

FIELD QUALITY PLAN

Doc. Title	Field Quality Plan for UG Cable Laying			
Doc. No.	TPWODL-Quality-FQP-04			Date: 01.01.2025
Rev. No.	0			Other detail:
	Prepared By: LE, Quality	Reviewed by: TL, Quality	Approved By: HOG, Quality	

A.		Process Description: -		Pre-Execution Check						
Sl. No.	Activity		Characteristics	Type of Check	Acceptance Norms	Reference Standard	Frequency of Check			Remarks
							BA	SSE	QA	
1	Soil Testing	1.1	Soil Conditions	Laboratory Testing	PH Value (6 - 8)	IS 2720-26	P	W	R	P - perform W - witness R – Review & Verification
		1.2	Chemical Action	Laboratory Testing	Satisfied Chemical Analysis	IS 2720-22	P	W	R	
		1.3	Electrolytic Corrosion	Laboratory Testing	Satisfied Chemical Analysis	IS 12332 (1 & 2) : 1998	P	W	R	
2	Receipt & Storage of Materials	2.1	Receipt at Store/Site	Visual	Material make to be verified as per Approved Manufacturer List of TPWODL	Estimate/ RO/drawing.	P	W	R	
		2.2	Visual Inspection of Materials	Visual	Damaged during transit are stacked separately if any.	Estimate/ RO/drawing.	P	W	R	
		2.3	Storage of Materials	Visual	Received materials are stored as per standard practice.	As per standard	P	W	R	
3	Availability of Material & Resources	3.1	All materials should be available as per estimated BOQ.	Visual	As per Estimate/RO/drawing.	As per standard	P	W	R	
		3.2	Physical condition of materials.	Visual	There shall be no any damage/ deterioration in the available materials.	Estimate/ RO/drawing.	P	W	R	
		3.3	Availability of Manpower	Visual	Required Manpower shall be available.	As per standard	P	W	R	
		3.4	Availability of Tools & Tackles for the execution of job.	Visual	All Tools & Tackles for the execution of job shall be readily available and in good working condition.	As per standard	P	W	R	
4	Transportation	4.1	Transportation of material.	Visual	Transportation of material from BA store to site in proper way to avoid any damage to the material.	As per standard	P	W	R	
5	Survey and Route Marking	5.1	Survey of Route	Visual	Route Survey to be done as per Approved Route Plan.	Estimate/ RO	P	W	R	
		5.2	Route Marking before excavation of trench.	Visual	Route Marking to be done as per Approved Route Plan.	Estimate/ RO	P	W	R	

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6	Excavation of Trench	6.1	Verification of depth, width and alignment	Visual	As per drawing.	Approved Drawing IS 1255:1983	P	W	W	
7	Cable Laying	7.1	Sand bedding before & after Cable laying in trench as per drawing	Visual	As per drawing.	Approved Drawing IS 1255:1983	P	W	R	
		7.2	Cable pulling and laying through Winch Machine & Roller	Visual	As per WI (Cable Laying)	IS 1255:1983	P	W	R	
		7.3	Cable alignment in trench.	Visual	As per WI (Cable Laying)	IS 1255:1983	P	W	R	
		7.4	Spacing between the Cables, Joints, Other utility, Trench wall	Visual	As per drawing / WI.	Approved Drawing	P	W	R	
		7.5	Warning Tape laying	Visual	Warning Tape shall be laid as per drawing.	Approved Drawing	P	W	R	
		7.6	Backfilling of Soil	Visual	Backfilling of Soil shall be done as per drawing.	Approved Drawing	P	W	R	
8	Cable Jointing and Termination	8.1	Cable joint preparation	Visual	Cable joint preparation shall be as per OEM guidelines and installation to be done by TPWODL Authorized Jointers only.	WI (Jointing)/Kit Manual	P	W	R	
		8.2	Joint alignment in Pit	Visual	As per WI (Cable Laying)	Approved Drawing	P	W	R	
		8.3	Verification of arrangements in joint pit (Joint, Loop cable, Protective slab, Sand, protective bricks, etc.)	Visual	As per drawing / WI.	Approved Drawing	P	W	R	
		8.4	Cable Termination	Visual	Cable termination preparation shall be as per OEM guidelines and installation to be done by TPWODL Authorized Jointers only.	WI (Jointing)/Kit Manual	P	W	R	
9	HDPE Pipe	9.1	HDPE Pipe laying	Visual	HDPE Pipe shall be laid as per Estimate/RO/drawing.	Estimate/RO/Approved Drawing	P	W	R	
		9.2	HDPE Pipe spacing	Visual	Spacing between HDPE Pipes and Walls shall be as per drawing.	Approved Drawing	P	W	R	
		9.3	Jointing of HDPE Pipes	Visual	HDPE Pipes joints shall be uniform around the perimeter and no any gaps or loose points shall be there.	Approved Drawing	P	W	R	
		9.4	Backfilling of Soil	Visual	Backfilling of Soil shall be done as per drawing.	Approved Drawing	P	W	R	

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10	Cable Raising and Connection	10.1	Verification of cable raising points and connections (Indoor/Outdoor)	Visual	Cable raising shall be done as per WI (Cable Laying)/Drawing.	Approved Drawing	P	W	R	
11	Route Marker/Joint Marker	11.1	Verification of Route/Joint Marker installed along cable route	Visual	Route Marker shall be laid as per Estimate/RO/drawing.	Approved Drawing	P	W	R	
12	Electrical Test on Cable	12.1	Continuity Test	Measurement	Cable shall be continuous over the length.	IS 10810	P	W	R	
		12.2	Phase Sequence Check	Measurement	Phase sequence of Cable laid to verified & to be marked with Colour coding at both end.	Approved Drawing	P	W	R	
		12.3	Insulation Resistance Test	Measurement	1. For HT Cable IR value shall be more than 500 M-Ohm and test should be perform with min. 5kV range. 2. For LT Cable IR value shall be more than 100 M-Ohm and to be done with 500 Volt range.	IEEE standard 400	P	W	R	
		12.4	High Voltage Test	Measurement	1. Test voltage between phase to cable armour shall be 40 kV for 33kV Cable and 14 kV for 11kV cable (2xUo+1kV) applied for 15 minutes and cable should withstood without fail (leakage current should be less than 60 mA). 2. This test is not applicable for LT cables.	IS 10810 (Part 45) : 1984	P	W	R	
		12.5	Sheath Integration Test (If Applicable)	Measurement	For cable sheath integration test apply 1kV to cable armour for 1minute and voltage shall withstood during the test period.	IEC 60229	P	W	R	

Abbreviations:

BA: Business Associate

SSE: Site Supervising Engineer
(Project/SDO/Section Manager/Div Estimator)

QA: Quality Assurance Team