# HEALTH & SAFETY PROCEDURE
## HSP-014: HIDRA

**Sydney WATER**

## 1  SCOPE

This procedure applies to Sydney Water staff and managers and contractors to Sydney Water. Contractors must apply a risk-based approach to addressing safety risks.

The outcome of this procedure is documented controls to be applied to control risk.

## 2  MANDATORY REQUIREMENTS

MR 1    Risk assessment will be conducted for all tasks by some process involving representatives from affected parties

MR 2    The following contexts should be considered when conducting HIDRA

- Is it safe to build?
- Is it safe to put into service?
- Is it safe to use and maintain?

    This may be done on one occasion, or by a number of iterations of the HIDRA process, for the different contexts.  Each HIDRA may use the HIDRA tool as described in this procedure, or other tools as indicated in Section 3.

MR 3    In particular, hazard identification shall consider, but not be limited to:

- work premises, layout and condition of a place of work (including lighting conditions and workstation design)
- work practices, work systems and shift working arrangements (including hazardous processes, psychological hazards and fatigue related hazards)
- plant (including the transport, installation, erection, commissioning, use, repair, maintenance, dismantling, storage or disposal of plant)
- dangerous goods (including the transport, use, storage or handling or disposal of dangerous goods)
- hazardous substances (including the production, handling, use, storage, transport or disposal of hazardous substances), and the presence of asbestos installed in a place of work, or biological organisms, products or substances
- manual handling (including the potential for occupational overuse injuries)
- physical working environment (including the potential for  the risk of any of the following:
    - electrocution
    - drowning
    - fire or explosion
    - people slipping, tripping or falling
    - contact with moving or stationary objects
    - exposure to noise, heat, cold, vibration, radiation, static electricity or a contaminated atmosphere
    - the presence of a confined space
    - the potential for workplace violence

MR 4    Hazards that cannot be eliminated shall be assessed with the appropriate tool.

**be safe mate**

MR 5    Hazards will be controlled using the control hierarchy.  The control hierarchy consists of:
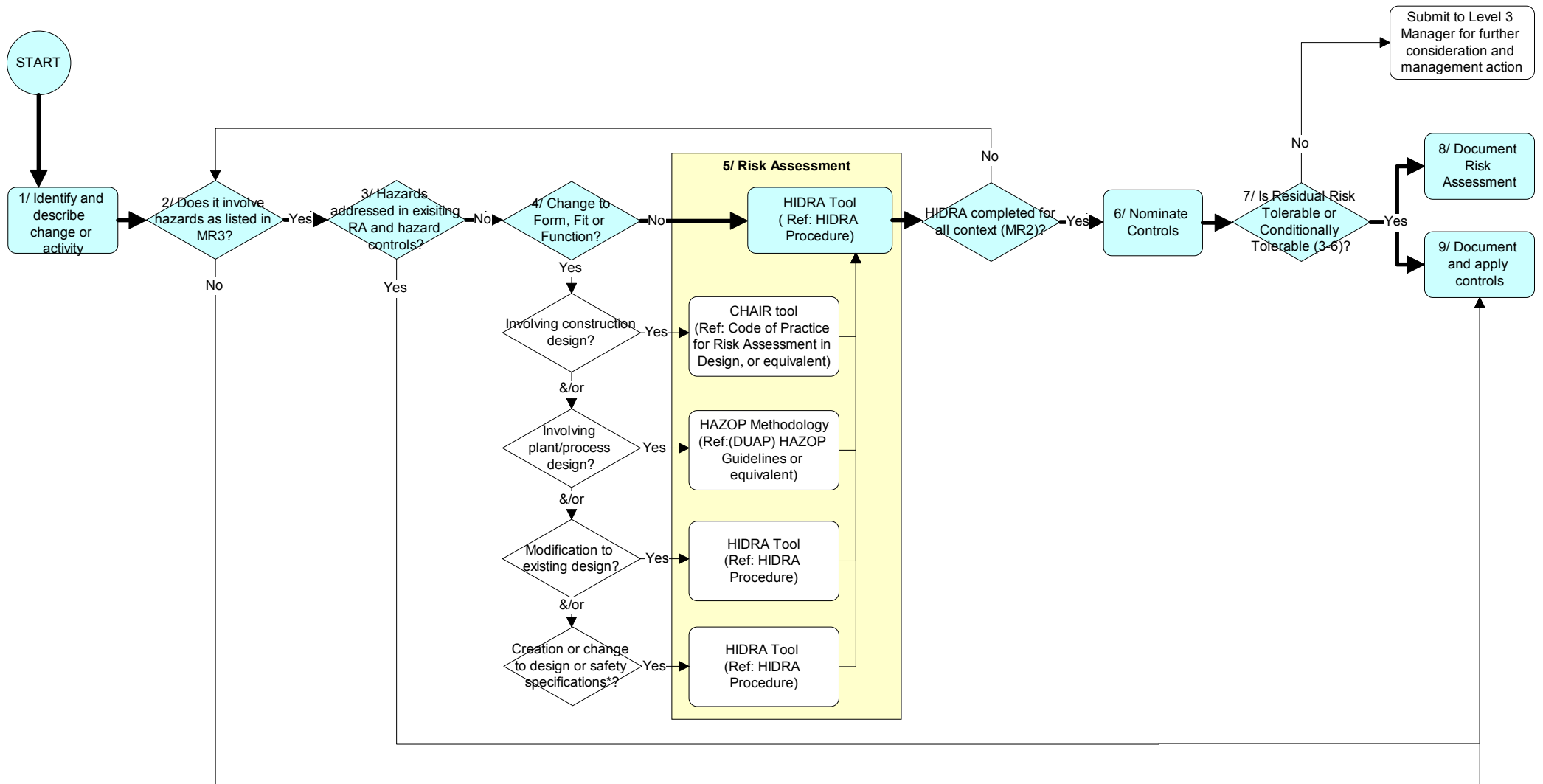
- Elimination
- Substitution
- Engineering
- Administrative controls
- Awareness training
- Personal Protective Equipment

For each hazard, consideration shall be given to each type of control in order starting with elimination.  Multiple controls may be applied to address the risk of any given hazard.

MR 6    Controls will be documented in the appropriate record.  Where controls are documented in risk control procedures, the procedures will include the fields in the safework method statement proforma in *Hazard Identification and Risk Assessment for Builders* (WorkCover, 1997).

MR 7    The HIDRA will be recorded

# 3  PROCEDURE

START

1/ Identify and describe change or activity

2/ Does it involve hazards as listed in MR3? — No

2/ Does it involve hazards as listed in MR3? — Yes

3/ Hazards addressed in exisiting RA and hazard controls? — Yes

3/ Hazards addressed in exisiting RA and hazard controls? — No

4/ Change to Form, Fit or Function? — Yes

4/ Change to Form, Fit or Function? — No

Involving construction design? — Yes

&/or

Involving plant/process design? — Yes

&/or

Modification to existing design? — Yes

&/or

Creation or change to design or safety specifications*? — Yes

**5/ Risk Assessment**

HIDRA Tool ( Ref: HIDRA Procedure)

CHAIR tool (Ref: Code of Practice for Risk Assessment in Design, or equivalent)

HAZOP Methodology (Ref:(DUAP) HAZOP Guidelines or equivalent)

HIDRA Tool (Ref: HIDRA Procedure)

HIDRA Tool (Ref: HIDRA Procedure)

HIDRA completed for all context (MR2)? — No

HIDRA completed for all context (MR2)? — Yes

6/ Nominate Controls

7/ Is Residual Risk Tolerable or Conditionally Tolerable (3-6)? — No

7/ Is Residual Risk Tolerable or Conditionally Tolerable (3-6)? — Yes

Submit to Level 3 Manager for further consideration and management action

8/ Document Risk Assessment

9/ Document and apply controls

*WSAA Standards, Sydney Water Standards, Health and Safety Standards for Critical Safety Tools & Equipment*

## ACTIONS

### STEP 1.    Hazard Identification – How do you decide what is a hazard?

Identify the task, activity, equipment, process that you are about to assess and any conditions or relevant information.  This will allow risk assessment team to focus on agreed conditions that are being assessed.

Risk assessment must be conducted in consultation with all agreed parties, or their representative(s)

- If risk assessment is being conducted at commencement of work (on the job), ensure all person doing or likely to be affected by the work are consulted or involved in the risk assessment

- If risk assessment is being conducted for a set of routine tasks (off the job), ensure staff are consulted via Health & Safety Representatives of by Other agreed rearrangements (eg team meetings etc)

Collect and review information to assist you in identifying hazards. Review available information.  This may include, but not be limited to:

- Legislation and relevant Codes of Practice

- Australian Standards

- Manufacturer (of plant, tools & equipment) information

- MSDS and Chemical information database: Chemwatch

- Maintenance Databases: Maximo, Facility MAXIMO (FMX), PALMS,

- Incident information & statistics

- Audit information

- Audits

Review the following information to identify hazards (i.e. what can harm you)

- Environment / location where the activity is to be conducted, including overhead hazards and concealed services,

- tasks and their hazards, and/or

- any site hazard register eg unmanned assets, and/or

- any equipment and chemicals used or dusts created, and/or

- how the work is done and look at any personal harm eg noise, awkward positions, heavy lifting or repeated activities

### STEP 2.    Hazard Identification – Are there any hazards present?

Are there any hazards present?

If Yes, Continue to Step 3

If No, document changes in operating procedures

### STEP 3.    Hazard Identification – hazards addressed by existing Risk Assessment and Hazard Controls?

Are hazards covered by existing Risk assessment and Hazard Controls?

If Yes, apply controls

If No, Supervisor to conduct risk assessment in consultation with affected parties (go to Step 4)

### STEP 4.    Risk Assessment – Select Risk Assessment tool

Select the type, number and interval of risk assessment to be performed

Select to appropriate tool – see Figure 1

## ACTIONS

### STEP 5.    Risk Assessment – How do you determine what harm they can cause?

For each hazard, identify the range of impacts: "what could go wrong?" and "how could it happen?"

Determine the most likely consequence ( for more information refer to Risk Guide).

Use the risk assessment table to assess the risk rating for each hazard impact

- ▪ To determine the consequence, look on the left hand column of the risk table and identify the most likely injury/outcome.

- ▪ To determine the likelihood look across the top row and identify the likelihood of the "Consequence" occurring,

- ▪ Where the Likelihood and Consequence meet on the table, this is the "Risk Rating"

Record the risk for each hazard on the HIDRA template or equivalent (see Appendix 1)

Complete risk assessment for all relevant contexts

| RISK TABLE | Likelihood | | Very Likely | Likely | Unlikely | Very Unlikely |
|---|---|---|---|---|---|---|
| CONSEQUENCE | The event could happen…………. | | at any time | sometime | but very rarely | but probably never will |
| CATASTRO-PHIC | Fatality, amputation of limb, person on life support, other immediately life threatening incidents | | 1 | 1 | 2 | 3 |
| SEVERE | Lost time injury | | 1 | 2 | 3 | 4 |
| MODERATE | Injury, incident (or near miss) or work-related illness requiring medical attention Violence at workplace | | 2 | 3 | 4 | 5 |
| MINOR | Minor injury requiring first aid e.g. minor burns, abrasions, sprains | | 3 | 4 | 5 | 6 |
| INSIGNIFICANT | Incident with no discernable injury Motor vehicle accident - no injury | | 4 | 5 | 6 | 6 |

| Risk Category | | | Short Term Action | Long Term Timeframe | Report to |
|---|---|---|---|---|---|
| 1 | Very High | Intolerable | Immediate action to eliminate risk or reduce to high, medium or low risk before commencement of task | Immediate | Senior management |
| 2 | High | | | | |
| 3 | High | Conditionally tolerable | Temporary controls to reduce risk to medium or low | Within 6 months | Manager |
| 4 | Medium | | | Within 12 months | |
| 5 | Medium | Conditionally tolerable | Ensure controls are applied | Put into an annual improvement program | Manager |
| 6 | Low | Tolerable | Ensure hazards are identified and communicated | Nil | Immediate Supervisor |

## STEP 6.   Risk Elimination and Control – How do you decide the best way to remove or reduce the risk?

Where a hazard cannot be eliminated (see 4.1), assess the risk of harm arsing from the identified hazard and look for means to control or manage the exposure to the hazard (i.e. reduce the risk).

Can the hazard be eliminated?  If yes, then

- Eliminate the hazard or task
- Record the elimination activity in risk assessment record

Can the hazard be substituted with a non- or less hazardous product, process etc?  If yes, then

- Substitute if practical to do so.
- Conduct a risk assessment of the substituted product, process etc (repeat steps 1 and 2).

Can a barrier or engineering control be put in place to separate the person from the hazard? If yes, then

- Arrange and install the barrier or engineering control
- Conduct a risk assessment of the substituted product, process etc (repeat steps 1 and 2).

Can administrative controls be used to reduce impact or exposure? If yes, then

- Consult, develop and implement administrative controls
- Detail process or procedure to be followed, including any communication requirements and PPE

Can training / communication assist in raising awareness of the hazard and its impact? If yes, then communicate presence and potential impact(s) to affected persons.  Can PPE be used to reduce impact or exposure? If yes use appropriate PPE when exposed to the hazard.

Decide how often controls should be checked for their ongoing effectiveness and by whom

Record Control(s) to be applied to each hazard on the HIDRA template or equivalent, see Appendix 1. On completion of the HIDRA template, this becomes the HIDRA Record and forms the risk register.

## STEP 7.   Assess residual risk

Reassess risk rating after controls have been identified and record on HIDRA record or equivalent, see Appendix 1.

Is the residual risk rating 1 or2?  If yes, do not commence work, advise Level 3 manager within your Division.

## STEP 8.   Document Risk Controls

Document controls in one or a combination of the following.

- Plans
- Schedules
- Risk control procedures
- Permits
- Induction

Where controls are documented in local procedures, the procedures will include the fields in the safework method statement proforma in *Hazard Identification and Risk Assessment for Builders* (WorkCover, 1997).

## STEP 9.   Record Risk Assessment

MR 8   As a minimum, the HIDRA Record shall consist of:

- Name of person(s) participating in the risk assessment
- Task/activity/hazard being assessed
- Context of the assessment
- Date of assessment
- List of hazards
- For each hazard:
- Likelihood, consequence and risk rating prior to controls being applied
- Controls to be applied (may be listed as short term or long term)
- Likelihood, consequence and risk rating after to controls are applied

In addition, the HIDRA Record may contain:

- Physical inspection and testing interval
- Monitoring and management supervision interval
- Audit interval
- Inspection, testing or monitoring activities
- Other information useful to the business for managing risks

## 4  COMPETENCIES

All Sydney Water personnel shall be trained and competent in hazard identification.

All Sydney Water personnel conducting risk assessments shall be trained and competent

## 5  RESPONSIBILITIES

Managers who supervise staff or contractors are responsible for:

- Conducting risk assessment
- Controls being identified and applied
- Risk assessments being reviewed whenever there is a change to plant, process or equipment

All staff are responsible for:

- Contributing to risk assessment process
- Identifying hazards
- Communicating and/or controlling hazards where identified by themselves or others
- Applying and monitoring effectiveness of identified controls

## 6  DEFINITIONS

| | |
|---|---|
| **CHAIR** | Construction Hazard Assessment Implication Review |
| **Consequence** | The outcome of an event or situation, being loss, injury, disadvantage or gain |
| **Control Hierarchy** | If Elimination of the hazard is not possible then In order of effectiveness 'Substitution – Engineering Controls – Procedural or Administrative – Personal Protective Equipment' |
| **Hazard(s)** | An energy source with the potential to cause harm |
| **HAZOP** | Hazard and Operability Study |
| **Risk** | The chance of something happening that will have an impact on Health and/or safety. It is assessed in terms of consequence and likelihood. |
| **Likelihood** | How often people, property or the environment are exposed to the hazard under assessment and how likely it is that these circumstances can and will lead to an accident. It is used as a qualitative description of probability and frequency. |
| **HIDRA** | Hazard Identification and Risk Assessment |
| **HIRDA Record** | Any means by which a HIDRA is recorded.  This may be in the format as presented in Appendix 1 or other format that complies with Mandatory Requirement 5 |
| **Risk Register** | Any document/process/database that records risk assessment(s) |
| **Risk Control Procedures** | A documented process for controlling risk from hazards.  Risk control procedures may take various forms including standard operating procedures, safe operating procedures, work procedures, safe work method statements etc |

## 7  REFERENCES AND RESOURCES

| | |
|---|---|
| WorkCover Documents | OHS Act 2000 and Regulations 2001<br>Code of Practice: Risk Assessment 2001<br>Guide: Risk Management at Work 2001<br>Hazpak: making your workplace safer<br>Guide: Workplace Violence 2002<br>Code of Practice: Control of Workplace Hazardous Substances 2006<br>Tool: Chair: Safety in Design Tool 2001<br>Hazard Identification and Risk Assessment for Builders, 1997 |
| WorkSafe *(now known as Aust Safety & Compensation Council)* Documents | National Code of Practice for Manual Handling<br>National Code of Practice for Control of Workplace Hazardous Substances |

| | |
|---|---|
| Australian Standards (& associated documents) | AS 4360 Risk Management<br>      HB 436 Risk Management Guidelines<br>AS 4801 OHS Management Systems<br>AS 14001 Environmental Management Systems<br>AS 9001 Quality Management Systems |
| Sydney Water documents | Risk Assessment in Design procedure<br>OHS Risk Management procedure (not yet published)<br>Confined Space Hazard Identification & Risk Assessment Guide Risk Guide |

## 8 DOCUMENT CONTROL

| | |
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## 9 HISTORY

This is a major revision of CP-KP-014 HIDRA issue A revision 0 issued 6 Jan 2003, which is now cancelled.

## 10 APPENDICES

Appendix 1:  HIDRA Template

Appendix 1 HIDRA Template

| Activity/Task/Hazard being assessed | Context of assessment | Person(s) conducting assessment |
|---|---|---|
| | | |
| | | **Date of assessment** |
| | | |

| CAT. | Very Likely | Likely | Unlikely | Very Unlikely |
|---|---|---|---|---|
| CAT. | 1 | 1 | 2 | 3 |
| SEVERE | 1 | 2 | 3 | 4 |
| MODERATE | 2 | 3 | 4 | 5 |
| MINOR | 3 | 4 | 5 | 6 |
| INSIGNIF. | 4 | 5 | 6 | 6 |

| Step | Hazard | Impact | | Risk Before Controls | | | Controls (List all controls – current and required – intended to support the development of safe systems of work) | Risk After Controls | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *What can harm you?* | *What can happen?* | *How it can happen?* | Likeli-hood | Conse-quence | Risk Ranking | | Likeli-hood | Conse-quence | Risk Ranking |
| | | | | | | | | | | |
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