ELECTRICAL ENGINEERING INSTRUCTION

CONTRACTS FOR ELECTRICAL INSTALLATIONS: COMMISSIONING PROCEDURES

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Distribution: A

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1.0 INTRODUCTION

Electrical engineering instruction CEE-GI_019 sets out the procedure to be followed during commissioning of High Voltage electrical equipment.

The purpose of the procedure outlined herein is to provide safety to personnel in carrying out the commissioning of traction substations and overhead track equipment.

The terms “Contractor”, “Project Manager” and “Technical Officer” shall have the same meaning as in the contract documents.

2.0 PREPARATION FOR COMMISSIONING

2.1 Prior to the commissioning date the affected parties must be warned by means of energising notices as per engineering instruction CEE-GI_0l9.

2.2 The equipment must be inspected and handing-over certificates must be prepared as per engineering instruction CEE-GI_0l8.

2.3 The Maintenance Manager / Regional Engineer involved must appoint a person (A Brown license) - who will be responsible for operation of the switches in the substation.

2.4 The substation may not be used to perform live tests on the overhead track equipment without it first having been commissioned and handed over to the jurisdiction of “Control”.

3.0 PROCEDURE FOR COMMISSIONING OF SUBSTATIONS

3.1 All track switches involved must be locked in the open position. Should the adjacent overhead track equipment not have been commissioned at this stage, duplicate earth’s must be applied by the overhead track equipment Contractor to all overhead track equipment circuits and he must take all the necessary steps to protect his own staff and the equipment for which he is responsible.

3.2 The substation Contractor’s representative must be present and he must ensure that all his staff have been withdrawn from the equipment and warned that it will be treated as “live” and must endorse the substation log book to this effect.

3.3 Thereafter the Project Manager (Electrical), at the request of the contractor’s representative will arrange for the electrical power supply utility’s switches to be closed.

The substation Contractor may then carry out all switching operations at the substation necessary to commission, test and work on this equipment in accordance with statutory regulations.

3.4 The substation Contractor will be wholly responsible for his own safety and that of his own staff and equipment.

3.5 On completion of commissioning, the substation equipment must be handed over by the Contractor to the Project Manager (Electrical). This handing over must be covered formally in writing.

3.6 After this handing over, the Contractor must have no access to any substation equipment, except with the permission of the Project Manager (Electrical) and the issue of work permits.

3.7 Subsequent handing over of the substation to the maintenance department and “Control” shall follow the normal procedure as laid down in engineering instruction CEE-GI_0l8.

4.0 PROCEDURE FOR THE COMMISSIONING OF OVERHEAD TRACK EQUIPMENT

4.1 The overhead track equipment Contractor will be responsible for his own safety and for all members of his staff. The Contractor must appoint:

4.1.1 A suitable engineer to be responsible for the commissioning of the equipment and;

4.1.2 A suitable representative to liaise between the Contractor’s engineer and the “Authorised” person responsible for the switching in the substation.

4.2 From the date given on the energising notice of any substation, neither the overhead track equipment contractor nor any member of his staff may work on or near any of the track switches or equipment of the substation. This equipment must always be treated as “live”, unless a work permit is issued.

4.3 The Contractor’s engineer must then follow a previously agreed procedure for the energising and proving of all overhead track equipment circuits and accept full responsibility therefore. Each operation performed by the Contractor’s engineer shall be witnessed by the Project Manager (Electrical).

4.4 When operation of the substation circuit breakers is required these will be closed or opened by an authorised person of Transnet Freight Rail/Prasa on the instructions of the Contractor’s engineer only. Such instructions will be received at the substation by the contractor’s representative (4.1.2) and must be clear and concise thus avoiding any possible misunderstanding.

The switching instructions must be repeated by the Contractor’s representative word for word in the presence of the authorised person of Transnet Freight Rail/Prasa. The Contractor’s representative must record the switching request in the substation logbook and the Transnet Freight Rail/Prasa authorised person will then sign the request and execute it under the jurisdiction of “Control”.

On completion of the switching operation the Contractor’s representative will report back to the Contractor’s engineer confirming the switching operation which must again be repeated word for word.

4.5 On completion of all commissioning tests the overhead track equipment must be handed over in the de-energised state to the Project Manager (Electrical). This handing over must be given in writing. The status of individual track switches will be decided on site.

4.6 Thereafter the Contractor’s engineer or any Contractor’s staff shall have no access to the completed overhead track equipment unless a work permit is obtained.

4.7 Subsequent handing over of all overhead track equipment for maintenance purposes and to “Control” shall follow the normal method as laid down in engineering instruction CEE-GI_0l8.

5.0 RELATED INSTRUCTIONS

5.1 This instruction must be read in conjunction with the following electrical engineering instructions;

CEE-GI_018: Inspection and Handing Over of Electrical Equipment.

CEE-GI_019: Procedures for Energising / De-Energising of High-Voltage Electrical Equipment.

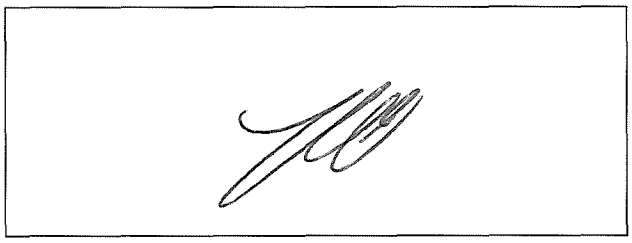
6.0

7.0 AMENDMENTS

6.1 This engineering instruction has been reformatted and updated.

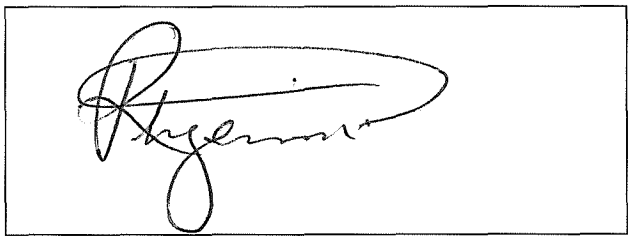
6.2 This instruction cancels Engineering Instruction CEE-T_019 Issue 2 of November 1983.

END



Principal Engineer (Electrical)

Rail Network



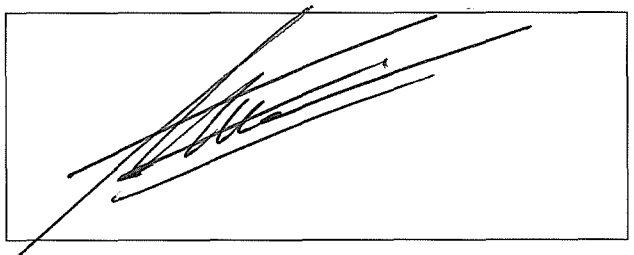
Chief Engineer (Electrical)

RME Rehabilitation and Construction



Principal Engineer (Electrical Technology)

Technology Management



Executive Manager – Strategic Infrastructure

Prasa Technical