METHOD STATEMENT

FOR EXCAVATION, LV CABLE LAYING AND BACKFILLING

Client :	**TAQA Distribution (TAQA-D)**
Contractor :	**Falcon Middle East Contracting & General Maintenance**
Project Title :	**D-111661/E, Long Term Rate Agreement for Supply and Installation of Underground Cable, Electrical Distribution Equipment, OHL and allied works in Abu Dhabi Central & Eastern Region (LOT 1).**
Document Title :	**Method Statement for Excavation & LV Cable Laying Including Backfilling**

1. DOCUMENT CONTROL

Rev.	Date	Description	Prepared by (QA/QC)	Checked by (PE)	Reviewed by (PM)	Approved by
00	11.06.24	Initial Issue	Eng. Bala	Eng. Saddam Masood	Eng. Tareq Badran	TAQA
01	10.05.25	Review	Eng. Bala	Eng. Saddam Masood	Eng. Tareq Badran	TAQA
02	01.09.26	Review	Eng. Bala	Eng. Saddam Masood	Eng. Tareq Badran	TAQA
03	09.10.26	**Reviewed and revised in response to TQD comments**: Method Statement and Risk Assessment has been revised to incorporate underground utility identification, unexpected service depth (sec. 6.0, Page no. 7-9), Cable-detector requirements (Sec. 6.2, Page no. 8), Progressive scanning (sec. 6.2 Page no. 9), Trial holes(sec. 6.3,Page no. 9), Positive identification, hand excavation, CP/AP hold points,(Sec. 6.3 Page no. 11) Protection of exposed services, Stop Work Authority notification and incident reporting requirements. (Sec. 6.8.1,Page no. 13)	Eng. Bala	Eng. Saddam Masood	Eng. Tareq Badran	TAQA
Signature						



Client :	**TAQA Distribution (TAQA-D)**
Contractor :	**Falcon Middle East Contracting & General Maintenance**
Project Title :	**D-111661/E, Long Term Rate Agreement for Supply and Installation of Underground Cable, Electrical Distribution Equipment, OHL and allied works in Abu Dhabi Central & Eastern Region (LOT 1).**
Document Title :	**Method Statement for Excavation & LV Cable Laying Including Backfilling**

TABLE OF CONTENTS

TABLE OF CONTENTS 3
1. SCOPE 4
2. PURPOSE 4
3. DEFINITIONS 4
4. RESPONSIBILITIES 5
5. SAFETY 5
6. WORK METHODOLOGY 7
6.1 GENERAL 7
6.1.1 Route Preparation and Pre-Excavation Requirements 7
6.2 SURVEYING 8
6.3 EXCAVATION – SANDY AREA 9
6.4 EXCAVATION – HARD AREA 10
6.5 USING JACKHAMMERS AND MACHINERY 10
6.6 INTERLOCK TILE REMOVAL AND REINSTATEMENT PROCEDURE 10
6.7 GREEN AREA REMOVAL AND REINSTATEMENT PROCEDURE 11
6.8 ASPHALT CUTTING AND REINSTATEMENT 11
6.8.1 UNEXPECTED UTILITY DISCOVERY 12
6.8.2 INCIDENT REPORTING 13
6.9 CABLE LAYING 13
6.9.1 GENERAL 13
6.9.2 CABLE INSTALLATION 14
6.10 CABLE BENDING 14
6.11 TRENCH BACKFILLING 14
6.12 SUBSTRUCTURE BACKFILLING 14
6.13 CABLE CROSSING 15
6.14 CABLE PROTECTION TILES 15
6.15 WARNING TAPE 15
6.16 ROUTE MARKER 15
7. LIST OF TOOLS AND EQUIPMENT 15
8. ATTACHMENTS 16

1. SCOPE

This Method Statement outlines and defines the responsibilities within M/s. Falcon Middle East General Contracting & Maintenance in coordination with TAQA-D standards and specifications for installation of underground cables. The project scope includes installation of underground cables, electrical distribution equipment, OHL, emergency and corrective maintenance, and allied works in the Abu Dhabi region.

2. PURPOSE

To ensure that all information, materials, tools, equipment, manpower, and adequate supervision are available during the execution of LV electrical cable installation, and to ensure that work steps are analyzed and all safety measures are implemented so that the work is completed safely and in a timely manner.

3. DEFINITIONS

CLIENT: TAQA-D

CONTRACTOR: FALCON MIDDLE EAST GENERAL CONTRACTING & MAINTENANCE

PE: Project Engineer

PTW: Permit to Work

NOC: No Objection Certificate

PPE: Personal Protective Equipment

QA/QC: Quality Assurance / Quality Control

LAP: Limited Access Permit

TBT: Toolbox Talk

ITP: Inspection and Test Plan

COP: Code of Practice

TCD: Traffic Control Device

EHS: Environment, Health and Safety

MDD: Maximum Dry Density

MSRA: Method Statement and Risk Assessment

SWL: Safe Working Load

SSR: System Safety Rules

GSR: General Safety Rules

TPD: Town Planning Department

LV: Low Voltage

TAQA ESR: TAQA Essential Safety Rules

4. RESPONSIBILITIES

4.1 M/s. Falcon Middle East General Contracting & Maintenance shall provide competent and experienced personnel to carry out installation activities to the required workmanship standards while observing all necessary safety precautions. Project QA/QC personnel are responsible for implementing this Method Statement.

4.2 The Safety Officer is the custodian of the HSE procedures and shall assist, monitor, and verify supervisory compliance with the applicable procedures.

4.3 The CP, approved Site Engineer, Site Supervisors, and relevant site team shall ensure that the work methodology and this Method Statement are implemented as required.

5. SAFETY

- **M/s. Falcon Middle East General Contracting & Maintenance shall assign the CP, approved Site Engineer, and Site Supervisors full-time throughout the electrical installation work. A valid work permit signed by the concerned Authorized Connection Engineer shall be available. Permit requirements shall be reviewed and discussed at the work location before work starts through a Toolbox Talk covering identified underground services, scanning results, excavation limits, and emergency arrangements. The LAP/PTW shall remain at the worksite whenever work is in progress.**
- **A Job Hazard Analysis shall be prepared, submitted to the TAQA-D Safety Manager before work starts, and attached to the work permit.**
- **All access and exit routes shall be kept clear of obstacles, materials, and equipment.**
- **Temporary safety signs shall be provided at all access and exit routes, as applicable.**
- **All equipment and machines shall be fitted with spark arrestors where required. Fire extinguishers shall be inspected and tagged by the Falcon Middle East Safety Officer.**
- **Adequate illumination shall be provided for the work area and access, escape, and exit routes when working at night.**
- **All activities shall stop immediately in an emergency. The work permit shall be revalidated before activities recommence.**

- **The work area shall be kept free of cloth, rubbish, tools, wooden planks, boxes, and other debris.**
- **Falcon Middle East General Contracting & Maintenance shall maintain good housekeeping standards at all times.**
- **All installation and construction work shall comply with the project safety procedures.**
- **All client-approved PPE shall be available and worn at all times.**
- **Barricades, warning tape, signs, and other required controls shall be installed in accordance with project specifications to prevent unauthorized access to the work area.**
- **Access ways shall be kept clear and free from trip hazards.**
- **Appropriate communication equipment shall be available.**
- **All lifting gear, material-handling equipment, and small tools shall be certified where required, inspected, and colour-coded as applicable. Lifting gear shall be suitable for the weight of the item being handled.**
- **Lifting gear and operators shall hold valid third-party certification where required and shall be inspected before each use by a competent person.**
- **All riggers shall be third-party certified.**
- **Panels shall be secured properly during transportation. Vehicle speed between the storage location and site shall not exceed 20 km/h, as stated in the project requirements.**
- **Water-filled hard barriers shall be installed around excavated cable trenches and maintained until backfilling is complete.**
- **Valid calibration and test certificates shall be available at the site for all applicable machinery and equipment.**
- **Adequate fire extinguishers and first-aid kits shall be available at the site whenever work is in progress.**
- **Approved MSRA and risk assessment documents shall be available at the site with the approved CP/Supervisor. Utility-detection records shall remain available at the worksite throughout excavation activities.**

- **Operators and workers in the immediate vicinity of jackhammer operations shall wear suitable hearing protection, such as earplugs or earmuffs, due to expected high noise levels.**
- **Anti-vibration gloves shall be provided to and worn by jackhammer operators to reduce the risk of Hand-Arm Vibration Syndrome (HAVS).**
- **Wet methods, including water suppression, shall be used where practicable to control silica dust generated while breaking hard materials. Where required, approved respiratory protection (N95 or higher) shall be worn.**
- **Hoses, connections, and fittings on pneumatic jackhammers shall be checked for wear and damage before use. Hoses shall be secured to prevent whipping if pressure is suddenly released. Jackhammers shall be operated at a safe distance from other workers, and loose debris shall be cleared to prevent eye injuries.**
- **Excavation shall not proceed until all mandatory hold points have been signed off by the CP/AP. Unknown underground services shall always be treated as live until confirmed otherwise by the asset owner.**

6. WORK METHODOLOGY

6.1 GENERAL

All civil works associated with cable laying, including excavation, road crossings, pits, cable tiles, warning tapes, cable and other markers, station entries, and other permitted works, shall be designed and executed in accordance with the applicable technical specifications, including:

- S-AAA-CAB-INST-LV, Rev. 0 (2015) – Installation Requirements for LV Underground Cables.

6.1.1 Route Preparation and Pre-Excavation Requirements

a. Survey cable routes approved in GIS by the Client, Consultant, and concerned authorities, in accordance with the approved cross-sectional details.

b. Before work starts, valid TPD approvals, authority NOCs, GIS drawings, and applicable approved materials shall be available. Review utility drawings and actual site conditions before excavation. Underground services may be at unexpected depths.

c. Check the full route using a cable detector to identify external utilities.

d. Carry out manual trial pits along the cable route to identify existing services before main excavation begins.

e. Where required, excavate additional trial trenches to verify soil conditions and obtain samples.

f. Supervise excavation and, where necessary, provide trench shoring and dewatering, and prepare cable ducts and supporting structures for cable installation.

g. Cleaning and grading:

- Following the site survey, clear and grade the site where required.
- Remove vegetation and rubbish and transport them to designated disposal areas.
- Grade the site to provide access for vehicles and equipment.

h. Carry out dewatering where required.

i. Lay cables in accordance with TAQA-D standards.

j. Use cable bedding and backfill material with a maximum thermal resistivity of 120 cm°C/W under operating conditions, and which is chemically neutral.

k. Measure the thermal resistivity of backfill material along the cable route where applicable.

l. Plan procurement of cable cover tiles, warning tapes, and cable ducts in advance.

m. Before excavation, the Project Engineer, CP/AP, Site Supervisor, and Surveyor shall review all available utility information, including:

- Latest approved GIS drawings.
- TPD-approved drawings.
- NOC drawings issued by all concerned authorities.
- Existing as-built drawings.
- Previous work records, where available.
- Site conditions and visible indications of utilities.

Any discrepancy between drawings and actual site conditions shall be reported immediately to the TAQA-D Engineer. Excavation shall not commence until clarification has been obtained.

n. Assessment of existing site conditions:

The excavation team shall assess ground conditions before excavation, with particular attention to landscaping, filled areas, road widening, pavement reconstruction, previous utility diversions, and changes in finished ground level. The team shall not assume that existing utilities remain at their original design depth. Underground services may be at unexpected depths due to previous construction activities.

6.2 SURVEYING

a. All survey equipment shall be calibrated before survey work begins.

b. Set out the lines and check for possible obstructions before work commences.

c. During surveying, check the proposed cable route for underground utilities using a cable detector.

d. Underground utility detection:

Before excavation, detect underground services using approved utility-locating equipment. The cable detector shall be suitable for the utility type, within its valid calibration period, and operated by trained and competent personnel. Consider detector selection, operating modes, and limitations.

Mark scanning results on the ground. Complete a Utility Detection Record documenting the date, location, detector used, calibration status, operator name, detected services, and areas of uncertainty.

The Site Supervisor shall communicate all detected utilities to the workforce during the Toolbox Talk before excavation.

Progressive utility scanning shall be repeated whenever excavation progresses, trench alignment or depth changes, soil conditions change, previously unidentified services become visible, or work resumes after an interruption.

e. Prepare shop drawings and submit them to TAQA-D for review, agreement, and approval.

f. Surveying during execution shall be carried out by qualified surveyors.

g. Use suitable survey instruments, such as a Total Station, digital theodolite, and accurate levelling instruments.

h. Survey accessories, including ranging rods, measuring tapes, ranging poles, and tripods, shall be suitable for the task. Survey equipment shall be calibrated.

i. Steel or sharp-edged metal rods shall not be used as survey pegs or points where they could damage existing underground services.

j. Keep survey records up to date, as they form the basis for payment, measurement sheets, and as-built records.

k. Record all changes on the final as-built drawings.

6.3 EXCAVATION – SANDY AREA

a. After verification of the SVR, plan the excavation and determine whether a LAP is required, subject to work-order approval.

b. Excavate in accordance with approved GIS/TPD drawings.

c. Mechanical excavation is not permitted within 5 metres of existing services.

d. Excavate to the lines, grades, and levels shown on the drawings.

e. Remove unsuitable material and transport it to designated disposal areas.

f. Place excavated material at least 1.00 m away from the edge of the excavation.

g. Where necessary, slope the excavation bottom to facilitate dewatering.

h. Trench width and depth shall comply with TAQA-D specifications.

i. Protect the excavation with safety barriers, cones, warning tape, safety lights, project signboards, and safety signs.

j. Carry out final excavation to formation level shortly before placing bedding material.

k. Provide access ladders for safe entry to and exit from the excavation.

l. Arrange inspections with the Connection Engineer and obtain approvals at the required stages in accordance with agreed procedures.

m. Provide and verify the emergency plan at the work location.

n. Provide suitable access, illumination, fire extinguishers, and signboards at the site.

o. Store construction materials, including cable, so they do not create injury or damage risks. Move materials away from nearby work areas and trenches before excavation starts where necessary.

p. During movement or relocation of materials, follow the excavation MSRA and safe work steps, including trench length and width controls, avoidance of mechanical excavation near existing underground services, and manual excavation using approved tools.

q. Mandatory trial holes shall be excavated manually before excavation activities. Trial holes shall positively identify existing underground services.

r. Do not rely solely on detector indications or drawings to identify existing services. Excavation shall not proceed until verification has been completed by the CP/AP where required. CP/AP approval is a hold point.

s. Carry out safe hand digging using insulated excavation tools and continue until adequate clearance from services has been established.

6.4 EXCAVATION – HARD AREA

a. After verification of the SVR, plan the excavation and determine whether a LAP is required, subject to work-order approval.

b. Excavate in accordance with approved GIS drawings.

c. Mechanical excavation is not permitted within 5 metres of existing services.

d. Use machinery to excavate hard or rocky areas only with the required safety precautions.

e. Use dune sand for backfilling to protect cables from hard or rocky material.

f. Carry out final excavation to formation level shortly before placing bedding material.

g. Minimum trench width shall be as shown in the drawings and standard drawing DWG AAA CAB 01 00 09.

h. Provide access ladders for safe entry to and exit from the excavation.

i. Arrange inspections with the Connection Engineer and obtain approvals at the required stages in accordance with agreed procedures.

6.5 USING JACKHAMMERS AND MACHINERY

Hard/rocky areas and asphalt surfaces shall be excavated using jackhammers for initial breaking and heavy machinery (e.g., a backhoe loader with a rock-breaker attachment) for larger areas, with strict safety precautions. Jackhammer operation shall be limited to areas where mechanical excavation is not permitted or where precise breaking is required to avoid damage to existing services.

6.6 INTERLOCK TILE REMOVAL AND REINSTATEMENT PROCEDURE

a. Obtain all required permits from the concerned authority before removing interlock tiles.

b. Protect the work area with safety barriers and safety netting.

c. Carefully remove existing tiles at marked locations before excavation.

d. Excavate trial trenches using manual tools to locate existing utilities. Continue excavation for proposed utility crossings to the depths shown on approved drawings.

e. Compact the trench bottom using a plate compactor or roller compactor to the satisfaction and approval of the developer/concerned authority.

f. Install 200 mm UPVC ducts along cable routes at villa entrances and car-parking areas, in accordance with TAQA-D standard specifications.

g. Install LV cables in the trench in accordance with TAQA-D standard drawings.

h. Protect LV cables as required by the utility authority or developer/concerned authority and as shown on approved cross-sections.

i. Reinstate interlock tiles and kerbstones in accordance with ADM requirements.

j. Place approved filling material in layers of the thickness required by ADM standards and compact to 95% MDD.

k. Obtain inspection and approval of backfill layers from the developer/concerned authority. Install protection slabs and warning tape at the specified depths below FTL, as required by the utility authority and approved cross-sectional drawings.

l. Place 30 cm of subgrade in two 15 cm layers and compact to 30% CBR and 95% MDD, in accordance with the stated specification.

m. Place 20 cm of sub-base in two 10 cm layers and compact to 65% CBR and 98% MDD, in accordance with the stated specification.

n. Provide a 5 cm bedding layer of back sand, 3/16-inch size, above the sub-base.

o. Cut and remove existing asphalt at marked locations. Make the initial cut using an asphalt cutter saw, then use a jackhammer to break and remove the asphalt remaining within the cut lines.

NOTE: Required tests shall be conducted through the Material Quality Section of Abu Dhabi Municipality. New tiles shall match the level and colour of existing tiles. Provide dune sand over reinstated tiles and compact and level it using a plate compactor fitted with a rubber pad.

6.7 GREEN AREA REMOVAL AND REINSTATEMENT PROCEDURE

a. Obtain an NOC from the local authority.

b. Obtain the work permit.

c. Apply site safety measures, including barriers, cones, warning tape, and signboards.

d. Carry out all work under the supervision of the Connection Engineer.

e. Install one layer of polyethylene sheet on each side of the cable trench.

f. Remove plants (e.g., grass and flowers) and place them on the polyethylene sheet on the right side.

g. Keep the plants moist at all times.

h. Remove only the aggregate sand layer, approximately 20 cm thick, and place it on the polyethylene sheet on the left side.

i. Excavate the cable trench.

j. Lay the cable and backfill the trench completely, including cable tiles and warning tape, to 20 cm below FFL.

k. Reinstate the agricultural sand.

l. Reinstate the removed plants, including grass and flowers.

m. Remove all debris and clean the area.

n. Remove safety materials from the site when safe to do so.

o. Obtain approval from the developer/concerned authority for the completed work.

p. Cancel the work permit after completion and acceptance.

6.8 ASPHALT CUTTING AND REINSTATEMENT

a. Before work starts, crews shall receive a site induction covering activity-specific hazards and general site safety requirements.

b. Cut and remove existing asphalt at the marked locations.

c. Excavate trial trenches manually to identify existing utilities. Continue excavation for proposed utility crossings to the depths shown on approved drawings.

d. Transport excavated material by dump truck to the designated disposal locations.

e. Cut side slopes to the lines and ratios shown on approved drawings. Water the sides and bottom where required.

f. Compact the trench bottom using a plate compactor or roller compactor to the satisfaction and approval of the concerned Engineer.

g. Install ducts/sleeves in the trench in accordance with approved drawings.

h. Protect ducts/sleeves in accordance with utility authority requirements, the concerned Engineer's directions, and approved cross-sections.

i. Place approved filling material in layers not exceeding 25 cm and compact each layer to 95% MDD. Backfill layers shall be tested by QCC or an ADM-approved laboratory.

j. Obtain Engineer inspection and approval of backfill layers. Install protection slabs and warning tape at the specified depth in accordance with utility authority requirements and approved cross-sections.

k. After obtaining required approvals, install geotextile, geogrid, boulder material, and subgrade as shown on the approved cross-section.

l. Where required, place an approved 30–40 cm layer of boulder material after installing geotextile, in accordance with the approved cross-section.

m. Place 30 cm of subgrade in two 15 cm layers and compact to 30% CBR and 95% MDD.

n. Apply prime coat in accordance with the specification and requirements.

o. Place 20 cm of sub-base in two 10 cm layers and compact to 65% CBR and 98% MDD.

p. Place binder course where required by the approved cross-section.

q. Place a 10 cm asphalt base course and compact properly to 98%.

r. Apply tack coat in accordance with the specification and requirements.

s. Place a 5/6 cm asphalt wearing course and compact properly to 98%.

t. Remove all debris and detour arrangements from the site within two hours of completion of the work and make the area ready for traffic.

The initial asphalt cut shall be made using an asphalt cutter saw. A jackhammer shall then be used to break and remove the remaining asphalt within the cut lines.

NOTE: Required tests shall be conducted through QCC of Abu Dhabi Municipality. Where the existing asphalt layer thickness exceeds 15 cm, reinstate the asphalt to the existing thickness, as applicable.

6.8.1 UNEXPECTED UTILITY DISCOVERY

If an unidentified underground service is encountered, stop work immediately. The Site Supervisor shall:

- Secure the area.
- Prevent further excavation.
- Inform the CP/AP immediately.
- Notify the TAQA-D Representative.
- Notify the concerned utility authority, where applicable.

6.8.2 INCIDENT REPORTING

If underground services are damaged or nearly damaged, take the following actions immediately:

- Stop all work.
- Make the area safe.
- Notify TAQA-D.
- Preserve the scene.
- Do not disturb evidence unless required for safety.
- Submit an incident report in accordance with TAQA-D procedures.
- Conduct an investigation before work recommences.

6.9 CABLE LAYING

6.9.1 GENERAL

a. Install LV electrical cables in compliance with TAQA-D specification S-AAA-CAB-INST-LV (Rev. 0, 2015).

b. Obtain the appropriate PTW/work permit before starting work.

c. Inspect, handle, and store all cable drums received at the site properly.

d. Site Engineers/Supervisors shall inspect and test cable continuity and insulation before cable is taken off the drum.

e. Move all drums to cable-route locations using approved equipment.

f. QC shall witness, record, and sign off inspection checklists and test results.

g. Test equipment shall have valid calibration certificates.

h. Installation shall comply with ADWEA/TAQA-D specifications, and personnel shall be familiar with the required installation techniques.

i. Run cables on rollers in continuous lengths between approved route points, in accordance with approved shop drawings.

j. Position cable rollers at maximum intervals of 2 metres during cable pulling.

k. Arrange cable drums in accordance with the approved drum schedule for each cable route.

l. Pull cable drums/cables using the approved methodology and a suitably rated cable winch machine.

m. Ensure cable is paid off the drum in the correct direction and with sufficient drum rotation.

n. Cable entries into enclosures shall be through gland assemblies. Ensure glands are the correct type and size for the cable and suitable for the applicable hazardous-area classification, where relevant.

o. Provide mechanical protection wherever cables are temporarily laid or stored, or where routes pass through floors, to prevent damage.

p. Do not bend multicore cables below the minimum radius recommended by the manufacturer in its catalogue or relevant datasheet.

q. Maintain the minimum spacing between instrument and power cables specified by ADWEA/TAQA-D and the approved shop drawings.

6.9.2 CABLE INSTALLATION

a. Where cable drum schedules are available, the Site Supervisor shall ensure each cable length is taken from the designated drum.

b. Identify cables in accordance with engineering documents.

c. Provide cable tags in accordance with installation drawings.

d. Throughout cable pulling, the Site Supervisor shall ensure cables are protected from mechanical and physical damage. Where a cable winch is used, comply with the manufacturer's permissible pulling-tension values.

e. Limit cable pulling forces in accordance with the total conductor cross-sectional area (A) in mm^2. The stated maximum shall be A × 50 N for copper and A × 30 N for aluminium, subject to confirmation against the cable manufacturer's requirements.

f. Where instrument signal cables run parallel to power cables, maintain segregation in accordance with project specifications and drawings.

g. Where instrument cables cross power cables, arrange crossings at right angles and maintain the minimum spacing specified in the project documents.

h. Where instrument and power cables share a trench, inspect the installation to confirm separation complies with typical installation details.

i. After laying each cable length, repeat resistance and insulation-resistance tests in accordance with TAQA-D standards.

6.10 CABLE BENDING

The stated minimum bending radii are:

- Four-core copper cable: 15D.

- Four-core aluminium cable: 20D.

During installation, use larger bending radii wherever practicable. The stated minimum values apply to constrained areas, such as near joints and terminations. D represents the cable outside diameter; confirm final values with the cable manufacturer and approved specifications.

6.11 TRENCH BACKFILLING

a. After the cable surround has been placed, tested, and inspected to the satisfaction of the authority's inspector, proceed with general backfilling.

b. Use selected material previously excavated from the trench to backfill in layers. Carefully compact using hand-operated rammers up to 300 mm above the cables, or to the level indicated in approved cross-sections.

6.12 SUBSTRUCTURE BACKFILLING

a. Backfilling adjacent to a structure shall proceed only after inspection and approval by the Client Representative.

b. Use selected excavated material to backfill all sides of the structure simultaneously, maintaining approximately the same fill height.

c. Compact the backfilled material.

d. Use suitable backfill material in accordance with the specification.

6.13 CABLE CROSSING

a. At road crossings, provide separate ducts for each cable circuit plus one spare circuit in the required positions. Unless a larger size is required, ducts shall be PVC pipes with a minimum internal diameter of 200 mm and a minimum wall thickness of 5 mm. Encasing shall be in lean concrete C20, providing at least 15 cm cover to the ground and 10 cm between pipes.

b. All ducts shall be supplied in accordance with material submittals approved by the concerned authorities.

c. Provide duct markers at both the start and end of each duct installed at a road crossing.

d. Ducts shall be reinforced concrete laid on lean-concrete foundations over compacted subsoil before being embedded in dense concrete. Duct ends shall extend at least 1.0 m beyond the road or walkway limits.

e. Refer to approved drawings for road-crossing details.

f. Clean ducts and seal them with end caps or another approved method.

g. Carry out road-crossing excavation in accordance with the instructions and requirements of the concerned authorities.

h. Provide LV cable-crossing protection in accordance with approved drawings and authority requirements.

i. Fill road-crossing and HDD pipes with bentonite after power cables have been pulled in. Bentonite shall not prevent cable withdrawal in the event of cable failure. Prevent settlement of the bentonite compound and ensure heat transfer is not adversely affected throughout the cable service life.

6.14 CABLE PROTECTION TILES

Place cable cover tiles above underground electric power cables to protect them and indicate the location of buried cables. Supply and install tiles in accordance with ADWEA/TAQA-D specifications and standard drawing DWG AAA CAB 01 00 09.

6.15 WARNING TAPE

Direct-buried cables shall be provided with warning tape at least 0.3 m wide. Tape shall be marked bilingually in Arabic and English, using black letters at least 30 cm high, indicating the user name, service name, and the word “DANGER”, and shall be approved by ADWEA/TAQA-D.

6.16 ROUTE MARKER

Install cable route markers in accordance with the relevant ADWEA/TAQA-D specifications and drawings. Complete all associated reinstatement works.

7. LIST OF TOOLS AND EQUIPMENT

Site survey: Measuring tape, Global Positioning System (GPS), tripods, ranging rods, Total Station/theodolite.

Trial pits: Hand tools only, e.g., shovel.

Excavation: Pickaxe, shovel, backhoe loader, mini excavator, pneumatic jackhammer, safety barriers, safety mesh, and safety signboards.

Cable laying: Cable rollers, cable trailer, winch machine, cable drum roller, and cable-cutting machine.

Backfilling: Shovel, compactor, and backhoe loader.

8. ATTACHMENTS

Risk Assessment.

Client :	**TAQA Distribution (TAQA-D)**
Contractor :	**Falcon Middle East Contracting & General Maintenance**
Project Title :	**D-111661/E, Long Term Rate Agreement for Supply and Installation of Underground Cable, Electrical Distribution Equipment, OHL and allied works in Abu Dhabi Central & Eastern Region (LOT 1).**
Document Title :	**Method Statement for TESTING AND COMMISSIONING OF TRM/QRM**

METHOD STATEMENT

TESTING AND COMMISSIONING OF TRM/QRM

Client :	**TAQA Distribution (TAQA-D)**
Contractor :	**Falcon Middle East Contracting & General Maintenance**
Project Title :	**D-111661/E, Long Term Rate Agreement for Supply and Installation of Underground Cable, Electrical Distribution Equipment, OHL and allied works in Abu Dhabi Central & Eastern Region (LOT 1).**
Document Title :	**Method Statement for TESTING AND COMMISSIONING OF TRM/QRM**

1. DOCUMENT CONTROL

Rev.	Date	Description	Prepared by (QA/QC)	Checked by (PE)	Reviewed by (PM)	Approved by
00	11.06.24	Initial Issue	Eng. Bala	Eng. Saddam Masood	Eng. Tareq Badran	TAQA
01	10.05.25	Review	Eng. Bala	Eng. Saddam Masood	Eng. Tareq Badran	TAQA
02	01.09.26	Review	Eng. Bala	Eng. Saddam Masood	Eng. Tareq Badran	TAQA
03	09.10.26	Review and updated	Eng. Bala	Eng. Saddam Masood	Eng. Tareq Badran	TAQA
Signature						

Client :	**TAQA Distribution (TAQA-D)**
Contractor :	**Falcon Middle East Contracting & General Maintenance**
Project Title :	**D-111661/E, Long Term Rate Agreement for Supply and Installation of Underground Cable, Electrical Distribution Equipment, OHL and allied works in Abu Dhabi Central & Eastern Region (LOT 1).**
Document Title :	**Method Statement for TESTING AND COMMISSIONING OF TRM/QRM**

Table of Contents

1. DOCUMENT CONTROL 2

1.0 Purpose 4

2.0 Test Procedure 4

2.1 Visual Inspection 4

2.2 Earth Resistance Measurement 4

2.3 Insulation Resistance Check Before and After HV Test 4

2.4 HV Test 4

2.5 CT Test 5

2.5.1 General Inspection 5

2.5.2 Insulation Resistance Test 5

2.5.3 Ratio Test and Polarity Check 6

2.5.4 Winding Resistance 6

2.5.5 CT Magnetising Voltage 6

2.6 Secondary Injection (Relay) Test 6

2.7 Primary Injection Test 7

2.8 Functional Checks 7

2.9 Earth Fault Indicator Test 7

2.10 Busbar DC Contact Resistance 7

3.0 Reference Documents 7

4.0 Responsible Personnel 8

4.1 Competent Testing Engineer 8

4.2 Electrical Supervisor 8

5.0 Equipment 8

6.0 Safety 8

1.0 Purpose

The purpose of this document is to briefly explain the testing and commissioning of QRM/TRM.

The following tests shall be conducted on QRM/TRM:

2. Visual Inspection Check
3. Earth Resistance Measurement
4. Insulation Resistance Check Before and After HV Test
5. HV Test
6. CT Test
7. Secondary Injection Test
8. Primary Injection Test
9. Functional Checks
10. Earth Fault Indicator Test
11. CRM Test

2.0 Test Procedure

2.1 Visual Inspection

Visual inspection shall be conducted for the labelling, earthing, marking, and cleaning of equipment and terminals.

2.2 Earth Resistance Measurement

After installation, checks must be made on the earthing system to verify whether there is any significant change in resistance over a period of time or under different soil-moisture conditions. Such checks will indicate if the earth-electrode resistance has been exceeded due to changing soil conditions or ageing of the system.

2.3 Insulation Resistance Check Before and After HV Test

The insulation value of the busbar, together with the CB and isolators in the closed condition, shall be tested on each phase with the other two phases earthed, using an appropriate insulation tester. This is to confirm the dielectric strength of conducting parts with respect to earth and between phases.

This test shall be conducted before and after the HV test.

2.4 HV Test

This test is to confirm the withstand capability for the specified time with permissible leakage. Before carrying out the test, check that the circuit breakers are in the inserted and closed condition, the earth switch and voltage transformers are isolated, and the CT secondary circuits and HV indicators are shorted and earthed.

AC high voltage (80% of the factory-test voltage) shall then be applied to one phase of the busbar, with the other two busbars earthed, for one minute. The leakage current shall be measured and recorded. Repeat the test for the other two phases. Ensure that the equipment is discharged before carrying out any activity after the HV test.

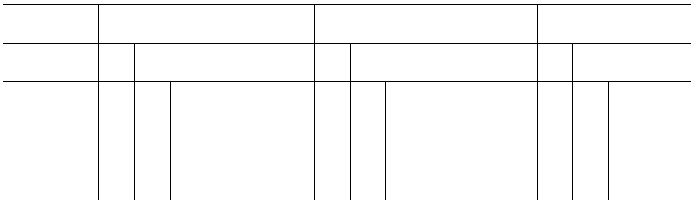


Figure 1: High Voltage Test

2.5 CT Test

The CT test includes the following:

- General inspection
- Insulation resistance test
- Ratio test and polarity check
- Winding resistance
- CT magnetising voltage

2.5.1 General Inspection

Procedure:

12. Verify that the nameplate ratings comply with the approved drawings and specifications.
13. Inspect for physical damage, defects, and mechanical condition.
14. Verify that the transformers are connected correctly in accordance with system requirements.
15. Verify that all required grounding and shorting connections are provided.
16. Verify that all shorting blocks are in the correct position, either grounded or open, as required.
17. Verify that single-point grounding of each core has been completed properly.

2.5.2 Insulation Resistance Test

The insulation resistance is measured between the secondary core and earth. The test shall be conducted as explained below.

Sl. No.	Test Combination / Test Points	Megger DC Voltage	R-Phase IR Value (Ω)	Y-Phase IR Value (Ω)	B-Phase IR Value (Ω)
1	Core to Earth	500 V			

2.5.3 Ratio Test and Polarity Check

This test ensures the CT turns ratio at all taps. The circuit connection shall be made as shown in the applicable connection diagram.

The polarity test confirms that the polarity markings on the CT primary and secondary match the drawings. It also helps establish the correct secondary connections for protection functions (such as directional and differential protection) and metering.

The test shall be carried out using a CT analyser (OMICRON), as shown in the connection diagram. An automatic report shall be generated as per the attached sample.

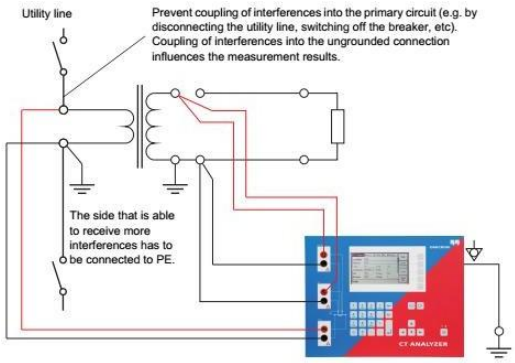


Figure 2-2 Basic wiring for a CT test

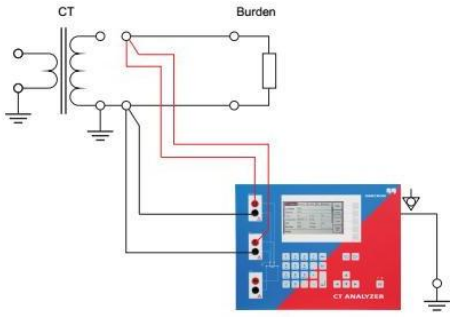


Figure 2-3 Basic wiring for a burden test

2.5.4 Winding Resistance

The secondary resistance test verifies that the CT secondary winding resistance is within the specified value and that there is no discontinuity in the winding. This value may be used in other calculations.

The test shall be carried out using a CT analyser (OMICRON), as shown in the connection diagram, and an automatic report shall be generated as per the attached sample.

2.5.5 CT Magnetising Voltage

The magnetisation-curve test confirms the CT magnetisation characteristics against the nameplate specification. This test shall be conducted before the ratio test and after the secondary-resistance and polarity tests, since residual magnetism left in the core due to DC testing (polarity and resistance) may cause additional error in the ratio test.

The circuit connection shall be made as shown in the applicable figure.

2.6 Secondary Injection (Relay) Test

This test confirms that the relay operates properly and that its operating times are within specified limits. Operating times shall be recorded after current injection, as stated in the test-report format.

2.7 Primary Injection Test

This test confirms whether the CT ratio, wiring, polarity, relay circuits, and breaker-tripping circuits are functioning correctly. Using a primary-current injection kit, first apply rated current to the CTs in two phases (R and Y), and then check the secondary current. If polarity is correct, the currents at the R and Y secondary terminals will equal the rated secondary current, while the current in neutral and the other phase wire (B phase) will be zero. Repeat for the other phases.

The current shall then be increased to the fault-current setting in the relay. The relay should trip and the corresponding circuit breaker should trip.

2.8 Functional Checks

During this test, the ON/OFF operations of the ring switch, CB, and isolator, as well as the interlocks, shall be checked in accordance with the scheme.

2.9 Earth Fault Indicator Test

This test confirms that the earth-fault CT, relay, and associated circuit operate properly. Current shall be injected gradually until the relay picks up at the set current. Check the flag operation and reset operation.

2.10 Busbar DC Contact Resistance

18. Close Ring Switch 1 and Transformer 1. Apply 100 A DC from the test kit between the R phase of Ring Switch 1 and Transformer 1, and measure the resistance. Repeat for the other phases.
19. Close Transformer 1 and Ring Switch 2. Apply 100 A DC from the test kit between the R phase of Transformer 1 and Ring Switch 2, and measure the resistance. Repeat for the other phases.
20. Close Ring Switch 2 and Transformer 2. Apply 100 A DC from the test kit between the R phase of Ring Switch 2 and Transformer 2, and measure the resistance. Repeat for the other phases.
21. Close Ring Switch 1 and Transformer 2. Apply 100 A DC from the test kit between the R phase of Ring Switch 2 and Transformer 2, and measure the resistance. Repeat for the other phases.

3.0 Reference Documents

22. Technical Specification
23. Approved Shop Drawings / Manufacturer's Drawings / Schematic Drawings
24. Approved Site Test Formats

4.0 Responsible Personnel

4.1 Competent Testing Engineer

The Testing Engineer is responsible for supervising the complete testing activities and ensuring that tests are conducted in accordance with the approved method statement and test format. The Testing Engineer shall also ensure that safety procedures are implemented and fully understood by all team members.

4.2 Electrical Supervisor

The Electrical Supervisor shall be responsible for the following activities:

- Conduct toolbox talks with the concerned workforce before starting work; this is mandatory.
- Ensure that relevant permits are applied for and obtained before commencement of work.
- Assign competent workers.
- Arrange the tools and equipment required at the worksite.
- Ensure that all workers involved have the required PPE.
- Coordinate inspection of work at every stage with the Electrical QC Inspector.
- Ensure sufficient first aiders are available with the crew.
- Ensure the team understands access-control and mustering-point requirements.
- Ensure all applicable safety regulations are followed.
- Maintain equipment-preservation requirements throughout the work.
- Report any damage to existing facilities immediately to ADDC.
- Monitor the work and crew to ensure that activities are carried out safely and without unsafe conditions.

5.0 Equipment

The following equipment is required:

- Secondary injection kit
- AC high-voltage tester
- Earth resistance tester
- Digital multimeter
- CT analyser kit
- CRM kit
- Hand tools
- HV gloves

6.0 Safety

All work shall commence in accordance with the safety regulations laid down in the contract specification and project safety plan.

Client :	**TAQA Distribution (TAQA-D)**
Contractor :	**Falcon Middle East Contracting & General Maintenance**
Project Title :	**D-111661/E, Long Term Rate Agreement for Supply and Installation of Underground Cable, Electrical Distribution Equipment, OHL and allied works in Abu Dhabi Central & Eastern Region (LOT 1).**
Document Title :	**Method Statement for TESTING AND COMMISSIONING OF TRM/QRM**

Attached : Risk Assessment

Contractor HSE Induction & Safety Orientation

Falcon Middle East Contracting and General Maintenance
Project Name :Construction of load transfer from SHLPRY3 to the new Al Sader 132/11kV substation, and provision of power supply to 30 farms in Al Bahia.

Project No. D-114794



Prepared by Engr. Ravinder Singh Jaswal (HSE)

INTRODUCTION

The main scope of this project is to secure the power supply required to accommodate load growth in the Al Sader and Al-Sheleilah areas by diverting the existing loads from the Sheleilah Primary Substation (SHLPRY3) to the new Al Sader Primary Substation. The objective is to address the forecasted overloading of SHLPRY3 beyond its firm capacity due to natural growth in the area and new demand requirements from 30 farms, while ensuring compliance with SoS (Security of Supply) requirements. The project will be executed in two phases:

- Phase 1: Transfer the load from SHLPRY3 to the new Al Sader 132/11 kV Primary Substation.
- Phase 2: Provide power supply to 30 farms in the Al Bahia area.

TAQA Distribution HSE Policies, Standards & Procedures

Compliance with TAQA Distribution HSE Policies is mandatory. Ref: TAQA T& D, **Minimum HSE Requirements for Contractors Document No. : TDBL-HS-B-S-005** , Section : 6.3.1



FALCON Middle East

Integrated Management System(HSEQ) Policy

The long-term business success of Falcon Middle East General Contracting & Maintenance depends on our ability to continually develop, maintain and operate a safe, efficient and economical water and electricity distribution service in Abu Dhabi while providing a safe & healthy workplace and protecting our environment.

Consistent with this policy, we will establish, document, implement, maintain and continually improve our HSE management system that are consistent with the requirements of the international standards ISO 45001:2018, ISO 14001:2015 and ADOSH System Framework v 4.0.

We are committed to:

- Comply with all applicable legal and other requirement of ADDC/TAQA.
- continually improve our HSEQ management system and performance;
- zero harm and prevention of occupational related injury and ill-health in our workplace;
- prevent pollution which may be caused by our operation's emission to air, discharge to water body, and/or disposal of hazardous waste to land;
- enhancement of employee health and well-being through effective identification of hazards and management of risks and by fully complying with all applicable legal and other requirements;
- making this policy an integral part of our business strategies, and use as the basis for setting and reviewing our organization's HSEQ objectives and targets;
- strengthen employee's participation in HSEQ programs;
- communicate this HSEQ policy to our employees, contractors, suppliers and visitors, and make them aware of their HSEQ obligations;
- execute our policies and procedures by providing resources necessary for the effective implementation of our management system.

The policy will be reviewed periodically (at least annually or as necessary) to ensure relevance and appropriateness to our organization.

Managing Director

Date: 16 Oct 2025

Falcon-POL-04 Rev 02

TAQA Distribution HSE Policies, Standards & Procedures

Follow approved procedures details as under :

ST.HS.01-TQD Essential Safety Rules
OP.HS.05: Risk Management Procedure
OP.HS.06_Incident Reporting and Investigation_Rev.00
OP.HS.07_HSE Communication and Stakeholder Awareness
OP.HS.12_Personal Protective Equipment
OP.HS.13_Hot Work Procedure
OP.HS.14_Lock Out Tag Out Procedure
OP.HS.15_Excavation Procedure
OP.HS.17_Driving Safety Procedure_Rev.00
OP.HS.18_Lifting Procedure
OP.HS.19_Confined Space
OP.HS.20_Demarcation_Zone Access and Safety Signage
OP.HS.21_Working at Height Procedure
OP.HS.22_Safe Use of Power Tools Procedures
OP.HS.23_Manual Handling Procedure
OP.HS.24_Hazardous Substance Safety Procedure
OP.HS.25_Warehousing and Storage Safety Procedure
OP.HS.26_Working in Adverse Weather
OP.HS.27_Office Safety Procedure
OP.HS.28_Safe Work on Roads Procedure
OP.HS._Management of Change Procedure_Rev.01
OP.HS._Emergency Response Procedure

TAQA Distribution HSE Policies, Standards & Procedures

16.SOP: Mobile Generator
17.SOP : Substation Batteries
18.SOP : Replacement of Fuse Cut-Outs of Pole Mounted Transformer
23.SOP : Chemical Handling
25.SOP : PPE Specification
27.SOP :Working in Adverse Weather
28.SOP : Waste Management
29.SOP : Stacking & Storage

Continued……

ADOSH SF V 4.0
Elements, Mechanism and Code of Practice

ISO 45001:2018 - Occupational health and safety management systems (replaces OHSAS 18001).
ISO 14001 :2015 - Environmental Management Systems.
ISO 31000:2015 – Risk Management Guidelines.

Continued……

FME shall comply with UAE regulations and TAQA standards. Details as under :-

- **UAE Federal Law No. 33 of 2021 on the Regulation of Labour Relations in the Private Sector**: - Employers must provide a safe work environment; handle occupational health & safety; medical screening; safety gear.
- **Ministerial Resolution No. 44 of 2022:-**Provides specific requirements for occupational safety and health; includes mandatory risk assessments, emergency preparedness, etc.
- **Decree No. 42 of 2009** concerning the Environment, Health and Safety Management System (EHSMS) in the Emirate of Abu Dhabi:- Establishes the requirement for organizations (entities) to have an EHSMS system in place; sets the framework (OSHAD-SF) for EHS in Abu Dhabi

Abu Dhabi Occupational Safety and Health System Framework (ADOSH SF v 4.1):-Managed by the Abu Dhabi Public Health Center (ADPHC)

- The Midday Break law in the UAE has been in effect **since 2004**. Currently Ministerial Resolution No.(44) of 2022, Article (3) :- Prohibition of working under direct sunlight or in open spaces during specified summer hours (typically 12:30 PM to 3:00 PM) June 15 to September 15, every Year.

Law No. 23 of 2005(Abu Dhabi) :-Employers must provide health insurance and medical check-ups

Regulatory bodies: Abu Dhabi Public Health Center (ADPHC)
Ministry of Human Resources & Emiratisation (MoHRE)
Abu Dhabi Municipality (for construction)
Abu Dhabi Department of Energy (DoE)

Incident notification –Guidelines

1. Verbal Communication: Consultant or FME Resident Engineer / Project Manager must call and inform the TQD Project Manager/ Eng/focal point/End-User immediately after any incident or as soon as it is safe to do so.

2. **Initial Incident Notification (IIN)**: This must be submitted within 2 Hours of the incident occurrence, followed by an email notification using the below template to all stakeholders (FME/Consultant key reps, TAQA TQD – Focal points (Manager/engineers) and including HSE.projects@taqadistribution.com

Tips for Initial Serious Incident Briefing:

- *Keep it short: Focus on what, where, when, who, and initial impact.*
- *Use bullet points: Makes it easier for recipients to scan quickly.*
- *Follow up with details later: Save in-depth analyses (root cause, corrective action plan, etc.) for a subsequent, more detailed report.*
- ** Blank table you can copy and paste into email body and share with TAQA D*

Field	Details
Incident Date & Time	
Incident Category (Injury, NM, or Property Damage)	
Location	
Brief Description of the Event / Activity	
Injury/Fatality Description	
Departments/Contractors	
Immediate Actions Taken	
Attachments/Photos	
Next Steps	
Contract/Project No. & Details	
Contractor Company Name	
Contractor Company Focal Point Contact No. & Email	

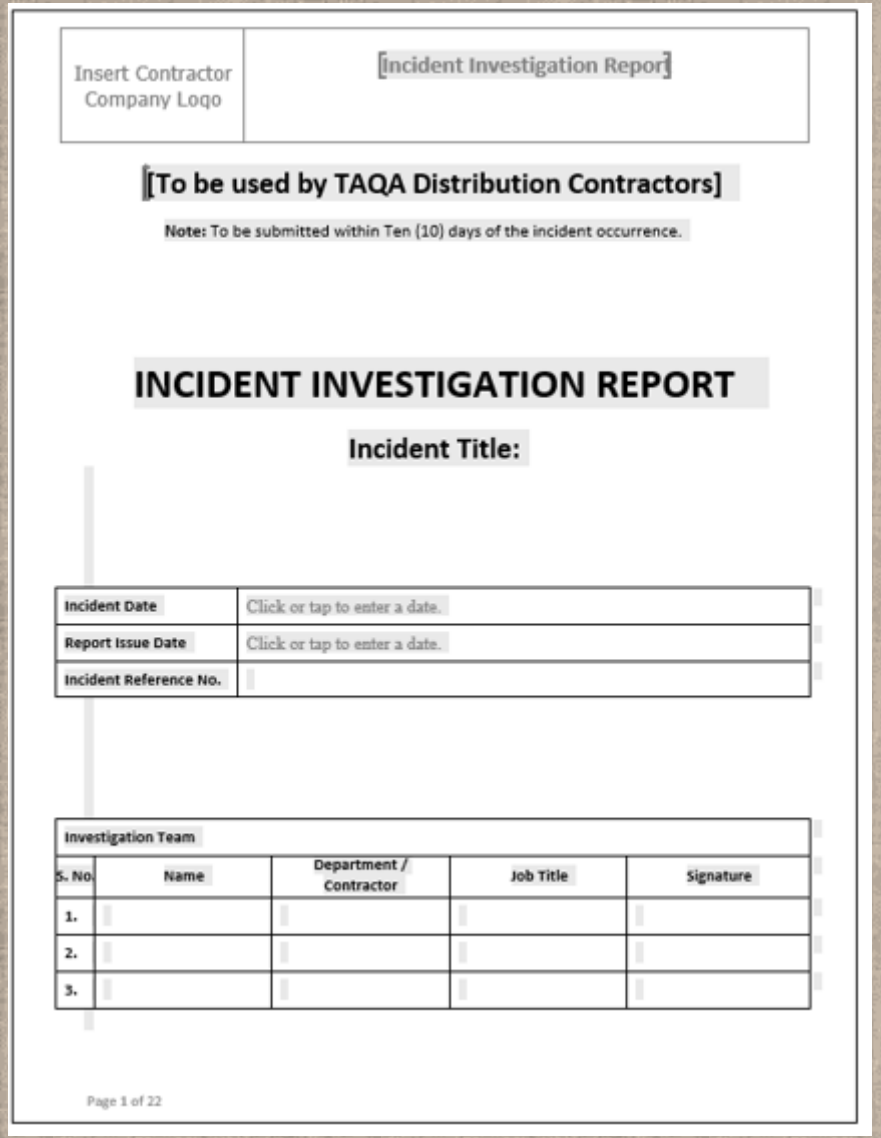
TAQA Distribution HSE Policies, Standards & Procedures

Incident Investigation Report –Guidelines

This procedure establishes a systematic framework for responding to, reporting, and investigating all work-related HSE incidents. Adherence to this process ensures that incidents are managed consistently and effectively, enabling the organization to learn from these events, prevent recurrence, and continuously improve its HSE performance.

Specifically, this document outlines the process for:

- Classification: Categorizing incidents based on their actual or potential severity.
- Establishing a Work Relationship: Determining if an HSE incident is work-related.
- Notification: Ensuring timely internal and external communication.
- Recording & Reporting: Systematically documenting and reporting all incidents.
- Investigation: Determining root causes to prevent future occurrences.
- Follow-up: Tracking corrective and preventive actions to completion



Insert Contractor Company Logo	[Incident Investigation Report]

[To be used by TAQA Distribution Contractors]

Note: To be submitted within Ten (10) days of the incident occurrence.

INCIDENT INVESTIGATION REPORT

Incident Title:

Incident Date	Click or tap to enter a date.
Report Issue Date	Click or tap to enter a date.
Incident Reference No.	

Investigation Team				
S. No	Name	Department / Contractor	Job Title	Signature
1.				
2.				
3.				

Page 1 of 22

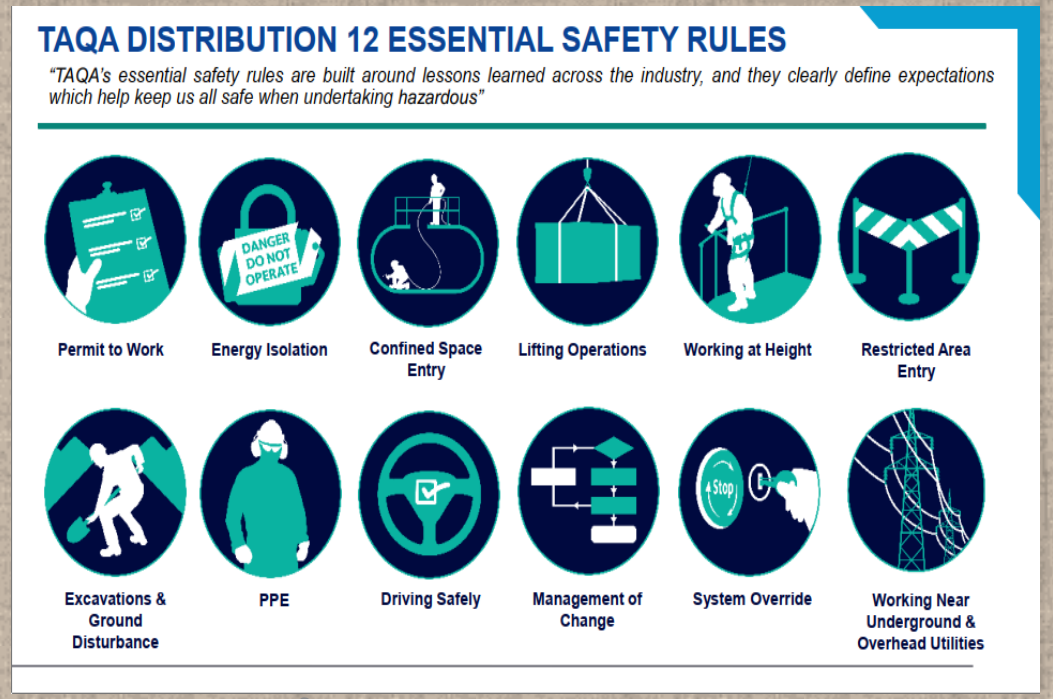
TAQA 12 Essential Safety Rules

Ref: Document #: TDBL-HS-B-S-001, 12 Essential Safety Rules.

Rule 1 – Permit To Work

A work permit describes what you must do to stay safe whilst undertaking specific tasks. Before conducting work that involves specific tasks e.g. confined space entry, energized systems, ground disturbance, locations where buried hazards are known to exist, hot work or non-routine cold work, working at height, working with chemicals, lifting operations, a permit must be obtained.

Existing System status	AADC Project Manager	Project Consultant AND/OR Project Manager	Contractor AP	Contractor CP	O&M AADC AP	System to be used
Out of the system	Accountable for implementation of Projects PTW	Verify implementation of Projects PTW	Issues Projects PTW	Requests, Reviews , and executes construction PTW	-	Projects PTW workflow & forms/Contractor
Work Near	Accountable for implementation of SSR (on Projects)	-	-	Requests, receive and execute LAP and associated safety documentation.	Issues LAP & associated safety documentations for the work.	System Safety Rule
Work On	Accountable for implementation of SSR (on Projects)	-	-	Requests, receive and execute the Permit to Work AND/OR Live Work Declaration Form.	Issues Permit to Work, Live Work Declaration Form, Sanction for Test etc	System Safety Rule



TAQA 12 Essential Safety Rules

Ref: Document #: TDBL-HS-B-S-001, 12 Essential Safety Rules.

Rule 2 - Energy Isolation

Before conducting any work on equipment, verify it can be done while the equipment is in a dead condition. If so, isolate the equipment and verify it is in a dead condition before work begins, and use the specified life -protecting equipment. Isolation separates you from danger (such as electricity, pressure, toxic materials, poisonous gas, chemicals, hot liquids, or radiation) to keep you safe. Life-protecting equipment specified by the work permit (such as breathing apparatus, electrical arc flash protection, or chemical -resistant suits) protects you from danger but is the last line of defense.



AND





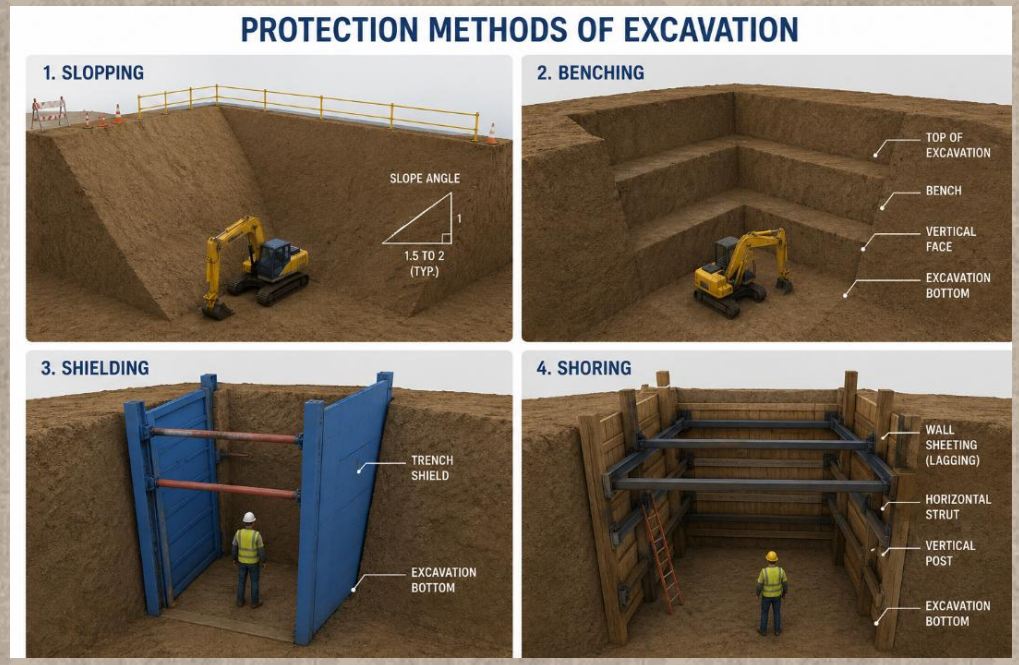
TAQA 12 Essential Safety Rules

Ref: Document #: TDBL-HS-B-S-001, 12 Essential Safety Rules.

Rule 3-Excavation and Ground Disturbance

Obtain authorization before starting excavation activities.

Excavation activities may contain hazards such as electrical cables, confined space,collapse of walls or excavated material. Check that it is safe to start work.An excavation is any man-made cut, cavity, trench, or depression, formed by earth removal (e.g. digging).



Note: Excavation depth more than 1.2 cm, need to implement protection method

TAQA 12 Essential Safety Rules

Ref: Document #: TDBL-HS-B-S-001, 12 Essential Safety Rules.

Rule 4 - Confined Space Entry

Obtain formal authorization before entering a confined space.

A confined space (such as a vessel, tank, excavation, cellar or pipe) can contain explosive gas, poisonous air or other dangers such as a lack of oxygen, things that can fall on you or you can fall from. Authorized access keeps you safe.

NOTE : Excavation more than 1.2 meters considered as confined space

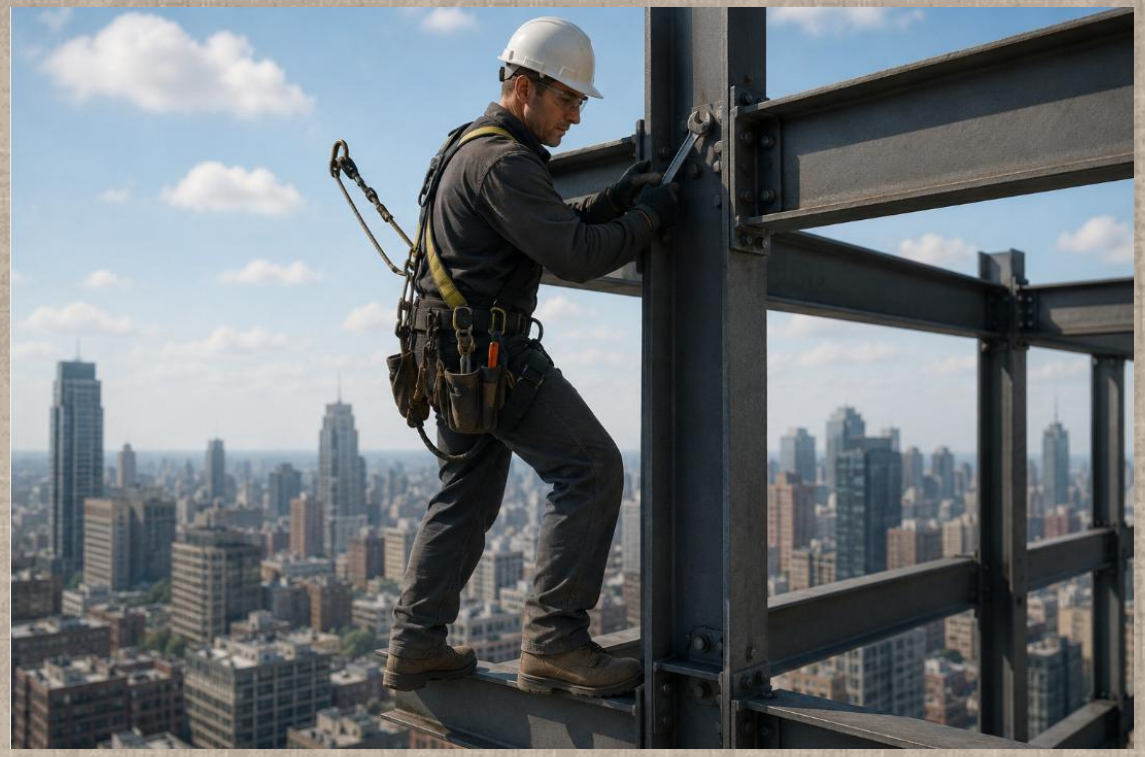


TAQA 12 Essential Safety Rules

Ref: Document #: TDBL-HS-B-S-001, 12 Essential Safety Rules.

Rule 5 - Working at Height

Protect yourself against a fall when working at height. Use fall protection equipment when working outside a protective environment where you can fall over 1.8 meters (6 feet) (as per ADOSH-SF v 4.0 requirements). A protective environment includes approved scaffolds, stairs with handrails, and man lifts.



NOTE: More than 1.8 meters considered as working at height

TAQA 12 Essential Safety Rules

Ref: Document #: TDBL-HS-B-S-001, 12 Essential Safety Rules.

Rule 6 - Lifting Operations

A lift plan describes how to lift and hoist safely. For routine lifts, there needs to be a general lift plan. For non-routine lifts, including complex and heavy lifts, the plan is specific.



TAQA 12 Essential Safety Rules

Ref: Document #: TDBL-HS-B-S-001, 12 Essential Safety Rules.

Rule 7 - Personal Protective Equipment

No operation may commence until all persons involved are using the required Personal Protective Equipment (PPE) based on the following minimum criteria.



TAQA 12 Essential Safety Rules

Ref: Document #: TDBL-HS-B-S-001, 12 Essential Safety Rules.

Rule 8 - Driving Safety

Always drive safely to protect you, your passengers and people outside the vehicle. When any vehicle is driven on company premises or on company business it must be in safe working order and driven with care. In high-risk locations, like in some developing countries a Journey Management Plan is essential.



TAQA 12 Essential Safety Rules

Ref: Document #: TDBL-HS-B-S-001, 12 Essential Safety Rules.
Rule 9 – Management of Change

Work arising from temporary and permanent changes (such as changes to system processes, personnel, procedures, (bypass of) equipment, permanent set points and alarms, products, materials and substances) cannot proceed unless a Management of Change (MoC) review is completed, including the below, as applicable.



TAQA 12 Essential Safety Rules

Ref: Document #: TDBL-HS-B-S-001, 12 Essential Safety Rules.

Rule 10 – Restricted Area Entry

Do not enter restricted buildings or cross barriers for restricted openings or areas unless appropriate precautions are taken, and you have been given permission**.**



TAQA 12 Essential Safety Rules

Ref: Document #: TDBL-HS-B-S-001, 12 Essential Safety Rules.
Rule 11 – System Override

Obtain authorization before overriding or disabling safety
critical equipment / Control and Emergency Shutdown systems
Safety-critical equipment/systems must work correctly to keep you safe.



TAQA 12 Essential Safety Rules

Ref: Document #: TDBL-HS-B-S-001, 12 Essential Safety Rules.
Rule 12 – Working near overhead and underground utilities

Do not work near underground or overhead utilities within minimum safety clearance without assessing the risks and putting adequate controls in place Working with equipment immediately near underground or overhead utilities without proper controls in place is unsafe as any breach of safety clearance distances, will result in serious consequences to the working party. Maintain adequate documented controls with competent supervision to keep you safe.



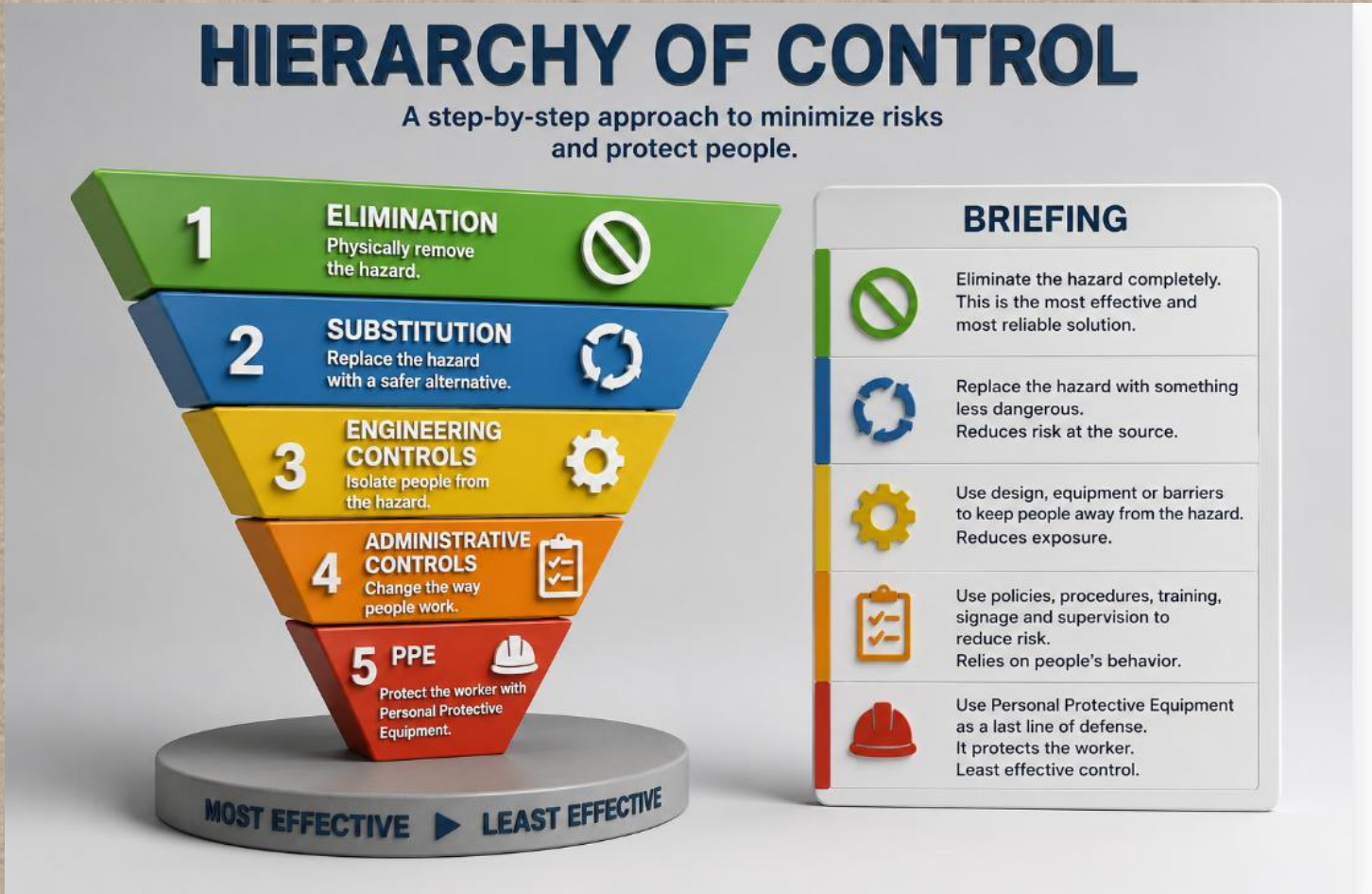
General Site Safety Rules:

Communicate site safety rules to everyone on site, including **No Smoking** and reporting near misses, unsafe acts, and conditions.
Assess loads before lifting. Use help or equipment for heavy or awkward loads. Do not exceed your limits.
Keep work areas clean and free of obstructions, rubbish, cables, and trip hazards.
Check walking surfaces regularly. Use caution on wet, uneven, or damaged areas.
Do not overreach. Use secured steps or ladders for work at height.
Never leave hazards unguarded or unmarked. Secure or isolate immediately.
Know the location and proper use of fire extinguishers.
Read the MSDS before using chemicals. Follow correct use, storage, and disposal.
Store chemicals and equipment per MSDS. Never use unlabeled containers.
Inspect hand tools, power tools, and cords before use. Do not use damaged equipment.
Keep tools and equipment out of walkways and exits.
Clean and store all district-owned tools in good condition.
Get first aid for all injuries, no matter how minor.
Report every accident or injury immediately to your supervisor.
Do not operate equipment you are not trained to use.
Wear closed slip-resistant safety footwear with toe and heel protection.
Check vehicle lights and tires before starting work.
Wear seatbelts when operating district vehicles.
Keep emergency exits and assembly points clear at all times.
Do not block fire extinguishers, fire doors, or electrical panels.
Use proper ladders or stools—never boxes, desks, or chairs.
Never pour flammable liquids into drains or sewers.
Dispose of flammable rags in approved metal containers with lids.
Wear appropriate, well-fitting clothing and protective footwear at all times.



Workplace Hazards & Risk Mitigation

Use Hierarchy of Controls: Eliminate, Substitute, Engineering, Administrative, PPE.



Workplace Hazards & Risk Mitigation

Conduct Job Safety Analysis (JSA) before work.

Risk Assessment Worksheet

Con Logo

Location:		**Form/RA Number:**		**Consultant Name:**		**Risk Assessment Date:**	
Process Owner / Contractor Name:		**Revision Number:**		**Function/Department:**		**Revision Date:**	
Risk Assessment Activity (Description):				**Routine/ Non-routine**			

Hazard ID #	Activity/Condition	Hazard / Aspect	Possible Consequences / Effects	Impact Category (Personnel, Env, Financial)	Current Risk Rating (with Controls)			Existing Controls Measures	Legal Requirements	Additional controls, if required (Recommended Actions)	Residual Risk (after additional controls)			Target Date	Responsible
					C	L	R				C	L	R		
1							0						0		
2							0						0		
3							0						0		
4							0						0		
5							0						0		
6							0						0		

Workplace Hazards & Risk Mitigation

Implement barricading, signage and supervision.



PPE Requirements

Hard hat, safety shoes, gloves, safety glasses and reflective vest are mandatory.
Task specific PPE: arc flash suit, face shield, respiratory protection, fall arrest.
Inspect PPE before use and replace damaged equipment.
Non-compliance may lead to removal from site.

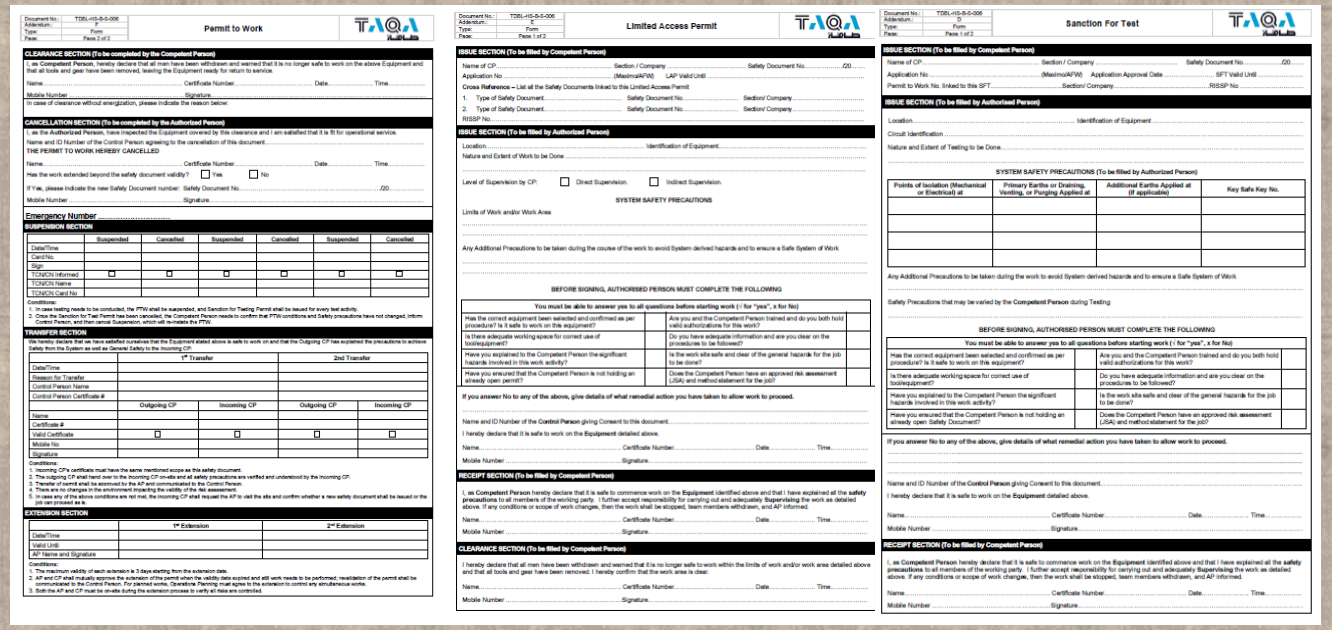


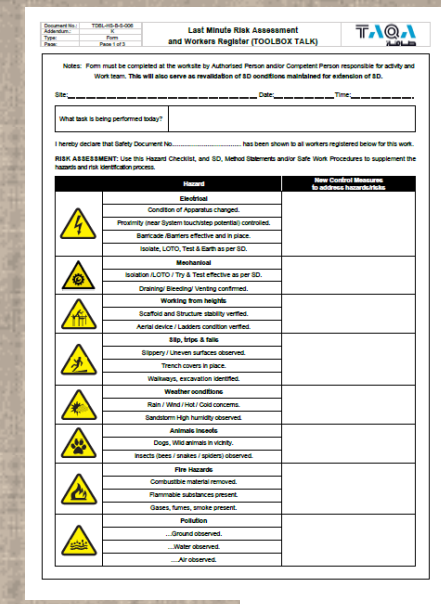


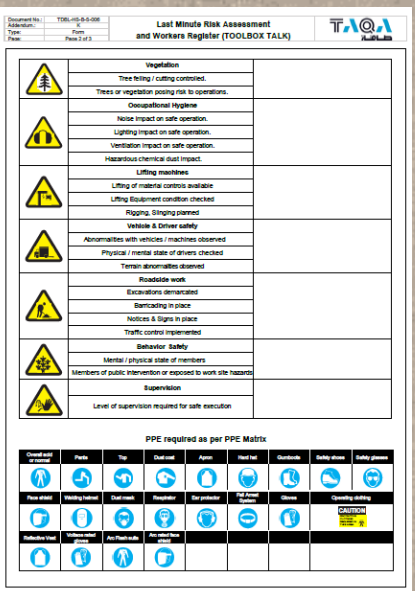
Permit to Work (PTW) System

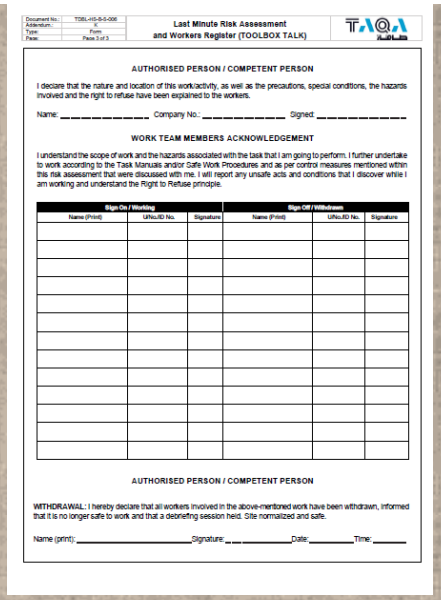
FME must ensure permits and LMRA remain valid.

Forms		Checklist	
1	Permit to Work	1	Lifting checklist – associated to a Permit to Work
2	Sanction for Test	2	Work at Height Checklist – associated to a Permit to Work
3	Limited Access Safety Document	3	Diving Checklist – associated to a Permit to Work
4	Confined Space Safety Document		
5	Excavation Safety Document		
6	Hot Work Safety Document		
7	Radiography Safety Document		
8	Live Work Declaration Form		









Competent, Authorized & Control Person Roles

Competent Person: A person who has sufficient technical knowledge and experience to recognize and avoid Danger and been appointed in writing by the Authorization Officer of the Company to carry out defined duties. These may include the operation of Equipment and the receipt and clearance of specified Safety Documents (SDs), in accordance with a Competency Certificate

Document No.:	TDBL-HS-B-S-006	Job Descriptions for Key Safety Document Standard Roles	
Addendum.:	A		
Type:	Form		
Page:	Page 2 of 3		

Job Title	**Competent Person.**	**Job Category**	Supervisor of works on or near the Networks.
Department / Group	Maintenance, Network Operations or Projects.	**Position Type**	Full time.
Supervisory Responsibility	Will supervise a team of technicians, labourers and helpers at direct work location. No more than 10 to 15 persons.	**Language Ability**	Understanding of English reading, writing and speaking. Understanding of Language of workers, he supervises.
Location	Anywhere within the OpCo Network.	**Reports to**	Under OpCo SSRs - Authorised Person. Day to Day – Line Manager / Supervisor.
Roles & Responsibilities	• Read, understand and check Safety Documents before receiving. • Follow the Safety Documents do not deviate away from them. • Direct and supervise a team of technicians, labourers and helpers at site to perform the daily tasks to ensure that they are completed as per the OpCo SSRs. • Plan and authorize the daily tasks. • Complete daily toolbox talks. • Ensure that safety requirements are available, adhered to and communicated to the team prior to the start of the task. • Check PPE to ensure that all in adequate condition and fit for purpose. • Communicate with control room or local operator/shift engineer upon access to or egress from a Substation/Pumping station. • Ensure any specific instructions are communicated including client notification, legal notice, e.g., midday break, adverse weather conditions alerts. • Supervise/monitor quality of work and ensure work complies to required standards, Work Method Statement requirements. • Check certifications of equipment and operator performing daily tasks, performing daily inspection. • Perform early morning site check to ensure site is as required. Note any changes to the previous day and communicates with line supervisor. • Report to line manager and AP daily performance, work completed, work in progress, issues or problems on site. • Report SSR violations, all injury incidents and near misses to AP and line manager. • Ensure that workplace is maintained clean, tidy, organized and removal of all waste. • Ensure the workplace at the end of the day is safe and does not create hazard for the general public. • Activate emergency plan in event of emergency. • Be available on site all the time (100%) that works are in progress and not leave site during work. • Ensure that all members of the working team are evacuated if necessary. • Complete last-minute risk assessment and ensure all risks are controlled.		

Competent, Authorized & Control Person Roles

Authorized Person: A person who has been appointed in writing to carry out defined duties. These may include operation of Equipment and the preparation, issue, and cancellation of specified Safety Documents (SDs), in accordance with an Authorization Certificate. In the context of this procedure, an AP can perform lockout and tag out on machines or equipment for the purpose of performing service or maintenance on those machines Or equipment. This does include the role “Senior Authorized Person” and “Operational Authority” as applicable in some OpCos.

Document No.:	TDBL-HS-B-S-006	**Job Descriptions for Key Safety Document Standard Roles**	
Addendum.:	A		
Type:	Form		
Page:	Page 1 of 3		

Job Title	**Authorised Person.**	**Job Category**	Leader for the works undertaken on or near the Networks.
Department / Group	Maintenance, Network Operations or Projects.	**Position Type**	Full time.
Supervisory Responsibility	Authorise work and issue Safety Documents (SDs) to Competent Person(s).	**Language Ability**	Understanding of English reading, writing and speaking
Location	Anywhere within the OpCo Network.	**Reports to**	Line Manager / Section Head / Head of Department
Roles & Responsibilities	• Issue Safety Document to Competent Persons ensuring completed correctly. Issuing of Safety Documents must be completed on-site face-to-face with the Competent person. • Cancel Safety Documents after completion of work, checks and verification. • SSR communication with Competent Person, Control Person, and Working Party. • Plan and arrange Competent Person work schedule. • Review and approve Method Statement and Risk Assessment for contractors. • Liaison with consultants and contractors related to commissioning works. • Liaison with other parties that are interconnected with the OpCos network. • Ensure working party have correct PPE. • Check certifications of equipment and operator performing regular checks • Reports to line manager on daily performances, work completed, work in progress, issues or problems on the site. • Reports any SSR violations, injury incidents and near misses to line manager. • Respond to emergencies and activate emergency plan. • Respond to unexpected technical difficulties.		

Competent, Authorized & Control Person Roles

Control Person: A person who has been appointed in writing by the Authorisation Officer of the Company to be responsible for the coordination and control of necessary safety activities on and around the assets to achieve complete Safety from the System(s) within and across defined boundaries..

Document No.:	TDBL-HS-B-S-006	Job Descriptions for Key Safety Document Standard Roles	
Addendum.:	A		
Type:	Form		
Page:	Page 3 of 3		

Job Title	**Control Person.**	**Job Category**	Execution of Operational & Safety Switching.
Department / Group	Network Control.	**Position Type**	Full time.
Supervisory Responsibility	Will execute and confirm system safety precautions have been successfully applied at site with AP providing a safe work zone for working on or near the Network.	**Language Ability**	Understanding of English reading, writing and speaking.
Location	OpCo Control Centre.	**Reports to**	Line Manager.
Roles & Responsibilities	• Receives and approves the Safety Document (also Transfer of Safety Document) • Carries out control duties for HV and LV equipment. • Prepares equipment for release from operational service. • Consults with AP if AP finds that there is not enough space to apply insulation clamps for earthing. • Issues HV and operational safety switching instructions to AP. • Record the completion of HV operational switching and circuit identification. • Check circuit identification in operational and safety switching and record the details of HV switching. • Receive information of all emergency switching. • Receive final clearance from AP before energizing after trips. • Give operational switching instructions to AP. • Be informed before the start of washing lines. • Gives written authority to render interlocks inoperative. • Give instructions for the operation of non-interlocked equipment		

Emergency Procedures

The purpose of an Emergency Response procedure is to protect all employees from serious injury, property loss, or loss of life, in the event of an actual or potential major failure. A major emergency may include, but not be limited to, any of the following: Electrical, fire, lifting, excavation, Gas release, structural failure, heavy rain, sandstorm, or hazardous chemical spill etc. In such an event, this Emergency Response Plan describes the initial responsibilities and actions to be taken to protect all employees until the appropriate off-site responders take over

Emergency Scenario : Situations which extend beyond the immediate damage or injury event itself and which are of a serious or very serious nature can be generalized as emergency. The types of Undesired Event and the level of seriousness, which would constitute an emergency scenario, shall be identified by HSE departments, but would typically include:

- Fire or explosions causing serious damage at Site/Camp
- Serious environmental pollution
- Fatality or serious disabling injury or ill health
- Electrical Shock /Electrical Burns
- Serious damage to equipment, which will significantly degrade safety of operations.
- Natural Disasters (Flood, Earthquake, Heavy storm etc.).
- Excavation collapse.
- Fall from height.
- Chemical spillage.
- Heat stress.

Emergency Procedures

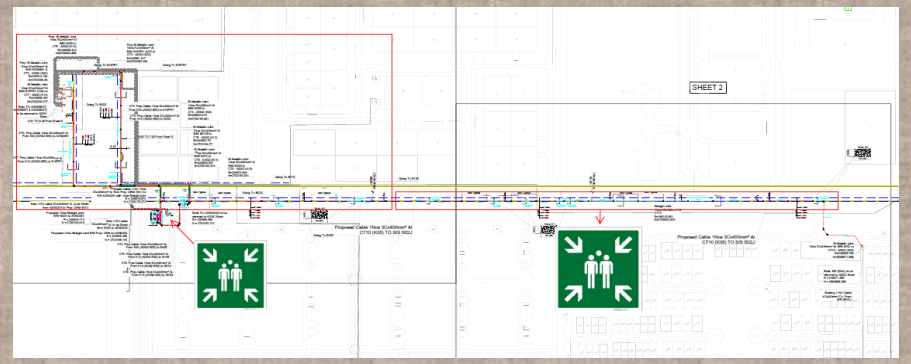
EVACUATION ROUTES

Evacuation route maps have been posted in each work area. The following information is marked on evacuation maps:

Emergency exits
Primary and secondary evacuation routes
Locations of fire extinguishers
Fire alarm pull stations' location







Emergency Procedures

Emergency Response Team (ERT)

The ERT is responsible for carrying out tactical response based on ERP (fire, evacuation, medical, spill, etc.).

The ERT includes the following personnel:

- Person In Charge (Incident Controller)
- HSE In Charge
- ERT Members

ROLE IN ERT	POSITION	NAME	CONTACT NO.
Incident Commander	PROJECT MANGAER	MOHAMMED HALITH	0508993159
ON SITE COMMANDER	PROJECT ENGINEER	Abdullah Saqr	0547264849
HSE In Charge	HSE OFFICER	Mohammed Sukail	0547721935
First Aider	ELECTRICAL ENGINEER	Rajoo	0509047822
FIRE WARDENS	ELECTRICIAN	Muhammed Younas	0508521220
ASSEMBLY POINT CONTROLLERS	FOREMAN/ SUPERVISOR	Ahmed AL shear	0547195584

Emergency Procedures

Emergency contact number Internal and External

EMERGENCY TELEPHONE NUMBERS	
Police	999
Ambulance	998
Civil Defense	997
Al Bahia	800-450
TAQA	800 2332
Abu Dhabi Municipality	028988888
ERT Contact Details	
HSE Officer	0547721935
Project Manager	0508993159
Site Engineer	0547264849
First Aider	0509047822
Fire Warden	0508521220

EMERGENCY ASSEMBLY POINTS (EAP)

EAP shall be identified by the FALCON LLC Site management keeping in mind the following points:-

Open areas that are away from buildings (a minimum of 40')
Easily and safely accessible
Large enough to accommodate all the occupants of the area decided.
Located away from power lines, poles, trees, gas lines, and vehicles
Accessible to emergency medical personnel
EAPs shall not obstruct firefighters' access routes or block fire protection equipment such as hydrants or pump connections.



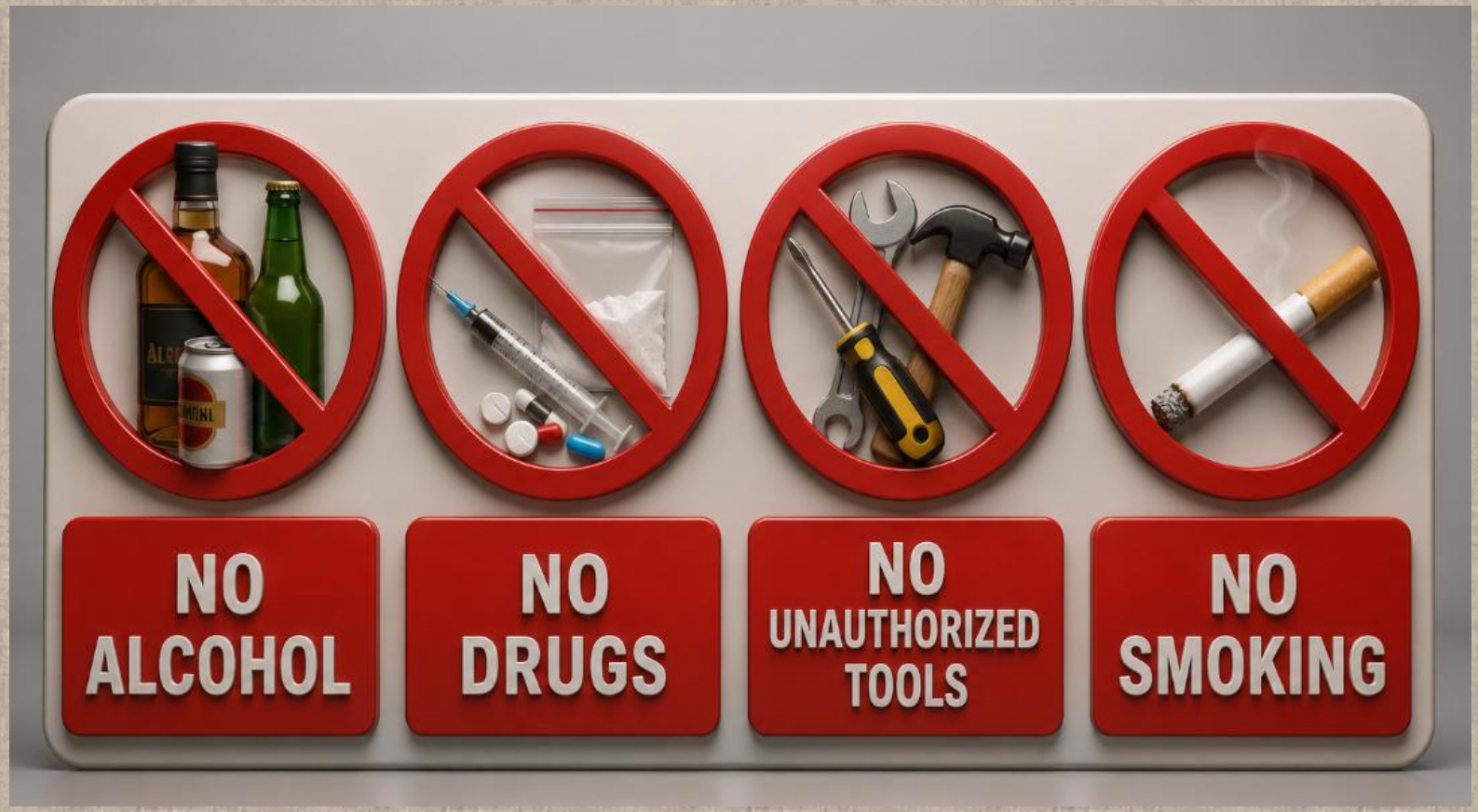
Assembly Points

- Assembly point controller must conduct head count and accountability checks.
- Do not leave muster area until clearance is given.
- Keep access roads clear for emergency vehicles.



Prohibited Items

Alcohol, drugs, firearms and unauthorized tools are strictly prohibited.
Random inspections may be conducted by security.
Violation may result in disciplinary action and site removal.



Security Provisions

- Valid ID and site access authorization required.
- Visitors must register and be escorted.
- Restricted areas require special authorization.



HSE Roles & Responsibilities

Project Manger

- Set project specific HSE objectives and targets and monitor their implementation in conjunction with the HSE Engineer
- Allocate resources for HSE objectives and targets.
- Overall responsible for project HSE
- Authorizes project specific HSE plan
- Ensures that all accidents, illness and environmental incidents are investigated and measures taken to prevent recurrence.
- Conduct weekly HSE Walkthrough.
- Chair Monthly HSE Meeting of the Project.
- Coordinate with TAQA for HSE related Concerns if there any
- Participate in all HSE Site Campaigns Conducted by TAQA and FME LLC.
- Participate in TAQA Project HSE Meetings

Project Engineer

- Ensures all works are going as per the HSE Requirements.
- Ensures all the HSE concerns in site raised by HSE Engineer are closed
- Conduct Tool Box Talk along with Site Foreman.
- Participate in Monthly HSE Meeting
- Participate in weekly HSE Walkthrough
- Ensures HSE requirements are understood and achieved on the site and that a high level of HSE awareness among the workers
- is established.
- Identifies any need for HSE training and in conjunction with HSE Engineer ensures staffs are aware.
- Ensures that FME LLC. Equipment / tools are regularly inspected maintained and is in safe working condition

HSE Roles & Responsibilities

Project HSE Engineer/HSE Officer

- Identify HSE Objectives.
- To identify project specific HSE requirements.
- Preparation, control and implementation of the HSE plan.
- Advice on HSE matters when and where required.
- Compile, monitor and report overall safety statistics, identify trends and areas requiring more attention for risk reduction or improvement.
- Participate in TAQA HSE Meetings or awareness campaigns.
- Preparation of HSE Documents like Risk Assessment, HSE Forms etc.
- Conducts HSE audits as required by the project.
- Ensuring the compliance of all personnel on the site with project HSE requirements.
- Monitor the work site and report.
- Conduct a frequent site inspection and ensuring the concerned personal are informed in writing. Securing their written agreement to implement remedial measures.
- Provide tool box talks/awareness to labors and engineers.
- Identify and report insufficient knowledge or awareness.
- Identify hazards and report them.
- Stop any unsafe task or procedure.
- Arrange evacuation and gathering at the Muster Point.
- Report incidents, accidents, violations and any other observations.
- Provide first aid in case of emergencies.

HSE Roles & Responsibilities

Supervisor

- Responsible for checking daily that safety conditions and practices are being adhered to.
- Logs, investigates and makes a full report for Head Office of any incident or accident that may occur (to all site staff).
- Check the condition of hand tools and equipment on a daily basis.
- Ensures good housekeeping is maintained at the work site.
- Ensures that the PPE issued for the general workers are in good condition safety practices are being followed by the general workers at site.
- Cooperates with the authorities during accident / incident investigation

First Aider

- Providing immediate, lifesaving medical care to an ill or injured person.
- Treating minor conditions, like a wound, external bleeding, or injury,
- Ensuring the patient's safety, especially before further medical help arrives.
- Maintaining the airway of an unconscious person by placing them in a recovery position

Fire Warden

- To assist the Workplace Manager in implementing and improving effective emergency arrangements within the workplace.
- To assist in preventing emergencies by monitoring the adequacy of the fire risk control measures;
- To raise awareness with other staff about the fire hazards that exist within the workplace
- to instruct occupants in the action to be undertaken in response to a fire emergency;
- to ensure all people from within the workplace are accounted for during an evacuation and;
- to assist all people in the workplace should an emergency occur, including assisting people with special needs, e.g. helping someone in a wheelchair to evacuate.

HSE Roles & Responsibilities

Subcontractors:

- Comply with all TAQA HSE requirements and contractual obligations.
- Provide competent, trained, and medically fit workers.
- Submit HSE plans, Method Statements (MS), Risk Assessments (RA), and Job Safety Analysis (JSA) for approval.
- Ensure workers attend site induction before starting work.
- Supply and maintain appropriate PPE, tools, and equipment.
- Ensure all equipment has valid inspection and certification.
- Appoint competent supervisors and HSE personnel where required.
- Conduct daily toolbox talks and monitor safe work practices.
- Obtain required work permits before commencing activities.
- Report incidents, near misses, and unsafe conditions immediately.
- Maintain housekeeping and proper waste management.
- Ensure only authorized personnel perform specialized work (lifting, scaffolding, electrical, confined space, etc.).
- Cooperate with TAQA audits, inspections, and corrective actions.
- Suspend work when conditions become unsafe.

Visitors :

- Complete visitor registration and site induction.
- Be escorted by an authorized site representative unless otherwise approved.
- Wear required PPE at all times.
- Stay within designated visitor areas and approved routes.
- Follow all safety signs and instructions from site personnel.
- Do not operate equipment or interfere with ongoing work.
- Report any unsafe condition observed during the visit.
- Comply with emergency procedures and assembly point instructions.

Leave the site immediately if instructed during an emergency.

HSE Culture & Expectations

A robust safety culture is the foundation of preventing workplace accidents, ensuring employee well-being, and driving continuous operational excellence. This culture operates on a strict "Zero Harm" policy, where leadership commitment, proactive worker engagement, and the empowerment of every individual are paramount.

Visible Leadership: Leaders prove their dedication by being physically present. Routine executive "safety walks," active participation in safety meetings, and leading incident investigations show the workforce that safety goes beyond paperwork.

Resource Allocation: Words hold little weight without a budget. True commitment means dedicating ample time, manpower, and financial resources for continuous safety training, PPE, and equipment maintenance

Leading by Example: A "do as I say" mentality is a critical failure in safety. Managers must strictly follow all safety protocols, sending a clear message that safety rules apply to everyone, regardless of rank



HSE Culture & Expectations

HSE campaign as per TAQA

E. Focus HSE Themes Campaigns (Mandatory Compliance Areas)				
E1	Slip, Trip & Fall	April 2026 - Effectively planned & Conducted with all Site active personnel	Campaign Lead by Contractor & Consultant PMT with theme specific planned activities & Close out report with pictorial evidence and recognition.	Monthly
E2	Hand Injury Prevention	May 2026 - Effectively planned & Conducted with all Site active personnel		Monthly
E3	Heat Illness Prevention	June 2026 to September 2026 - Effectively planned & Conducted with all Site active personnel		Monthly
E4	Excavation Safety & Emergency Preparedness	July 2026 - Effectively planned & Conducted with all Site active personnel		Monthly
E5	Working At Height & Emergency Preparedness	August 2026 - Effectively planned & Conducted with all Site active personnel n		Monthly
E6	Confine Space Safety & Emergency Preparedness	September 2026 - Effectively planned & Conducted with all Site active personnel		Monthly
E7	Lifting Safety	October 2026 - Effectively planned & Conducted with all Site active personnel n		Monthly
E8	Isolation Safety	November 2026 - Effectively planned & Conducted with all Site active personnel		Monthly
E9	Road Safety	December 2026 - Effectively planned & Conducted with all Site active personnel		Monthly

TQD expects full commitment and proactive ownership from all contractors to uphold these requirements and contribute to a strong safety culture across our projects.

Should you require any clarification or support regarding the above KPIs or reporting expectations, please coordinate with the **TQD HSE Projects & Contracts team**.

We look forward to your continued cooperation and commitment to safety excellence.

Regards,

TAQA Distribution طاقة للتوزيع

TAQA D HSE Projects & Contracts

E: hse.projects@taqadistribution.com

PO Box 219, Abu Dhabi, United Arab Emirates

FALCON MIDDLE EAST

TRAINING ATTENDANCE SHEET

Project :

Doc. Ref. No. FALCON-PRO-8-FRM 05
Effective Date: 01 April 2025
Rev. No.: 04
Page 1 of 1

Training Title:	HSE Campaign Slip, Trip, Fall (STF)	Date & Time:	01/04/2026
Location:	SE 4262, 136	Duration (Total No. of Training Hours)	30 min.
Trainer Name:	Ravindra Singh.	Signature:	

SN	Name	Job Designation	Signature
1	Ahmad Hasan	Elect. Engineer	
2	Gulshaz Hakeem	Foreman	
3	Thoppilan Ravi	Labor	
4	Awale Gelety	"	
5	Setta Somaraj	"	
6	Bakht Khan	"	
7	Madhiyazhagan Maniappan	"	
8	Usman Ullah	"	
9			
10			
11			
12			
13			
14			
15			

Training





Incident Reporting & Investigation

TAQAD - Incident Investigation Report – Guideline

1. Verbal Communication: Consultant or Contractor Resident Engineer / Project Manager must call and inform the TQD Project Manager/ Eng/focal point/End-User immediately after any incident or as soon as it is safe to do so.

2. Initial Incident Notification (IIN): This must be submitted within 2 Hours of the incident occurrence, followed by an email notification using the below template to all stakeholders (Contractor/Consultant key reps, TAQA TQD – Focal points (Manager/engineers) and including HSE.projects@taqadistribution.com

Interim Investigation Progress: This should be submitted within three (3) days of the incident occurrence.

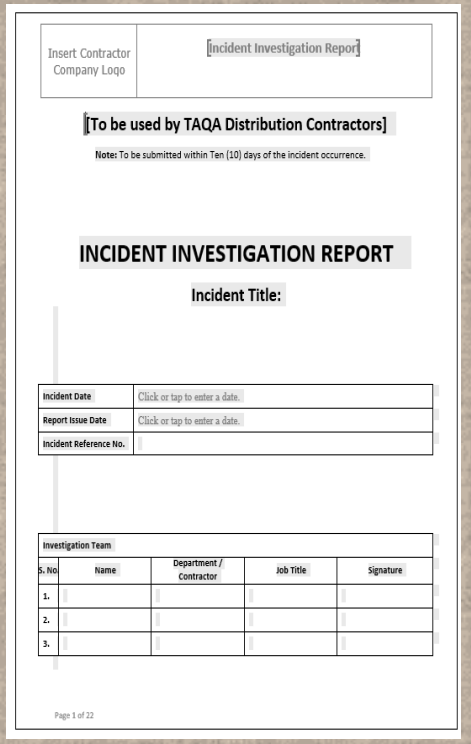
Incident Investigation Report (IIR): This final report must be submitted within ten (10) days of the incident occurrence.

- Near Miss
- First Aid Cases
- Any other recordable incidents
- Serious Incident Notification Process

Tips for Initial Serious Incident Briefing:

- *Keep it short: Focus on what, where, when, who, and initial impact.*
- *Use bullet points: Makes it easier for recipients to scan quickly.*
- *Follow up with details later: Save in-depth analyses (root cause, corrective action plan, etc.) for a subsequent, more detailed report.*
- ** Blank table you can copy and paste into email body and share with TAQA D*

Field	Details
Incident Date & Time	
Incident Category (Injury, NM, or Property Damage)	
Location	
Brief Description of the Event / Activity	
Injury/Fatality Description	
Departments/Contractors	
Immediate Actions Taken	
Attachments/Photos	
Next Steps	
Contract/Project No. & Details	
Contractor Company Name	
Contractor Company Focal Point Contact No. & Email	



Insert Contractor Company Logo

[Incident Investigation Report]

[To be used by TAQA Distribution Contractors]

Note: To be submitted within Ten (10) days of the incident occurrence.

INCIDENT INVESTIGATION REPORT

Incident Title:

Incident Date	Click or tap to enter a date.
Report Issue Date	Click or tap to enter a date.
Incident Reference No.	

Investigation Team				
S. No	Name	Department / Contractor	Job Title	Signature
1.				
2.				
3.				

Page 1 of 22

Workplace Ergonomics & Manual Handling

Musculoskeletal injuries (MSIs) occur when physical overexertion, awkward postures, or repetitive motions exceed the body's capacity. Preventing these injuries requires fitting the work to the worker through three primary strategies: safe lifting techniques, ergonomic workstation design, and mindful material handling.

- Use proper lifting techniques and team lifting when necessary.
- Avoid awkward postures and repetitive strain.
- Use mechanical aids for heavy materials.
- Maintain good housekeeping to reduce trip hazards.



Critical Work Activities

Working at Heights: use full body harness and inspected scaffolds.



Critical Work Activities

LOTO: This guideline is in support of the SD Standard, and to prevent injury or harm from the unexpected start up or release of energy from any type or source when any work is being performed during equipment services or maintenance but also during its normal operation if this requires the removal or by-passing of guards or safety devices or the exposure of any parts of the body during set-up/ troubleshooting. This will be achieved through predetermining the range of hazardous energy sources which have the potential to cause injury, illness or harm and defining how each energy source will be controlled to avoid direct or indirect contact. Therefore, this standard describes the process by which an operation can identify hazardous energies and a standard methodology for their control.

Color Coding of Locks per Department

The following colour coding shall be followed by all OpCos.

Table 1: Lock Color Coding by Department

RED	ELECTRICAL
YELLOW	INSTRUMENTS / TELECOMS
BLUE	WATER
GREEN	MECHANICAL / PROCESS
ORANGE	GENERAL
WHITE	CONTRACTOR

Tag Colors and Design

As a minimum, three different types of tags shall exist in each OPCO:

- NOTICE TAGS
  - The Out of Service Notice



Figure: Notice Tag

- CAUTION TAGS
  - Caution Notice: It is the notice of an Approved type, conveying a warning against interference with isolated equipment. These notices are attached at all Points of Isolation



Figure: Caution Tag

- DANGER TAGS
  - Danger Notice: It is a notice of an Approved type, conveying a warning of the risk of Danger of approach to either electrical or general hazards. These notices are also displayed at the limits of safe working areas, calling attention to the adjacent Dangers.



Figure: Danger Tag

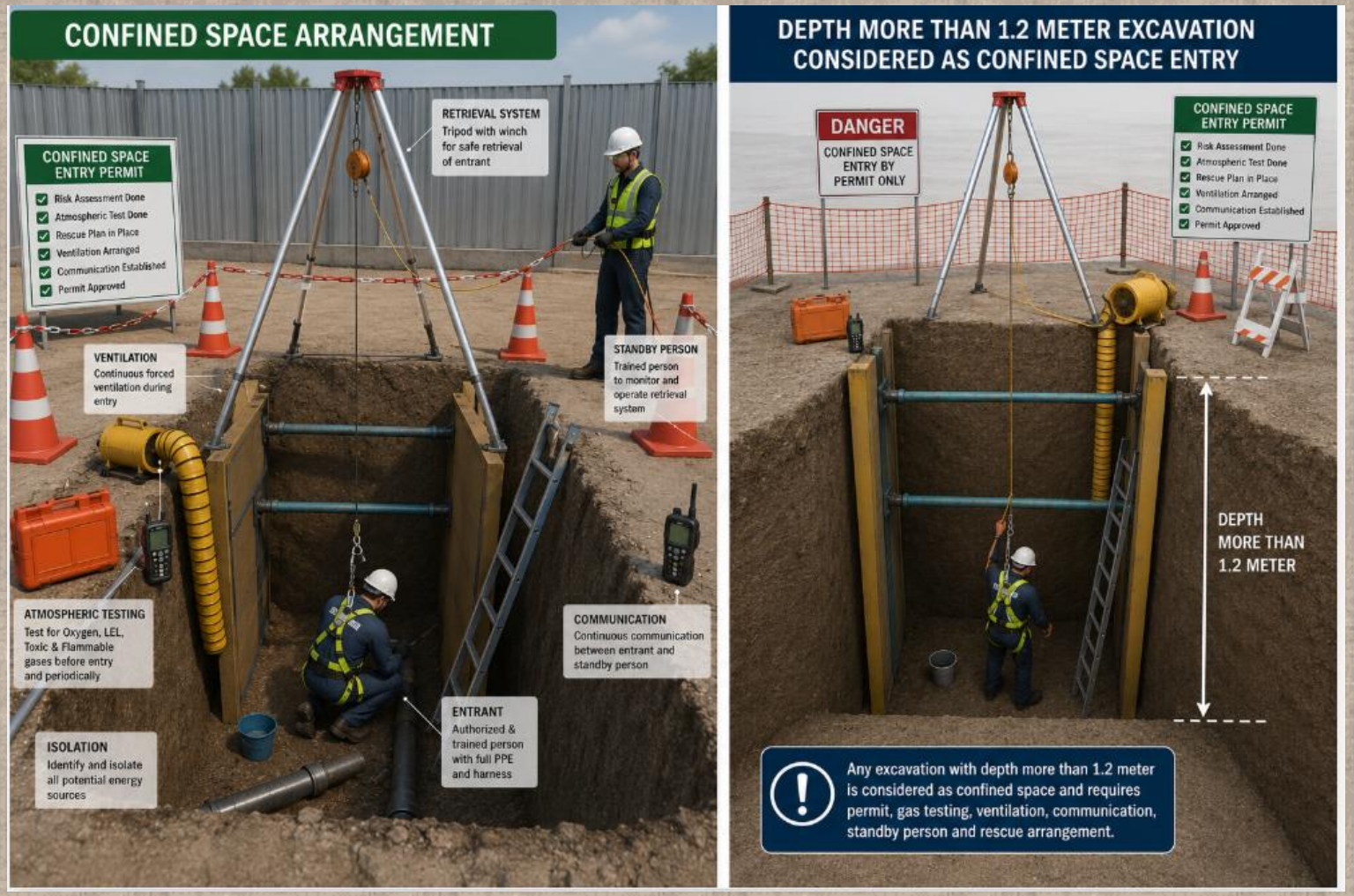
- Tags must be in Both Arabic & English.
- Additional languages are encouraged (as per OSHAD) depending on the population of different language speakers in the teams.
- sides, and in which case there should be a notice to reader to see backside.
- As a minimum, the tag must contain the following content:



Figure: Tag Content

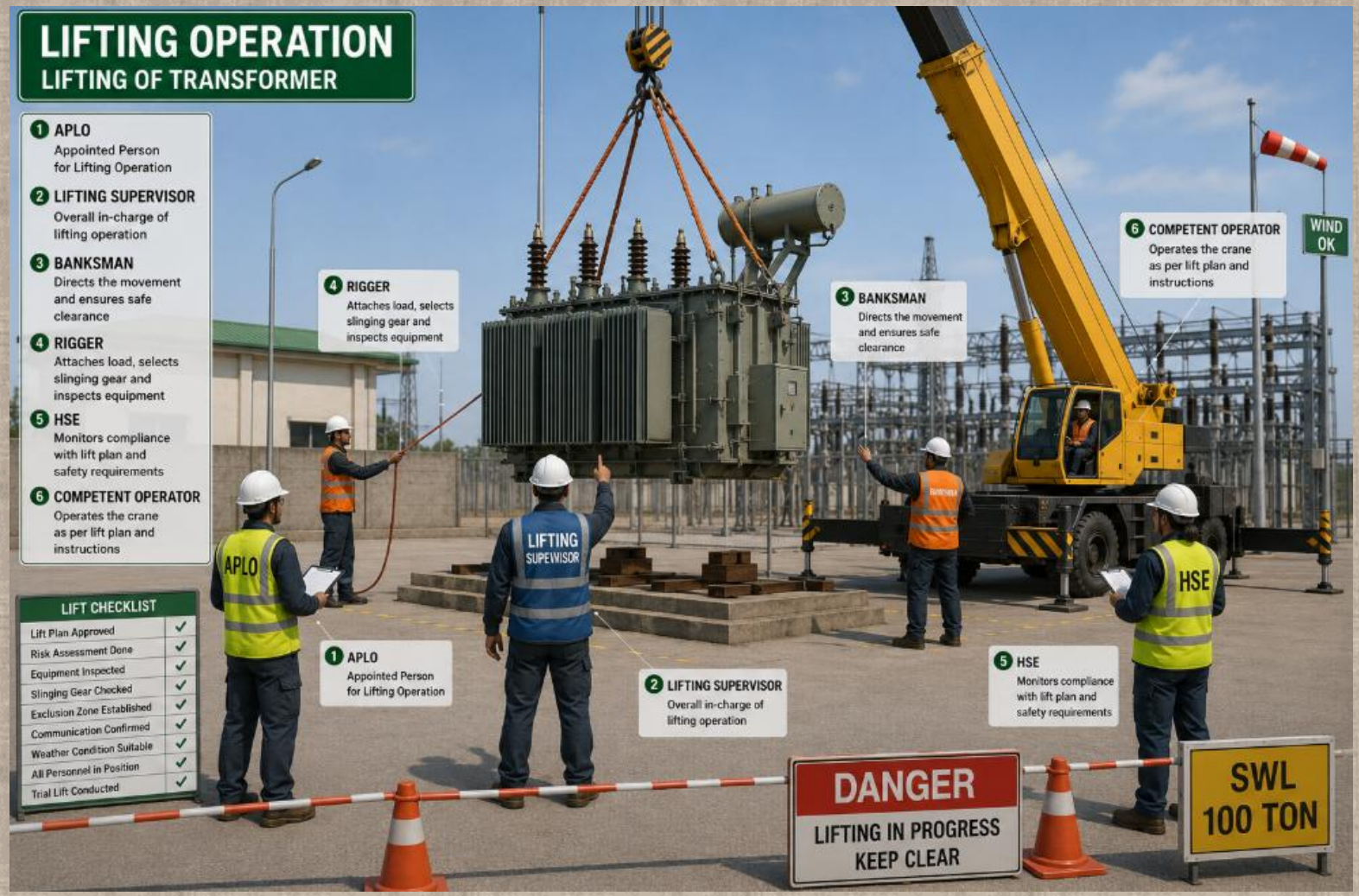
Critical Work Activities

Confined Space: gas testing, standby man and rescue plan required.



Critical Work Activities

Lifting Operations: certified operators and inspected equipment and lifting team crew members must be available at site.



Critical Work Activities

MOCK Drill .

Emergency Response Preparedness Plan

Drill Scenarios	COUNTS	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	Compliance %
Stop Work Authority Drills	2			p								p		0	0
Heat stress drill	3						p	p	p					0	0
Fire & Mustering drill	12	p	p	p	p	p	p	p	p	p	p	p	p	0	0
Fire Drill	2				p						p			0	0
Medical Emergency Drill	1					p								0	0
Working At Heigh Drill	1								p					0	0
Confined Space Evacuation Drill	1		p											0	0
Excavation Emergency Drill	4	p			p			p					p	0	0
Chemical Spill Response Drill	2		p							p				0	0
Other Drill	1									p				0	0
Drill with TAQA-D O&M	1										p			0	0
Drill with External Gov Parties	0													0	#DIV/0!
Drill briefing/awareness sessions														0	
Low Risk Observations														0	
Medium Risk Observations														0	
High Risk Observations														0	
Drill Total Observation														0	
Drill Open Observation														0	
Drill Closed Observation														0	

Note:

1. Contractor shall conduct fire and mustering drills on a monthly basis, or upon a cumulative change of twenty-five percent (25%) of site personnel
2. Drill reports shall be submitted as part of the Contractor's Monthly Progress Report, and any monthly submission not supported by the required drill report shall be deemed incomplete.
3. Status of each month planned drill shall be declared in the first monthly submission as P (Planned).
4. Contractor shall invite TAQA P&C HSE to attend not less than three (3) drills per calendar year for performance monitoring and continual improvement.
4. Failure to comply with any requirement of this Clause shall constitute a non-compliance under the Contract, and, without prejudice to any other rights, TAQA may, at its sole discretion, apply performance score reductions, issue Non-Conformance Reports (NCRs), withhold interim payments, suspend related site activities, or otherwise escalate the matter in accordance with the Conditions of Contract and TAQA policies.

P - Plan, C - Complete



Critical Work Activities

Stop Work Authority:

All personnel (including laborers) have been trained and empowered to issue a Stop Work Authority if they observe an unsafe condition or act. Any SWA issued is investigated by the Project Manager within 24 hours, and the worker who issued the SWA receives positive recognition. The SWA log is maintained by HSE Engineer.



First Aid & Medical Emergency Response

- First aid kits available at designated locations.
- Trained first aiders shall be available on site.
- Emergency contact numbers must be displayed.
- Arrange rapid transport for serious injuries.







Emergency Contact Details:

External

Abu Dhabi Distribution Company Emergency Line	8002332
Police	999
Ambulance	998
Civil Defense	997
Water and Electricity	991 or 992
Environment Agency Abu Dhabi (EAD)	800 9990
Abu Dhabi OSH Center	02 693 4747
Abu Dhabi Municipality	993
Marine emergencies, accidents or suspicious activity (Critical National Infrastructure Authority):	996
Weather condition and earthquakes	+971 2 666 7776

Internal (FME)

Project Manager	Mohammed halith	0564180629
Project Engineer	Abdullah	0507096374
HSE officer	Mohammed Sukhail	0508153117
First Aider/ Fire fighter 1	Rajo	0564254970
First Aider/ Fire fighter 2	Saleh	0554579239

NEAREST HOSPITAL DETAILS

Name of Hospital: NMC Royal Medical Center

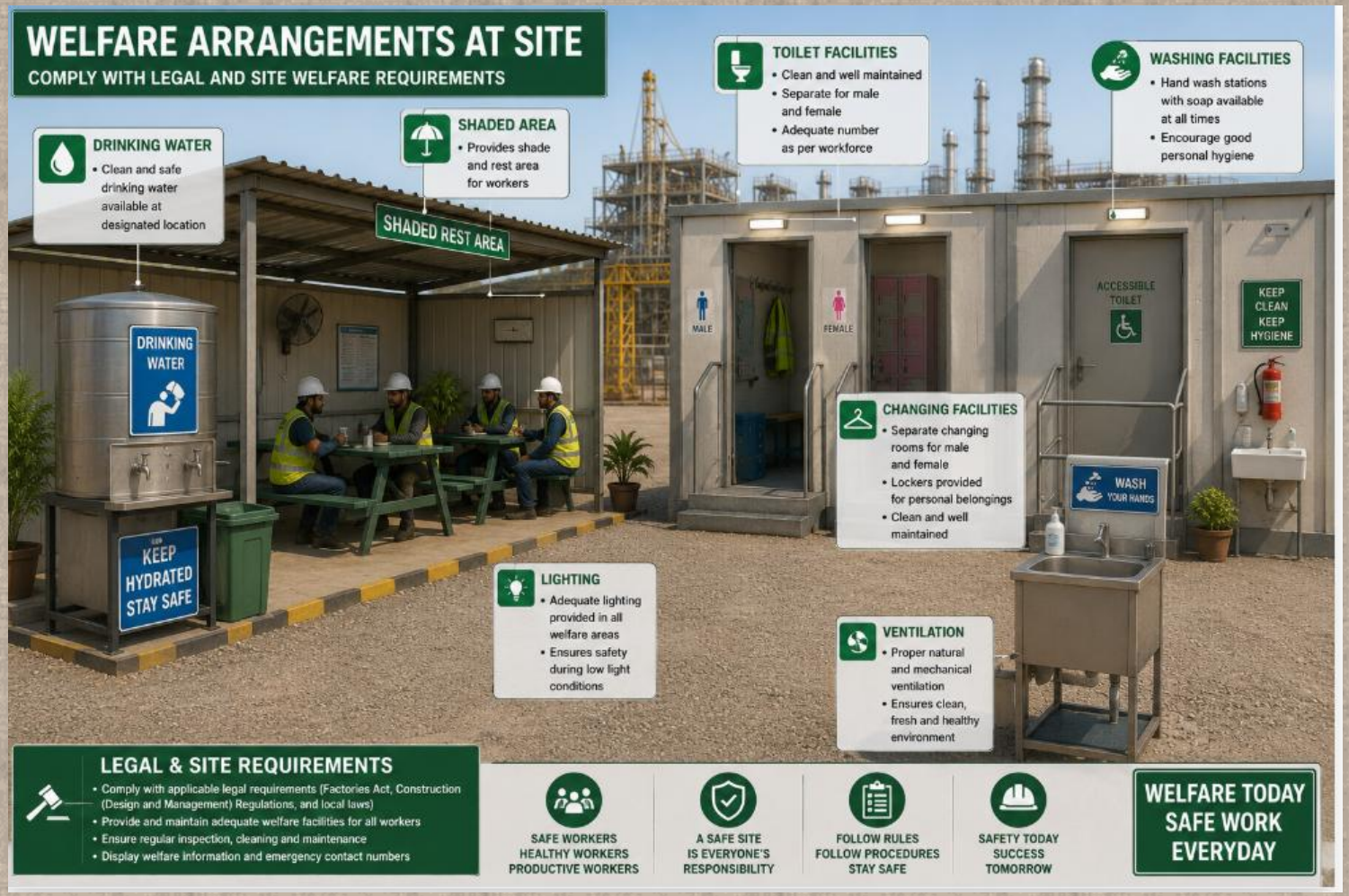
Contact No: 028859400

Address: 12 Ash Shahamah St - Abu Dhabi

Travel Distance & Timing –(10km)(10 mins)

Welfare Arrangements

- Provide clean drinking water and shaded rest areas.
- Ensure toilets, washing and changing facilities are maintained.
- Adequate lighting and ventilation required.
- Comply with legal and site welfare requirements.



Communication & Reporting Channels

- Daily toolbox talks before start of work.
- Use HSE meetings and observation cards to report concerns.
- Escalate critical hazards immediately to supervision.
- Maintain open communication between TAQA and FME.



Communication & Reporting Channels

HEAT STRESS (REF: ADOSH SF V 4.0, SAFETY IN HEAT)

Although human beings possess considerable ability to compensate for naturally occurring heat stress, many occupational environments and/or physical activities expose workers to heat loads which are so excessive as to threaten their health and productivity.

Interventions fall into five categories:

- Maximizing heat tolerance among exposed individuals,
- Assuring timely replacement of lost fluid and electrolytes,
- Altering work practices to reduce exertion heat load,
- Engineering control of climatic conditions, and
- Use of protective clothing.

Thermal Work Limit - Working Zones

Control Interventions, Rest-Work and Rehydration Schedules

Working Zones	Interventions	Rehydration Schedule (per hr)	Work-rest Schedule (minutes)
Low Risk Unrestricted Zone TWL: 140 - 220 <	**No limits on self-paced work**[a] for educated, hydrated workers.	Light Work 600 ml - 1 Litre / hr	Safe for **all** continuous **self-paced work**[a]
Medium Risk Cautionary Zone TWL: 115 – 140	**Cautionary zone indicates situations in which environmental conditions require additional precautions.** • Practicable Engineering control measures to reduce heat stress should be implemented e.g. provide shade, improve ventilation etc. • Working alone to be avoided • No unacclimatised person to work[b] • Ensure adequate fluid intakes appropriate for type of work	Light Work 1 -1.2 Litres / hr	Safe for continuous **self-paced light work**[a]
		Heavy Work > 1.2 Litres / hr *	**Continuous paced work** 45 work - 15 rest
High Risk Zone TWL: < 115	• **Strict Work/Rest cycling required** • No person to work alone • No unacclimatised person to work[b] • High Risk induction required emphasising hydration and identifying signs of heat strain • Provide personal water bottle (2 litre capacity) on-site at all times	All Work >1.2 Litres / hr *	Light work[c] 45 work – 15 rest
			Heavy work[d] 20 work - 40 rest





Review & Approval Process for PTW

Submit PTW with JSA/Risk Assessment.
Review by Authorized and Control Persons.
Verify isolation, controls and PPE requirements.
Obtain signatures before work starts and renew permits if required.

Applicable Permit To Activities – O&M and Projects

Existing System status	AADC Project Manager	Project Consultant AND/OR Project Manager	Contractor AP	Contractor CP	O&M AADC AP	System to be used
Out of the system	Accountable for implementation of Projects PTW	Verify implementation of Projects PTW	Issues Projects PTW	Requests, Reviews , and executes construction PTW	-	Projects PTW workflow & forms/Contractor
Work Near	Accountable for implementation of SSR (on Projects)	-	-	Requests, receive and execute LAP and associated safety documentation.	Issues LAP & associated safety documentations for the work.	System Safety Rule
Work On	Accountable for implementation of SSR (on Projects)	-	-	Requests, receive and execute the Permit to Work AND/OR Live Work Declaration Form.	Issues Permit to Work, Live Work Declaration Form, Sanction for Test etc	System Safety Rule

Review & Approval Process for PTW

Safety Document - Workflow

Forms

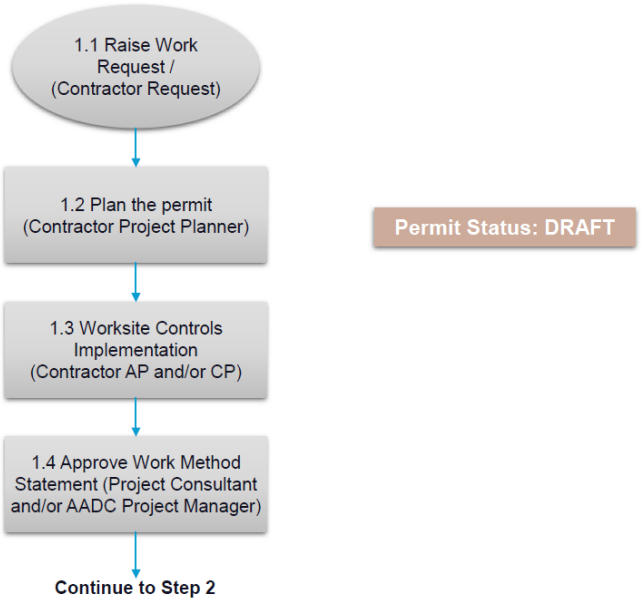
1. Permit to Work
2. Sanction for Test
3. Limited Access Safety Document
4. Confined Space Safety Document
5. Excavation Safety Document
6. Hot Work Safety Document
7. Radiography Safety Document
8. Live Work Declaration Form

Checklist

1. Lifting checklist – associated to a Permit to Work
2. Work at Height Checklist – associated to a Permit to Work
3. Diving Checklist – associated to a Permit to Work

Review & Approval Process for PTW

WORK REQUEST AND PLANNING (1/2)



WORK REQUEST AND PLANNING (2/2)

Work Request & Planning		
*	Step	Requirements
1.1	Raise Work Request	• The contractor requestor shall submit a work request for permitted activities as a minimum 7 days in advance to allow the contractor CP and contractor AP to prepare for the permitted activities • The work request shall be raised to the Contractors project planner • As a minimum, the following documents and information shall be provided as part of the work request: o Name and contact details of the contractor Competent Person (if different than the requestor) o Description of the Work o Risk Categorization (initial) o Required Permit to Work Document o Activity Start Date o Expected duration for the work o Requirement for a Limited Access Permit o Requirement for utilities Non-Objection Certificates (NOCs)
1.2	Plan the Permit	• The contractor project planner shall: o Review the documents and information submitted by the contractor requestor and advise if additional documents and information are required o Review the scope of work and assign a risk categorization for the activity and the type of permit required o Incorporate the activity in the project plan o Notify the Contractor CP that the activity is planned and ready to be initiated
1.3	Initiate the Permit to Work	• Once the permitted activity is planned as part of the project, the assigned permit required can be initiated by the Contractor AP AND/OR CP • The Contractor AP AND/OR CP shall submit to the Project Consultant AND/ OR AADC Project Manager for review and approval the activity work method statement
1.4	Approve Work Method Statement	• The Project Consultant AND/ OR AADC Project Manager shall review and approve the Work Method Statement • If deemed necessary and required by the project consultant AND/OR project AADC engineer, discipline engineers shall be consulted during the Work Method Statement review. A joint review should particularly be considered when the Project Consultant AND/ OR AADC Project Manager is not deemed as an expert in the field of the permitted activity • If and when comments are raised on the work method statement and additional information are required, the Project Consultant AND/ OR AADC Project Manager will communicate the requirements to the Contractor AP AND/OR CP. The Contractor AP AND/ OR CP shall submit all additional document and information to the Project Consultant AND/ OR AADC Project Manager as a minimum 72h prior to the commencement of the activity • Following the review and approval of the work method statement, the Contractor AP requests the contractor CP to carry-out a job safety analysis based on TAQA T&D Risk Management Procedure (TDBL-HS-C-S-002)

Q&A Session

FALCON Middle East	POST TRAINING EVALUATION FORM	Doc. Ref. No. FALCON-PRO-8-FRM 06 Effective Date: 01 April 2021 Rev. No.: 00 Page 1 of 1

Training Title:	Induction	**Date:**	25/8/2024
Participant's Name:	HAIDER ALI	**Job Title:**	FOREMAN
Training Provider's Name *(if outsourced):*		**Trainer:**	RAVINDER SINGH JAWAL

Please complete this questionnaire by selecting the appropriate answer in the box that most represent your view on each statement.

Question	Strongly agree	Agree	Disagree	Strongly disagree
1. Training programme objectives were clearly and fully explained at the beginning of the session/ training.	✓			
2. I have increase of my understanding of this field as a result of attending this session/ training.	✓			
3. My on the job performance will increase as a result of attending of this session/ training.	✓			
4. The training facilitator was thoroughly prepared for this session/ training.		✓		
5. The training facilitator created a good learning environment.	✓			
6. The length of time for the training/ session was sufficient to cover all topics.	✓			
7. The training facilities were of excellent quality.		✓		
8. The examples used in the session/ training program were practical and aligned to work practice.		✓		
9. The training facilitator used different training styles too suit our preferred learning styles.		✓		
10. The training facilitator had good practical experience of the subject.		✓		

What is your overall evaluation of today's session / training?	Excellent ☐	Good ☐	Average ☐	Poor ☐
How would you rate the instructor in terms of knowledge and presentation style?	Excellent ☐	Good ☐	Average ☐	Poor ☐
Do you think you can apply it to your current work?	☐ ✓ Yes		☐ No	
What other training topics might help you to do your job better?				

Please put your comments / testimonial statement regarding your experience from this session /training.

Thank you for your participation and we value your contribution!

Signature: Ravinder Singh Jaswal **Date: 25/08/2024**

THANK YOU