

**TRANSNET NATIONAL PORTS AUTHORITY  
CONDITIONAL ASSESSMENT REPORT  
ELECTRICAL REPORT**



**SITE:** EXPRESS WAREHOUSE, MAYDON WHARF, DURBAN  
**COMPILED:** TNPA PORT ENGINEERING DEPARTMENT  
**DATE:** JUNE 2023

## **1. BACKGROUND:**

The site is called Express Warehousing located on Maydon Road, in Maydon Wharf in Port of Durban. The site features a three-storey admin building and a stockpile yard. The only floors that are utilized currently are the ground and first floors.

### **1.1 Assessment Objectives:**

- To conduct a thorough assessment of the electrical installation of the facility (and air-conditioning), as well as the electrical connection from the Municipality.
- To provide a detailed report documenting the results of the assessment.

## **2. GENERAL OBSERVATIONS**

The electrical condition assessment at express warehousing has revealed that the existing electrical installation in the ground and first floors is in good condition. The electrical installation on the second floor needs some attention to be brought to the requirements of the OHS Act Electrical Installation Regulations and SANS 10142: Wiring Code. The electrical Certificate of Compliance for all the distributions boards and installation are in place and will be shared with TNPA.

The facility receives its electrical power from eThekweni Municipality via a mini substation on Maydon Road adjacent to the admin building. The kVA rating of the mini substation could not be determined however the voltage ration is 11kV/400V 50Hz.



**Figure 1:** Main Municipality Supply mini substation

The ground floor and first floor are the only floors that are occupied, and the electrical installation is well

maintained in these two floors. The electrical installation on the 2<sup>nd</sup> floor which is not occupied needs some attention, in some offices lights and socket outlets have either been removed or stripped. There are numerous distribution boards (DB) that exist in the admin building and each floor has its own main 3 phase DB. The condition of the DBs in the first and second floor is good all circuits are clearly labelled and covers, and doors are in place however, the main isolator on the DB on the 3<sup>rd</sup> floor is switched off due to the floor not being occupied. On the ground floor the main 3 phase DB doesn't have a cover the conductors and live bars are exposed needs attention as shown on the figure below.



**Figure 2:** Main DB on the Ground Floors with no cover.

### **3. REGULATORY ENVIRONMENT**

The following Regulatory Environment must be adhered to for all low voltage electrical installations:

- Occupational Health and Safety Act No. 85 of 1993.
- National Environmental Management Act No.107 of 1998.
- National Ports Act No.12 of 2005
- SANS 10142 - Code of Practice for the Wiring of Premises.
- SABS 0147 - Code of Practice for Refrigeration and Air-conditioning installations.

- eThekweni Municipal Bylaws.

## **4. INVESTIGATIONS**

### **4.1. Ground Floor**

#### **4.1.1. Reception Area**

- 5 x 4 tube parabolic fluorescent lights all working
- 1 x split unit Air Conditioning Unit working.
- 4 x double switch socket outlets all working.
- 1 x double lever switch working.

#### **4.1.2 Supervisor's Office**

- 1 x double fluorescent light fitting working.
- 1 x single lever switch working.
- 1 x switch socket outlet working.

#### **4.1.3 Boardroom**

- 6 x decorative fluorescent light fittings all working.
- 4 x downlights all working.
- 2 x split unit Air Conditioning Units both working.
- Uninterrupted Power Supply system.
- 7 x switch socket outlets on power skirting all working.
- 2 x double lever switch working.

#### **4.1.4 HR Manager's Office**

- 2 x fluorescent light fittings both working.
- 1 x Console Unit Air conditioning unit working.
- 1 x single lever switch working.
- 3 x switch socket outlet working.

#### **4.1.5 Passage**

- 1 x single lever switch working.
- 2 x fluorescent light fittings both working.
- 1 x double lever switch working.
- 20-way single phase DB in good condition and properly labelled C.O.C to be shared with TNPA.

#### **4.1.6 SHE Rap Office**

- 2 x double fluorescent light fittings both working.
- 1 x console unit Air Conditioning Unit working.
- 1 x split unit Air Conditioning working.
- 1 x single lever switch working.
- 1 x double switch socket outlet working.

#### **4.1.7 Finance Manager Office**

- 1 x single lever switch working.
- 1 x console unit Air Conditioning unit working.
- 2 x fluorescent light fittings working.
- 1 x switch socket outlet working.

#### **4.1.8 Finance Open Area**

- 3 x double fluorescent light fittings all working.
- 1 x console unit Air Conditioning Unit working.
- 1 x split unit Air Conditioning working.
- 1 x single lever switch working.
- 3 x double switch socket outlet working.
- 3 Phase DB in good condition and properly labelled C.O.C to be shared with TNPA.

#### **4.1.9 Kitchen & Kitchen Foyer**

- 6 x double fluorescent light fittings all working.
- 2 x single lever switch working.
- 6 x double switch socket outlet working.

#### **4.1.10 Workshop**

- 2 x double fluorescent light fittings both working.
- 1 x single lever switch working.
- 1 x double switch socket outlet working.

#### **4.1.11 Storage Area**

- 1 x double fluorescent light fittings working.
- 1 x split unit Air Conditioning Unit working.
- 1 x double switch socket outlet working.

#### **4.1.12 Toolbox Room**

- 5 x double fluorescent light fittings all working.
- 1 x Split Unit Air Conditioning Unit working.
- 2 x double switch socket outlet working.
- 2 x single lever switch working.

#### **4.1.13 Clinic**

- 6 x double fluorescent light fittings all working.
- 1 x split unit Air Conditioning working.
- 1 x Air Conditioning Unit isolator.
- 1 x extractor fan.
- 1 x single lever switch working.
- 3 x double switch socket outlet working.
- 3 Phase DB not properly labelled and cover missing C.O.C to be shared with TNPA.

### **4.2. First Floor**

#### **4.2.1. Office Number 1**

- 3 x double fluorescent light fittings all working.
- 1 x Split Unit Air Conditioning Unit working.
- 3 x switch socket outlet working.
- 2 x single lever switch working.

#### **4.2.2. Office Number 2**

- 3 x 4 tube fluorescent light fittings all working.
- 1 x Split Unit Air Conditioning Unit working.
- 3 x switch socket outlet working.
- 1 x single lever switch working.

#### **4.2.3. Office Number 3**

- 2 x 4 tube fluorescent light fittings all working.
- 1 x Console Unit Air Conditioning Unit working.
- 3 x switch socket outlet working.
- 1 x single lever switch working.

#### **4.2.4. Office Number 4**

- 2 x double fluorescent light fittings all working.
- 1 x Split Unit Air Conditioning Unit working.
- 3 x switch socket outlet working.
- 1 x single lever switch working.
- 3 Phase DB in good condition and properly labelled C.O.C to be shared with TNPA.

#### **4.2.5. Office Number 5**

- 1 x double fluorescent light fittings all working.
- 1 x Split Unit Air Conditioning Unit working.
- 2 x switch socket outlet working.
- 1 x single lever switch working.

#### **4.2.6. Office Number 6**

- 1 x double fluorescent light fittings all working.
- 1 x Split Unit Air Conditioning Unit working.
- 2 x switch socket outlet working.
- 1 x single lever switch working.

#### **4.2.7. Office Number 7**

- 2 x double fluorescent light fittings all working.
- 2 x single lever switch working.

#### **4.2.8. Office Number 7A**

- 2 x double fluorescent light fittings all working.
- 2 x switch socket outlet working.
- 1 x single lever switch working.

#### **4.2.9. Office Number 8 (Foyer)**

- 1 x double fluorescent light fittings all working.
- 1 x 3 lever switch working.

#### **4.2.10. Office Number 8A**

- 1 x double fluorescent light fittings all working.
- 1 x Split Unit Air Conditioning Unit working.
- 2 x switch socket outlet working.
- 1 x window wall unit air conditioning unit working.

#### **4.2.11. Office Number 9**

- 2 x double fluorescent light fittings all working.
- 1 x Console Unit Air Conditioning Unit working.
- 1 x switch socket outlet working.

#### **4.2.12. Office Number 10**

- 2 x double fluorescent light fittings all working.
- 1 x Window Wall Air Conditioning Unit working.
- 4 x switch socket outlet working.

#### **4.2.13. Office Number 11**

- 2 x 4 tube Parabolic fluorescent light fittings all working.
- 1 x Console Unit Air Conditioning Unit working.
- 2 x switch socket outlet working.

#### **4.2.14. Office Number 12**

- 2 x double fluorescent light fittings all working.
- 1 x single lever switch working.
- 2 x switch socket outlet working.

#### **4.2.15. Open Area Office**

- 9 x double fluorescent light fittings all working.
- 1 x Split Unit Air Conditioning Unit working.
- 6 x switch socket outlet working.

#### **4.2.16. Partitioned Office**

- 1 x single tube fluorescent light fitting working.
- 1 x Console Unit Air Conditioning Unit working.
- 2 x switch socket outlet working.



#### **4.2.17. Passage & Stairs**

- 4 x double tube fluorescent light fittings all working.

### **4.3. Second Floor**

#### **4.3.1. Office 20A**

- 3 x double tube fluorescent light fittings all working.
- 2 x Console Unit Air Conditioning Unit working.
- 7 x switch socket outlet working.
- 1 x switch lever.

#### **4.3.2. Office 22**

- 14 x double tube fluorescent light fittings all working.
- 4 x Window Wall Unit Air Conditioning Unit working.
- 22 x switch socket outlet working.
- 3 x console unit Air Conditioning Unit.
- 1 x single lever switch working.

#### **4.3.3. Office 22A**

- 1 x double tube fluorescent light fitting working.
- 4 x switch socket outlet all working.
- 1 x single lever switch.

#### **4.3.4. Office 24**

- 1 x double tube fluorescent light fittings working.
- 4 x switch socket outlet working.
- 1 x switch lever.
- 3 Phase DB in good condition and properly labelled C.O.C to be shared with TNPA.

#### **4.3.5. Office 25**

- 2 x Console Unit Air Conditioning Unit working.
- 3 x switch socket outlet working.
- 1 x switch lever.

#### **4.3.6. Office 26**

- Light fittings removed.
- 6 x switch socket outlet working.
- 1 x switch lever.

#### **4.3.7. Office 28**

- Lights removed.
- 2 x Console Unit Air Conditioning Unit working.
- 1 x switch lever.

#### **4.3.8. Office 29**

- 1 x double tube fluorescent light fitting working.
- 1 x switch lever.

#### **4.3.9. Office 29A**

- All electrical wiring and associated apparatus have been removed.

## Annexure A



**Figure 3:** Ground Floor Passage DB in good condition.



**Figure 4:** Ground Floor DB in good condition.



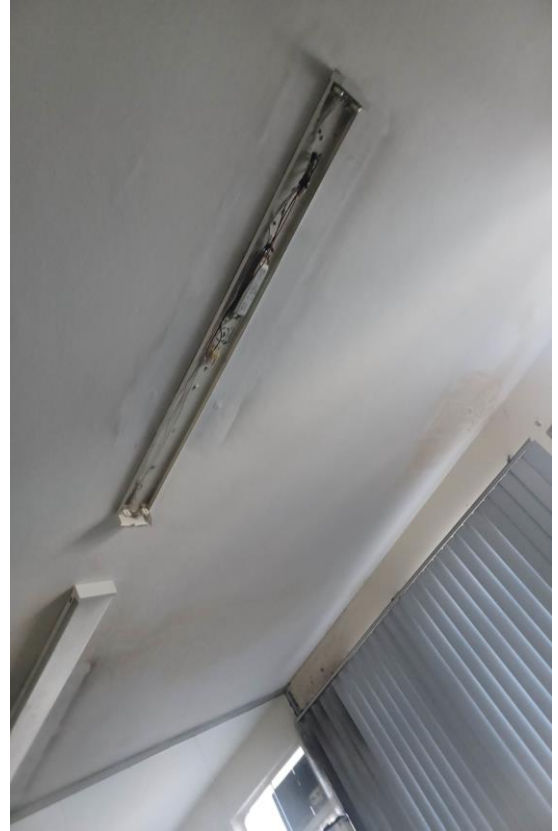
**Figure 5:** First Floor DB in good condition.



**Figure 6:** 3<sup>rd</sup> floor AC isolator disconnected.



**Figure 7:** 3<sup>rd</sup> Comms Cables Not Housed Properly.



**Figure 6:** Light needs re-lamping.



**Figure 7:** Condition of an AC unit on the 3<sup>rd</sup> floor.



**TRANSNET NATIONAL PORTS AUTHORITY  
CONDITIONAL ASSESSMENT REPORT  
ELECTRICAL REPORT**



**SITE:** DG WAREHOUSE, MAYDON WHARF, DURBAN  
**COMPILED:** TNPA PORT ENGINEERING DEPARTMENT  
**DATE:** 23/06/2023

## **1. BACKGROUND:**

TNPA requires an electrical exit report for the facility at Maydon Wharf McBride Road occupied by DG Warehouse in the Port of Durban. TNPA and the tenant is starting a new lease agreement where the tenant needs to occupy the site. Transnet require a pre-entry inspection for the status of electrical infrastructure before the tenant takes over. The electrical inspection report will detail the findings of the electrical installation in the facility and issue recommendations.

### **1.1 METHODOLOGY**

The OHS Act requires that the assessed electrical substation and installations concerned comply with the requirements of SANS 10142-1 and other SANS applicable normative references. Where SANS proved to be silent in addressing specific requirements for the assessment, applicable references from the International Electrotechnical Commission (IEC), the National Electrical Code (NEC), the Institute of Electrical and Electronics Engineers (IEEE) and the publications of Global Asset Protection Services (GAPS) were used to inform the findings and recommendations. The intent of the standards was also studied to appropriately assess the enforcement of the regulations. It was also important to apply a thought process of the possible risk analysis application that might have been a motivation for the installation at the time, this possibly exempted the application of other standards for the respective installation.

The assessment was primarily based on a visual inspection of the substation rooms and the housed electrical plant. Useful information such as drawings and previous maintenance records were not available during the assessment

### **1.2 Assessment Objectives:**

- To conduct a condition assessment of the Low Voltage (LV) electrical installation and Heating, Ventilation and Air-conditioning (HVAC) systems at this facility.
- To provide a detailed report documenting the findings and sound recommendations before the building is handed over to TNPA.

## **2. GENERAL OBSERVATIONS**

The electrical condition assessment has revealed that the existing electrical installation in this site is not a formal installation, the site has no building, electrical kiosk. The tenant mentioned that for now they operate mostly during the day and as and when required at night. The electrical installation existing on the site is for 11 LED flood lights mounted on the wall. These LED are only powered by the portable generator. The entire site does not have electrical supply from TNPA or eThekweni. This site is used for dry bulk cargo and machinery cargo.

## **3. REGULATORY ENVIRONMENT**

The following Regulatory Environment must be adhered to for all low voltage electrical installations:

- Occupational Health and Safety Act No. 85 of 1993.
- National Environmental Management Act No.107 of 1998.
- National Ports Act No.12 of 2005
- SANS 10142 - Code of Practice for the Wiring of Premises.
- SABS 0147 - Code of Practice for Refrigeration and Air-conditioning installations.
- EThekweni Municipal Bylaws.
- SANS Building Regulations

## **4. INVESTIGATIONS**

No formal fixed source of electricity from Transnet & eThekweni Municipality

Existing temporal lighting of 11 LED flood lights mounted on the wall are fed from portable generator only when required at night not every day.

No valid electrical Certificate of Compliance (CoC) produced during the site inspection since installation is temporal and informal.

### **4.4 RECOMMENDATIONS**

When the site changes its operations and require lights, they can request from TNPA.

When future expansion of building a shed or facility materialize, they must do electrical installations according to SANS 10142-1. Issue all electrical certificate of compliance (COC) to TNPA property representative.

**ANNEXURES:**



**Figure 1: Flood lights mounted on the wall**





**Figure 2: Plug Top where portable generator normally connect to flood lights**



**Figure 3: The area is used for outdoor stacking of dry cargo**





**Figure 4: The area is used for outdoor stacking of dry cargo**