TASK RISK ASSESSMENT WORKSHEET

CONTRACT NO	REF	DATE	REV
190707	RA-2026-pwB89pB2	10.08.2026	A

PROJECT 132 kv cable works

CLIENT	CONSULTANT	MAIN CONTRACTOR	SUBCONTRACTOR
Taqa	Green	El Sewdy	Heliopolis

ACTIVITY Liftng Operation

ASSESSORS	— PROJECT MANAGER *signature*	— HSE ENGINEER *signature*	— PROJECT MANAGER *signature*	— CIVIL ENGINEER *signature*	— HSE ENGINEER *signature*

SN	Activity	Hazard / Aspect	Consequence	Groups Exposed	Existing Controls	Initial Risk P × S = R	Additional Controls	Residual Risk P × S = R
1	**Complete HDPE Duct Infill**	1. Vehicle movement and traffic hazards 2. Manual handling during loading/unloading 3. Uneven ground conditions	Personal injury, property damage	Site Personnel, Subcontractors, Public	1. Implement traffic management plan 2. Designated walkways 3. Mandatory PPE 4. Speed limit enforcement	**P 3 × S 3** **9**	1. Comply with ADOSH SF CoP 27.0 2. Daily vehicle inspection 3. Toolbox talk	**P 2 × S 2** **4**
2	**Site mobilization and setup of temporary**	Passing high-speed public traffic and moving site vehicles	Personal injury, property damage	Site Personnel, Subcontractors, Public	Approved TTM plan, high-visibility clothing (Class 3), physical water-filled/concrete barriers, advanced warning signs, and trained flagmen.	**P 3 × S 3** **9**	Deployment of Truck Mounted Attenuators (TMA) and enforcement of reduced speed limit zone in coordination with local traffic authorities.	**P 2 × S 2** **4**
3	**Trench excavation and sub-surface ground preparation**	Accidental strike on existing buried live electrical cables or gas utilities	Personal injury, property damage	Site Personnel, Subcontractors, Public	Utility mapping review, CAT & Genny cable avoidance scanning, and manual trial pits (pot-holing) prior to mechanical excavation.	**P 3 × S 3** **9**	Mandatory Permit to Dig system, use of insulated hand tools near identified utilities, and continuous competent supervision.	**P 2 × S 2** **4**
4	**Uncoiling, handling, and positioning HDPE pipe**	Sudden release of stored mechanical spring energy in coiled HDPE pipe	Personal injury, property damage	Site Personnel, Subcontractors, Public	Use of specialized pipe reeler/uncoiler frame, controlled strap cutting procedures, and establishing exclusion zones.	**P 3 × S 3** **9**	Mandatory deployment of safety restraints/bands before unstrapping and wearing high-impact resistant safety glasses and gloves.	**P 2 × S 2** **4**
5	**HDPE pipe jointing via electrofusion and**	High-temperature heating elements, hot molten plastic, and portable electrical generators	Personal injury, property damage	Site Personnel, Subcontractors, Public	Certified welding equipment, RCD-protected generators, heat-resistant safety gloves, and portable fire extinguishers nearby.	**P 3 × S 3** **9**	Hot Work Permit implementation, provision of localized exhaust ventilation or respiratory protection (FFP3) in confined areas.	**P 2 × S 2** **4**
6	**Entry into underground chambers and manholes**	Hazardous atmosphere (oxygen deficiency, toxic gases like H2S/methane), engulfment, or fall from height	Personal injury, property damage	Site Personnel, Subcontractors, Public	Confined Space Entry Permit, pre-entry 4-gas atmospheric testing, forced air ventilation, and tripod rescue system with harness.	**P 3 × S 3** **9**	Continuous multi-gas monitoring during entry, dedicated trained top-person/standby monitor, and verified emergency rescue plan.	**P 2 × S 2** **4**

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7	**Mechanical winch pulling of HDPE sub-ducts**	High-tension winch wire snap, rotating capstans, and pinch/nip points	Personal injury, property damage	Site Personnel, Subcontractors, Public	Properly rated winching wire with calibrated weak-link swivel, emergency stop switches, and safety guards over rotating parts.	P 3 × S 3 = 9	Integrated load monitoring with automatic shut-off at peak tension limits and strict exclusion zones along the tension line.	P 2 × S 2 = 4
8	**Duct proving (mandrel testing) and air**	Uncontrolled high-pressure compressed air release and projectile ejection of foam pig or mandrel	Personal injury, property damage	Site Personnel, Subcontractors, Public	Calibrated pressure relief valves, secure containment/catcher cage at receiving duct end, clear exclusion zone enforcement.	P 3 × S 3 = 9	Mandatory Pressure Testing Permit, full-face protection shields for operators, and calibrated double-gauge manifolds.	P 2 × S 2 = 4
9	**Positioning mobile crane near live overhead power lines and substation yards**	Proximity to high-voltage energized overhead conductors and electro-magnetic induction zones	Electrocution, high-voltage arcing, fatal electric shock, catastrophic fire, equipment damage, grid tripping	Crane operator, riggers, banksman, ground personnel	Establish minimum approach distances (MAD) per voltage level, deploy dedicated Banksman, implement earthing of crane chassis, verify electrical isolation where possible	P 4 × S 5 = 20	Issue formal Permit to Work (PTW) and Electrical Isolation Certificate; install physical height limiting Goal Posts and proximity alarms on crane boom; use non-conductive synthetic taglines.	P 1 × S 4 = 4
10	**Rigging and slinging heavy oil-filled power transformers**	Incorrect rigging configuration, dynamic center-of-gravity (CoG) shift due to internal oil, defective lifting gear	Dropped load, structural crushing fatalities, major oil spill, loss of primary electrical assets	Rigging team, lifting supervisor, nearby electrical installers	Pre-use inspection of Third-Party Certified (TPI) slings and shackles, verify transformer weight and CoG from manufacturer drawing, color-code lifting equipment	P 3 × S 5 = 15	Appointed Person (AP) to review and approve engineered Lifting Plan; conduct NDT on transformer integrated lifting lugs; utilize certified spreader beams to avoid tank body crushing.	P 1 × S 3 = 3
11	**Lowering switchgear panels through building floor openings into elevated electrical rooms**	Uncontrolled load swing, pinch points against structural openings, restricted visibility	Crushing injuries, limb amputation, structural damage to building/equipment, internal damage to sensitive vacuum circuit breakers	Substation installation crew, riggers, signalman	Rigid barricading of exclusion zone beneath opening, taglines used to steer load, qualified signalman maintaining continuous line-of-sight	P 4 × S 4 = 16	Enforce strict 'Red Zone' zero-entry beneath elevated loads; install custom guide rails/skids at hatch edge; utilize radio communications between signalman and winch/crane operator.	P 1 × S 2 = 2
12	**Offloading heavy high-voltage cable drums using mobile crane**	Dislodging of cable drum spindle bar, asymmetric weight distribution, rolling of drum post-landing	Load shift during lift, crane boom side-loading, impact injuries to ground handlers, cable damage	Crane operator, riggers, cable jointing technicians	Use TPI-certified cable drum spreader beam and rated spindle axle, inspect drum wooden/steel flanges for defects prior to lift	P 3 × S 4 = 12	Install safety locking collars/pins on spindle bar; pre-position wheel chocks on landing area before touchdown; maintain clear escape routes for ground crew.	P 1 × S 2 = 2

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LIKELIHOOD / FREQUENCY

Descriptor	Likely Frequency	Probability
Frequent	Occurs frequently	5
Often	Occurs several times per year	4
Likely	Has occurred more than once	3
Possible	Has occurred	2
Rare	Never occurred	1

RISK MATRIX — PROBABILITY × CONSEQUENCE

Probability	Consequence				
	Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Catastrophic (5)
Rare (1)	1	2	3	4	5
Possible (2)	2	4	6	8	10
Likely (3)	3	6	9	12	15
Often (4)	4	8	12	16	20
Frequent / Almost Certain (5)	5	10	15	20	25

15 - 25	Extreme Risk	Activity or industry should not proceed in current form.
8 - 12	High Risk	Activity or industry should be modified to include remedial planning and action and be subject to detailed EHS assessment.
4 - 6	Moderate Risk	Activity or industry can operate subject to management and/or modification.
1 - 3	Low Risk	No action required, unless escalation of risk is possible.