C3.1: EMPLOYER'S SERVICE INFORMATION

1 Description of the *service*

1.1 Executive overview

The works include thorough visual inspections, adjustments, replacement of defected components such as blades or entire scraper and reporting of all inspection defects including maintenance activities done on the scrapers. It also includes construction of hot splice, cold splice, clip joints and splice repairs. Pulling in of conveyor belts during replacement. Installations of rubber backed ceramic and diamond rubber lagging on conveyor pulleys. Rolling of conveyor belts.

Duvha power station has 30 conveyor belts from bottom staithes up to the mill bunker area. These are used to transport coal from staithes to mill bunkers. These entire belts are ply belt and 900mm width. 24 of these are class 400, 3 ply and remaining 6 are class 800, 3ply. Belt scrapers are situated inside the troubling Shute on the return side of the conveyor belt. The function of scraper is to remove and clean fine carry back materials which are sticking on the return side of conveyor belt. This is to prevent materials from being carried back on return side as this will cause spillage and create a fire risk. And also to prevent belt slip on incline conveyors as by design loading/ carrying side of the belt makes conduct with drive pulley surface.

Contractor supplies all tools, consumables, labour and transport through contract term in order to execute the works (Unless otherwise instructed by the Employer's Representative). The Contractor supplies sufficient equipment and personnel at all times to perform the works on planned or emergency breakdown situation.

1.2 *Employer*'s requirements for the *service*

Core crew

The contractor will be required to have the following people during normal inspections:

- Supervisor x 1
- Splice man x 2
- Scrapper artisan x 2

The contractor will be required to attend all defects found in during inspection based of the plan discussed with the employer representative.

The contractor will bring a maintenance crew consisting of:

- Supervisor x 1
- Quality controller x 1
- Splice man x1
- Scrapper artisan x 2
- Helper x 2

The contractor may be required to bring in more people and to work over 24 hr window period during emergency.

The respond time during any breakdown will be 2hours.

Work to be performed on conveyor belts splicing and pulley lagging as listed below at Duvha Power Station:

The Contractor supplies all materials, consumables, equipment, tools, labour and transport required when executing the work. (Unless otherwise instructed by the Employer's Representative)

The Contractor supplies sufficient equipment and personnel at all times to perform the work on planned or emergency breakdown situation.

Horizontal belts: 9A – 9F

11A – 11F

Incline belts: 10A – 10F

12A – 12F

13A – 13F

Pulleys include Drive, head, tail, snub, bend, take-up, and tripper car pulleys on all above mentioned belts.

Work breakdown:

- New Splicing and splice repair
- Installation of clip joints
- Installation of belt inserts
- Belt repairs
- Pulley Lagging: 12mm thick rubber backed 80% ceramic lagging on all drives and 10mm thick diamond rubber on rest of other pulleys.
- On site investigations and fault finding surveys to be performed when required.
- Safety aspects
- Response time
- Quality requirements

Splicing

a) Splicing is performed on both horizontal and inclines belts. This includes the pulling in of the belt and the installation of belt clamps when required. The conveyor belting will be supplied by Eskom Holdings at no cost to the contractor.
b) Inclined conveyors (10A-10F) only hot splicing and inclined conveyors (12A-12F, 13A-13F) both hot or cold splice can be used with at a decision from Eskom Supervisor.
c) Horizontal belts hot and cold splice can be done.
d) Splice construction should meet minimum requirements of Eskom Procedure unique identifier: 240-120532564 for cold, hot splicing and repairs. The Contractor is expected to submit a quality control plan to be reviewed and agreed upon by the Employer's Representative before starting any work and must be approved by the System Engineer.
e) Splicing includes clamping the belt, pulling in of the belt and aligning the two overlapping ends which are to be spliced.
f) On completion, the belt has to be test run in the presence of the Employer's Representative and the Contractor to ensure that coaling can continue and the Quality Control Plan to be signed off by both contractor and Eskom Holdings Limited representative on every task.

g) The Contractor must ensure that after completion of the work, the area must be cleaned and all the loose material is being removed to ensure good housekeeping.

Installation of Clip Joints

a) Installation of clip joints is performed on both horizontal and inclines belts. This will include the pulling of the belt, installation of belt clamps when required. Materials for clip joints are to be supplied by the Contractor. Clip joints will be supplied by Eskom. Eskom to supply the machine unless otherwise specified.

b) Installation of clip joints must be done according to Eskom Procedure unique identifier: 240-120532564**.** The Contractor is expected to submit a quality control plan to be reviewed and agreed upon by Employer.

c) The installation starts by clamping the belt, pulling in the belt, aligning the belt and by means of the clip joint device, join the belt ends.

d) On completion, the belt has to be test run in the presence of the Eskom Holdings Limited Quality Controller to ensure that the coaling can continue and the QCP to be signed off by both contractor and ESKOM HOLDINGS LIMETED quality controller.

Installation of Belt Inserts

a) Installation of belt inserts is done according to Eskom Procedure unique identifier: 240-120532564. The Contractor is expected to submit a quality control plan to be reviewed and agreed upon by Eskom.

b) When an insert is required, either splicing or installing a clip joint or both methods can be used, depending on Eskom Holdings Limited requirement. In all cases the Eskom Procedure must be used and the above mentioned QCP's to be signed off by both contractor and ESKOM HOLDINGS LIMITED Quality Controller.

c) On completion, the belt has to be test run in the presence of the Eskom Holdings Limited Quality Controller to ensure that coaling can continue and the QCP's to be signed off by both contractor and ESKOM HOLDINGS LIMITED Quality Controller.

d) Installation of insert must allow the counterweight to be 500 mm away from the ground floor when loaded.

e) All cuts off belt insert and the entire replaced belt to be rolled by the Contractor and put in designated areas.

Belt Repairs

a) Belt repairs are done on existing joints that can still be repaired and on damaged areas on the belt surface.

b) Only cold repairs to be done on all belts.

c) All belt repair activities are done according to Eskom procedure unique identifier: 240-120532564**.** The repairs start by clamping the belt, open the joint completely, remove all the old glue and re-glue the joint.

c) On completion, the belt to be test run to ensure the coaling can continue.

Pulley Lagging

a) Pulley lagging might be required on all pulleys in situ. Only rubber lagging and ceramic lagging will be required. All drive pulleys are required to have ceramic lagging and the rest of plant pulleys to have diamond rubber lagging. The rubber to be used for lagging should have a shore hardness of

between 60% and 65%. The lagging starts by clamping the belt, removes the old

lagging, clean the contact surfaces, apply the glue and install the new lagging. On completion, the belt to be test run to ensure the coaling can continue.

Work to be performed on belt scrapers:

The works is to visually inspect, clean and maintain 30 x primary scrapers, 30 x secondary scrapers, 6 x Bias plough and 6 x V- plough scrapers. A one day weekly plant walk on all conveyors will be required for inspection of all scrapers, and provide a weekly report to Contract Manager. Work is to be performed on conveyor belts:

Horizontal belts: 9A – 9F
11A – 11F

Incline belts: 10A – 10F
12A – 12F
13A – 13F

- V-plough scraper
  Clean the scraper, visually inspect scraper condition and replace blades if required.

- Bias scraper
  Clean the scraper, visually inspect scraper condition and replace blade if required.

- Primary scraper
  Clean the scraper, visually inspect scraper condition and replace blade if required.
  Inspect the scrapers and adjust if need be.

- Secondary scraper
  Clean the scraper, inspect the scraper blades, buffers, clamps and adjusting bolts condition and if not worn of damaged, replace the scraper.

The works will include the replacement of scraper blades, scraper adjustment and installing entire new scraper when required on the existing brackets. During visual inspection on scrapers cleaning will be done using readily available water closer to the areas.

On Site Investigations and Fault Finding Surveys

On site investigations and fault finding surveys to be performed when required by and handed to the Employer's Representative containing the results of the survey and recommendations which address the findings of the survey and prolong plant health.

Plant inspection

Weekly plant inspection will be required on all belts and pulley lagging. This will be done once a week as visual inspection and a formal report must be issued to the supervisor stating the condition of belts, splices, scrapers and pulley laggings. Picture will be allowed as part of the report and application to use camera on-site will be granted following Eskom procedure.

The report should include the duration and spares required to repair any found during inspection.

Response Time

- The Notification for planned work is 1 (one) day and respond time for Emergency work/ breke down is 2 (two) hours.
- Contractor to be available 24 hours a day at all times with a maximum response time of two (2) hours of notification.
- Upon arrival to the Employer's premises the Contractor will only be allowed the maximum of 1 hour delay before activities are started.
- The constraints or delays in terms of Plant availability can be expected, due to operating production Challenges.
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When abovementioned work has to be performed, Eskom Holdings Limited personnel are responsible to lift and gag the tension weights

- **Mandatory equipment's**

  Splice machine (1m to 1,5m splice length)
  Generator suitable for required splice machine

1.3 Interpretation and terminology

If required include here definitions additional to those used in the *conditions of contract* which are required only for the purpose of making the Service Information easier to draft and read. Also list abbreviations used and provide a full interpretation of each one, for example:

The following abbreviations are used in this Service Information:

Abbreviation	**Meaning given to the abbreviation**
OBL	Outside battery limits