

**March 2021**

**SCOPE FOR:**  
**MELKHOUT - 66kV KOUGA**  
**FEEDER BAY**

## Scope of Works

### 1. LOCATION OF SITE

The works are to take place at an existing substation situated in the Humansdorp area with GPS coordinates: 34°0'2.1"S and 24°47'2.1"E.

### 2. PHASING OF THE PROJECT

Outages will be required and phasing of the project to be agreed upon with the Project Manager after the contract has been awarded.

### 3. YARD WORKS

#### 3.1 BENCH MARK

Create a bench mark(s) on site in the position suited for the construction of the substation.

#### 3.2 ELECTRICAL PHASING

Electrical phasing of the substation is to be done as per D-EC-1955 Set 11 Sheet 1C Rev 24.

#### 3.3 66kV BUSBAR 1

Extend the existing 66kV Tubular busbar inclusive of the equipment supports as detailed on D-EC-1955 Set 11 Sheet 7 Rev 7. All jumpers and clamps to be installed as per D-EC-1955 Set 11 Sheet 8H Rev 1.

#### 3.4 JEFFREY'S BAY 1 66kV FEEDER BAY

Establish Jeffrey's bay 1 66kV Feeder bay with its bypass isolator inclusive of the equipment support as detailed on D-EC-1955 Set 11 Sheet 7 Rev 7. All jumpers and clamps to be installed as per D-EC-1955 Set 11 Sheet 8H Rev 1.

#### 3.5 66kV BYPASS BAY

Install new post insulators inclusive of associated jumpers on the 66kV bypass bay as indicated on D-EC-1955 Set 11 Sheet 7 Rev 6. All jumpers and clamps to be installed as per D-EC-1955 Set 11 Sheet 8H Rev 1.

#### 3.6 DECOMMISSIONING 66kV BYPASS

Decommission the existing 66kV H-pole structure with its back stays and plant a new structure as indicated on D-EC-7604 Set 2 Sheet 1 Rev 0. All dressing of the structure and earthing and bonding will be installed as indicated on D-DT-7308. Plant the new 9m H-pole 13m away from existing structure in line with the existing structure.

#### 3.7 EARTHING

All equipment steelwork is to be earthed to the foundation HD bolts.

Install portable earthing balls on the equipment steelwork supports as detailed on D-EC-1989 Set 11 Sheet 04 Rev 6 and positions are to be confirmed by the Senior Supervisor for Humansdorp CNC.

The isolator mechanical boxes and handles are to be earthed in accordance with the manufacture's isolator specification.

#### 3.8 STONING

Stockpile the yard stone within the substation yard prior any works as detailed in the Project Specification. Supply yard stone for the substation yard, where required, after the work has been completed as indicated on D-EC-1955 Set 11 Sheet 11 Rev 7 (Project Specification).

#### 3.9 WEED KILLER

Spray weed killer in the substation on all the stoned areas once all the stoning has been completed (Project Specification).

#### 3.10 TRENCHING

Extend existing 750mm trench as detailed D-EC-1955 Set 11 Sheet 11 Rev 7.

### 3.11 LABELS

Install equipment labels as detailed on D-EC-1955 Set 11 Sheets 1C Rev 24. The positions of the label brackets are indicated on D-EC-1955 Set 11 Sheet 06 Rev 7. Install equipment labels as indicated on the BOQ.

### 3.12 LV CONTROL CABLES

Install the control plant cables where required. **Note:** The cable block diagram will be issued once the contract is awarded.

### 3.13 CONTROL BUILDING

Protection panels to be renamed in the control building for the substation as per drawing to be issued at a later stage.

## 4. CONSTRUCTION RISKS

| <u>Risk</u>  | <u>Mitigation</u>   |
|--|---|
| <b>Access:</b><br>Substation is restricted area and public and visitors should not be allowed to enter without approval.   | Induction training of both staff and visitors required.   |
| <b>Insects:</b><br>Existing cabinets are often inhabited by bees, wasps and hornets.   | Induction training of both staff and visitors required.   |
| <b>Gates:</b><br>The substation is a restricted area and gates must be closed at all times.  | Observe status of gates at all times.   |
| <b>Oil Spill:</b><br>Some equipment is oil filled and extreme care must be taken when handling the same since the risk of an oil spill is high   | Induction training of staff to include oil spill risk and action if a spill should occur.                       |
| <b>Snake:</b><br>Since the construction will take place during the summer the risk of encountering snakes is high.   | Staff should be educated regarding the types of local snakes that may be encountered.                           |
| <b>Porcelain:</b><br>The equipment has in most instances porcelain insulators and extreme care must be taken when handling the equipment not to chip and/or break the insulators. Chipped insulators could render equipment unfit for use or injury. | Staff must be made aware of the risk and the correct lifting equipment must be used when lifting the equipment. |
| <b>Close proximity:</b><br>Should works be undertaken in an operational yard care must be taken when handling/erecting conductive components such as steelwork.  | Induction training of staff to include risk associated with working in close proximity.                         |

## 5. GENERAL

Two sets of project drawings have been issued with this document. The contractor to whom the tender is awarded must make his own copies of the drawings to use during construction. For ease of reading, references has been made throughout this document to relevant project specifications, it however remains the contractors responsibility to ensure the he/she complies to all specifications and standards relating to the **Project**.

## ANNEXURE A

**Photograph 1: Existing 66kV Bypass Busbar.**

