

## WORK INSTRUCTION

# Field Audit & Quality - Open Trench Audit Inspection Work Instruction

**Document ID: JEQA4UJ443MT-150-348**  
(Formerly 12-15-W0002)

---

### Purpose

This work instruction documents the requirements for Open Trench Audit Inspections of CitiPower/ Powercor underground electrical assets to ensure that they are inspected at a preliminary stage (whilst visible prior to final backfill) to:

- Confirm installation in accordance with the project scope of works, approved construction drawing(s) and CP/PAL Technical Standards.
- Verify that as-built details have been recorded by a Recognised Cable Detailer and to allow CP/PAL accuracy validation from sample inspection points.
- Verify that Cable Hauling has been undertaken in accordance with CP/PAL Technical Standards and appropriate work practices (where applicable).
- Record additional special requirements and mandatory inspection items (including photos) for all URD and Option 2 underground projects.
- Allow for any identified non-compliant issues to be easily and cheaply rectified prior to backfill of assets and final surface completion.

This work instruction shall be read in conjunction with **Open Trench Audit Report (Civil, Electrical & Cable Hauling): JEQA4UJ443MT-160-149** that provides further detail on the required inspections.

---

### Application

This work instruction applies to **all** CP/PAL projects involving installation of underground electrical assets (civil and electrical) up to 132kV by internal company resources, contracted resource partners and approved external service providers where final ownership is vested in CitiPower/Powercor.

Applicable projects include residential/industrial estates (URD), single commercial/industrial projects, public lighting schemes, internal CitiPower/Powercor works etc. across all project streams - customer projects, recoverable works, maintenance, supply quality and system improvements.

Besides UG electrical assets, it also applies to any civil works for electrical installation - trenching, conduit installation, kiosk substation site preparation etc.

This Work Instruction does not apply to UG services with cables  $\leq 50\text{mm}^2$  installed by a civil contractor (who has a direct contract with CP/PAL for provision of services) under the **Manage Minor Works Procedure: JEQA4UJ443MT-203-14** and where an **Underground Service Pit Installation Checklist: 04-35-F002/JEQA4UJ443MT-160-49** is completed and submitted. Note: Cables  $> 50\text{mm}^2$  installed by a civil contractor require an Open Trench audit completed by an endorsed WC and/or WE auditor.

It also does not apply to UG assets once they have entered a customer's building enclosure, e.g. HV or LV conduits installed through a building basement for entry into an indoor substation. These assets are covered under the substation inspection requirements and the Building Code. Any conduits outside the building to the property boundary are subject to an Open Trench Audit however.

Open Trench audits are a mandatory pre-requisite for all URD and Option 2 projects involving underground assets, including pole-to-pit installations carried out with Option 2 works. This also applies to any CitiPower contestable projects involving UG assets. A fully compliant Open Trench audit report (with all relevant sections completed and supporting information provided) must be submitted with a Network Final Audit request for all Option 1/2 URD, Option 2 UG and CitiPower contestable UG projects.

Note: URD projects are defined as any project where we make multiple UG customer supplies available, including industrial subdivisions and multiple supplies to existing crown allotments with URD type assets. But the URD definition excludes multiple line-of-mains pole-to-pit UG services or a STJ and single pit for a 2 lot subdivision.

All defined URD projects require a Network Final Audit to be conducted including submission of a pre-requisite compliant Open Trench audit. Also note that URD and Option 2/contestable UG projects require **all** electrical assets (including conduits etc.) to be inspected and approved by a VEDN endorsed auditor, and this may involve multiple site visits throughout the construction stage.

---

### Qualifications and Skills

The required field audit activities and report completion may only be undertaken by VEDN endorsed auditors in the Worksite Civil (WC), Worksite Electrical (WE), and CP/PAL Network (NE & NW) categories including Cable Hauling Auditors (H) where applicable.

Auditors must hold current relevant Electricity Supply Industry (ESI) Worker or CP/PAL Network Operational Access Authorities; otherwise they must comply with Victorian Government No Go Zone regulations.

---

### Warnings and Hazards

In most situations the electrical assets subject to audit are not yet alive and have not been cleared for service - they are classified as "under construction". However other adjacent electrical assets in the vicinity may be alive. Prior to commencement of the audit the auditor must identify all electrical assets in the vicinity, confirm the electrical status and isolation of the assets to be audited and maintain Safe Approach Distances (for electrically trained and authorised personnel) or No Go Zone distances from any adjacent live assets.

---

### Definitions and Acronyms

Definitions, acronyms and abbreviations used in this document:

- Auditors, VEDN endorsed:
  - **Worksite Auditor Civil (WC)** - Approved to carry out civil open trench audits for Developer/Customer managed projects.
  - **Worksite Auditor Electrical (WE)** - Approved to carry out open trench civil and electrical audits for Developer/Customer managed projects.
  - **Network Business Auditor Electrical (NE)** - Approved to carry out open trench civil and electrical audits (not Final Audits) for Network Owner managed projects.

- **Network Worksite Auditor (NW)** - Network Owner employed auditor approved to carry out all audits, including Final Audits, on all projects for the Network Owner.
- **Cable Hauling Auditor (H)** - Electrical auditor approved to conduct cable hauling audits. “H” suffix added to existing electrical auditor designation.
- CP/PAL - CitiPower Pty/Powercor Australia Ltd.
- OH and UG - Overhead and Underground.
- Option 1/2 - A customer selection indicating if a project is to be constructed by CitiPower/Powercor resources (Option 1) or a recognised external service provider (Option 2). Only applicable to projects deemed contestable.
- URD - Underground Residential/Reticulated Distribution/Development. Generic industry term for underground distribution to multiple customers and also applied to industrial subdivisions.
- VEDN - Victorian Electricity Distribution Network is a committee of the Victorian Electricity Supply Industry (VESI) which is responsible for accrediting Contractors and Auditors who are involved in the civil aspects of underground electrical infrastructure. Refer: [www.vesi.com.au](http://www.vesi.com.au)

**Related Documents**

This work instruction is supported by the following documents :

- Open Trench Audit Inspection Guideline JEQA4UJ443MT-160-95 (not available to personnel external to CP/PAL)
- Open Trench Audit Report (Civil, Electrical & Cable Hauling): JEQA4UJ443MT-160-149

**Issue Number, Date & Review**

The Issue Number of this Guideline is: Issue No. 3

The Issue Date of this Guideline is: July 2019

The Guideline was last reviewed by the Business Process Owner on: July 2019

**Document Owners**

- Business Process Owner (BPO) title: **Field Audit and Quality Manager**
- Business Process Analyst (BPA) title: **Quality Assurance Officer**

**REPORT ACCESS**

---

**Report Locations**            For auditors external to CP/PAL, the report can be obtained from the Powercor website [www.powercor.com.au](http://www.powercor.com.au)

For CP/PAL auditors the report is located in The Source.

---

**INFORMATION FOR COMPLETION OF REPORT SECTIONS**

---

**Front Page**                All information to be completed including VEDN numbers. Incomplete forms for URD/Option 2 UG or contestable UG projects will be rejected.

---

- 1. Open Trench Civil**        May be completed by a Worksite Civil, Worksite Electrical or Network auditor. The VEDN civil audit report may be used if necessary but the CP/PAL report form is preferred. If conducted separately the civil audit report must be forwarded to the Project Manager AND the Worksite Electrical auditor (if appointed) for continuity. Note that as-built detail sample inspection points (refer section 2) may only be completed by an electrically endorsed auditor (or a qualified surveyor if a WE auditor has not yet been appointed), and not by the person recording the as-built details. So if conduits are installed and backfilled for later cable installation, additional excavations may be required at a later audit stage.

---
- 2. Open Trench Electrical**    This section may only be completed by an Electrically endorsed auditor. The sample inspection points (as-built detail checks) may only be completed by an electrically endorsed auditor (or a qualified surveyor - note section 1 above) and must not be recorded by the cable detailer or lifted off as-built drawings at a later stage - they are an accuracy check for the as-built details.

It is important that any scope or design variations are noted and Variation Approval by the CP/PAL Responsible Officer noted. (It is the Project Manager's responsibility to obtain and provide any Variation Approvals to the auditor.)

---
- 3. Cable Hauling Checklist**    This section must be completed by a Cable Hauling endorsed auditor only. If cables were installed manually, then this must be clearly noted on the report and the remaining sections completed. The auditor must observe cable hauling on site.

---

- 4. URD & Option 2 UG Extras**
- This section is for use on all URD and Option 2 UG/Contestable UG projects that are subject to a Network Final Audit prior to connection to the electricity network. A complete and compliant report must be submitted with a Final Audit request.
- It would usually be completed by an electrically endorsed auditor, however there is provision for a WC auditor to inspect and sign off on the civil component.
- The information required is detailed on the report and essentially relates to assets not able to be inspected at the Final Audit (under roads and footpaths and deep assets). Photos and location data may be required subject to the nominated criteria. All electrical assets and conduits must be inspected and this is acknowledged by the auditor's signature. There is provision for multiple electrical auditors to sign the document with one auditor taking overall responsibility.
- 

## REPORT COMPLETION & SUBMISSION

---

**Report Completion**

Completed reports must indicate that all applicable inspection items are compliant with CP/PAL Technical Standards and requirements - any rectification items must have been completed and verified. A copy of any Approved Variations must also accompany the report together with photos where required.

---

- Report Submission**
- 1. Option 2 and Contestable projects**

Worksite Civil auditors who complete only section 1 of the report may be employed by or have been engaged by a Civil Contractor, but they need to ensure that the completed document is forwarded to the electrical Project Manager and the Worksite Electrical auditor (if appointed) for continuity.

Similarly Worksite Electrical auditors may be employed by or engaged by a civil contractor, or by a Project Management company. In any case they must ensure that the completed report and any associated documentation is returned to the Project Manager for submission with the Network Final Audit Request.
  - 2. Internal CP/PAL UG or Option 1 URD projects**

For internal UG projects the completed report is to be emailed to the Works Delivery Officer (WDO) for attachment to the project PM Order.

For Option 1 URD projects the report is to be emailed to both the WDO and the Project Manager (Senior Project Delivery Lead/Project Delivery Specialist) for submission with the Network Final Audit Request.
-