#### PART E - TECHNICAL SPECIFICATION

### E1. DESCRIPTION OF THE WORKS

### E1.1 SCOPE OF WORK

## E1.1.1 Background

The Bendeela Pipeline Control Structure is an integral part of the Shoalhaven water supply and power generation system. The control structure isolates the Bendeela Pipeline from water contained in the Bendeela Pondage in the event of an emergency thus protecting the Bendeela Power/Pumping Station from flooding. The control structure is also used to isolate the Bendeela Pipeline from the pondage for the purpose of internal pipeline inspections and maintenance.

The Sydney Catchment Authority (SCA) has a policy of requiring "Double Isolations" to allow personnel entry into conduits and chambers for maintenance and inspections.

# E1.1.2 Purpose

The purpose of this project is to introduce a new isolation system for the Bendeela Pipeline which will complement the control gate allowing double isolation of the pipeline during maintenance activities. The new isolation system will have a minimum useful life of 30 years.

This specification is for the design, manufacture, and testing of:-

- Stopboards to suit the Bendeela Control Structure.
- A safe handling methodology for the installation and removal of the boards
- Design and Supply a storage system for these boards as a separable portion of this contract (see Part D – Special Conditions of Contract).

### E1.1.3 Location

The Bendeela Control Structure is located at the downstream end of Bendeela Pondage some 10 kilometres west of Kangaroo Valley village. The Bendeela Pondage is situated on Bendeela Road directly opposite the Kangaroo Valley Power/Pumping Station.

## E1.1.4 Work to be carried out by Contractor

The scope of work to be executed under the Contract is broadly described in this clause. The full scope of work can only be determined by reference to all documentation, including engineering drawings, forming this Contract.

### **Stopboards**

A nominal eight (8) steel stopboards are required at this site.

The boards will be the same height as the existing screens

- The boards will seal with less than ½ litre per lineal metre of seal per minute leakage downstream
- The boards will be designed and built to fit the existing screen slots
- There will be a method of head equalisation built into the stopboards. The method of head equalisation must apply to two (2) boards (one left and one right)
- The method of head equalisation is to be manual and operated from the deck of the control structure
- A system of safe handling will be designed and built to facilitate safe insertion and removal of boards via mobile crane
- Stopboards will be finished and corrosion protected using a method congruent with potable water and complying with AS/NZS 4020
- The weight of the stopboards will be ascertained and each individual board have a plate attached containing the weight, date of manufacture, and asset number of the board
- The tenderer shall make an offer as a separable portion of this contract to design and construct an onsite storage system for the boards and screens

## E1.1.5 Work to be carried out by Others

Personnel from the Sydney Catchment Authority and Eraring Energy may from time to time be required to access the site for operational reasons. These accesses will be coordinated, and are unlikely to effect any siteworks.

### E1.1.6 Access

Access to site will be facilitated by negotiation with the SCA Project Manager. Access to site will be negotiated at least 72 hours before it is exercised

#### E1.1.7 Shutdowns

It is anticipated that a shutdown will be required to facilitate the commissioning and testing of the stopboards and seal leakage rates.

### E1.2 Standards

All works shall comply with this Specification, all relevant Australian Standards and Codes of Practice Manuals. Particular attention is drawn to:

AS 1665 Welding of aluminium structures.

AS1554.1 Australian Standard, Structural Steel Welding, Welding of

Steel Structures.

AS 1554.6 Australian Standard, Welding Stainless Steel for

Structural Purposes

Products for use in contact with drinking water.

AS/NZS 4020

AS1100.101-1992 Technical drawing – General Principles and amendments

### E1.3 SPECIFICATION OF EQUIPMENT

#### E1.3.1 Item #1

Two (2) stopboards will include an on board method of head equalisation

### E1.3.2 Item #2

Six (6) stopboards will be blanking boards with no head equalisation required

### E1.3.3 Item #3

Storage system for boards when not in use.

### **E1.4 MATERIALS**

### E1.4.1 Concrete

All new concrete, grout and mortar shall be 40Mpa.

Where concrete demolition, coring, scabbling or drilling is to be carried out to the Control Structure including apron, spillway, training walls etc, the contractor is advised that the concrete strength may exceed 70Mpa in some areas.

### **E1.5 FABRICATION**

## **E1.5.1 Welding and Post Weld Heat Treatment**

All construction welding of steel or cast steel valve components shall be in accordance with AS1554, Category SP. An welded valve bodies and machined internal parts shall be given post weld heat treatment in accordance with AS 121 0, Clause 4.2.17. No welding shall be permitted on cast iron components.

Seal welds shall be used to seal any crevices in the fabrication after all structural welds are completed. Stainless steel shall be kept separate from other steel components, tools, fixtures and materials, and only stainless steel or non-ferrous tools, and fixtures shall be used in the working and handling of stainless steel. Non-ferrous materials shall include copper or plastic.

All welds and heat affected zones shall be cleaned of all slag and shall be smoothly finished so as to be free of surface cracks, roughness, undercut, crevices and sharp

edges, and surfaces shall be uniformly cleaned by mechanical or hand finishing or sanding to achieve a uniform, smooth finish, free of discolouration due to staining, heat tint or dark oxide layers.

All welds shall be tested by dye penetrant methods after cleaning and smoothing of the welds.

After fabrication all stainless steel surfaces shall be finished in accordance with AS/NZS 1554.6 Table 6.2.1 Grade II(a).

Glass bead blasting or proprietary pickling and passivating solutions or pastes may be used to clean and passivate the surfaces. Proprietary products shall be used strictly in accordance with the manufacturer's directions.

### **E1.6 PROTECTIVE COATING**

#### E1.6.1 Protective Treatment of Steelwork

Internal and external surfaces of mild steel components and non stainless steel fittings shall be coated as per the relevant Australian Standards, with 100% solids solvent less epoxy.

All exposed stainless steel surfaces shall be passivated prior to final assembly.

The design of components shall be such that the corrosion protection system specified for the internal surfaces shall be fully effective. All surfaces that cannot be coated and tested shall be of corrosion resistant material.

### **E1.7 INSTALLATION**

## E1.7.1 Hot Work

No Hot Work (grinding, welding, thermal or oxygen cutting or heating (Oxy-acetylene or LPG) or any other related heat or spark-producing operation of any kind shall be undertaken on site without the specific approval by the Superintendent.

Refer to attached Sydney Catchment Authority procedural document "Hot Work During the Bush Fire Period: SOP-BWD-ALL-006 which specifies the procedures and precautions to be taken prior, during and after Hot Work. Also refer to "SCA Safety Alert 01-07 Bush Fire Season Declaration".

### E1.8 TESTING

All work performed in accordance with this Specification including protective coating may be subject to inspection and approval by the Purchaser. The contractor will provide an inspection and testing program for approval by the Purchaser.

The Purchaser shall, at all times, have access to all places where materials are being produced or fabricated or where tests are being conducted and shall be provided full facilities for inspection and observation of tests.

Seven (7) days notice in writing shall be given to the Purchaser to allow witnessing of tests for Items manufactured in Australia, or 4 weeks notice for items manufactured overseas.

In the event of failure of the item to pass the following tests the Contractor shall bear the cost of re-attendance by the Purchaser or his Representative.

Protective coating of the assembled stopboard must meet the requirements of Clause H6.1.

The fully assembled and coated stopboards, including the operating equipment shall be tested using the methods and procedures described in the following paragraphs. Test certificates shall be provided.

Tenderers shall add in the 'Schedule of Lump Sums' an amount for the travel and disbursement costs associated with an inspection by the Purchaser's Representative at the Contractor's manufacturing site. The amount shall include:

- 1. If the manufacturer's works are more than 300km from Penrith (NSW) return airfares from Sydney based on flying full economy
- 2. All travel from the destination airport during the period of the stay (including but not limited to travel to the manufacturer's site, hotel etc)
- 3. Accommodation based on equivalent 3 to 4 star hotel
- 4. Meals at A\$100 per day.

Costs to be based on consecutive days testing, assuming 6 nights, with 5 days inspection at the manufacturers site. If extra days or further visits are required because all the tests could not be completed or the equipment failed any of the tests, these visits shall be at the expense of the Contractor.

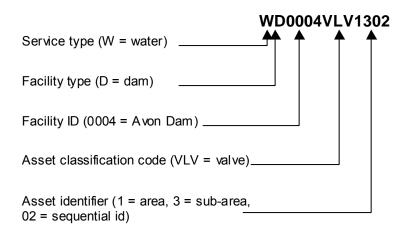
## **E1.9 ASSET INFORMATION REQUIREMENTS**

The Contractor shall provide all asset information detailed below that is required by the Principal's asset and document management systems. This information will assist ongoing asset management, maintenance and upgrade works.

The Contractor is to provide a price for the supply of this information in the tender pricing schedules.

### **E1.9.1 Determination of Asset Changes**

During the planning and design phases of this contract the Contractor shall produce schematic drawings, process & instrumentation diagrams or other concept design drawings as appropriate to identify the asset/ equipment components of the facility/ system. The Contractor is to identify each asset/equipment item on the drawings using the Principal's asset/ equipment coding procedure. This procedure uses an intelligent numbering system as shown in the following example.



The Contractor shall submit the concept design drawings to the Principal for review of the concept designs and approval of the asset identification codes used, prior to use of the codes in any part of the contracted works. Only approved codes can be used by the Contractor to identify assets/ equipment in all aspects of the contracted works. This may include, but is not limited to: all software and computer programs, drawings, reports and manuals and identification labels (see clause H9.5).

The full procedure will be made available to the successful tenderer (see clause 0). The Contractor shall make allowances for the Asset Registration and Asset Identification Processes to be followed.

### E1.9.2 Asset Information Database

To facilitate the collection of asset information the Principal will provide to the Contractor a Data Capture Tool (the Database). The Contractor shall enter the asset information detailed below to the Database to ensure proper formats and linking of the data.

The Principal will load the Database with existing data relevant to the approved concept designs as a guide for further data entry. The Principal will also provide one (1) initial instruction session for the Database usage at the Contractor's premises and telephone support for the duration of the contract at no cost to the Contractor.

A demonstration of the Database functionality will be provided by the Principal if this is required for the purposes of tendering.

## E1.9.3 Information To Be Collected

The Contractor shall collect and enter all asset information into the Database. Particular attention is drawn to the following.

### **Asset Details**

For <u>each asset</u> or equipment item, there is a range of details that are required for ongoing identification, tracking, maintenance, analysis and valuation. These details include, but are not limited to:

- a hierarchy of assets/equipment
- location codes & descriptions

- GPS co-ordinates (datum GDA94)
- equipment numbers & descriptions
- digital photographs
- job plans for maintenance and safety
- preventive maintenance and inspection schedules
- technical details, e.g. flow rating
- spare parts and tools
- register of software, including generic applications and dedicated systems
- expected life
- replacement costs
- dispersal of the contract sum against assets

## **Drawings**

Drawings shall be supplied for systems and equipment included in, and affected by, the contracted works. This includes installation of new equipment, refurbishment, modification/changes to existing assets and equipment.

In addition to new drawings, the Principal requires the Contractor to make appropriate changes to any existing drawings (for existing assets and equipment) that are affected or changed as part of the contracted works. Copies of existing drawings will be provided to the Contractor to enable the amendments to be made.

The Contractor shall notify the Principal of the nature and number of plans and drawings to be provided under this contract. The Principal will then supply drawing number sequences and a drawing registration sheet or database to the Contractor for entry of all drawing details necessary for registration in the Principal's Records Management System. The Contractor shall then proceed with development of drawings that must:

- be on the drawing border and title block supplied by the Principal
- be in electronic format (AutoCAD)
- use the Principal's asset/ equipment identification codes (see clause 0)
- be submitted to the Principal for acceptance prior to construction
- be fully compiled and not contain external references in final versions.

The Contractor shall provide a full set of <u>final</u> drawings on CD-ROM. Two (2) full sets of drawings in hardcopy format shall be provided by the Contractor. The Contractor shall provide a price for the supply of this information in the tender pricing schedules.

The Contractor shall make allowances for the drawing creation and registration process to be followed and shall enter drawing details into the Database.

### **Maintenance Plans and Schedules**

The Contractor shall provide all operational, maintenance job plans and inspection requirements necessary for the ongoing management of the asset/equipment. This information is to provide task details for job plans for:

- maintenance works and inspections
- operational tests and inspections.

The Contractor shall also provide recommended schedules indicating when the works are to be undertaken.

The Contractor shall enter these details into the Database. A report from the Database can be used to satisfy Sections 5 & 6 of the Operations & Maintenance Manual.

## **Spare Parts and Tools**

The Contractor shall provide a list of recommended spare parts, and details of their current supplier(s), and details of alternate suppliers that can provide the same or equivalent spare part. The Contractor shall enter these details to the Database.

A report from the Database can be used to satisfy Section 9 of the Operations & Maintenance Manual.

## **Photos & Images**

The Contractor is to provide a <u>digital</u> photographic record, including maps where relevant to aid identification of each item of equipment, particularly where the attachment of labels is not possible. The Contractor shall register the photos and maps in the Database and link the electronic image file to the record. The preferred image format for photographs is JPEG and editable PDF for graphics images. All linked electronic files shall be provided on CD-ROM.

# **Documents in general**

The Contractor shall provide one (1) hardcopy and electronic copy of all final documents that may be required for future modifications or upgrades to the assets/equipment that have not otherwise been provided as part of Operations and Maintenance Manuals. Particular attention is drawn to:

design calculations

The Contractor shall register these documents in the Database and link the electronic file to the record. The electronic files shall be provided on CD-ROM in Adobe PDF format with appropriate bookmarks to facilitate searching of sections and text.

### E1.9.4 Manuals

Operations and Maintenance Manuals (Manuals) shall be supplied for systems and equipment to provide the Principal with sufficient information and guidance to safely, efficiently and effectively operate and maintain the works; and comply with legislative requirements and manufacturer's specifications and recommendations. To ensure manuals are complete and easy to read, the format of the manuals shall conform to the SCA's O & M Manual template (a copy of which shall be made available free of charge to the contractor).

In addition to new manuals, the Principal requires the Contractor to make appropriate changes to any existing manuals (for existing assets and equipment) that are affected or changed as part of the contracted works. Copies of existing manuals will be provided to the Contractor to enable the amendments to be made.

The Manuals must provide sufficient information for all modes of operation and maintenance of all the equipment supplied/ installed by the contractor.

The following must not be presented in the Manual:

- information which is irrelevant to the equipment supplied by the contractor
- operating and maintenance instructions that are of a general nature and do not specify the relevance of the information to the equipment actually supplied/ installed.

Simple presentation of one or more manufacturer's proprietary manuals in a binder will not normally be considered acceptable.

## **Copies of Manuals**

The Contractor shall provide two (2) hardcopies and two electronic copies of each manual. The electronic copy of the manual/s is to be provided on DVD in PDF format (based on the SCA's template provided). The PDF documents must be capable of providing a functional word/character search within the documents while maintaining the expected security and integrity controls associated with PDF format.

The Principal also requires the Contractor to provide a copy of all documents in their native file format (e.g. Microsoft Word & Excel, AutoCAD, etc) to enable future changes to the manuals. Current versions of word processing, spreadsheet, drawing and other programs will be confirmed with the Contractor on establishment of the contract.

Appendices, engineering drawings, schematics, diagrams, photographs, etc are not to be embedded in the main body of the electronic manual. These files are to be provided separately on the CD-ROM and a hot-link placed in the body of the manual.

All manuals will be subject to a review process by the Principal. The Contractor shall make allowances for the review process to be followed.

## E1.9.5 Submission of Asset Information

To facilitate timely approval and delivery of all asset information the Contractor shall submit asset information in accordance with the following requirements:

- SCA approval of final asset hierarchy/codes is required prior to use of the codes in any part of the contracted works;
- Asset data, O&M Manuals and drawings should be developed concurrently;
- All draft asset information must be available in ELECTRONIC format for the Principal's detailed review. The Principal's review cannot proceed until all asset data, drawings and O&M manuals have been submitted for review;
- The Principal requires a minimum of 4 weeks to complete the detailed review of draft asset information; and depending on the size and complexity of the project may require longer. This will be confirmed with the Contractor at the time of review.
- All final asset information must be available in ELECTRONIC format for the Principal's review. The Principal's final review cannot proceed until all asset data, drawings and O&M manuals and other relevant information have been submitted for review;
- The Principal requires a minimum of 4 weeks to complete the review of final asset information:

- All asset information must be accepted as complete\* by the Principal before commissioning can commence.
  - \*NOTE: O&M Manuals, Section 4 Installation and Commissioning Instructions contains commissioning data. This section will need to be updated after commissioning of the works.
- Hard copies of relevant documentation (e.g. drawings, O&M manuals) should only be printed after the information has been accepted as complete by the Principal.
  - A gantt chart "Timing Guidelines:for Development of Asset Data, O&M Manuals and WAE Drawings" is provided to assist the Contractor with understanding of these requirements (see clause H11.2).

# E1.9.6 Location & Equipment Labels

To facilitate field identification and asset auditing the Contractor shall label the asset locations, and equipment installed at those locations. The inscriptions for the labelling shall be in accordance with the Principal's asset/equipment coding system referred to in clause 0. The Contractor shall provide a list of asset location and equipment labels and durable label types to the Principal for approval prior to manufacture and installation. The Contractor is advised to review existing labelling types prior to selecting an approach.

Label types selected by the Contractor are to be appropriate for the asset/equipment group and consider:

- internal/ external applications
- external weathering due to sun, wind and rain
- easy visibility from normal access paths.

Equipment number labelling is to be permanently and securely fixed *ON* the asset/equipment in a conspicuous position so that identification is clearly visible and still possible in the event that the asset/equipment is moved to another location.

Location code labelling is to be permanently and securely fixed *ADJACENT TO* the asset/equipment.

The Contractor is to provide a price for asset/equipment labelling in the tender pricing schedules.

All other labelling requirements shall be in accordance with the relevant Australian Standard or Code of Practice.

### **E1.10 DOCUMENTATION PROVIDED BY THE PRINCIPAL**

The following documentation will be provided to the successful tenderer within five (5) working days of the letter of acceptance. Should these documents be required for the purposes of tendering, Tenderers may inspect the documents during the tendering period at the SCA's Head Office Reception Desk on Level 2, 311 High Street (Penrith) by making arrangements with the Contract Officer (see the front page of this Invitation to Tender for contact details).

All information provided and details of the SCA assets shall be treated with strict confidentiality.

All documents supplied under this Contract are not to be copied and shall be returned to the SCA in conjunction with the final deliverables.

## E1.10.1 Technical Documentation

Hot Work during the Bush Fire Period: SOP-BWD-ALL- 006	Specifies the procedures and precautions to be taken prior, during and after Hot Work. Also refer to "SCA Safety Alert 01-07 Bush Fire Season Declaration".

### E1.10.2 Asset Information Documentation

Asset Identification – Part 1 Codification – CD2004/00038	This procedure shall be used to determine the codification and labelling of all assets affected by any asset alterations.
Procedure for creating & modifying BWD drawings (SAP-BWD-ALL-015) - CD2006/00020	This procedure shall be used to govern the review and approval of plans and drawings supplied to the Principal as part of this contract.
Procedure for Development and Control of Manuals for Water Supply Assets/Equipment (SAP-BWD- ALL-014) – CD2004/00164	This procedure shall be used to develop all Technical Manuals (including O&M Manuals) that are supplied to the Principal as part of this contract.
Timing Guidelines:for Development of Asset Data, O&M Manuals and WAE Drawings	Gantt chart demonstrates the requirements for timing of development, submission and approval of Asset Information.

## **E1.11 ACCEPTANCE CRITERIA**

The following criteria are to be satisfied before the Principal will consider work under this contract to be complete:

- Provision of waste disposal dockets
- Supply of all final Operations & Maintenance Manuals
- Supply of all final plans and drawings (Work As Executed)
- Supply of a complete asset information database
- Supply and Installation of stopboards.

Supply of all final reports and documents.

### E2. OHS & R

## **E2.1 General Requirements**

- (a) The occupational health, safety and rehabilitation requirements contained in this specification:
  - may be in addition to, but are not in substitution for, any other requirements of any legislation or regulations or of any condition in the General Conditions of Contract or the Special Conditions of Contract; and
  - (ii) shall not be taken to limit the powers of the SCA or the liabilities and responsibilities of the Contractor under the Contract.
- (b) The Contractor shall, at all times, exercise any other necessary and reasonable precautions appropriate to the nature of the Work and the conditions under which the Contract is to be performed for the safety of all persons on the Site, or in the vicinity.

## **E2.2** Additional Safety Requirements

- (a) Notwithstanding the general requirements of clause E2.1(a), it shall be a requirement of the Contract that all supervisors, employees and visitors wear Safety Helmets, as defined in AS 1801, and safety footwear, as defined in AS 2210, whilst on the Site.
- (b) Blasting explosives shall not be taken onto the Site without the written approval of the SCA.
- (c) The Contractor shall comply with occupational health and safety legislation and regulations, AS 2865:1995 and SCA Group Procedures/Instructions relating to work in confined spaces.
- (d) In addition, the Contractor shall comply with the SCA Group Procedures/Instructions as set out in clause F5. In circumstances where these are in conflict, the more stringent requirements shall apply. The Contractor shall comply with the SCA's directions regarding these matters.
- (e) It shall be the Contractor's responsibility to provide equipment, training, personnel and documentation necessary to satisfy the above requirements. The Contractor shall comply with these requirements and shall provide relevant documentation as preconditions for issue and continuation of a Permit to Work at the Site.

## **E2.3** Serious Accident and Dangerous Occurrence Reports

(a) The Contractor shall immediately notify WorkCover and the SCA of any serious accident or dangerous occurrence. The Contractor shall then formally notify WorkCover in accordance with the Occupational Health and

Safety Regulation 2001, using the prescribed form, and immediately supply an additional copy to the SCA.

- (b) If requested, the Contractor shall supply a written report to the SCA in the form directed and shall co-operate in any subsequent incident investigation and/or debrief conducted by the SCA.
- (c) The Contractor shall promptly submit reports of all accidents involving loss of time or incidents with serious accident potential such as equipment failures, slides, cave-ins, etc., giving such information as may be required by the SCA.

## E2.4 Not Used

## **E2.5** Hazard Identification and Risk Assessment Meeting.

Following award of the Contract, the Contractor shall attend and participate in, a 'Hazard Identification and Risk Assessment Meeting', which shall be chaired by the SCA. Attendance by other stakeholders shall be as determined by the SCA. The purpose of the meeting shall be to ensure that significant OHS&R hazards and risks associated with the Contract Work have been identified.

## E2.6 Preparation, Review and Sign-Off of Project Safety Plan

- (a) Following the Hazard Identification and Risk Assessment Meeting, the Contractor shall prepare a 'Project Safety Plan', which shall include appropriate controls to minimise the OHS&R hazards & risks identified in the accepted Hazard Risk Identification in clause F2 and at the Hazard Identification and Risk Assessment Meeting.
- (b) The Project Safety Plan shall detail the OHS&R systems and procedures which will apply during the term of the Contract, including all relevant aspects of the Work and in regard to sub-contractors. The Project Safety Plan shall incorporate the Contract requirements listed under 'Project Safety Plan Specifics' in the relevant sub-clause below.
- (c) The Contractor shall submit the Project Safety Plan for review and formal sign-off by the SCA prior to the 'Kick-off Meeting' and grant of Site possession.
- (d) All work activities identified in the Hazard Identification and Risk Assessment Meeting as carrying a high or moderate safety risk shall be addressed in Safe Work Method Statements. These shall be included in the Project Safety Plan. Where conditions of the job Site on the day must be known to determine the specific work method to be used, Safe Work Method Statements may be of a generic nature. In such cases a site-specific Safe Work Method Statement shall be developed at the Site prior to commencement of the relevant Work.
- (e) Where the Project Safety Plan does not meet SCA's Contract requirements the SCA shall notify the Contractor who shall make appropriate modifications to the Project Safety Plan. The Contractor shall not commence on-site work until the SCA has acknowledged in writing to the Contractor, that the Project Safety Plan is acceptable to the SCA.

## E2.7 Kick-off Meeting, Contractor Induction and Site Possession

- (a) The Contractor shall attend and participate in a 'Kick-Off Meeting' and Contractor induction. These shall be conducted by the SCA and attended by other stakeholders nominated by the SCA. The purpose of the meeting shall be to ensure that all OHS&R controls required to be deployed prior to Site possession are in place and that Contract responsibilities are understood by the key personnel. Key OHS&R issues associated with the Site, the Work and the Project Safety Plan shall be reviewed.
- (b) At the satisfactory conclusion of the Kick-Off Meeting and Contractor induction the SCA shall grant the Contractor possession of the Site or sufficient of the Site to enable the Contractor to commence work.

## **E2.8 Types of OHS&R Induction**

(a) It is a legislative requirement that employees receive adequate induction and training to ensure tasks are undertaken in a manner that minimises the risk to their health and safety. SCA OHS&R induction must be completed for all contractors, subcontractors and their employees before they commence Work. There are three levels of OHS&R induction:

General Induction	Conducted initially by SCA for the Contractor and the Contractor's key personnel.  Additionally conducted by the Contractor for other Contractor employees and subcontractors.
Site Specific Induction	Conducted initially by SCA for the Contractor and the Contractor's key personnel for all SCA Sites.  For manned operating Sites: always conducted by SCA for Contractor employees and subcontractors.  For non-operating Sites and unmanned Sites: conducted by the Contractor for the Contractor's employees and subcontractors.
Project Specific Inductions	Conducted by the Contractor.

### E2.9 Guidelines for OHS&R Induction

- (a) The following guidelines provide an outline of the content of induction courses to be delivered to persons working on SCA contracts, and the responsibilities for delivery of different induction components. They also outline the requirements for issue of SCA Contractor Induction Cards.
- (b) The Contractor shall ensure that all Personnel, subcontractors and employees involved in the Work under the Contract are properly inducted before their commencement of Work on Site. Specific responsibilities for

delivery of inductions are outlined below. These responsibilities shall be specified in the Contractor's Project Safety Plan.

## (c) General Induction Process

- (i) All Contractors, subcontractors and their employees shall be given a General Induction.
- (ii) The SCA shall provide the initial General Induction to the Contractor and to the Contractor's nominated contract representatives at the Kick-Off Meeting. A General Induction Card shall be issued by the SCA to recipients of this induction (refer SCA Contractor Induction Card System below).
- (iii) The Contractor shall be responsible for incorporating the General Induction content into the Contractor's subsequent induction processes for the Contractor's Personnel. Only holders of an official SCA General Induction Card will be permitted to provide subsequent general inductions.
- (iv) A general induction package shall include:
  - SCA's OHS&R policy;
  - an overview of SCA OHS&R requirements for contractors (including responsibilities of SCA and responsibilities of the Contractor); and
  - SCA contractor safety rules.
- (v) The General Induction will provide the Contractor with practical safety induction to SCA. It is the first part of a three part induction process that the Contractor and each of the Contractor's employees and subcontractors must complete before commencing Work on SCA Sites. In addition to this General Induction, the Contractor shall ensure that each of the Contractor's employees and subcontractors (and their employees) shall receive a Site-Specific Induction and a Project-Specific Induction.

## (d) SCA Site-Specific Induction

- (i) The Contractor and its Personnel shall be given a Site-specific induction before they commence Work on Site.
- (ii) For the Contractor and the Contractor's nominated Contract representatives the Site-Specific Induction shall be conducted by the SCA Site owner at the Kick-Off Meeting. The Contractor shall be responsible for incorporating this induction content into the Contractor's subsequent induction processes for contractor employees and subcontractors, except at manned SCA operating Sites.
- (iii) At manned SCA operating Sites all inductions shall be conducted by the SCA Site owner. The Contractor shall be responsible for ensuring

- all the Contractor's employees and subcontractors have received this induction before they commence Work.
- (iv) Where management of the Site is not under the control of SCA, the Site-Specific Induction will be delivered by the person who has management responsibility for the Site. This shall be the Contractor unless otherwise advised in writing by the SCA.
- (v) Site-Specific Inductions shall as a minimum address the following:
  - Site-specific hazards.
  - Controls to be adhered to on Site.
  - Site safety rules.
  - Work permits.
  - Emergency evacuation and incident procedures.
  - Emergency contacts.
  - Hazard and incident reporting procedures.
  - Regulatory requirements and Codes of Practice relevant to Site hazards.
  - · Safe access and amenities.
  - Other site-specific OHS&R issues.
- (e) Project-Specific SCA Induction.
  - (i) The Contractor shall ensure that all employees and sub-contractors have received a Project Specific Induction prepared and provided by the Contractor. The Project Specific Induction shall be tailored by the Contractor to the specific project and work activity.
  - (ii) The Project-Specific Induction shall include:
    - Safe Work Method Statements;
    - the Project Safety Plan key contents; and
    - Codes of Practice.

# E2.10 Not Used

## E2.11 Project Safety Plan - Specifics

- (a) The Contractor shall prepare a Project Safety Plan in accordance with the requirements of the Contract.
- (b) The Contractor shall implement the Project Safety Plan and shall carry out frequent workplace inspections to ensure that OHS&R controls are in place, systems are implemented, OHS&R risks are identified and promptly addressed. The Contractor shall ensure that subcontractors follow the requirements of the Project Safety Plan.
- (c) The SCA may audit the Contractor's Project Safety Plan at any time to evaluate implementation, effectiveness and level of compliance with the Project Safety Plan. The SCA may report any non-conformance issues. The SCA shall appraise the Contractor's performance for the SCA's records.

- (d) The Project Safety Plan shall cover the eleven key elements contained in the current NSW Government OHS&R Management System Guidelines and shall incorporate the requirements of that publication's "Corporate OHS&R Management System".
- (e) The Project Safety Plan shall be reviewed at regular intervals throughout duration of the Contract to ensure that it is maintained in an up to date condition. The Project Safety Plan shall also form the basis by which the Contractor's management systems will be audited by SCA.
- (f) The Project Safety Plan and Safe Work Method Statements should utilise but not depend solely on the Hazard Risk Identification included in the Contract documents. The Project Safety Plan and Safe Work Method Statements should take into account the interface/s with ongoing SCA operations and with any other employees and contractors who may be undertaking other work simultaneously on the Site/s. Revisions to the documentation shall also be submitted.
- (g) Outlined below are the general requirements for and elements of the Project Safety Plan to be provided by the Contractor.
  - (i) Management Responsibility

The Contractor's Project Safety Plan shall state the name of the Contractor's management representative responsible for the following:

- Overall compliance on-Site to OHS&R requirements & legislation.
- Reviewing subcontractors' Project Safety Plans.
- Monitoring subcontractors' Project Safety Plans.
- Monitoring purchasing and materials delivery.
- Receiving, safely storing and using materials and hazardous substances.
- Communicating OHS&R information & Site Safety Rules.
- Providing OHS&R training and site induction.
- Maintaining accident and emergency procedures and first aid equipment.
- Conducting Site inspections.
- Identifying, assessing and controlling hazards.
- Workplace injury management and rehabilitation.
- Managing communication between OHS&R Workplace Committees.
- Ensuring appropriate interaction with SCA procedures and operating systems.
- (ii) Subcontracting and Purchasing

Safe Work Method Statements or procedures for the project should be in place for the following.

- Selection of subcontractors.
- Monitoring of work undertaken by subcontractors.

- Purchasing and delivery of materials.
- Delivery of hazardous substances.
- Handling of materials and hazardous substances.
- Review of Subcontractors' Project Safety Plans.
- Subcontractors' compliance with their Project Safety Plans.
- (iii) Process Control (includes Safe Work Method Statements)
  - (A) Hazard identification and risk analysis will be completed and documented in the Project Safety Plan. All work activities identified in the Hazard Risk Identification and Hazard Identification and Risk Assessment Meeting as carrying a high or moderate safety risk shall be addressed in a Safe Work Method Statement.
  - (B) A Safe Work Method Statement shall include the following elements:
    - A description of the Work.
    - Identification of potential hazards associated with the Work.
    - The actual step by step sequence involved in doing the Work (may reference SOP).
    - The foreseeable hazards for each step listed.
    - The safety controls that will be in place to minimise these hazards.
    - All precautions to be taken to protect health and safety.
    - All health and safety instructions to be given to employees involved with the Work.
    - The names and qualifications of those who will supervise the Work.
    - The names and qualifications of those who will inspect and approve work areas, work methods, protective measures, plant equipment and power tools.
    - Description of what training is to be given to those doing the Work.
    - The names and qualifications of those responsible for training workers in the requirements of the Safe Work Method Statements;
    - Identification of health and safety related standards or codes applicable to the Work, and where these are kept.
    - Identification of the plant and equipment that will most likely be used on the project.
    - Details of inspection and maintenance checks that will or have been carried out on the equipment.
  - (C) Some Contract Works may involve activities for which a proven work method or training requirement is required by standards or regulations. These proven work methods shall be included in the Project Safety Plan. These activities may include:
    - emergency procedures;

- electrical work:
- tool and equipment inspections;
- safety systems for isolated areas;
- scaffolding;
- working at heights;
- 'hot work' procedures;
- fire protection;
- clothing and footwear;
- power tools:
- confined spaces;
- excavations;
- dust control:
- dangerous goods, chemicals;
- disposal; and
- traffic control.
- (D) A pro-forma outline for a Safe Work Method Statement is included in clause F7.

### E2.12 Audit

The Contractor shall make available, on request, all relevant OHS&R records including those of subcontractors and suppliers, for the purpose of audit and surveillance. The Contractor shall provide all reasonable assistance during the audits including attendance by the Contractor.

## **E2.13 Failure To Comply**

If at any time the Contractor has not carried out any part of its obligations under clause E2, then SCA shall not be required to make payments to the Contractor, notwithstanding any other clause of the Contract.

## E3. ENVIRONMENTAL REQUIREMENTS

## **E3.1** Noise Specifications

Equipment supplied and installed may need to provide a quiet working environment for SCA operations personnel and others such as nearby residents. The Contractor shall comply with the Sydney Catchment Authority Corporate Instruction No. 831 - "Noise Control".

## E3.2 Purchasing

- (a) The Contractor shall purchase and use recycled content products where appropriate.
- (b) The Contractor shall submit a progress report to the SCA every two months during the Contract Term and a summary report before Completion regarding the purchase of certain materials with details of the total and recycled content tonnages (the "Purchasing Reports").
- (c) The Purchasing Reports are to be in the format set out in clause F4.1 below.

## E3.3 Waste Management

- (a) The Contractor shall recycle and divert from landfill surplus soil, rock and other excavated or demolition materials, wherever this is practical.
- (b) The Contractor shall separately collect and stream quantities of waste concrete, bricks, blocks, timber, metals, plasterboard, paper and packaging, glass and plastics and offer them for recycling where practical.
- (c) The Contractor shall monitor waste tonnage and record their method and location of disposal and whether or not that location was a place that could lawfully be used as a waste facility for the waste.
- (d) The Contractor shall submit to the SCA a progress report every two months and a summary report before Completion regarding the implementation of waste management measures, including the record of waste tonnage and their method and location of disposal (the "Waste Management Report"). All receipts issued by the waste facility need to be supplied to the SCA.
- (e) The Waste Management Reports are to be in the format set out in clause F4.2 below.
- (f) The SCA promotes the use of the recycled paper to protect the environment. The Contractor shall print all documents and reports required by the Authority **on a minimum 50% recycled content paper**. Where it is not practical for the Contractor to use recycled paper for printing of reports and documents, the Contractor shall obtain written approval from the SCA before printing reports or documents on non-recycled paper.

## E3.4 Energy Management

- (a) All equipment used in the construction of and installed under this Contract should minimise energy use. Equipment should meet beset practice in energy management by being the most efficient of its class, and by using the most appropriate energy source for the application (whether that be electricity, natural gas or LPG, a renewable energy source, or any other fuel). This is to ensure low ongoing costs for the operation of the installation.
- (b) Energy star for office equipment and energy ratings for (usually household) appliances can be used where appropriate.

## E3.5 Site Requirements

- (a) Unless directed otherwise by the SCA, the Contractor must ensure that:
  - (i) any door that is unlocked is locked when left;
  - (ii) all windows, external doors and gates are securely fastened and locked after all personnel employed on the Work leave the premises;
  - (iii) all keys given to the Contractor by the SCA are kept securely, are not copied and are returned to the SCA when asked.

- (iv) If a key given to the Contractor by the SCA is lost, the Contractor shall immediately inform the SCA.
- (b) The SCA may supply electricity and water for the WUC however, the Contractor must ensure that the use of these services is not more than is reasonably necessary to carry out the WUC and that all electric lights, power points and water taps are turned off immediately after use. The Contractor must ensure that its employees do not use telephones or other equipment on SCA's premises without the consent of the SCA.

## E3.6 Complying with Environmental Laws

- (a) The Contractor must become aware of liabilities and responsibilities applying to the Contractor and/or SCA under environmental laws. The Contractor must also become aware of any requirements of SCA's Operating Licence Environment Plan and environmental policies relevant to this Contract. In particular the Contractor must become aware of and comply with the requirements of the NSW Protection of the Environment Operations Act, 1997.
- (b) The Contractor must ensure that the operation of equipment or other activities required under this Contract are carried out in a manner, which satisfies these laws, regulations and SCA's environmental requirements. If the Contractor fails to do so, the Contractor will be responsible for any resulting costs and/or penalties.

## E3.7 Not Used

## **E3.8 Environment Management Plan**

- (a) At least 7 calendar days before commencement of the Work, the Contractor shall provide to SCA a written explanation ("Environmental Management Plan") of how the Contractor will carry out the Work in a manner which will protect the environment. The Contractor's Environmental Management Plan shall demonstrate to the reasonable satisfaction of SCA that the Contractor has carried out an adequate risk assessment, developed and implemented appropriate controls to protect the environment. The "reasonable satisfaction of SCA's Representative" shall <u>not</u> be construed to mean that the Contractor's Environmental Management Plan is automatically adequate to protect the environment. The responsibility for such adequacy always remains with the Contractor.
- (b) The Contractor shall implement the Environmental Management Plan and shall take appropriate measures to ensure the Plan is kept relevant to the carrying out of the work under the Contract.

## E3.9 Changing the Environment Management Plan

- (a) The Contractor may make changes to the Environment Management Plan at any time, however the Contractor must ensure that any changes are agreed in writing by SCA before they are implemented.
- (b) The Contractor is required to immediately change an existing Environment Management Plan if:

- (i) there are changes in environmental laws, regulations or SCA's environmental policies/requirements during the course of the Contract;
- (ii) the Environment Management Plan does not adequately reflect the environmental management requirements of this Contract;
- (iii) the procedures/plan do/does not reflect the Contractor's actual working practices;
- (iv) the Contractor alters or reschedules the work undertaken within the Contract.

## **E3.10 Non Conforming Work Practices**

- (a) The Contractor is required to immediately stop any work practices that do not meet the requirements of the Environment Management Plan, and to rectify any non-conforming Works.
- (b) Work practices which could result in a violation of SCA's environmental responsibilities or requirements, are to be considered as non-conformances.
- (c) The Contractor must record all non-conformances detected and notify SCA as soon as possible. A written report must be submitted to SCA within one working day of detecting the non-conformance.

### E3.11 Not Used

### E3.12 Records

The Contractor is to ensure that all records related to the implementation of the Environment Management Procedures/Policies are stored and maintained in such a way that they are not subject to deterioration, damage or loss and can be easily retrieved for supply to SCA for up to 7 years from the date of Completion of the Contract.

## E3.13 Induction and Training

The Contractor shall ensure that all employees undertaking on-Site Works for this Contract are aware of the environment management procedures required by this Contract. The Contractor shall assign specific tasks related to environmental management required by the Contract only to personnel who are qualified to perform them.

## E3.14 Subcontracting

The Contractor must specify the environmental management requirements of this Contract in all sub-contract agreements. Sub-contractors shall be required to comply with the environment management procedures/plan in accordance with the requirements of this Contract.

### E4. QUALITY ASSURANCE

#### E4.1 General

The Contractor shall comply with all requirements of this Technical Specification and either of the following Quality Management Systems appropriate to the Contract: AS/NZS ISO 9001, 9002 and 9003 pertaining to Quality Assurance.

# E4.2 Quality System

- (a) The Contractor shall plan, establish, document and maintain a quality system which conforms with the requirements of the Contract and shall provide SCA with access to the Contractor's and subcontractors' quality systems for monitoring and quality auditing. Quality systems proposed by the Contractor and subcontractors shall be used as an aid to achieve compliance with the requirements of the Contract and to document such compliance.
- (b) If the Contractor discovers material or work, which is not in accordance with the Contract, the Contractor shall promptly initiate the non-conformance procedure required by the quality system. If the Contractor proposes a disposition of any nonconforming materials or work which is at variance with the requirements of the Contract, the proposal shall be submitted in writing to SCA whose decision on the proposal shall be obtained in writing before the nonconforming material or work is covered up or incorporated into the Works, or is the subject of any other disposition.

## **E4.3 Quality Manual**

The Contractor shall conform with the policies stated in the Company Quality Manual submitted with the Contractor's tender.

### **E4.4 Quality Plans**

Within three weeks of the Commencement Date the Contractor shall submit to SCA for verification a Quality Plan specific to the Contract. The Quality Plan shall conform to the requirements of AS/NZS ISO 9004.1 - Clause 5.3.3.

## **E4.5** Inspection and Test Plans

- (a) Inspection and testing shall be carried out by the Contractor in accordance with the Inspection and Test Plans (ITP) submitted to and reviewed by SCA, if specified as part of the Work.
- (b) Within two weeks from the Commencement Date the Contractor shall forward to SCA ITPs appropriate to the supply of Works for review.
- (c) The Contractor shall provide set procedures to all subcontractors employed to perform Works under the Contract. The procedures shall include verification by the Contractor of all subcontract work performed. The verification shall include appropriate completed checklists by the subcontractor.
- (d) The Contractor shall prepare project specific ITPs in accordance with AS/NZS 3905.2: 1997 clauses 4.9 and 4.10. Where applicable the ITPs shall include observations, measurements and tests and incorporate all necessary

- Hold, Witness and Verification points as required by the Technical Specification.
- (e) Prior to presenting ITPs to SCA for witness and/or hold points, the Contractor shall verify the Works covered by the ITP against the acceptance criteria. Verification data are to be included with ITPs presented for the Work in progress.
- (f) Where work presented on the ITP does not satisfy the acceptance criteria, the departure from the acceptance criteria shall be registered on the ITP and a non-conformance report raised by the Contractor for that work.
- (g) The Inspection and Test Plans shall comply with the following Hold and Witness Points:

Hold/Witness Point	Requirement
Hold	Submit Environmental Management Plan.
Witness	Submit evidence of environmental induction.
Hold	Submit Safety Management Plan and Safe Work Method Statements.
Hold	Submit design, including design drawings
Hold	Independent test and report on protective coating system if applicable
Witness	Submit OHS&R records on request.
Witness	Submit Quality Plan.
Witness	Submit ITPs.
Witness	Submit Quality Records.
Witness	Submit Maintenance Program.
Witness	Submit Work-as executed drawings.
Witness	Submit names and procedures for 24 hour contact with persons nominated for Incident Management.

(h) SCA shall be entitled to order additional testing over and above those specified in the ITPs.

## **E4.6 Quality Tests**

- (a) The Contractor shall be responsible for the quality of all products, processes and services under the Contract, and shall provide all test facilities and perform demonstrative conformance of all products, processes and services to the technical requirements of the Contract.
- (b) Unless otherwise agreed by the Contractor and SCA, all laboratory tests undertaken by the Contractor, shall be performed by laboratories currently registered with the National Association of Testing Authorities (NATA) or equivalent authority recognised by JAS-ANZ.

## **E4.7 Quality Audits**

- (a) SCA may nominate selected times at which Quality Compliance Audits may be conducted within the Contract Term.
- (b) Upon request, SCA shall be given access in conjunction with or through the Contractor, to carry out Quality Audits, Quality Monitoring, Assessment or Reviews, to ascertain the effectiveness of the Quality System put in place by the Contractor and its subcontractors.
- (c) SCA shall be entitled to carry out the second or third party audits of the Contractor's and subcontractors' Quality System by:
  - (i) Review of the Contractor's conformance to the Quality Plan;
  - (ii) Review and verification of the Contractor's Quality Procedures and Work Instructions and documentary evidence of compliance with the technical requirements of the Contract.

# **E4.8 Traceability**

The Contractor shall establish and maintain documented procedures for unique identification of individual products or batches as appropriate. This traceability shall include but not be limited to:

- (a) the source(s) of material and equipment used;
- (b) instructions, equipment (processing, inspection, measuring and testing equipment) and personnel utilised for performing activities essential in meeting the specified customer needs, throughout the provision of services as required by the Contract.

## **E4.9 Quality Records**

- (a) Quality records shall be stored and maintained such that they are readily retrievable in facilities that provide a suitable environment to minimise deterioration or damage, and to prevent loss. Quality records shall be available for evaluation by SCA during the period of the Contract and shall include all pertinent subcontractor or secondary consultant records.
- (b) Quality records shall be retained by the Contractor for a minimum period of seven years from the Date of Completion.
- (c) The Contractor shall maintain records in two categories:
  - (i) Test Records which shall comprise all working sheets associated with testing in accordance with the Inspection and Test Plan(s);
  - (ii) Project Quality Records which shall include, but not be limited to, contract specifications, site meeting minutes, technical reviews, minutes of meetings between SCA and Contractor, and where necessary with Subcontractors or secondary Consultants, and other documentation relevant to the provision of Works required by the Contract.

- (d) The Contractor shall submit to SCA quality reports as evidence that the Work has complied with the specified Quality requirements. These reports shall include summaries of inspection and test results, and shall be submitted within 24 hours if unsatisfactory, and seven days if satisfactory.
- (e) Within three months from the Date of Completion the Contractor shall make available a register of all quality records held. The Contractor shall supply copies of all quality records or parts thereof as required by SCA.
- (f) Should the Contractor fail to comply with the provisions of this sub-clause, notwithstanding the provisions of clause C7 of the General Condition of Contract, SCA may withhold the issue of the payment next due and any subsequent payments, until such time as the Contractor complies with the provisions of this sub-clause.

## **E4.10 Inspection**

- (a) SCA shall be given access in conjunction with or through the Contractor to all laboratories and other facilities used for quality control tests to verify that specified requirements are being met.
- (b) The Contractor shall make suitable arrangements to notify SCA when a Hold, Witness or Verification Point will be reached so that SCA can review and/or witness if required any work process or test being undertaken by the Contractor.
- (c) SCA shall have the right to carry out at Hold, Witness or Verification Points inspections or tests to verify that the Contractor is implementing and maintaining the Quality System in accordance with the Contract documents.

## E5. ADDITIONAL WORKS REQUIREMENTS

# **E5.1 Construction Program**

- (a) The Construction Program shall include:
  - (i) the duration and sequence of, and the inter-relationships between, the planned events and activities which comprise WUC;
  - (ii) a project calendar clearly denoting which days are work days (allowing for restrictions on working time and contingencies for which the Contractor is responsible under the terms of the Contract. This would include but not be limited to weekends, holidays, Christmas close-down, union designated and other days off and manufacture and trade delays).
  - (iii) the sequence of activities for the Works;
  - (iv) any constraints outside the Contractor's control which affect the timing of activities and events:
  - (v) mobilisation to site to carry out trial installation;
  - (vi) appointment of subcontractors and their construction program;

- (vii) the preparation of and approval process for all calculations, designs and documents required;
- (viii) the time allowed for testing and commissioning of major items of plant or equipment;
- (ix) the differences or divergences from the tender program;
- (x) any further requirements stipulated by the Contract or required by the SCA.

### E5.2 Not Used

### E5.3 Australian Standards Mark

- (a) When any manufactured product, required by the Specification to comply with an Australian Standard is offered as complying with that Standard by virtue of being marked "Approved to Australian Standards" under a licensing scheme of the Standards Association of Australia, then SCA, before accepting the product, may require some or all of the tests set out in the Australian Standards to be done and passed and may require inspection of manufacture by a representative of the SCA.
- (b) Acceptance by SCA of any item shall not be deemed to be a waiver of any provision of the Specification that the product meets requirements other than those of the Australian Standards or any other requirement of the Specification.
- (c) Before acceptance, SCA may require from the Contractor a written declaration satisfactory to SCA that the product was manufactured during the currency of the relevant licence of the Standards Association of Australia.
- E5.4 Not Used
- E5.5 Not Used
- E6. NOT USED

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## **E7. INCIDENT MANAGEMENT**

(a) The Contractor shall manage all incidents in a manner, which conforms with the requirements of relevant legislation and minimises the adverse effects of the incidents.

- (b) The Contractor shall, before commencing any Work under the Contract, provide to SCA, and obtain its approval of, an Incident Management Plan, which shall deal with issues including:
  - (i) a clear statement of accountabilities;
  - (ii) identification and analysis of the risks;
  - (iii) prevention of incidents;
  - (iv) preparedness for incidents;
  - (v) declaration of incidents;
  - (vi) early notification of incidents;
  - (vii) response to and recovery from incidents;
  - (viii) current contact directories including the names and procedures for 24 hour contact with persons nominated by the Contractor to prevent, prepare for, respond to and recover from incidents. The Contractor shall advise SCA immediately of any changes in the names of persons so nominated.
- (c) The Contractor's Site Incident Manager shall notify each incident to SCA immediately it occurs and manage the incident, unless SCA's Incident Manager takes over the role of Site Incident Manager from the Contractor for that incident. In that event the Contractor shall continue to provide necessary support and assistance to SCA's Incident Manager in managing the Incident.
- (d) "Incidents" shall include, but are not limited to, those events causing or with the potential to cause a threat to or impact upon:
  - (i) the life, health and safety of any persons;
  - (ii) the environment;
  - (iii) public or private property;
  - (iv) interruption to availability and/or quality of services to SCA customers;
  - (v) SCA property or systems;
  - (vi) SCA businesses operations including infrastructure, staffing, major suppliers;
  - (vii) community infrastructure including electricity, gas, telephone, rail, road, footpaths;

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- (viii) prosecution or fines by a regulatory authority;
- (ix) requirements for urgent action under legislation;
- (x) the reputation and/or public image of SCA; and
- (xi) customer expectations (service quality, quantity, duration, damage, social inconvenience).
- (e) "Incidents" shall also include an anticipated imminent incident arising from a flood, fire and/or weather warning, terrorist threat, industrial action, potential electrical failure, etc.
- (f) The Contractor shall manage all incidents in a manner, which conforms with the requirements of relevant legislation, and SCA's Incident Management Procedures to minimise the adverse effects of each incidents.