

**SITE COMPLETION CHECKLIST
PLANT INTERFACING WORK(PIW)
(PRE-CABLING & INSTALLATION)**



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|---------|-------------|----------|---|------|-------------|
| Doc No. | SCC PIW(PC) | Rev. No. | 1 | Date | 5 JUNE 2020 |
|---------|-------------|----------|---|------|-------------|

CONTRACT TITLE :

**PEMBEKALAN, PEMASANGAN, PENGUJIAN DAN MULATUGAS FASILITI SCADA (RTU) UNTUK PROJEK SBU ASSET
DEVELOPMENT DISTRIBUTION NETWORK DIVISION. TNB**

| | | |
|---|--------------------------------|---|
| CONTRACT NO. : | TNB131/2024 | |
| CONTRACTOR : | ARAS KEJURUTERAAN | |
| DATE : | 31-07-2025 | |
| SUBSTATION NAME : | SSU RESIDENSI SKYLINE 1 | |
| FUNCTIONAL LOCATION : | WKLC/PCE/J02040 | |
| SUBZONE : | WKLC | |
| STATE : | W.P. KUALA LUMPUR | |
| WORK TYPE : (Tick "✓" whichever applicable) | | Plant Interfacing Work (PIW) VCB |
| | | Plant Interfacing Work (PIW) M-RMU |
| | ✓ | INTEGRATED AD VCB |
| | | INTEGRATED AD M-RMU |

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| Doc No. | SCC PIW(PC) | Rev. No. | 1 | Date | 5 JUNE 2020 |
| A1. SCC PIW (DURING PRE-CABLING & INSTALLATION) | | | | | |
| CONTRACT NO. : | | TNB131/2024 | | | |
| FUNCTIONAL LOCATION : | | WKLC/PCE/J02040 | | | |
| SUBSTATION NAME : | | SSU RESIDENSI SKYLINE 1 | | | |

Check boxes as follows: (✓) OK NI : Need Improvement (Pls. give comments at 'Remark' column)

| No. | Description | OK | NI | REMARKS |
|---|---|----|----|---------|
| 1. Visual Checks on RCB | | | | |
| i. | RCB cabinet is properly mounted & aligned at the wall / designated area. | ✓ | | |
| ii. | QR code / label is available inside RCB Cabinet. The information on QR label* is scanned & checked (according to SOW) [* If available for this contract] | ✓ | | |
| iii. | All wirings to the terminal blocks are terminated tightly and terminal blocks are in good condition. | ✓ | | |
| iv. | All cables shall be properly glanded at the cable entry points using proper glanding and sealing (to ensure no space/gap between the cable entry points/glands and the panel) | ✓ | | |
| v. | For RCB Multi-pin with Interconnector cables, inspect condition of pins (not bended/broken/'sub-merged' in the holder). | ✓ | | |
| vi. | For RCB Multi-pin with Interconnector cables, check pin no. assignment with signal arrangement. | ✓ | | |
| vii. | For RCB Multi-pin with Interconnector cables, check DC Earth fault to Ground. | ✓ | | |
| viii. | For RCB Multi-pin with Interconnector cables, check cable support to avoid stress on the connector side. | ✓ | | |
| ix. | For RCB Multi-pin with Interconnector cables, ensure cables on both ends are connected to the correct feeder number. | ✓ | | |
| 2. Visual and Physical Checks on Cablings and Terminations | | | | |
| i. | All non-armoured cables shall be installed in rigid high impact PVC conduits, neatly secured in position and adequately supported where necessary in an approved manner. | ✓ | | |
| ii. | The size of the PVC conduit shall be 25 mm in diameter and the colour of the conduit and fittings shall be orange. The conduits shall be fixed by means of saddles secured rigidly at intervals not exceeding 750 mm. | ✓ | | |
| iii. | Cable supports/brackets/elbows shall be installed at intervals not greater than 1500 mm for vertical runs and not greater than 1000 mm for horizontal runs. The brackets shall be derusted, finished in a primer and coated with standard orange enamel. The brackets/elbows shall not be painted. | ✓ | | |
| iv. | For armoured cables, cable supports, elbows, cleats, trays shall be used. All materials must be of galvanised type (of at least 1.2 mm in thickness). | ✓ | | |
| v. | For each termination from VCB / MRMU / EFI / Battery Charger / AC point to RCB: (i) Core number shall be marked using ferrules (ferrules shall be of one character slip-on interlocking type only). (ii) Diameter of interlocking ferrules shall be 2.5 mm & preferred brand is Partex. (iii) "TRIP" ferrules (red colour) for trip circuits. No two or more plant panels shall share a common/same cable. All cables shall be properly labelled at both ends as per signal arrangement drawings using heat shrinkable labels or cable tags. | ✓ | | |
| vi. | No two or more plant panels shall share a common/same cable. | ✓ | | |

Observations:

| | |
|---|---|
| Checks conducted by: Contractor's Signature & Stamp: | Verified by: TNB's Representative Signature & Stamp: |
|  | |
| Name: MOHD TARMIZI BIN ALIAS | Name: |
| Date: 31-07-2025 | Date: 05-01-2026 13:43:27 |

**SITE COMPLETION CHECKLIST
PLANT INTERFACING WORK(PIW)
(PRE-CABLING & INSTALLATION)**



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| No. | Description | OK | NI | REMARKS |
|-----------|---|----|----|---------|
| 3. | Visual Checks on Installations | | | |
| a. | Battery Charger (including Batteries) | | | |
| i. | Mounted in stable condition & aligned at the designated area. | ✓ | | |
| ii. | Use of proper Torque Wrench (11 Nm) for installation of batteries | ✓ | | |
| iii. | QR Label Information is available inside Battery Charger Panel. Scanned and checked information on QR label* (according to SOW). [* If available for this contract] | ✓ | | |
| b. | Earth Fault Indicators (EFIs) | | | |
| i. | Installed on a mounting board, at designated area with cable markings for each EFI. | ✓ | | |
| ii. | Not more than 2 nos. of EFIs on the mounting board. | ✓ | | |
| 4. | Site Drawings & Tests | | | |
| i. | Hardcopy of Approved Drawings - Documents are available & placed inside RCB / RTU panel. [Note: Any changes to the drawings shall be updated in softcopy and passed to TNB as As-built drawings]. | ✓ | | |
| ii. | Hardcopy of Mastersheet & Wiring List (Working Copies) - Any changes shall be updated/written in the Mastersheet & Wiring List & verified, signed and stamped by supervisor / representative - Documents are available & placed inside RCB / RTU panel. | ✓ | | |

Observations:

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| Checks conducted by: Contractor's Signature & Stamp: | Verified by: TNB's Representative Signature & Stamp: |
|  | |
| Name: MOHD TARMIZI BIN ALIAS | Name: |
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PLANT INTERFACING WORK(PIW)
(PRE-CABLING & INSTALLATION)**



Doc No.

SCC PIW(PC)

Rev. No.

1

Date

5 JUNE 2020

**Technical Specification
Remote Control Box (RCB) With Multi-Pin Connection
For Substations**



Specification No.

KEJ07409:2017

Revision No. 1

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Approved by

TNB, Distribution Division Technical Committee Dated 5th December 2017

4.6.5 Pin Assignments

Check boxes as follows: (✓) OK NI : Need Improvement (Pls. give comments at 'Remark' column)

| Pin No | Signal Arrangement | Group | REMARKS |
|--------|---|---------|---|
| 1 | Earth point | | Common point to earth the connector, RCB & switchgear |
| 2 | Gas low alarm indication point (if applicable) | Alarm | Voltage free contact. Closes when Gas Low Alarm operated w.r.t Common at Pin 15 |
| 3 | Spare | | Spare |
| 4 | LBS/CB Open Indication point | Status | +ve wetted for Aux Relay coil w.r.t Common at Pin 8 |
| 5 | LBS/CB Close Indication point | | +ve wetted for Aux Relay coil w.r.t Common at Pin 8 |
| 6 | ES Open Indication point | | +ve wetted for Aux Relay coil w.r.t Common at Pin 8 |
| 7 | ES Close Indication point | | +ve wetted for Aux Relay coil w.r.t Common at Pin 8 |
| 8 | Common from plant (Return for Pin 4, 5, 6 & 7) | | -ve wetted from plant |
| 9 | Local/Remote Indication point | | Voltage free contact. Close when in Remote Position w.r.t Common at Pin 15 |
| 10 | Trip circuit supervision alarm indication point | Alarm | Voltage free contact. Close when TCS operated w.r.t Common at Pin 15 |
| 11 | Overcurrent trip indication point | | Voltage free contact. Close when OC operated w.r.t Common at Pin 15 |
| 12 | Earthfault trip indication point | | Voltage free contact. Close when EF operated w.r.t Common at Pin 15 |
| 13 | Protection relay common alarm indication point | | Voltage free contact. Close when Protection relay common alarm (IRF + Comm Fail for CD) operated w.r.t Common at Pin 15 |
| 14 | Current Differential trip indication | | Voltage free contact. Close when Current Diff operated w.r.t Common at Pin 15 |
| 15 | Common from plant (Return for Pin 9-14) | | Voltage free contact common |
| 16 | Close Command common | Control | Close Command common |
| 17 | Close Command from Remote/Supervisory | | HDIR contact w.r.t Common at Pin 16 for Close command |
| 18 | Open Command common | | Open Command common |
| 19 | Close Command from Remote/Supervisory | | HDIR contact w.r.t Common at Pin 18 for Close command |

Observations:

Checks conducted by:
Contractor's Signature & Stamp:

Verified by:
TNB's Representative Signature & Stamp:

Name: MOHD TARMIZI BIN ALIAS

Date: 31-07-2025

Name:

Date: 05-01-2026 13:43:27

**SITE COMPLETION CHECKLIST (SCC)
REMOTE TERMINAL UNIT
SITE ACCEPTANCE TEST (SAT)**



| | | | | | |
|----------------|------------------------|-----------------|----------|-------------|--------------------|
| Doc No. | SCC - RTU (SAT) | Rev. No. | 1 | Date | 5 June 2020 |
|----------------|------------------------|-----------------|----------|-------------|--------------------|

Note: Please sketch the building layout and the location of:

- a. RCB panel
- b. Battery Charger
- c. EFIs location
- d. Switchgear Panel
- e. RTU Panel

SITE DRAWING:

A large, empty rectangular box with a black border, intended for a site drawing or sketch.

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| BEFORE INSTALLATION | | |
|--|--|--|
| OVERALL PICTURE OF SUBSTATION OUTER WALL (WITH SUBSTATION NAME) | OVERVIEW OF SWITCHGEAR (WITHOUT PRE-CABLING) | DESIGNATED SPACE/WALL FOR REMOTE CONTROL BOX INSTALLATION |
| DESIGNATED SPACE/WALL FOR BATTERY CHARGER INSTALLATION | EXISTING EFI(s) OR DESIGNATED SPACE/WALL FOR EFI INSTALLATION | EXISTING EFI(s) OR DESIGNATED SPACE/WALL FOR EFI INSTALLATION SECOND PIC (IF ANY) |
| | | |
| | | |

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| SUBSTATION NAME : | SSU RESIDENSI SKYLINE 1 | | | | |

| AFTER INSTALLATION | | |
|--|--|--|
| OVERALL PICTURE OF SUBSTATION OUTER WALL (WITH SUBSTATION NAME) | OVERVIEW OF SWITCHGEAR (WITH COMPLETED PRE-CABLING) | REMOTE CONTROL BOX (AFTER INSTALLATION) |
| BATTERY CHARGER (AFTER INSTALLATION) | EFI(s) (AFTER INSTALLATION) | EFI(s) (AFTER INSTALLATION) SECOND PICTURE (IF ANY) |
| | | |
| | | |

VERIFIED BY TNB

TNB Personnel:

Verified at: 05-01-2026 13:43:27