1 Purpose

1.1 This procedure provides an overview of Power and Water Corporation’s (Power and Water) approach to risk management.

2 Scope

2.1 This procedure relates to all activities undertaken by Power and Water by both Power and Water employees and contractors. It aims to manage risks from internal or external influences that affect Power and Water’s operations and business objectives.
3 References

3.1 Australian Standard, 2004, AS4360 Risk Management


3.6 Power and Water Corporation, 2005, OHS and Environmental Change Control Guidelines.

3.7 Power and Water Corporation, 2006, Emergency Response Procedure

4 Roles and Responsibilities

<table>
<thead>
<tr>
<th>Role / Title</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Board</td>
<td>• Maintains overall responsibility for risk management within Power and Water.</td>
</tr>
<tr>
<td></td>
<td>• Determines the level of risk that Power and Water is willing to accept in the conduct of its business activities.</td>
</tr>
<tr>
<td></td>
<td>• Directs the corporation (via the Managing Director) in managing risk.</td>
</tr>
<tr>
<td>Audit and Risk Management Committee</td>
<td>• Oversees risk management activities within Power and Water.</td>
</tr>
<tr>
<td></td>
<td>• Reports unacceptable corporate strategic risk exposures to the Board.</td>
</tr>
<tr>
<td></td>
<td>• Monitors and reviews the corporate strategic risk profile.</td>
</tr>
<tr>
<td></td>
<td>• Determines the timeframe for reviewing corporate strategic risk information.</td>
</tr>
<tr>
<td></td>
<td>• Determined the risk owner for identified corporate strategic risks.</td>
</tr>
</tbody>
</table>
## Risk Management

<table>
<thead>
<tr>
<th>Role / Title</th>
<th>Responsibility</th>
</tr>
</thead>
</table>
| **Managing Director**                     |  • Ensures that an effective risk management system is in place that supports Power and Water in achieving its objectives.  
   • Ensures that staff within Power and Water comply with the requirements of this procedure.  
   • Ensures that Power and Water has identified its relevant risks and that suitable controls have been implemented and are monitored for effectiveness.  
   • Ensures that strategic risk assessments are conducted for Power and Water at a frequency agreed to by the Audit and Risk Management Committee.  
   • Participates in corporate strategic risk assessments as required.  
   • Ensures that unacceptable strategic risks are brought to the attention of the Audit and Risk Management Committee.  
   • Determines the timeframe for reviewing corporate strategic risk information.  
   • Determines the risk owner for identified corporate strategic risks. |
| **Executive Management Committee Members**|  • Participates in corporate strategic risk reviews as required.  
   • Identifies and nominates Functional Heads for additional consequence areas identified in the scope and context of a risk assessment. |
| **Business Unit General Manager**         |  • Ensures that staff within their business unit comply with the requirements of this procedure.  
   • Acts as risk owner for corporate strategic risks as directed by the Audit and Risk Management Committee.  
   • Ensures that their business unit identifies its relevant risks and that suitable controls have been implemented and are monitored for effectiveness.  
   • Ensures that Business Unit strategic risk reviews are conducted at regular internals that do not exceed 1 year.  
   • Determines the risk owner for business unit strategic and operational risks identified within their business unit. |
<table>
<thead>
<tr>
<th>Role / Title</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Branch / Section Manager</td>
<td>• Ensures that staff within their branch/section comply with the requirements of this procedure.</td>
</tr>
<tr>
<td></td>
<td>• Participates in Business Unit strategic risk assessments as required.</td>
</tr>
<tr>
<td></td>
<td>• Participates in Business Unit operational risk assessments as required.</td>
</tr>
<tr>
<td></td>
<td>• Ensures that operational risk registers and assessments for their branch/section are reviewed and updated accordingly.</td>
</tr>
<tr>
<td></td>
<td>• Acts as risk owner as directed by the Audit and Risk Management Committee for corporate strategic risks.</td>
</tr>
<tr>
<td></td>
<td>• Acts as risk owner as directed by their General Manager for business unit strategic or operational risks.</td>
</tr>
<tr>
<td>Functional Heads</td>
<td>• To provide guidance and advice as to the accuracy of risk assessments, controls and treatments conducted within their area of expertise.</td>
</tr>
<tr>
<td>Risk Co-ordinator</td>
<td>• Ensures that Power and Water’s risk management system is implemented and monitored for effectiveness.</td>
</tr>
<tr>
<td></td>
<td>• Participates in risk assessments as required, including strategic and operational assessments.</td>
</tr>
<tr>
<td></td>
<td>• Ensures that strategic and operational risk assessments are reviewed and updated accordingly.</td>
</tr>
<tr>
<td>Power and Water Employees and Contractors</td>
<td>• Complies with the requirements of this procedure and any instructions given in associated training.</td>
</tr>
<tr>
<td></td>
<td>• Participates in operational and strategic risk assessments where required.</td>
</tr>
<tr>
<td></td>
<td>• Conducts task risk assessments where required and ensure that identified risks are controlled.</td>
</tr>
<tr>
<td></td>
<td>• Complies with identified risk treatments and controls.</td>
</tr>
</tbody>
</table>
### Risk Management

<table>
<thead>
<tr>
<th>Role / Title</th>
<th>Responsibility</th>
</tr>
</thead>
</table>
| Risk Owner   | • Accepts responsibility for the implementation of treatments for risks that they have been identified as the owner of.  
• Determines the level of acceptability of a risk that they are responsible for.  
• Ensures that monitoring and measurement processes are in place and effective for risk that they are responsible for.  
• Provide feedback and participate in regular risk reviews as required.  
• Informs the Managing Director and the Audit and Risk Management Committee of identified Extreme residual risks and their method of control. |

### 5 Definitions

Where terms or words are not included in the definitions section, refer to Power and Water’s Glossary for clarification. The glossary is available on Power and Water’s intranet.

<table>
<thead>
<tr>
<th>Word</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brain Storming</td>
<td>A collaborative process of risk identification that uses the skills and knowledge of a group to identify relevant risks for a process or problem. Similar to ‘What If’ risk assessments.</td>
</tr>
<tr>
<td>Control</td>
<td>An existing measure that is in place to reduce a risk.</td>
</tr>
<tr>
<td>Event</td>
<td>An occurrence of a risk; an event is when harm is suffered either by Power and Water or as a result of Power and Water's activities.</td>
</tr>
<tr>
<td>Event Tree Analysis</td>
<td>A risk identification process used to analyse a sequence of possible events that can occur in a system to help determine potential impacts.</td>
</tr>
<tr>
<td>Fault Tree Analysis</td>
<td>A risk identification process used to analyse a potential impact to determine all possible interactions and causes of that impact.</td>
</tr>
<tr>
<td>Hazard and Operability (HAZOP)</td>
<td>A systematic and multi-staged risk identification process for examining an operation or process to find flaws and problems so that they may be managed or designed out.</td>
</tr>
<tr>
<td>Inherent Risk</td>
<td>The level of risk that is calculated under the assumption that no controls exist to reduce it.</td>
</tr>
<tr>
<td>Process Mapping</td>
<td>A tool for identifying the layout and structure of a process in order to determine possible risks that may interact with that process.</td>
</tr>
</tbody>
</table>
### Risk Management

<table>
<thead>
<tr>
<th>Word</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residual Risk</td>
<td>The level of risk that exists provided identified existing controls are in place and effective.</td>
</tr>
<tr>
<td>Risk Management</td>
<td>The process of identifying, assessing, treating, monitoring, reviewing and communicating risks.</td>
</tr>
<tr>
<td>Risk Owner</td>
<td>A person of suitable authority who is deemed responsible for the management of risks identified within their area of influence.</td>
</tr>
<tr>
<td>Risk Treatment</td>
<td>A proposed control that has been determined to reduce the level of a risk. Once successfully implemented, a treatment becomes a control.</td>
</tr>
<tr>
<td>Scenario Analysis</td>
<td>A process of analysing possible future events by considering alternative possible outcomes (scenarios). The analysis is designed to allow improved risk identification by allowing more complete consideration of outcomes and their implications.</td>
</tr>
<tr>
<td>Task</td>
<td>A specific work practice or process that gives rise to a risk.</td>
</tr>
<tr>
<td>'What If’ Risk Assessments</td>
<td>A collaborative process of risk identification that engages a group to ask the question ‘What If Something Happens’ in relation to a process or problem. Similar to ‘Brainstorming’.</td>
</tr>
</tbody>
</table>

### 6 Records

Records such as risk registers, management or action plans, monitoring programs etc may be generated as a result of this procedure. Such records should be managed using record management processes within the framework of the business unit in question.

### 7 Attachments

7.1 Attachment 1: The Power and Water Risk Matrix

7.2 Attachment 2: Risk Assessment Report Template (Form)

7.3 Attachment 3: Risk Register Template (Form)

### 8 Risk Management

8.1 Power and Water undertakes business in a profitable and sustainable way that is consistent with the needs of our stakeholders, and does not endanger the health and safety of people or the environment.

8.2 Risks that affect Power and Water – that arise as a result of Power and Water’s activities – shall be identified, analysed and evaluated.

8.3 Risk management techniques shall be used to ensure that risks are either eliminated or controlled to a level that is considered As Low As Reasonably Practicable (ALARP), see Figure 3. The achievement of this goal shall be commensurate with
Risk Management

Power and Water's social and moral obligations and the business need for undertaking the risk.

8.4 Power and Water will accomplish this by:

- Identifying reasonably foreseeable risks caused by, or that affect Power and Water;
- Analysing and evaluating the risks;
- Reducing any unacceptable risks, or ceasing the operations that create them;
- Implementing risk treatments to reduce risks to a level so that the exposure to risk is consistent with Power and Water's social and moral obligations and its business requirements;
- Regularly monitoring risks and their controls to ensure they are in place and effective, and;
- Communicating risk information to the relevant parties.

8.5 The process of risk management being used at Power and Water is in accordance with the AS4360 Risk Management Standard. This is summarised in Figure 1.
Figure 1: Risk Management Process

Section 9
Establish The Scope & Context
Determine what is to be assessed and the relevance to PWC.

Section 10
Identify Risks
Gather Evidence
Determine what, how, why and where things happen.

Section 11
Analyse Risks
Determine Inherent Risk
Identify Existing Controls
Determine Consequence
Determine Likelihood
Establish Residual Level of Risk

Section 12
Evaluate Risks
Is risk acceptable?
Compare against criteria, set risk priorities and determine risk owner(s).

Treat Risks?

Yes

Section 13
Treat Risks
Identify risk treatments
Evaluate risk treatments
Prepare risk treatments
Develop action/management and monitoring plan.

Establish the expected Target Risk based on successful completion of treatment options.

No

Record Results
Determine suitable location for information and populate relevant risk register or assessment report.
### 8.6 Risk Management

To assist in ensuring that risks within all levels of Power and Water are identified and managed, three discrete approaches to risk management are employed within Power and Water:

- Strategic Risk Management, see Section 18;
- Operational Risk Management, see Section 19, and;
- Task Risk Management, see Section 20.

### 8.7 The interaction between these risk management activities is shown in Figure 2.

**Figure 2: Relationship Between Risk Management Approaches.**

<table>
<thead>
<tr>
<th>Power and Water Corporation Board</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitor &amp; Review of Corporation Risk Profile</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Undertaken:</td>
</tr>
<tr>
<td>Results Recorded:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Audit &amp; Compliance Committee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate strategic risks are reported to the Audit &amp; Compliance Committee through the Executive Management Committee</td>
</tr>
<tr>
<td>Undertaken By: Executive Management Team</td>
</tr>
<tr>
<td>Addresses: All risks including: Health/Safety, Environment, Finance, Service Delivery &amp; Reputation.</td>
</tr>
<tr>
<td>Undertaken: At an interval not exceeding 24 months.</td>
</tr>
<tr>
<td>Results Recorded: In corporate strategic risk register.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Business Unit Management Teams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Unit Operational Risk Management</td>
</tr>
<tr>
<td>Addresses: All risks including: Health/Safety, Environment, Finance, Service Delivery &amp; Reputation.</td>
</tr>
<tr>
<td>Undertaken: At an interval not exceeding 24 months. Or as required for new or changed plant/processes or projects or uncontrolled risks.</td>
</tr>
<tr>
<td>Results Recorded: In operational business unit, facility or equipment risk registers or assessment reports.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Business Unit Management Teams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task Risk Management</td>
</tr>
<tr>
<td>Addresses: Health, Safety and Environment risks only.</td>
</tr>
<tr>
<td>Undertaken: As directed by the business unit or when risks cannot be controlled by existing measures.</td>
</tr>
<tr>
<td>Results Recorded: On task assessment forms such as the Job Safety and Environment Analysis.</td>
</tr>
</tbody>
</table>

The Board is kept informed of Power and Water’s risk profile by the Audit & Compliance Committee.

Corporate strategic risks are reported to the Audit & Compliance Committee through the Executive Management Committee.

Business unit strategic risks are reported to the Executive Management Committee through the General Managers.

Operational risks are reported to the General Manager through the Business Unit Management Teams.

Uncontrolled risks identified to be reported to Business Unit Management Teams through Work Section groups or committees.
9 Establish the scope and context

9.1 The scope and context sets out what is to be included within the risk assessment and what issues impact on it. In some cases the scope and context of the risk identification and assessment is clearly defined by the risk management activity being undertaken.

9.2 The scope and context shall determine the category of risk assessment being undertaken as well as the level of the business that is being assessed, such as strategic or operational activities.

9.3 The scope and context should take into consideration any relationships to other risks that are being managed within the corporation.

10 Identify risks

10.1 It is critical that risk identification is carried out effectively to identify all sources of risk that are relevant to the assessment. There are a number of approaches that can be used for risk identification that will depend on the nature of the assessment being undertaken.

10.2 Power and Water mainly uses the Brainstorming technique for risk identification but recognises that other methodologies may be used depending on the agreed scope and context. Examples of other tools are:

- ‘What If’ risk assessments,
- Scenario Analysis,
- HAZOP (Hazard Operability),
- Process Mapping,
- Fault Tree Analysis, or;
- Event Tree Analysis.

10.3 The following areas should be considered when identifying the risks to be assessed:

- Our Statement of Corporate Intent and Corporate Strategies
- Legal or other compliance requirements such as codes of practice, standards or guidelines.
- Regulatory or stakeholder feedback.
- Previous hazards or incidents and identified root causes.
- Results of previous internal or external audits.
- Changes to business operations or the introduction/alteration of new plant/equipment or processes.
- The areas of ‘impact’ that might arise from Power and Water’s activities, products or services.

NOTE: These areas can have both a strategic, operational or task related context.
10.4 A Risk Assessment Report should be developed to document the circumstances and findings of the risk assessment.

11 **Analyse risks**

11.1 Risks should be analysed in terms of the credible worst case consequence of the risk and the likelihood of the credible worst case consequence occurring.

11.2 When analysing a risk, the qualitative assessment process should be used where the assessment team uses its knowledge and industry experience to best determine the consequence and likelihood.

11.3 The agreed consequence and likelihood values are placed into a relevant risk matrix to determine the risk ranking. Power and Water’s standard risk matrix is shown in Attachment 1. The correct consequence descriptions to use for a risk assessment shall be agreed and documented in the scope of the risk assessment.

11.4 Where a different approach is required, such as the most likely consequence for example, this decision shall be documented in the scope and context of the assessment and agreed to by the assessment team.

11.5 Where a risk may have more than one impact (Health/Safety and Environment for example) then the assessment team can analyse each area or consequence group individually and provide a risk ranking for each. This too shall be clarified in the scope and context of the assessment.

11.6 Risk assessments may require a different methodology such as quantitative risk assessment, or a special set of consequence descriptions. This shall be documented in the scope and the results shall be relevant to the agreed Power and Water risk matrices.

11.7 Evidence on how these risks relate back to the approved matrix shall be documented in the scope and context of the assessment.

11.8 It is important to determine the relevance of each risk in order to understand how best to treat them. Each risk identified shall be assessed and ranked to determine its level of severity.

11.9 **Determine the Inherent Risk**

Each risk shall be analysed for inherent risk where the ranking shall be calculated under the assumption that the risk is uncontrolled.

11.10 **Identify the Existing Controls**

Controls that are currently in place and effective for controlling the identified risk shall be identified. When determining existing controls, the following should be taken into account:

- Legal and other requirements,
- Existing monitoring, inspection, auditing or maintenance programs,
- Existing business planning processes that impact on the identified risk,
- Existing engineered controls, procedures or other requirements that are in use,
Risk Management

- Relevant post event controls such as emergency/crisis management, incident investigation or media campaigns,
- Any interaction with relevant internal or external stakeholders, and;
- Other controls identified by the assessment team.

11.11 Determine the Residual Risk

Once the existing controls have been identified, the residual risk shall be calculated. This is the level of risk remaining provided the existing controls are in place, effective and those exposed to the risk are aware of these controls.

12 Evaluate risks

12.1 Risks shall be evaluated once the residual risk ranking has been identified. This will provide direction to the risk owner and ensure that suitable treatments are identified, approved and implemented to reduce the level of risk.

12.2 Table 1 describes the action to be taken depending on the level of residual risk identified.

12.3 Each risk shall be assigned a risk owner. The risk owner, shall ensure that all aspects relating to the risk are managed.

13 Treat risks

13.1 Risk treatment shall include consideration of means to:
- eliminate the risk altogether;
- reduce the consequences if an event were to occur, and;
- reduce the likelihood of an event occurring.

13.2 Risks shall be treated so that there is a reduction in the residual risk to a level that is considered As Low as Reasonably Practicable (ALARP). Figure 3 defines the relevance of ALARP in terms of risk reduction.
### Table 1: Action to be taken based on evaluation of residual level of risk

<table>
<thead>
<tr>
<th>Level of Residual Risk</th>
<th>Action</th>
</tr>
</thead>
</table>
| Extreme                | **Risk is intolerable**  
Activity, product, service or issue relating to this risk should cease immediately.  
Significant and urgent risk treatments are required to treat and remove risks from extreme area of matrix. Continual monitoring of action/management plans and risk treatments to be conducted by risk owners.  
The Risk owner shall inform the Managing Director and the Audit and Risk Management Committee of identified Extreme residual risks and their method of control. |
| High                   | **Risk is unacceptable**  
Risk is to be considered unacceptable and needs to be reduced.  
Risk treatments are required to treat and remove risks from high area of matrix. Routine monitoring of action/management plans and risk reduction measures to be conducted by risk owners. |
| Moderate               | **Risk should be reduced**  
Monitoring of activity, product, service or issue by relevant management group with action plans in place to treat and reduce the risk to As Low As Reasonably Practicable (ALARP), See Figure 3.  
Action/management plans to be monitored to ensure completion.  
Controls to be monitored to ensure they are in place and effective.  
If risk cannot be reduced, then risk owner is to make a decision to accept risk and monitor controls to ensure they are in place and effective. |
| Low                    | **Risk is acceptable**  
Risk is to be accepted and monitored to ensure controls are in place and effective. |
13.3 The implementation of risk treatments shall consider the following:

- Who will be affected,
- Any awareness requirements including changes to induction or training programs,
- The timeframe for successful implementation,
- The cost of successful implementation,
- The ability to monitor and measure the effectiveness of the control, and;
- The impact on internal and external stakeholders as a result of successful implementation.

13.4 For health, safety and environmental risks, the hierarchy of controls, shown in Figure 4, shall be considered when implementing treatments. Controls higher up the hierarchy are preferred to controls lower down because of their greater effectiveness in reducing the consequence and hence the level of risk.

13.5 Identified risk treatments shall be supported by an action or management plan that documents the necessary steps required for successful implementation. The plan shall include defined steps for implementation, accountabilities, timeframes for completion and any other resource information that may be required. For more information on action or management plans, see the IMS Business Planning Procedure.
**Figure 4: Hierarchy of Controls for Health and Safety, and Environmental Risks**

<table>
<thead>
<tr>
<th></th>
<th>Health and Safety</th>
<th>Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eliminate</strong></td>
<td>Eliminate the activity that allows the risk to occur.</td>
<td>Avoid the use of the chemical, waste or activity that leads to the impact.</td>
</tr>
<tr>
<td><strong>Substitute</strong></td>
<td>Substitute the product or process to minimise the risk. For example, change of a chemical or process such as use of fall prevention rather than fall protection.</td>
<td>Substitute a product or process to minimise the impact or pollution. For example, waste reuse, change of chemicals, use of alternative energy or energy recovery.</td>
</tr>
<tr>
<td><strong>Isolate</strong></td>
<td>Place a barrier or lock to prevent access to the source of the risk. Barriers or lock must be physical, for example, guarding or lockout devices.</td>
<td>Establish a physical barrier between the natural environment and the pollution, for example, bunding, filtration, catalytic converters or recycling.</td>
</tr>
<tr>
<td><strong>Administrate</strong></td>
<td>Use procedures, training, supervision, preventative maintenance, auditing, signage, inspections, tagging and flagging, or measuring and monitoring.</td>
<td>Use procedures, training, supervision, preventative maintenance, auditing, signage, inspections, tagging and flagging, or measuring and monitoring.</td>
</tr>
<tr>
<td><strong>Personal Protective Equipment (PPE)</strong></td>
<td>Use PPE as necessary for the risk, for example, face masks, gloves, high visibility clothing etc.</td>
<td>-</td>
</tr>
</tbody>
</table>

**13.6** Risks that have an inherent consequence of Catastrophic shall have a specific crisis management, emergency response or contingency plan developed to mitigate the effects if an event was to occur as a result of this risk. See the Emergency Response procedure for more information on the management of these plans.

**14 Monitoring of Risks and Risk Treatments**

14.1 Monitoring of action/management plans developed to ensure the implementation of risk treatments, shall be in accordance with the categories documented in Table 1.

14.2 Once a risk has been reduced to ‘As Low As Reasonably Practicable’, the risk owner shall determine if it is to be accepted. Existing controls of accepted risks should be monitored for effectiveness. A number of processes can be used to monitor the effectiveness of a control. These include but are not limited to:

- Auditing;
- Safe Act Observations;
- Asset, equipment or workplace inspections;
- Calibration programs;
Risk Management

- Training or awareness programs;
- Contract planning, monitoring and review;
- Job Safety and Environmental Analysis;
- Incident Investigations;
- Hazard reporting and correction;
- Regulatory compliance monitoring, or;
- Emergency or crisis exercises.

14.3 The owner of a risk that has an inherent ranking of Extreme or Very High, shall ensure that the review of the risk include a review of the effectiveness of existing controls and approved risk treatments.

15 Reviewing of Risk Assessments and Risk Registers

15.1 A risk review or review of a risk register shall be conducted under the following circumstances:

- At regular intervals to ensure consistency and accuracy of Power and Water's risk management program;
- When changes to our Statement of Corporate Intent or Corporate Strategies have occurred;
- Where changes to legal or other compliance requirements such as codes of practice, standards or guidelines may impact our the operations of Power and Water;
- Upon receipt of regulatory or stakeholder feedback that may impact the objectives of the corporation;
- Where incident investigations have identified the failure of existing controls or the failure to manage risks to the corporation.
- Where external audits have identified gaps in our governance processes or systems failures.
- Changes to business operations or the introduction/alteration of new plant/equipment or processes.

15.2 A risk review shall determine:

- The accuracy of the risk description;
- The relevance of the risk information in relation to the scope and context of Power and Water’s operations;
- The adequacy and effectiveness of existing controls (including the addition of implemented risk treatments);
- Whether the agreed target risk has been achieved;
- The new residual risk ranking based on the success of the implemented risk treatments;
Risk Management

- Whether the level of risk is considered to be acceptable;
- Any new risk treatments if the risk is not acceptable, and;
- A revised target risk based on the additional risk treatments identified.

15.3 The review shall ensure that successfully implemented risk treatments are classified as existing controls on the relevant risk register and that these controls are being monitored for effectiveness.

15.4 The person initiating the review shall ensure that the risk owner and the function head if necessary are informed of the circumstances of the review and that nature of the review is clearly understood by all parties.

15.5 Power and Water's nominated Functional Heads shall review the risks in each Business Unit strategic and operational risk register that are applicable to their area of expertise.

15.6 If a Functional Head disagrees with any aspect of a risk register or assessment, they shall liaise with the Risk Owner to seek a resolution on the issue. If the issue is not resolved between the Risk Owner and the Functional Head this should be clearly recorded in the risk register.

Functional Heads include, but are not limited to, the following:

- Chief Finance Officer
- General Counsel
- General Manager Human Resources
- Manager Quality, Safety, Risk and Environment
- Manager Occupational Health and Safety
- Manager Environmental Services
- Manager Corporate Communication

15.7 Other Functional Heads shall be nominated by the Executive Management Team as necessary.

16 Communicating Risk Information

16.1 The owner of a risk shall ensure that personnel affected by an identified risk, have any information, including controls and risk treatments communicated to them.

16.2 Personnel who work in or interact with risks identified in a risk register shall have that register communicated to them.

17 Risk Registers

17.1 The outcomes of strategic and operational risk assessments shall be recorded in a risk register that details as a minimum:

- A description of the risk including how it impacts on Power and Water and, where relevant, the Business Unit,
Risk Management

- the inherent assessment of the risk,
- any existing controls that are in place to manage the risk. This may include reference to any documentation, legal requirements or monitoring/measurement processes designed to control the risk,
- the residual assessment of the risk,
- details of agreed risk treatments, including a reference to any action or management plans that have been developed,
- the target level of risk that is sought by the corporation, and;
- the monitoring and measurement processes in place to manage the risk.

17.2 Where there is a link between risks identified on operational risk registers and strategic risk registers, this shall be clearly shown in both risk registers.

17.3 Task risk assessments are not included in a risk register unless the risk has been escalated to be assessed in an Operational Risk Assessment.

17.4 For one off risk assessments, the Risk Assessment Report Template can be used as a risk register provided the risks are considered for inclusion on an already existing Business Unit or Facility register.

17.5 Business Unit or Facility registers shall be treated as Quality Documents and subject to the relevant document control approval processes.

17.6 Changes to risk registers shall be endorsed by the functional heads and approved by the risk owners prior to the registers being published.

18 Strategic Risk Management

18.1 The Strategic Risk Management process provides a means to identify, analyse, evaluate and treat risks that pose a significant threat to the achievement of Power and Water’s corporate objectives. A strategic risk assessment shall be carried out for Power and Water at a corporate and Business Unit level. Typically 20 – 30 risks for Power and Water and each Business Unit are identified in order to provide an overall risk profile that can be used as a tool in developing strategic business plans and prioritising management activity.

18.2 Strategic Risk Management shall consider the Credible Worst Case for strategic risks, i.e. those that affect:
   - Safety
   - Environment
   - Finance
   - Service Delivery
   - Reputation

18.3 Strategic risk assessments are conducted by:
   - The Executive Management Team as directed by the Audit and Risk Management Committee to manage risks that present a strategic threat to the corporation, and;
• General Managers, with the support of appropriate staff, to manage risks that present a threat to the Business Unit achieving its strategic objectives and to identify the Business Unit’s functions that impact on the corporation’s strategic objectives.

18.4 In many cases, risks that present a strategic threat to a Business Unit will also present a strategic risk to the overall corporation. However the management of the risk may be different at each level.

18.5 In most cases the assessment of strategic risks will be carried out using the steps shown in Section 11. In some cases, however, the risk may have been identified and assessed using quantitative techniques; in these cases the risk score shall also be converted to the risk scoring format used in Section 11 for comparison with other strategic risks and to allow prioritisation of resources based on risk.

18.6 When qualitative risk assessment methodology is applied, the matrix in Attachment 1 of this procedure should be used. An alternative risk matrix may be adopted at the discretion of the Audit and Risk Management Committee.

18.7 The corporate strategic risk register shall be communicated regularly to the Audit Committee of the Board. The Audit Committee shall review detailed reports from the risk owners of two risks from the corporate strategic risk register at each meeting.

18.8 Business Unit strategic risk registers shall be presented to the Executive Management Team for review at a frequency not exceeding 1 year.

18.9 During this review, the Executive Management Team shall seek input from Functional Heads as necessary, especially in areas where there is disagreement between a General Manager and a Functional Head regarding a risk.

19 Operational Risk Management

19.1 Operational Risk Management is the management of risks that affect the operations of Power and Water. A number of operational risks may make up a single Business Unit strategic risk.

19.2 Operational risk assessments shall be conducted within Business Units and their branches/sections for a number of reasons which include but are not limited to:

• To plan and continually improve Power and Water’s Integrated Management System,

• When there has been a significant change to an activity, product, service or location of work. This change may have been identified using the Change Control Guidelines,

• Where Power and Water is intending to acquire the services of contractors or sub-contractors to perform work on its behalf. Such a need may have been identified through the use of the Contractor Occupational Health, Safety and Environmental Management procedure,

• During the development of a specific project that Power and Water is responsible or involved in, or;

• Where specific hazards are identified that require additional controls to reduce the risk (for example working at heights issues, use of hazardous materials,
19.3 The reason for conducting an operational risk assessment shall be clearly defined in the scop and context of the assessment.

19.4 Operational risk assessment shall consider the Credible Worst Case for operational risks that affect:
- Safety
- Environment
- Finance
- Service Delivery
- Reputation

19.5 Where there is a need for additional consequence areas, these can be developed in conjunction with the assessment team and documented in the scope of the risk assessment. This may occur in such areas as asset management or during project development.

19.6 Operational risk assessments shall be conducted by representatives of the business unit, branch/section, facility or work area and take into account both employee and contractor operations. At least one member of the team shall have experience in facilitation of risk management. Representation of the people engaged in the work activity shall be included.

19.7 When qualitative risk assessment methodology is applied, the matrix in Attachment 1 of this procedure shall be used.

19.8 Where quantitative assessments are to be used, the risk score shall be converted to the risk scoring format detailed in Attachment 1 for comparison with other operational risks and to allow prioritisation of resources based on risk ranking.

19.9 Business Unit operational risk registers and assessments shall be reviewed by the risk owners at a frequency not exceeded 1 year for the operation or each work branch/section, or when triggered by specific requirements as mentioned in Section 19.2.

20 Task Risk Management

20.1 Task risk management is the day-to-day health, safety and environmental risk management process that employees and contractors are required to continually carry out. It requires the continual vigilance of staff to identify sources of health and safety and environmental risks, and take action to reduce or remove the risk. Where the risks cannot be controlled to an acceptable level by the employee or contractor they shall be reported to a supervisor for further action.

20.2 Employees and contractors, regardless of their role in a work team, are responsible for undertaking Task Risk Management in their activities.

20.3 Task Risk Management is conducted for either individual or work teams. There are a number of ways that Task Risk Management can be carried out:
- Job Safety and Environment Analysis
Risk Management

- Job Folders
- Personal Hazard Analysis

20.4 Task Risk Management shall take into account health and safety and environmental risks that need to be immediately controlled prior to work commencing. Where the employee or contractor identifying the risk considers the risk too high for work to commence they shall either:
  - Reduce the risk to a level that is acceptable, or;
  - Report the risk to their supervisor.

20.5 In either case the risk shall be reported to business unit management where a decision can be made to identify and control the risks by conducting an operational risk assessment.
### Strategic Risk Consequence Table

<table>
<thead>
<tr>
<th></th>
<th>1 Insignificant</th>
<th>2 Minor</th>
<th>3 Moderate</th>
<th>4 Major</th>
<th>5 Catastrophic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial</td>
<td>Loss &lt;$500k</td>
<td>Loss $500k - $2m</td>
<td>Loss $2m - $5m</td>
<td>Loss $5m - $20m</td>
<td>Loss of $20 million</td>
</tr>
<tr>
<td>Service Delivery / Reputation</td>
<td>-</td>
<td>Individual complaints</td>
<td>Local, temporary adverse media</td>
<td>On-going local, or territory-wide adverse media coverage</td>
<td>Extended territory-wide adverse media coverage – intervention by minister</td>
</tr>
<tr>
<td>Environmental</td>
<td>Minor damage to environment that is remedied</td>
<td>Significant damage to environment but capable of being remedied and minor fines for breaches of duty</td>
<td>Serious damage to environment with long term impact and fines for breaches of duty</td>
<td>Critical long-term effect on environment and extensive fines for breaches of duty</td>
<td>Permanent damage to environment and extensive fines for breaches of duty</td>
</tr>
<tr>
<td>Health/ Safety</td>
<td>Minor injury/illness to individuals</td>
<td>Temporary disability to individuals or minor fines for breaches of duty</td>
<td>Serious harm to individuals and fines for breaches of duty</td>
<td>Significant, long-term harm or injury and extensive fines for breaches of duty</td>
<td>One or more fatalities and extensive fines for breaches of duty</td>
</tr>
</tbody>
</table>

### Operational Risk Consequence Table

<table>
<thead>
<tr>
<th></th>
<th>1 Insignificant</th>
<th>2 Minor</th>
<th>3 Moderate</th>
<th>4 Major</th>
<th>5 Catastrophic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health/ Safety</td>
<td>First Aid Treatment only required.</td>
<td>Assistance of health professional required with no rehab.</td>
<td>Lost Time Injury. Stay in hospital required Short rehabilitation required for full recovery.</td>
<td>Recordable injury by legislation. Long term rehabilitation required which may result in permanent disability.</td>
<td>Severe injury/illness that results in fatality.</td>
</tr>
<tr>
<td>Environmental</td>
<td>Contained within controls. No measurable impact.</td>
<td>Localised low level damage that is controlled and remedied with minimal resources.</td>
<td>Widespread temporary damage that requires extended resources to remedy resulting in full recovery.</td>
<td>Substantial long-term effect with significant resources to control resulting in minor permanent damage.</td>
<td>Substantial permanent damage to widespread and sensitive areas. May result in prosecution.</td>
</tr>
<tr>
<td>Reputation</td>
<td>-</td>
<td>Individual complaints.</td>
<td>Local, temporary adverse media.</td>
<td>On-going local, or territory-wide adverse media coverage.</td>
<td>Extended territory-wide adverse media coverage – intervention by minister.</td>
</tr>
<tr>
<td>Service Delivery</td>
<td>No loss of service. Issues rectified with corrective action.</td>
<td>Service restored within expected timeframes. &lt;1 Day.</td>
<td>Short term disruption to service outside of expected timeframes to remedy. &gt;1 Day to &lt; 1 Week.</td>
<td>Long term disruption to service with extended resources required to remedy. &gt;1 Week to &lt;1 Month</td>
<td>Complete and indefinite disruption to service. &gt;1 Month.</td>
</tr>
<tr>
<td>Financial, Damage or Loss</td>
<td>Minor costs less than &lt;$5k.</td>
<td>Costs 10k - $100k.</td>
<td>Costs $100k - $500k.</td>
<td>Costs $500k - $1M.</td>
<td>Costs &gt;$1M.</td>
</tr>
</tbody>
</table>
## Likelihood Table

<table>
<thead>
<tr>
<th>Likelihood Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong> Almost certain</td>
<td>The event is expected to occur in most circumstances At least once every week.</td>
</tr>
<tr>
<td><strong>B</strong> Likely</td>
<td>The event will probably occur in most circumstances Once every month.</td>
</tr>
<tr>
<td><strong>C</strong> Possible</td>
<td>The event might occur at some time Once every year.</td>
</tr>
<tr>
<td><strong>D</strong> Unlikely</td>
<td>The event could occur at some time Once every 2 to 5 years.</td>
</tr>
<tr>
<td><strong>E</strong> Rare</td>
<td>The event may occur only in exceptional circumstances Once in 6 - 30 years.</td>
</tr>
</tbody>
</table>

## Risk Matrix

<table>
<thead>
<tr>
<th>Likelihood</th>
<th>Consequence</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong></td>
<td>Moderate 11</td>
</tr>
<tr>
<td><strong>B</strong></td>
<td>Low 7</td>
</tr>
<tr>
<td><strong>C</strong></td>
<td>Low 4</td>
</tr>
<tr>
<td><strong>D</strong></td>
<td>Low 2</td>
</tr>
<tr>
<td><strong>E</strong></td>
<td>Low 1</td>
</tr>
</tbody>
</table>

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