

## TCTA

**TENDER NO.: 048/2025/PMID/MAINTENANCE/RFB.**

**FOR THE OPERATION AND MAINTENANCE OF THE CENTRAL BASIN ACID MINE  
DRAINAGE TREATMENT PLANT FOR A PERIOD OF 60 MONTHS**

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## PART C1: AGREEMENT AND CONTRACT DATA

### 1. DEFINITIONS

In this Agreement and the annexures hereto, unless the context indicates otherwise, the words and expressions set out below shall bear the meanings assigned to them and cognate words and expressions shall have a corresponding meaning.

#### CLAUSE 1

##### 1.1 Background

Refer to Volume 1

##### 1.2 Definitions.

In this Agreement the following terms have the following meanings unless the context otherwise requires:

- (a) **“AMD”** means Acid Mine Water Drainage;
- (b) **“Abnormal Raw Water”** means **Raw Water** that contains levels of substances in sufficiently high concentrations that cannot be treated with the processes necessary for the treatment of the water to achieve the Compliance Criteria. The Operator shall demonstrate to the Operations Agent that the substances are at a concentration sufficient to cause interference with the treatment process;
- (c) **“Adjustment to the Operations Fee”** has the meaning assigned in Clause 8.3 of this Agreement;
- (d) **“Affiliated Company”** means, with respect to the Operator, any other Person who directly or indirectly controls, is controlled by, or is under direct or indirect common control with, the Operator, and includes any Person in like relation to an Affiliated Company. A Person shall be deemed to control another company if such Person possesses, directly or indirectly, the power to direct or cause the direction of the management and policies of such Company, whether through ownership of voting securities, by contract or otherwise; and the term “controlled” shall have a similar meaning;
- (e) **“Agreement”** means this agreement and all schedules attached to it including the Form of Offer as they may be amended, modified, supplemented, restated, or replaced from time to time by mutual agreement of the Parties;
- (f) **“Annual”** means occurring once per year from the Commencement Date, inclusive;
- (g) **“Annual Asset Report”** has the meaning assigned in sub-clause 3.7(4) of this Agreement;

- (h) “Applicable Laws” is to be broadly interpreted and means, with respect to any Person, property, transaction, event or other matter dealt with or adverted to in this Agreement, any and all statutes, by-laws, regulations, enactments, ordinances, rules, permits, consents, approvals, licences, judgments, orders, judicial decisions, common-law rules, decrees, injunctions, agreements, authorizations, regulations, policies, guidelines, objectives, whether federal, provincial or municipal including, but not limited to all laws relating to occupational health and safety matters, fire prevention and protection, land use planning, environment, labour matters, in each case which have the force of law and which relate to the operation and maintenance of water treatment facilities and distribution systems;
- (i) “Arbitrator” means the individual or individuals appointed in accordance with the procedure described in Clause 17 of this Agreement to determine a matter referred to arbitration hereunder;
- (j) “Assets” means the buildings and other permanent fixed assets of the Facilities, and includes all mechanical, electrical and instrumentation equipment that forms part of the Facilities;
- (k) “Asset Management System” has the meaning as described in Clause 5.2;
- (l) “Best Efforts” means, in relation to the performance of an obligation under this Agreement, timely efforts that are sensible and practical in a commercial context and involve the exercise of sound judgment, having regard to relevant circumstances;
- (m) “Best Practices” means best Operations and Maintenance and management practices as established in accordance with industry standards which a commercially reasonable and prudent operator of the Facilities would follow in similar circumstances, having regard to the objectives and terms of this Agreement;
- (n) “Business Day” means a day which is not a Saturday, Sunday or a legal holiday;
- (o) “Capital Improvements” means expenditures, repairs or replacements which are permitted to be capitalised in accordance with generally accepted accounting principles, (including, but not limited to, the roofing, structural elements, exterior wall systems, plumbing and drainage systems, foundations, floors, electrical systems, SCADA and related computer systems, pipes, tanks, valves, pumps and other equipment, and all material and labour related hereto, but excluding office furniture and office equipment, and excluding expenditures made for Routine Maintenance and Repairs and Replacement);

- (p) “Change of Laws” means the enactment, adoption, promulgation, modification, repeal or change of any Applicable Laws by any Governmental Authority, including the Employer, which comes into effect after the Commencement Date and which requires the Operator to provide additional or different services relating to operation or maintenance of the Facilities, or materially affects the costs of operation or maintenance of the Facilities pursuant to this Agreement;
- (q) “Civil Maintenance Program” has the meaning assigned in sub-clause 5.4(1) of this Agreement;
- (r) “Civil, Structural and Site-Related Assets” means the permanent fixed assets of the Facilities but shall not include the Mechanical and Electrical Equipment;
- (s) “Claim” includes claims, actions, proceedings, causes of action, suits, debts, dues, accounts, Guarantees, warranties, claims over, indemnities, covenants, contracts, losses (but excluding consequential losses), damages, costs, grievances, executions, judgments, obligations, liabilities (and excluding those relating to or arising out of loss of opportunity or loss of anticipated profit), rights and demands whatsoever, whether actual, pending, contingent or potential, whether in law or in equity, whether express or implied, whether present or future and whether known or unknown;
- (t) “CMMS” or “Computerized Maintenance Management System” means the computerized maintenance management system described in Clause 5.10, with online access available to the Employer for monitoring purposes only, used to schedule and record all Maintenance and Repairs performed on the Facilities and the Equipment and shall include but not be limited to Asset Inventory and Management;
- (u) “Commencement Date” means the date on which the Operator is required to assume the day-to-day operation and maintenance of the Facilities.
- (v) “Compliance Criteria” means all terms, conditions, instructions, concentration limits and maximum permissible values listed or specified by Governmental Authorities and the Treated Water Performance Criteria and as required under Clause 4 and **ANNEXURE B**.
- (w) “Compliance Failure” means when the Treated Water exceeds the maximum permissible limits for any Compliance Criteria and shall be determined pursuant to Clause 4.4 and **ANNEXURE B** of this Agreement;
- (x) “Compliance Report” has the meaning assigned in sub-clause 3.7(2) of this Agreement;
- (y) “Condition Survey” means an inspection and review of the Assets;
- (z) “Consumables” means all exhaustible materials used in the day-to-day operation of the Facilities and includes, but is not limited to, chemicals, lubricants, and fuel;

- (aa) "Consumer Price Index" or "CPI" means the Statistics South Africa Consumer Price Index ("CPI Headline") (All Items) as published in Table A of P0141.1 as determined from time to time during the Term;
- (bb) "Contract Data" key items relating to the Agreement, that are summarised as the Contract Data;
- (cc) "Contract Year" means each year of the Term from the Commencement Date, till midnight of the anniversary of the Commencement Date;
- (dd) "Control" shall have the meaning assigned in the definition of "Affiliated Company" of this Agreement;
- (ee) "Corrective Maintenance" means the repair and correction of deficiencies, failures and malfunctions of the Facilities and the components therein to maximize the service life of the Facilities and its components but does not include repair and correction of deficiencies, failures and malfunctions of the Facilities that are a result of the Operator's inadequate performance or non-performance of the Preventative Maintenance to the Facilities as required in this Agreement;
- (ff) "Cumulative Monthly Treated Water Performance Failure" shall have the meaning assigned in sub-clause 4.5;
- (gg) "Deficiency" or "Deficiencies" means those Assets which have deteriorated, are non-operational, or are unable to substantially perform their design function in respect of the Facilities, or which are reasonably likely to fail and require replacement or which create an immediate material risk to human health and safety or the environment;
- (hh) "Direct Claim" has the meaning assigned in sub-clause 16.4(1)(a) of this Agreement;
- (ii) "Efficiency Improvement" has the meaning assigned in Clause 3.17 of this Agreement;
- (jj) "Electricity Cost" means the cost of electricity used by the Facilities;
- (kk) "Emergency Situation" means an occurrence of an incident that results in an interruption of the treatment plant or the impairment of the quality of Treated Water;
- (ll) "Employer" means the entity who is stated in the Contract Data;
- (mm) "Employer's Equipment Replacement" has the meaning assigned in Clause 5.8 of this Agreement;
- (nn) "Employer Fault" means any breach of any of the Employer representation or warranty herein set forth, failure, non-performance, non-compliance or any negligent or wilful misconduct by the Employer (whether or not attributable to any officer, member, agent, employee, or Operator, of the Employer) with respect to its obligations under this Agreement, to the extent not attributable to any Uncontrollable Circumstance or

- negligence or wilful misconduct of the Operator, and which materially and adversely affects the Operator's rights and obligations or ability to perform under this Agreement;
- (oo) "Employer's Inventory" has the meaning assigned in Clause 9.3 of this Agreement;
- (pp) "Employer's Manager" means the person designated by the Employer pursuant to sub-clause 3.7(1)(a) of this Agreement;
- (qq) "Equipment PM Program" has the meaning assigned in Clause 5.6 of this Agreement;
- (rr) "Equipment Renewal Program" means the replacement program which provides for the replacement of specified equipment and systems at the Facilities for the purpose of maintaining a high level of serviceability, reliability and availability of the Facilities, all in accordance with Clause 5.2;
- (ss) "Event of Default" means the occurrence of any of the following:
- (tt) if the Employer fails to pay any fee, charge or other monetary payment, other than the Operations Fee, to the Operator within ninety (90) days of the date upon which such payment is due as provided in this Agreement;
- (uu) if the Operator fails to operate and maintain the Facilities in accordance with the terms of this Agreement;
- (vv) if either Party breaches any other representation, warranty, or covenant to this Agreement, where such breach is not cured by the defaulting Party within ninety (90) days of the delivery of notice specifying the breach, or, where such breach is not capable of cure within such ninety (90) day period, the defaulting Party has in good faith commenced and exerted its Best Efforts to remedy such default within such ninety (90) day period;
- (ww) if the Operator is determined by a court of competent jurisdiction to be in non-compliance with Applicable Laws;
- (xx) if the Operator fails to file a Compliance Report or files a deficient Compliance Report with the Employer;
- (yy) if, at any time during the Term, the total of all occurrences of the events described in sub-clause 3.7(b)(7)(c) of this Agreement exceeds a total of five (5);
- (zz) failure to supply the Employer with updated contingency and emergency plans as required by sub-clause 3.11 of this Agreement;
- (aaa) if the Operator has caused, contributed to, or is responsible for a Safety Deficiency at the Facilities and/or has failed to correct that Safety Deficiency to the extent caused or contributed to by the Operator, as required hereunder;

- (bbb) if the Employer has caused, contributed to, or is responsible for a Safety Deficiency at the Facilities and has failed to correct that Safety Deficiency to the extent caused or contributed to by the Employer;
- (ccc) a Compliance Failure;
- (ddd) failure by the Operator to comply with the Treated Water Performance Criteria as described in sub-clause 4.2 of this Agreement;
- (eee) failure by the Operator to comply with the insurance requirements under any insurance required by Clause 14;
- (fff) if contrary to Clause 3.16 of this Agreement, the Operator employs or hires the service of a sub-operator to assist the Operator in the performance of its obligations under this Agreement without having obtained prior approval from the Employer;
- (ggg) if contrary to Clause 5.6 of this Agreement, the Operator fails to first complete the repair in a timely fashion where the Operator disagrees with or disputes the Employer's determination of an Incident of Repairs and Replacement or Corrective Maintenance or whether the Operator's expenditures for an Incident of Repairs and Replacement or Corrective Maintenance have been reasonably incurred;
- (hhh) any other Events of Default as otherwise identified in this Agreement; but for greater certainty shall not include any of the foregoing events caused by Uncontrollable Circumstances, which include Abnormal Raw Water, or the Employer fault;
- (iii) failure by the Operator to comply with the Socio-economic Objectives;
- (jjj) failure by the Operator to comply with the implementation and requirements of the OEMPr;
- (kkk) "Extraordinary Event of Default" has the meaning assigned in Clause 10.5 of this Agreement;
- (III) "Facilities" means the Employer's Water Treatment Plant ("WTP") including the associated Reservoirs, Pumping Stations and Pipelines, all as described in ANNEXURE A to this Agreement and all buildings and related infrastructure or other physical assets located thereon;
- (mmm) "Final Condition Survey" has the meaning assigned in sub-clause 5.3(2) of this Agreement;
- (nnn) "Final Contract Year" means the final year of the Term;
- (ooo) "Final Inventory and Survey" has the meaning assigned in sub-clause 5.5(4) of this Agreement;

- (ppp) "First Contract Year" means the period commencing at the Commencement Date and ending a year later;
- (qqq) "Governmental Authority" means a national, provincial or municipal, ministry, agency, department or body having jurisdiction over the Facilities, the Employer, the Operator, their agents, servants, and/or employees in respect of Applicable Laws. The term "Governmental Authority" shall not include the Employer unless otherwise specified herein;
- (rrr) "Variable Performance Fee" has the meaning assigned in Clause 7.1 of this Agreement;
- (sss) "Incident of Repairs and Replacement" has the meaning assigned in sub-clause 5.7(c) of this Agreement;
- (ttt) "Incident of Repairs and Replacement or Corrective Maintenance" has the meaning assigned in sub-clause 5.4(1)(c) of this Agreement;
- (uuu) "Indemnified Party" means the Party who is entitled to be indemnified pursuant to Clause 16 of this Agreement;
- (vvv) "Indemnifying Party" means, in relation to an Indemnified Party, the Party to this Agreement that has agreed to indemnify that Indemnified Party pursuant to Clause 6 of this Agreement;
- (www) "Initial Condition Survey" has the meaning assigned in Clause 5.3 of this Agreement;
- (xxx) "Inventory and Baseline Survey" has the meaning assigned in sub-clause 5.5(1)(b) of this Agreement;
- (yyy) "Form of Offer" means the document entitled letter of tender, which was completed by the Operator (Operator) and includes the signed offer to the Employer for the operation and maintenance of the Works.
- (zzz) "Manager" means the Employer's Manager and the Operator's Manager appointed from time to time during the term of this Agreement pursuant to sub-clause 3.7(1) of this Agreement or that individual's official designate.;
- (aaaa) "Mechanical and Electrical Equipment" means all mechanical, electrical and instrumentation equipment that forms part of the Facilities;
- (bbbb) "Minimum Water Quantity" means the minimum volume of water treated as required in ANNEXURE B;
- (cccc) "Monthly Operations and Maintenance Report" has the meaning assigned in sub-clause 3.7(4) of this Agreement;

- (dddd) "Movable Assets" means all pieces of mobile plant, equipment and furniture which are not physically attached to the Facilities and which are required in the current day-to-day operations and maintenance of the Facilities;
- (eeee) "Operational Environmental Management Program (OEMPr)" means the environmental management programme issued for the WTF;
- (ffff) "Occupational Health and Safety Act" is described in Clause 3.11 of this Agreement;
- (gggg) "Operations Agent" means any service provider appointed by the Employer to act as intermediary between the Employer and the Operator;
- (hhhh) "Operations Agent's Representative" means the representative of the Operations Agent, appointed from time to time;
- (iiii) "Operations Fee" means the fee as defined in the Schedule of Rates and Prices;
- (jjjj) "Operations and Maintenance" or "O&M" means the operations and maintenance services provided pursuant to this Agreement;
- (kkkk) "Operating and Maintenance Costs" means all costs and expenses of managing, operating and maintaining the Facilities incurred by the Operator pursuant to the provisions of this Agreement;
- (llll) "Operations and Maintenance Manual" means the Operations and Maintenance manual described in Clause 3.14 of this Agreement;
- (mmmm) "Operating Period" means the period from the Commencement Date to the earlier of the expiry or termination of this Agreement;
- (nnnn) "Operational Change" means an adjustment in routine operating procedures, which does not require prior notification of any other Governmental Authority responsible for administration of Applicable Laws;
- (oooo) "Operator" means the entity that is stated as the Operator in the Contract Data. Note the term Operator and Operator will be interchangeable in terms of this Agreement and the Contract;
- (pppp) "Operator's Actual Results" means the actual results of the quality of water for any parameters set out in the Treated Water Performance Criteria;
- (qqqq) "Operator's Cumulative Monthly Results" has the meaning assigned in Clause 4.3 of this Agreement as it relates to the Treated Water;
- (rrrr) "Operator's Manager" means the person employed and designated by the Operator pursuant to sub-clause 3.7(1)(a) of this Agreement;
- (ssss) "Party" means the Employer or the Operator, as the case may be; and "Parties" means both of them;

- (tttt) "Peak" means the period of time during any day which is identified from time to time during the Term by Eskom as being peak energy consumption periods;
- (uuuu) "Performance Deduction" means any penalty or performance deduction as set out in the Agreement and the Contract Data;
- (vvvv) "Permits and Licences" means all permits, approvals, registrations and licences required by Applicable Laws in connection with the Operation and Maintenance of the Facilities including but not limited to those which were issued prior to the Commencement Date;
- (www) "Person" is to be broadly interpreted and includes an individual, a corporation, a partnership, a trust, an unincorporated organization, the government of a country or any political subdivision thereof, or any Governmental Authority, agency or department of any such government, and the executors, administrators or other legal representatives of an individual in such capacity;
- (xxxx) "Pipelines" means any conduit used to transfer water, sludge or other liquids / air to or from the WTP;
- (yyyy) "Preventative Maintenance" means routine and repetitive maintenance of the Facilities to maximize the service life of the Facilities as recommended or required by an equipment supplier or manufacturer, the design consultants or the Employer;
- (zzzz) "Previous Operator" means the Operator who was responsible for the management, operation, and maintenance of the Facilities immediately prior to the Commencement Date;
- (aaaaa) "Prime Rate" means the annual rate of interest announced from time to time by the South African Reserve Bank, as being its reference rate then in effect for determining interest rates on Rand denominated commercial loans made by a Reserve Bank;
- (bbbbb) "Process Change" means an adjustment or improvement (including, without limitation, a Capital Improvement) to the major components of the Facilities or an adjustment in routine operating procedures any of which requires prior approval from the Employer and/or any other Governmental Authority, and does not include an Operational Change;
- (ccccc) "Proposal" means the final form of a technical and/or financial proposal submitted by the Operator to the Employer in response to the Employer's Request for Proposals to manage, operate and maintain the Facilities and incorporated into this Agreement;
- (dddd) "Pumping Stations" means the pumping stations which are part of or associated with the Facilities;
- (eeee) "Quarterly Contract Report" has the meaning assigned in sub-clause 3.7 of this Agreement;

- (fffff) "Quarterly Water Quality Report" has the meaning assigned in sub-clause 3.7(3)(b) of this Agreement;
- (ggggg) "Raw Water" means the Acid Mine Drainage (AMD) water abstracted from the South West Vertical Shaft;
- (hhhhh) "Repairs and Replacement" means all non-routine, non-repetitive activities repair or replacement of structures, machinery, equipment or rolling stock required for continuity of operations, safety, and operating performance that are necessary to prevent or correct a failure of any component of the Civil, Structural and Site-Related Assets and the Mechanical and Electrical Equipment and which is not included as part of Preventative Maintenance;
- (iiiiii) "Reports" means the Monthly Operations and Maintenance Report, the Quarterly Contract Report, the Quarterly Water Quality Report, the Annual Asset Report, and the financial reports;
- (jjjjj) "RFP" or "Request for Proposals" means the Employer's Request for Proposals, including all Addendums issued by the Employer with respect to the provision of the operation and maintenance services for the Facilities;
- (kkkkk) "Routine Maintenance" means Corrective Maintenance or Preventative Maintenance or both;
- (lllll) "Safety Deficiency" has the meaning assigned in sub-clause 3.11(2) of this Agreement;
- (mmmmm) "SCADA" means the Supervisory Control and Data Acquisition software and hardware and is described in Clause 3.10 of this Agreement;
- (nnnnn) "Semi-Annual" means occurring twice per year;
- (ooooo) "Service Area" means the geographical area located serviced by the Employer as at the Commencement Date;
- (ppppp) "Spare Parts" means all replaceable parts and supplies required for the purpose of maintaining the functionality of plant and equipment at the Facilities. Spare Parts are typically items that are subject to wear and replacement, are maintained in an inventory and are used in Routine Maintenance procedures;
- (qqqqq) "Spare Parts Inventory" has the meaning assigned in sub-clause 9.3(4) of this Agreement;
- (rrrrr) "Term" has the meaning assigned in Clause 2.1 of this Agreement;
- (sssss) "Third Party Claim" has the meaning assigned in sub-clause 16.4(1) of this Agreement;
- (ttttt) "Transformation Goals and Social Development Requirements" means the requirements and/or objectives;

- (uuuuu) "Treated Water" means water that has passed through the treatment plant, prior to final discharge;
- (vvvvv) "Treated Water Performance Criteria" means the Treated Water criteria as set out in **ANNEXURE B** to this Agreement;
- (wwwww) "Uncontrollable Circumstance" means any act, event or condition which is beyond the reasonable control of or could not reasonably be anticipated by the Party relying thereon as justification for a delay in, non-compliance with, or non-performance of any obligation of such Party pursuant to this Agreement and shall include but not be limited to the following:
- (xxxxx) an act of God, landslide, lightning, earthquake, hurricane, flood, tornado, fire, explosion, pandemics, acts of public enemy, act of terrorism, war, blockade, sabotage, insurrection, riot or public disturbance;
- (yyyyy) an order of any court, administrative or governmental agency of competent jurisdiction which has not been made as a result directly or indirectly of the actions or inaction of the Party against whom such an order is issued. This specific provision shall be construed strictly against the Party seeking to so rely to excuse non-performance or delay;
- (zzzzz) a Change of Laws. This specific provision be construed strictly against the Party seeking to so rely to excuse non-performance or delay;
- (aaaaa) the suspension or termination of any licence relating to the Facilities or the operation and maintenance thereof, or the imposition of a term, condition or requirement for the operation and maintenance of the Facilities which is more stringent or burdensome than the terms, conditions or requirements in effect as of the Commencement Date, to the extent that such occurrence is not the result of wilful or negligent action, error or omission or a lack of reasonable diligence of the Operator or the Employer, whichever is asserting the occurrence, provided however that the contesting in good faith or the failure in good faith to contest any such occurrence shall not be construed as such a wilful or negligent action or lack or reasonable diligence;
- (bbbbb) loss or inability to obtain service from a utility other than as a result of the action or inaction of the Party;
- (ccccc) Abnormal Raw Water, or
- (dddddd) Vandalism which could not otherwise have been prevented by the proper and necessary security systems required by Clause 3.15 of this Agreement.
- (eeeeee) provided, however, that a failure by a Party to perform its obligations under this Agreement arising from or related to such Party's insufficient cash flow or its economic or financial condition generally, shall not constitute an Uncontrollable Circumstance;

- (fffff) and “Uncontrollable Circumstances” means the plural of the foregoing;
- (gggggg) “Water Treatment Plant” (“WTP”) means the water treatment plant and the buildings and all related infrastructure located therein, part of the Facilities as described in **ANNEXURE "A"**.

### 1.3 Annexures.

The following annexures which are attached to this Agreement are incorporated by reference into this Agreement and are deemed to be a part of it:

- DESCRIPTION OF WTP FACILITIES
- SCOPE OF SERVICES
- TREATED WATER PERFORMANCE CRITERIA
- SAMPLING AND TESTING REQUIREMENTS
- OPERATIONAL ENVIRONMENTAL MANAGEMENT PROGRAMME (OEMPR)
- LATENT DEFECTS REGISTER
- GROUNDWATER MONITORING TOR
- CHEMICAL SPECIFICATION
- OPERATING PARAMETERS
- INVENTORY OF LABORATORY EQUIPMENT
- TRANSFORMATION GOALS AND SOCIAL DEVELOPMENT REQUIREMENTS

### 1.4 Entire Agreement.

This Agreement constitutes the entire agreement between the Parties pertaining to the subject matter of this Agreement and supersedes all prior agreements, understandings, negotiations and discussions, whether oral or written. There are no conditions, warranties, representations or other agreements between the Parties in connection with the subject matter of this Agreement (whether oral or written, express or implied, statutory or otherwise) except as specifically set out in this Agreement.

In the Contract, except where the context requires otherwise:

- a) words indicating one gender include all genders;
- b) words indicating the singular also include the plural and words indicating the plural also include the singular;

- c) provisions including the word "agree", "agreed" or "agreement" require the agreement to be recorded in writing, and
- d) "written" or "in writing" means hand-written, type-written, printed or electronically made, and resulting in a permanent record.

The marginal words and other headings shall not be taken into consideration in the interpretation of these Conditions.

### **1.5 Priority of Documents.**

The documents forming the Agreement are to be taken to be mutually explanatory of one another. In the case of any conflict between any of the documents which form part of this Agreement, the provisions of this Agreement will take precedence over Annexures to this Agreement which, in turn, will take precedence over the Form of Offer attached to this Agreement.

### **1.6 Amendments.**

No amendment to this Agreement shall be effective unless in writing and signed by all Parties to this Agreement.

### **1.7 Number of Days.**

Except as expressly stated to the contrary elsewhere herein, in computing the number of days, for the purposes of this Agreement, all days shall be counted including Saturdays, Sundays and legal holidays, provided, however, that if the final day of any period shall fall on a Saturday, Sunday or legal holiday, then the final day shall be deemed to be the next day which is not a Saturday, Sunday or legal holiday.

### **1.8 Statute and Regulation References.**

Any references in this Agreement to any statute, regulation or any section thereof shall, unless otherwise expressly stated, be deemed to be a reference to such statute, regulation or section as amended, restated or re-enacted from time to time.

### **1.9 References to the Operator.**

For the purpose of this Agreement, all references to the Operator shall, unless the context required otherwise, include its directors, officers, employees, agents and Operators.

**1.10 References to Currency.**

For the purpose of this Agreement, all references to currency or money shall mean South African Rand.

**1.11 Express Terms.**

The express terms herein control and supersede any course of performance or usage of the trade inconsistent with any of the terms herein.

**1.12 Corrupt Practices**

The Operator (which for the purpose of this sub-clause 1.12 shall include his directors, employees, agents, shareholders and/or partners) warrants that the performance of his obligations shall in no way constitute an infringement or other violation of the laws of the Republic of South Africa, and in particular will under no circumstances engage in any activities which may constitute corruption or corrupt activities within the ambit of the Prevention and Combating of Corrupt Activities Act, No 12 of 2004, such activities to include:

- a) accepting or agreeing, or offering to accept or give or offer any gratification to any person in order to influence such other person to act in a manner that amounts to the illegal dishonest exercise or performance of any power, duty, statutory, contractual or other legal obligation; or
- b) procuring that any person, directly or indirectly, accepts or agrees or offers to accept any gratification from another person or gives or agrees or offers to give to any other person any gratification in order to improperly influence the conclusion or performance of his obligations in terms of this Contract.
- c) In addition to any right which the Employer may have to cancel, in the event that the Operator is convicted on a charge relating to, or concerning corruption, bribery or fraud during the 10-year period preceding the Commencement Date, or being convicted on a charge relating to, or concerning corruption, bribery or fraud, or in the event that the Operator gives or offers any person any bribe, gratuity, commission or other thing of value as contemplated in sub-clause 1.12:
  - i. The Operator shall forfeit any profit to be derived from this Contract;
  - ii. Such profit will be deemed for the purpose hereof to be 10% of the total Contract Price;
  - iii. The Operator will make payment thereof on demand; and
  - iv. The Employer shall be entitled to deduct such amount from any amount which is due or may become due and payable to the Operator whether arising from this Contract or any other contract between the Employer and the Operator.

**CLAUSE 2****TERM AND COMMENCEMENT DATE****2.1 Term.**

The term of this Agreement shall be five (5) years, starting from the date stated in the Contract Data.

If the Employer wishes to renew this Agreement it shall provide the Operator a minimum of five (5) months written notice of its wish to renew this Agreement, and subject to the Parties mutually agreeing to renew the Agreement, the Agreement shall be renewed for a maximum of a one (1) year term, unless extended or terminated pursuant to the express provisions of this Agreement (“**Term**”).

Whenever there is a reference to the Term in this Agreement, it means the initial Term and also the extended Term where renewed by the Parties unless otherwise terminated in accordance with this Agreement.

**CLAUSE 3**  
**OPERATION AND MAINTENANCE OF THE FACILITIES**

**3.1 Facilities in General.**

**(1) *Description of the Facilities.***

a) The scope of this Agreement, except where expressly provided, is confined to the operation and maintenance of the Facilities as they are described in Annexure A of this Agreement. This Clause makes references to several Annexures. The relevant Annexures shall have precedence in the interpretation of any ambiguity or inconsistency between them and this Clause.

**(2) *Use and Possession of the Facilities.***

(b) All grounds, facilities, equipment, vehicles and documents relating to the Facilities and owned by the Employer or acquired by the Employer shall remain the property of the Employer, except as may otherwise be provided for herein.

(c) The Operator shall act as an independent Operator or operator to the Employer for the safe, professional and efficient operation and maintenance of the Facilities. The Operator shall use all the Facilities exclusively for the operation and maintenance of the Facilities and shall not carry out any other business from the Facilities, without the express written permission of the Employer.

(d) The Operator shall, as specified in the Agreement or as instructed by the Employer, allow appropriate opportunities for carrying out work to:

- (i) the Employer's Personnel,
- (ii) any other Operators or contractors employed by the Employer, and
- (iii) the personnel of any legally constituted public authorities, who may be employed in the execution on or near the WTP of any work not included in the Agreement.

If any such instruction causes the Operator to incur additional cost, such reasonable cost will be reimbursed to the Operator.

**(3) *Employer Access to Facilities.***

(a) The Employer shall have twenty-four (24) hour per day access to the Facilities. The Operator shall allow unrestricted access to the Facilities to the Employer's Manager or the Employer's Manager's delegate without notice and without restriction. The Employer's Manager or his/her delegate shall not have the right to direct or control

the activities of the Operator or its employees. The Employer's Manager and his/her delegate shall comply with all reasonable health and safety procedures of the Operator.

### 3.2 Scope of Services.

- i. The Operator shall perform all activities and services for the proper and effective management, operation and maintenance of the Facilities in a cost effective and professional manner as set forth in this Agreement and in accordance with generally accepted principles and practices for water treatment and treatment of AMD, the Employer policies applicable to the Facilities, and all Applicable Laws.
- ii. Except as otherwise provided in this Agreement, the Operator shall provide or obtain all personnel, materials, equipment, tools, services and supplies necessary to manage, operate and maintain the Facilities and performance levels in the manner required by this Agreement, and in any event to a standard that meets industry standards, including but not limited to the Scope of Services as described in **ANNEXURE B** of this Agreement. Operator

### 3.3 Testing and Sampling.

#### (1) *Procedures.*

- (a) The Operator shall, at its own cost, conduct all testing and analyses required by this Agreement as described in **ANNEXURE E** and Applicable Laws. Routine testing can be carried out in the on-site laboratory; however a specified number of testing shall be carried out by an SANAS accredited laboratory. The Operator shall provide the Employer with evidence of such accreditation.
- (b) The Operator shall ensure that all sampling and testing programs required to be conducted by the Operator pursuant to this Agreement shall be conducted in accordance with the applicable testing requirements.
- (c) Any testing to be conducted by the Employer, in addition to the testing required to be conducted pursuant to the terms of this Agreement shall be the sole responsibility and shall be conducted at the sole expense of the Employer. The Employer shall conduct all sampling and testing in accordance with the same requirements indicated above. The Operator shall provide all further sampling necessary to allow the Employer to conduct the additional testing at no further cost to the Employer.

(2) ***Verification of the Operator's Testing Procedures.***

- (a) The Employer shall be permitted to, on an annual basis, at its own expense, conduct a review of the Operator's laboratory and testing procedures and confirm the test results produced by the Operator's laboratory. If the Employer's review demonstrates that the results produced by the Operator's laboratory are materially inaccurate, the Employer shall be entitled to require an Adjustment to the Operations Fee pursuant to Clause 8.3 of this Agreement for those costs of its review referable to the inaccuracy of the laboratory's results. The Operator shall, upon receipt of notice from the Employer of material inaccuracy of laboratory results, correct the quality problem at its laboratory immediately.
- (b) In addition to sampling and testing by the Operator, the Employer may at any time elect to take independent samples or obtain split samples from the Operator and to perform tests and analyses in order to assess the Operators sampling and testing procedures and to assess the Operator's compliance. The Operator shall cooperate fully with any such effort by the Employer and will provide samples and test results promptly at no further cost to the Employer.

**3.4 Compliance with Applicable Laws or Change of Laws.**

(1) ***General.***

- (a) The Operator shall be knowledgeable of and comply with Applicable Laws.
- (b) Should any procedures or standards set forth in this Agreement conflict with procedures or standards contained in any Applicable Laws, the more stringent procedures or standards shall apply.
- (c) The Operator shall not be in breach of its obligations hereunder if it is prevented from complying with Applicable Laws due to Uncontrollable Circumstances, the Employer Fault, the limits of the capacity of the Facilities, Abnormal Raw Water quality or quantity inconsistent with historical seasonal variations or where the Operator has obtained the written consent of the Employer for non-compliance (provided however that such consent of the Employer shall only apply to the specific breach or non-compliance and shall not apply to subsequent breaches by the Operator), and in each case only to the extent the obligations of the Operator are affected by such circumstances as described herein.
- (d) If the Operator is determined by a court of competent jurisdiction, to be in noncompliance with Applicable Laws, then, except when such non-compliance is caused by Uncontrollable Circumstances, Abnormal Raw Water quality or quantity inconsistent with historical seasonal variations or the Employer Fault, the Employer

may deduct the Performance Deduction as set out in the Contract Data from the Variable Performance Fee or Operations Fee, and such non-compliance shall be an Event of Default.

(2) ***Process or Operational Changes to Achieve Compliance.***

- (a) If at any time during the Term of this Agreement, Process Changes are required to comply with Applicable Laws or either Process Changes or Operational Changes are required to comply with a Change of Laws, then the Operator shall promptly provide the Employer with its recommendations for achieving compliance and an estimate of the impact on Operating and Maintenance Costs for achieving compliance with such Applicable Laws or a Change of Laws. The Employer shall evaluate the Operator's recommendations and shall, within a reasonable period of time, either approve the Operator's recommendations or determine appropriate and necessary Process or Operational Changes to be made and direct the Operator on the appropriate approach to achieving compliance. The Operator shall not claim any Adjustment to the Operations Fee for the cost of preparation of its recommendations for achieving compliance.
- (b) Where either Process Changes or Operational Changes are required to achieve compliance with a Change of Laws or, where the Employer directs the Operator to carry out alternative Process Changes to achieve compliance with Applicable Laws, and any of the aforementioned activities causes an increase or decrease in the actual Operating and Maintenance Costs, either the Employer or the Operator may require an Adjustment to the Operations Fee in accordance with Clause 8.3 of this Agreement.
- (c) The Operator shall make any Operational Changes or Process Changes required in order to achieve compliance with Applicable Laws at its own expense unless such Operational Changes or Process Changes are required in connection with a Change of Laws.
- (d) If the Operator disputes the Employer's decision to disapprove Operator's recommendation pursuant to sub-clause 3.4(2)(a), or either the Operator or the Employer disputes a required Adjustment to the Operations Fee pursuant to sub-clause 3.4(2)(a), then the Operator or the Employer, as the case may be, may refer the matter in dispute to dispute resolution pursuant to of this Agreement.

### **3.5 Process or Operational Changes Initiated by the Operator.**

- (a) Process Changes and Operational Changes may be made by the Operator during the course of this Agreement. No Process Change will be made without the prior written consent of the Employer. Operational Changes will be made as a matter of routine practice by the Operator and will not require prior approval by the Employer. However, the Operator shall inform the Employer of any material Operational Changes in its monthly reports to the Employer.
- (b) The Operator shall be responsible for all risks associated with any Process Change proposed and implemented by it, and/or any Operational Changes proposed and implemented by it as part of the operation and maintenance of the Facilities, including, without limitation, the risk of complying with all Applicable Laws, but excluding all risks associated with Change of Laws or other Uncontrollable Circumstance.

### **3.6 Operating and Management Policies and Procedures.**

- (a) The Operator shall prepare operating and management policies and procedures with respect to the day-to-day operations of the Facilities, including quality control and quality assurance procedures. The Operator shall consult with the Employer in the preparation of such operating and management policies and procedures and shall permit the Employer to review and provide comments on them. The operating and management policies and procedures prepared by the Operator pursuant to this sub-clause shall comply with the Employer policies, where applicable and shall become the property of the Employer.

### **3.7 Communications between the Employer and the Operator.**

#### **(1) *Managers***

- (a) The Employer shall designate one person, the Employer's Manager, to act as their primary liaison and coordinator. The Operator shall at all times employ a person designated as the Operator's Manager, who shall, among his or her other duties, serve as the Operator's liaison with the Employer and who shall be the Operator representative primarily responsible for dealing with the Employer. The Operator shall submit the name of its designated Operator's Manager for the Facilities to the Employer for approval, which approval shall not be unreasonably withheld. The Employer reserve the right to veto any of the Operator's designated Operator's Managers submitted for approval at the sole discretion of the Employer. The Operator shall, where practicable provide the Employer with at least sixty (60) days prior written notice of any change in the Operator's Manager.

- (b) The Employer and the Operator shall also appoint designees to the Employer Manager's position and the Operator Manager's position to act on behalf of the respective Manager in the respective Manager's absence. The Employer shall also review and approve the Operator's designee for the Operator's Manager, which approval shall not be unreasonably withheld. The Operator shall provide the Employer with at least sixty (60) days prior written notice of any change in the Operator's Manager's designee.
- (c) The Employer reserves to themselves the right to request in writing, upon reasonable notice to the Operator, that the Operator replace the Operator's Manager or designee, or Manager of any individual Facility, and the Operator shall, subject to Applicable Laws, make best efforts to comply with such a request from the Employer. The Employer or the Operator may refer any dispute with respect to this sub-clause to dispute resolution pursuant to Clause 17.
- (d) The Employer's Manager has the authority to ensure that the provisions of this Agreement are faithfully adhered to. The authority of the Employer's Manager shall be limited to providing direction, approval or consent in respect of any matter falling within the provisions of this Agreement, and shall be binding upon the Employer. The Employer's Manager shall not have the authority to provide direction, approval or consent or enter into any agreement for any matter that falls outside of the provisions of this Agreement and any such direction, approval, consent provided or agreement entered into shall not be binding upon the Employer.
- (e) The Employer may appoint an Operations Agent to manage the Operator on the Employer's behalf. The Operations Agent will act in place of the Employer's Manager. The Operations Agent shall have the same rights and privileges as provided in this agreement to the Employer.

(2) **Compliance Reports.**

- (a) The Operator shall prepare and submit all performance, environmental and monitoring reports required by this Agreement and the Applicable Laws and shall file such reports with the Employer's Manager at least ten (10) Business Days prior to the date such reports are required. All environmental and monitoring reports shall be provided to the Employer in electronic format and in hard copy.
- (b) The Operator shall provide a Compliance Report on a monthly basis, which will include a summary of all test results to confirm that the Treated Water is in compliance with the Performance and Compliance Criteria. All Compliance Reports shall be provided to the Employer in electronic format and in hard copy.

(3) **Monthly Operations and Maintenance Report.**

- (a) The Operator shall compile, maintain and provide to the Employer, within ten (10) Business Days of the end of each calendar month in each Contract Year and no later than seven days prior to each monthly meeting with the Employer, a comprehensive Monthly Operations and Maintenance Report. Quarterly Contract Report
- (b) The Operator shall compile, maintain and provide to the Employer, within thirty (30) days after the end of each 3 month period (quarterly or four times per Contract Year) a comprehensive Quarterly Contract Report. The Quarterly Contract Report should not be a mere consolidation of the Monthly Operations and Maintenance Reports. Quarterly Water Quality Report.
- (c) The Operator shall compile, maintain and provide to the Employer, within thirty (30) days after the end of each 3 month period (quarterly or four times per Contract Year), a comprehensive Quarterly Water Quality Report. The Quarterly Water Quality Report shall summarise all the water quality information on both raw and treated water quality.

(4) **Annual Asset Report and Financial Reports.**

- (a) The Operator shall provide the Employer with a detailed Annual Asset Report summarizing the condition of the Civil, Structural and Site-Related Assets, using the Initial Condition Survey as a guide, within sixty (60) days after the end of each Contract Year.

(5) **Financial Reports.**

- (a) For each quarter of each Contract Year, the Operator shall provide the Employer with a verifiable summary of the Operator's costs for the preceding quarter, in a form and containing the content as mutually agreed upon by the Parties acting reasonably with respect to its management, operation, and maintenance of the Facilities within thirty (30) days of the end of each quarter of the Contract Year. These verifiable summaries shall be provided to the Employer together with the Quarterly Contract Reports; and
- (b) At the end of each Contract Year, the Operator shall provide the Employer with a verifiable summary of the Operator's costs for that Contract Year, in a form and containing the content as mutually agreed upon by the Parties acting reasonably, related to the management, operation and maintenance of each individual WTP and all other Facilities within ninety (90) days of the end of each Contract Year.

(6) ***Deficient or Late Compliance Reports.***

- (a) Except when caused by an Uncontrollable Circumstance, if the Operator fails to submit a Compliance Report or submits a deficient Compliance Report due to negligence or non-performance of the Operator's obligations, the Employer may deduct the Performance Deduction as set out in the Contract Data from the Variable Performance Fee or Operations Fee and, such a failure by the Operator, shall be an Event of Default.

(7) ***Deficient or Late Reports.***

- (a) Except when caused by an Uncontrollable Circumstance, if, during any one Contract Year, the Operator fails to deliver one (1) or more Reports other than a Compliance Report within the prescribed time period, or delivers one or more Reports that, in the opinion of the Employer, are materially deficient or have omitted material information, the Employer may withhold the Performance Deduction as set out in the Contract Data per month of the monthly payment of the Variable Performance Fee or Operations Fee payable by the Employer and the Employer shall not pay the amount withheld unless and until the Operator delivers the Report, or corrects the deficiencies identified by the Employer, as the case may be.
- (b) Except when caused by an Uncontrollable Circumstance, if, at any time during the Term, the Operator fails to deliver three (3) or more Reports within the prescribed time period, or delivers three (3) or more Reports that, in the opinion of the Employer, are materially deficient or have omitted material information, the Employer may deduct from the Variable Performance Fee or Operations Fee the Performance Deduction as set out in the Contract Data
- (c) If, at any time during the Term, the total of all occurrences of the events described in subsections 3.7(b)(7)(a) and 3.7(b)(7)(b) herein equals to or exceeds a total of five (5) in any Contract Year, then such occurrences shall be an Event of Default.
- (d) The Parties agree that a failure to file a report other than a Compliance Report due to late receipt of sampling, testing or analytical results from a third party where the Operator can reasonably demonstrate to the Employer's Manager that the third party was in default of its contractual obligations to deliver sampling or test results in a timely fashion, and that the Operator used its Best Efforts to obtain such results in a timely fashion, shall not be considered an occurrence under any of the paragraphs in sub-clause 3.7(b)(7).
- (e) The Employer shall notify the Operator in writing within thirty (30) days after receipt of a Report of any deficiencies in such Report. If written notice is not provided within the time within thirty (30) days after receipt of a Report, such Report shall be considered acceptable and the Employer shall not withhold any amount in respect of such Report.

(8) ***Inspections and Review of Records and Reports.***

- (a) The Operator shall permit the Employer and its authorized representatives, during the Term of the Agreement and without unreasonable disruption to the Operator, to examine and electronically monitor and retrieve any and all operating and maintenance records and Reports of the Operator, and make copies of and take extracts from such records and Reports as may be reasonably necessary to ensure compliance by the Operator with the terms of this Agreement and review any of the records and Reports described above.

**3.8 Dealings with Governmental Authorities.**

(1) ***Communications with Governmental Authorities.***

- (a) The Employer shall be the primary liaison with the Governmental Authorities and will invite the Operator to attend or participate in such meetings relevant to the Operator's management, operation and maintenance of the Facilities or the Operator's obligations pursuant to this Agreement. Note that the Employer by definition is excluded from being a Governmental Authority.
- (b) The Operator shall not communicate directly with any Governmental Authorities, with the exception of times when the Operator is under a legal obligation to report directly to the Governmental Authorities or where the Operator has obtained the prior written approval of the Employer's Manager. The Operator shall report forthwith to the Employer regarding any such discussions.

(2) ***Permits and Licences.***

- (a) The Operator shall prepare and file on a timely basis with the appropriate authorities all applications for Permits and Licences and renewals of Permits and Licences which are required in connection with the management, operation and maintenance of the Facilities.

(3) ***Operator's Ability to Provide Services.***

- (a) The Operator shall ensure that at all times it maintains the appropriate Permits and Licences to fulfill its obligations pursuant to this Agreement. Such Permits and Licences shall include, but not be limited to, any requirement of a Government Authority imposed on the Operator as a precondition to carrying on business.

### 3.9 Contingency and Emergency Planning.

- (a) The Operator shall review and update all current contingency and emergency response plans. The Operator shall ensure that any such plan meets all Applicable Laws and are consistent with the standard and policies of the Employer. The contingency and emergency response plans shall be submitted to the Employer for the Employer's approval thirty (30) days prior to the Commencement Date. Failure to submit such plan in compliance with this sub-clause shall be an Event of Default.
- (b) In the event of an Emergency Situation, the Operator must respond within thirty (30) minutes and ensure appropriate staff is available at the Facilities within sixty (60) minutes from the earlier of the occurrence of the Emergency Situation or the reasonable time within which a prudent operator should have known about the Emergency Situation. The Employer may deduct the Performance Deduction as set out in the Contract Data from the Variable Performance Fee or Operations Fee for each event of non-compliance with the performance requirements of this sub-clause. Further, in the event of non-compliance by the Operator with the performance requirements of this sub-clause, the Employer may, upon giving verbal notice to the Operator's Manager, take such action as is reasonably necessary to respond to the Emergency Situation, and the Operator shall pay the reasonable cost of the Employer's response to the Emergency Situation plus a mark-up of five percent (5%).

### 3.10 SCADA Systems.

The Operator shall continue to operate and maintain the Supervisory Control and Data Acquisition (the "**SCADA**") systems associated with the Facilities and shall be responsible for all operations and maintenance, training, service level standards, and the operation and maintenance of enhancements to the SCADA systems, including back-up systems also as required. For greater certainty, the Employer shall retain the responsibility for SCADA programming, and the Operator shall only make changes after having consulted with and receiving approval from the Employer.

### 3.11 Health and Safety Procedures.

#### (1) *Occupational Health & Safety.*

This Agreement will be governed by the requirements of the Occupation Health and Safety Act (Act 85 of 1993) and all applicable regulations, and the Operator shall comply with all applicable health and safety laws and regulations.

(2) **Safety Audits and Non-Compliance.**

- (a) The Employer may, at its sole discretion and expense, conduct safety audits of the Facilities on a semi-annual basis which may include inspections of physical conditions and reviews of the Operator's compliance with all applicable safety legislation and regulations.
- (b) If, as a result of the Employer's safety audit or otherwise, the Employer determines that one of the following deficiencies ("**Safety Deficiencies**") has occurred:
- i. non-compliance with Applicable Laws relating to health and safety; or
  - ii. the creation by the Operator of a health or safety hazard to a worker or the environment which is contrary to Applicable Laws or contrary to the procedures established under this Agreement,

then the Operator shall correct the Safety Deficiency to the satisfaction of the Employer within the time frame determined by the Employer acting reasonably but in any event within three (3) months of the identification of the Safety Deficiency.

- (c) If the Operator fails to correct the Safety Deficiency to the satisfaction of the Employer within the time frame determined by the Employer such failure shall be considered an Event of Default, and, the Employer may, in their discretion, withhold from the Variable Performance Fee or Operations Fee payable to the Operator the Performance Deduction as set out in the Contract Data for each month in which the Operator failed to correct the Safety Deficiency within the prescribed time frame, unless the Operator is using Best Efforts to correct such Safety Deficiency. A period of three (3) months or longer, shall not constitute Best Efforts as that phrase is used in this sub-clause. The withholding of payment of the Variable Performance Fee or Operations Fee as described herein is in addition to the rights and remedies of the Employer.

**3.12 Technical Support.**

The Operator shall provide all necessary technical support to ensure the performance of the Operator's obligations under this Agreement and the proper management, Operation and Maintenance of the Facilities.

**3.13 Accounting.**

The Operator shall maintain up-to-date financial records of activities related to the Facilities prepared in accordance with the accepted accounting standards.

**3.14 Operations and Maintenance Manuals.**

- (a) The Employer shall provide to the Operator at the Commencement Date, the available Operations and Maintenance Manuals for the Facilities.
- (b) The Operator shall within three (3) months of the Commencement Date prepare revised and updated Operations and Maintenance Manuals as appropriate to reflect changes to Operations and Maintenance procedures for the Operating Period. The revised and updated Operations and Maintenance Manuals shall be to the reasonable satisfaction of the Employer and shall become the property of the Employer.
- (c) The Operator shall within three (3) months of the Commencement Date compile all current Facility drawings and keep same on file in a drawing room. These documents shall be updated at least annually. The Operator will be responsible for any costs of updating the drawings in electronic format. The Operator's obligation to maintain drawings and figures does not include the providing of engineering services and/or professional certifications.
- (d) Any operational changes made by the Operator must result in the corresponding changes and updates being made to the Operations and Maintenance Manuals and such changes and updates to the Operations and Maintenance Manuals must be made within sixty (60) days from the implementation of the operational change. The Employer may withhold from the Variable Performance Fee or Operations Fee payable to the Operator the Performance Deduction as set out in the Contract Data for each month the relevant changes and updates are delayed, and may deduct an additional Performance Deduction as set out in the Contract Data from the Variable Performance Fee or Operations Fee after three (3) months delay by the Operator in completing the updates and changes.
- (e) The Operator shall, one month prior to the completion of termination of the Agreement, prepare and submit an updated Operations and Maintenance Manual to the Employer. The Employer may withhold the final Operations Fee payment until such updated Operations and Maintenance Manual has been submitted to the satisfaction of the Employer.

**3.15 Security.**

The Operator shall be responsible to secure the Facilities against unauthorized access and theft or damage, including if necessary, the use of physical surveillance. For greater certainty, the Operator shall acknowledge that the Employer has implemented a system of closed-circuit television cameras at the Facilities. The Operator shall ensure that this system is maintained at all times. The Operator shall take into account the record of security incidents available as well as other records available indicating the historic security issues in the area.

**3.16 Use of Sub-operators.**

Upon receipt of written notice from the Employer at any time during the Term, the Operator shall not, at the sole discretion of the Employer, employ or hire the services of a specified sub-operator to assist the Operator in the performance of its obligations under this Agreement without the prior written consent of the Employer, and such consent shall not be unreasonably withheld.

The Employer may, at the sole discretion of the Employer, instruct the Operator to employ or hire the services of a specified sub-operator for certain portions of the operations and maintenance of the Facility.

**3.17 Innovation and Improvement.**

The Parties hereby agree and the Employer expects the Operator to employ initiative and ability to optimize the Facilities' Operations and Maintenance, including but not limited to all Efficiency Improvements and Capital Improvements contemplated by this Agreement. The Operator shall proactively seek out and propose innovative strategies to the Employer to enhance performance of the operations and maintenance and to reduce the overall Operating and Maintenance Costs. The foregoing shall in no way result in an adverse impact on health and safety nor breach any Applicable Law and must at all times be carried out by the Operator by employing Best Practices.

**3.18 Transformation Goals and Social Development Requirements**

The Operator shall comply with the Transformation Goals and Socio Economic Requirements as set out . Failure to do so will result in the Operator becoming liable for the Performance Deduction as set out in the Contract Data. Should Performance Deductions become due for payment by the Operator to the Employer, such amounts shall be deducted from the Variable Performance Fee or Operations Fee.

**3.19 Environment**

The Operator shall implement and comply with the requirements of the Operational Environmental Management Programme ("OEMPr") and the cost of such implementation and compliance shall be included in the Operations Fee.

The Employer will schedule regular independent environmental audits and the findings will be communicated to the Operator. The Operator shall attend promptly to any non-compliance with the OEMPr. Any non-compliance that is not resolved within 7 days of the non-compliance being identified or communicated shall result in a reduction to the Variable

Performance Fee or Operations Fee of the Performance Deduction as set out in the Contract Data per non-compliance. The Operator shall in any case provide a written report to the Employer on the resolution of any findings or non-compliances within 14 days, failing which a further Performance Deduction as set out in the Contract Data shall be applied.

**CLAUSE 4****WATER QUALITY AND PERFORMANCE REQUIREMENTS****4.1 Quantity of Treated Water.**

- (a) The Operator shall abstract and treat the Raw Water at the WTP in order to produce Treated Water at a rate as determined by the Employer from time to time and to maintain at all times water levels in Central Basin. The Operator is responsible for calibrating and reading all meters of the Facilities.

**4.2 The Employer's Treated Water Performance Criteria and Compliance Criteria.**

- (a) The Operator shall manage and operate the Facilities so as to produce a quality of Treated Water that at a minimum meets the Compliance Criteria and meets the standards of Treated Water as described in the Employer's Treated Water Performance Criteria described herein and attached to this Agreement.
- (b) In the event of any conflict between any Compliance Criterion and the Employer's Treated Water Performance Criterion the stricter Criterion shall apply.
- (c) The Operator acknowledges that there may be a periodic variation in Raw Water characteristics over the course of the Term and that there shall be no Adjustment to the Operations Fee in the event of any such variations in Raw Water characteristics provided such seasonal variations are not materially inconsistent with historical seasonal variations.

**4.3 Treated Water Performance.**

- (a) For the purposes of this Agreement, the quality of Treated Water supplied by the WTP shall be determined using the sampling tests and frequency of tests identified in the **ANNEXURE E** to this Agreement.
- (b) In the event of an Uncontrollable Circumstance, variation in Raw Water quality or quantity materially inconsistent with historical seasonal variations, or the Employer's Fault, the Operator shall be entitled to require an Adjustment to the Operations Fee in accordance with Clause 8.3 of this Agreement to reflect any increase in the actual Operating and Maintenance Costs that the Operator can demonstrate has occurred as a result of the Uncontrollable Circumstance, variation in Raw Water quality or quantity, or, the Employer Fault.

#### 4.4 Compliance Failures.

- (a) The Parties agree that a Compliance Failure shall be deemed to have occurred when the Operator's Actual Results exceed the maximum permissible values for that specified criterion and for the applicable time period as provided in the Compliance Criteria for Treated Water quality, when the operator fails to achieve the Minimum Required Quantity or when the Operator fails to comply with any other terms, conditions, instructions contained within the Compliance Criteria. A Compliance Failure shall be deemed not to have occurred if the Operator can demonstrate, and the Employer determines that, such exceedance or non-compliance is a result of the occurrence of an Uncontrollable Circumstance, variation in Raw Water quality or quantity materially inconsistent with historical seasonal variations or the Employer's Fault.
- (b) The Party having knowledge of a Compliance Failure shall notify the other Party of a Compliance Failure immediately upon discovering the Compliance Failure.
- (c) Where a Party is obligated by law to inform a Governmental Authority of a contravention of any Applicable Law or any other Permits and Licences requirement, it shall notify the other Party immediately after informing such Governmental Authority.
- (d) The Operator shall take steps to rectify the situation giving rise to the Compliance Failure immediately and shall provide to the Employer, within three (3) Business Days of a Compliance Failure, an action plan including a schedule for implementation, to prevent the Compliance Failure from reoccurring.
- (e) The Managers shall meet to review the Compliance Failure identified by the Operator, and the Employer shall approve, in its sole discretion, the remedial steps to be taken by the Operator, if any.
- (f) If the Operator fails to take steps to correct the Compliance Failure immediately, such failure shall be considered an Event of Default and the Employer may, in its sole discretion, exercise its rights to terminate this Agreement pursuant to Clause 10.1 of this Agreement. In the alternative, the Employer may deduct the Performance Deduction as set out in the Contract Data from the Variable Performance Fee or Operations Fee and may withhold for a period of up to one year, the Performance Deduction as set out in the Contract Data from the monthly payment of the Variable Performance Fee or Operations Fee.
- (g) Where the Operator demonstrates and the Employer determines that the Compliance Failure has resulted from the occurrence of an Uncontrollable Circumstance, variation in Raw Water quality or quantity materially inconsistent with historical seasonal variations or the Employer's Fault, then the Employer shall not have the right to

terminate this Agreement nor make any deduction from the Variable Performance Fee or Operations Fee pursuant to sub-clause 4.4(f) above.

- (h) Where the Operator disagrees with or disputes the Employer's decision on whether a Compliance Failure has occurred, the cause of such Compliance Failure, the remedial steps to be taken to address the Compliance Failure or the assessment of deductions, then the Operator may refer the matters in dispute to dispute resolution pursuant to Clause 17 of this Agreement.

#### **4.5 Cumulative Monthly Treated Water Performance Criteria Failures.**

- (a) The Parties also agree that the Operator's Treated Water shall be measured on a cumulative monthly basis against the Employer's Treated Water Quality Performance Criteria and Minimum Water Quantity in relevant **ANNEXURE** to this Agreement.
- (b) If the Operator's Cumulative Monthly Results at the end of any month in a Contract Year exceed the monthly performance criteria a "Cumulative Monthly Treated Water Performance Failure" shall be deemed to have occurred.
- (c) If the Employer is of the opinion that a Cumulative Monthly Treated Water Performance Failure has occurred in a given month at the WTP, then the Employer shall give written notice to the Operator specifying the particulars of the Cumulative Monthly Treated Water Performance Failure. If there have been two (2) or more Cumulative Monthly Treated Water Performance Failures then the Employer may, in its discretion, deduct the Performance Deduction as set out in the Contract Data from the Variable Performance Fee or Operations Fee and for each consecutive Cumulative Monthly Treated Water Performance Failure thereafter. If there have been three (3) consecutive Cumulative Monthly Treated Water Performance Failures for any one parameter then it shall be considered an Event of Default.
- (d) The Managers shall meet to review each Cumulative Monthly Treated Water Performance Failure. At the meeting, the Operator shall recommend to the Employer the appropriate remedial steps it proposes to take and the Employer shall review the Operator's recommendations. The Employer shall notify the Operator as to whether the Employer accepts or rejects the Operator's recommendations and as to whether the Employer requires further recommendations from the Operator.
- (e) A failure by the Operator to provide the Operator's Cumulative Monthly Results to the Employer in the Monthly Operations and Maintenance Report pursuant to sub-clause 3.7(2)(b) will constitute a Cumulative Monthly Treated Water Quality Performance Failure.

- (f) If the Operator fails to correct the Cumulative Monthly Treated Water Performance Failure within two months of the Employer's acceptance of the Operator's recommendations, such failure shall be considered an Event of Default, and the Employer may exercise its rights to terminate this Agreement pursuant to Clause 10 of this Agreement.
- (g) Notwithstanding sub-clause 4.5(c) and 4.5(f) above, the Employer shall not be entitled to withhold payment of the Variable Performance Fee or Operations Fee pursuant to sub-clause 4.5(c) or to terminate the Agreement pursuant to sub-clause 4.5(f) if the Operator demonstrates, and the Employer determines that, the Cumulative Monthly Treated Water Performance Failure has resulted from the occurrence of an Uncontrollable Circumstance or an Employer Fault in which case the Cumulative Monthly Treated Water Quality Performance Failure shall be deemed not to have occurred.
- (h) If the Operator does not agree with the Employer's determination as to whether an Cumulative Monthly Treated Water Quality Performance Failure has occurred, the cause of such Cumulative Monthly Treated Water Quality Performance Failure (including, without limitation, a determination that a Cumulative Monthly Treated Water Quality Performance Failure is caused by an Uncontrollable Circumstance) or the remedial steps to be taken to address the Cumulative Monthly Treated Water Quality Performance Failure, then either the Employer or the Operator may refer the matter in dispute to dispute resolution in accordance with Clause 17.

#### **4.6 Changes to the Employer's Treated Water Quality Performance Criteria.**

- (a) During the Term of this Agreement, the Employer may change any of the criteria identified in the Employer's Treated Water Quality Performance Criteria, or include parameters not previously identified in the Employer's Treated Water Quality Performance Criteria. In the event that the Employer changes a criterion in the Employer's Treated Water Quality Performance Criteria, the Operator or the Employer shall be entitled to require an Adjustment to the Operations Fee pursuant to Clause 8.3 of this Agreement to reflect any increase or decrease in the actual Operating and Maintenance Costs that the Operator, or the Employer with the assistance of the Operator, can demonstrate have occurred as a result of the change to the Employer's Treated Water Quality Performance Criteria.
- (b) The Employer and the Operator further acknowledge and agree that any changes made to the Employer's Treated Water Quality Performance Criteria may be either temporary or permanent.

**4.7 Changes to Compliance Criteria.**

During the Term of this Agreement, the Employer may require changes to all or some of the criteria identified in the Compliance Criteria, or to include parameters not previously identified in the Compliance Criteria, as a result of new or amended requirements of Governmental Authorities or Applicable Laws which may be applicable to the Facilities. In the event that the Employer changes the criteria in the Compliance Criteria, the Operator or the Employer shall be entitled to require an Adjustment to the Operations Fee pursuant to Clause 8.3 of this Agreement to reflect any increase or decrease in the actual Operating and Maintenance Costs that the Operator, or the Employer with the assistance of the Operator, can demonstrate have occurred as a result of the changes in the Compliance Criteria.

**CLAUSE 5****PROTECTION OF ASSETS AND MAINTENANCE FACILITIES****GENERAL****5.1 Background.**

- (a) The protection and maintenance of assets is of primary importance to the Employer. The Operator shall have full responsibility for the maintenance of the Facilities for the Term of this Agreement, except as provided otherwise herein. The Operator shall be responsible for performing Routine Maintenance, Preventative Maintenance and Corrective Maintenance of the Facilities, all in a manner that is cost effective and in accordance with generally accepted principles and practices for water treatment and all Applicable Laws. The Operator shall implement an asset management system in accordance with ISO 55000.
- (b) The Parties further acknowledge that, for the purpose of this Clause, the Facilities shall be divided into two general categories of assets namely: (a) Civil, Structural and Site-Related Assets; and (b) Mechanical and Electrical Equipment. Each category of assets shall be subject to its own regimen of asset protection and Routine Maintenance.
- (c) The Operator shall provide all personnel, materials and services necessary to maintain the Facilities, structures, grounds, vehicles, equipment, mechanical, electrical, instrumentation, communication, computer and SCADA system adequately to ensure efficiency, long-term reliability and conservation of capital investment. The Operator shall implement its maintenance in accordance with industry standards, equipment manufacturers' instructions together with existing operations and maintenance manuals so that upon the Termination Date the Facilities are returned to the Employer in the same or better condition than at the Commencement Date, normal wear and tear excepted. The Operator shall make provisions for enforcing existing equipment warranties and guarantees, and for maintaining all warranties on new equipment purchased after the Effective Date.
- (d) The Operator shall include specialized testing as part of their preventive and predictive maintenance program. The specialized testing shall include, but not be limited to, vibration testing and analysis, wear particle analysis or oil analysis, infrared thermography, ultrasonic testing, laser alignment systems, performance monitoring, non-destructive testing, image scoping systems, ultrasonic thickness gauges, structural failure detection, videography and air quality monitoring.

- (e) The Asset Management Objective.

The Asset Management objective is to cover the maintenance of the assets and will be developed from the service and monitoring requirements as contained in the Operations and Maintenance Manual. The incorporation of the other 3 components of the asset management plans as set out in ISO 55000 will not be required of the Operator. (creation, utilisation and decommissioning).

From ISO 55000 it is clear that asset management is an iterative process. A condition survey is required at the beginning of the contract to assist the contractor in developing the asset management plans unless there has been no appreciable deterioration in the plant and the asset management plans can be developed on the information provided in the Operations and Maintenance Manual.

The employer we would need to agree to the plan (as there is a cost associated with the implementation of the plan) and the operator would be then expected to operate the plant in accordance with the asset management plan

ISO 55000 sets out the iterative process that is followed in updating of the plan. One of the concepts behind ISO 55000 is that conditioning monitoring is incorporated into the asset management plan so there should be no need to undertake a survey at the end of the contract and be looking to charge the contractor for any "deficiencies". Penalties would be applied if the Operator does not operate the asset according to the plan. If breakages occurred as a result of this the Operator would then be liable.

## 5.2 Asset Management System.

- (a) The Operator shall provide, validate and update the current information in its Asset Management System, including the rolling Equipment Renewal Program. This program must address specific work tasks for developing asset management practices, inventorying of assets and implementation of a fully integrated, secure and accessible information system.
- (b) The Operator shall, within forty-five (45) days, of the Commencement Date implement an Asset Management System in accordance with ISO 55000. The Asset Management System should include but not be limited to the following:
- i. All assets must be classified into appropriate asset groups;
  - ii. Collect base inventory data;
  - iii. Validation of the current inventory records. Review all of the assets and infrastructure records stored in various data bases and validate against the physical asset;

- iv. Development processes to collect changes to the asset inventory including the purchase of new assets, changes to assets;
  - v. Development of the processes for regular condition assessments that can easily be used to update the inventory system;
  - vi. Review the current use of the CMMS to assess its ability to support advanced asset management practices.
- (c) The Operator shall, as part of the Asset Management System assist the Employer with the development of an Equipment Renewal Program. The Equipment Renewal Program shall detail the replacement program at the Facilities for such equipment and systems which are beyond their useful life, for the purpose of maintaining a high level of reliability, and availability of the Facilities during the Term.
- (d) The Equipment Renewal Program shall:
- i. list major Assets including equipment and systems recommended to be replaced;
  - ii. provide the schedule during the Term for replacement of those Assets;
  - iii. the rationale for the replacement of those Assets, including priority and criticality of the replacement;
  - iv. the anticipated cost of replacement of those Assets.
- (e) The Operator shall update the Equipment Renewal Program on an annual basis and provide the Employer with the program. At a minimum, the Operator shall update the information required to be included in the Equipment Renewal Program for the next three (3) years of the Equipment Renewal Program. The updated Equipment Renewal Program shall identify any changes to the anticipated cost of replacement of specified Assets, and shall include a rationale by the Operator for any changes from the Equipment Renewal Program provided to the Employer for the previous Contract Year.
- (f) Except when caused by an Uncontrollable Circumstance, if, at any time during the Term, the Operator fails to deliver and implement its Asset Management System, including the rolling Equipment Renewal Program within prescribed time period, or are in the opinion of the Employer materially deficient, the Employer may deduct from the Variable Performance Fee or Operations Fee the Performance Deduction as set out in the Contract Data. Such failure will also constitute an Event of Default.

**CIVIL, STRUCTURAL AND SITE-RELATED ASSETS****5.3 Condition Surveys.****(1) Initial Condition Survey.**

- (a) The Operator shall within six (6) weeks of the Commencement Date together with the Employer inspect the Facilities and undertake a comprehensive survey of these structures. Together with the Employer, the Operator will identify any corrections or repairs required to correct major deficiencies within a time frame to be developed by the Employer.

The Employer may choose, at its expense, to correct and repair such deficiencies and may undertake any of the correction or repairs within a time frame to be developed by the Employer; provided, however, that the Employer shall, at its expense, within a reasonable time frame to be developed by the Employer, correct and repair the deficiencies to the extent necessary in order for (i) the Facilities to comply with Applicable Laws or (ii) the Civil, Structural and Site-Related Assets to which the deficiency relates to be in good working order. The Operator shall cooperate with the Employer in the scheduling and implementation of all such repairs, and there will be no adjustment to the Operations Fee for any such accommodation unless such accommodation would materially adversely affect the Operator's ability to perform its obligations under this Agreement.

- (b) Except for the deficiencies the Employer is required to correct or repair pursuant to this Agreement, the Employer may decide not to correct or repair the deficiencies identified by the Operator pursuant to subsections 5.3(1)(a) in which case the Operator will not be responsible for correcting or repairing these deficiencies prior to the end of the Agreement.

**(2) Final Condition Survey.**

- (a) In the Final Contract Year, the Employer and the Operator shall conduct an inspection of all Civil, Structural and Site-related Assets and prepare a "**Final Condition Survey**" of all Facilities. The sub-consultant engaged by the Operator in connection with the Final Condition Survey and the Final Condition Survey Report must be acceptable to the Employer, acting reasonably. The Operator shall submit the Final Condition Survey Report to the Employer at least three (3) months before expiry of this Agreement, or if the Term of this Agreement is extended, then three (3) months prior to the expiry of the Term as amended.
- (b) Based on the results of the Final Condition Survey, the Employer shall prepare a list of deficiencies identified in the Final Condition Survey and submit it to the Operator.

- (c) Based on the list of deficiencies prepared by the Employer, the Operator shall prepare a plan for remediation to correct the deficiencies and submit the plan to the Employer no later than three (3) months before the expiry of the Agreement.
- (d) The Operator shall correct or repair all the deficiencies identified in the Final Condition Survey prior to the expiration of the Agreement; provided, however, that the Operator shall have no obligation to correct or repair any deficiency which (i) is not material, (ii) results from normal wear and tear and provided the Operator has complied with its obligations pursuant to this Agreement to repair and maintain the Facilities, (iii) results from Uncontrollable Circumstances or (iv) was identified in the Proposal or the Initial Condition Survey and not corrected or repaired by the Employer.
- (e) If the Operator has not corrected or repaired the above deficiencies described in sub-clause 5.3(2)(d) above, the Employer may, at its discretion, withhold the estimated cost of correcting or repairing the deficiencies plus management fees, plus five per cent (5%), as determined by the Employer, from any of the monthly payments of the Operations Fee or Variable Performance Fee until the Operator has performed the corrections or repairs to the satisfaction of the Employer.
- (f) The Operator shall have the right to contest the Employer's determination or identification of any deficiencies hereunder, and the requirement to repair same, by submitting the matter to dispute resolution pursuant to Clause 17.
- (g) Under no circumstances shall the Operator be responsible for deficiencies caused by an Uncontrollable Circumstance or the Employer Fault or deficiencies identified under Clause 5.3 and not corrected or repaired by the Employer.

#### **5.4 Routine Maintenance of Civil, Structural and Site-Related Assets.**

##### **(1) Civil Maintenance Program.**

- (a) The Operator shall prepare and submit for approval within six (6) weeks from the Commencement Date, the Operator's maintenance management program describing, in general terms, all Preventative and Corrective Maintenance which is required for the Civil, Structural and Site-Related Assets (the "**Civil Maintenance Program**").
- (b) the Employer shall pay for such Repairs and Replacement or Corrective Maintenance:
  - I. caused by events outside the control of Operator;
  - II. are not as result of Operator's negligence or failure to perform the Corrective Maintenance and Preventative Maintenance pursuant to the Civil Maintenance Program and the Civil Maintenance Specifications; and
  - III. have been reasonably incurred by the Operator.

- (c) For the purpose of this Clause 5.4, an Incident of Repairs and Replacement or Corrective Maintenance shall mean:
- i. a random failure of a single item of Civil, Structural and Site-Related Assets or a part thereof, that causes an adverse impact either immediately, or in the long term, upon the integrity of the functionality of that item or part thereof; or
  - ii. a failure of single, or multiple, items of Civil, Structural and Site-Related Assets, the failure of which can be shown to be caused by a specific event which is outside the control of the Operator, including an Uncontrollable Circumstance or the Employer Fault, and is outside the normal operating conditions for the particular item or items of Civil, Structural and Site-Related Assets.
- (d) The Operator shall be required to obtain three written competitive bids for any failures or deficiencies where the value of the materials is estimated to be one hundred thousand Rand (R100,000.00) or more and submit the bids to the Employer for approval, except where an emergency situation occurs.
- (e) In the case of an emergency situation and where reasonably possible, the Operator shall provide the Employer with an estimate of the cost of the Repairs and Replacement or Corrective Maintenance required to correct the emergency situation and shall obtain the written consent of the Employer before implementing the Repairs and Replacement or Corrective Maintenance.
- (f) The Operator shall not undertake Repairs and Replacement or Corrective Maintenance where the value of the materials for an Incident of Repairs and Replacement or Corrective Maintenance is estimated to exceed one hundred thousand Rand (R100,000.00) in total cost without the prior written consent of the Employer.
- (g) Where the Operator disagrees with or disputes the Employer's determination of an Incident of Repairs and Replacement or Corrective Maintenance or whether the Operator's expenditures for an Incident of Repairs and Replacement or Corrective Maintenance have been reasonably incurred, then the Operator may refer the matter to dispute resolution pursuant to Clause 17 of this Agreement.
- (h) The amount of one hundred thousand Rand (R100,000.00) specified in this Clause 5.4 shall be adjusted Annually by the Consumer Price Index (CPI).

**MECHANICAL AND ELECTRICAL EQUIPMENT****5.5 Inspections and Surveys.****(1) *Inventory and Baseline Survey.***

- (a) The Employer shall make available to the Operator, Equipment Operating and Maintenance Manuals, as well as drawings, calculations, maintenance manuals, operational records, logs, reports, submittals, test records, repair records, cost records, energy consumption records, specifications which may be in the Employer's possession related to the design, condition or operation of the Facilities. The Operator shall take no action which would invalidate or void such Documents.
- (b) Within six (6) weeks of the Commencement Date, the Operator shall undertake and complete a comprehensive inspection survey and inventory of all mechanical and electrical equipment (the "**Inventory and Baseline Survey**") to verify and supplement the Employer's information.
- (c) The Inventory and Baseline Survey shall include, but not be limited to, the following:
  - i. Collect all necessary information to support the implementation and maintenance of a Computerised Maintenance Management System.
  - ii. Set up a bar coding system that will form a numbering system for the CMMS.
  - iii. Carry out a condition survey of all major equipment and list the deficiencies associated with all Mechanical and Electrical Equipment. The Operator shall conduct the specialized testing listed in sub-clause 5.1(d) as part of the Inventory and Baseline Survey.
- (d) The lack of or poor quality of any background information or documentation for the Mechanical and Electrical Equipment shall not prevent the Operator from completing the Inventory and Baseline Survey.
- (e) The Operator shall submit the Inventory and Baseline Survey prepared by the Operator to the Employer for review within six (6) weeks of the Commencement Date.
- (f) The Employer shall pay the Operator the submitted rate in the Proposal for the preparation of the Inventory and Baseline Survey upon the acceptance by the Employer. The fee includes all costs required for obtaining access to the equipment, including confined space entry and rescue teams.

**(2) *Deficiencies Identified from Inventory and Baseline Survey.***

- (a) The Employer shall review the mechanical, and electrical deficiencies listed in the Inventory and Baseline Survey and shall establish whether any of the Mechanical and Electrical Equipment should be repaired, replaced or upgraded.

- (b) The Employer may decide to address any or all of the deficiencies identified at its expense. The Employer makes no representations or warranties that the upgrades, repairs or replacement to the Mechanical and Electrical Equipment will be undertaken; provided, however, that the Employer shall, at its expense, within a reasonable time frame to be developed by the Employer repair, replace or upgrade the deficiencies to the extent necessary in order for (i) the Facilities to comply with Applicable Laws or (ii) the Mechanical and Electrical Equipment to which the deficiency relates to be in good working order.
- (c) If the Employer decides not to correct or repair a deficiency identified in the Inventory and Baseline Survey, and the piece of Mechanical or Electrical Equipment which was identified as deficient fails within the first year, it shall be repaired or replaced by the Employer at no cost to the Operator.

(3) ***Annual Review of Mechanical and Electrical Equipment.***

The Operator shall conduct an annual review of the Mechanical and Electrical Equipment, using the Inventory and Baseline Survey as a guide, before the end of each Contract Year. The Operator shall report on the results of this review as part of the Annual Asset Report pursuant to sub-clause 3.7(4) of this Agreement.

(4) ***Final Inventory and Survey.***

- (a) Three (3) months prior to expiry of the Agreement the Employer and the Operator shall conduct an inspection of all Mechanical and Electrical Equipment and the Operator shall prepare a Final Inventory and Survey of all the mechanical and electrical equipment. The Operator shall conduct the specialized testing listed in sub-clause 5.1(d) as part of the Final Inventory and Survey with such specialized testing to be sufficient to permit comparison to the Inventory and Baseline Survey for the purposes of this sub-clause 5.5(4).
- (b) The Operator shall prepare a plan for remediation to correct the deficiencies identified in the Final Inventory and Survey and shall submit the plan to the Employer no later than three (3) months prior to the expiration of the Term of the Agreement.
- (c) The Operator shall at its sole cost correct or repair all deficiencies identified in the Final Inventory and Survey prior to the expiration of the Agreement; provided, however, that the Operator shall have no obligation to correct or repair any deficiency which (i) is not material, (ii) results from normal wear and tear and provided that the Operator had complied with its obligations pursuant to this Agreement to repair and maintain the mechanical and electrical equipment, (iii) results from Uncontrollable Circumstances or (iv) was identified in the Proposal or the Inventory and Baseline Survey and not corrected or repaired by the Employer.

- (d) If the Operator has not corrected or repaired the above deficiencies for which it is responsible under sub-clause 5.6(a), the Employer reserves the right to withhold the estimated cost of correcting or repairing the deficiencies plus management fees plus five per cent (5%) from the Operator's Operations Fee or Variable Performance Fee for the remainder of the Term until the Operator has performed the corrections or repairs to the satisfaction of the Employer.
- (e) The Operator shall have the right to contest the Employer's determination or identification of any deficiencies hereunder, and the requirement to repair same, by submitting the matter to dispute resolution pursuant to Clause 17.
- (f) Under no circumstances shall the Operator be responsible for deficiencies caused by an Uncontrollable Circumstance or the Employer Fault.
- (g) The Employer shall pay the Operator the submitted rate in the Proposal for the preparation of the Final Inventory and Survey upon the acceptance thereof by the Employer, The fee includes all costs required for obtaining access to the equipment, including confined space entry and rescue teams.

#### **5.6 Routine Maintenance of Mechanical and Electrical Equipment.**

- (a) Based upon the intended use of the equipment and manufacturer's performance specifications together with any available background information including operating and maintenance manuals and specifications and the Inventory and Baseline Survey referred to in sub-clause 5.5(1), the Operator shall update the Preventative Maintenance program for the Mechanical and Electrical Equipment (the "**Equipment PM Program**") and submit it to the Employer for review and approval within six (6) weeks of the Commencement Date.
- (b) The lack or poor quality of available background information for the Mechanical and Electrical Equipment shall not prevent the Operator from completing the Equipment PM Program or from performing any Preventative Maintenance as required pursuant to the provisions of this Agreement.
- (c) Throughout the Term of this Agreement, the Operator shall perform all Preventative Maintenance on the Mechanical and Electrical Equipment in accordance with the Equipment PM Program.
- (d) Throughout the Term of this Agreement, the Operator may request changes to the Equipment PM Program. The Employer shall review the Operator's requests and determine, in its discretion, whether such changes should be made. The Operator shall also update the Equipment PM Program periodically in accordance with a protocol to be agreed upon by the Employer.

- (e) The Operator shall ensure that the backlog for all Preventative Maintenance does not exceed one (1) month for the Term of this Agreement.
- (f) Unless the Operator is able to demonstrate to the Employer that it has been unable to access the necessary parts, having made all reasonable best efforts to access such parts, where the backlog for Preventative Maintenance exceeds the values in sub-clause 5.6(e), the Employer may, in its sole discretion deduct the Performance Deduction as set out in the Contract Data from the monthly payment of the Operations Fee or Variable Performance Fee. The payment shall be withheld for the month in which the performance was below the required level and shall only be paid to the Operator when the required performance standard has been achieved in any two (2) successive months, following the month in which payment was withheld.

### **5.7 Repairs and Replacement of Mechanical and Electrical Equipment.**

- (a) The Operator shall perform all Repairs and Replacement to the Mechanical and Electrical Equipment, including in the event of an emergency situation, in order to maintain the equipment in good working order.
- (b) For the purpose of this Agreement, an Incident of Repairs and Replacement shall mean:
  - i. a random failure of a single item of Mechanical and Electrical Equipment. Such item will be any piece of Mechanical and Electrical Equipment which is manufactured and sold as a self-contained functional unit. Items would include, but not be limited to, a pump, a motor, a valve, an actuator, or a measurement probe; or
  - ii. a failure of single, or multiple, items Mechanical and Electrical Equipment, the failure of which can be shown to be caused by a specific event which is outside the control of the Operator and is outside the normal operating conditions for the particular item or items of Mechanical and Electrical Equipment.
- (c) the Employer shall pay for each Incident of Repairs and Replacement where material, contract labour or Mechanical or Electrical Equipment costs and contract labour costs providing the following conditions are met:
  - i. the Operator has performed all Preventative Maintenance as recommended by the equipment suppliers, the Facilities designer, and approved by the Employer as part of the Equipment PM Program and all Monthly Operations and Maintenance Reports have been produced by the Operator pursuant to sub-clause 3.7(4) of this Agreement;
  - ii. the Mechanical and Electrical Equipment has been operated within the manufacturer's limitations;

- iii. the Incident of Repairs and Replacement is clearly documented, outlining the work required, the parts to be purchased, the sub-contracted services necessary, proposed sub-Operator, the reason for occurrence, and cost;
  - iv. the costs of the Repairs and Replacement have, in the opinion of the Employer, been reasonably incurred; and
  - v. the Employer may elect to have the Operator perform the work on terms to be agreed upon by the Parties or have an outside Operator perform the work or competitively bid the work.
- (d) If the Operator fails to meet any of the conditions described in sub-clause 5.7(c) above, the Operator shall pay for that portion of the cost of the Incident of Repairs and Replacement which resulted from the failure of the Operator meet any of such conditions. The Employer shall not pay for any Incident of Repairs and Replacements where the Operator has failed to maintain and provide adequate Quarterly Contract Reports pursuant to sub-clause 3.7 of this Agreement to the extent that the Operator's failure to so maintain and provide adequate Quarterly Contract Reports caused the cost of any Incident of Repairs and Replacements.
- (e) Where the Operator disagrees with or disputes the Employer's determination of an Incident of Repairs and Replacement, or whether the Operator's expenditures for an Incident of Repairs and Replacement have been reasonably incurred, then the Operator may refer the matter to dispute resolution pursuant to Clause 17 of this Agreement.

#### 5.8 The Employer's Equipment Replacements.

- (a) Throughout the Term of this Agreement, the Employer at its expense may replace existing Mechanical and Electrical Equipment to enhance the operation of the Facilities or to upgrade outdated Mechanical and Electrical Equipment ("**the Employer's Equipment Replacements**").
- (b) The Operator shall accommodate the Employer and any of its contractors to allow for the implementation of the Employer's Equipment Replacements and shall not claim any Adjustment to the Operations Fee as a result of reasonable disruption to the operation of the Facilities from the Employer's Equipment Replacements, unless such disruption materially adversely affects the Operator's ability to perform its obligations under this Agreement. The Employer shall use Best Efforts to minimize any such disruption.

## 5.9 Further Testing by the Employer

From time to time, the Employer may wish to undertake specialized testing including, but not limited to vibration, thermographic and electrical analysis, instrumentation maintenance and oil and grease sampling to confirm the level of Preventative Maintenance performed by the Operator. The Operator shall provide the Employer with access to the Mechanical and Electrical Equipment to undertake such activities. The Operator shall cover the Employer's specialized testing costs if it is determined that the Equipment has not been maintained as per the Equipment Manufacturers Specifications or that Routine Maintenance has not been performed to the satisfaction of the Employer, acting reasonably.

## 5.10 Computerized Maintenance Management System

- (a) If required, the Operator will purchase licences for a Computerized Maintenance Management System ("**CMMS**"), approved by the Employer, for the Operator's use. The Operator shall implement and install the CMMS licence and software that will allow the Operator to schedule and record all Corrective, Predictive and Preventative Maintenance to the Civil, Structural and Site-Related Assets and the Mechanical and Electrical Equipment.
- (b) The Operator shall be responsible for all costs associated with using and maintaining the CMMS.
- (c) The Operator shall develop and implement a comprehensive bar coding system for all equipment to populate the CMMS. The Operator shall maintain and update the CMMS including data entry, troubleshooting, backup and all necessary software upgrades for the duration of this Agreement.
- (d) The Employer shall have direct on-line access at all times to the Operator's CMMS for monitoring purposes only.
- (e) The Operator shall enter one hundred percent (100%) of all necessary data in the CMMS within six (6) weeks of the Commencement Date. All data in connection with the construction, installation, and/or implementation of new equipment must be entered within one (1) month of installation of the new equipment.
- (f) The Employer may, in its discretion, withhold the Performance Deduction as set out in the Contract Data from the monthly payment of the Operations Fee or Variable Performance Fee if the Operator does not achieve the performance levels stated in sub-clause 5.10(e) above. The Employer shall withhold the payment for the month in which the performance was below the required level and the payment shall only be paid to the Operator in the month when the required performance standard has been achieved, following the month in which payment was withheld.

- (g) The Employer shall be permitted, at its own expense, to have complete and full access to the CMMS maintained by the Operator at a location or locations specified by the Employer's Manager.
- (h) The CMMS, including any database(s) and data referred to herein and all associated licences, copyrights and other intellectual property rights shall be the property of the Employer and shall remain with the Employer upon the termination or completion of this Agreement.

#### **5.11 Calibration of Flow Measurement and Instrumentation.**

The Operator shall conduct, at a minimum, annual testing and calibration of all flow measuring, sampling equipment and instrumentation using a qualified, independent firm and shall prepare a report outlining the status of all flow measuring, sampling equipment and instrumentation to be included in the Annual Operating Report. The Operator shall implement any remedial action required to ensure the proper calibration of this equipment.

#### **5.12 Warranties.**

The Employer and the Operator shall cooperate in enforcing all warranties and warranty rights with respect to the Civil, Structural and Site-Related Assets and all maintenance contracts with respect to the Mechanical and Electrical Equipment installed in the Facilities prior to the Commencement Date and during the Term of this Agreement and generally in all claims to be made against third parties including any latent defects covered under the construction contract for the prior construction of the Facilities.

**CLAUSE 6**  
**CAPITAL IMPROVEMENTS**

**6.1 General.**

- (a) The Operator acknowledges that throughout the Term of this Agreement, the Employer may install or implement Capital Improvements to the Facilities, whether they are part of the Employer's annual capital budget or not.
- (b) The Employer shall be responsible for financing all Capital Improvements unless the Parties agree that the costs of any Capital Improvement shall be paid in part or in their entirety by the Operator.

**CLAUSE 7**  
**VARIABLE PERFORMANCE FEE**

**7.1 Variable Performance Fee.**

The Operator shall be entitled to a Variable Performance Fee in accordance with the Schedule of Rates and Prices, paid annually subject to any deductions as set out in this Agreement.

**CLAUSE 8**  
**COMPENSATION PAYABLE TO THE OPERATOR**

**8.1 Operations Fee.**

- (a) Effective the Commencement Date, the Employer shall pay the Operations Fee to the Operator for the services provided by the Operator under this Agreement to the Employer. The Operations Fee to be paid by the Employer on a monthly basis shall be for the services provided by the Operator under this Agreement as adjusted under this Agreement from time to time.
- (b) The Operator acknowledges that the Operations Fee is inclusive of all Operating and Maintenance Costs for the Facilities and for all services to be supplied by the Operator pursuant to the terms and conditions of this Agreement.
- (c) The Parties agree that the Operations Fee is as set out in the Schedule of Rates and Prices.

**8.2 Electricity Cost.**

- (a) The Employer shall pay the Electricity Cost.
- (b) For greater certainty, the Operator must participate in the Employer's energy efficiency and pump optimization strategy.

**8.3 Adjustments to the Operations Fee.**

**(1) General.**

- (a) The Parties acknowledge that the purpose of an "**Adjustment to the Operations Fee**" is to reflect a material change to the actual Operating and Maintenance Costs.
- (b) The Parties agree that it is their intention that an Adjustment to the Operations Fee shall be limited to a review of only those costs and expenses which have been affected, either negatively or positively, by the occurrence of only the events, or any one of them described below and in order to account for the impact of such event, and should not be considered an opportunity to review all items included or excluded from the Operations Fee.

**(2) Adjustments to the Operations Fee.**

- (a) Either the Employer or the Operator may require an Adjustment to the Operations Fee if either Party can demonstrate that there has been an increase or decrease in the actual Operating and Maintenance Costs that has occurred as a result of only the following events:

- i. an Uncontrollable Circumstance, a variation in Raw Water quality or quantity materially inconsistent with historical seasonal variations or the Employer Fault;
  - ii. Process or Operational Changes which have been approved by the Employer pursuant to this Agreement;
  - iii. Capital Improvements made or not made to the Facilities;
  - iv. a Change of Laws;
  - v. a request by the Employer for additional types of insurance or higher policy limits made pursuant to sub-clause 14.1(2)(d)
- (b) All Adjustments to the Operations Fee from the occurrence of any of the events described in sub-clause 8.3(2)(a) above shall be reviewed on an annual basis.
- (c) Any Adjustments to the Operations Fee shall be equal to the actual change to the Operating and Maintenance Costs as a result of any of the events described in sub-clause 8.3(2)(a) above.

(3) ***Adjustment to the Operations Fee as a Result of Fluctuations in Treated Water Volume.***

- (a) The Parties acknowledge that Raw Water Quality may vary from time to time. The Parties agree there shall be no Adjustments to the Operations Fee for any change in Raw Water quality or quantity, materially consistent with historical variations.

(4) ***Procedure for Adjustments.***

- (a) If a Party requests an Adjustment to the Operations Fee, the onus shall be on that Party to provide supporting evidence of its claim for an Adjustment to the Operations Fee. The Party will be required to demonstrate that:
- i. There has been an occurrence of one of the events described in sub-clause 8.3(2) above has occurred;
  - ii. There has been a change to the actual Operating and Maintenance Costs;
  - iii. The change to the actual Operating and Maintenance Costs is directly related to one of the circumstances described in sub-clause 8.3(2) above.

The Operator shall cooperate with the Employer in providing the Employer with information on the Operating and Maintenance Costs which the Employer determines that it requires supporting the Operator's claim for an Adjustment to the Operations Fee.

- (b) The Adjustment to the Operations Fee shall be made retroactive to the date on which the impact on the Operating and Maintenance Costs of such event was first documented by the Operator. If, at any time, the Employer and the Operator cannot agree on the appropriate Adjustment to the Operations Fee, then either Party may refer the matter to dispute resolution pursuant to Clause 17 of this Agreement.

#### **8.4 Operations and Maintenance Plan.**

The Operations and Maintenance Plan shall contain the following information:

- (a) Operator's Asset maintenance approach;
- (b) Operator's proposed maintenance programs and procedures;
- (c) Operator's program for SCADA system and CMMS optimization;
- (d) Operator's general maintenance and operations procedures including overall Facility and equipment appearance, corrosion prevention and Asset protection procedures; and
- (e) Operator's detailed and specific operation and maintenance procedures for each of the Facilities portions of infrastructure.

#### **8.5 Transition Plan.**

The Transition Plan shall contain a detailed identification by the Operator of the transition issues from the current Operator or in the case of a new facility from the construction Operator. The Transition plan shall include proposals by the Operator to address transition issues including the details of each service to be provided and the cost of the service to be provided by the Operator. The Transition Plan shall include job shadowing to be provided by the Operator on its own cost and expense for a period of three (3) months for up to five (5) persons prior to the expiration or termination of this Agreement.

#### **8.6 Penalty for Failure to Prepare and Abide by Plans**

In the event the Operator fails to provide the plans identified in this Agreement in the form and substance acceptable to the Employer and in accordance with the requirements set out herein, or provides same but fails to govern itself according to such plans, the Employer shall have the right to withhold the Performance Deduction as set out in the Contract Data per month per plan from the. Variable Performance Fee of Operations Fee.

#### **8.7 Method of Payment.**

- (a) Effective forty-five (45) days after the Commencement Date, the Operator shall render an invoice to the Employer by the 15th day of each month for services provided in the preceding month, for an amount equal to the monthly Operations Fee for the Contract Year.
- (b) The Operator shall also render an invoice to the Employer for any agreed upon Adjustments to the Operations Fee applicable to the month immediately preceding the month in which such cost was incurred.

- (c) The invoices rendered by the Operator to the Employer shall be in accordance with the format agreed upon by the Employer and the Operator, both acting reasonably, and shall be accompanied by such backup information and documentation as is considered necessary by the Employer, acting reasonably. It is specifically required that the format of the invoices will be in accordance with the Employers chart of accounts.
- (d) Except where the Operator fails to provide the Employer with the necessary backup information and documentation as required in this Agreement, and provided that the Employer does not require clarification from the Operator as to the charges included in the invoice, the Employer shall pay each invoice within forty two (42) days after the date of the invoice. The Operations Fee and the agreed upon Adjustments to the Operations Fee shall be paid in the amount billed in each such invoice notwithstanding any circumstance, happening or event whatsoever, except to the extent the Employer is permitted and decides to withhold a portion of the Operations Fee pursuant to this Agreement.
- (e) Within sixty (60) days after the end of each Contract Year, the Operator shall provide to the Employer for review and approval an annual statement which shall show for each Contract Year the calculation of all amounts owed or payable to the Operator by the Employer under this Agreement, all amounts owed or payable to the Employer by the Operator under this Agreement, all amounts paid by the Employer to the Operator under this Agreement and all amounts paid by the Operator to the Employer under this Agreement, including corrections and reconciliations to actual values of all estimated amounts. The Employer shall review the annual statement and make any amendments it deems necessary within thirty (30) days of receipt. If there are no amendments required to the annual statement, the Employer shall approve the annual statement. If the approved annual statement reflects any balance owed by either the Employer or the Operator to the other, such amount shall be paid within thirty (30) days after the Employer's approval.
- (f) If the Employer makes amendments to the Annual Statement, the Employer shall return the amended annual statement to the Operator. If the Operator agrees with the amendments, then the balance owing on the amended annual statement shall be paid within thirty (30) days of the Operator's approval. If the Operator disagrees with the amendments, then the Employer and the Operator shall meet to attempt to resolve the dispute. If the Parties are unable to reach a resolution within thirty (30) days, then either Party may refer the matter to dispute resolution pursuant to Clause 17 of this Agreement.

### **8.8 Other Payments.**

The Employer shall be responsible for payment of any and all municipal taxes, utility costs or payments in lieu of taxes assessed against the Facilities.

**8.9 Withholding of Operations Fee.**

If the Employer decides to withhold any portion of the monthly payment of the Operations Fee to the Operator pursuant to the terms of this Agreement, no interest shall accrue or be paid to the Operator for the time the portion of the monthly payment of the Operations Fee is withheld by the Employer. The Employer shall not withhold any portion of the monthly payment of the Operations Fee which is not in dispute and shall promptly advise the Operator of the basis for the Employer's withholding of any portion of the monthly payment of the Operations Fee.

**8.10 Additional Services.**

During the Term of this Agreement, the Employer and the Operator agree that the Operator may perform additional services outside of the scope of this Agreement, and, if the Employer requests additional services, the Operator shall provide a price to provide the additional services. The Employer will review the Operator's price and decide whether to use the Operator's services or have the additional services carried out by another party.

**8.11 Books, Payrolls, Accounts and Records.**

- (a) The Operator shall maintain and keep sufficiently complete and accurate books, payrolls, accounts, and records which pertain to the Agreement in accordance with the applicable and accepted accounting procedures to permit their verification and audit and they shall have no claim for payment unless such books, payrolls, accounts, and records have been so maintained and kept.
- (b) The Employer may inspect, review or audit the books, payrolls, accounts, and records of the Operator as they pertain to the Agreement at any time during the Term of the Agreement and at any time thereafter as deemed by the Employer to be desirable but not exceeding the preservation period set forth below.
- (c) The Operator shall preserve all original books, payrolls, accounts, and records which pertain to the Agreement relating to the performance of the Agreement or to claims arising from the performance of the Agreement, for a period of thirty-six (36) months after the completion of the Term or thirty-six (36) months after the final settlement of all claims, made or threatened at the time of completion of this Agreement, whichever period is the longer.

**8.12 Failure of the Employer to Approve Adjustments.**

Any failure of the Employer to approve an Adjustment to the Operations Fee where such Adjustment is provided for in this Agreement may be submitted by the Operator to dispute resolution pursuant to Clause 17 of this Agreement.

**8.13 Advance Payment Guarantee**

The Employer shall make an advance payment as an interest-free loan to cover the cost of chemical procurement for three (3) months chemicals supply for operation of the WTP, when the Operator submits a guarantee in accordance with this sub-clause. Unless and until the Employer receives this guarantee this sub-clause shall not apply. This guarantee shall be issued by an entity and from within a country (or other jurisdiction) approved by the Employer, and shall be in a form approved by the Employer. The Operator shall ensure that the guarantee is valid and enforceable until the advance payment has been repaid, but its amount may be progressively reduced by the amount repaid by the Operator. If the terms of the guarantee specify its expiry date, and the advance payment has not been repaid by the date 28 days prior to the expiry date, the Operator shall extend the validity of the guarantee until the advance payment has been repaid.

The advance payment shall be repaid through three (3) equal deductions in the monthly payments over the last three (3) months of the Operating Period.

**8.14 Operations Fee Escalation**

The Operations Fee and provisional sums shall be reviewed by the Parties annually on the anniversary of the Commencement Date of this Agreement and on each anniversary of that date thereafter and will be adjusted by an amount equal to the percentage increase Consumer Price Index ("CPI Headline") (All Items) as published in Table A of P0141.1 by Statistics South Africa for the most recent 12 (twelve) month period for which those statistics would then be available

$((P1 - P0)/P0) * 100$  where:

P1 = CPI Headline Index for anniversary month in which escalation to be applied.

P0 = CPI Headline Index at Commencement Date or previous anniversary month whichever is applicable

**CLAUSE 9**  
**TRANSFER OF RESPONSIBILITIES**

**9.1 Transfer of Operations.**

The Operator shall ensure that all contracts and commitments it has entered into in relation to the Facilities expire upon the completion or termination of this Agreement. The Parties agree that the Employer will not assume any of the Operator's contracts and commitments upon the completion or termination of this Agreement, unless agreed to by the Employer, at the sole discretion of the Employer.

**9.2 Transfer of Records.**

- (a) the Employer shall make available to the Operator all records and documents in the possession of the Employer in respect of the management, operation and maintenance of the Facilities which the Operator may request either prior to the Commencement Date or from time to time thereafter provided that such documents are readily available and no other restrictions as to their release exists.
- (b) At the completion or termination of this Agreement, the Operator shall return all operational and maintenance documents to the Employer.

**9.3 Transfer of Assets.**

(1) ***The Employer's Inventory.***

Within thirty (30) days of the Commencement Date the Operator shall complete an inventory of all existing Movable Assets and Spare Parts owned by the Employer and available at the Facilities as of the Commencement Date (the "**the Employer's Inventory**").

(2) ***Movable Assets.***

- (a) The Employer shall transfer all Movable Assets owned by the Employer which are located on and within the Facilities at the time of the Commencement Date at no cost to the Operator (the "**the Employer's Movable Assets**").
- (b) The Operator shall be responsible for securing and providing all additional or replacement Movable Assets, in addition to the Employer's Movable Assets, the Operator deems necessary to operate and maintain the Facilities pursuant to the terms of this Agreement.

- (c) The Employer shall retain ownership of the Employer's Movable Assets provided to the Operator, and the Operator shall not dispose of nor grant security interests in the Employer's Movable Assets without the prior written consent of the Employer.
- (d) The Operator shall maintain all Movable Assets in accordance with the manufacturer's recommendations and shall include the maintenance of all Movable Assets in the CMMS.
- (e) Upon the completion or termination of this Agreement, the Operator shall return all Movable Assets to the Employer at no cost to the Employer and, in the same condition on an overall basis as they were in on the Commencement Date, reasonable wear and tear excepted.

(3) **Consumables.**

- (a) At the completion or termination of this Agreement, the Operator shall ensure that the Consumables on hand at the Facilities are sufficient for two (2) months operation of the Facilities from the date of completion or termination.

(4) **Spare Parts.**

- (a) The Employer shall provide to the Operator its inventory of Spare Parts related to the Operation and Maintenance of the Facilities which are located at the Facilities on the Commencement Date at no cost to the Operator.
- (b) At the completion or termination of this Agreement, the Operator shall return to the Employer an inventory of Spare Parts, in good working condition to the satisfaction of the Employer and in quantities at least equal to the Spare Parts provided to the Operator by the Employer on the Commencement Date (the "**Spare Parts Inventory**").
- (c) The Employer and the Operator shall within thirty (30) days from the Commencement Date agree on the nature, quantity and type of Spare Parts to be contained in the Spare Parts Inventory.
- (d) The Operator shall upon termination of this Agreement provide the Employer with the Spare Parts Inventory at no cost to the Employer.

**CLAUSE 10**  
**COMPLETION OR TERMINATION OF THE AGREEMENT**

**10.1 Termination by the Employer.**

The Employer shall have the right to terminate this Agreement in the Event of Default or an Extraordinary Event of Default of the Operator on the terms set out in this Clause of this Agreement.

**10.2 Termination by the Operator.**

The Operator shall have the right to terminate this Agreement in the Event of Default or an Extraordinary Event of Default of the Employer on the terms set out in this Clause of this Agreement.

**10.3 Notice and Cure for Event of Default.**

- (a) If any Party determines that the other Party has committed an Event of Default, the non-defaulting Party shall give notice in writing to the defaulting Party of the Event of Default. The Parties shall, no later than thirty (30) days following delivery of such notice of breach, meet and determine whether the Event of Default is a result of an Uncontrollable Circumstance and agree upon the remedial steps, if any, to be taken by the defaulting Party.
- (b) If the Parties are unable to agree upon the remedial steps to be taken within a further thirty (30) days or to agree upon the occurrence of an Event of Default, then the matter may be referred to dispute resolution pursuant to Clause 17 of this Agreement.
- (c) If the defaulting Party does not implement the remedial action agreed upon or fixed by dispute resolution within the time frame agreed upon or fixed by dispute resolution, then the non-defaulting Party may exercise any of the remedies set forth in this Agreement.
- (d) The Parties agree that any time period allowed for a defaulting Party to cure an Event of Default shall be extended if the Event of Default cannot be cured without Governmental Authority approval by the time required to obtain such approval, provided that an application for such approval has been filed with the appropriate Governmental Authority within the applicable cure period.

**10.4 Termination Upon Event of Default.**

- (a) If a defaulting Party does not cure an Event of Default as described in Clause 10.3 above, then:
  - i. if the Operator is the Party in default, the Employer may terminate this Agreement on not less than sixty (60) days prior written notice of the effective date of termination; or
  - ii. if the Employer is the Party in default, the Operator may terminate this Agreement on not less than sixty (60) days prior written notice of the effective date of termination.
- (b) The foregoing remedies shall be in addition to, and not in lieu of or a limitation of all remedies available at law or in equity to the non-defaulting Party.

**10.5 Definition of “Extraordinary Event of Default”.**

The occurrence of any of the following shall be an Extraordinary Event of Default under this Agreement:

- (a) material and persistent Events of Default by a defaulting Party, whether or not remedied by the defaulting Party, including the Operator’s failure to correct or remedy Compliance Failures or a Performance Failure pursuant to Sections 4.4 and 4.5 of this Agreement and which are not due to an Uncontrollable Circumstance or Employer Fault;
- (b) If:
  - i. the Operator generally does not pay its debts as they become due;
  - ii. the Operator admits in writing its inability to pay its debts generally or makes a general assignment for the benefit of creditors;
  - iii. a receiver is appointed for the Operator for any substantial part of its property;
  - iv. any proceedings are instituted by or against the Operator seeking to adjudicate it a bankrupt or insolvent, or seeking liquidation, winding up, reorganization, arrangement, adjustment protection, relief or composition of it or its debts under any law relating to bankruptcy, insolvency, reorganization or relief of debts, or seeking the entry of an order for relief by the appointment of a receiver, trustee, custodian or other similar official for it or for any substantial part of its property where any such proceeding has not been stayed or dismissed within thirty (30) days of a receiver custodian or other similar official being appointed for it or any substantial part of its property;

- (c) if the Employer fails to pay the monthly payment due for the Operations Fee or agreed upon Adjustments to the Operations Fee as provided for in this Agreement within thirty (30) days of the date upon which such payment is due as provided in this Agreement (subject to the exceptions as provided for in Clause 8, except where an amount is withheld by the Employer in accordance with the terms of this Agreement);
- (d) any strike or lockout of the employees of the Operator which creates a situation which poses a potential for a real and serious threat to the health and public welfare of residents or which would seriously jeopardize the operational capacity or integrity of the Facilities;
- (e) if the Operator operates or maintains, or fails to properly operate or maintain the Facilities in accordance with industry standards so as to create a situation which poses a potential for a threat to the health and public welfare of the residents, or which would jeopardize the operational capacity or integrity of the Facilities, except in the event of Uncontrollable Circumstance or Employer Fault;
- (f) any change of Control of the Operator in contravention of Clause 21 of this Agreement or any realization by any creditor upon its shares as may be pledged;
- (g) there is a failure to provide the insurance coverage specified in Clause 14 of this Agreement in a form acceptable to the Employer, within the time specified in 14.1(2)(b) or there is a lapse of the insurance coverage required to be maintained by the Operator pursuant to Clause 14 of this Agreement, and failure to secure replacement coverage within fifteen (15) days of the insurance coverage expiration date.

#### **10.6 Remedy for Extraordinary Event of Default.**

- (a) In the event of any Extraordinary Event of Default, the non-defaulting Party shall be entitled to give notice of termination of this Agreement, specifying the circumstances of the asserted Extraordinary Event of Default, which notice shall be effective immediately.

#### **10.7 Conditions upon Completion or Termination of the Agreement.**

##### **(1) *Costs Payable by the Operator upon Termination by the Employer.***

- (a) In the event the Employer terminates this Agreement pursuant to this Clause 10, the Operator shall not be entitled to any compensation subsequent to receiving notice of termination from the Employer including, without limitation, but for this sub-clause 10.7(1), any fee which would be payable to the Operator. The Operator shall also not be entitled to any demobilization costs incurred as a result of the Employer's termination of the Agreement.

- (b) Upon termination of this Agreement by the Employer, the Operator shall:
- i. forfeit the Performance Security described in Clause 14.2; and
  - ii. in any case, the Operator shall pay to the Employer all reasonable costs incurred by the Employer in negotiating and implementing a new agreement with the subsequent operator of the Facilities, and all reasonable costs incurred by the Employer in operating and maintaining the Facilities until such time as the new Operator commences operation and maintenance of the Facilities.

(2) ***Costs Payable by the Employer to Operator upon Termination by Operator.***

In the event the Operator terminates this Agreement pursuant Clause 10.2, the Operator shall be entitled to payment from the Employer of the sum of (a) all reasonable costs and expenses of the Operator relating to demobilization by the Operator from the Facilities including (without limitation) reasonable costs of termination of employees, sub-operators, contracts for the purchase of Consumables and movement of equipment of the Operator located at the Facilities, (b) all capital investment of the Operator approved by the Employer pursuant to this agreement relating to the purchase by the Operator of Capital Improvements which have not been fully amortized and (c) lost profits of the Operator for one (1) year as determined in accordance with the provisions of this Agreement.

(3) ***Carryover Services.***

Upon the completion or termination of this Agreement and only at the Employer's request, the Operator shall provide the services necessary to continue normal operations for a period of up to ninety (90) days after the termination date. This ninety (90) day period shall commence only at the Employer's request and shall be only for the purpose of training and assisting new employees of the Employer or the subsequent operator of the Facilities in the management, operation and maintenance of the Facilities. In such event, the Employer agrees to pay to the Operator a pro rata portion of the then current Operations Fee for such ninety (90) day period.

(4) ***Return of Civil, Structural and Site-Related Assets.***

- (a) Upon the completion or termination of this Agreement, the Operator shall return the Civil, Structural and Site-Related Assets to the Employer, in the same condition on an overall basis as they were in at the Commencement Date, except that under no circumstances shall the Operator be responsible for deficiencies caused by an Uncontrollable Circumstance or the Employer Fault or deficiencies identified under Clause 5.3 and not corrected or repaired by the Employer.
- (b) The Operator shall be responsible for the correction and repair of any deficiencies identified by the Employer pursuant to sub-clause 5.3(2) of this Agreement, unless otherwise specified in this Agreement.

(5) ***Return of the Mechanical and Electrical Equipment.***

- (a) Upon the completion or termination of this Agreement, the Operator shall return the Mechanical and Electrical Equipment to the Employer in a well-maintained and functional condition and shall ensure that the Mechanical and Electrical Equipment is fully operational in accordance with manufacturer's equipment specifications, except that under no circumstances shall the Operator be responsible for deficiencies caused by Uncontrollable Circumstance or Employer Fault.
- (b) The Operator shall be responsible for the repair and correction of any deficiencies identified by the Employer in accordance with the provisions of this Agreement.

**CLAUSE 11**  
**INVENTIONS AND INNOVATIONS**

**11.1 Inventions.**

The Employer shall retain exclusive rights to all intellectual property, inventions and innovations developed by or for it in connection with its operations and maintenance of the Facilities including the Operations and Maintenance Manuals, the CMMS, SCADA and all associated software where applicable. For the Operator-owned inventions introduced into the Facilities during the Term of this Agreement, the Operator shall grant to the Employer a perpetual nonexclusive fully paid up licence, to continue to use such technology in connection with the operation, maintenance and management of the Facilities after the expiration or termination of this Agreement, without charge to the Employer. The licence shall be specific to the Employer and the Facilities and may be transferred or assigned by the Employer to any subsequent operator of the Facilities for use in connection with the operation, maintenance and management of the Facilities. This provision shall apply only to those inventions and innovations for which the Operator has the right to grant such a licence to the Employer.

**CLAUSE 12****CONFIDENTIALITY AND NON-DISCLOSURE****12.1 Confidentiality and Non-Disclosure.**

- (a) The Operator acknowledges that all sampling and laboratory test results and other similar information collected or received by it during or following the term hereof concerning the day to day operations of the Facilities are the property of the Employer and may be confidential and any such information shall not be released or disclosed to any person, unless required or compelled by Applicable Law to do so, without the prior written consent of the Employer, which consent shall not be unreasonably withheld. The Operator shall have the right to retain copies of all such sampling and laboratory test results and other similar information.

**CLAUSE 13****TRADE MARK****13.1 Trade-Mark.**

- (a) The name of the Employer and all related marks, slogans and designs belongs to the Employer exclusively and shall not be used in any way by the Operator unless otherwise approved in writing by the Employer.
- (b) Within thirty (30) days after the Commencement Date, the Operator shall cause to be removed all marks, slogans and designs related to the Previous Operator from any buildings at the Facilities, structures or vehicles to be used by the Operator.

**CLAUSE 14**  
**INSURANCE**

**14.1 Insurance.**

**(1) *Insurance Coverage to be obtained by the Operator.***

(a) The Operator shall obtain and maintain throughout the Term and be responsible for payment of the deductible, insurance with insurers that are acceptable to the Employer covering the following events and in the following amounts:

i. Public Liability Insurance

Occurrence-basis comprehensive general liability insurance cover against legal liability for accidental death of or injury to third party persons and accidental loss of or damage to third party property arising out of or in connection with the Operator's performance of the Agreement, for an amount not less than One Hundred Million Rand (R100,000,000) covering the directors, officers, employees, agents and other persons for whom the Operator is responsible throughout the entire period of this Agreement. Such policy shall include non-owned automobile liability, personal injury, broad form property damage, contractual liability, owners' and Operators' protective, contingent employers' liability, cross liability and severability of interest Clauses. This insurance shall have a deductible no greater than Two Hundred Thousand Rand (R200,000) per occurrence.

ii. Operator's All Risks Insurance

Standard all risk property insurance covering the property of the Operator, including Movable Assets, in an amount not less than the full replacement cost value with a deductible of no more than Two Hundred Thousand Rand (R200,000); such policy shall include a waiver of subrogation in favour of the Employer;

iii. Motor Vehicle Insurance

In addition to any compulsory insurance required in terms of legislation and without limiting the Operator's obligations and responsibilities, the Operator shall insure against liabilities in respect of all motor vehicles and items of mobile equipment whether owned, leased, hired, borrowed or operated by the Operator in connection with its operation of the Facilities with a coverage limit of not less than Five Million Rand (R5,000,000) for any one occurrence;

(b) The Operator shall not do, omit to do, or permit any acts or omissions on or in the Facilities that may void coverage under the insurance policies.

(2) **Conditions of Insurance.**

- (a) The Operator shall cause the Employer to be included as an additional insured on the policies of insurance described in subsections 14.1(1)(a)(i) to (iii) maintained by the Operator pursuant to this Agreement and each such policy shall contain a cross-liability Clause and shall protect the Employer against all claims for all damage to any property of the Employer or any other public or private property resulting from or arising out of any failure, neglect or omission including negligence.
- (b) The Operator shall provide the Employer with certificates, in a form prescribed by the Employer, confirming that the Operator has obtained insurance coverage as described in this Agreement **thirty (30) days** before the Commencement Date and confirmation of the renewal of such policies within **ten (10) days** of their renewal date.
- (c) The Operator or the Operator's insurance company shall not suspend, void, cancel, restrict or reduce insurance coverage or limits except after giving thirty (30) days, prior written notice by registered mail to the Employer. Any deductibles or self-insured retention greater than that specified in sub-clause 14.1(1) must be declared to the Employer for acceptance or rejection by the Employer. Any such deductible or self-insured retention shall be the sole and immediate responsibility of the Operator in the event of a claim.
- (d) The policy limits and policy types described in sub-clause 14.1(1) above shall be reviewed annually by the Employer and the Operator, having regard to the Operator's claims history and loss statistics in the prior Contract Year. The Employer and the Operator reserve the right to request higher limits or additional types of insurance as they may reasonably require. The Employer shall pay the cost of any such higher limits or additional types of insurance required by the Employer.
- (e) The insurance as required by this Agreement shall be kept in place by the Operator for a period of twelve (12) months following the expiry or termination of this Agreement, unless a longer period is stipulated.
- (f) The Operator shall promptly notify the Employer of any loss or claim against the policies maintained by the Operator pursuant to this Agreement. If claims reduce the aggregate coverage amount available from those limits described in sub-clause 14.1(1) above, or as subsequently amended by agreement between the Employer and the Operator, then the Employer may require that the Operator acquire additional insurance coverage to ensure that the aggregate limits are maintained at the levels described above. The cost of acquiring such additional insurance shall form part of the Operating and Maintenance Costs.

- (g) The Operator shall advise the Employer of the cost of the insurance described in sub-clause 14.1(1) above. Upon receipt of this information the Employer may, in its sole discretion, require the Operator to obtain such insurance or the Employer may obtain such insurance at its own cost.

## **14.2 Financial Security.**

### **(1) Performance Security.**

- (a) The Operator shall at its own expense throughout the term of this Agreement, provide, maintain and pay for a Performance Guarantee, in a form acceptable to TCTA, as security for the performance by Operator of its obligations pursuant to this Agreement, to be delivered to TCTA prior to the Commencement Date. Notwithstanding that any amendments to this Agreement following the date hereof shall not be covered by the Performance Guarantee until expressly so indicated by its issuer, Operator agrees that all such amendments made pursuant to the terms of this Agreement shall be supported by a form of security reasonably satisfactory to TCTA unless this requirement is waived by TCTA.

**CLAUSE 15**  
**REPRESENTATIONS AND WARRANTIES**

**15.1 Representations and Warranties of the Operator.**

The Operator hereby represents and warrants, on a continuous basis, to the Employer and acknowledges that the Employer is entering into this Agreement in reliance on such representations and warranties:

- (a) The Operator is a company, legislated under the Companies Act (Act 71 of 2008). The Operator has sent to the appropriate Governmental Authority all material annual returns and financial statements required to be sent under the Applicable Laws. The Operator has the corporate power and authority to carry on business as currently carried on by it. No act or proceeding has been taken by or against the Operator in connection with the dissolution, liquidation, winding up, bankruptcy or reorganization of the Operator.
- (b) The Operator has the corporate power, authority and capacity to enter into this Agreement and all other agreements and instruments to be executed by it as contemplated by this Agreement and to carry out its obligations under this Agreement and such other agreements and instruments. The execution and delivery of this Agreement and such other agreements and instruments and the completion of the transactions contemplated by this Agreement and such other agreement and instruments have been duly authorized by all necessary corporate action on the part of the Operator and its shareholders, as required.
- (c) This Agreement constitutes a valid and binding obligation of the Operator enforceable against the Operator in accordance with its terms. The Operator is not an insolvent person within the meaning of the Insolvency Act (Act 24 of 1936), as amended.
- (d) The execution, delivery or performance of this Agreement by the Operator and the fulfilment of its obligations herein do not and will not conflict with or result in a breach of:
  - i. any Applicable Laws affecting the Operator;
  - ii. any of the terms or conditions of the constituting documents of the Operator;
  - iii. any agreement, document or instrument to which the Operator is a party or by which the Operator is bound or to which any property of the Operator is subject; and
  - iv. do not and will not constitute or result in a violation, breach or default under any of the foregoing.
- (e) There is no action, suit, proceeding, claim, application, complaint or investigation in any court or before any Arbitrator or before or by any regulatory body or Governmental or non-governmental Authority pending or threatened by or against the Operator which

would materially affect its ability to enter into or perform its obligations pursuant to this Agreement; and, there is no factual or legal basis which could give rise to any such action, suit, proceeding, claim, application, complaint or investigation.

- (f) The statements, representations, warranties (express and/or implied) in the Operator's Proposal are and remain true as of the date of the execution of this Agreement and shall survive the execution of this Agreement.

## **15.2 Representations and Warranties of the Employer.**

The Employer hereby represents, warrants, on a continuous basis, to the Operator and acknowledge that the Operator is entering into this Agreement in reliance on such representations and warranties:

- (a) The execution and delivery of this Agreement has been authorized by the Employer and such authorization has not been rescinded or otherwise modified.
- (b) This Agreement has been authorized, executed and delivered by the Employer and constitutes a legal, valid, and binding obligation of the Employer, enforceable against it in accordance with its terms.
- (c) To the knowledge of the Employer there is no action, suit, or proceeding pending or threatened against the Employer or the Previous Operator which would materially affect the Employer's ability to enter into or perform obligations pursuant to this Agreement or which would or could materially affect the Operator.
- (d) With respect to the Consumables purchased from the Employer pursuant to the provisions of sub-clause 9.3(3) of this Agreement, the Employer has the authority to convey such assets to the Operator as provided in this Agreement. Such assets are or will be at the date of closing of the purchase and sale thereof, free and clear of any and all charges and encumbrances whatsoever.

**CLAUSE 16**  
**INDEMNIFICATION**

**16.1 Indemnification by the Operator.**

- (a) The Operator shall indemnify, hold, defend and save the Employer, its directors, officers, agents and employees harmless from all costs, expenses, damages and Claims of third parties for personal injury or property damage arising from the extent of negligent performance or non-performance or wilful misconduct by the Operator of its obligations under this Agreement or which arise as a result of the negligent acts or omissions or wilful misconduct of the Operator in connection with the performance or non-performance of its obligations under this Agreement or in connection with the Operator's use or occupancy of the Facilities pursuant to this Agreement, including, without limitation, Claims for personal injury and damage to or loss of use or loss of any personal or real property caused by or arising out of the negligent act or omission or wilful misconduct of the Operator.
- (b) Without limiting the generality of the foregoing, the Parties acknowledge and agree that part of the Mechanical and Electrical Equipment located at the Facilities includes equipment required to be installed and maintained pursuant to Applicable Laws relating to health and safety. The Operator shall indemnify and save the Employer harmless from any and all claims and losses which the Employer can demonstrate that it has suffered or incurred as a result of any injury arising from the use of such health and safety equipment, except to the extent such Claims or losses result from insufficient health and safety equipment located at the Facilities at the Commencement Date in non-compliance with Applicable Laws, and failure by the Employer to repair or correct such non-compliance in accordance with this Agreement.
- (c) The Operator, its agents and all workers and persons employed by or under its control, including sub-operators, shall use all reasonable care to ensure that no person or property is injured and that no rights are infringed in the carrying out of the Operator's duties and obligations under this Agreement.
- (d) The Operator shall be solely responsible for all damages by whomsoever claimable in respect of any injury to persons, including death, or to land, buildings, structures or property of whatever description, and in respect of any infringement of any right or privilege whatever occasioned in the carrying out of the Operator's duties or obligations under this Agreement, or any part thereof, or by any neglect, misfeasance or nonfeasance on the Operator's part or on the part of any of its agents, workers or persons employed by the Operator or under its control, including sub-operators, either carrying out the Operator's duties and obligations under this Agreement or present at

the Facilities and shall bear the full costs thereof and shall at its own expense make such temporary provisions to ensure the avoidance of any such damage, injury, or infringement and to prevent the interruption of or danger or menace to the operation of the Facilities.

- (e) The Operator shall indemnify and save harmless the Employer from and against all Claims, demands, loss, costs, damages, actions, suits or other proceedings by whomsoever made, brought, occasioned by or attributed to any such damage, injury or infringement referenced in sub-clause 16(d) above.
- (f) The Operator further agrees to indemnify and save the Employer, its agents, servants and employees, harmless from all legal consequences including, without limitation, all legal costs and expenses incurred to defend any action brought by Governmental Authority in connection with noncompliance with Applicable Laws or a Change of Laws, as well as any fines or penalties imposed by a Governmental Authority except where the Operator is entitled to indemnification by the Employer pursuant to Clause 16.2.

#### **16.2 Indemnification by the Employer.**

- (a) The Employer shall indemnify and save the Operator, its agents, employees and sub-operators, all directors and officers from all reasonable costs, expenses, damages and claims of third parties for personal injury or property damage arising from:
  - i. all reasonable costs, expenses, damages and claims of third parties for personal injury or property damage arising from the Employer Fault, including the negligent acts or omissions or wilful misconduct of the Employer in connection with the performance or non-performance of its obligations under this Agreement;
  - ii. any incorrectness in or breach of any representation or warranty of the Employer contained in this Agreement or in any other agreement, or instrument executed and delivered pursuant to this Agreement;
  - iii. a violation of Applicable Law by the Employer;
  - iv. failure of the Employer to make Process or Operational Changes or Capital Improvements to achieve compliance with Applicable Laws or to correct unsafe or hazardous situations as advised by the Operator within forty-five (45) days following the Commencement Date;
  - v. the presence at the Facilities of (i) subsurface structures, materials or conditions having historical, geological, archaeological, religious or similar significance, or (ii) any habitat of an endangered or protected species;

- vi. the presence on the Commencement Date of hazardous waste or hazardous substances upon or beneath the Facilities in non-compliance with Applicable Laws;
  - vii. structural damage to or the collapse of the Facilities caused by geological conditions; and
  - viii. any other matters specifically provided in this Agreement. Notwithstanding the above, the Employer shall only be liable for its percentage of fault or negligence.
- (b) the Employer further agrees to indemnify and save the Operator, its agents, servants, and employees, harmless from all legal consequences including, without limitation, all legal costs and expenses incurred to defend any action brought by a Governmental Authority in connection with noncompliance with Applicable Laws or a Change of Laws, as well as any fines or penalties imposed by a Governmental Authority which the Operator can demonstrate it has suffered or incurred arising from or in connection with its compliance with the Employer's direction as to the appropriate means of achieving compliance with Applicable Laws or a Change of Laws, subject to the Operator confirming due care and diligence by the Operator in following and implementing the Employer's direction and in its management, operation and maintenance of the Facilities.
- (c) the Employer shall indemnify and save harmless the Operator, its agents and employees in respect of any claim, demand, action, cause of action, damage, loss, cost or liability arising out of non-compliance of any employee of the Employer with the Operator's health and safety procedures

### **16.3 Survival of Covenants.**

**16.4 Wherever this Agreement contains an express obligation by one or more Parties to indemnify any other Party, such obligation to indemnify shall survive the completion or termination of this Agreement and continue in full force and effect.**

### **16.5 Procedure for Indemnification.**

#### **(1) Notice of Claim.**

- (a) Promptly after becoming aware of any action or proceeding that may give rise to a Claim pursuant to this Agreement, the Indemnified Party shall provide to the Indemnifying Party written notice of the commencement of such action or proceeding. Such notice shall specify whether the Claim arises as a result of a claim by a Person other than a Party to this Agreement against the Indemnified Party (a "**Third Party Claim**") or whether the Claim does not so arise (a "**Direct Claim**"), and shall also specify with reasonable particularity, to the extent that the information is available:

- i. the factual basis for the Claim; and
  - ii. the amount of the Claim, if known.
- (b) If, through the fault of the Indemnified Party, the Indemnifying Party does not receive notice of any Claim in time effectively to contest the determination of any liability susceptible of being contested, then the Liability of the Indemnifying Party to the Indemnified Party under this Clause shall be reduced by the amount of any losses incurred by the Indemnifying Party resulting from the Indemnified Party's failure to give such notice on a timely basis.
- (c) The Party shall be defended by the Indemnifying Party but shall be entitled to participate in the defence of any such claim, at its own expense, and without limiting the generality of the foregoing, may advance a defence available to it, which is not available to the Party obliged to defend and may participate in such defence through counsel without the obligation to conduct the defence. The Indemnifying Party shall not be liable for any settlement of any action or proceeding effected without its written consent.
- (d) The Parties agree that in individual cases it may be more appropriate for the Indemnified Party to conduct its own defence in reliance on the financial obligation of the Indemnifying Party. In these cases, the Indemnifying Party shall not be liable for any settlement of any action or proceeding effected without its written consent.
- (e) The assumption of the defence or financial obligations of the defence by the Indemnifying Party is not a bar to any claim for contribution and indemnity or other relief over against the Indemnified Party.
- (f) If the Indemnifying Party fails to assume control of the defence of any Third Party Claim, the Indemnified Party shall have the exclusive right to contest, settle or pay the amount claimed. Whether or not the Indemnifying Party assumes control of the negotiation, settlement or defence of any Third Party Claim, the Indemnifying Party shall not settle any Third Party Claim without the written consent of the Indemnified Party, which consent shall not be unreasonably withheld or delayed; provided, however, that the liability of the Indemnifying Party shall be limited to the proposed settlement amount if any such consent is not, obtained for any reason within a reasonable time after the request therefor.

(2) ***Direct Claims.***

In the case of a Direct Claim, the Indemnifying Party shall have sixty (60) days from receipt of notice of the Claim within which to make such investigation of the Claim as the Indemnifying Party considers necessary or desirable. For the purpose of such investigation, the Indemnified Party shall make available to the Indemnifying Party the information relied upon by the Indemnified Party to substantiate the Claim, together with all such other information

as the Indemnifying Party may reasonably request. If both Parties agree at or before the expiration of such sixty (60) day period (or any mutually agreed upon extension thereof) to the validity and amount of such Claim, the Indemnifying Party shall immediately pay to the Indemnified Party the full agreed upon amount of the Claim, failing which the matter shall be referred to binding arbitration in such manner as the Parties may agree or shall be determined by a court of competent jurisdiction.

## **16.5 Limits on Liability.**

Notwithstanding any other provision in this Agreement:

- (a) The Operator shall be liable to the Employer for Claims for general and special damages resulting from negligence or wilful misconduct in the performance or non-performance of the obligations under this Agreement up to a total aggregate of the amount(s) recoverable from the insurance and financial security that is required to be in place by Clause 14 of this Agreement during the term of this Agreement, whether such damages are characterized as arising under breach of contract or warranty, to (including negligence), fault, strict liability, indemnity or other theory of legal liability.
- (b) The Employer shall be liable to the Operator for Claims for general and special damages resulting from negligence or wilful misconduct performance or non-performance under this Agreement, whether such damages are characterized as arising under breach of contract, negligence, fault, strict liability, indemnity or other theory of legal liability.
- (c) The Parties' respective liability under this Agreement shall be limited to Claims arising from the negligence or wilful misconduct, acts, omissions, violations, or non-performance under this Agreement by a Party, or those for whom the Party is responsible at law, in the course of performing the terms and conditions of this Agreement. In addition, neither Party shall be liable for indirect, consequential, aggravated, exemplary or punitive damages, including damages for loss of profit or business shut-down.

**CLAUSE 17**  
**DISPUTE RESOLUTION**

**17.1 Availability of Dispute Resolution.**

The Parties agree that dispute resolution shall be available in the following circumstances, including the interpretation of this Agreement as it relates to those circumstances:

- (a) any dispute or controversy with respect to the assessment of liquidated damages by the Employer as provided in this Agreement;
- (b) any dispute or controversy with respect to the withholding by the Employer of a portion of the Operations Fee as provided in this Agreement;
- (c) any dispute or controversy with respect to an Adjustment to the Operations Fee pursuant to Clause 8.3 of this Agreement;
- (d) any matters described in this Agreement that require further terms, conditions or payments to be negotiated or agreed upon by the Parties and the Parties are unable to reach an agreement on such terms, conditions or payments; and
- (e) those instances specifically identified in this Agreement.

**17.2 Meeting Among Parties to Negotiate a Resolution.**

- (a) If a dispute arises out of or in relation to this Agreement (the “**Dispute**”), the Parties will attempt in good faith to negotiate a resolution of the Dispute.
- (b) The Parties will appoint representatives with decision-making authority to settle the Dispute.
- (c) To commence negotiations under this Clause, any Party may send a notice to the other Party of a Dispute which has not been resolved in the ordinary course of business. The notice shall include a statement of the Party’s position and the name and title of the representative of the Party who will attend the resolution meeting.
- (d) The Party who receives such a notice shall within ten (10) Business Days deliver a response setting out its position and the name and title of the representative of the Party who will attend the resolution meeting.
- (e) Within ten (10) Business Days of the sending of a notice of Dispute, a meeting shall be held between the Parties at a mutually satisfactory time and place. At the meeting, the Parties will attempt in good faith to negotiate a resolution of the Dispute.

**17.3 Dispute Submitted to Mediation.**

If the Parties have not succeeded in negotiating a resolution of the Dispute within ten (10) Business Days after such meeting or if a meeting is not held within fifteen (15) Business Days of the disputing Party's notice (unless extended by mutual agreement of the Parties), the Dispute shall be submitted to mediation.

**17.4 Costs of Mediation.**

The Parties will bear equally all costs of the mediation.

**17.5 Appointment of Mediator.**

The Parties will jointly appoint a mutually acceptable mediator. If the Parties have been unable to agree upon the appointment of a mediator within ten (10) Business Days from the conclusion of the negotiation period, then each Party shall identify a mediator and the mediators identified by the Parties shall select a mediator, being a person who is not one of the mediators identified by the Parties to select a mediator.

**17.6 Disclosure.**

There will be complete and honest disclosure by each Party to the other and to the mediator, if appointed, of all information and documents relevant to the Dispute.

**17.7 Conduct of Mediation.**

- (a) Within ten (10) Business Days following his or her appointment, the mediator shall fix a time and a place in Centurion for the purpose of conducting the mediation.
- (b) Each Party shall provide a written summary of no more than five (5) pages summarizing its perspective on the Dispute to the mediator and to the other Party no later than the third day prior to the scheduled commencement of the mediation event.
- (c) The mediation event will be attended by the Parties and their legal counsel, and each Party will be represented by a person or persons who have full and unqualified authority to reach a settlement on all issues relating to the Dispute.
- (d) The Parties agree that they will not call the mediator as a witness for any purpose and will not seek access to any documents prepared or delivered to the mediator in connection with the mediation, including any records or notes of the mediator. Statements made by any person and documents produced in the mediation not otherwise discoverable shall not be subject to disclosure through discovery or any other process and shall not be admissible into evidence in any context for any purpose.

- (e) The Parties agree to keep all communications and information forming part of the mediation in confidence. The only exception to this is disclosure for the purposes of enforcing any settlement agreement reached between the Parties.
- (f) The Parties agree that any agreement reached as the result of the mediation event shall be reduced to writing and signed by the parties.

#### **17.8 Participation in Mediation.**

The Parties agree to participate in good faith in the mediation and the related negotiations for a period of fifteen (15) Business Days.

#### **17.9 Arbitration**

If the Parties are not successful in resolving the Dispute through the mediation, then either Party may submit the Dispute to arbitration.

Unless otherwise agreed by both Parties:

- a) the dispute shall be finally settled under the Rules of Arbitration of the Association of Arbitrators (Southern Africa),
- b) the dispute shall be settled by three arbitrators appointed in accordance with these Rules,
- c) the arbitration shall be conducted in English; and
- d) the place of Arbitration shall be Centurion, Republic of South Africa.

**CLAUSE 18**  
**FORCE MAJEURE**

**18.1 Performance.**

- (a) In the event that performance of this Agreement in the reasonable opinion of either Party is made impossible by reason of an Uncontrollable Circumstance, and if a Party seeks to rely on the occurrence of an act, event or condition as an Uncontrollable Circumstance as grounds for not performing its obligations under this Agreement, then the Party relying on such act, event or condition shall; (i) provide prompt notice to the other Party of the occurrence of the act, event or condition as soon as reasonably practicable after the Party first knew of such occurrence and give an estimation of its expected duration and the probable impact on the performance of its obligations hereunder (ii) exercise all reasonable efforts to continue to perform its obligations hereunder; (iii) in accordance with this Agreement, as expeditiously as reasonably practicable, take action to correct or cure the act, event or condition preventing its performance; (iv) exercise all reasonable efforts to mitigate or limit damages to the other party; and (v) provide prompt notice to the other Party of the cessation of the act, event or condition giving rise to its inability to perform.
- (b) In the event that performance of the Agreement in the reasonable opinion of either Party continues to be made impossible by reason of an Uncontrollable Circumstance, then either Party shall notify the other in writing and the Employer shall either:
- i. terminate the Agreement forthwith and make all payment for services performed through the date of termination and all reasonable costs incurred by the Operator in demobilizing from the Facilities, sub-clause 10.7(1) shall not be invoked. Further; the Employer shall pay within sixty (60) days, all amounts owing to the Operator including the Operator's reasonable costs related to cancellation of contracts due to such termination and all capital investment of the Operator approved by the Employer pursuant to this Agreement relating to the Purchase by the Operator of Capital Improvements which have not been fully amortized; or
  - ii. authorize the Operator to continue the performance of the Agreement with such Adjustments to the Operations Fee as may be required by the Uncontrollable Circumstances, as are agreed upon by both parties. In the event that the Parties cannot agree upon the aforementioned Adjustments, it is agreed by the Parties that the Agreement shall be terminated and the Employer shall pay the Operator for all services performed through the date of termination, all reasonable costs incurred by the Operator in demobilizing from the Facilities, and all capital investment of the Operator approved by the Employer pursuant to this Agreement relating to the purchase by the Operator of capital Improvements which have not been fully amortized.

- (c) Except as expressly provided under the terms of this Agreement, neither party to this Agreement shall be liable to the other for any loss, damage, delay, default or failure to perform any obligation to the extent it results from an Uncontrollable Circumstance. The occurrence of an Uncontrollable Circumstance shall not excuse or delay the performance of a party's obligation to pay monies previously accrued and owing under this Agreement, or to perform any obligation hereunder not affected by the occurrence of the Uncontrollable Circumstances.

**CLAUSE 19**  
**LIMITATIONS ON DAMAGES**

**19.1 Limitation on Damages.**

Neither Party shall be liable to the other Party for indirect, consequential, aggravated, exemplary, or punitive damages, including damages for loss of profit or business shut-down.

**CLAUSE 20**  
**CHANGE OF CONTROL**

**20.1 Change of Control.**

During the Term of this Agreement, the Operator shall not transfer Control, directly or indirectly of the Operator to a third Party without the prior written consent of the Employer. Failure by the Operator to obtain the consent of the Employer shall constitute an Event of Default. The Employer agrees that a pledge of the shares of the Operator to the Operator's principal lenders shall not constitute a transfer of Control for purposes of this Clause 20. The Employer further agrees that an initial public offering and listing of the shares of the Operator on a recognized stock exchange shall not constitute a transfer of Control for purposes of this Clause 20.1.

**CLAUSE 21**  
**CONFLICT OF INTEREST**

**21.1 Conflict of Interest.**

- (a) Throughout the Term of this Agreement, the Operator shall not enter into any agreement, relationship or situation which causes or potentially causes a conflict of interest with the Employer or the management, operation and maintenance of the Facilities.
- (b) Throughout the Term of this Agreement, any Affiliated Company of the Operator shall not enter into any agreement or relationship with the Employer, or provide services to the Employer relating to any water services, or water capital projects unless it receives the prior written consent of the Employer.

**CLAUSE 22****NO CLAIM FOR LACK OF THE EMPLOYER'S CAPACITY****22.1 No Claim for Lack of the Employer's Capacity.**

The Operator shall not call into question, directly or indirectly, in any proceeding whatsoever, in law or in equity, the right of the Employer to enter into this Agreement or to enforce each and every term, covenant and condition herein contained and this Agreement shall be pleaded as an estoppel against the Operator in any such proceedings.

**CLAUSE 23**  
**GENERAL PROVISIONS**

**23.1 Notices.**

- (a) Any notice, certificate, consent, determination or other communication required or permitted to be given or made under this Agreement shall be in writing and shall be effectively given and made if (i) delivered personally, or (ii) sent by prepaid courier service, in each case to the applicable address set out in the Contract Data.
- (b) Any such communication so given or made shall be deemed to have been given or made and to have been received on the day of delivery if delivered, provided that such day in either event is a business day and the communication is so delivered before 4:30 pm on such day. Otherwise, such communication shall be deemed to have been given and made and to have been received on the next following business day.
- (c) Any Party may from time to time change its address under this Clause 23.1 by notice to the other Party given in the manner provided by this sub-clause.

**23.2 Waiver.**

No covenant or condition of this Agreement may be waived except by the written consent of the Party waiving same and the failure on the part of any Party to insist on compliance with any covenant or condition shall not be deemed a waiver of same or a waiver of any right to subsequently insist upon compliance or fulfilment of same or condonation of continuing or subsequent default or breach.

**23.3 Confidentiality.**

The Operator shall not disclose any information which is not otherwise available to the public relating to the Facilities other than (1) to the Employer's Manager, (2) as required from time to time from the Employer, (3) as required under Applicable Law or (a) to any Affiliate or the operator or employee, officer, director, accountant, legal counsel or other consultant of the Operator or any Affiliate of the Operator without the written approval of the Employer. Disclosure by the Operator or any Affiliate of the Operator of the existence and terms of the transaction described in this Agreement shall not be prohibited by this sub-clause.

**23.4 Governing Law.**

This Agreement shall be governed by and construed in accordance with the laws of South Africa.

**23.5 Enurement.**

This Agreement shall enure to the benefit of the Parties and be binding upon their respective successors and assigns, provided that the Operator shall not be permitted to assign or transfer, whether absolutely, by way of security or otherwise, all or any part of its rights and obligations under this Agreement without the prior written consent of the Employer except as provided under Clause 21.1.

**23.6 Severability.**

Any provision of this Agreement which is prohibited or unenforceable in any jurisdiction shall, as to that jurisdiction, be ineffective to the extent of such prohibition or unenforceability and shall be severed from the balance of this Agreement, all without affecting the remaining provisions of this Agreement or affecting the validity or enforceability of such provision in any other jurisdiction.

**23.7 Set-Off**

The Operator expressly acknowledges and agrees that the Employer shall have a right to set-off against any damages incurred or any damages reasonably expected to be incurred or any amounts owed to the Employer by the Operator as a consequence of the Operator's breach of this Agreement or an occurrence of any Event of Default, from any monies or amounts otherwise owing to the Operator under this Agreement.

**23.8 Fines.**

- (a) The Operator shall be liable for all fines incurred by either party imposed by any Governmental Authority on the Operator or the Employer as a result of the Operator's negligence or non-performance of any of its obligations under this Agreement.
- (b) If the Employer chooses to pay a fine, then prior to the payment of the fine by the Employer, the Employer shall inform the Operator of the Employer's intent to pay the fine and the Operator may have the right to contest any government or private suits or proceedings or penalties.

**23.9 Forbearance.**

The Operator agrees that forbearance by the Employer in the enforcement of any obligations, rights or remedies pursuant to this Agreement including, but not limited to, the assessment of liquidated damages or the withholding of payment, or the forbearance in the identification of breach of this Agreement or of an Event of Default or Extraordinary Event of Default shall not affect the entitlement of the Employer under this Agreement to later seek enforcement of any such obligations, rights or remedies pursuant to this Agreement or arising from such breach, Event of Default or Extraordinary Event of Default.

**23.10 Counterparts.**

This Agreement may be executed and delivered by the Parties in counterparts, each of which shall constitute an original and may be delivered by facsimile, email or other functionally equivalent electronic means of communication, and those counterparts taken together shall constitute one and the same instrument.

**C1.2 PART 1: DATA PROVIDED BY THE EMPLOYER**

	<b>Sub-Clause</b>	
<b>Employer's name and address</b>		Chief Executive Officer Trans Caledon Tunnel Authority (TCTA) First Floor Building 9 Byls Bridge Office Park Cnr Olivenhoutsbosch & Jean Avenue Doringkloof, Centurion 0046
<b>Operator's name and address</b>		
<b>Electronic transmission systems</b>		E-mail in PDF Format
<b>Governing Law</b>		Republic of South Africa
<b>Ruling language</b>		English
<b>Time for right of access to the WTP</b>		On the Commencement Date
<b>Term</b>		5.0 years
<b>Amount of Performance Security</b>		R 35 000 000 (Thirty-five million Rands)
<b>Validity of Performance Security</b>		5.0 years
<b>Limit of Liability</b>		Aggregate of insurance recoverable and Performance Security
<b>Percentage for adjustment of Provisional Sums</b>		CPI on each anniversary of the Commencement Date
<b>Contract Price Adjustment</b>		CPI on each anniversary of the Commencement Date
<b>Advance payment</b>		R 25 000 000 on submission of an acceptable guarantee for financing of chemicals for operation.
<b>Currency of Payment</b>		South African Rand

Signature: .....

On behalf of: .....

Date: .....

<b>SCHEDULE OF DEDUCTIONS</b>						
<b>Operator's Obligation</b>		<b>Sub-clause</b>	<b>Performance Deduction ZAR</b>	<b>From</b>	<b>Reimbursable on performance</b>	<b>Event of Default</b>
Compliance with Applicable Laws		3.4 (1) (d)	R50 000 per Compliance Failure	Variable Performance Fee or Operations Fee		Yes
Deficient or Late Compliance Reports	Compliance Report	3.7 (6) (a)	R50 000 per non compliance	Variable Performance Fee or Operations Fee		Yes
Any Report late or deficient in any Contract Year	Any Report	3.7 (7) (a)	R20 000 per non compliance	Withhold payment of Performance Deduction from Variable Performance Fee of Operations Fee until Report submitted	Yes	Yes if more than 5 times in any Contract Year combined
3 or more Reports late or deficient in any prescribed period	Any Report	3.7 (7) (b)	R50 000 per non compliance	Variable Performance Fee or Operations Fee		
Failure by the Operator to respond within 30 minutes in the event of an Emergency Situation		3.9 (b)	R50 000 per failure	From Variable Performance Fee or Operations Fee for each non-compliance		
Failure by the Operator to correct a Safety Deficiency to the satisfaction of the Employer and within the time frame determined by the Employer		3.11 (2) (c)	R50 000 per month	From Variable Performance Fee or Operations Fee for each month which the Operator fails to correct the safety deficiency within the prescribed		

SCHEDULE OF DEDUCTIONS						
Operator's Obligation		Sub-clause	Performance Deduction ZAR	From	Reimbursable on performance	Event of Default
				time frame		
Updates to Operations and Maintenance Manuals within 60 calendar days from the implementation of the operational change		3.14 (d)	R50 000 per month	From Variable Performance Fee or Operations Fee for each month delayed		
Updates to Operations and Maintenance Manuals within 3 months from the implementation of the operational change		3.14 (d)	R50 000 per month	Additional Performance deduction From Variable Performance Fee or Operations Fee		
Comply with Transformation Requirements		3.18	R50 000 per non compliance	Variable Performance Fee or Operations Fee		
Implement and comply with OEMPr and resolve any non-compliance within 7 calendar days of the non-compliance being identified or communicated		3.19	R50 000 per non compliance	Variable Performance Fee or Operations Fee		
Provide written report on any OEMPr findings on non-compliances within 14 calendar days of the non-compliance being identified or communicated		3.19	R50 000 per non compliance	Further reduction from Variable Performance Fee or Operations Fee		
Failure to correct a Compliance Failure immediately		4.4 (f)	R50 000 per non compliance	Variable Performance Fee or Operations Fee		Yes

SCHEDULE OF DEDUCTIONS						
Operator's Obligation		Sub-clause	Performance Deduction ZAR	From	Reimbursable on performance	Event of Default
		4.4 (f)	R50 000 per non compliance	Withhold from monthly Variable Performance Fee or Operations Fee for each month for a period up to 1 year.		
Cumulative Monthly Treated Water Performance Failure		4.5 (c)	R100 000 per Performance Failure	Variable Performance Fee or Operations Fee		Yes for 3 consecutive failures of one parameter
Preventative Maintenance Backlog		5.5 (f)	R20 000 per month	Withhold from Operations Fee or Variable Performance Fee	Yes once performance is achieved	
CMMS performance levels not achieved		5.9 (f)	R50 000 per month	Withhold from Operations Fee or Variable Performance Fee	Yes once performance is achieved	
Failure to deliver and implement the Asset Management System, including the rolling Equipment Renewal Program within prescribed time period		5.10(f)	R100 000 per Performance Failure	Variable Performance Fee or Operations Fee		Yes
Failure to prepare and abide to plans		8.6	R20 000 per month	Variable Performance Fee or Operations Fee		

## PART C2: PRICING DATA

### C.2.1 PRICING INSTRUCTIONS

#### 1. GENERAL

The Schedule of Rates and Prices forms part of the Agreement and must be read and priced in conjunction with all the other documents comprising the Agreement, which includes Volume 1 Request for Information, the Conditions of Tender, and the Conditions of Contract and Scope of Services with its Schedules.

#### 2. DESCRIPTION OF ITEMS IN THE SCHEDULE

The short descriptions of the items in the Schedule of Rates and Prices are for identification purposes only and when pricing must be read together with the relevant Clauses of the Conditions of Contract and Scope of Services with its Schedules that set out all ancillary or associated work and activities that are to be included in the rates for the operations specified.

#### 3. PRICING OF THE SCHEDULE OF RATES AND PRICES

The prices and rates to be inserted by the Tenderer in the Schedule of Rates and Prices shall be the full inclusive prices to be paid by the Employer for the work described under the several items, and shall include full compensation for all costs and expenses that may be required in and for the execution of the operation described as well as all overheads, profits, incidentals and the cost of all general risks, liabilities and obligations set forth or implied in the Agreement.

**A full breakdown of all rates and prices is required to be included with the tender.**

Each item shall be priced and extended to the "Total" column by the Tenderer, with the exception of the items for which only rates are required, or items which already have Prime Cost or Provisional Sums affixed thereto. If the Contractor omits to price any items in the Schedule of Rates and Prices, then these items will be considered to have a nil rate or price.

All items for which terminology such as "inclusive" or "not applicable" have been added by the Tenderer will be regarded as having a nil rate which shall be valid irrespective of any change in quantities during the execution of the Contract.

The Tenderer shall fill in rates for all items where the words "rate only" appear in the "Total" column.

All rates and amounts quoted in the Schedule of Rates and Prices shall be in Rands and cents and shall include all levies and taxes (other than VAT). VAT will be added in the summary of the Schedule of Rates and Prices.

#### **4. PROVISIONAL SUMS**

Where Provisional sums are provided for items in the Schedule of Rates and Prices the Employer reserves the right, to adjust the stated amounts upwards or downwards according to the actual value of work done under the item.

The Tenderer shall not under any circumstances whatsoever delete or amend any of the sums inserted in the "Amount" column of the Schedule of Rates and Prices and in the Summary of the Schedule of Rates and Prices unless ordered or authorized in writing by the Employer before closure of tenders. Unauthorized changes made by the Tenderer to provisional items in the Schedule of Rates and Prices, or to the stated provisional percentages and sums in the Summary of the Schedule of Rates and Prices, will not be tolerated.

#### **5. CORRECTION OF ENTRIES**

Incorrect entries shall not be erased or obliterated with correction fluid but must be crossed out neatly. The correct figures must be entered above or adjacent to the deleted entry, and the alteration must be initialled by the Tenderer.

#### **6. ARITHMETICAL ERRORS**

Arithmetical errors found in the Schedule of Rates and Prices as a result of faulty multiplication or addition, will be corrected by the Employer at the tender evaluation stage.

**PART C3: SCOPE OF WORKS**

**C3.1 Description of the Works**

**C3.1.1 Employer's objectives**

**SECTION 3**

**SCOPE OF SERVICES**

**ANNEXURE A**

**DESCRIPTION OF THE CENTRAL BASIN WTP FACILITY**

## 1. GENERAL TREATMENT OBJECTIVES AND TECHNICAL INFORMATION OF THE CENTRAL BASIN AMD PLANT FOR BACKGROUND PURPOSES

### 1.1 BACKGROUND

Mine water started accumulating in the old mine workings as underground operations ceased and withdrew from the basins. The mine water is characterised by acidity, high metal content and high salinity. If the mine water accumulation is allowed to continue, then the Acid Mine Drainage (AMD) will eventually fill the basins and start impacting on shallow groundwater bodies and surface water resources.

As part of the short-term solution, a new water treatment plant was designed and built to treat excess mine water to a standard suitable for interim discharge to the environment. The treatment process incorporates neutralisation and metals removal with limited desalination.

The Central Basin plant is situated in Germinston 26°13'06.93"S and 28°10'59.63"E

The indicative AMD water quality from this basin is as per the following table:

**Table 1.1: AMD Water Qualities**

WATER QUALITY PARAMETER	UNITS	CENTRAL BASIN 95 <sup>TH</sup> PERCENTILE	Current Central Basin AMD water quality
TDS	mg/l	7,700	5,000
Conductivity	mS/m	730	410
Calcium (Ca)	mg/l	580	-
Magnesium (Mg)	mg/l	380	-
Sodium (Na)	mg/l	150	-
Sulphate (SO <sub>4</sub> )	mg/l	5,200	3,100
Chloride (Cl)	mg/l	260	-
pH*	-	2.3	5.6
Alkalinity (CaCO <sub>3</sub> )	mg/l	-	-
Acidity (CaCO <sub>3</sub> )	mg/l	2,425	-
Iron (Fe)	mg/l	1,000	360
Aluminium (Al)	mg/l	50	0.10
Manganese (Mn)	mg/l	60	29

\* pH value is for 5<sup>th</sup> percentile

**Table 1.2: Required Effluent Standards:**

WATER QUALITY VARIABLE	UNITS	STANDARD
pH	-	7-9
Turbidity	NTU	<20
Iron	mg/l	<1
Manganese	mg/l	<10
Aluminium	mg/l	<1
Uranium	µg/l	<50
Sulphate	mg/l	<3,000
Electrical Conductivity	mS/m	≤450

## 1.2 BRIEF PROCESS DESCRIPTION OF THE CENTRAL BASIN AMD PLANT

### 1.2.1 Formation of AMD and Pre-Neutralisation

Acid mine drainage (AMD) occurs when groundwater comes into contact with remnant coal and rock rich in sulphides. The acid water is formed as a result of bacterial oxidation when pyrites are exposed to oxygen and water after or during the mining process. The result is a highly acidic, sulphate-rich drainage (Fripp, 2000). The overall equation describing this process is as follows:



In brief, the major cause is the accelerated oxidation of iron pyrite ( $\text{FeS}_2$ ) and other sulphuric minerals resulting from the exposure of these minerals to both oxygen and water, as a consequence of the mining and processing of metal ores and coals (Johnson, 2005).

The AMD can then travel either below or above ground, eventually making its way into nearby streams.

The Witwatersrand AMD is characterised by a low pH with high dissolved metal concentration. Limestone is used to partially neutralise the metal acidity of the AMD up to a pH of 5.5-6.0 by the following equation:



The limestone is added as a fine powder to increase the rate of the reaction. In this pH range, mainly Fe (III) and Al (III) metal ions precipitate from the solution as  $\text{Fe}(\text{OH})_3$  and  $\text{Al}(\text{OH})_3$  – effectively removing a large portion of the dissolved AMD metal components from the solution. The dissolved iron in the AMD is typically in the Fe(II) oxidation state, which does not effectively precipitate below a pH of 7-8. Through aeration, however, Fe(II) is oxidised to Fe(III), which is then precipitated through limestone neutralisation. The pre-neutralisation reactors are thus aerated to start the ferrous iron oxidation process.

### 1.2.2 Neutralisation

Lime is used to neutralise the remaining metal acidity and precipitate metals from the AMD up to a pH of 9 and to provide a counter ion ( $\text{Ca}^{2+}$ ) to react with sulphate and precipitate gypsum. In this range, most of the remaining dissolved metals are precipitated, while dissolved Mn is removed as  $\text{Mn}(\text{OH})_2$ .

For large treatment systems, quicklime is used. This lime must first be hydrated (slaked) and is normally fed to the process as slurry. The hydrated lime then dissolves to increase pH. The two following equations illustrate these reactions:

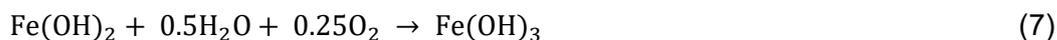




The increased pH then provides hydroxide ions which combine with the dissolved metals to produce precipitates. The following equations show the precipitation reactions with Fe(II) and Fe(III):

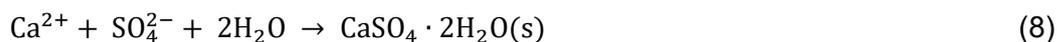


Ferrous ( $\text{Fe}^{2+}$ ) hydroxides are not as stable as ferric ( $\text{Fe}^{3+}$ ) hydroxides when the sludge is exposed to acidic waters or natural precipitation. For this reason, aeration is often applied to oxidise the iron to the more stable form, as per the following equation:



### 1.2.3 Gypsum Crystallisation

On addition of lime, the calcium reacts with the sulphates to form solid gypsum which precipitates out according to the following reaction:



Although the reaction is slow, the gypsum crystallisation reactor is specifically included to allow additional reaction time. This will also protect the downstream clarifier/ thickener from gypsum scaling, as gypsum precipitation will take place preferentially on the sludge particles that are introduced through sludge recycling back into the neutralisation reactor. No other chemical dosing takes place at this reactor, as the reactor's purpose is solely to provide additional reaction time after the lime is added in the preceding neutralisation reactor.

### 1.2.4 Solids Separation

Once metal precipitation and gypsum crystal growth have taken place, the suspended solids are removed in a thickener, where the reactor liquor is introduced from the top, at the centre distributor well of the thickener. The solids are assumed to settle at a rate not higher than 1 m/h. The thickener is designed with a side wall depth of 4.5 m to ensure sufficient space for thickening.

A sludge blanket forms at the bottom of the thickener and a central drive rake scrapes the settled solids to the centre sludge sump at the bottom of the thickener. The thickener underflow sludge is pumped back to the upstream reactor for conditioning with lime and is re-introduced at the neutralisation reactor to facilitate metal precipitation and crystal growth, while a portion is disposed of (wasted)

To further enhance sludge settling and produce a clear thickener supernatant, a polymer flocculant is introduced at the feed to the thickener. Flocculation causes destabilised colloidal particles to agglomerate and form rapid-settling flocks.

The thickener is designed to produce sludge consistencies of 7-14% (m/m) solids at a sludge recycle-to-AMD ratio of 50-100%, which will ensure that the wasted sludge volume is kept to a minimum, while still being practical to pump for disposal.

### 1.2.5 Sludge Conditioning

Recycled sludge is conditioned with lime and re-introduced at the neutralisation reactor to facilitate metal precipitation and crystal growth. Lime is an effective conditioner of recycle sludge as it facilitates the formation of precipitated sludge with better settling properties. For sludge conditioning, 40-80% of the total required lime dosage is introduced in the sludge conditioning tank, and 20-60% is introduced into the neutralisation reactor.

### 1.2.6 Sludge Handling

A portion of the sludge produced at the settler is wasted from the sludge sump. The wasted sludge has a solids content range of 7-14% (w/w) and is pumped away for disposal. The Sludge disposal pipeline runs from the plant and ties into the DRD sludge pipeline about 3km from site.

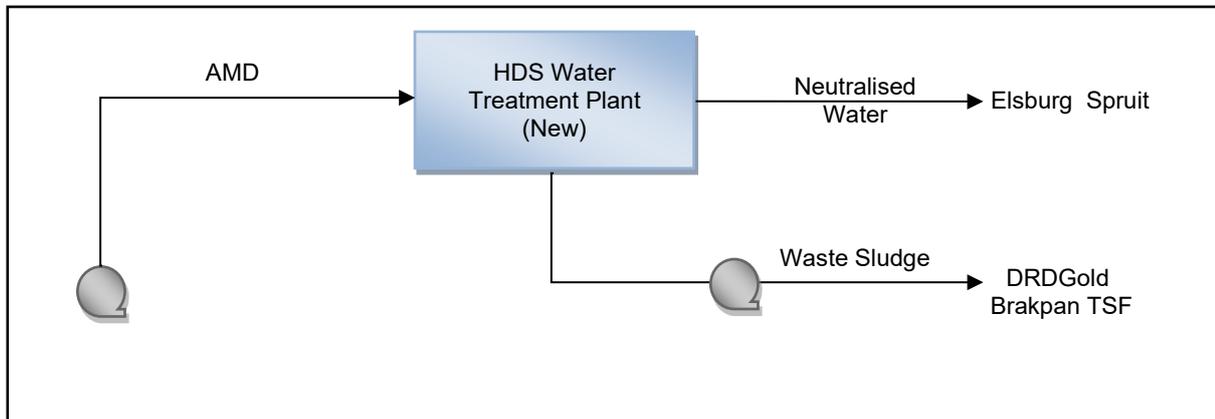
The Operation and Maintenance Operator is responsible for:

- Maintaining the sludge disposal system between the AMD plant and the tie-in to the DRD sludge pipeline.
- Deciding on the quantum of sludge that must be disposed for proper operations as per O&M Manual.
- Pigging the sludge pipe to remove scale build-up.

### 1.3 DESCRIPTION OF CENTRAL BASIN WTP

#### Overview

An overview of the mainstream treatment process for the Central Basin is shown in Figure 1,



whilst Figure 2 shows a simplified block flow diagram of the water treatment plant (WTP).

Figure 1.1: Overview of Mainstream Treatment Process for the Central Basin

The main components of the mine water collection system include the following:

- Abstraction (feed) pumps at ERPM South West Vertical (SWV) Shaft
- Transfer pipelines from ERPM SWV Shaft to the adjacent Central Basin AMD Water Treatment Plant.

The main components of the dosing system for the AMD Water Treatment Plant include the following process units:

- Limestone (CaCO<sub>3</sub>) dosing system
- Unslaked Lime dosing system (Quicklime, CaO); however, hydrated lime is dosed
- Polymer (polyelectrolyte) dosing system

.....

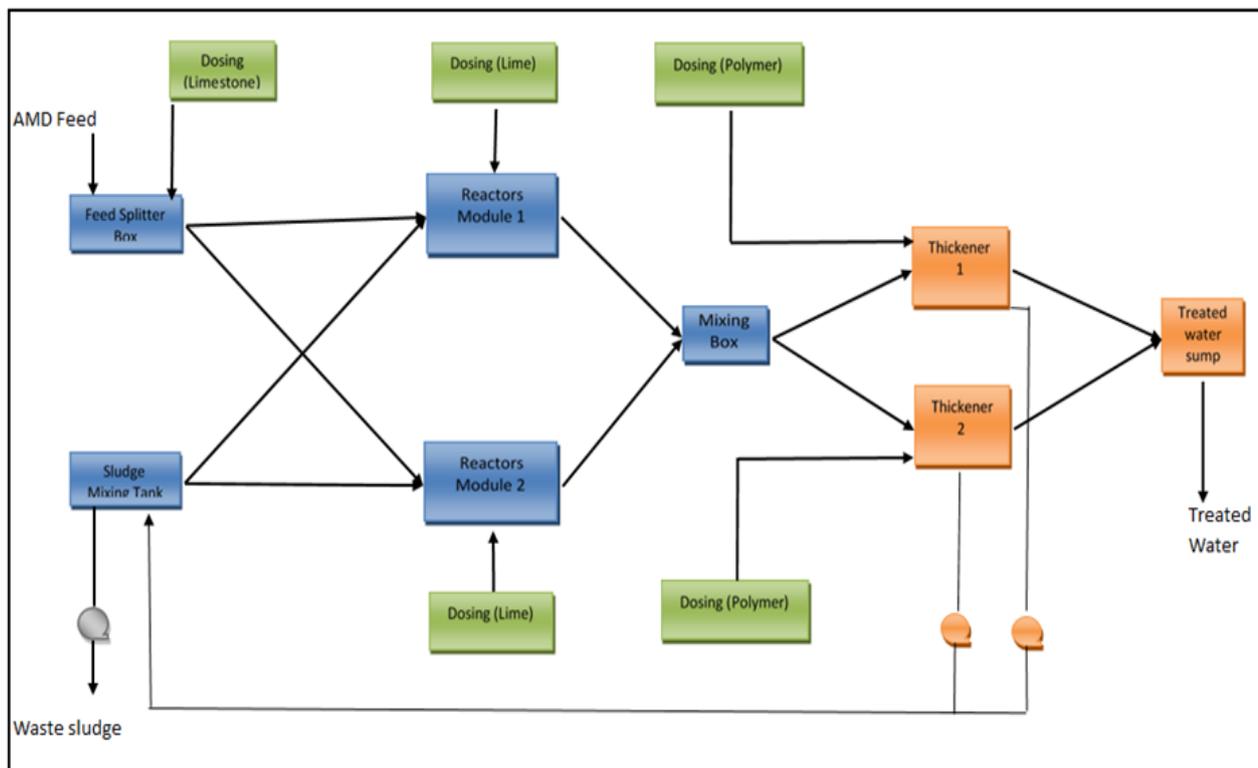


Figure 1.2: Simplified Block Flow Diagram of the Water Treatment Plant for the Central Basin

The main components of the Central Basin Water Treatment Plant include the following process units:

- Feed splitter box
- Two parallel reactor modules consisting of:
  - Sludge conditioning tank
  - Reactor, consisting of:
    - Pre-neutralisation tank
    - Neutralisation tank
- Flocculent dosing mixing box
- Two parallel thickeners
- Sludge recycle pumps
- Sludge mixing tank
- The main components of the treated water discharge and waste disposal systems include the following process units:
  - Treated water sump
  - Utility water pump station

- Treated water transfer pipeline from the Central Basin Water Treatment Plant to Elsburg Spruit.
- Waste sludge pumps, pumping out of the sludge mixing tank.
- Waste transfer pipeline from the Central Basin Water Treatment Plant intersecting the DRD Gold transfer pipeline (Knights/Brakpan TSF).

### Basic Information of the Central Basin AMD Plant

Table 1.3: AMD Water Quantities

Witwatersrand Basins	Basis of Design		Plant Design	
	Average daily flow (Mℓ/d)	Maximum daily flow (Mℓ/d)	Average (Mℓ/d) for operation 19 hours per day	Maximum (Mℓ/d) for operation 24 hours per day
Central Basin	72	84	72	84
Minimum volume of AMD pumped and treated: <b>65 Mℓ per day</b>				

Table 1.4: AMD Summary of Treatment Facility and Capacities

DESCRIPTION	CAPACITY
Acid Mine Drainage (AMD) water Average Treatment plant capacity: Design	72 Mℓ/d 84 Mℓ/d
AMD abstraction pumps design Average flow rate: Design	72 Mℓ/d per 2 pumps 84 Mℓ/d per 2 pumps
Reactors (wet capacity): Pre-Neutralization Neutralization Gypsum Crystallization Sludge Conditioning <b>Total</b>	2 x 1170 m <sup>3</sup> 2 x 2200 m <sup>3</sup> 2 x 3385 m <sup>3</sup> 2 x 1070 m <sup>3</sup> <b>15 650 m<sup>3</sup></b>
Thickeners	2 x 43 m diameter
Treated Water Disposal Tank	1730 m <sup>3</sup>
Sludge disposal Pump flow rate	1338 m <sup>3</sup> /day
Limestone Dosing Plant Capacity: Average Max	58.8 Ton/day 62.2 Ton/day
Lime Dosing Plant Capacity: Average Max	35.7 Ton/day 79 Ton/day
Polymer Dosing Plant Capacity: Average Max	0.6 Ton/day 0.72 Ton/day m

**ANNEXURE B**  
**DESCRIPTION OF SERVICES**

**ANNEXURE B: Description of Services.****1. GENERAL**

- 1.1 The Operator shall perform all activities and services for the proper and effective management, operation and maintenance of the Facilities in a cost effective and professional manner as set forth in this Agreement and in accordance with generally accepted principles and practices for water treatment and treatment of AMD, the Employer policies applicable to the Facilities, and all Applicable Laws.
- 1.2 Except as otherwise provided in this Agreement, the Operator shall provide or obtain all personnel, materials, equipment, tools, services and supplies necessary to manage, operate and maintain the Facilities and performance levels in the manner required by this Agreement, and in any event to a standard that meets industry standards, including but not limited to the Scope of Services as described in **Annexure B** of this Agreement.

**2. TESTING AND SAMPLING PROCEDURES**

- 2.1 The Operator shall, conduct all testing and analyses required by this Agreement as described in Annexure D and Applicable Laws. Routine testing can be carried out in the on-site laboratory; however a specified number of testing shall be carried out by a SANAS accredited laboratory. The Operator shall provide the Employer with evidence of such accreditation.
- 2.2 The Operator shall ensure that all sampling and testing programs required to be conducted by the Operator pursuant to this Agreement shall be conducted in accordance with the applicable testing requirements.
- 2.3 Any testing to be conducted by the Employer, in addition to the testing required to be conducted pursuant to the terms of this Agreement shall be the sole responsibility and shall be conducted at the sole expense of the Employer. The Employer shall conduct all sampling and testing in accordance with the same requirements indicated above. The Operator shall provide all further sampling necessary to allow the Employer to conduct the additional testing at no further cost to the Employer.

**3. VERIFICATION OF THE OPERATOR'S TESTING PROCEDURES.**

- 3.1 The Employer shall be permitted to, on an annual basis, at its own expense, conduct a review of the Operator's laboratory and testing procedures and confirm the test results produced by the Operator's laboratory. If the Employer's review demonstrates that the results produced by the Operator's laboratory are materially inaccurate, the Employer shall be entitled to require an Adjustment to the Operations Fee pursuant to Conditions of Contract Clause 10 of this Agreement for those costs of its review referable to the inaccuracy of the laboratory's results.

The Operator shall, upon receipt of notice from the Employer of material inaccuracy of laboratory results, correct the quality problem at its laboratory immediately, at the Operator's cost.

- 3.2 In addition to sampling and testing by the Operator, the Employer may at any time elect to take independent samples or obtain split samples from the Operator and to perform tests and analyses in order to assess the Operators sampling and testing procedures and to assess the Operator's compliance. The Operator shall cooperate fully with any such effort by the Employer and will provide samples and test results promptly at no further cost to the Employer.

#### **4. COMMUNICATIONS BETWEEN THE EMPLOYER AND THE OPERATOR.**

##### **Managers**

- 4.1 The Employer shall designate one person, the Employer's Manager, to act as their primary liaison and coordinator. The Operator shall at all times employ a person designated as the Operator's Manager, who shall, among his or her other duties, serve as the Operator's liaison with the Employer and who shall be the Operator representative primarily responsible for dealing with the Employer. The Operator shall submit the name of its designated Operator's Manager for the Facilities to the Employer for approval, which approval shall not be unreasonably withheld. The Employer reserve the right to veto any of the Operator's designated Operator's Managers submitted for approval at the sole discretion of the Employer. The Operator shall, where practicable provide the Employer with at least sixty (60) calendar days prior written notice of any change in the Operator's Manager.
- 4.2 The Employer and the Operator shall also appoint designees to the Employer Manager's position and the Operator Manager's position to act on behalf of the respective Manager in the respective Manager's absence. The Employer shall also review and approve the Operators designee for the Operator's Manager, which approval shall not be unreasonably withheld. The Operator shall provide the Employer with at least sixty (60) calendar days prior written notice of any change in the Operator's Manager's designee.
- 4.3 The Employer reserve to themselves the right to request in writing, upon reasonable notice to the Operator, that the Operator replace the Operator's Manager or designee, or Manager of the Facility, and the Operator shall, subject to Applicable Laws, make best efforts to comply with such a request from the Employer. The Employer or the Operator may refer any dispute with respect to this sub-clause to dispute resolution pursuant to Conditions of Contract Clause 24.

- 4.4 The Employer's Manager has the authority to ensure that the provisions of this Agreement are faithfully adhered to. The authority of the Employer's Manager shall be limited to providing direction, approval or consent in respect of any matter falling within the provisions of this Agreement, and shall be binding upon the Employer. The Employer's Manager shall not have the authority to provide direction, approval or consent or enter into any agreement for any matter that falls outside of the provisions of this Agreement and any such direction, approval, consent provided or agreement entered into shall not be binding upon the Employer.
- 4.5 The Employer may appoint an Operations Agent to manage the Operator on the Employer's behalf. The Operations Agent will act in place of the Employer's Manager. The Operations Agent shall have the same rights and privileges as provided in this agreement to the Employer.

## 5. REPORTS

The Operator shall prepare and submit all performance, environmental and monitoring reports required by this Agreement and the Applicable Laws and shall file such reports with the Employer's Manager. All reports shall be provided to the Employer in electronic format and in hard copy.

### **Compliance Report**

The Operator shall on a daily basis capture the following information, compile a report and submit it to the Employer:

- i. AMD (Electric conductivity, pH, Turbidity, Acidity, TSS, sulphate, aluminium, iron, manganese)
- ii. Treated water (Electric conductivity, pH, Turbidity, TSS, sulphate, aluminium, iron, manganese)
- iii. Volume of AMD pumped
- iv. Water level in the shaft
- v. All treatment trains' TSS (pre-neutralisation, sludge conditioning, neutralisation, reactor overflow, parabolic channel, sludge mixing box, thickener overflow).

## **Operations and Maintenance Reports.**

### **Monthly report**

The Operator shall compile, maintain and provide to the Employer, within ten (10) Business Days of the end of each calendar month in each Contract Year and no later than seven (7) Business days prior to each monthly meeting with the Employer, a comprehensive Monthly Operations and Maintenance Report. Quarterly Contract Report.

These reports shall be in a form developed jointly by the Managers, and shall include, but not be limited to, the following information as it applies to the Facility for the preceding month:

- i. Daily rainfall (mm);
- ii. Daily volume of potable water (m<sup>3</sup>);
- iii. No. of poly bags in stock (no.);
- iv. Daily No. of poly bags used for dosing (tons);
- v. Daily Content level in the five lime silos (m);
- vi. Daily Lime delivered (kg, weighbridge);
- vii. Daily Lime dosed (tons);
- viii. Daily Content level in the three limestone silos (m);
- ix. Daily Limestone delivered (kg, weighbridge);
- x. Daily Limestone dosed (tons);
- xi. Raw Water flow including average daily flow, maximum daily flow, and total monthly flow;
- xii. Treated Water flow including average daily flow, maximum daily flow, and total monthly flow;
- xiii. Raw Water average turbidity, pH, colour, temperature, concentration of iron, sulphate and manganese
- xiv. Treated Water maximum and average turbidity;
- xv. Treated Water minimum, maximum and average pH;
- xvi. Treated Water average concentration of iron, sulphate and manganese;
- xvii. Status of any action plans required to correct Compliance Failures;
- xviii. Significant events or failures including any and all events of noncompliance with Applicable Laws or this Agreement;
- xix. Any actions required from the Employer;

- xx. Details of the safety programme and any incidents resulting from an unsafe work practice or accidental mishap;
- xxi. Equipment operability;
- xxii. Laboratory analysis relating to Facilities operation;
- xxiii. Electricity, potable water, fuel and chemicals usage;
- xxiv. Staffing utilization, including staffing levels indicating terminations and new appointments;
- xxv. List of complaints received, action plans and remedies; and where complaints received were determined not to be valid an explanation for such determination;
- xxvi. Description and status of Facilities operations;
- xxvii. Employee training which has been carried out by the Operator;
- xxviii. A detailed and comprehensive report of all maintenance work performed;
- xxix. A summary of the following:
- xxx. A summary of the work orders scheduled for the period;
- xxxi. A summary of the unscheduled work orders required during the period;
- xxxii. A summary of the completed work orders for the period;
- xxxiii. A summary of the incomplete work orders for the period.
- xxxiv. Condition monitoring assessment reports (Vibration Analysis, Piping Wall Thickness Tests, Thermography, Thickener Torque trends)
- xxxv. Mass balance of the entire facility indicating input streams and output streams.
- xxxvi. Such other information as the Employer deems fit to ensure that it has sufficient information to assess the management and operation of the Facilities.
- xxxvii. Environmental performance against the OEMPr and EA inclusive of water quality monitoring requirements of the DWS directive and NNR.

### **Quarterly Contract report**

The Operator shall compile, maintain and provide to the Employer, within thirty (30) calendar days after the end of each 3 month period (quarterly or four times per Contract Year) a comprehensive Quarterly Contract Report. The Quarterly Contract Report should not be a mere consolidation of the Monthly Report and shall outline and discuss the following:

- i. Deliverables under this Agreement;
- ii. Financial position;

- iii. Adjustments to Operations Fees;
- iv. Proposed adjustments to Operations Fees;
- v. Amendment to the scope of the services to be provided by the Operator;
- vi. Changes to business continuity plans;
- vii. Regulatory and contractual compliance issues;
- viii. Occupational, health, social and safety issues;
- ix. Any other issues of mutual concern related to this Agreement.

### **Comprehensive Quarterly Water Quality Report**

The Operator shall compile, maintain and provide to the Employer, within thirty (30) calendar days after the end of each 3 month period (quarterly or four times per Contract Year), a comprehensive Quarterly Water Quality Report. The Quarterly Water Quality Report shall summarise all the water quality information on both raw and treated water quality.

### **Annual Asset Report.**

The Operator shall provide the Employer with a detailed Annual Asset Report summarizing the condition of the Civil, Structural and Site-Related Assets, using the Initial Condition Survey as a guide, within sixty (60) calendar days after the end of each Contract Year.

The Annual Asset Report shall be in a format to be agreed upon by the Employer and shall include, but not be limited to, the following information:

- i. A general overview of the operations of the Facility in the previous Contract Year including any major achievements of the Operator, the reliability of the Facility and the performance of the Facility. Such overview shall be no longer than twenty (20) pages and shall be in a form which is comprehensible to the lay person;
- ii. A summary of the information provided in the Monthly Operations and Maintenance Report with annual averages or totals where applicable for the previous Contract Year. This information shall be presented in tabular and graphical form with a brief written narrative to highlight key points in each section;
- iii. The results of the detailed Assets condition surveys undertaken by the Operator during the Contract Year, with a comparison of the condition of the Assets to the condition of the Assets as described in the Initial Condition Survey;
- iv. An analysis of electricity consumption figures for the Facility, broken down by component, including fixed charges, consumption charges, peak charges trends;
- v. An analysis of annual chemical costs and consumption figures, for the WTP, including dosage rates; and

- vi. Recommendations for capital programs to be undertaken by the Employer, including business cases for such programs.
- vii. A list of assets (movable and immovable) with their initial costs, year acquired and current status in a spreadsheet format.

### **Financial Reports**

For each quarter of each Contract Year, the Operator shall provide the Employer with a verifiable summary of the Operator's costs for the preceding quarter, in a form and containing the content as mutually agreed upon by the Parties acting reasonably with respect to its management, operation, and maintenance of the Facility within thirty (30) calendar days of the end of each quarter of the Contract Year. These verifiable summaries shall be provided to the Employer together with the Quarterly Contract Reports.

At the end of each Contract Year, the Operator shall provide the Employer with a verifiable summary of the Operator's costs for that Contract Year, in a form and containing the content as mutually agreed upon by the Parties acting reasonably, related to the management, operation and maintenance of the WTP and all other Facility within ninety (90) calendar days at the end of each Contract Year.

### **Deficient or Late Compliance Reports**

Except when caused by an Uncontrollable Circumstance, if the Operator fails to submit a Compliance Report or submits a deficient Compliance Report due to negligence or non-performance of the Operator's obligations, the Employer may deduct the Performance Deduction as set out in the Contract Data from the Variable Performance Fee or Operations Fee and, such a failure by the Operator, shall be an Event of Default.

### **Deficient or Late Reports**

Except when caused by an Uncontrollable Circumstance, if, during any one Contract Year, the Operator fails to deliver one (1) or more Reports other than a Compliance Report within the prescribed time period, or delivers one or more Reports that, in the opinion of the Employer, are materially deficient or have omitted material information, the Employer may withhold the Performance Deduction as set out in the Contract Data per month of the monthly payment of the Variable Performance Fee or Operations Fee payable by the Employer and the Employer shall not pay the amount withheld unless and until the Operator delivers the Report, or corrects the deficiencies identified by the Employer, as the case may be.

Except when caused by an Uncontrollable Circumstance, if, at any time during the Term, the Operator fails to deliver three (3) or more Reports within the prescribed time period, or delivers three (3) or more Reports that, in the opinion of the Employer, are materially deficient or have omitted material information, the Employer may deduct from the Variable Performance Fee or Operations Fee the Performance Deduction as set out in the Contract Data

The Parties agree that a failure to file a report other than a Compliance Report due to late receipt of sampling, testing or analytical results from a third party where the Operator can reasonably demonstrate to the Employer's Manager that the third party was in default of its contractual obligations to deliver sampling or test results in a timely fashion, and that the Operator used its Best Efforts to obtain such results in a timely fashion, shall not be considered an occurrence.

The Employer shall notify the Operator in writing within thirty (30) calendar days after receipt of a Report of any deficiencies in such Report. If written notice is not provided within thirty (30) calendar days after receipt of a Report, such Report shall be considered acceptable and the Employer shall not withhold any amount in respect of such Report.

## **6. INSPECTIONS AND REVIEW OF RECORDS**

The Operator shall permit the Employer and its authorized representatives, during the Term of the Agreement and without unreasonable disruption to the Operator, to examine and electronically monitor and retrieve any and all operating and maintenance records and Reports of the Operator, and make copies of and take extracts from such records and Reports as may be reasonably necessary to ensure compliance by the Operator with the terms of this Agreement and review any of the records and Reports.

### **6.1 DEALINGS WITH GOVERNMENTAL AUTHORITIES**

#### **Communications with Governmental Authorities.**

- 6.1.1 The Employer shall be the primary liaison with the Governmental Authorities and will invite the Operator to attend or participate in such meetings relevant to the Operator's management, operation and maintenance of the Facility or the Operator's obligations pursuant to this Agreement. Note that the Employer by definition is excluded from being a Governmental Authority.

6.1.2 The Operator shall not communicate directly with any Governmental Authorities, with the exception of times when the Operator is under a legal obligation to report directly to the Governmental Authorities or where the Operator has obtained the prior written approval of the Employer's Manager. The Operator shall report forthwith to the Employer regarding any such discussions.

## 6.2 CONTINGENCY AND EMERGENCY PLANNING

6.2.1 The Operator shall review and update all current contingency and emergency response plans. The Operator shall ensure that any such plan meets all Applicable Laws and are consistent with the standard and policies of the Employer. The contingency and emergency response plans shall be submitted to the Employer for the Employer's approval thirty (30) calendar days prior to the Commencement Date. Failure to submit such plan in compliance with this sub-clause shall be an Event of Default.

6.2.2 In the event of an Emergency Situation, the Operator must respond within thirty (30) minutes and ensure appropriate staff is available at the Facility within sixty (60) minutes from the earlier of the occurrence of the Emergency Situation or the reasonable time within which a prudent operator should have known about the Emergency Situation. The Employer may deduct the Performance Deduction as set out in the Contract Data from the Variable Performance Fee or Operations Fee for each event of non-compliance with the performance requirements of this sub-clause. Further, in the event of non-compliance by the Operator with the performance requirements of this sub-clause, the Employer may, upon giving verbal notice to the Operator's Manager, take such action as is reasonably necessary to respond to the Emergency Situation, and the Operator shall pay the reasonable cost of the Employer's response to the Emergency Situation plus a mark-up of five percent (5%).

## 6.3 SCADA SYSTEMS

6.3.1 The Operator shall continue to operate and maintain the Supervisory Control and Data Acquisition (the "SCADA") systems associated with the Facility and shall be responsible for all operations and maintenance, training, service level standards, and the operation and maintenance of enhancements to the SCADA systems, including back-up systems also as required in **ANNEXURE B**. For greater certainty, the Employer shall retain the responsibility for SCADA programming, and the Operator shall only make changes after having consulted with and receiving approval from the Employer.

## 6.4 OCCUPATIONAL HEALTH & SAFETY

This Agreement will be governed by the requirements of the Occupation Health and Safety Act (Act 85 of 1993) and all applicable regulations and the Operator shall comply with all applicable health and safety laws and regulations.

### **Safety Audits and Non-Compliance.**

6.4.1 The Employer may, at its sole discretion and expense, conduct safety audits of the Facilities on a semi-annual basis which may include inspections of physical conditions and reviews of the Operator's compliance with all applicable safety legislation and regulations.

6.4.2 If, as a result of the Employer's safety audit or otherwise, the Employer determines that one of the following deficiencies ("Safety Deficiencies") has occurred:

6.4.2.1 non-compliance with Applicable Laws relating to health and safety; or

6.4.2.2 the creation by the Operator of a health or safety hazard to a worker or the environment which is contrary to Applicable Laws or contrary to the procedures established under this Agreement,

6.4.3 then the Operator shall correct the Safety Deficiency to the satisfaction of the Employer within the time frame determined by the Employer acting reasonably but in any event within three (3) months of the identification of the Safety Deficiency.

6.4.4 If the Operator fails to correct the Safety Deficiency to the satisfaction of the Employer within the time frame determined by the Employer such failure shall be considered an Event of Default, and, the Employer may, in their discretion, withhold from the Variable Performance Fee or Operations Fee payable to the Operator the Performance Deduction as set out in the Contract Data for each month in which the Operator failed to correct the Safety Deficiency within the prescribed time frame, unless the Operator is using Best Efforts to correct such Safety Deficiency. A period of three (3) months or longer, shall not constitute Best Efforts as that phrase is used in this sub-clause. The withholding of payment of the Variable Performance Fee or Operations Fee as described herein is in addition to the rights and remedies of the Employer.

## 6.5 TECHNICAL SUPPORT

The Operator shall provide all necessary technical support to ensure the performance of the Operator's obligations under this Agreement and the proper management, Operation and Maintenance of the Facility.

## **6.6 ACCOUNTING**

The Operator shall maintain up-to-date financial records of activities related to the Facility prepared in accordance with the accepted accounting standards.

## **6.7 OPERATIONS AND MAINTENANCE MANUALS**

- 6.7.1 The Employer shall provide to the Operator at the Commencement Date, the available Operations and Maintenance Manuals for the Facility.
- 6.7.2 The Operator shall within three (3) months of the Commencement Date prepare revised and updated Operations and Maintenance Manuals as appropriate to reflect changes to Operations and Maintenance procedures for the Operating Period. The revised and updated Operations and Maintenance Manuals shall be to the reasonable satisfaction of the Employer, and shall become the property of the Employer.
- 6.7.3 The Operator shall within three (3) months of the Commencement Date verify all current Facility drawings and keep same on file in a drawing room. These documents shall be updated at least annually. The Operator will be responsible for any costs of updating the drawings in electronic format. The Operator's obligation to maintain drawings and figures does not include the providing of engineering services and/or professional certifications.
- 6.7.4 Any operational changes made by the Operator must result in the corresponding changes and updates being made to the Operations and Maintenance Manuals and such changes and updates to the Operations and Maintenance Manuals must be made within sixty (60) calendar days from the implementation of the operational change. The Employer may withhold from the Variable Performance Fee or Operations Fee payable to the Operator the Performance Deduction as set out in the Contract Data for each month the relevant changes and updates are delayed, and may deduct an additional Performance Deduction as set out in the Contract Data from the Variable Performance Fee or Operations Fee after three (3) months delay by the Operator in completing the updates and changes.
- 6.7.5 The Operator shall, one month prior to the completion of termination of the Agreement, prepare and submit an updated Operations and Maintenance Manual to the Employer. The Employer may withhold the final Operations Fee payment until such updated Operations and Maintenance Manual has been submitted to the satisfaction of the Employer.

## 6.8 SECURITY

The Operator shall be responsible to secure the Facility against unauthorized access and theft or damage, including if necessary, the use of physical surveillance. For greater certainty, the Operator shall acknowledge that the Employer has implemented a system of closed-circuit television cameras at the Facility. The Operator shall ensure that this system is maintained at all times. The Operator shall take into account the record of security incidents available as well as other records available indicating the historic security issues in the area.

In order to ensure records of active personnel onsite, a biometric clocking system shall be used at the expense of the Operator, and TCTA reserves the right to request random audit on the system. Each employee assigned to site shall use the clocking system for record keeping. In the event where an individual is found to spend less time onsite without reasons aligned to work, then penalties shall be imposed by deducting hourly rate for the respective individual. TCTA also reserves the right to instruct the operator to replace the staff member with an equally competent individual within a period of 60 calendar days.

## 6.9 USE OF SUB-OPERATORS

Upon receipt of written notice from the Employer at any time during the Term, the Operator shall not, employ or hire the services of a specified sub-operator to assist the Operator in the performance of its obligations under this Agreement without the prior written consent of the Employer, and such consent shall not be unreasonably withheld.

The Employer may, instruct the Operator to employ or hire the services of a specified sub-operator for certain portions of the operations and maintenance of the Facility.

## 6.10 ENVIRONMENT

The Operator shall implement and comply with the relevant elements of requirements of the Operational Environmental Management Programme (“OEMPr”) and the Environmental Authorisation (EA), DWS Directive and NNR. The cost of implementation and compliance shall be included under **schedule B**.

The Operator will schedule regular environmental audits as per the requirements of the EA. and the findings will be communicated to the Employer. The OPERATOR shall attend promptly to any non-compliance from the OEMPr and the EA. Any non-compliance that is not resolved within 7 calendar days of being identified or communicated, the Operator shall have an action plan with specific time frames agreed with the client for implementation. Failing to meet the agreed time frame will result in a reduction to the Variable Performance Fee or Operations Fee of the Performance Deduction as set out in the Contract Data per non-compliance. The Operator shall in any case provide a written report to the Employer on the

resolution of any findings or non-compliances within 14 calendar days, failing which a further Performance Deduction as set out in the Contract Data shall be applied. The client reserves the right to conduct reviews, compliance and investigations.

## SCHEDULE A: SUMMARY OF OPERATOR'S TASKS

### 1. GENERAL

1.1 The Operator shall staff and operate the Facility, as described in **ANNEXURE A**, on a continuous twenty-four (24) hours per day, seven (7) days per week basis throughout the entire Term of the Contract.

### 1.2 KEY PERFORMANCE TARGETS

#### 1.2.1 Quantity of Treated Water

The Operator shall pump and treat above 90% of the maximum treatment capacity of 100 ML per day of raw AMD, measured as an average for the month. Any periods when the plant could not be operated due to Uncontrollable Circumstances, such as power outages, will be excluded from the calculation. If this requirement is not met for any particular month the Operator shall submit a report within 5 working days from the end of the month to the Employer to give an account of the situation and indicate the mitigation measures being taken to recover the rise in AMD level in the shaft. In the event where the water level has reached the required buffer zone below ECL, the focus would be to maintain the level and minimise operating costs rather than treating an average pumping capacity of 80%.

#### 1.2.2 Quality of Treated Water

The Operator shall ensure that treated water meets with the minimum criteria set out in **ANNEXURE B** at all times, except for Uncontrollable Circumstances and Abnormal Raw Water quality.

#### 1.2.3 Level of Water in Shaft

The initial overall objective of pumping and treating raw AMD is to lower and maintain the water level in the shaft at the instructed level.

#### 1.2.4 Key Performance Indicators

Key performance indicators shall be agreed annually between the delegated Project Manager (Employer) and the Operator. The measures should be aligned to reflect the intent of the contract objectives. 2020 will be used to collect the baseline data for measurements, the KPI trends measurements will be part of the monthly reporting summary report statistics.

The sub elements included under the main classifications are agreed between the parties annually.

**Plant Operation Performance (40 %)**

Water quality lab. Measurements are based on, DWA directive.

**Plant Maintenance Performance (40 %)**

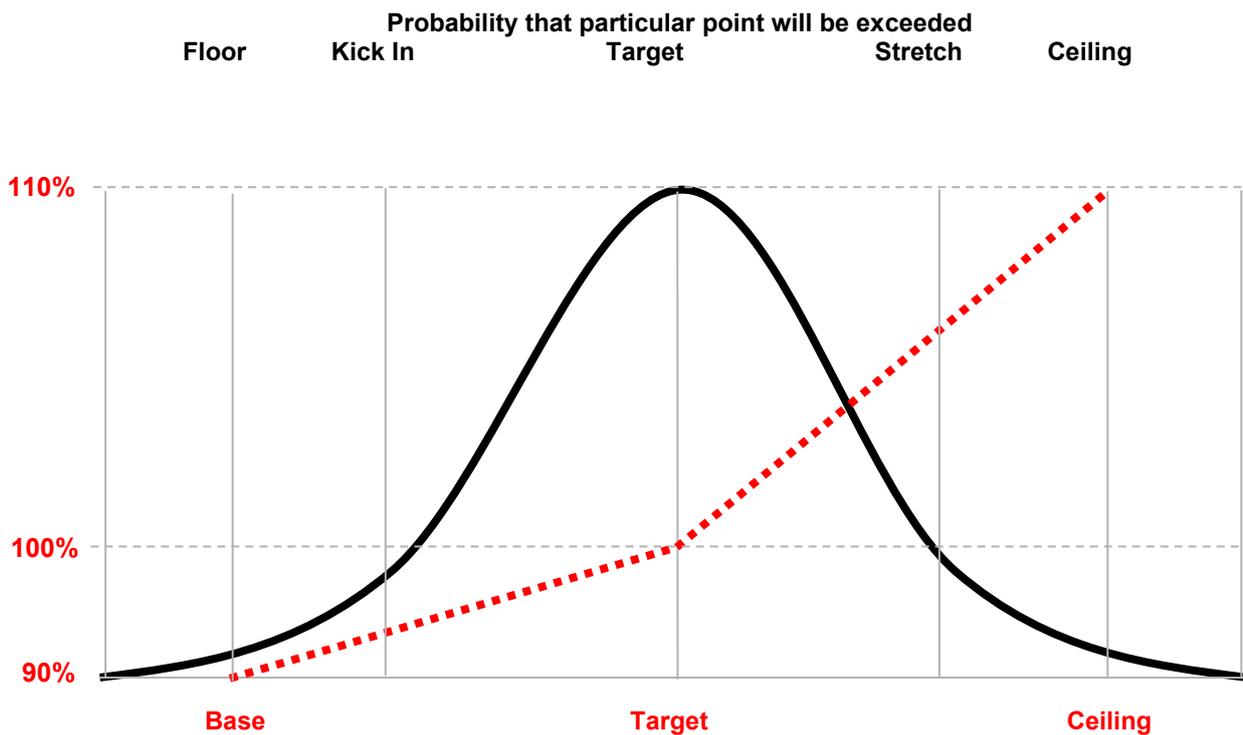
Technical measurements are based on, process plant work management, data from computerized maintenance management system.

**Cost Performance (10 %)**

The cost measurement

**Environmental, Social and Safety Performance (10 %)**

The targets should be set in line with the normal distribution curve shown below and taking cognizance of the probabilities of exceeding the targets.



**1.3** The Operator shall provide or obtain all personnel, materials, equipment, tools, services and supplies necessary to manage, operate and maintain the Facility and performance levels in the manner required by the Agreement, and to a standard that meets industry standards, including but not limited to:

- 1.3.1 Operation in accordance with the parameters set out in **ANNEXURE C** Protection and maintenance of the facility in accordance with the and in accordance with the Computerised Maintenance Management System, as set out in **ANNEXURE D**;
- 1.3.2 Perform all laboratory sampling, testing and analyses, quality control and quality assurance at the frequency and performance level as defined in **ANNEXURE E**;
- 1.3.3 Delivery of regular and detailed reports to the Employer, in accordance with the schedule set out .
- 1.3.4 Undertake all environmental compliance and management activities in accordance with **ANNEXURE C**;
- 1.3.5 Maintenance of chemical stocks;
- 1.3.6 Maintenance of all radio and software licenses, including administration software, the PLC and HMI (SCADA) software, GSM contracts, maintenance management and inventory systems, and administration systems;
- 1.3.7 Human resources management;
- 1.3.8 Training;
- 1.3.9 Purchasing;
- 1.3.10 Regulatory compliance and reporting;
- 1.3.11 Cleaning and maintenance of the areas within the WTP bound, as well as public areas, road to the entrance to the WTP including grass cutting and removal of unwanted plant growth along WTP fence lines and along the powerlines servitudes;
- 1.3.12 Maintenance of pipelines including regular pigging;
- 1.3.13 Maintenance and regular calibration of flow meters and all instruments;
- 1.3.14 Maintenance of all sludge disposal lines and boreholes or approved sludge dumping sites.
- 1.3.15 Removal of slaker waste
- 1.3.16 Dust suppression and maintenance (i.e. fixing potholes, cutting encroaching trees) of access road leading to site entrance;
- 1.3.17 Removal of sewage ;
- 1.3.18 Inspection and maintenance of lifting devices;
- 1.3.19 Inspection, maintenance and regular testing of the WTP auxiliary power generator;
- 1.3.20 Security of the Facility and provision of access control roving guards and additional security guards for regular;

- 1.3.21 All administrative and management personnel and services including plant management, human resources, training, accounting and legal services, payroll, purchasing, technical support, communication and information systems;
- 1.3.22 Contingency and emergency response plans acceptable to the Employer and a workplace safety program that meets or exceeds national standards;
- 1.3.23 Cleansing and remediation of spillages resulting from incorrect operation of the WTP by the Operator in accordance with the terms of this Agreement, the costs of which will be for the account of the Operator;
- 1.3.24 Supplying of diesel fuel for standby power generation purchasing, transporting and receiving of all materials and supplies for the operation of the Facility including but not limited to, chemicals, laboratory accessories and consumables, office supplies, building and grounds maintenance supplies, replacement parts, equipment, maintenance supplies and spare parts which are required in the day-to-day management, operation and maintenance of the plant;
- 1.3.25 All necessary insurance required by this Agreement; waste handling, transportation and disposal of all waste materials including chemicals, grit screenings, oil, grease, and excess sludge to licensed waste disposal facility on a cost reimbursable basis.
- 1.3.26 All required permits, approvals and licences;
- 1.3.27 Waste handling, transportation and disposal of all chemicals, grit, screenings, scum, oil, and other wastes and residues in licensed solid waste disposal facility, including residue transportation and disposal.
- 1.3.28 Regularly update information on the Integrated Regulatory Information System (IRIS) for DWS monitoring and maintaining facility classification grade.
- 1.3.29 Within 3 months after the commencement of the contract, the OPERATOR shall Conduct HAZOP and Safety Integrity Layer (SIL) verification study required for the Emergency Shutdown (ESD)/cause and affects and process operations review to identify hazards and operability issues and advise TCTA on mitigation provisions. Costs for conducting the study shall be on the Operator's account. The Operator shall ensure that all critical and high-risk items are implemented and signed off by TCTA. In addition, the operator shall ensure that the HAZOP/SIL review is conducted by an experienced 3<sup>rd</sup> party facilitator, the CV of the facilitator shall be submitted to TCTA for review and approval.

## 2. CONTINGENCY AND EMERGENCY PLANNING

- 2.1 The Operator shall review and update all current contingency and emergency response plans. The Operator shall ensure that any such plan meets all Applicable Laws and are consistent with the standard and policies of the Employer. The contingency and emergency response plans shall be submitted to the Employer for the Employer's approval thirty (30) calendar days prior to the Commencement Date. Failure to submit such plan in compliance with this sub-clause shall be an Event of Default.
- 2.2 In the event of an Emergency Situation, the Operator must respond within thirty (30) minutes and ensure appropriate staff is available at the Facility within sixty (60) minutes from the earlier of the occurrence of the Emergency Situation or the reasonable time within which a prudent operator should have known about the Emergency Situation. The Employer may deduct the Performance Deduction as set out in the Contract Data from the Variable Performance Fee or Operations Fee for each event of non-compliance with the performance requirements of this sub-clause. Further, in the event of non-compliance by the Operator with the performance requirements of this sub-clause, the Employer may, upon giving verbal notice to the Operator's Manager, take such action as is reasonably necessary to respond to the Emergency Situation, and the Operator shall pay the reasonable cost of the Employer's response to the Emergency Situation plus a mark-up of five percent (5%).

## 3. MINIMUM CHEMICALS STOCKS

The chemicals dosed during normal operation of the Plant are, lime, limestone and polyelectrolyte. It is the responsibility of the Operator to ensure that there is sufficient inventory to operate the Plant for **10 calendar days**, should there be an unexpected interruption in the delivery of chemicals by suppliers.

### 3.1 PROCUREMENT OF LIME & LIMESTONE

The material supplied is to be in accordance with the specification given in **ANNEXURE H**. It is the responsibility of the Operator to ensure that the product is of acceptable quality. The Operator is also responsible to order material, arrange delivery to site, weighing of delivery vehicles and overseeing the offloading into the correct silo.

The Operator shall at all times have one dedicated and two standby lime suppliers. The Operator shall obtain quotations for the supply, delivery and off-loading of lime and limestone from 3 different suppliers and present these to the Employer with recommendations. The supply contracts will be for a period of 12 months with prices fixed for this period.

The Employer will select the most favourable offer for the dedicated supplier and advise the Operator of the selection who will then appoint the selected supplier and the standby suppliers. 21 calendar days before the end of each supply contract term the Operator shall obtain new quotations from three suppliers and submit these with recommendations to the Employer for approval.

### **3.2 PROCUREMENT OF POLYELECTROLYTE (12 MONTHS)**

Polyelectrolyte is primarily dosed to achieve an acceptable turbidity measurement of the treated water within the treated water sump. Within 5 calendar days after the Operation Commencement date, the Operator shall consult with the Employer to agree on an acceptable NTU value for the discharged treated water (<20 recommended) based on economic considerations. Within 30 calendar days after the commencement date of the Contract the Operator shall arrange a sludge settling workshop and thereafter every 12 months, to which reliable polyelectrolyte suppliers in the chemicals industry as well as an Employer's representative are invited with the purpose of presenting results and recommendations for the most effective and economical product to be used. After each workshop the Operator shall compile and submit to the Employer a report which must as a minimum include the best performer in terms of NTU results and economy. In addition, the Operator shall submit quotations (R/ton) from suppliers to the Employer for approval.

The Employer will select the most favourable offer for the dedicated supplier and advise the Operator of the selection. 21 calendar days before the end of each supply contract term the Operator shall obtain new quotations from three suppliers and submit these with recommendations to the Employer for approval. The Operator shall fix the cost for the supply of polyelectrolyte with his supplier for a term of 12 months.

The Operator shall at all times have one dedicated and two standby poly suppliers.

## **4. COMMUNICATION BETWEEN THE EMPLOYER AND THE OPERATOR**

### **Managers**

- 4.1 The Employer shall designate one person, the Employer's Manager, to act as their primary liaison and coordinator. The Employer may appoint an Operations Agent who will act in place of the Employer's Manager. The Operations Agent shall have the same rights and privileges as provided in this agreement to the Employer.
- 4.2 The Operator shall at all times employ a person designated as the Operator's Manager, who shall, among his or her other duties, serve as the Operator's liaison with the Employer and who shall be the Operator representative primarily responsible for dealing with the Employer.

The Operator shall submit the name of its designated Operator's Manager for the Facility to the Employer for approval, which approval shall not be unreasonably withheld. The Employer reserve the right to veto any of the Operator's designated Operator's Managers submitted for approval at the sole discretion of the Employer. The Operator shall, where practicable provide the Employer with at least sixty (60) calendar days prior written notice of any change in the Operator's Manager.

- 4.3 The Employer and the Operator shall also appoint designees to the Employer Manager's position and the Operator Manager's position to act on behalf of the respective Manager in the respective Manager's absence. The Employer shall also review and approve the Operators designee for the Operator's Manager, which approval shall not be unreasonably withheld. The Operator shall provide the Employer with at least sixty (60) calendar days prior written notice of any change in the Operator's Manager's designee.
- 4.4 The Employer reserve to themselves the right to request in writing, upon reasonable notice to the Operator, that the Operator replace the Operator's Manager or designee, or Manager of the Facility, and the Operator shall, subject to Applicable Laws, make best efforts to comply with such a request from the Employer. The Employer or the Operator may refer any dispute with respect to this sub-clause to dispute resolution pursuant to Conditions of Contract Clause 24.
- 4.5 The Employer's Manager has the authority to ensure that the provisions of this Agreement are faithfully adhered to. The authority of the Employer's Manager shall be limited to providing direction, approval or consent in respect of any matter falling within the provisions of this Agreement, and shall be binding upon the Employer. The Employer's Manager shall not have the authority to provide direction, approval or consent or enter into any agreement for any matter that falls outside of the provisions of this Agreement and any such direction, approval, consent provided or agreement entered into shall not be binding upon the Employer.

## **5. MEETINGS**

- 5.1 The Managers, or their designees, shall meet and communicate on a regular basis. In particular, the Operator's Manager shall, as timely as reasonably possible, inform the Employer's Manager of all emergencies and the occurrence of all Uncontrollable Circumstances relating to the operation of the Facility which an independent Operator would be expected to report to an owner under customary and prudent business practices. The Operator, through the Operator's Manager, shall advise the Employer of any and all conditions, events, issues, suggestions, recommendations, and the like relating to the operation and maintenance of the Facilities and which relate to this Agreement, or which materially affect the safe, professional, and cost efficient operation and maintenance of the Facilities.

- 5.2 The Operator, through the Operator's Manager, shall advise the Employer of any and all conditions, events, issues, suggestions, recommendations, and the like relating to the operation and maintenance of the Facilities and which relate to this Agreement, or which materially affect the safe, professional, and cost efficient operation and maintenance of the Facility.
- 5.3 The Managers or their delegates shall meet not less than once per month, to discuss and review the management, operation and maintenance of the Facility, including the Monthly Operations and Maintenance Report. The Employer, in their discretion, may alter the frequency of the meetings to reflect whether or not there is a need to meet. The date and time of the meetings shall be scheduled as agreed upon from time to time by the Managers.
- 5.4 The Managers or their respective delegates shall meet, at least quarterly, to discuss and review the Quarterly Contract Report, any significant events during the previous quarter, or issues of mutual concern.

#### **Communications with Governmental Authorities.**

- 5.5 The Employer shall be the primary liaison with the Governmental Authorities and will invite the Operator to attend or participate in such meetings relevant to the Operator's management, operation and maintenance of the Facility or the Operator's obligations pursuant to this Agreement. Note that the Employer by definition is excluded from being a Governmental Authority.
- 5.6 The Operator shall not communicate directly with any Governmental Authorities, with the exception of times when the Operator is under a legal obligation to report directly to the Governmental Authorities or where the Operator has obtained the prior written approval of the Employer's Manager. The Operator shall report forthwith to the Employer regarding any such discussions.

## **6. SECURITY**

### **On-site Security**

The Operator is fully responsible for the provision of adequate security measure to control access to the site of the plant and to safeguard the Facility against theft and vandalism.

The Operator shall take into account the record of security incidents available as well as other records available indicating the historic security issues in the area.

The Facility is not currently equipped with a closed-circuit television system.

## **7. USE OF SUBCONTRACTORS**

- 7.1 The Operator shall not, employ or hire the services of a sub-contractor to assist the Operator in the performance of its obligations under this Agreement without the prior written consent of the Employer, and such consent shall not be unreasonably withheld.
- 7.2 The Employer may, instruct the Operator to employ or hire the services of a specified sub-Contractor for certain portions of the operations and maintenance of the Facility. The current specified sub-contractors are as follows

### **7.2.1 AMD Pumps**

The Operator is prohibited from performing any work to the AMD pumps, including the PLC, and its ancillaries (pipes, flow control valves, air valves, quenching system, instrumentation, electrical supply and variable speed control). Any maintenance and/or modifications required to these systems are to be carried out by Andritz or Rockwell respectively. The Operator shall however be responsible for the following preventative maintenance tasks related to the AMD pump station:

- To check and top-up the VFD cooling systems with coolant and filters
- To turn the shaft of the spare motor as prescribed by the pump manufacturer.
- To clean the pump quench system water filters

### **7.2.2 Shaft inspections**

Annual video inspections of the mine shaft are to be carried out to a depth of 250 m. The inspection is to be carried by Mine Rescue Services – South Africa (MRS) or any suitable company with similar expertise. The company must have the necessary equipment and expertise to do the inspection and draft a report on the state of the shaft walls and conveyance. MRS (or equally suitable company) must be qualified to carry out the removal of any obstacles from the shaft as governed by the Mines Health and Safety Act. An approval from TCTA is required in the event where the Operator would prefer to use an alternative company instead of MRS.

### **7.2.3 PLC and SCADA**

The Operator shall continue to operate and maintain the Supervisory Control and Data Acquisition (the “SCADA”) systems associated with the Facility and shall be responsible for all operations and maintenance, training, service level standards, and the operation and maintenance of enhancements to the SCADA systems, including back-up.

For greater certainty, the Employer shall retain the responsibility for SCADA programming, and the Operator shall only make changes after having consulted with and receiving approval from the Employer. The plant PLC code and SCADA system was developed by STARO GROUP (Sasolburg). Any modifications required to these systems shall be carried out by this company.

## **8 INNOVATION AND IMPROVEMENT**

### **8.1 CHEMICALS USAGE**

The Operator shall submit to the Employer a base study indicating the tons of lime, limestone and polyelectrolyte that were dosed on a daily basis to achieve the treated water discharge specification 60 calendar days after the Commencement Date together with an Optimization Plan containing proposals and recommendations for efficiency improvements and proposed savings sharing.

After the Employer's approval of the Optimization Plan, the Operator will immediately implement the plan on the first day of the calendar month following the approval date. The Operator shall as soon as adequate information is available but not later than 60 calendar days thereafter submit a report to the Employer on the results of the efficiency improvements, including net reduction in the tons of chemicals and per unit of treated water. The Operator is to monitor the optimisation measures on a monthly basis and provide recommendations for possible further improvements in the monthly report.

### **Environmental Obligations**

### **8.2 ENVIRONMENT**

The OPERATOR shall appoint a competent service provider to perform surface and ground water monitoring as per the EA requirements.

The Operator shall implement and comply with the requirements of the Operational Environmental Management Programme ("OEMPr") and the cost of such implementation and compliance shall be included under schedule B.

The Operator shall appoint a competent service provider to perform water monitoring as per the DWS directive requirements. The Operator shall attain approval from the Client prior to appointing the service provider.

The Operator will schedule regular independent environmental audits and the findings will be communicated to the Employer. The Operator shall attend promptly to any non-compliance with the OEMPr and EA. Any non-compliance that is not resolved within 7 calendar days of being identified or communicated, the Operator shall have an action plan with specific time frames agreed with the client for implementation.

Failing to meet the agreed time frame will result in a reduction to the Variable Performance Fee or Operations Fee of the Performance Deduction as set out in the Contract Data per non-compliance. The Operator shall in any case provide a written report to the Employer on the resolution of any findings or non-compliances within 14 calendar days, failing which a further Performance Deduction as set out in the Contract Data shall be applied.

The Operator shall submit a monthly environmental report inclusive of the monitoring results with conclusions and recommendations.

### **8.3 OCCUPATIONAL HEALTH & SAFETY.**

This Agreement will be governed by the requirements of the Occupation Health and Safety Act (Act 85 of 1993) and all applicable regulations and the Operator shall comply with all applicable health and safety laws and regulations.

### **8.4 SAFETY AUDITS AND NON-COMPLIANCE.**

The Employer may, at its sole discretion and expense, conduct safety audits of the Facility on a semi-annual basis which may include inspections of physical conditions and reviews of the Operator's compliance with all applicable safety legislation and regulations.

If, as a result of the Employer's safety audit or otherwise, the Employer determines that one of the following deficiencies ("Safety Deficiencies") has occurred:

- non-compliance with Applicable Laws relating to health and safety; or
- the creation by the Operator of a health or safety hazard to a worker or the environment which is contrary to Applicable Laws or contrary to the procedures established under this Agreement, then the Operator shall correct the Safety Deficiency to the satisfaction of the Employer within the time frame determined by the Employer acting reasonably but in any event within three (3) months of the identification of the Safety Deficiency.

If the Operator fails to correct the Safety Deficiency to the satisfaction of the Employer within the time frame determined by the Employer such failure shall be considered an Event of Default, and, the Employer may, in their discretion, withhold from the Variable Performance Fee or Operations Fee payable to the Operator the Performance Deduction as set out in the Contract Data for each month in which the Operator failed to correct the Safety Deficiency within the prescribed time frame, unless the Operator is using Best Efforts to correct such Safety Deficiency. A period of three (3) months or longer, shall not constitute Best Efforts as that phrase is used in this sub-clause. The withholding of payment of the Variable Performance Fee or Operations Fee as described herein is in addition to the rights and remedies of the Employer.

## 8.5 TRAINING OF STAFF AND DEVELOPMENT

Prior to the end of the Contract Term, the Operator shall be responsible for training the new designated operational staff. The training period shall be for **30 calendar days** and initiated by the Employer.

The overall objectives of the Operator's Training Programme shall be to:

- Deliver thorough training to achieve a high standard of awareness, knowledge and understanding of the plant and plant systems.
- Provide an effective contribution to the overall training and development of the personnel.
- Provide coaching and assessment of the personnel during the training period.
- Achieve a complete hand-over to the new staff to enable the new Operator to takeover the site.
- The Operator shall ensure adequate training in all aspects of its codes of practice and safety rules.
- The Training Programme shall be agreed with the Employer at a time determined by the Employer.
- The Operator shall develop and submit a comprehensive training programme for approval by the Employer.
- The training programme shall include all aspects necessary to enable the Employer to effectively operate and maintain the system.

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**ANNEXURE C**

**OPERATIONAL ENVIRONMENTAL MANAGEMENT PROGRAMME (OEMPr)**

ATTACHED AS A SEPARATE ANNEXURE

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**ANNEXURE D:**

**PROTECTION OF ASSETS AND MAINTENANCE OF FACILITIES**

## 1. GENERAL

- 1.1 The Operator shall use a Computerised Maintenance Management System (CMMS) in accordance with ISO 55000
- 1.2 TCTA shall make available to the OPERATOR all records and documents in the possession of TCTA in respect of the management, operation and maintenance of the Facility which the OPERATOR may request prior to the Commencement Date.
- 1.3 The Operator shall then undertake an initial condition survey:
  - 1.3.1 The initial condition survey shall include civil works, structures, site-related assets, mechanical equipment, electrical equipment, pipelines, power supply lines, furniture, spares and laboratory equipment. The survey must capture the condition of any particular item including recommendations by the Operator to improve the condition. The Employer will communicate whether the recommendations should be implemented. A representative of the Employer must be invited to partake and signoff on each survey;
  - 1.3.2 TCTA may choose, at its expense, to correct and repair such deficiencies and may undertake any of the correction or repairs within a time frame to be developed by TCTA; provided, however, TCTA, at its expense, within a reasonable time frame, correct and repair the deficiencies to the extent necessary in order for (i) the Facility to comply with Applicable Laws or (ii) the Assets to which the deficiency relates to be in good working order. The Operator shall cooperate with TCTA in the scheduling and implementation of all such repairs, and there will be no adjustment to the Operations Fee for any such accommodation unless such accommodation would materially adversely affect the Operator's ability to perform its obligations under this Agreement.
  - 1.3.3 The lack of or poor quality of any background information or documentation for the Facility shall not prevent the Operator from completing the initial condition survey
- 1.4 After completion of the initial condition survey and within forty-five (45) calendar days, of the Commencement Date, the OPERATOR shall maintain and operate CMMS incorporating an Equipment Renewal Programme. TCTA and the OPERATOR shall agree on the CMMS (as there is a cost associated with maintaining the CMMS) and the OPERATOR shall operate the Facility in accordance with the CMMS. Penalties may be applied if the OPERATOR does not operate the asset according to the CMMS.
- 1.5 When non-scheduled maintenance or repair takes place, a root cause analysis, as set out in Section 3, will be undertaken to determine:
  - 1.5.1 If the non-scheduled maintenance or repair occurred due to lack of adherence to the CMMS or manufacturers operating instructions. Any such maintenance or repair shall be to the OPERATORS cost

- 1.5.2 If non-scheduled maintenance or repair occurred otherwise, it shall be to TCTA's cost and it will be determined if the CMMS needs to be amended or it was unforeseen.
- 1.5.3 Where the Operator disagrees with or disputes the Employer's determination of an Incident of **non**-scheduled maintenance or repair, or whether the Operator's expenditures for an Incident of non-scheduled maintenance or repair have been reasonably incurred, then the Operator may refer the matter to dispute resolution pursuant to Conditions of Contract Clause 24 of this Agreement.
- 1.6 Upon the completion or termination of this Agreement, the OPERATOR shall return the Facility to TCTA in accordance with the predicted state in the CMMS. TCTA shall complete an end of agreement audit to verify the condition and the making good of any deficiencies, due to lack of adherence to the CMMS, or manufacturers operating instructions, will be to the cost of the OPERATOR

## **2. COMPUTERISED MAINTENANCE MANAGEMENT SYSTEM (CMMS)**

- 2.1. The objective of the CMMS is to cover the operation and maintenance of the assets and will be developed from the service and monitoring requirements as contained in the existing Operations and Maintenance Manuals. The incorporation of the other 3 components of the asset management plans as set out in ISO 55000 will not be required of the Operator that is creation, utilisation and decommissioning.
- 2.2. The CMMS will become the Operations and Maintenance Manual for the Facility.
- 2.2.1 The Operator is required to have licences for the CMMS, approved by the Employer, for the Operator's use. The Operator shall implement and install the CMMS software and shall be responsible for all costs associated with using and maintaining the CMMS
- 2.2.2 The Operator shall maintain and update the CMMS including data entry, troubleshooting, backup and all necessary software upgrades for the duration of this Agreement.
- 2.2.3 The Employer shall be permitted, at its own expense, to have complete and full access to the CMMS maintained by the Operator at a location or locations specified by the Employer's Manager. The Employer shall also be able to access the system from TCTA head office for monitoring and verification purposes.
- 2.2.4 The CMMS, including any database(s) and data referred to herein and all associated licences, copyrights and other intellectual property rights shall remain the property of the TCTA.
- 2.2.5 The CMMS must be maintained for the duration of the Agreement.

- 2.3. The CMMS must address specific work tasks for developing asset management practices, inventorying of assets and implementation of a fully integrated, secure and accessible information system. The CMMS shall include, but not be limited to the following:
- 2.3.1 Classification of assets into appropriate groups and shall be mechanical and electrical equipment shall be bar coded. The Facility shall be divided into two general categories of assets namely: (a) Civil, Structural and Site-Related Assets; and (b) Mechanical and Electrical Equipment and each category of assets shall be subject to its own regime of asset protection and Routine Maintenance;
- 2.3.2 Detailed and specific operation and maintenance procedures for each of the portions of the Facility, including overall asset appearance, corrosion prevention and asset protection procedures. Together with each maintenance procedure will be included a budget to cover the cost of materials, parts and any labour required in addition to the normal staffing requirements.
- 2.3.3 Adherence to equipment warranties, guarantees and recording of any latent defect covered under the prior Facilities construction contract or subsequent replacements. TCTA and the OPERATOR shall cooperate in enforcing all warranties and warranty rights with respect to the Civil, Structural and Site-Related Assets and all maintenance contracts with respect to the Mechanical and Electrical Equipment installed in the Facility prior to the Commencement Date and during the Term of this Agreement and generally in all claims to be made against third parties including any latent defects covered under the construction contract for the prior construction of the Facility.
- 2.3.4 Cleaning of the Facility, the standards of which shall be agreed between the Employer and Operator.
- 2.3.5 Calibration of instrumentation in accordance with the supplier's requirements. The equipment and instrumentation used within the site laboratory shall be subjected to an internal quality control system to ensure accurate results are obtained and used to manage the operation of the WTP. The Operator shall conduct, at a minimum, annual testing and calibration of all flow measuring, sampling equipment and instrumentation using a qualified, independent firm and shall prepare a report outlining the status of all flow measuring, sampling equipment and instrumentation to be included in the Annual Operating Report. The Operator shall implement any remedial action required to ensure the proper calibration of this equipment
- 2.3.6 Specialized testing that shall include, but not be limited to, vibration testing and analysis, wear particle analysis or oil analysis, infrared thermography, ultrasonic testing, laser alignment systems, performance monitoring, non-destructive testing, image scoping systems, ultrasonic thickness gauges, structural failure detection, videography and air quality monitoring.

- 2.3.7 An Equipment Renewal Program shall provide a rolling 3-year forecast of assets which are expected to reach the end of their useful life or warrant early replacement due to their criticality in maintaining a high state of reliability of the Facility. The Equipment Renewal Program shall:
- list major Assets including equipment and systems recommended to be replaced;
  - provide the schedule during the Term for replacement of those Assets;
  - provide the rationale for the replacement of those Assets, including priority and criticality of the replacement;
- 2.3.8 Include the anticipated cost of replacement of those Assets.
- 2.3.9 Processes for regular condition assessments that can easily be used to update the CMMS;
- 2.3.10 Waste disposal procedures. Should there be any financial benefit in selling used oil, the proceeds will be shared on an equal basis between the Operator and Employer; and
- 2.3.11 Reporting on a monthly, quarterly and Annual basis in a format to be agreed with TCTA during the development of the CMMS
- 2.4. All data in connection with the construction, installation, and/or implementation of new assets must be entered within one (1) month of installation.
- 2.5. The Operator shall ensure that the backlog, for all tasks identified in the CMMS, does not exceed one (1) month for the Term of this Agreement.

### **3. NON-SCHEDULED REPAIRS**

- 3.1. The Operator shall perform all non-scheduled repairs to the Facility, including in the event of an emergency situation, in order to maintain the facility in good working order.
- 3.2. For the purpose of this Agreement, an incident of non-scheduled repairs shall mean:
- 3.1.1 a random failure of a single asset. Such item will be any asset which is manufactured and sold as a self-contained functional unit. Items would include, but not be limited to, a pump, a motor, a valve, an actuator, or a measurement probe; or
- 3.1.2 a failure of single, or multiple, assets, the failure of which can be shown to be caused by a specific event which is outside the control of the Operator and is outside the normal operating conditions for the particular item or items of Mechanical and Electrical Equipment.
- 3.3. For each incident of non-scheduled maintenance or repair the OPERATOR shall prepare a root cause analysis to determine:
- 3.3.1 Whether operation and maintenance of the affected asset has been carried out in accordance with the CMMS.

- 3.3.2 the asset has been operated within the manufacturer's limitations (if applicable);
- 3.3.3 the non-scheduled maintenance or repair is clearly documented, outlining the work required, the parts to be purchased, the sub-contracted services (if necessary), , the reason for occurrence, and cost; and
- 3.3.4 the Employer may elect to have the Operator perform the work on terms to be agreed upon by the Parties or have an outside Operator perform the work or competitively bid the work.

#### **4. MOVEABLE ASSETS AND SPARE PARTS**

- 4.1. On the Commencement Date OPERATOR shall complete an inventory of all existing Movable Assets and Spare Parts owned by TCTA and available at the Facility as of the Commencement Date (the "TCTA's Inventory").
- 4.2. As part of the development of the CMMS the OPERATOR shall advise TCTA as to the adequacy and suitability of spares provided and shall make recommendations as to any necessary improvements.
- 4.3. The OPERATOR shall be responsible for securing and providing all additional or replacement Movable Assets, in addition to TCTA's Movable Assets, OPERATOR deems necessary to operate and maintain the Facility pursuant to the terms of this Agreement.
- 4.4. OPERATOR shall maintain all Movable Assets in accordance with the manufacturer's recommendations and shall include the maintenance of all Movable Assets in the CMMS.
- 4.5. At the termination or cancellation of this Agreement, OPERATOR shall return to TCTA the agreed inventory of Spare Parts, in good working condition to the satisfaction of TCTA and in quantities at least equal to the Spare Parts provided to OPERATOR by TCTA on the Commencement Date (the "Spare Parts Inventory").

#### **5. EMPLOYER AUDITS AND TESTING**

- 5.1. The Employer reserves the right to perform audits on the Operator's implementation of the approved PM plan and Root Cause Analyses on any equipment failures. The Employer will communicate all findings to the Operator. Where a finding is made that the Operator has failed to carry out PM, the Operator shall be liable for 80% of the value of the replacement or repair cost for the particular equipment related to the findings of the Employer, which amount will be deducted from the Variable Performance Fee or Operations Fee.

- 5.2. From time to time, the Employer may wish to undertake specialized testing including, but not limited to vibration, thermographic and electrical analysis, instrumentation maintenance and oil and grease sampling to confirm the level of Preventative Maintenance performed by the Operator. The Operator shall provide the Employer with access to the Mechanical and Electrical Equipment to undertake such activities. The Operator shall cover the Employer's specialized testing costs if it is determined that the Equipment has not been maintained as per the Equipment Manufacturers Specifications or that Routine Maintenance has not been performed to the satisfaction of the Employer, acting reasonably.
- 5.3. The Operator shall appoint a third-party auditor to carry-out O&M audits yearly. The terms of reference for the auditor shall be agreed with the Employer prior to the appointment of the service provider. The audit report shall be issued to the Employer, and all the remedial actions shall be implemented by the Operator.

## **6. DEDUCTIONS**

- 6.1. Except when caused by an Uncontrollable Circumstance, if, at any time during the Term, the Operator fails to update and implement the CMMS, including the rolling Equipment Renewal Program within prescribed time period, or are in the opinion of the Employer materially deficient, the Employer may deduct from the Variable Performance Fee or Operations Fee the Performance Deduction as set out in the Contract Data. Such failure will also constitute an Event of Default.
- 6.2. The Employer may, in its discretion, withhold the Performance Deduction as set out in the Contract Data from the monthly payment of the Operations Fee or Variable Performance Fee if the Operator does not achieve the performance levels stated in Schedule D. The Employer shall withhold the payment for the month in which the performance was below the required level and the payment shall only be paid to the Operator in the month when the required performance standard has been achieved, following the month in which payment was withheld.

## **ANNEXURE E**

### **SAMPLING AND TESTING REQUIREMENTS**

Sampling will be done in accordance with SANS 5667 for raw water (AMD), treated water and sludge samples. The parameters will be tested in accordance with the test methods specified in SANS 241. Where a test is required that is not covered by SANS 241, then applicable SANS or ANSI test method shall be used.

The following parameters will be sampled at the frequency indicated:

### Minimum Operational and Compliance Testing:

The following laboratory tests must be conducted as indicated.

Position/ Locality on Plant	Test	Unit	Test Method	Test Frequency	
				AMD Site Lab	External Accredited Lab.
<b>AMD Feed Water</b>					
AMD feed water pipeline 1,2&3	Temperature	°C	On-site lab equipment	Daily	
	Electrical Conductivity (EC)	mS/m	On-site lab equipment	Daily	
	Total Dissolved Solids (TDS)	Mg/L	As per Standard Methods	Daily	
	pH	pH	On-site lab equipment	Daily	
	Turbidity	NTU	On-site lab equipment	Daily	
	Acidity (CaCO <sub>3</sub> )	mg/L	On-site lab equipment	Daily	
	Sulphate	mg/L	On-site lab equipment	Daily	
	Aluminium	mg/L	On-site lab equipment	Daily	
	Iron	mg/L	On-site lab equipment	Daily	
Manganese	mg/L	On-site lab equipment	Daily		
<b>Reactors</b>					
Pre-Neutralisation Tank 1,2&3	pH	pH	On-site lab equipment	Daily	
	Dissolved Oxygen	mg/L	On-site lab equipment.	Weekly	
Sludge Conditioning Tank 1,2&3	pH	pH	On-site lab equipment	Daily	
	Total Suspended Solids	mg/L	As per Standard Methods	Weekly	
	Sludge settlement test	mL/1000mL	Measure volume of sludge settled in a 1000ml measuring cylinder after 30 min.	weekly	
	pH	pH	On-site lab equipment	Daily	
Neutralisation Tanks 1,2&3	Dissolved Oxygen	mg/L	On-site lab equipment	Weekly	
	Sludge settlement test		Measure volume of sludge settled in a 1000ml measuring cylinder after 30 min.	weekly	
	Sulphate	mg/L	On-site lab equipment	weekly	
Gypsum Crystallisation (at overflow weir at exit of tank)	Sludge settlement test	mL/1000mL	Measure volume of sludge settled in a 1000ml measuring cylinder after 30 min.	weekly	
<b>Thickener</b>	Sludge density of recycled sludge	mg/L	Specific weight of recycled sludge	Daily	
	Sludge settlement test	mL/1000mL	Measure volume of sludge settled in a 1000ml measuring cylinder after 30 min.	Weekly	
	Total suspended solids test (TSS) of recycled sludge	mg/L	As per Standard Methods	Daily	

Position/ Locality on Plant	Test	Unit	Test Method	Test Frequency	
				AMD Site Lab	External Accredited Lab.
	Total suspended solids (TSS) at parabolic channel after poly dosing	mg/L	As per Standard Methods	Daily	
	Total Dissolved solids (TDS) at both thickeners overflow.	mg/L	As per Standard Methods	Daily	
<b>Treated water Tank</b>	pH	pH	On-site lab equipment	Daily	Two Weekly
	Electrical Conductivity (EC)	mS/m	On-site lab equipment	Daily	Two Weekly
	Total Dissolved Solids (TDS)	mg/L	As per Standard Methods	Daily	Two Weekly
	Turbidity	NTU		Daily	Two Weekly
	Total Suspended solids (TSS)	mg/L	As per Standard Methods	Daily	Two Weekly
	Total Dissolved Solids (TDS)	mg/L	As per Standard Methods	Daily	Two Weekly
	Sulphate	mg/L	On-site lab equipment	Daily	Two Weekly
	Aluminium	mg/L	On-site lab equipment	Daily	Two Weekly
	Iron	mg/L	On-site lab equipment	Daily	Two Weekly
	Manganese	mg/L	On-site lab equipment	Daily	Two Weekly

### Notes

1. Laboratory equipment must be used, calibrated and maintained as per manufacturer's instructions.
2. Wet laboratory tests must be conducted according to the Standard Methods for Laboratory tests
3. Dissolved Oxygen tests must be conducted at point of sampling as per manufacturer's instructions.

### Sampling

1. Samples for comparative tests between the AMD Site lab and the External accredited lab must split in two, and analysed at both labs.
2. Samples to be tested at External lab must be preserved and tested as soon as possible.
3. Sampling and date of actual analysis must be reported.

**General requirements**

1. The lab must make provision for additional tests that may be required by TCTA or his representative from time to time.
2. Lab equipment and instruments must be properly maintained and calibrated frequently as required by supplier of equipment or instrument.
3. All consumables and indicators must be kept in stock to perform the required test and must be ordered timeously to ensure a continuous test program.
4. Laboratory staff must be well trained have the necessary experience to conduct the tests described above.

**ANNEXURE F**

**OPERATING AND PROCESS CONTROL PARAMETERS**

**OPERATING AND PROCESS CONTROL PARAMETERS**

The following operating and process control parameters must be maintained to ensure correct operation of the plant with precipitation of dissolved metals and adequate reduction of sulphates through gypsum crystallisation. The Operating Parameters will be instructed on a monthly basis by Employer’s Manager, after consultation with the Plant Manager and any changes made will be recorded on a daily Operating Parameters statement.

AMD EASTERN BASIN  
TCTA-W02

**OPERATING and MAINTENANCE MANUAL**

Annexure B:  
Operational Parameters

OPERATING PARAMETERS										
Parameter	Unit	Start-up (no surge (normal))	Start-up (with surge (normal))	Normal	Recycle	Operating mode			Remarks	
						Train 1 in maintenance mode (Trains 1 & 2 operational)	Train 2 in maintenance mode (Trains 1 & 2 operational)	Train 3 in maintenance mode (Trains 1 & 2 operational)		
<b>AMD Pump</b>										
Flow rate Pump A	m <sup>3</sup> /h	Start first pump at 600 for 24 hours 1000 for 24 hours 1300 for 24 hours Monitor treated water turbidity and water quality closely and put plant in recycle mode if water is not according to specification.	Start first pump at 600 for 30 mins up to 1500. Monitor treated water turbidity and water quality closely and put plant in recycle mode if water is not according to specification.	Run pump at 1500 at normal flow rate.	0	0	1750	1750	0	
		Start second pump 30 minutes after the first pump starts 900 for 24 hours 1300 for 24 hours 1500 for 24 hours Monitor treated water turbidity and water quality closely and put plant in recycle mode if water is not according to specification.	Start second pump 30 minutes after the first pump starts 900 for 30 mins up to 1500. Monitor treated water turbidity and water quality closely and put plant in recycle mode if water is not according to specification.	Run pump at 1500 at normal flow rate.	0	0	1750	1750	0	
Flow rate Pump B	m <sup>3</sup> /h	Start first pump 900 for 24 hours 1300 for 24 hours 1500 for 24 hours Monitor treated water turbidity and water quality closely and put plant in recycle mode if water is not according to specification.	Start first pump 900 for 30 mins up to 1500. Monitor treated water turbidity and water quality closely and put plant in recycle mode if water is not according to specification.	Run pump at 1500 at normal flow rate.	0	0	1750	1750	0	
		Start second pump 30 minutes after the first pump starts 900 for 24 hours 1300 for 24 hours 1500 for 24 hours Monitor treated water turbidity and water quality closely and put plant in recycle mode if water is not according to specification.	Start second pump 30 minutes after the first pump starts 900 for 30 mins up to 1500. Monitor treated water turbidity and water quality closely and put plant in recycle mode if water is not according to specification.	Run pump at 1500 at normal flow rate.	0	0	1750	1750	0	
Flow rate Pump C	m <sup>3</sup> /h	Start first pump 900 for 24 hours 1300 for 24 hours 1500 for 24 hours Monitor treated water turbidity and water quality closely and put plant in recycle mode if water is not according to specification.	Start first pump 900 for 30 mins up to 1500. Monitor treated water turbidity and water quality closely and put plant in recycle mode if water is not according to specification.	Run pump at 1500 at normal flow rate.	0	0	1750	1750	0	
		Start second pump 30 minutes after the first pump starts 900 for 24 hours 1300 for 24 hours 1500 for 24 hours Monitor treated water turbidity and water quality closely and put plant in recycle mode if water is not according to specification.	Start second pump 30 minutes after the first pump starts 900 for 30 mins up to 1500. Monitor treated water turbidity and water quality closely and put plant in recycle mode if water is not according to specification.	Run pump at 1500 at normal flow rate.	0	0	1750	1750	0	
<b>Limestone dosing</b>										
Dosing required	Yes/No	Use Limestone when AMD feed water pH is less than 5	Use Limestone when AMD feed water pH is less than 5	Use Limestone when AMD feed water pH is less than 5	No	Use Limestone when AMD feed water pH is less than 5	Use Limestone when AMD feed water pH is less than 5	Use Limestone when AMD feed water pH is less than 5	0	No Limestone dosing required if pH is above 5.0 and pending below 5.0. Contact Recycle/Recycle Control Room immediately call 4857.
pH required in the Neutralisation Tank	pH	5.5	5.5	5.5	0.0	5.5	5.5	5.5	0	0.75-8.05
<b>Quick Lime Dosing</b>										
Sludge Conditioning dosing	Yes/No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
pH required in Sludge Conditioning Tank	pH	9.5	9.5	9.5	7.0	9.5	9.5	9.5	9.5-10.2	9.5-10.2
Neutralisation Tank	Yes/No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes

**Note:** The TCTA Operations Manager must be notified when the following changes are made or events occur:

- The AMD pumping flow rate is changed
- The plant is put on "Recycle mode"
- Any major electrical or mechanical breakdowns, accidents or spillages occur.

**ANNEXURE G**

**SURFACE AND GROUNDWATER MONITORING  
(Minimum Operational and Compliance Testing)**

**ANNEXURE H**  
**CHEMICAL SPECIFICATION**

Parameter / Property	Min/Max	TCTA Contractual Specification <sup>1</sup>	Minimum Operational Specification Required for RFQ <sup>2</sup>
		(% m/m Unless Otherwise Stated)	
Available Calcium as CaO	Min	89	85
Total Calcium as CaO	Min	92	87
Total Magnesium as MgO	Max	2	3
Silica as SiO <sub>2</sub>	Max	2	3
Manganese as Mn <sub>2</sub> O <sub>3</sub>	Max	1.2	2
Iron as Fe <sub>2</sub> O <sub>3</sub>	Max	0.5	2
Aluminium as Al <sub>2</sub> O <sub>3</sub>	Max	0.3	2
Carbon Dioxide as CO <sub>2</sub>	Max	2	2
Free Carbon as C	Max	0.01	0.2
Sulphur as SO <sub>3</sub>	Max	0.05	0.2
Phosphorous as P <sub>2</sub> O <sub>5</sub>	Max	0.01	0.2
Bulk density (kg/m <sup>3</sup> )	Aerated	800 - 900	800 - 900
	De-Aerated	1000 - 1300	1000 - 1300
Particle Size Distribution (Minimum % of Material Smaller than Stated Size)	<75 µm		70%
	<150 µm		90%
	<250 µm	100%	95%
	<600 µm		99%
	<850 µm		99.5%
	<2350 µm		100%
Free Moisture	Max		0.5%
Angle of Repose (°)	Max		10
Reactivity (R / DIN) when Produced	Min		4

**Explanatory Notes**

1. TCTA specification included for reference
2. Quicklime quality required for this RFQ

## ANNEXURE I

## INVENTORY OF LABORATORY EQUIPMENT

GROUP	ITEM	INITIAL STOCK	MIN. STOCK (3 months)	CURRENT STOCK		TOTAL	SERIAL NO.
				NEW	IN USE		
Plastic Cylinders	Graduated Cylinder - 100 mL	5	4	5	0	5	
	Graduated Cylinder - 1000 mL	12	8	3	9	12	
Plastic Jugs	Measuring jugs - 250 mL	0	4	2	2	4	
	Measuring jug - 2000 mL	0	2	1	1	2	
Glass Cylinders	Measuring Cylinder - 10 mL	0	5	5	0	5	
	Measuring Cylinder - 25 mL	0	5	3	1	4	
	Measuring Cylinder - 50 mL	0	5	3	1	4	
	Measuring Cylinder - 100 mL	7	2	4	1	5	
	Measuring Cylinder - 1000 mL	1	1	0	1	1	
Glass cylinders stoppered	Measuring Cylinder - 50 mL	9	2	2	2	4	
	Measuring Cylinder - 500 mL	2	4	0	5	5	
Glass Beakers	100 mL Beaker	2	5	5	3	8	
	250 mL Beaker	25	5	4	5	9	
	1000 mL Beaker	6	2	6	2	8	
Plastic beakers	500 mL Beaker	4	2	0	4	4	
	250 mL Beaker	4	5	3	4	7	
	100 mL Beaker	9	5	8	3	11	
Round beakers	Crystallizing Dishes	10	1	10	0	10	
Glass Pipette	1 mL Bulb Volumetric Pipette	1	0	1	0	1	
	2 ml Bulb Volumetric Pipette	1	0	1	0	1	
	50 mL Bulb Volumetric pipette	1	1	1	0	1	

GROUP	ITEM	INITIAL STOCK	MIN. STOCK (3 months)	CURRENT STOCK		TOTAL	SERIAL NO.
				NEW	IN USE		
	Eppendorf Research Pipette 1 mL	1	0	0	1	1	
Erlenmeyer Flasks	100 mL Erlenmeyer Flask	2	2	0	2	2	
	250 mL Erlenmeyer Flask	2	2	5	2	7	
	500 mL Erlenmeyer Flask	2	0	0	2	2	
Filtering flask	1000 mL Filtering flask	3	3	4	2	6	
Buchner funnel	90 mm Buchner funnel	2	1	2	1	3	
	125 mL Buchner funnel	2	2	2	0	2	
Xamis Dessicator	Dessicator	2	1	0	2	2	
Ball Flasks	Ball Flask 1000 mL	4	0	4	0	4	
	Ball Flask 500 mL	4	0	4	0	4	
	Ball Flask 100 mL	4	0	4	0	4	
Volumetric Flasks	Volumetric Flasks - 25 mL	0	3	4	1	5	
Volumetric Flasks	Volumetric Flasks - 50 mL	0	3	6	1	7	
	Volumetric Flasks - 100 mL	8	3	2	2	4	
	Volumetric Flasks - 250 mL	0	3	4	1	5	
	Volumetric Flasks - 500 mL	3	5	7	1	8	
	Volumetric Flasks - 1000 mL	4	4	5	3	8	
Funnels	Funnels - 100 mm	0	2	0	4	4	
	Funnels - 2000 mm	0	2	0	2	2	
Sample Bottles	Round Neck - 250 mL Sample Bottles	0	30	0	14	14	
	Round Neck - 500 mL Sample Bottles	0	10	0	8	8	
	Round Neck - 450 mL Sample Bottles	0	10	0	0	0	
Wash Bottles	Wash Bottles - 250 mL	0	5	4	1	5	

GROUP	ITEM	INITIAL STOCK	MIN. STOCK (3 months)	CURRENT STOCK		TOTAL	SERIAL NO.
				NEW	IN USE		
	Wash Bottles - 500 mL	0	5	2	2	4	
Cleaning Brushes	Flast Brushes	0	2	2	1	3	
	Burette Brushes	0	2	1	1	2	
	Sample Bottles Brushes	0	2	2	1	3	
Sample Carrier	Sample Bottles Carriers	0	5	1	4	5	
Lin Bins	Linbins	0	6	0	6	6	
Drip Trays	Drip Trays	0	10	2	9	11	
Drying Rack	Laboratory Drying Rack	0	1	0	1	1	
Thermometer	Red Spirits Thermometer	1	2	4	2	6	
	Digital thermometer	0	1	0	1	1	
Watch Glass	Watch Glass - 100 mL	0	20	0	14	14	
Burette	10 mL Burette Glass key stopcock	1	0	1	0	1	
	25 mL Burette Glass key Stopcock	1	0	1	0	1	
	50 mL Burette Glass key Stopcock	2	0	2	0	2	
	50 mL Dr Schilling's Burette	1	2	1	1	2	
	25 mL Hirschmann Burette	1	0	0	0	0	
	Hirschmann Burette Flask	1	0	1	1	2	
Spatula	Spoon Spatula -150 mm	0	5	2	1	3	
	Spoon Spatula -210 mm	0	5	3	0	3	
Tweezers	Tweezers	2	4	2	2	4	
Tongs	Tongs	0	2	1	1	2	
Timer	Timer	0	1	0	0	0	
Stop watch	Duran Stop watch	1	1	0	1	1	

GROUP	ITEM	INITIAL STOCK	MIN. STOCK (3 months)	CURRENT STOCK		TOTAL	SERIAL NO.
				NEW	IN USE		
Vials/cells	Sample vials - Turbidity	3	6	3	5	8	
	Matched Sample cells - set of 2	7	0	2	2	4	
	Matched Sample cells - set of 8	0	1 set of 8	0	set of 2	0	
Stirring Bars	Stirring Bars	2	10	4	2	6	
	Retrieving Rod for stirring bar	2	2	0	2	2	
Pipette	TenSette Pipette - 1 mL	0	1	1	1	2	
	TenSette Pipette tips - 1 mL	0	100	0	646	646	
	TenSette Pipette - 10 mL	0	1	1	1	2	
	TenSette Pipette tips- 10 mL	0	100	0	107	107	
Equipment	HQ11d pH meter	1	1	0	1	1	120 300 068 921
	HQ14d Conductivity meter	1	1	0	1	1	120 300 068 404
	HQ30d Meter for DO Probe	1	1	0	1	1	140 100 099 282
	HQ30d Meter for DO Probe	1	1	0	1	1	150 200 015 922
	2100 N Turbiditymeter with Power Supply	1	1	0	1	1	13120C030988
	2100 N Turbiditymeter with Power Supply	1	0	0	1	1	14010C031064
	Probe holder for Ion Selective Electrode	2	2	0	2	2	
	DR 3900 Spectrophotometer	1	1	0	1	1	1503075
	Lovibond turbidimeter	1	1	1	0	1	23/019587
Probes for HQd Meters	Portable pH Probe - PHC201	1		0	1	1	190 633 088 805
	LDO Robust Probe 5m cable	1		0	1	1	212 262 599 634
	LDO101 Probe - Dissolved Oxygen	1		0	1	1	133 266 598 011
	MTC101 Probe - ORP Redox	1		0	1	1	140 483 028 004
	Conductivity Probe - CDC 401	1		0	1	1	202 652 582 543
	Conductivity Probe - CDC 401	1		1	0	1	203 172 584 574

GROUP	ITEM	INITIAL STOCK	MIN. STOCK (3 months)	CURRENT STOCK		TOTAL	SERIAL NO.
				NEW	IN USE		
Demin Water Unit	EconoPure	1		0	1	1	
Cartridges	Pre-filters	0		0	0	0	
Pump	Vacuum Pump	1		0	1	1	167400-22-AEA252
	Diaphragm Vacuum Pump LH-95D	0		0	1	1	WP2023001
Steam bath	Steam bath	1		1	0	1	0900030314402R00
Gas Testers	Drager X-am 2500: Multi gas Tester	0		1	0	1	8316997
	Drager X-am 2500: Multi gas Tester Charger	0		1	0	1	8316639

**CENTRAL BASIN AMD PLANT****LABORATORY EQUIPMENT STOCK: 26 SEPTEMBER 2025**

GROUP	ITEM	INITIAL STOCK	MIN. STOCK (3 mnths)	CURRENT STOCK		SERIAL NO.	
				NEW	IN USE		
Pipettes	Micro Pipette - 1 mL	1		0	1	1	
	Micro Pipette tips - 1 mL	1045		1045	0	1045	
Millipore	Sterifil Aseptic System 47mm	3		0	3	3	
Stirrer	Magnetic stirrer with hotplate	1		0	1	1	L39336
Jar tester	Jar tester	1		0	1	1	214010309
Oven	Labcon 40L Digital Oven	1		0	1	1	0501191914275R00
Balances	Vibra Analytical Balance - HTR Series	1		0	1	1	111850418
	Adam Top Loading Balance (Max. - 1500g)	1		0	1	1	Ae443L415
	Adam Top Loading Balance (max. - 3000g)	1		0	1	1	Ae769730
Container	Hach Calibration Cylinder	0		0	0	0	
Conductivity	Conductivity Probe	1		0	1	1	
pH	pH Probe - Orbisint CPS11D Memosense	0		0	8	8	
	Cable CYK10 Memosens	0		3	7	10	
Turbidity	turbidity probe	3		1	3	4	
	CM442	1		0	1	1	
fumehood	ductless fumehood	0		0	1	1	
Lime shaker	Lime shaker	0		0	1	1	

**ANNEXURE J****MINIMUM STAFFING REQUIREMENTS****THE OPERATION AND MAINTENANCE OF THE AMD TREATMENT PLANT AT CENTRAL BASIN****PERSONNEL TO OPERATE THE PLANT**

The Eastern Basin AMD treatment plant is classified as Class A under the “DWS Water Services Act 1997. Regulations Relating to Compulsory National Standards for Process Controllers and Water Services Works” dated 23 October 2005.

The Operator shall ensure that Eastern Basin AMD treatment plant has the following resources as a Minimum Staffing requirement:

<b>CLASS OF WORKS:</b>			
<b>DESIGNATION</b>	<b>NO</b>	<b>Level*</b>	<b>FUNCTION</b>
Responsible Manager (Note 1) (BSc, BEng or Equivalent NQF 8)	1	S	Responsible for the overall management of the contract and will be the liaison between Employer and Operator.
Operations Manager (Note 1) (BSc, BEng or Equivalent NQF 8)	1	S	Responsible for overall operation of the Facility
Site Supervisor (BSc, BEng or Equivalent NQF 8)	1	S	Provide assistance to Operations Manager
Maintenance Manager (GMR 2.1, Note 1) (BSc, BEng or Equivalent NQF 8)	1	S	Responsible for overall maintenance of the Facility Generated power is greater than 3 000 kW and therefore required by Law
Process Engineer (BSc, BEng or Equivalent)	1	S	Responsible for the quality of the discharged treated water
Process Technician (BSc/BEng/BTech/National Diploma or Equivalent NQF 6 or higher)	1	M	Provide assistance to Process Engineer
Administrator/HR	1	M	Responsible for admin and HR matters
HSE Officer (Qualified Environmentalist) (BSc/BEng/BTech Environmental & SAMTRAC, HIRA Certificate)	1	M	Responsible for all Health, Safety and Environmental related matters on site
Process Controllers (Registered Class VI)	4	S	Shift workers providing assistance to Process Engineer
Process Controllers (Registered Class V or VI)	4	J	Shift workers providing assistance to Snr Process Controllers
Process Controllers/Shift Attendants (Registered Class V or VI)	4	M	Shift workers providing assistance to Snr Process Controllers
Laboratory Analyst (Snr) (BSc/BEng/BTech/National Diploma or Equivalent NQF 6 or higher)	1	M	Responsible for the operation of Laboratory and Testing
Laboratory Analyst (Jr)	2	J	Provide assistance to Snr Laboratory

CLASS OF WORKS:			
DESIGNATION	NO	Level*	FUNCTION
(BSc/BEng/BTech/National Diploma or Equivalent NQF 6 or higher)			Analyst
Laboratory Assistant	1	J	Provide assistance to both Laboratory Analysts
Mechanical Fitters (or suitably experienced) (Trade Test)	2	M	Responsible of mechanical work
Mechanical assistant (Trade Test)	2	J	Provide assistance to mechanical fitters
Electrician with control and MV switching (Red seal level)	2	M	Responsible for electrical work
Electrical assistants (Trade Test)	2	J	Provide assistance to the Electrician
Instrument Technician (Trade Test)	1	M	Responsible for all instrumentation work on site
General Workers	6	J	Responsible for general work onsite
<b>TOTAL</b>	<b>39</b>		

\*S = Senior, M = Middle and J = Junior

Note 1: GMR 2.1 is a requirement and any of the site-based management personnel (i.e. Responsible Manager, Operations Manager or Maintenance Manager) shall show proof of accreditation. The accreditation will be required on award.

## APPENDICIES

## **PART C4: SITE INFORMATION**

### **C4.1 LOCATION**

## **C4.2 PROJECT SITE DESCRIPTION**

**Refer to process description on Annexure B**

**D2: PRO-FORMA DOCUMENTS**

**Project Interim Report (ED105P)**

cidb PROJECT ASSESSMENT SCHEME; STANDARD FOR INDIRECT TARGETING PROJECT INTERIM REPORT To be completed for each qualifying enterprise	
Section A: Employer Information	
cidb Employer Number	<input style="width: 100%;" type="text"/>
Employer Name	<input style="width: 100%;" type="text"/>
	<input style="width: 100%;" type="text"/>
Section B: Contractor / JV Information	
cidb Contractor Registration Number of main / lead contractor	<input style="width: 100%;" type="text"/>
Name of contractor	<input style="width: 100%;" type="text"/>
cidb Contractor Registration Number of Joint Venture Partner 2	<input style="width: 100%;" type="text"/>
Name of contractor /Joint Venture	<input style="width: 100%;" type="text"/>
cidb Contractor Registration Number of Joint Venture Partner 3	<input style="width: 100%;" type="text"/>
Name of contractor /Joint Venture	<input style="width: 100%;" type="text"/>
cidb Contractor Registration Number of Joint Venture Partner 4	<input style="width: 100%;" type="text"/>
Name of contractor /Joint Venture	<input style="width: 100%;" type="text"/>

**Project Completion Report (ED101P)**

cidb PROJECT ASSESSMENT SCHEME; STANDARD FOR INDIRECT TARGETING PROJECT COMPLETION REPORT To be completed for each qualifying enterprise	
Section A: Employer Information	
cidb Employer Number	<input style="width: 100%;" type="text"/>
Employer Name	<input style="width: 100%;" type="text"/>
	<input style="width: 100%;" type="text"/>
Section B: Contractor / JV Information	
cidb Contractor Registration Number of main / lead contractor	<input style="width: 100%;" type="text"/>
Name of contractor	<input style="width: 100%;" type="text"/>
cidb Contractor Registration Number of Joint Venture Partner 2	<input style="width: 100%;" type="text"/>
Name of contractor /Joint Venture	<input style="width: 100%;" type="text"/>
cidb Contractor Registration Number of Joint Venture Partner 3	<input style="width: 100%;" type="text"/>
Name of contractor /Joint Venture	<input style="width: 100%;" type="text"/>
cidb Contractor Registration Number of Joint Venture Partner 4	<input style="width: 100%;" type="text"/>
Name of contractor /Joint Venture	<input style="width: 100%;" type="text"/>
Contact Person Title	<input style="width: 150px;" type="text"/>
Initials	<input style="width: 50px;" type="text"/>
Surname	<input style="width: 150px;" type="text"/>

**Declaration (ED104P)**

cidb PROJECT ASSESSMENT SCHEME; STANDARD FOR INDIRECT TARGETING TARGETED ENTERPRISE DECLARATION To be completed for each targeted enterprise	
<b>Section A: Employer Information</b>	
cidb Employer Number	<input type="text"/>
Employer Name	<input type="text"/> <input type="text"/>
<b>Section B: Contract Data</b>	
cidb Contract Number	<input type="text"/>
Contract Title	<input type="text"/> <input type="text"/> <input type="text"/>
Date of Practical Completion	<input type="text"/>
Contract Amount at Award(Inclusive of VAT)	
R	<input type="text"/> .00
<b>Section C: Main Contractor / JV Information</b>	
cidb Contractor Registration Number of main / lead contractor	<input type="text"/>