessment is only considered completed and approved when all signatures have been obtained.

Email this form and other associated documents to ehsefieldwork@cdu.edu.au when completed and approved. This form will not be accepted in hard copy.