

## PART 3: SCOPE OF WORK

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## C3.1: EMPLOYER'S SERVICE INFORMATION

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# 1 Description of the service

## 1.1 Executive overview

Arnot Power Station has six coal-fired units. The capacity of the units is 370MW per unit. The total burn plan is in the region of 22 000 tons per day with six units on load and minimum load losses. Currently the coal is supplied from various mines by means of trucks. In future, there will be coal supplied from the mine via a conveyor belt as well as rail. The intent of this contract is the operation of the coal plant to ensure coal from the Coal Stock Yard is supplied to the Boilers for electricity generation. This also includes the cleaning of the plant.

## 1.2 Employer's requirements for the service

The *works* are Coal Plant Conveyor plant cleaning, staithe lashing and coal sampling at Arnot Power Station.

The *works* will be performed mainly in the Arnot Coal Stockyard areas including all reclaim facilities.

### 1.2.2 ARNOT COAL STOCKYARD BOUNDARIES

#### 1.2.2.2 Limits between the contactor appointed by Arnot and the Employer's other sections

All the belts from 2A/B up to and including over-staithe belts, staithe bypass and it's associated belts and chutes, and weighbridge decks. The entire CSY and facilities will be the appointed contractors' responsibility. The employer (Arnot) will be responsible for the under staithe up to and including the bunker belts

### 1.2.3 BACKGROUND OF THE ARNOT COAL STOCKYARD

The Arnot Coal Stockyard reclaim conveyor systems deliver between 400 000 and 500 000 tons/month to the Employer's six power generating units depending on the required burn plan.

#### 1.2.3.1 Control and Operating Methodology

The control system is based at Arnot coal stockyard Control Room from where the panel operators have control of the belts from the Mine, Arnot Coal Stockyard to Arnot Power Station. The *Contractor* will be responsible for the operations of this control room and in liaison with the station control room.

The Coal Stock yard Control Room operators will be in radio contact with Arnot control room, and their own plant operators to communicate adequate information to handle coal efficiently and effectively.

The coal conveyor system is designed to have two identical, parallel running, conveyor systems. These two systems are known as the 'A' Conveyor line or 'B' Conveyor line. At any one time both the conveyor systems should be delivering coal to Arnot Power Station.

Coal is imported by road, mine and rail. The Import Coal is delivered by trucks to off-loading areas namely;

- The live, strategic or seasonal piles

The Plant Permit Safety System is controlled by the *Contractor*.

### 1.2.4 GENERAL

The Occupational Health and Safety Act will govern all cleaning activities conducted by the Contractor.

The *Contractor* provides the works in such a manner as not to constrain any operation of the *Employer*.

The *Contractor* provides the *works* taking the Contract Conditions, Contract Data, and Works In addition, Site Information into account.

### 1.2.5 Work to be performed by the Contractor

#### 1.2.5.1 GENERAL

This section stipulates the work to be performed by the *Contractor* for the *works*, based on the minimum standard of specified by the *Employer*. The *Contractor* ensures that the coal handling related plant meets or is better than the criteria specified in this section.

The *works* form part of the *Employers* 24 hours per day, 7 days a week operation.

### CLEANING

The *Contractor*:

- Provides cleaning schedules, compiled in liaison with Arnot Power Station. The *Contractor* submits this cleaning schedule to the *Service Manager* for acceptance before the *Contractor* starts with any work on Site.
- From Conveyor 2A/B, 3A/B, 4A/B, 5A/B, 6A/B, 7A/B, 12A/B, reclaim 19, conveyor 17, 18, 20, 21 19A/B and Bypass with its belts and chutes (SR1A/B, SR2A and SR3A).
- Cleaning of the Weighbridge.
- Cleaning of the Train Rail and associated structures
- Cleaning of all facilities within the CSY and all the channels
- Cleaning of the Buffalo feeder
- Cleaning of Storm water drains, v-drains and all water channels
- Cleaning of buildings within Coal Stock yard
- Unblocking of Chutes
- Cleaning and removal of rubble from the magnets
- Clearing of fire breaks
- Cleaning of coal spillages by means of a Bobcat and other cleaning equipments
- Provides 24 hours on-site supervision, suitably qualified and competent persons to perform cleaning of the plant
- The contractor will also act on cleaning requirements generated by Operating and Maintenance departments

**1.2.5.2 LIMITS OF ELECTRICAL SUPPLY**

- The *Employer* provides the power supply to the *works*.

**1.2.5.3.1 Facilities**

This section covers the buildings and structures utilised by the *Employer* and the *Contractor* at the Arnot Coal Stockyard for the *works*.

The *Contractor* ensures that:

- Inspections are carried out on a monthly basis, on all structures under his control to determine the condition and to take corrective action. Major structural defects are reported to the *Service Manager* who determines further action.
- All catwalks and cat ladders are inspected and reported
  - All roofs and gutters are cleared of debris, when necessary
  - Structures are cleaned and defects are reported to be repaired and painted to the color-coding of the *Employer*.

**1.2.6 PLANT EQUIPMENTS****1.2.6.1 Motors**

The *Contractor* inspects and ensures that motors:

- Are kept clean and free from any coal spillage and dust, at all times;

**1.2.6.2 Moveable and Stationary Chutes**

The *Contractor* inspects and ensures that:

- All chutes are kept clean

**1.2.6.3 Gearboxes**

The *Contractor* inspects all gearboxes weekly for;

- Ensure gearboxes are kept clean from oil and dust

**1.2.6.4 Conveyor Idlers**

The *Contractor* daily inspects for:

- Spillages on the walkways
- Spillages underneath the belts
- Large coal and rocks trapped on grizzle bars

All these must be cleaned

**1.2.6.5 Scrapers**

The *Contractor* inspects daily for any material build up removed by scrapers and clean

**1.2.6.6 Rubber skirting**

The *Contractor* inspects daily for material build up and clean

#### **1.2.6.7 Chutes**

The *Contractor* inspects on a daily basis:

For coal build-ups, unblock chutes, clear all blockages, and coal build-ups.

#### **1.2.6.8 Counter weight**

The *Contractor* inspects on a daily basis for coal build up around counter weights and clean

#### **1.2.6.9 Walkways**

The *Contractor inspects on a daily basis:*

All walkways, platforms and handrails on conveyor systems for cleanliness and clean

#### **1.2.7 Reports**

The *Contractor:*

Supply monthly reports and submitted to the *Service Manager* on the last day of each month.

#### **1.2.8 ACCESS CONTROL**

The *Contractor* locks and controls access to:

Any area identified as a hazard.

#### **1.2.10 CLEANING**

##### **1.2.10.1 General Cleaning**

The *Contractor:*

Cleans the entire system on a regular basis as follows:

Conducts daily coal spillage inspections;

Cleaning is an ongoing exercise.

Cleaning includes weed control and fire breaks

Cleaning of Silt trenches, channels and V drains.

Cleaning at the weigh-bridges, train rails, drains and trenches on a daily basis.

##### **1.2.10.2 Drive- and transfer houses**

During operation, when coal is conveyed from one conveyor system to another system, coal dust settles on all structures inside the building.

The *Contractor* cleans all these structures.

##### **1.2.10.3 Conveyor belts**

## COAL HANDLING AND MAINTENANCE AT ARNOT POWER STATION COAL STOCKYARD

The *Contractor*, on a daily basis, cleans all spilled coal collected underneath and alongside the belts.

The *Contractor* liaises with the control room operator, notifying the *Delegated Person*, prior to the cleaning of any area of any conveyor belt. Cleaning alongside belts can be done during normal belt operating. Such cleaning is, however, done with the utmost precaution.

Cleaning under any conveyor belt, while in operation is not permitted. The *Contractor* obtains clearance from the control room operator and applies a Permit-to-Work before any such cleaning can take place.

Coal spilled outside the sheeted enclosure is not allowed to be thrown back onto the conveyor system. Such spillages are known as contaminated spillages and the *Contractor* discards the spilled coal to the coal waste dumpsite, which the *Delegated Person* will show to the *Contractor*.

**1.2.10.4 Pulleys**

The *Contractor*:

Inspects all pulley laggings and belts for any coal build-up.  
Cleans any build-up that might occur between belt and pulley.

**1.2.10.5 Idlers**

The *Contractor*:

Inspects all idler rollers for any coal build-up and cleans if necessary.

**1.2.10.6 Conveyor Structure**

The *Contractor*:

Cleans the conveyor structure and deck plate, which results from coal build-up and spillages.

**1.2.10.7 Gearboxes**

The *Contractor*:

Cleans gearboxes for any coal build-up that might occur.  
Ensures that the oil fill port cover is in place before cleaning commences.

**1.2.10.8 Scrapers and Chutes**

The *Contractor*:

Cleans all scrapers and chutes daily of any coal build-up and reports any abnormalities

**1.2.10.9 Movable Feeders and Walkways**

The *Contractor*, on a daily basis:

- Cleans all tripper cars, movable feeders and surrounding areas.
- Clean all walkways.
- Clean ground level spillages caused by over-filling and returns uncontaminated coal to the stockpile reclaiming facility. Contaminated material is transported to the coal waste dumpsite at the Ash Dams as indicated by the *Delegated Person*.

**1.2.10.11 Vegetation and Weed Maintenance**

The *Contractor* is responsible for vegetation and weed management and control in the following areas:



## COAL HANDLING AND MAINTENANCE AT ARNOT POWER STATION COAL STOCKYARD

- All the entrance areas – in and outside the entrance.
- Firebreak inspections around rest of plant, which are identified as a risk.
- Entrances to the Arnot Coal Stockyard and Staithe entrances

Detail requirements:

- Vegetated areas

These areas need to be maintained and kept clean of weeds and needs to be maintained once a week.

- Cleaning of snake trench leading to coal stockyard run off dam. This is situated outside the Northeastern side of the station.

## LASHING OF THE STAITHES

- The contractor is expected to perform staithe lashing as and when required
- Lashing will be done by use of an excavator and any other lashing tools which might be required
- Lashing will be done on Staithe1, 2, 3, 4 and 5 (once available)

## COAL SAMPLE MANAGEMENT

### Background:

#### 1. ONLINE ANALYSERS

Background and project info:

- The On-line Analyzers are installed on Incline Conveyors 7A, 7B & 18 before the Hammer Samplers.
- In this case, the Hammer Samplers will be utilized for On-line Analyzer verification samples as well as continuous samplers.
- During verification, sampling for the On-line Analyzers the Hammer Samplers will be operated on local manual control to obtain the certified quantities.
- The On-line Analyzer signals will be processed in the PLC / Scada located in the CSY Control Room where it will be displayed on the Operators Desk HMI.
- The Scada will be set-up for coal quality reporting and printing.

#### 2. HAMMER SAMPLER

Three Hammer Samplers are installed after the On-line Analyzers on incline conveyors 7A, 7B & 18.

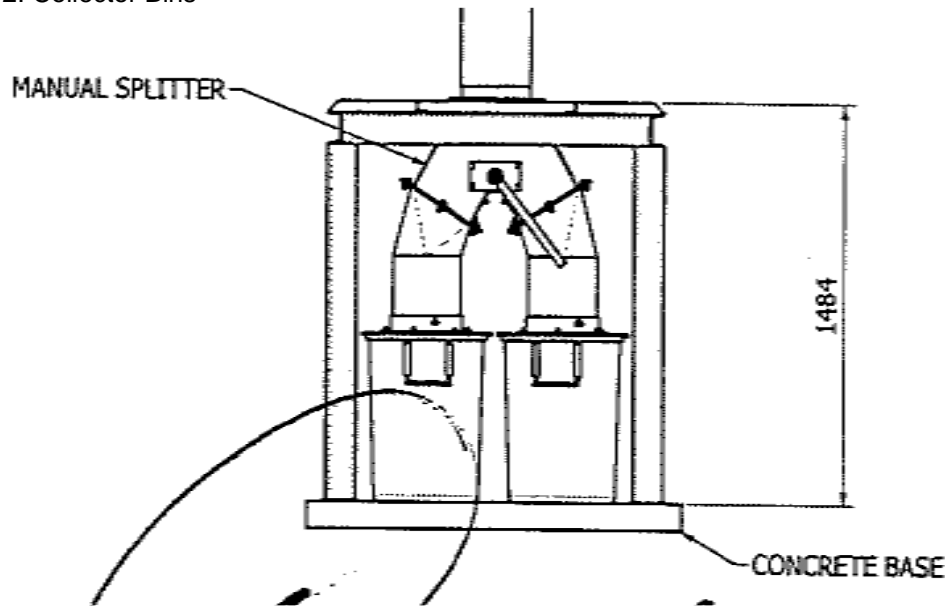
The Hammer Samplers will be set-up for continuous sampling with the following conditions and interlocks:

- Belt run / stop
- Belt scale reading (tph) - will only sample above a determined mass flow.
- Sample increments to be determined by mass flow for example each sample will be 13.12kg at maximum belt loading of 1000tph.
- The amount of increments will be determined by the sample size required by the Coal Lab for processing the sample.
- After reaching the sample mass in the collector bin the Hammer Sampler will stop sampling until the bin is emptied or changed over to the second bin, and the reset button is pressed on the Sampler Control panel.

#### 3. Operating Manpower requirements

- The Hammer Sampler collector bins are located underneath Staithe Incline Conveyors 7A, 7B & 18 in pairs of two for each Sampler.
- The bins are similar to a house hold rubber bin with two grab handles which can be lifted by two persons.
- Before removing the bin the changeover handle must be switched over to the opposite side.

Fig. 2: Collector Bins



The contractor:

- Will operate and ensure samples are taken from a Britley Sampler to the coal lab
- Will operate and ensure samples are taken from a Hammer Sampler to the coal lab
- Will ensure coal samples are taken from the reclaim live pile, stockpile and trucks offloading, and transported to the coal lab. Operation according to Arnot Sampling procedure

### 1.2.11 FIRE PREVENTION

The Arnot Coal Stockyard site is equipped with portable fire extinguishers. The fire extinguishers are serviced by the *Employer's* sub-contractor as per statutory requirements.

The *Contractor* takes all necessary precautions for fire prevention on the *site*.

The *Contractor* controls all fire protection equipment, portable and fixed installations.

A fire management plan by the *Contractor* is submitted for acceptance to the *Service Manager* 2 (two) weeks after the Contract Start Date.

SHE reps inspections as per OHSAct requirements

### 1.2.12 Reporting

The management of the Coal Stockyard and related activities requires continual feedback as to the status of the plant and coal situations on regular basis to the *Service Manager*, thus the following reports are required:

- i. Asset Register submitted on a monthly basis.
- ii. Safety meeting Minutes submitted for review on a monthly basis.
- iii. Overtime per department reported weekly
- iv. Organogram-Personnel reported every month showing any movements or changes.
- v. Organogram-Vehicles and mobile equipment reported every 3 months.
- vi. Injury Status Report once per month and/or before end of the shift of any incident or injury.
- vii. Environment status reported once per month and/or before end of the shift of such deviation or deviation.

### 1.2.13 Additional Scope of work – AS AND WHEN REQUIRED

## COAL HANDLING AND MAINTENANCE AT ARNOT POWER STATION COAL STOCKYARD

Any additional Scope of Work not covered by the Works Information will only be activated as and when all parties reach agreement involved.

- Lashing machine shall be provided by the Eskom
- Operations and cleaning of conveyor belts from under-staithes to bunkers
- Remove vegetation and clean along the railway line from the Rietkuil siding up to the Arnot Power Station.

**1.2.14 Specifications, Drawings and Procedures.**

- Drawings are available at Arnot Power Station Drawing Office. All the Corporate procedures and guidelines must also be taken into account.
- The *Service manager* requires a full set of procedures as listed below to form the Operations Manual of the Arnot Coal Stockyard. Examples – safe work procedures, plant checksheets and risk assessments, etc.
- Various procedures are loaded into the SAP and Operating systems already.

**1.2.16 MANAGEMENT PROCEDURES**

It is required from the *contractor* to have detailed management procedures. These procedures will be loaded into the Operating procedure system.

**1.2.17 CLEANING PROCEDURES**

Weed control are part of Cleaning.

It is required from the *Contractor* to have detailed procedures, safe work procedures and check sheets.

**1.2.1 Test and Inspections**

The *Service Manager* will be carrying out tests and inspections on the Stock piles, Conveyor systems, buffaloring feeders and any other plant when required and as he deems necessary to ensure maintenance, specification and procedures are being maintained. The tests procedure and requirements will be determined between the *Service Manager* and *Contractor* before any tests is carried out.

1. Description of tests and inspections to be carried out by the *Contractor*
2. Details of material, facilities and samples for testing provided by the *Contractor*
3. Details of any testing or inspection which is to be carried out before delivery of material
4. Records to be kept by the *Contractor* and submitted to *Employer* submitted on a weekly basis (
5. Task order programme – to be developed jointly with the *Employer*

**1.3 Interpretation and terminology**

The following abbreviations are used in this Service Information:

Abbreviation	Meaning given to the abbreviation
OEM	Original Equipment Manufacturer
SAP	System Administrative Program

PSR	Plant Safety Regulation
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## 2 Management strategy and start up.

### 2.1 The *Contractor's* plan for the service

The *Contractor* to submit a plan indicating the dates when maintenance activities are intended to be conducted. Any special requirements should be highlighted in this plan.

### 2.2 Management meetings

Regular meetings of a general nature may be convened and chaired by the *Supply Manager* as follows:

Title and purpose	Approximate time & interval	Location	Attendance by:
Risk register and compensation events	Weekly on a Wednesday	Coal Stockyard Workshop	<i>Employer, Contractor</i>
Overall contract progress and feedback	Weekly on a Wednesday	Coal Stockyard Workshop	<i>Employer, Contractor</i>

Meetings of a specialist nature may be convened as specified elsewhere in this Service Information or if not so specified by persons and at times and locations to suit the Parties, the nature and the progress of the service. Records of these meetings shall be submitted to the *Service Manager* by the person convening the meeting within five days of the meeting.

All meetings shall be recorded using minutes or a register prepared and circulated by the person who convened the meeting. Such minutes or register shall not be used for the purpose of confirming actions or instructions under the contract as these shall be done separately by the person identified in the *conditions of contract* to carry out such actions or instructions.

### 2.3 *Contractor's* management, supervision and key people

### 2.4 Provision of bonds and guarantees

Not applicable

### 2.5 Documentation control

The Eskom SAP system and SANS 10139 requirements will be utilised for documentation control and record purposes,

This will be supported by the different appendixes mentioned elsewhere in this document.

All contractual communications will be in the form of properly compiled letters or forms attached to e mails and not as a message in the e mail itself.

### 2.6 Invoicing and payment

Within one week of receiving a payment certificate from the *Service Manager* in terms of core clause 51.1, the *Contractor* provides the *Employer* with a tax invoice showing the amount due for payment equal to that stated in the *Service Manager's* payment certificate.

The *Contractor* shall address the tax invoice to:

COAL HANDLING AND MAINTENANCE AT ARNOT POWER STATION COAL STOCKYARD

Eskom Holdings SOC Limited-Registration Number 2002/015527/30

All invoices shall be posted electronically to: [invoiceseskomlocal@eskom.co.za](mailto:invoiceseskomlocal@eskom.co.za)

and include on each invoice the following information:

- Name and address of the *Contractor* and the *Service Manager*;
- The contract number and title;
- *Contractor's* VAT registration number;
- The *Employer's* VAT registration number 4740101508;
- Description of service provided for each item invoiced based on the Price List;
- Total amount invoiced excluding VAT, the VAT and the invoiced amount including VAT;
- (add other as required)

## **2.7 Contract change management**

Not applicable

## **2.8 Records of Defined Cost to be kept by the *Contractor***

Not applicable

## **2.9 Insurance provided by the *Employer***

A hard copy of the insurance policy can be made available on request. In the event of claims or any insurance issue please contact **Dheven S Bisetty** at **011 800 2714**

## **2.10 Training workshops and technology transfer**

Refer to section [1.2.10](#) of this document

The *Contractor* will conduct on acceptance of the service formal certified training and repeat on final year of service.

## **2.11 Design and supply of Equipment**

Not applicable

## **2.12 Things provided at the end of the *service period* for the *Employer's* use**

### **2.12.1 Equipment**

### **2.12.2 Information and other things**

Not applicable

## 2.13 Management of work done by Task Order

The *Service Manager* may at any time instruct the *Contractor* orally, followed up in writing, to carry out work, which is of an emergency nature. The *Contractor* shall issue a quote for the emergency work to the *Service Manager* for this work before the end of the next business day. The *Service Manager will then create the order for the task and send the task order assessment.*

Within 14 days of Task Completion, the *Contractor* shall submit to the *Service Manager* a detailed technical report for every completed Task Order. This report shall include all technical information and data produced for the Task Order and a technical evaluation on findings from the work done with recommendations for future action by the Parties and other information the *Service Manager* may require.

The prices for each item of work within the service shall be those on the Price List. Clause X19.3 requires that the items of work within the service, which are not on the Price List, be assessed as for compensation events.

## 3 Health and safety, the environment and quality assurance

### 3.1 Health and safety risk management

The *Contractor* shall comply with the health and safety requirements contained in document ASSF 00005 Annexure A to this Service Information.

#### **SAFETY NOTIFICATION ARNOT POWER STATION GMR 2.1**

The following serves as a compliance and notification instruction with reference to the OSHACT, Act 85 of 1993 and any amendments thereto; BCEA and LRA of South Africa.

All safety related incidents (Category A, B&C; Fire Incidents; Usage of Fire Extinguishers and Near misses) shall be immediately notified to the ARNOT Power Station Safety Risk Management Personnel.

During working on elevated positions all personnel, including scaffolders to use Safety Harness, which they shall attach onto Lifelines or secure as per the Contractors Fall Protection Plan, which each Contractor shall have written and available on site for perusal, as and when required.

All Safety Harnesses shall comply with SABS EN 362:1992; 363:1992; 362:1992; 365:1992/364:1992 Codes of Practice.

In terms of Section 16.1 of the OSHACT, "Every chief executive officer shall as far as is reasonably practicable ensure that the duties of his Employer as contemplated in this Act, are properly discharged." Basically every employee, permanent/temporary/part-time/sub-contracted onto the ARNOT Site shall be treated as an "employee" in terms of the Act whilst under your "direct supervision and care".

All employees as stated in 5 above have a right to "free issue" safety equipment, this shall include arc flash PPE for category 2, 2a and 4 if work has to be done in any HV boards, these shall be supplied to them prior to commencement of work. The equipment shall comply too the relevant SABS standards and shall be in proper working condition, clean and undamaged whilst working on the ARNOT Site.

All employees shall do PSR and ORHVS training (Eskom regulations) and plant specific training at ARNOT and have a personal file with the required documents in. Once the file is in order they shall undergo a pre-test and if found competent shall go to the test committee who will then declare them competent to take out permits for tasks carried out at ARNOT. (Some of the courses to be done are working at heights, confined space entry, risk assessment, arc flash protective clothing and hazardous chemical substances in confined spaces)

## COAL HANDLING AND MAINTENANCE AT ARNOT POWER STATION COAL STOCKYARD

In terms of the BCEA and LRA all employees shall be afforded a fair minimum wage, including allowances for meals and transport, if not provided, which has been agreed and set by the relevant Bargaining Councils, which form part of the Acts.

All Contractor employees entering the ARNOT Power Station site shall be medically fit. A full medical examination shall have been carried out by a Registered Occupational Health Worker who shall issue a certificate confirming the medical fitness of the employee. The examination shall consist of an eye test, heart function, lung function, chest x-ray, blood pressure, hearing function, previous occupational injuries, epilepsy, allergies, asthma and verification of work in elevated/confined spaces. Basically a full evaluation (a Red Ticket) shall be done and only those that pass these examinations shall be allowed to work on ARNOT Power Station.

In terms of Section 8.2 & 18.3 of the OSHACT, Employers shall ensure that employees working at ARNOT Power Station are trained in the hazards associated with the tasks and the precautionary measures are taken in the interest of health and safety. The responsibility of shall include compliance and adherence to the Eskom Plant Safety Regulations, Permit to Work System and Emergency Care.

All Contractor s to ensure that the ARNOT Emergency Alarm is activated for serious injuries and the injured shall not be 'moved' by the Contractors staff unless in a condition which threatens the injured or other parties life. Movement of injured persons (employees) shall be done by a trained First Aider, who shall be at the site at all times during the work phase.

All Contractors shall send a Safety Officer/Representative to all Safety Meetings arranged by the Power Station.

Safety Officers shall be at site or as reasonably practical to ensure that all hazards risks are identified and corrective action is taken.

All Employers shall ensure that any employee disregarding a safety instruction is not allowed to be a risk to the Contractor, ARNOT Power Station or other parties whilst on this site. The appropriate disciplinary action shall be taken against these employees.

The Contractor shall have daily Toolbox talks, periodic site inspections, job observations, risk assessments, safety equipment checks and safety talks with all employees.

Safety Induction will be done by the Power Station on prior arrangements but is not the minimum requirement. Induction and hazards training shall be done by the Contractor.

In term of Section 37.2 of the OSHACT, you the Contractor will ensure compliance with all requirements of the OSHACT and any instruction/notification that enhances those requirements.

All Contractors to ensure that a Safety Manual is completed prior to working on site and the relevant appointees are fully conversant with their responsibilities are trained / competent in those requirements, training proof is available and appropriate re-training is done.

Contractors to ensure that all staff, whether permanent/non-permanent/supplied by Labour Broker are competent in their relevant disciplines that they are employed/contracted in and all proof of training, experience, etc is available and is current. Appropriate re-training shall have been done.

Due to all staff being under the "direct supervision and control" of yourself, they shall and will be treated as an 'employee', as defined in the OSHACT, Act 85 of 1993.

All equipment, welding panels, compressors, pneumatic tools, electrical equipment shall comply with a relevant SABS Code of Practice and all documentation related to this shall be made available as and when required, except for welding panels which shall only be connected by ARNOT Electrical Department with a Certificate of Compliance submitted prior to request. All pneumatic tools shall have had an inspection covering condition of pressure components, including piping, bolting, spring loaded bolts, safety devices and controls. A certificate must be issued by the hire company to the Main/Sub-Contractor confirming the tool is



## COAL HANDLING AND MAINTENANCE AT ARNOT POWER STATION COAL STOCKYARD

in a good and acceptable working condition. Proof of inspections must be issued by Hire Company to lesser prior to bringing onto ARNOT Power Station Site.

COMPLIANCE TO 5 IDENTIFIED CARDINAL RULES:RULE 1: OPEN, ISOLATE, TEST, EARTH, BOND, AND/OR INSULATE BEFORE TOUCH

(That is, any plant operating above 1 000 V)

No person may work on any electrical network unless:

He/she is trained and authorised as competent for the task to be done;

a pre-task risk assessment to identify all risks and hazards has been conducted prior to any work commencing;

an equipotential zone is created for each worker on the job site by earthing, bonding, and/or insulating according to approved procedures;

all conducting material is connected together, all staff on site wear electrical safety shoes, and insulating techniques are applied according to standards; and

the authorised person (team leader) has certified and shown all team members that the apparatus is safe to work on.

RULE 2: HOOK UP AT HEIGHTS

Working at height is defined as any work performed above a stable work surface or where a person puts himself/herself in a position where he/she exposes himself/herself to a fall from or into.

No person may work at height where there is a risk of falling unless:

a pre-task risk assessment to identify all risks and hazards has been conducted prior to commencing any work at height;

He / she is appropriately trained;

He / she is appropriately secured during ascending and descending; and

He / she are using an approved fall arrest system where applicable.

RULE 3: BUCKLE UP

No person may drive any vehicle on Eskom business and/or on Eskom premises:

unless the driver and all passengers are wearing seat belts.

RULE 4: BE SOBER

No person is allowed to work under the influence of drugs and alcohol.

"Under the influence" means the use of alcohol, drugs, and/or a controlled substance to the extent that:

the individual's faculties are in any way impaired by the consumption or use of the substances; or

the individual is unable to perform in a safe, productive manner; or

the individual has a level of any such substance in his/her body that corresponds to or exceeds accepted medical/legal standards; or

the individual has a level of alcohol in his/her body that is greater than 0.02% blood alcohol concentration.

This includes any level of an illegal substance in the body, irrespective of when the substance was used.

RULE 5: ENSURE THAT YOU HAVE A PERMIT TO WORK

## COAL HANDLING AND MAINTENANCE AT ARNOT POWER STATION COAL STOCKYARD

Where an authorisation limitation exists, no person shall work without the required Permit to Work (PTW), which is governed by the Plant Safety Regulations, Operating Regulations for High Voltage Systems (ORHVS) etc.

No plant is to be returned to service without the cancellation of all permits on that plant in accordance with procedure.

NB: in the case of live work, a "live work declaration form" is to be completed by the authorised person who is the person responsible for the safe execution of work according to relevant standards and procedures.

Please ensure that these rules are understood and communicated with the urgency that they deserve. If any of these rules are unclear or the consequences not understood, please do not hesitate to discuss it with Eskom.

We would like to continue our current partnership and therefore urge your support in the implementation and upholding of these rules.

### 3.2 Environmental constraints and management

The *Contractor* shall comply with the environmental criteria and constraints stated in Annexure A

#### Environmental management

##### Environmental requirements

The *Contractor* ensures that all goods, services or *works* supplied in terms of the Contract conform to all applicable environmental legislation.

The management and staff at Arnot Power Station are committed to generate low cost power without compromising its responsibility towards the natural environment. Arnot Power Station management has decided to implement and align its environmental management system in compliance with SABS ISO 14001:1996 as a means of managing impacts to and ensuring continual improvement of the environment in which it operates.

The Contractor need to comply with ISO 14001 on environmental management.

#### The environmental policy for Arnot Power Station is set out below:

We are committed to sustainable development and will actively work to reduce the impact on the natural environment resulting from the power generation process.

We commit to continual improvement in our performance and aspire to minimum harm to people and the environment

#### Whenever we conduct our business, we will:

Develop, implement and maintain an environmental management system that is consistent with internationally recognised standards.

Effectively and efficiently manage the natural resources required to generate electrical power

Comply with the requirements of environmental legislation and adhere to Eskom's corporate policies and procedures on environmental management;

Set and achieve targets that include preventing pollution, to address our environmental aspects and impacts

Develop our people and provide resources to meet our targets

Communicate and engage with our employees, clients, regulatory authorities and suppliers to build relationships based on integrity, honesty, openness and involvement to meet the requirements of this policy

Increase environmental sensitivity and awareness among station management, employees and the community and achieve active involvement of all parties, with respect to environmental matters

#### And promote Arnot Power Station and Eskom as environmentally responsible organisations to outside parties

We will review and report our progress regularly and ensure this policy remains relevant to the needs of our stakeholders. We will be satisfied when we achieve our targets toward minimum harm to people and the environment, and are valued by our clients and the communities in which we work

### 3.3 Quality assurance requirements

*Contractors* are to demonstrate compliance to the relevant SABS ISO 9000-1994, series quality standard.

It should be noted that all documents submitted as demonstration of compliance to the quality requirements of the enquiry are properly authorised by the tenderer's executive management.

Before Plant is placed in service the *Contractor* is to certify that it is in a suitable and safe condition.

## 4 Procurement

### 4.1 People

#### 4.1.1 Minimum requirements of people employed

N/A

#### 4.1.2 BBBEE and preferencing scheme

Not applicable.

#### 4.1.3 Supplier Development and Localisation formerly known as Accelerated Shared Growth Initiative – South Africa (ASGI-SA)

The *Contractor* complies with and fulfils the *Contractor's* obligations in respect of the Supplier Development and Localisation in accordance with and as provided for in the *Contractor's* Supplier Development and Localisation Compliance Schedule stated below:

In terms of Corporate Social Investment, the amount committed by (Supplier's Name) for this contract is **R0.00** for 3years, which is **R0.00** per annum to the ( beneficiary) should.

The *Contractor* shall keep accurate records and provide the *Service Manager* with reports on the *Contractor's* actual delivery against the above stated Supplier Development and Localisation criteria.

The *Contractor's* failure to comply with his Supplier Development and Localisation obligations constitutes substantial failure on the part of the *Contractor* to comply with his obligations under this contract.

### 4.2 Subcontracting

#### 4.2.1 Preferred subcontractors

Not applicable

#### 4.2.2 Subcontract documentation, and assessment of subcontract tenders

Not applicable

#### 4.2.3 Limitations on subcontracting

Not applicable

#### 4.2.4 Attendance on subcontractors

Not applicable

### 4.3 Plant and Materials

#### 4.3.1 Specifications

The revision of the following specification, which applies, is the revision in force at the time of the contract award.

SPECIFICATION	REVISION	SPECIFICATION DESCRIPTION
NFPA 72	2010	NATIONAL FIRE ALARM AND SIGNALING CODE
NFPA 75	2009	PROTECTION OF INFORMATION TECHNOLOGY EQUIPMENT
32-124	0	ESKOM FIRE RISK MANAGEMENT
200-11757	0	EARTHING AND LIGHTNING PROTECTION
200-11764	0	LIGHTING AND SMALL POWER INSTALLATION
200-11768	0	STATION CABLING AND RACKING STANDARD
474-1325	1	DESIGN REVIEW PROCEDURE
36-471	0	MANAGEMENT OF EMERGENCY PREPAREDNESS.
36-574	0	CONTROL SYSTEM COMPUTER EQUIPMENT HABITATS REQUIREMENTS
36-726	4	LIST OF APPROVED ELECTRONIC DEVICES TO BE USED ON ESKOM POWER STATIONS
36-776	0	ENVIRONMENTAL CONDITIONS FOR PROCESS CONTROL EQUIPMENT USED AT POWER STATIONS
36-817	0	STATIC UNINTERRUPTABLE POWER SUPPLIES
36-943	0	ENGINEERING DRAWING OFFICE AND DOCUMENTATION STANDARD
36-944	0	GENERAL DRAWING STANDARD WORK INSTRUCTION
36-945	0	WORKS INSTRUCTION FOR (P&ID,PFD,PPFD,SFD),HYDRALIC AND PNEUMATIC DRAWING
36-946	0	WORKS INSTRUCTION FOR ELECTRICAL DRAWING AND DOCUMENTATION
36-947	0	WORKS INSTRUCTION FOR CONTROL AND INSTRUMENTATION DRAWINGS AND DOCUMENTATION

#### 4.3.2 Correction of defects

All attempts shall be made to fix defective Plant and Materials. If all fails, the item may be replaced with a new one.

#### 4.3.3 Contractor's procurement of Plant and Materials

Any extended warranty on any item shall be transferred to be in favour of the *Employer* as well. A specific example are, Dell Servers.

#### 4.3.4 Tests and inspections before delivery

Not applicable

#### 4.3.5 Plant & Materials provided "free issue" by the *Employer*

All *Plant and Materials* in stock at Arnot Power Station stores will be free issued.

## 5 Working on the Affected Property

### 5.1 Employer's site entry and security control, permits, and site regulations

All Site access is controlled through the designated access gate.

The *Contractor* is informed of the access procedures through Site regulations and that such procedures may change depending on the prevailing security situation.

The *Contractor* shall provide and install barricades and warning devices to ensure that equipment and persons are not exposed to danger or to prevent access to dangerous areas.

All welding, flame cutting and grinding work shall be properly screened to protect persons from arc flashes or eye injuries.

All grating shall be covered with an adequate protective screening when welding or flame cutting in the vicinity is undertaken strictly with the *Employer's* Directive ASSF 00005.

All vehicles must be driven with due consideration for personnel and property. A maximum speed limit of 40 kilometres per hour will be adhered to on the premises at all times.

The *Employer* follows an accident prevention policy that includes the investigation of all accidents involving personnel and property. This is done with the intention of introducing control measures to prevent a recurrence of the same incidents. The *Contractor* is expected to co-operate fully to achieve this objective. The *Project Manager* must be informed within 24 hours of any injuries or damage to property or equipment.

This report does not relieve the *Contractor* of his legal obligation to report certain incidents to the Department of Labour, or to keep records in terms of the Occupational Health and Safety Act, and Compensation for Occupational Injuries and Diseases Act.

## 5.2 People restrictions, hours of work, conduct and records

The *Contractor* will be required to work the same hours as the *Employer's* employees. Monday to Thursday 07h00 to 16h15 with a necessary required lunch break. Fridays we work from 07h00 to 12h00. If these times change the *Contractor* will be required to adjust as well.

The *Contractor* keeps records of his people working on the Affected Property, including those of his Subcontractors. The Service Manager shall have access to them at any time. These records may be needed when assessing compensation events.

## 5.3 Health and safety facilities on the Affected Property

Medical facilities are available on site for emergencies only.

## 5.4 Environmental controls, fauna & flora

Not applicable

## 5.5 Cooperating with and obtaining acceptance of Others

The *Contractor* is to make his own assessment of, and allow in his Program for those access problems due to confined and restricted areas, existing structures and Plant, etc. which may be encountered and no extra payment or claim of any kind is allowed on account of difficulties of access to the Works or for the requirement of working adjacent to or in the same area as other *Contractor's* operations or providing reasonable access to and interfacing with other *Contractors*.

## 5.6 Records of *Contractor's* Equipment

Not applicable

## 5.7 Equipment provided by the *Employer*

Overhead crane facilities are available in the event of lifting requirements. The *Employer* will provide all scaffolding when required.

## 5.8 Site services and facilities

### 5.8.1 Provided by the *Employer*

#### **Contractor's Yard**

The *Employer* provides a site for the *Contractor's* yard. A written request, indicating the *Contractor's* requirements in locality and area of storage, office and Work Shop sites is submitted to the *Service Manager* as soon as possible after the Contract Date.

#### **Potable water**

Potable water for construction purposes is also available free of charge. Any installation is for the *Contractor's* account.

#### **Meals**

Meals on site for *Contractor's* personnel are not available.

#### **Sanitary Facilities**

## COAL HANDLING AND MAINTENANCE AT ARNOT POWER STATION COAL STOCKYARD

The Employer provides sanitary facilities.

**General**

The *Contractor* is to comply with all Site regulations and instructions. The onus is on the *Contractor* to ensure his familiarity with the Employer's Site regulations and inspections.

**Fire Protection**

The *Contractor* is to comply with requirements of Eskom Standard NWS 1494 Revision 4 "Fire prevention and protection of *Contractor's* premises on Engineering Sites" and of Site Regulations pertaining fire protection. (NWS1494 Revision 4).

**Fire Precautions**

Any tampering with the *Employer's* fire equipment is strictly forbidden. All exit doors, fire escape routes, walkways, stairways and stair landings must be kept free of obstruction, and not to be used for work or storage at any time. Fire fighting equipment must remain accessible at all times.

**Plant Safety Regulations**

The *Employer* shall on request from the *Contractor* isolate required plant from all sources of danger as described in the Plant Safety Regulations. The *Contractor* shall conform to all rules and regulations applicable to Plant Safety and shall complete the Workman's Declaration Book prior to working on the plant.

**Induction training to employees**

No person will be issued with an access permit without proof that the person did attend the local Arnot Power Station induction course.

A one-day access permit will be issued for persons attending the induction course. It is the *Contractor's* responsibility to arrange with the *Project Manager* one week in advance for a course booking.

**Supply of construction power****Conditions of supply for Erection**

In order to comply with the Electrical Installation Regulations under the Occupational Health and Safety Act, no 85 of 1993 the following requirements are met before electricity is supplied it is expected that the *Contractor* is in possession of a valid certificate of compliance. Your electrical installation is inspected and tested by an accredited person to ensure that it complies with the requirements of the Occupational Health and Safety Act, 1993 and the code of Practice for wiring of premises, SABS 0142. After you have obtained the certificate of compliance, the *Employer* is to inspect your electrical installation and if satisfied, it is connected and supplied from the construction power supply.

The *Contractor* provides at his own expense all temporary wiring and cabling to lead power from the *Employer's* supply points, to where it is required, maintain same and remove on completion. These points of supply are the points designated by the *Project Manager*.

**Warning:**

Phase rotation may change during power supply breaks. *Contractors* are responsible to check rotation of their Equipment before recommencing work.

**Application for supply**

A standard 'Application for Power' form is completed and submitted to the *Project Manager* at least two weeks before a power supply is required. The *Employer* guarantees the continuity of power supply for a minimum 26 out of 30 days.

**Cost of supply**

There is no charge for electricity used for construction purposes and no connection fee is levied for the point of supply.

**5.8.2 Provided by the *Contractor***

The *Contractor* provides, erects and maintains for own use, adequate size office accommodation and stores together with such drainage, lighting, heating and hot and cold water services as may be required in the area designated by the *Service Manager*.

The *Contractor* is to dismantle and clear off Site all such temporary structures and associated foundations and infrastructure.

**5.9 Control of noise, dust, water and waste****Refuse Disposal**

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 Act 1994 Ref: ISBN0621 - 16296-5.

The Employer provides colour coded bins for refuse disposal.

The Employer empties these bins.

*Contractor* keeps the work area clean of any rubble, and to places all refuse into the bins provided.

The *Contractor* ensures that all workers under his control strictly adhere to the correct use of refuse bins:

**5.10 Hook ups to existing works**

Applicable for this Service Contract

**5.11 Tests and inspections****5.11.1 Description of tests and inspections**

Refer to Section [7.1](#) of this document for detailed activities provided for in this service

1. Description of tests and inspections to be carried out by the *Contractor*
2. Details of material, facilities and samples for testing provided by the *Contractor*
3. Details of any testing or inspection which is to be carried out before delivery of material
4. Records to be kept by the *Contractor* and submitted to *Employer* submitted on a weekly basis (
5. Task order programme – to be developed jointly with the *Employer*

**5.11.2 Materials facilities and samples for tests and inspections**

Not applicable



## 6 List of drawings

### 6.1 Drawings issued by the *Employer*

This is the list of drawings issued by the *Employer* at or before the Contract Date and which apply to this contract.

- Drawing number as per Master Document Index as-build submitted during Phase 1 (A3-12699-001-01 rev 11.3) and Phase 2 (A3-28895-001-01)

### 6.2 Documents issued by the *Employer*

This is the list of document issued by the *Employer* at or before the Contract Date and which apply to this contract.



## 7 Appendix

### 7.1 Appendixes issued by the *Employer*

This is the list of appendixes issued by the *Employer* at or before the Contract Date and which apply to this contract.

Appendix number	Revision	Title
A	2015/10/19	Maintenance Activities (SANS 10139:2012)
A1	2015/10/19	System Modifications (SANS 10139:2012)
B	2015/10/19	Maintenance Activities (NFPA 72:2013)
B1	2015/10/19	NFPA Explanations (NFPA 72:2013)
C	2	Maintenance Activities (240-54937454)