

SPECIFICATION
TRANSNET NATIONAL PORTS AUTHORITY
PORT OF RICHARDS BAY
INFRASTRUCTURE ELECTRICAL

Assessment and Repairs of TNPA Chemical Berth and Maritime House Paint Shop –
Port of Richards Bay
Shall include the following:

1. PROJECT BACKGROUND

The TNPA Chemical Berth and the Paint Shop at Maritime House are classified as hazardous areas due to the presence of flammable vapours, solvents, and chemicals. Electrical infrastructure in these environments must be inspected, assessed, and repaired in accordance with applicable legislation, codes, and standards. The end product of this project shall be the issuance of a valid Electrical Certificate of Compliance (CoC) covering the works undertaken.

2. REQUIREMENTS

- Conduct a full hazardous area electrical inspection of the Chemical Berth and Paint Shop.
- Identify non-conformances against SANS 10142-1, SANS 60079 series, and TNPA engineering standards.
- Perform repairs, replacements, and corrective actions to restore compliance.
- Provide a comprehensive Hazardous Location Electrical Installation Report.
- Issue an Electrical Certificate of Compliance (CoC) upon satisfactory completion.

3. PREQUALIFICATION CRITERIA

- The Electrician to be registered Master electrician

4. APPLICABLE STANDARDS AND REGULATIONS

The works shall comply with the following (latest revisions):

- Occupational Health and Safety Act, 1993 (Act No. 85 of 1993)
- SANS 10142-1: Wiring of Premises – Low Voltage Installations
- SANS 60079 Series: Explosive Atmospheres (Ex equipment and installations)

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- SANS 347: Pressure equipment regulations (where relevant to hazardous zoning)
- TNPA Engineering and SHEQ Standards
- IEC 60079 / ATEX directives (where applicable)
- ISO 50001 Energy management systems
- Municipal and Port Authority electrical regulations

5. SCOPE OF WORK

5.1 Site Assessment

- Review as-built electrical drawings (if available).
- Inspect the following systems for compliance:
 - Lighting (Ex-rated luminaires, emergency lighting)
 - Power distribution boards and feeders
 - Earthing and bonding of metallic structures and equipment
 - Cable glands, terminations, and junction boxes (Ex e, Ex d, Ex n)
 - Hazardous area motors, pumps, and drives
 - Paint shop ventilation and extraction system interlocks
 - Chemical berth loading arms, pumps, and auxiliary equipment
 - Isolators, switches, and control stations in classified zones
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5.2 Repairs and Rectifications

- Replace or repair non-compliant components with Ex-certified equipment (ATEX/IECEX).
- Re-terminate damaged cables with certified glands and seals.
- Restore integrity of protective earthing and bonding systems.
- Correct labeling and hazardous area signage.
- Repair/replace defective lighting and emergency circuits.
- Ensure flameproof enclosures (Ex d) are intact, properly sealed, and torque-correct.
- Test functional interlocks on ventilation, pumps, and emergency shutdown systems.

5.3 Testing and Verification

- Continuity and insulation resistance tests on all circuits.
- Earth loop impedance testing.
- Verification of equipotential bonding.
- Functional testing of lighting, power, and emergency systems.
- Verification of hazardous area equipment certifications.

6. DOCUMENTATION DELIVERABLES

The contractor shall submit the following:

Hazardous Area Electrical Installation Inspection Report (before and after repairs).

List of Non-Conformances and corrective actions taken.

Test Results & Verification Certificates (continuity, insulation, earth loop).

Updated As-Built Drawings (if modifications were made).

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Electrical Certificate of Compliance (CoC) covering the works, signed by a registered person in terms of the OHS Act and Electrical Installation Regulations.

7. PROGRAMME AND HANDOVER

- Duration of inspection and repair: To be agreed with TNPA based on berth operational schedule.
- Handover requirements:
 - Joint inspection with TNPA representatives.
 - Submission of full documentation package.
 - Issuance of final **Electrical Certificate of Compliance (CoC)**.

8. TIMELINES

- The Contractor shall provide the lead time for the service.

9. GUARANTEE

- The Contractor shall provide a warrantee for workmanship.

10. COMMERCIAL ASPECTS

- The final payment will only be released after the services have been rendered.

11. GENERAL

- The Contractor shall note that communication between all parties will be of paramount importance to the success of the project.
- TNPA representative shall inspect the delivered Power Measurement and Control System ensure that it comply with the specification.