



NEC3 Engineering and Construction

Short Contract (ECSC3)

A contract between Eskom Holdings SOC Ltd (Reg No. 2002/015527/30)

and

for **The supply, delivery, installation, testing and commissioning of unit 4 Nickel Cadmium Batteries at Duvha Power Station**

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C1 Agreements & Contract Data

C1.1 Form of Offer and Acceptance

Offer

The Employer, identified in the Acceptance page signature block on the next page, has solicited offers to enter into a contract for the procurement of:

Supply, delivery, installation, testing and commissioning of Nickel Cadmium Batteries for Eskom Duvha Power Station Unit 4 Uninterruptible Power System

The tenderer, identified in the signature block below, having examined the documents listed in the Tender Data and addenda thereto as listed in the Tender Schedules, and by submitting this Offer has accepted the Conditions of Tender.

By the representative of the tenderer, deemed to be duly authorised, signing this part of this Form of Offer and Acceptance the tenderer offers to perform all of the obligations and liabilities of the Contractor under the Contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the conditions of contract identified in the Contract Data.

The offered total of the Prices exclusive of VAT is	R[•]
Value Added Tax @ 15% is	R[•]
The offered total of the Prices inclusive of VAT is	R[•]
(in words) [•]	

This Offer may be accepted by the Employer by signing the form of Acceptance overleaf and returning one copy of this document including the Schedule of Deviations (if any) to the tenderer before the end of the period of validity stated in the Tender Data, or other period as agreed, whereupon the tenderer becomes the party named as the Contractor in the conditions of contract identified in the Contract Data.

Signature(s)

.....

Name(s)

.....

Capacity

.....
(Insert name and address of organisation)

For the tenderer:

.....
(Insert name and address of organisation)

Name & signature of witness

Date

Tenderer's CIDB registration number:

.....

Acceptance

By signing this part of this Form of Offer and Acceptance, the Employer identified below accepts the tenderer's Offer. In consideration thereof, the Employer shall pay the Contractor the amount due in accordance with the conditions of contract identified in the Contract Data. Acceptance of the tenderer's Offer shall form an Agreement between the Employer and the tenderer upon the terms and conditions contained in this Agreement and in the Contract that is the subject of this Agreement.

The terms of the Contract, are contained in:

- Part 1 Agreements and Contract Data, (which includes this Form of Offer and Acceptance)
- Part 2 Pricing Data
- Part 3 Scope of Work: Works Information
- Part 4 Site Information

and drawings and documents (or parts thereof), which may be incorporated by reference into the above listed Parts.

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Tender Schedules as well as any changes to the terms of the Offer agreed by the tenderer and the Employer during this process of Offer and Acceptance, are contained in the Schedule of Deviations attached to and forming part of this Form of Offer and Acceptance. No amendments to or deviations from said documents are valid unless contained in this Schedule, which must be signed by the duly authorised representative(s) for both parties.

The tenderer shall within one week of receiving a completed copy of this Agreement, including the Schedule of Deviations (if any), contact the Employer's agent (whose details are given in the Contract Data) to arrange the delivery of any securities, bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the conditions of contract identified in the Contract Data at, or just after, the date this Agreement comes into effect. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this Agreement.

Notwithstanding anything contained herein, this Agreement comes into effect on the date when the tenderer receives one fully completed and signed copy of this document, including the Schedule of Deviations (if any) together with all the terms of the contract as listed above.

Signature(s)

.....

Name(s)

.....

Capacity

.....

For the Employer **Eskom Holdings SOC Ltd**

.....

Name &
signature of
witness

Date

.....

Note: If a tenderer wishes to submit alternative tender offers, further copies of this document may be used for that purpose, duly endorsed, 'Alternative Tender No. _____'

Schedule of Deviations

Note:

1. To be completed by the Employer prior to award of contract. This part of the Offer & Acceptance would not be required if the contract has been developed by negotiation between the Parties and is not the result of a process of competitive tendering.
2. The extent of deviations from the tender documents issued by the Employer prior to the tender closing date is limited to those permitted in terms of the Conditions of Tender.
3. A tenderer's covering letter must not be included in the final contract document. Should any matter in such letter, which constitutes a deviation as aforesaid be the subject of agreement reached during the process of Offer and Acceptance, the outcome of such agreement shall be recorded here and the final draft of the contract documents shall be revised to incorporate the effect of it.

No.	Subject	Details
1	[•]	[•]
2	[•]	[•]
3	[•]	[•]
4	[•]	[•]
5	[•]	[•]
6	[•]	[•]
7	[•]	[•]

By the duly authorised representatives signing this Schedule of Deviations below, the Employer and the tenderer agree to and accept this Schedule of Deviations as the only deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Tender Schedules, as well as any confirmation, clarification or changes to the terms of the Offer agreed by the tenderer and the Employer during this process of Offer and Acceptance.

It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue of the tender documents and the receipt by the tenderer of a completed signed copy of this Form shall have any meaning or effect in the contract between the parties arising from this Agreement.

For the tenderer:

For the Employer

Signature

.....

Name

.....

Capacity

.....

On behalf of *(Insert name and address of organisation)*

(Insert name and address of organisation)

Name & signature of witness

.....

Date

.....

C1.2 Contract Data

Data provided by the *Employer*

Clause	Statement	Data
General		
10.1	The <i>Employer</i> is (Name):	Eskom Holdings SOC Ltd (reg no: 2002/015527/30), a state owned company incorporated in terms of the company laws of the Republic of South Africa
	Address	Registered office at Megawatt Park, Maxwell Drive, Sandton, Johannesburg
10.1 & 14.4	The <i>Employer's</i> representative to whom the <i>Employer</i> in terms of clause 14.4 delegates his actions ¹ is:	Nakedi Satekge
	Address	Eskom Duvha Power Station
	Tel No.	TBA
	Fax No.	N/A
	E-mail address	N/A
11.2(11)	The <i>works</i> are	The supply, delivery, installation, testing and commissioning of unit 4 Nickel Cadmium Batteries at Duvha Power Station
11.2(13)	The Works Information is in	the document called 'Works Information' in Part 3 of this contract.
11.2(12)	The Site Information is in	the document called 'Site Information' in Part 4 of this contract.
11.2(12)	The <i>site</i> is	Eskom Duvha Power Station
30.1	The <i>starting date</i> is.	01 June 2021
11.2(2)	The <i>completion date</i> is.	31 October 2021
13.2	The <i>period for reply</i> is	5 working days
40	The <i>defects date</i> is	52 weeks after Completion
41.3	The <i>defect correction period</i> is	1 week
50.1	The <i>assessment day</i> is the	25th of each month.
50.5	The <i>delay damages</i> are	0.5% of the total of the prices per purchase order per complete working day of delay. The total delay shall not exceed 15% of the purchase order.
50.6	The retention is	5% of the total of the prices per purchase order
51.2	The interest rate on late payment is	0.5% of the total of the prices per purchase order per complete week delay

¹ Except those actions which can only be done by the *Employer* as a Party to the contract.

80.1	The <i>Contractor</i> is not liable to the <i>Employer</i> for loss of or damage to the <i>Employer's</i> property in excess of	the amount of the deductibles relevant to the event described in the insurance policy format, which policy is available on request from Eskom Insurance Management Services
	Does the United Kingdom Housing Grants, Construction and Regeneration Act (1996) apply?	No
93.1	The <i>Adjudicator</i> is	the person selected from the ICE-SA Division (or its successor body) of the South African Institution of Civil Engineering Panel of Adjudicators by the Party intending to refer a dispute to him. (see www.ice-sa.org.za). If the Parties do not agree on an Adjudicator the Adjudicator will be appointed by the Arbitration Foundation of Southern Africa (AFSA).
93.2(2)	The <i>Adjudicator nominating body</i> is:	the Chairman of ICE-SA a joint Division of the South African Institution of Civil Engineering and the London Institution of Civil Engineers. (See www.ice-sa.org.za) or its successor body
93.4	The <i>tribunal</i> is:	arbitration.
	The <i>arbitration procedure</i> is	the latest edition of Rules for the Conduct of Arbitrations published by The Association of Arbitrators (Southern Africa) or its successor body.
	The place where arbitration is to be held is	South Africa
	The person or organisation who will choose an arbitrator	
	- if the Parties cannot agree a choice or	the Chairman for the time being or his nominee
	- if the arbitration procedure does not state who selects an arbitrator, is	of the Association of Arbitrators (Southern Africa) or its successor body.

The *conditions of contract* are the NEC3 Engineering and Construction Short Contract (April 2013). The following additional conditions Z1 to Z11 which always apply:

Z1 Cession delegation and assignment

- Z1.1 The *Contractor* does not cede, delegate or assign any of its rights or obligations to any person without the written consent of the *Employer*.
- Z1.2 Notwithstanding the above, the *Employer* may on written notice to the *Contractor* cede and delegate its rights and obligations under this contract to any of its subsidiaries or any of its present divisions or operations which may be converted into separate legal entities as a result of the restructuring of the Electricity Supply Industry.

Z2 Change of Broad Based Black Economic Empowerment (B-BBEE) status

- Z2.1 Where a change in the *Contractor's* legal status, ownership or any other change to his business composition or business dealings results in a change to the *Contractor's* B-BBEE status, the *Contractor* notifies the *Employer* within seven days of the change.

- Z2.2 The *Contractor* is required to submit an updated verification certificate and necessary supporting documentation confirming the change in his B-BBEE status to the *Employer* within thirty days of the notification or as otherwise instructed by the *Employer*.
- Z2.3 Where, as a result, the *Contractor's* B-BBEE status has decreased since the *starting date* the *Employer* may either re-negotiate this contract or alternatively, terminate the *Contractor's* obligation to Provide the Works.
- Z2.4 Failure by the *Contractor* to notify the *Employer* of a change in its B-BBEE status may constitute a reason for termination. If the *Employer* terminates in terms of this clause, the procedures on termination are those stated in Clause 91.1 and the amount due on termination includes amounts listed in Clause 92.1 less a deduction of the forecast additional cost to the *Employer* of completing the *works*.

Z3 Confidentiality

- Z3.1 The *Contractor* does not disclose or make any information arising from or in connection with this contract available to others except where required by this contract. This undertaking does not, however, apply to information which at the time of disclosure or thereafter, without default on the part of the *Contractor*, enters the public domain or to information which was already in the possession of the *Contractor* at the time of disclosure (evidenced by written records in existence at that time). Should the *Contractor* disclose information to others where required by this contract the *Contractor* ensures that the provisions of this clause are complied with by the recipient.
- Z3.2 If the *Contractor* is uncertain about whether any such information is confidential, it is to be regarded as such until notified otherwise by the *Employer*.
- Z3.3 In the event that the *Contractor* is, at any time, required by law to disclose any such information which is required to be kept confidential, the *Contractor*, to the extent permitted by law prior to disclosure, notifies the *Employer* so that an appropriate protection order and/or any other action can be taken if possible, prior to any disclosure. In the event that such protective order is not, or cannot, be obtained, then the *Contractor* may disclose that portion of the information which it is required to be disclosed by law and uses reasonable efforts to obtain assurances that confidential treatment will be afforded to the information so disclosed.
- Z3.4 The taking of images (whether photographs, video footage or otherwise) of the *works* or any portion thereof, in the course of Providing the Works and after Completion, requires the prior written consent of the *Employer*. All rights in and to all such images vests exclusively in the *Employer*.
- Z3.5 The *Contractor* ensures that all his subcontractors abide by the undertakings in this clause.

Z4 Waiver and estoppel: Add to clause 12.2:

- Z4.1 Any extension, concession, waiver or relaxation of any action stated in this contract by the Parties or their delegates or the *Adjudicator* does not constitute a waiver of rights, and does not give rise to an estoppel unless the Parties agree otherwise and confirm such agreement in writing.

Z5 Health, safety and the environment

- Z5.1 The *Contractor* undertakes to take all reasonable precautions to maintain the health and safety of persons in and about the execution of the *works*. Without limitation the *Contractor*:
- accepts that the *Employer* may appoint him as the "Principal Contractor" (as defined and provided for under the Construction Regulations 2014 (promulgated under the Occupational Health & Safety Act 85 of 1993) ("the Construction Regulations") for the Site;

- warrants that the total of the Prices as at the Contract Date includes a sufficient amount for proper compliance with the Construction Regulations, all applicable health & safety laws and regulations and the health and safety rules, guidelines and procedures provided for in this contract and generally for the proper maintenance of health & safety in and about the execution of *works*; and
- undertakes, in and about the execution of the *works*, to comply with the Construction Regulations and with all applicable health & safety laws and regulations and rules, guidelines and procedures otherwise provided for under this contract and ensures that his Subcontractors, employees and others under the *Contractor's* direction and control, likewise observe and comply with the foregoing.

Z5.2 The *Contractor*, in and about the execution of the *works*, complies with all applicable environmental laws and regulations and rules, guidelines and procedures otherwise provided for under this contract and ensures that his subcontractors, employees and others under the *Contractor's* direction and control, likewise observe and comply with the foregoing.

Z6 Provision of a Tax Invoice and interest. Add to clause 50

Z6.1 The *Contractor* provides the *Employer* with a tax invoice in accordance with the *Employer's* procedures stated in the Works Information, showing the correctly assessed amount due for payment.

Z6.2 If the *Contractor* does not provide a tax invoice in the form and by the time required by this contract, the time by when the *Employer* is to make a payment is extended by a period equal in time to the delayed submission of the correct tax invoice. Interest due by the *Employer* in terms of clause 51.2 is then calculated from the delayed date by when payment is to be made.

Z6.3 The *Contractor* is required to comply with the requirements of the Value Added Tax Act, no 89 of 1991 (as amended) and to include the *Employer's* VAT number 4740101508 on each invoice he submits for payment.

Z7 Notifying compensation events

Z7.1 Delete from the last sentence in clause 61.1, "unless the event arises from an instruction of the *Employer*."

Z8 *Employer's* limitation of liability; Add to clause 80.1

Z8.1 The *Employer* liability to the *Contractor* for the *Contractor's* indirect or consequential loss is limited to R0.00 (zero Rand).

Z9 Termination: Add to clause 90.2, after the words "or its equivalent":

Z9.1 or had a business rescue order granted against it.

Z10 Addition to Clause 50.5

Z10.1 If the amount due for the *Contractor's* payment of *delay damages* reaches the limits stated in this Contract Data (if any), the *Employer* may terminate the *Contractor's* obligation to Provide the Works.

If the *Employer* terminates in terms of this clause, the procedures on termination are those stated in Clause 91.1 and the amount due on termination includes amounts listed in Clause 92.1 less a deduction of the forecast additional cost to the *Employer* of completing the *works*.

Z11 Ethics

For the purposes of this Z-clause, the following definitions apply:

Affected Party means, as the context requires, any party, irrespective of whether it is the *Contractor* or a third party, such party's employees, agents, or Subconsultants or Subcontractor's employees, or any one or more of all of these parties' relatives or friends,

Coercive Action means to harm or threaten to harm, directly or indirectly, an Affected Party or the property of an Affected Party, or to otherwise influence or attempt to influence an Affected Party to act unlawfully or illegally,

Collusive Action means where two or more parties co-operate to achieve an unlawful or illegal purpose, including to influence an Affected Party to act unlawfully or illegally,

Committing Party means, as the context requires, the *Contractor*, or any member thereof in the case of a joint venture, or its employees, agents, or Subcontractors or the Subcontractor's employees,

Corrupt Action means the offering, giving, taking, or soliciting, directly or indirectly, of a good or service to unlawfully or illegally influence the actions of an Affected Party,

Fraudulent Action means any unlawfully or illegally intentional act or omission that misleads, or attempts to mislead, an Affected Party, in order to obtain a financial or other benefit or to avoid an obligation or incurring an obligation,

Obstructive Action means a Committing Party unlawfully or illegally destroying, falsifying, altering or concealing information or making false statements to materially impede an investigation into allegations of Prohibited Action, and

Prohibited Action means any one or more of a Coercive Action, Collusive Action Corrupt Action, Fraudulent Action or Obstructive Action.

Z11.1 A Committing Party may not take any Prohibited Action during the course of the procurement of this contract or in execution thereof.

Z11.2 The *Employer* may terminate the *Contractor's* obligation to Provide the Services if a Committing Party has taken such Prohibited Action and the *Contractor* did not take timely and appropriate action to prevent or remedy the situation, without limiting any other rights or remedies the *Employer* has. It is not required that the Committing Party had to have been found guilty, in court or in any other similar process, of such Prohibited Action before the *Employer* can terminate the *Contractor's* obligation to Provide the Services for this reason.

Z11.3 If the *Employer* terminates the *Contractor's* obligation to Provide the Services for this reason, the amounts due on termination are those intended in core clauses 92.1 and 92.2.

Z11.4 A Committing Party co-operates fully with any investigation pursuant to alleged Prohibited Action. Where the *Employer* does not have a contractual bond with the Committing Party, the *Contractor* ensures that the Committing Party co-operates fully with an investigation.

Z12 Insurance

Z_12.1 Replace core clause 82 with the following:

Insurance cover 82

82.1 When requested by a Party, the other Party provides certificates from his insurer or broker stating that the insurances required by this contract are in force.

82.2 The *Contractor* provides the insurances stated in the Insurance Table A, from the

starting date until the earlier of Completion and the date of the termination certificate.

INSURANCE TABLE A

Insurance against	Minimum amount of cover or minimum limit of indemnity	Cover provided until
Loss of or damage to the works	The replacement cost where not covered by the <i>Employer's</i> insurance The <i>Employer's</i> policy deductible as at contract date, where covered by the <i>Employer's</i> insurance	The <i>Employer's</i> certificate of Completion has been issued
Loss of or damage to Equipment, Plant and Materials	The replacement cost where not covered by the <i>Employer's</i> insurance The <i>Employer's</i> policy deductible as at contract date, where covered by the <i>Employer's</i> insurance	The Defects Certificate has been issued
The <i>Contractor's</i> liability for loss of or damage to property (except the works, Plant and Materials and Equipment) and for bodily injury to or death of a person (not an employee of the <i>Contractor</i>) arising from or in connection with the <i>Contractor's</i> Providing the Works	<p><u>Loss of or damage to property</u> <u><i>Employer's</i> property</u> The replacement cost where not covered by the <i>Employer's</i> insurance The <i>Employer's</i> policy deductible as at contract date where covered by the <i>Employer's</i> insurance</p> <p><u>Other property</u> The replacement cost</p> <p><u>Bodily injury to or death of a person</u> The amount required by the applicable law</p>	
Liability for death of or bodily	The amount	

injury to employees of the Contractor arising out of and in the course of their employment in connection with this contract	required by the applicable law	
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82.3 The Employer provides the insurances as stated in the Insurance Table B

INSURANCE TABLE B

Insurance against or name of policy	Minimum amount of cover or mini of indemnity
Assets All Risk	Per the insurance policy document
Contract Works insurance	Per the insurance policy document
Environmental Liability	Per the insurance policy document
General and Public Liability	Per the insurance policy document
Transportation (Marine)	Per the insurance policy document
Motor Fleet and Mobile Plant	Per the insurance policy document
Terrorism	Per the insurance policy document
Cyber Liability	Per the insurance policy document
Nuclear Material Damage and Business Interruption	Per the insurance policy document
Nuclear Material Damage Terrorism	Per the insurance policy document

Z14 Asbestos

For the purposes of this Z-clause, the following definitions apply:

- AAIA** means approved asbestos inspection authority.
- ACM** means asbestos containing materials.
- AL** means action level, i.e. a level of 50% of the OEL, i.e. 0.1 regulated asbestos fibres per ml of air measured over a 4 hour period. The value at which proactive actions is required in order to control asbestos exposure to prevent exceeding the OEL.
- Ambient Air** means breathable air in area of work with specific reference to breathing zone, which is defined to be a virtual area within a radius of approximately 30cm from the nose inlet.
- Compliance Monitoring** means compliance sampling used to assess whether or not the personal exposure of workers to regulated asbestos fibres is in compliance with the Standard's requirements for safe processing, handling, storing, disposal and phase-out of asbestos and asbestos containing material, equipment and articles.
- OEL** means occupational exposure limit.

Parallel Measurements means measurements performed in parallel, yet separately, to existing measurements to verify validity of results.

Safe Levels means airborne asbestos exposure levels conforming to the Standard's requirements for safe processing, handling, storing, disposal and phase-out of asbestos and asbestos containing material, equipment and articles.

Standard means the *Employer's* Asbestos Standard 32-303: Requirements for Safe Processing, Handling, Storing, Disposal and Phase-out of Asbestos and Asbestos Containing Material, Equipment and Articles.

SANAS means the South African National Accreditation System.

TWA means the average exposure, within a given workplace, to airborne asbestos fibres, normalized to the baseline of a 4 hour continuous period, also applicable to short term exposures, i.e. 10-minute TWA.

Z14.1 The *Employer* ensures that the Ambient Air in the area where the *Contractor* will Provide the Services conforms to the acceptable prescribed South African standard for asbestos, as per the regulations published in GNR 155 of 10 February 2002, under the Occupational Health and Safety Act, 1993 (Act 85 of 1993) ("Asbestos Regulations"). The OEL for asbestos is 0.2 regulated asbestos fibres per millilitre of air as a 4-hour TWA, averaged over any continuous period of four hours, and the short term exposure limit of 0.6 regulated asbestos fibres per millilitre of air as a 10-minute TWA, averaged over any 10 minutes, measured in accordance with HSG248 and monitored according to HSG173 and OESSM.

Z14.2 Upon written request by the *Contractor*, the *Employer* certifies that these conditions prevail. All measurements and reporting are effected by an independent, competent, and certified occupational hygiene inspection body, i.e. a SANAS accredited and Department of Employment and Labour approved AAIA. The *Contractor* may perform Parallel Measurements and related control measures at the *Contractor's* expense. For the purposes of compliance the results generated from Parallel Measurements are evaluated only against South African statutory limits as detailed in clause Z14.1. Control measures conform to the requirements stipulated in the AAIA-approved asbestos work plan.

Z14.3 The *Employer* manages asbestos and ACM according to the Standard.

Z14.4 In the event that any asbestos is identified while Providing the Services, a risk assessment is conducted and if so required, with reference to possible exposure to an airborne concentration of above the AL for asbestos, immediate control measures are implemented and relevant air monitoring conducted in order to declare the area safe.

Z14.5 The *Contractor's* personnel are entitled to stop working and leave the contaminated area forthwith until such time that the area of concern is declared safe by either Compliance Monitoring or an AAIA approved control measure intervention, for example, per the emergency asbestos work plan, if applicable.

Z14.6 The *Contractor* continues to Provide the Services, without additional control measures presented, on presentation of Safe Levels. The contractually agreed dates to Provide the Services, including the Completion Date, are adjusted accordingly. The contractually agreed dates are extended by the notification periods required by regulations 3 and 21 of the Asbestos Regulations, 2001.

Z14.7 Any removal and disposal of asbestos, asbestos containing materials and waste, is done by a registered asbestos contractor, instructed by the *Employer* at the *Employer's* expense, and conducted in line with South African legislation.

Data provided by the Contractor (the Contractor's Offer)

The tendering contractor is advised to read both the NEC3 Engineering and Construction Short Contract (April 2013) and the relevant parts of its Guidance Notes (ECSC3-GN)² in order to understand the implications of this Data which the tenderer is required to complete. An example of the completed Data is provided on page 31 of the ECSC3 April 2013 Guidance Notes.

Completion of the data in full is essential to create a complete contract.

10.1	The <i>Contractor</i> is (Name):	[•]
	Address	[•]
	Tel No.	[•]
	Fax No.	[•]
	E-mail address	[•]
63.2	The percentage for overheads and profit added to the Defined Cost for people is	[•]%
63.2	The percentage for overheads and profit added to other Defined Cost is	[•]%
11.2(9)	The Price List is in	the document called 'Price List' in Part 2 of this contract.
11.2(10)	The offered total of the Prices is [Enter the total of the Prices from the Price List]:	[•] excluding VAT [in words] [•] excluding VAT

² Available from Engineering Contract Strategies Tel 011 803 3008, Fax 086 539 1902 or www.ecs.co.za.

C2 Pricing Data

C2.1 Pricing assumptions

Entries in the first four columns in the Price List are made either by the *Employer* or the tendering contractor

If the *Contractor* is to be paid an amount for the item which is not adjusted if the quantity of work in the item changes, the tenderer enters the amount in the Price column only; the Unit, Quantity and Rate columns being left blank.

If the *Contractor* is to be paid an amount for the item of work which is the rate for the work multiplied by the quantity completed, the tenderer enters the rate which is then multiplied by the expected quantity to produce the Price, which is also entered.

All Prices are to be shown excluding VAT unless instructed otherwise by the *Employer* in Tender Data or in an instruction the *Employer* has given before the tenderer enters his Prices.

If there is insufficient space in the Price List which follows, state in which document the Price List is contained.

C3: Scope of Work

C3.1 Works Information

The *Contractor's* scope includes supply, delivery, installation and commissioning of Nickel Cadmium Batteries, battery cabinets and all related accessories in compliance with 240-56360086 - Stationary Vented Nickel Cadmium Batteries Standard.

3.1.1. Description of the works

The *Contractor* supplies, delivers, installs, tests and commissions two (2) sets of Nickel Cadmium Batteries in the electrical equipment room in compliance with 240-56360086 - Stationary Vented Nickel Cadmium Batteries Standard.

The batteries to be 890Ah @ 5hr rate and consist of 178 cells each with nominal voltage of 1.20V, in a cabinet.

Eight (8) cabinets are required to house 23 cells per set of battery. The dimension of each cabinet to be 1250mm x 650mm x 1905mm (L x W x H) as per the Drawing and Schedule A&B listed in section 3.1.2 of this document. Cabinets to be installed in series to form one set of a battery.

Each battery also need to be functioning and acceptable, it is the *Contractor's* responsibility to conduct an inspection and test (QCP to be compiled, accepted and applied) before delivery on site, in the presence of the *Employer's* technical and quality representatives.

Upon commissioning the battery bank, the UPS supplier and Battery supplier shall confirm in writing (as part of handover documentation pack) that the correct settings as recommended by the battery original equipment manufacturer (OEM) is applied.

The *Contractor* remains liable to hand over a complete functioning batteries for the mentioned areas as per the requirements of this scope and in compliance with the standards listed in section 2.2 of this document.

The *Contractor* submits equipment data sheet for batteries to the *Employer* for acceptance before installation. It is the *Contractor's* responsibility to confirm that equipment provided for the installation is accepted (signed) by the *Employer* prior to construction or installation.

The *Contractor* provides all tools, equipment and personnel required to execute and implement the *Contractor's* responsibilities detailed in this document.

The *Contractor* remains liable for all works conducted as per the requirements of this document.

The *Contractor* submits a detailed Method Statement and Quality Control Plan (QCP) to the *Employer* in two weeks prior commencing of work, for review and acceptance.

Any discrepancy or ambiguity between the *Employer's* specification or scope of works is immediately brought to the attention of the *Employer* for clarification.

The *Contractor* submits batteries test reports as part of a handover to the *Employer* for his record keeping.

3.1.2. Drawings

- 0.57/57419 - Duvha Power Station Units UPS Nickel Cadmium Battery Cabinet
- 382-PRJ-1-EBBB-D00139-9 - Schedule A&B

3.1.3 Specifications

Technical Specifications:

- 240-109607450 - Plant Identification Work Instruction
- 240-86973501 - Engineering Drawing Standard – Common Requirements
- 240-48929484 - Verification and Validation Guideline
- 240-10960732 - Eskom Plant Abbreviation Standard
- 240-76992014 - Technical Document and Record Management Work Instruction
- 474-58 (Rev1) - Document and Records Management
- 240-48197042 - Procedure for the Management of Technology Obsolescence
- 240-44271204 - Process Control Manual for Managing Engineering Delivery
- 240-56356396 - Earthing and Lighting Protection
- 240-86973501 - Engineering Drawing Standard
- 240-56227443 - Requirements for Control and Power Cables for Power Station Standard
- 240-56227923 - Quality Requirements for Stationary Vented Nickel Cadmium and Lead Acid Batteries for Power Stations Specification
- 240-56360086 - Stationary Vented Nickel Cadmium Batteries Standard
- 32-245 - Eskom Waste Management Standard
- 32-727 - Eskom Safety, Health, Environment and Quality (SHEQ) Policy
- 240-89797258 The Safe Handling, Transportation and Disposal of Cells, Batteries and Electrolyte
- 240-87264294 Ohmic Testing of Battery Connections
- 240-95679758 Nickel Cadmium Battery Commissioning Sheets

- **Health and Safety Requirements:** Occupational Health and Safety Act no. 85 of 1993 and its Regulations (OHS Act)
- SHE Requirements contained in the SHE Specifications for Contractors.
- Eskom SHEQ Policy, Standards, Procedures, Guidelines, Specifications and Regulations
- Eskom Safety, Health, Environmental and Quality Policy: 32-727 latest revision
- Eskom Life-Saving Rule: 240-62196227 latest revision
- Eskom Procedure on Smoking: 32-36 latest revision
- E&OHS Incidents Management Procedure (32-95) latest revision
- Eskom Fire Risk Management (32-124) latest revision
- Eskom Duvha Power Station Waste Management Procedure: ENVP005
- Duvha Refurbishment Project Outage Work 240-888489
- Eskom Lifesaving Rules, Directive: 32-421
- Implementation of Occupational Hygiene management programme, Standard 240-42262670
- National Environmental Management Act 107 of 1998
- National Environmental Management: Waste Act 59 of 2008

Quality Assurance Requirements:

- ISO 9001
- 240-105658000 Eskom's Quality Management specification
- 240-81256435 Non-conformance procedure

3.1.4 Constraints on how the *Contractor* Provides the Works

- The *Contractor* adheres to all terms and conditions as stated in the contract.
- The *Contractor* complies with all Eskom SHEQ Policy, Standards, Procedures, Guidelines, Specifications and Regulations as listed above and as attached in this Works Information.
- The *Contractor* makes available on site all goods supplied in terms of this contract within 4 to 8 weeks of the *Project Manager* instruction. The *Project Manager* shall specify the delivery date.

3.1.5 Invoicing and payment

In terms of core clause 50 the *Contractor* assesses the amount due and applies to the *Employer* for payment. The *Contractor* applies for payment with a tax invoice addressed to the *Employer* as follows:

The *Contractor* includes the following information on each tax invoice:

- Name and address of the *Contractor*
- The contract number and title;
- *Contractor's* VAT registration number;
- The *Employer's* VAT registration number 4740101508;
- The total Price for Work Done to Date which the *Contractor* has completed;
- Other amounts to be paid to the *Contractor*;
- Less amounts to be paid by or retained from the *Contractor*;
- The change in the amount due since the previous payment being the invoiced amount - excluding VAT, the VAT and including VAT;
- (add other as required)

The *Contractor* attaches the detail assessment of the amount due to each tax invoice showing the Price for Work Done to Date for each item in the Price List for work which he has completed.

All invoices in PDF format shall be emailed to an Eskom email address (see email addresses below):

- Email addresses for invoice submission:
 - All invoices: **invoicessgrcapitalOTH@eskom.co.za**
 - The *Project Manager* shall be copied when submitting invoices.
- All queries and follow up on invoice payments should be made by contacting the FSS Contact Centre:
 - Tel: 011 800 5060 or e-mail: fss@eskom.co.za
- For Foreign invoices, the *Contractor* is required to physically deliver hard copies of original documents to the *Project Manager* even though the *Contractor* has e-mailed those invoices.
- The *Contractor* ensures compliance with the tax Requirement for submitting invoices electronically.
- Electronic invoicing does not guarantee payment but ensures visibility of all invoices and ensures that no invoices get lost. If the Goods Receipt (GR) is not done the invoice will be parked and the system will automatically send an e-mail to the *Project Manager* to do the goods receipt. This is also tracked by the *Employer* through the parked invoice report.
- The *Contractor* can request a parked invoice report from the Finance Shared Services (FSS) Contact Centre which can then be followed up and corrected. You are welcome to forward the details of invoices corrected to the FSS Contact Centre.

3.1.6. BBEE and preferencing scheme

The Contractor complies with and fulfils the Contractor's obligations in respect of the Accelerated and Shared Growth Initiative - South Africa in accordance with and as provided for in the Contractor's SD&L Compliance Schedule.

This works/service is a non-designated sector and therefore no local production threshold is applicable to qualify for further evaluation. Tenderers will also be encouraged to utilise local and local to site resources.

BBBEE and preferencing scheme

The Contractor is expected to maintain or improve its' B-BBEE rating for the duration of the contract. Should the rating be change negatively, the Contractor would be expected to rectify that within 6-months of being made aware of negative change.

The Contractor is expected to submit a valid B-BBEE Verification Certificate from a SANAS accredited Verification Agency each year. Failure to submit such a Certificate may be regarded as the breach of the contract by the Employer.

3.1.7 Facilities to be provided by the Contractor

- It is not required for the Contractor to establish site offices for the for any part duration of the contract and execution of the works.
- The contractor provides accommodation and transport for all his employees costs which shall be included in the Prices.
- Any electrical Equipment, or appliances, used by the Contractor conforms to the applicable OHS Act safety standards and is maintained in a safe and proper working condition. The Project Manager has the right to stop the Contractor's use of any electrical Equipment, or appliance, which, in the opinion of Project Manager, does not conform to the foregoing.
- Employer may assist the Contractor with the off-loading of equipment, plant and material but the responsibility for off-loading remains with the Contractor.
- Any special tools and equipment to be used on site for the execution of the works is the responsibility of the Contractor.
- The *Contractor* provides First Aid service to his employees and Sub-Contractors. In the case of severe or serious injury, the *Employer's* Medical Centre and facilities may be available during normal working hours. The *Employer* recovers the costs incurred, in the use of the above *Employer's* facilities, from the *Contractor*.

3.1.8. Health and Safety Risk Management

General Health and Safety

The *Contractor* to comply but not limited to:

- 1) Occupational Health and Safety Act no. 85 of 1993 and its Regulations (OHS Act),
- 2) Safety, Health and Environmental Requirements contained in the SHE Specifications for Contractors, (latest revision) as attached in this Works Information.
- 3) Eskom SHEQ Policy, Standards, Procedures, Guidelines, Specifications and Regulations as listed below and are attached in this Works Information.
 - i. Eskom Safety, Health, Environmental and Quality Policy: 32-727
 - ii. Eskom Lifesaving Rules, Directive: 32-421
 - iii. Eskom Procedure on Smoking: 32-36
 - iv. Eskom Incident Management Procedure 32-95 (latest revision)
 - v. Implementation of Occupational Hygiene management programme, Standard 240-42262670

The *Contractor* requests all applicable Eskom procedures & requirements.

The *Contractor* ensures safety awareness at all times through continuous training.

The *Contractor*, at all times is responsible for the supervision of his employees, agents, Sub-Contractors and takes full responsibility and accountability for ensuring they are competent, compliant and aware of the legal requirements and other requirements and execute the *Works* accordingly.

The *Contractor* ensures that all statutory appointments and appointments required by any Eskom Regulations are made in writing and that all appointees fully understand their responsibilities and are trained and competent to execute their duties.

The *Employer*, or any person appointed by the *Employer*, may, at any stage during the term of contract:

- 1) conduct health and safety audits by a competent person regarding all aspects of compliance with the SHEQ Requirements, at any off-site place of work, or the site establishment of the *Contractor*,
- 2) Refuse any employee, Sub-Contractor or agent of the *Contractor* access to the premises if such person has been found to commit an unsafe act or any unsafe working practice or is found not to be competent or authorised.

Issue the *Contractor* with a stop order should the *Employer* become aware of any unsafe working practice or condition or any non-compliance.

The *Contractor* immediately reports any incidents, disabling injury, near miss, first aid incident as well as any threat to health or safety of which it becomes aware at the *Works* or on the Site to the *Project Manager*.

The *Contractor* agrees that the *Employer* is relieved of any and all of its responsibilities and liabilities in terms of Occupational Health and Safety Act no 85 of 1993 in respect of any acts or omissions of the *Contractor*,

SUPPLY, DELIVERY, INSTALLATION, TESTING AND COMMISSIONING OF NICKEL CADMIUM BATTERIES FOR ESKOM DUVHA POWER STATION UNIT 4 UNINTERRUPTIBLE POWER SYSTEM and the *Contractor's* employees, agents or *Sub-Contractors*, to the extent permitted by the Occupational Health and Safety Act no 85 of 1993.

The Principal Contractor is an Employer in its own right, and therefore is required to comply with all regulations and laws imposed on the employer by legislation.

The *Contractor* organises site safety meetings as per the Eskom SHE specification requirements. (Safety, Health and Environmental Requirements for Contractors).

Safety of Workers

- 1) The *Contractor* ensures the safety of all persons working in the Site. Any hot work including welding will be applied for in accordance with a permit to work system. No welding will be allowed on site unless hot work permit is granted in writing.
- 2) The *Contractor* ensures that all welding, flame cutting and grinding work is properly screened to protect persons from arc flashes or eye injuries. Fire blankets shall be fitted over the scaffolding planks and platforms. Precautions shall be taken to prevent any objects, welding or grinding splatter from falling.

Fire Protection

- 1) The *Contractor* ensures that adequate firefighting apparatus are provided at all his work sites, and that his employees are trained in the use of this apparatus.
- 2) The *Contractor* takes precautions to prevent any occurrence of fires or explosions while carrying out any work near flammable gas and liquid systems. Any tampering with the *Employer's* fire equipment is strictly forbidden.
- 3) All exit doors, fire escape routes, walkways, stairways, stair landings and access to electrical distribution boards shall be kept free of obstruction, and not be used for work or storage at any time. Firefighting equipment shall remain accessible at all times.
- 4) In case of a fire, the *Contractor* reports the location and extent of the fire to the Electrical Operating Desk (EOD) using the following Emergency Numbers 2222 or 7911. The *Contractor* shall take the necessary action to safeguard the area to prevent injury and spreading of the fire.

Asbestos

- 1) The *Contractor* does not disturb any thermal insulating material on the plant until it has been positively identified as not containing asbestos and obtain approval written from the *Project Manager* before any thermal insulation is disturbed.
- 2) All stripping of asbestos material is undertaken strictly in accordance with the *Employer's* Standard, available from Safety Risk Management.
- 3) The *Contractor* is obliged to ascertain from the *Project Manager* in advance whether areas required to be stripped, are non-asbestos areas.

First Aid

- 1) The *Contractor* provides First Aid service to his employees and Sub-Contractors. In the case of severe or serious injury, the *Employer's* Medical Centre and facilities may be available during normal working hours. The *Employer* recovers the costs incurred, in the use of the above *Employer's* facilities, from the *Contractor*.

Hazardous Substances

- 1) The *Contractor* manages hazardous substances in accordance with the requirements of Occupational Health and Safety Act no 85 of 1993 and NEMWA Act. The *Contractor* shall declare all hazardous chemical substances brought to Site to the *Employer*.

Radiation Protection

- 1) The *Contractor* complies with Eskom procedure and legislative requirements when performing any industrial radiography. No radiation activities will be allowed on site unless work permit is granted in writing.

Barricading

Access to danger zones is restricted using handrail type guards of at least 1,2 meters high and able to block access to the danger zone. Symbolic safety signs depicting 'Danger' and 'No entry' are attached to the guards. This includes access during the taking of X-rays. Danger tapes are not allowed to be used as barricades.

Housekeeping

The Site is cleaned daily. All electrical cables and hoses are routed so as not to cross over floors and walkways. All Equipment is packed neatly without interference to access. All excess scaffolding material is removed from Site after the scaffolding has been erected. *Contractor* is responsible for their removal to the designated scrap area on a daily basis.

Radiographic Examinations

When radiographic tests are carried out in the plant, the danger area is evacuated with the exception only of authorized radiographic workers, and thereafter barricaded. Compliance is with the Duvha Power Station Site Regulation.

The relevant warning signs at the lockout gates are bolt secured and not by wire or any other means, which could be removed while radiographic tests are in progress.

The radiographic technicians ensure that all the lockout gates are opened on completion of the tests.

Plant Safety Regulations

- 1) The *Contractor* complies with the *Employer's* Plant Safety Regulations and obtains the latest copy of the Plant Safety Regulations from the *Project Manager*.
- 2) The *Contractor* ensures that a permit to work related to the work that the contractor is to perform in terms of the *Employer's* Plant Safety Regulations is in place, prior to commencement of work.

Environmental Constraints and Management

- 1) The *Contractor* ensures that all goods, services or *Works* supplied in terms of the Contract comply with all applicable environmental legislation.
- 2) The *Contractor* is responsible to keep the work area clean of any rubble. All waste introduced and/or produced on the *Employer's* premises by the *Contractor* for this contract, is handled in accordance with the minimum requirements for the Handling and Disposal of Hazardous Waste in terms of Government Legislation as proclaimed by the Department of Water Affairs and Forestry and Eskom environmental requirements including Eskom Environmental waste management procedure 32-245.
- 3) The *Employer* provides special colour coded bins for refuse disposal. The *Employer* will empty these bins.
- 4) The *Contractor* ensures that all workers under his control strictly adhere to the correct use of refuse bins.

Occupational Hygiene Requirements

- 1) The *Contractor* develops and implement an Occupational Hygiene Management program which include, but not limited to the following:
 - Health risk assessment process and shall have health risk assessment in place;
 - Occupational Hygiene Monitoring strategy;
 - Occupational Hygiene Monitoring Plan
 - Monitoring of all identified Occupational Hygiene stressors (shall do quantification monitoring of the identified stressors)
 - Implementation of recommendations from the occupational hygiene surveys
 - Documentation
 - Awareness & training
 - Link OH monitoring results with the Medical Surveillance program to ensure that the medical examinations are risk-based. The quantification monitoring shall be performed by an Approved Inspection Authority of the contractor's preference.

The *Contractor* where their employees are exposed to crystalline silica dust, reports to DOL on six monthly basis as per the DOL reporting template

- 1) Copies of all occupational hygiene reports shall be made available to Eskom.

- 2) The *Contractor* develops an action plan to close-out all occupational hygiene related findings and recommendations from the OH reports.
- 3) The *Contractor* develops and implement the following procedures (where the risk prevails):
 - Hearing conservation program
 - Hazardous Chemical Substances Management Program
 - Respiratory Protective Program
 - Radioactive sources management procedure
 - Extreme temperatures (heat & cold) stress management procedure

3.1.9. Quality Assurance Requirements

Eskom's Quality Management specification 240-105658000 and ISO 9001(latest version) requirements will apply for this contract. Objective evidence of documented QMS that is ISO 9001 certified and/or not certified but complies with ISO 9001 will be applied. Should there be any welding required to be done, the *Contractor* is expected to comply with Eskom Welding Rule Book 240-106628253. Below is the list of documents required pre-contract award:

- Objective evidence of documented QMS that is not certified but complies with ISO 9001
 - Quality Method statement based on scope.
 - Quality Policy Approved by top management.
- Evidence of QMS in operation (Tender Quality Requirements -240-105658000).
 - Documented information for Control of Externally Provided Processes, Products and Services
- Form A is completed and signed.

Quality Responsibility

The Contractor is accountable for the quality of the output and liable for any failures.

The Contractor is responsible for defining the level of intervention of QA/QC or inspections. These are in line with the Employer's requirements.

The Contractor is responsible for defining the level of intervention of QA/QC or inspections to be imposed on his Subcontractor, suppliers and sub-suppliers and must ensure that these are in line with the Employer's requirements.

The intervention requirements take into consideration the criticality of the Plant and Material.

The interventions points include all witness, hold, verification and review points required by the *Employer*.

The *Contractor's* failure to allow the intervention points will constitute a non-conformance.

Inspections

- i. The *Contractor* is responsible for the inspection of all the work that is performed and the *Employer* only verifies that the *works* is conducted as per the Contract.
- ii. The *Contractor* conducts all inspections in accordance with the accepted QCP / ITP.
- iii. The *Contractor* is responsible for ensuring that the appointed sub-contract adheres to interventions points stipulated in the QCP/ITP
- iv. The *Contractor* drafts a QCP or ITP which shows each activity from the Works Information and submits to the *Project Manager* for acceptance.
- v. Where an inspection has been abandoned, the *Contract* is liable for the cost incurred, including re-inspection cost to the *Project Manager*.
- vi. The *Contractor* provides suitably qualified personnel to conduct on-and-offsite inspections
- vii. The *Contractor* ensures that all works are inspected and approved before the *Project Manager* is invited for verification.
- viii. The *Contractor* provides a minimum of 3 working days' notice for local inspections and 21 working days' notice for foreign inspections. The notice contains copies of the *Contractor's* inspection reports.
- ix. Damages as a result of the *Contractor's* failure to comply with the inspection notice periods and requirements as specified in the above point (6) will be borne by the *Contractor* and no compensation event will arise out of this.

Non Conformances and Defects

Where NCR's and Defect notifications are issued, the *Contractor* acknowledges receipt within 48 hours and proposes corrective and preventive actions to the *Project Manager* as per the Non-conformance procedure (240-81256435). The corrective and preventive actions will include the implementation and completion dates. Progress on all NCR's and Defect notifications issued to the *Contractor* must be reported to the *Project Manager* on a monthly basis. The *Contractor* must note the following:

- i. The *Contractor's* quality manager keeps a register of all NCR's and Defect notifications issued
- ii. Deviations from the Contract are treated as a non-conformance.
- iii. Records of NCR's and Defect notifications are kept and form part of the data book records.

During the contract execution phase, the *Contractor* will be monitored by the *Project Manager* for performance on quality related aspects. The monitoring will be in the form of audits or assessments. **Preservation, Shipping and Transportation to be addressed**

- (1) The *Contractor* is responsible for ensuring that all products are preserved in their appropriate manner as described in their specifications. The *Contractor* submits the preservation, shipping and transportation procedures (if required) to the *Project Manager* for review and acceptance. The *Project Manager* may choose to witness the packaging, loading and offloading of the products depending on their criticality, this will be indicated in the intervention points on the QCP/ ITP document.
- (2) The *Contractor* also ensures that all storage requirements for products are properly implemented to preserve the products against adverse conditions, deterioration, damages, etc. Storage and preservation procedures for the different products must be submitted to the *Project Manager* for review and acceptance. The *Project Manager* may request to inspect the stored products at any given point during the storage period of the product.

3.1.9. Requirements for the programme

The Contractor submits a single integrated Level 3 programme that incorporates all the work to be performed including that of his Subcontractors. The interfaces between Subcontractors as well as the interfaces between Subcontractors and the Contractor are clearly identified. Project key dates are incorporated into the programme.

Computerised Planning

Primavera or MS Project will be the accepted planning tool Employer accepts for this project; therefore, the Contractor is required to obtain this planning tool for the use of producing their programmes. The Project Manager does not intend duplicating the Contractor's planning and scheduling, however, the Accepted Programme will be used in the Employer's internal integrated and Master project programmes for project control purposes, updating and monitoring. The accepted programme will be in soft copy. The Project Manager requires one project programme to be used and updated during the installation process, which will remain with Eskom. This insures that any changes, deviations to the Programme can be carried out on the agreed programme and monitored.

Any changes that are required to be made to the Project/Programme i.e. scope changes, delays and the such, will be recorded through the Employer change process and documentation, where all parties agree to the changes and sign.

The Contractor and Project Manager shall agree on the format of how the updates will be done i.e. PDF, XER, and the frequency of the updates i.e. such as on a weekly basis, or at any other time as required by the Contractor, or as instructed by the Project Manager.

The latest version of Primavera has been adopted by the Employer for all planning, progress monitoring and reporting on the Contract. The Contractor obtains this software and applies it for the planning and control of the work in line with the Work Breakdown Structure (WBS) which will be agreed upon contract award.

Planning and Scheduling Levels

All planning and scheduling is done based on the Critical Path Method (CPM). The Contractor uses activity codes to define interfaces to be agreed upon between project manager and contractor. The Contractor's programme shows the actual critical path clearly.

The schedule layout takes into account the approved WBS, reflecting the manner the works are to be performed as per the Contractor's Method Statement and how activities are to be summarised, reported and monitored.

The following levels of programmes are to be used for this project for integrated project control:

- a) Management programme (Level 1)
- b) Project programme (Level 2)
- c) Control programme (Level 3 – Sub-system level)
- d) Discipline specialty programme (Level 4)

Management Programme (Level 1) – Project Master Programme

The management programme Level 1 is the project master programme and is used to show the overall time frames for the works. It is a statement of project objectives recorded in graphic form.

Project Programme (Level 2)

A "rolled up" programme from the control level 3 programme is produced. It will be separated by unit, plant area and by phase (engineering, procurement, construction and commissioning).

2.6.2.3 Control Programme (Level 3 – Sub-system level)

The project programme is prepared representing the significant work activities and deliverables associated with the works.

The programme includes:

- a) Major milestones, interface dates, access dates and key dates (for the new plant, existing plant and between Subcontractors)
- b) The duration of major activities and their relationship to one another.
- c) Identified long-lead material items.
- d) Responsibility assignments for accomplishing project objectives end product is a time scaled bar-chart programme developed using logic network.

e) For Commissioning and Installation activity duration must be in hours, for manufacturing durations may be in days. This programme is separated by unit, by plant area, by phase, by WBS. The work within each plant area is broken down by engineering discipline, procurement, delivery, construction by the Contractor, start-up and commissioning. The programme is resource-loaded and it forms the basis for progress measurement, progress curves and histograms for each discipline within a plant area. This is used for Evaluations and for the accepted programme after contract award. This will be saved and used as the original.

The Contractor submits a Level 3 Programme to the Project Manager which breaks the Works Information down to a sub-system level as per the Activity Schedules. This programme is in alignment with the Contractor's Method Statement. The Contractor's Forecasted Rate of Invoicing (FRI) should also align with the resource loading on the programme.

2.6.2.4 Discipline Programme (Level 4)

The discipline specialty programme is developed and maintained by the Contractor and generated for tracking and control of various activities and deliverables for all phases of the project. This programme is formatted as a spreadsheet or database report utilizing the WBS breakdown. This programme represents the day-to-day activities which are work-unit based and are summarized in the level 3 activities.

Resource information for manpower, plant, material and equipment and reflected in resource histograms is provided by the Contractor. Staffing histograms are required to be submitted based on "equivalent personnel".

Planning Programmes

The Contractor develops a contract programme which will include a bar chart conforming to the project master programme dates included and sufficient detail to indicate the Contractor's intention for executing the works. This programme covers major items relating to design, procurement, manufacture, delivery, erection, start-up and commissioning. The critical path is clearly shown.

Key milestones, access dates, interface dates and commissioning key dates are clearly identified in the contract programme, including access dates and release of terminal points that involve the Employer or Others.

The programme makes provision for site related preparation such as site establishment, safety induction and medical clearance of the entire Contractor's staff that will be working on site.

Procurement and Manufacturing Programme

The Contractor is required to submit a procurement and manufacturing programme for review by the Project Manager which identifies as a minimum:

- a) Details of orders and target dates for placing subcontracts
- b) Any detailed design required within the manufacturing period

- c) Long-lead delivery items
- d) Hold-points and witness-points for inspection and tests for acceptance and release.
- e) CSI roll out plan to be incorporated.

This programme is in sufficient detail to enable the work to be adequately tracked and progressed.

Construction Programme

The Contractor is required to submit a construction programme that is resource loaded for review by the Project Manager. This programme includes the following criteria:

- a) Full details of all civil/mechanical/electrical/C&I/Low Pressure Services terminal point release requirements
- b) Identify any erection or commissioning activities that may affect other construction activities
- c) Identify when services are required for commissioning purposes

This programme meets the requirements of the Contractor and others engaged on the project.

The programme shall be based on the following working hours: Where applicable

- a) Minimum of eight (8) hours per day
- b) Seven (7) days per week (Negotiable)
- c) Holidays included as working days
- d) Pay weekends to be negotiated (if working 7 day work week)

Commissioning Programme

During the progress of the works, the Contractor develops a detailed commissioning programme with sufficient detail to enable the work to be adequately progressed and tracked to meet the commissioning key dates.

Training programme to be incorporated into the commissioning programme.

The commissioning programme is detailed to sub-system level and is fully integrated with the Construction Programme.

Project Work Breakdown Structure

Activity durations should not be longer than 10 days, activities longer than 10 days should be split into sub tasks.

WORK BREAKDOWN STRUCTURE (WBS)		
1	PLANNING PROGRAMME	
2	PLANT SYSTEMS	
		<i>Procurement Activities</i>
		<i>Manufacturing Activities</i>
		<i>Delivery Activities</i>

		<i>Construction Activities</i>
		<i>Commissioning Activities</i>
4	HAND-OVER	

3.1.10. Services and other things provided by the *Employer*

- The *Employer* makes available hoists and beams for the purposes of rigging any equipment, plant and material. The *Contractor* remains liable for the rigging activities costs which shall be included in the Prices.
- The *Employer* ensures a permit to work is in place for the *Contractor* to conduct his activities safely in terms of the Employer’s plant safety regulations.

C4: Site Information

C4.1: Information about the *site* at time of tender which may affect the work in this contract

4.1.1 Access limitations

- Access to site shall be in line with the Duvha Power Station's access procedure.
- The *Contractor* is required to make an application to enter site for the duration of the contract, including the warranty and defect period.
- Access permits shall only be issued once the *Contractor* and his employees have attended the site safety induction and has undergone medical checks.

4.1.2 Site Regulations

- The Contractor complies with the Site Regulations, a copy of which is available at the Project Manager's offices.
- Any subject within the authority of the Project Manager may be addressed by a Site Regulation.
- Prior to commencement of work, a kick-off meeting is held with the Contractor and the Project Manager, to explain in detail all requirements of the Site Regulations.

4.1.3 Security

- The *Contractor* provides security necessary for the protection of the works at all times until the Completion of the whole of the works.
- Access to the site is controlled and it is governed by the terms and conditions laid down by the Station Security Officials from time to time. The proposed site will be shown to the *Contractor* during site meeting or clarification meeting.
- The *Contractor* liaises via the *Project Manager* with the Power Station Security staff in order to obtain temporary permits for his staff and vehicles which will be working within the station.
- The *Contractor* submits his application for vehicle permit to the *Project Manager*. Personnel and vehicles entering and leaving the site are subject to routine searches.
- The *Contractor* must obtain a "Gate Permit" from the Project Manager, before materials and equipment can be removed from the site. The "Gate Permit" gives an itemised list of materials and equipment to be removed from site.
- If any Contractor's staff is transferred from Duvha or leave Site, the person's permit is handed over to the Supervisor. The Contractor ensures that personnel leaving site are transported out of the security area and that the permit is returned.
- No firearms, weapons, alcohol, illegal substances and cameras (including cell phones with cameras) are permitted on Site.

4.1.4 Cooperating with others

- Should others be working in the same area as the work of this contract, the *Contractor* makes his own assessments of risks that may be associated with interfacing with *others* and coordinates his work with the *Project Manager*.
- The *Contractor* with others maintains harmonious working conditions on site.