Annexure-V

Technical Specification for Scissor Man Lift

1. General:

The specification is intended to provide the technical requirement of scissor man lift designed for vertical elevation of personnel and equipment in Gas Insulated Substations (GIS) near Indoor and outdoor GIS and GIB installation. The scissor man lift shall be of reputed Indian make with service support available in India.

The scope of supply includes design, engineering, manufacturing, testing, inspection, packing, forwarding, delivery on FOR destination basis, assembly of parts at site (if required), other services required for successful commissioning, demonstration, and training (at site) of scissor man lift compliance to this technical specification.

2. Technical Requirement:

S.No.	Description	Parameter
1.	Minimum load capacity	300 Kg for 765kV
2.	Minimum attainable platform height	7.5 meter for 765kV
3.	Power Source	• Electrically powered, Battery-operated. • Provision for both AC and DC power input. • Provided with in-built automatic charger suitable for Single phase 230/240VAC, 50Hz or 3- phase, 415V, 50Hz AC supply
4.	Lifting Mechanism	Hydraulic Scissors Type.
5.	Mobility	Self-propelled with variable speed control.
6.	Continues operation time	12 hours on a single charge.
7.	Drive In Raised Condition	Facility to drive in Raised Conditions
8.	Maximum drive speed (stowed) Maximum drive speed (raised)	4.0 km/h 0.8 km/h
9.	Terrain capabilities	Inside GIS building and outdoor switchyard.
10.	Platform Size	Minimum platform dimensions: 1.5m x 0.5m. (LXW) Scissor Man Lift shall accommodate at least two persons along with tools, facilitating maintenance and inspection activities of GIS installation. Platform shall be Basket Type with handrail.
11.	Platform Extension	Extendable platform for increased workspace to facilitates access to GIS components. Minimum horizontal extension outreach should be 0.90 Meters
12.	Applicable Standard	Scissor Man Lift should comply with the international standards (BS EN 280 or EN 280 OR ANSI or any other applicable standards of country of origin)

13.	Safety Features (Minimum)	• Emergency stop button with instantaneous cut-off for all power sources. • Overload protection to prevent strain on the lift mechanism. • Safety railing around the platform with a self-closing gate, meeting the height and strength requirements for GIS environments. • Audible and visual alarms for movement and height limits. • Non-marking tires designed to protect the flooring in indoor GIS areas. • Elevated platform shall be provided with tilt monitoring system and slope monitoring system with safety shutdown feature. • Battery main switch shall be provided on the chassis for emergency switch OFF of the power supply.
14.	Controls	• Joystick controls for precise movement, allowing operators to navigate through confined spaces in GIS Hall and switchyards. • Emergency descent mechanism in case of power failure, ensuring a safe return to ground level. • Control panel with clear indicators for battery status, elevation height, and system faults. • The Scissor Man Lift shall be suitable for reaching elevated equipment in GIS and switchyard installations and shall be provided with specialized features for working on GIS structures, ensuring precise positioning near equipment.
15.	Material and Construction:	• Corrosion-resistant materials, especially suited for corrosive atmosphere. • Robust and durable steel structure to withstand the rigors of EHV Substation maintenance. • Platform floor with an anti-slip surface for safety during operation. • It shall be possible to work at the rated heights up to rated capacity without "out-riggers". If the outriggers are provided, the chassis dimension shall not exceed the dimensions provided in the above specifications.
16.	Operational Environment	• Temperature range: -10°C to 50°C, suitable for the diverse climate conditions experienced in India. • Weatherproofing for outdoor use, ensuring reliable operation during adverse weather conditions. • Suitable for use in dusty or mildly corrosive environments.

17.	Maintenance and Serviceability	• Easy access panels for routine maintenance. • Comprehensive user manual with maintenance schedule and guidelines. • Commissioning of the Equipment at Site, initial one-time training to users and first year complete maintenance shall deemed to be included.