

Eraring Energy

Requirements Specification for Water Reclamation Plant Maintenance Work

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1.0 General Information

1.1 Scope of Works

Eraring Energy's Water Reclamation Plant requires routine and emergency maintenance work on the micro-filtration and reverse osmosis plants and associated equipment. This specification sets out the nature of work on the Water Reclamation Plant. The specification involves routine and emergency maintenance work and minor plant modifications on the micro-filtration and reverse osmosis plants and associated equipment as and when required for a period of 24 months with Principal options for two further 24 month periods.

1.2 Location of Site

The Site is located within the grounds of Eraring Energy's Eraring Power Station.

The Eraring Power Station is located off the Sydney- Newcastle Expressway, between Morisset and Toronto, near Dora Creek, approximately 150 km north of Sydney, New South Wales.

Eraring Energy's site staff hours of work are from 7.00 am to 4.00 pm.

The standard general requirements applicable to the Site are set out in Part 1a Contractor Standard General Site Requirements, and the ambient weather conditions likely to occur are indicated in Table D.

1.3 Tender Contact Officer

All enquires regarding this tender shall be directed to the Contact Officer:

Teresa Hudson

Email: teresa.hudson@eraring-energy.com.au

Phone: (02) 4973 0594

1.4 Design Concepts

Not used

1.5 Competence and Experience

The Tenderer and/or the proposed consultative associates and subcontractors must be both competent and experienced in all aspects of the work covered by this Specification and be capable of advising on and implementing design changes within the broad scope of this Specification which may be required by Eraring Energy. Tenderers shall provide information with the Tender to support their competence and detail their experience.

1.6 Site Inspection

Site inspection is mandatory. A common Site Inspection will be held for all prospective Tenderers at **10am on Wednesday 18th November 2009** departing from Eraring Power Station, Main Entrance. Any special access or other requirements to the Works shall be noted and shall be allowed for in the Tender. Further details regarding this Site Inspection shall be obtained by contacting the Contact Officer. Note Eraring Energy will not accept any costs pertaining to attendance of the site inspection.

Site Inspection is mandatory. Names of those attending are to be forwarded to the Contact Officer at least 24 hours prior to the site inspection to ensure all attendees may be accommodated.

Visitors to Eraring Energy power station sites are required to wear safety eyewear, hard hat long sleeves & long trousers, enclosed footwear and a high visibility vest. Some areas may require hearing protection.

1.7 Contract Separable Portions

1.6.1 The Separable Portions covering work required to be performed shall be as follows:

Separable Portion 1 – 1st 24 Month Period

Separable Portion 2 Option 1 – 2nd 24 Month Period

The latest date for Eraring Energy to take up Option No. 1 will be within one calendar month of previous portion expiry.

Separable Portion 3 Option 2 – 3rd 24 Month Period

The latest date for Eraring Energy to take up Option No. 2 will be within one calendar month of previous portion expiry.

1.8 General Description of Power Station Plant

1.8.1 The Water Reclamation Plant (WRP) receives secondary treated sewage effluent from Dora Creek Sewage Treatment Plant and Eraring's on-site sewage treatment plant. The WRP filters and processes this effluent to produce reclaimed water for use within the power station. The WRP was installed and commissioned by Memtec Pty Ltd in March 1995 and has since had capacity upgrades and major maintenance including micro-filtration and reverse osmosis membrane replacements.

1.8.2 The WRP consists of two sub-plants, the Micro-filtration Plant (MFP) and the Reverse Osmosis Plant (ROP). The MFP consists of three 90 module Memcor 90M10C maxiblock continuous micro-filtration (CMF) units. The ROP Plant consists of 2 x two stage RO trains, with 98 spiral wound cellulose acetate membranes per train.

1.8.3 All plant and equipment within the WRP shall be included in the scope of work with the exception of any single stage centrifugal pumps and associated motors. General plant and equipment items shall include, but not be limited to: -

- a) All pipework, valves and associated fittings
- b) All tanks, including Clean in Place (CIP) Tank, RO Flush/Clean tank, Membrane Filtered Water Tank, Backwash Tank, Hypochlorite Tank, Antiscalant Tank, Dilute Acid Tank, Permeate Tank, Degasser Tower
- c) Chemical dosing pumps, including 3 x acid pumps, 3 x antiscalant pumps and 3 x hypochlorite pumps, 1 x antiscalant recirculating pump, Specialised pumps, including 2 x RO High Pressure Multi-stage Pumps, 2 x RO flush/clean pumps
- d) Process and instrument air system receiver, and associated air filters, regulators, valves, actuators and fittings
- e) Micro-filter auto pre-screen filter and bypass pre-screen.
- f) Cartridge filters associated with the RO feed and RO cleaning systems
- g) Electrical and PLC equipment
- h) Electronic metering and measuring equipment such as pH, ORP & conductivity meters, magnetic flow meters, pressure switches and gauges.
- i) Modifications or addition of new equipment as directed by the Principal.
- j) New items of equipment or plant associated with the Water Reclamation Plant.

1.8.4 Excluded from this work-scope will be any major modifications to the Water Reclamation Plant, the scope of which shall be at the sole discretion of the Principal. Any works

involving a major modification will be arranged through a separate procurement process at the sole discretion of the Principal.

2.0 Major Requirements

2.1 Extent of Works to be Provided Under the Contract

The Tenderer shall carry out work described in the following Clauses of the Specification under the Schedule of Rates provisions of the Contract.

2.1.1 The Contractor shall be responsible for the maintenance, installation, commissioning and Defects Liability of the Works described and the performance of all other obligations required by the Specification and the Conditions of Order incorporated herewith.

2.1.2 The Contractor shall perform routine work on the Water Reclamation Plant. The routine work may include, but is not limited to:

- a) Sonic testing of the continuous micro-filtration (CMF) units on a monthly basis.
- b) Backwash log reviews of the continuous micro-filtration (CMF) units on a monthly basis.
- c) Intensive chemical cleans of the continuous micro-filtration (CMF) units when directed.
- d) Sodium Hypochlorite dosing pipework/tubing yearly replacement.
- e) Air receiver and instrument air filter yearly cleaning/replacement.
- f) Reverse Osmosis chemical cleans annually or when directed.
- g) Reverse Osmosis pressure case probing test of individual RO membrane conductivities on an annual basis.
- h) Reverse Osmosis feed cartridge filter replacement twice annually.
- i) Reverse Osmosis Clean In Place filter when directed.

2.1.3 The Contractor, under the direction of the Principal, shall do minor plant modifications on the micro-filtration and reverse osmosis plants and associated equipment. The minor plant modifications may include, but are not limited to:

- a) Installation and re-routing of pipework.
- b) Installation of chemical dosing tanks and dosing pumps.
- c) Installation of new plant associated with micro-filtration and reverse osmosis plants.

The cost of labour, materials and services incurred by the Contractor for the work conducted on minor plant modifications shall be at the same Schedule of Rates as entered into Schedule 2.6.

2.1.4 The Contractor shall supply all materials, equipment, tools, tackle, scaffolding, labour and services necessary for the Works.

2.1.5 Specialist Subcontractors and consultants nominated by the Tenderer shall be to the approval of the Principal in regard to the specialist work for which they will be engaged. The Tenderer shall provide such information as is necessary and as required under the Quality Assurance Schedules of the Specification, to justify such approval

2.1.6 The Contractor shall provide any technical assistance and/or information to resolve issues regarding the unsatisfactory performance of the micro-filtration and reverse osmosis plants and associated equipment. The tender shall include details of the technical support that will be supplied by the Contractor. The technical assistance hourly rate shall be entered into Schedule 2.6

2.1.7 Whenever equipment is required to be dismantled or re-assembled by the Contractor or where access is required for any part of the Works, the Contractor shall be responsible for disconnecting, removing, re-installing, reconnecting re-calibrating and commissioning any associated or affected mechanical, electrical or instrumentation services such as pneumatic piping,

power and control cabling and thermocouples unless otherwise stated in this Specification. The Contractor when carrying out electrical work shall maintain all records as necessary to achieve correct reconnection and operation of instruments and electrical equipment.

2.1.8 The Contract shall be a Schedule of Rates as set out in Schedule 2.6. The rates charged shall allow for all costs, such as, but not limited to profit, statutory allowances, consumables, accommodation, travel and supervision necessary to carry out the work. Rates shall be for work during normal hours and for work outside normal hours. Normal working hours shall be defined as being between the hours of 7.00 am and 6.00 pm Monday to Friday, excluding public holidays. Work outside normal working hours shall be defined as times or days outside those defined as normal working hours.

2.1.9 The Schedule of rates for hourly labour shall include costs for specialist tools (as set out in Clause 2.1.6), normal tools of trade, safety equipment and any other equipment necessary to complete the works.

2.1.10 The Tenderer shall make staff available for routine call-outs for repairs/modifications on the Water Reclamation Plant. A routine call-out shall be defined as a request by the Principal for the Tenderer's staff to be present on-site to undertake work with 48 hours or more notification. The call out fee shall be once off for each call regardless of the actual time or days spent on site for that particular call out. The rate for the routine call-out fee shall be recorded in Schedule 2.6.

2.1.11 The Tenderer shall make staff available for emergency call-outs for emergency repairs on the Water Reclamation Plant. An emergency call-out shall be defined as a request by the Principal for the Tenderer's staff to be present on-site to undertake work within 24 hours of notification. The call out fee shall be once off for each call regardless of the actual time or days spent on site for that particular call out. The rate for the emergency call-out fee shall be recorded in Schedule 2.6.

2.1.12 The Contractor shall have no entitlement to claim any increase in payments under the Contract in the event of changes to any industrial arrangements/agreements, (irrespective of whether one or more such arrangements/agreements may require negotiation, registration and/or implementation) other than in accordance with the Price Fluctuation provisions, (if any), contained in the Contract.

2.1.13 The period order shall be for a period of two years from the date of award of contract with options for a further two by two year options.

2.1.14 Claims for payment shall be made monthly for work completed during the previous month. All monthly claims for payment shall include copies of daily worksheets, validated by the Principals representative, along with copies of invoices for spare or replacement parts purchased

2.2 Essential Performance Requirements of Works

2.2.1 Tenders which do not comply with the requirements of Clause 2.2 will not be considered.

2.2.2 Tenders must be for the whole of the Works specified and include for the performance of all obligations set out in the Specification.

2.2.3 The Tenderer and/or the proposed consultative associates and Subcontractors must be both competent and experienced in all aspects of the work covered by this Specification and be capable of advising on and implementing design changes within the broad scope of this specification which may be required by the Principal. The Tenderer shall have specific experience in the maintenance of micro- filtration units and reverse osmosis membranes and other equipment associated with this type of plant. Tenderers shall provide specific information with the Tender to support their competence and detail their experience in this regard.

2.2.4 The Tenderer must satisfy the Principal that the Tenderer has or will have adequate personnel to complete the works and services set out in the specification. The Tenderer shall provide full details of manning levels in the Tender submission.

2.2.5 Tenderers shall inspect the site and note any special access or other requirements to the works and services, all of which shall be allowed for in the Tender.

2.2.6 The Tenderer must satisfy the Principal that the Tenderer is committed to safety and has in place adequate plans to manage safety on-site during the works and services.

2.2.7 To be considered as a conforming tender, the Tenderer shall complete all the required information as outlined in this specification and attachments.

2.2.8 The Tenderer shall have all necessary specialist equipment to perform the required works. This shall include, but not be limited to, micro-filter membrane module removal tools, micro-filter module leak detection and pin repair tools, in-situ micro-filter sonic leak detection equipment, micro-filter backwash pressure and flow profile sequence recording, and equipment to determine individual reverse osmosis membrane leaks.

2.2.9 The Tenderer shall ensure that any personnel that will be working on any equipment associated with secondary treated effluent shall have the appropriate immunisations.

2.2.10 The Tenderer shall ensure that at least one person on site at any time has been trained to the level of a certificated person under the Eraring Energy Access to Apparatus Rules to allow them to request access, receive, coordinate and surrender a Permit to Work (PTW)/Permit to Test (PTT) for low voltage apparatus, mechanical apparatus and confined spaces. Training in these rules shall be provided by the Principal.

2.2.11 The Tenderer shall ensure personnel have current appropriate training and qualifications to work within confined spaces. Training in working in confined spaces shall be the responsibility and at the cost of the contractor.

3.0 Additional Requirements

3.1 Contract Terminal Points

Not used

3.2 Contract Interfaces

Not used

3.3 Guarantee of Performance of Works

3.3.1 Non-performance of duties set out in this Specification shall result in the issuing of a Corrective Action Request to the Contractor

3.3.2 Where a Corrective Action Request has been issued, the Contractor shall rectify the non-conformance and advise the Principal in writing within 2 working weeks or prior to any work being performed on-site at Eraring Power Station.

3.3.3 The Principal reserves the right to dis-allow the Contractor to perform any on-going work on-site at Eraring Power Station if a non-conformance has not been rectified and/or the Principal has not been advised in writing.

3.3.4 Failure to address issues raised in the Corrective Action Request in a satisfactory manner or within the timeframe specified in the Corrective Action Request, or repeated occurrences of the same type of non-conformance maybe grounds for termination of the contract in accordance with Clause 14 of the Terms and Conditions for Minor Works

3.4 Works Provided by Eraring Energy

Not used

3.5 Maintenance Tools and Appliances

Not used

3.6 Spare Parts

3.6.1 The Contractor shall not depend on the spares held by Eraring Energy to allow them to carry out their obligations under the Contract, particularly with regard to defects liability.

3.6.2 In addition to the spare parts which may be ordered by Eraring Energy, the Contractor shall ensure that for the duration of the Contract, a reasonable stock of spare parts, which could be required for normal routine maintenance, be held in Australia by the Contractor or Subcontractors. The Contractor shall also ensure that spare parts are promptly supplied to enable the Contractor's obligations, under the terms of Clause 3.5(e) of the Terms and Conditions for Minor works, to be carried out expeditiously

3.7 Temporary Interruptions of Works

Tenderers shall note that it may not be possible to proceed continuously with the work under the Contract covered by this Specification. Tenderers shall include in their offers for minor interruptions of work as may be reasonably required for any portion, or part thereof, of the work covered by this Specification.

3.8 Standard Requirements of Works

3.8.1 Eraring Energy's standard general requirements are set down in Part 1a Contractor Standard General Site Requirements and Tenderers shall note particularly the security requirements contained in Clause 4-1.

3.9 Particular Tender Pricing Requirements

3.9.1 In accordance with the provisions of the Terms and Conditions for Minor works, this Contract will be Schedule of Rates.

3.9.2 Where the Principal directs that work under the Contract will be carried out on a Schedule of Rates basis, the rates charged for hourly labour shall allow for all costs such as, but not limited to, profit, statutory allowances, small tools and consumables including welding consumables, plant and equipment (except where special plant and equipment is required and is specifically requested, in writing by the Principal), welding machines, scaffolding, cranes, lifting tackle, accommodation and supervision that is necessary to carry out the work.

3.9.3 The Tenderer shall complete Pricing Schedule 2.6 by entering, opposite each labour category or work item listed or offered, the Rate/Price and other relevant pricing information necessary to complete the Schedule. The labour rates shall apply to the Contractor's normal work hours.

The Tenderer shall note that any of Eraring Energy's estimated quantities shown for Schedule of Rates items are indicative only and are not guaranteed by Eraring Energy.

3.9.4 Where items of work are carried out on an hourly rate basis in accordance with Clause 3.9.2, timesheets, the format of which shall be approved by the Principal, are to be completed by the Contractor and **presented daily to an officer nominated by the Principal** for checking and certification. Claims for payment not supported by timesheets or accompanied by uncertified timesheets may be rejected.

3.9.5 Where, with the agreement of the Principal, materials or other ex-works expenditure not covered elsewhere under the Contract or specialist labour is used in a Subcontractor capacity, whether in the course of Schedule of Rates work or otherwise, then the Contractor shall be reimbursed at the Subcontractor GST exclusive invoiced cost to the Contractor, for supply and delivery of materials to Site or for provision of service, plus a handling fee, not to exceed 10% of the Subcontractors GST exclusive invoiced cost and which is to be nominated as a percentage in the Tender in Schedule 2.6. The handling fee shall include for all procurement and other overhead administrative costs, charges, expenses and profit.

In each case, the Contractor shall obtain at least three competitive quotations for the materials or services and shall accept the lowest quotation unless the Principal approves otherwise. The Contractor shall supply to Eraring Energy a certified copy of the Contractor's orders which shall show all pricing details for checking purposes. In addition, where the cost of an item exceeds \$10,000 the Contractor shall supply evidence of competitive quotations being obtained.

3.9.6 Where, with the agreement of the Principal, plant and/or equipment is used in accordance with Clause 3.9.2, the Contractor shall include daily records certified by the Principal of all such plant or equipment (with the exception of small tools) in the daily timesheets.

Where such plant or equipment is being leased, the Contractor shall advise the Principal when the cumulative hire/lease cost of any single item exceeds 50% of the capital value of the item. The Principal shall have the option, after reviewing the expected further use of the item, to direct the Contractor to purchase it and hand it to Eraring Energy at Practical Completion. The Principal shall not be responsible for accumulated hire costs exceeding the capital value of the item unless the Contractor has been authorised in writing by the Principal to continue such hire.

The Tenderer shall note that the required format of the Pricing Schedules shall be as shown in the following table:

Schedule	Purpose
Schedule 2.6	Schedule of Rates
Schedule 2.8	Summary of Separable Portion Prices

3.9.7 Tenderers shall submit all Tender prices on the basis of at least an average 38-hour working week. If the Contractor intends to work shift work this shall be stated in the Tender.

3.9.8 For additional work carried out after Practical Completion at the direction of the Principal under Schedule 2.6 - Schedule of Rates, the program dates, for the purposes of the Price Adjustment Provisions, shall be deemed to be the actual dates during which the work is carried out.

3.10 Warranty Transfer

3.10.1 The Contractor will, if required by Eraring Energy, assign or transfer to Eraring Energy the benefit of any manufacturer's warranty applying to new plant or equipment supplied by the Contractor to Eraring Energy. Any such assignment or transfer shall, however, be without prejudice to the Contractor's obligations under Clause 35 of the General Conditions of Contract.

3.11 Defects Liability Period

3.11.1 Subject to Clause 3.5(e) of the Terms and Conditions for Minor Works, and with reference to Clause 6.10 of the Contractor General Site Requirements the Defects Liability Period for the Works shall commence on the Date of Practical Completion for work performed and shall end on the expiration of 12 calendar months.

3.11.2 The Defects Liability Period shall be extended by one day for each day on which the works cannot be operated (when Eraring Energy would otherwise have required it to operate) for any period in excess of one continuous hour for a reason for which the Contractor is responsible.

3.11.3 Where, for a reason for which the Contractor is not responsible, the expiration of 12 calendar months is delayed, Eraring Energy shall be liable to the Contractor for any additional expense to which the Contractor may be put in rectifying its defects.

3.11.4 This Clause shall apply separately to each Separable Portion of the Contract.

3.12 Approval to Proceed

3.12.1 During the course of the Contract, the Contractor may be requested to carry out additional work. Such work may be carried out under provisions of the Contract but work shall not commence until the Principal has approved the proposal in writing.

3.12.2 No item of work shall commence on the Site (including surveys) until approval is obtained from the Principal.

Where additional work pursuant to Clause 36 of the General Conditions is to be carried out at the approved Schedule of Rates, the hours of work shall be to the Principal's approval. Overtime shall not be worked unless specific approval has been granted by the Principal for both the Contractor and his Subcontractors.

3.13 Insurance of Plant

3.13.1 Eraring Energy's property is insured by Eraring Energy whilst under the Contractor's care and control. Work performed on it by the Contractor is to be insured by the Contractor as work under the Contract.

If Eraring Energy's Plant and Equipment needs to leave the Site for the purpose of work under the Contract, the Contractor will arrange transit insurance. The Contractor is required to give the Principal five working days' notice of its intention to transport Eraring Energy's plant and equipment to and from the Contractor's store or that of a Subcontractor.

However, the Contractor remains liable for the safe keeping of Eraring Energy's plant and equipment.

3.14 Inspections and Tests

3.14.1 The issue of a Release Certificate by the Principal for plant following inspections and tests at the Contractors/Subcontractors Works shall not prejudice the right of the Principal to reject the whole or part of the plant if it does not comply with the Contract when erected on the Site.

3.14.2 In so far as is practicable, all rotating plant shall be assembled with its associated motor in the manufacturer's works and run at normal speed to check the balance, alignment of parts and the performance of bearings and other parts.

3.15 Foundations and Plinths

Not used

4.0 Quality System Requirements

4.1 Quality System Standard

Implementation of the quality system requirements of the Contract shall be as far as practicable in accordance with AS3905.2 (1997).

Unless otherwise approved by the Principal, painting /surface protection shall be carried out by contractor/subcontractor(s) who operate under a quality system that is certified to AS/NZS ISO 9001, as a minimum and/or who are certified under the applicable category of the Painting Contractor Certification Program (PCCP).

4.2 Audit and Surveillance

4.2.1 Prior to the award of a Contract, Eraring Energy may carry out appropriate assessment of the Tenderer's ability to meet the Quality System Standards requirements.

4.2.2 Subsequent to the award of the Contract and until Final Completion, the Contractor's quality system will be subject to audit and surveillance by the Principal. The frequency and depth of such audit and surveillance will depend on the adequacy of the Contractor's performance during the contract. The minimum notice to be given by the Principal to the Contractor will be 5 working days for an audit and 24 hours for surveillance.

4.2.3 In response to an assessment during tender evaluation, the Tenderer if selected as the Preferred Tenderer, shall develop and submit for review and acceptance by Eraring Energy a program for corrective action at tender consolidation stage.

In response to audit or surveillance during the life of a Contract, the Contractor shall develop and submit a program of corrective action no later than one week after the date of issue of the relevant report.

All programs for corrective action when accepted by the Principal shall form part of the Contract. Such corrective action shall not entitle the Contractor to an extension of time for Practical Completion nor shall it entitle the Contractor to a claim for additional costs.

4.3 Training in Contractor's Quality System

Not used

4.4 Quality Documentation

4.4.1 The Tenderer and Contractor shall submit for review and acceptance by the Principal, appropriate documentation in accordance with Table F.

4.4.2 Where documentation supplied by the Contractor is considered to be inadequate or incomplete, the Contractor shall carry out, at no cost to Eraring Energy, appropriate revision of this documentation within two weeks of formal notification of such inadequacy or incompleteness by the Principal.

4.5 Inspection and Test Plans

Not used

4.6 Subcontract Requirements

4.6.1 The Principal may, at any time, audit the Contractor's surveillance of a subcontractor's quality system.

4.6.2 In addition, the Principal shall have the right to audit a subcontractor's quality system. A representative of the Contractor will be invited to attend such an audit. The Contractor shall arrange access to the subcontractor's works and the provision of appropriate audit facilities. Time taken by the Contractor to organise such an audit shall not be more than 10 working days from the date on which the Principal has formally notified the Contractor of the intention to carry out the audit.

4.7 Product Release

4.7.1 Release shall be on the basis of a Certificate of Compliance from the Contractor stating that the product or service complies with the specified requirements and all approved inspection and test requirements have been successfully completed. Objective evidence shall be available to support the Certificate of Compliance.

A Release Certificate issued by the Principal after review of inspection and test records shall form part of the release documentation.

The issue of a Release Certificate by the Principal for plant following inspections and tests at the Contractors/Subcontractors Works shall not prejudice the right of the Principal's Representative to reject the whole or part of the plant if it does not comply with the Contract when erected on the Site.

A Certificate of Compliance issued by a Subcontractor shall be endorsed by the Contractor to be considered as valid release documentation. Release documentation shall also include copies of approval records by Statutory Regulatory Authorities where applicable.

4.7.2 Items of plant or equipment to be incorporated into the Works shall be dispatched to Site only after formal release. A copy of the release documentation shall be forwarded to Site with the goods.

4.7.3 Items of plant or equipment incorrectly identified or not accompanied by the valid release documentation shall be confined by the Contractor to a Site quarantine area designated by the Contractor and shall be treated as nonconforming items.

4.7.4 The release of items from quarantine for further work on the Site shall only be permitted when evidence of the acceptability of the item is provided to the satisfaction of the Principal.

Delay as a consequence of such corrective action shall not constitute a basis for an extension of time for Practical Completion.

4.8 Quality Records

4.8.1 The Contractor shall establish and maintain a system of records which provide objective evidence that the requirements of the Contract are satisfied – refer Table F. The Contractor shall ensure that Subcontractor records, pertinent to the Contract are covered by this system.

4.8.2 All applicable records shall be available for audit and review by the Principal prior to the release of goods and services.

4.8.3 Records shall be retained by the Contractor and Subcontractors for a period of seven years from the last date of Practical Completion of the Contract unless stipulated for a longer period by the Contract or by the appropriate Statutory or Regulatory requirements.

4.9 Traceability

Not used

5.0 Business Continuity

5.1 The Works must continue despite unforeseen interruptions arising. Tenderers shall submit a business continuity plan which includes the arrangements for suitable replacement of key personnel who become unavailable at short notice due to illness, injury or similar circumstances.

6.0 Administrative Procedures

6.1 The Contractor shall provide a report on a monthly basis which shall include details of work undertaken in that month, such as that listed below, but not limited to, the following:

- (a) Sonic map test results on the continuous micro-filtration (CMF) units.
- (b) Backwash and trans-membrane pressure trends/results on the continuous micro-filtration (CMF) units.
- (c) Reverse Osmosis and continuous micro-filtration (CMF) units serial number location maps when locations have been changed or membranes replaced.
- (d) Valves replaced on the Water Reclamation Plant.
- (e) Reverse Osmosis pressure case probing test results.

6.2 The Contactor shall provide with their Tender submission a proposed format of the monthly report.

Table A – Table Of Key Dates

Item No.	Description	Refer Clause No.	Period from Date of Acceptance of Tender		
			Water Reclamation Plant Maintenance Work		
			Separable Portion 1	Separable Portion 2	Separable Portion 3
1.	<u>DRAWINGS AND INFORMATION</u> (a) Quality Documentation				
			Refer times set out in Table F		
2.	<u>SITE WORKS</u> (a) Possession of Site (within the indicated period) (b) Routine & Emergency Maintenance Period (c) Practical Completion	 2.1.13 2.1.13 2.1.13	 2 weeks 104 weeks 104 weeks	 2 weeks 104 weeks 104 weeks	 2 weeks 104 weeks 104 weeks

Table A - Table Of Key Dates

NOTES:

1. It should be noted that any extension of time will be in accordance with Clause 10 of the Terms and Conditions for Minor Works.
2. Dates shown in the Table of Key Dates are based on an anticipated Date of Acceptance of Tender no later than the 1st February 2010, however, Earing Energy cannot guarantee this date. Two weeks notice written notice of the Date of Possession of Site will be forwarded to the Contractor.

Table B - Drawings For Tendering Purposes

NOT USED

Table C - Drawings To Be Provided By The Contractor

NOT USED

Table D - Ambient Weather Conditions

The climatic conditions likely to be encountered at the Eraring Power Station are summarised below. The climatic data has been collected by the climatic station located in the area.

Maximum ambient dry bulb experienced	43.3°C
Minimum ambient dry bulb experienced	-0.6°C
Average daily minimum dry bulb temperature	
for month of July (coldest)	7.1°C
for month of February (hottest)	18.8°C
for year	13.0°C
Average daily maximum dry bulb temperature	
for month of July (coldest)	17.8°C
for month of February (hottest)	27.2°C
for year	23.1°C

Rainfall

Average yearly rainfall	1129 mm
Highest average monthly rainfall	142 mm
Lowest average monthly rainfall	51 mm

The Site will be subject to occasional heavy rain falling at the rate of up to 160 mm/h, occasional fog with seasonal hot and cold winds.

The expected average temperature variation in a 24-hour period is:	10.0°C
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Unless specified otherwise elsewhere under the Contract, the Contractor may assume for the purposes of determining the design rating of items of equipment that:

The maximum ambient dry bulb temperature is	40.0°C
The corresponding wet bulb temperature is	30.0°C
The minimum ambient dry bulb temperature is	0.0°C

Solar Effect

The maximum intensity of solar radiation	0.1 W/cm ²
The maximum temp of black bodies in the sun	76.0°C

It is emphasised that the above temperatures are all ambient temperatures and are not operating temperatures of plant and equipment.

Altitude

The Eraring Power Station location is effectively at 15 to 30 m above sea level.

Thunderstorm Activity Level

Isoceraunic level	20 - 30
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Winds

The wind may reach gust speeds of >120< km/h at ground level.

Table E - Fire Fighting Equipment

1. The fire fighting equipment to be provided shall be extinguishers and hoses within the areas allocated to the Contractor on Site for erection, storage and any other purposes. The type, number and location of the extinguishers and hoses shall be nominated from time to time by Eraring Energy.

Table F - Document Submission Matrix

DOCUMENT	BY TENDERER (with the Tender)	BY CONTRACTOR (within specified time)
Schedules	Completed Schedules.	
Company Quality Manual	One copy.	
Contract Specific Quality Plan for manufacture	One copy of a Contract Specific Quality Plan for a similar project.	1 controlled copy within 4 weeks of start of manufacture to requirements of Appendix E in AS/NZS 3905.2:1997 – medium to large projects.
Quality System Procedures		To be available for review/audit/surveillance/ inspection.
Technical Procedures, Inspection and Test procedures		Procedures covering each relevant process to be available for review/audit/surveillance/inspection.
Schedule of Quality Records		A Schedule of Records to be generated and maintained to be submitted within 2 weeks of the award of the Contract. Agreed records to be available for review/audit/ surveillance/ inspection.
Schedule of Subcontractors	Completed Schedule “Proposed Subcontractors” and completed form “Request for Approval of Subcontractor” for each proposed Subcontractor.	For each Subcontractor, completed Form “Request for Approval of Subcontractor” and Schedule for approval prior to the placing of an order on the Subcontractor.
Schedule and procedures for Special Processes		Schedule to be submitted within 2 weeks of the award of the Contract. Process and operator qualification procedures and records to be available for review/audit/ surveillance/ inspection.

Table G – Traceability

NOT USED