

Specification for the work : **ASN Division – Replacement of under size 105 sq.mm G-Jumper & Drop Jumpers, Isolator Jumper with 160sq.mm Jumper for strengthening OHE power supply**

GENERAL

- (i) Quantities mentioned in the scope of work are based on approximate assessment of site. However actual quantities may vary depending upon site condition.
- (ii) Railway will not supply any other materials and contractor has to arrange his own tools & tackles for carrying out the work.
- (iii) “Permit to work” for carrying out the work under power block will be granted by **Nodal TRD Supervisor**. Programme for power block with details will be submitted one week in advance. Railway does not guarantee availability of power block on pre- appointed day and time.
- (iv) All contractor staff must be adequately insured against accidents / injuries / fatalities at worksite.
- (v) Safety of materials against theft after erection till charging will be contractor’s responsibility. This will also include materials issued by Railway for erection.
- (vi) Railway reserves the right to under take any of the items covered under this schedule departmentally in case of urgency/accident, etc. contractor will not have any claim on such works.
- (vii) Wherever an item of work covers supply of materials and / or erection, such item will include supply & erection of all S.S / galvanized Bolts, Nuts, Lock Nuts, Washers, Pins, Split Pins. etc. of approved size of RDSO/CORE approved make wherever required as per RDSO’s standard drawing, whether specifically mentioned or not, to complete the item of work.
- (viii) Immediately after issue of LOA, the contractor shall prepare and submit the Design & Drawing along with the assessment of the materials required for execution of the work within 15 days from the issue of LOA, which will be verified & approved by the Railways.
- (ix) The contractor must place orders for all materials to be supplied under the scope of this tender within 15 days from getting approval from Railways and shall produce documentary evidence for the same.
- (x) Transportation of the purchaser supply materials from the nominated stores of the purchaser to the working site will be the responsibility of the contractor, whether specifically mentioned or not. Railway will not give any transportation expense for transportation of these materials to the working spot.
- (xi) Erection of any item or equipment whether supplied by the purchaser or contractor will include testing, commissioning and bringing the item or equipment into operation to the entire satisfaction of the purchaser.
- (xii) In case any discrepancies between this chapter and other parts of the Tenders documents, the provision of this chapter will prevail.

SAFETY PRECAUTIONS TO BE FOLLOWED FOR EXECUTION OF THE WORK :

The following safety measures must also be followed during execution of the work at site in addition to the other safety measures specified in the tender document :-

- (i) As the work is to be carried out in electrified running lines, Contractor has to take all safety precautions for ensuring safety of both men & material not only of the Contractor but also of the Railways and Railway will not be responsible for any accident or injury to contractor's labour during execution of the work. Any damage/loss to Railway property due to negligent working of contractor will be recovered from the payment due to him.
- (ii) Contractor must ensure that only trained & competent staff are being deputed for working on the high voltage lines, switchgears and equipments under supervision of licensed supervisor and they must wear identity card issued by the contractor while working on line.
- (iii) Contractor shall give necessary training to their Supervisors and staff and ensure that they know about the safety norms to be followed for working in Railway premises and in the vicinity of Railway track in electrified territories.
- (iv) Contractor shall ensure that no staff is working on line / track side unless proper '**Permit To Work**' is issued for those lines by Competent Railway Supervisors to the Contractor's Site In-Charge.
- (v) The work should normally be done when good day light is there. However, if the work is required to be done in absence of adequate natural light, contractor must make adequate lighting arrangement at work site.
- (vi) While loading/unloading/stacking of released or new material along the track, edges of platform, the contractor must ensure that the material is not infringing the schedule of dimensions and keep them safely away. This work should be done under the supervision of a qualified Supervisor of the contractor. Such work should be done with prior information to the Railways and in the presence of Railway representative.
- (vii) At the end of each spell of work and on completion of the work, the contractor shall, as a part of his contractual obligation, leave the tracks and their approaches, stores, yard, etc. cleared of rubbish and obstructions of all kinds according to the instructions of the purchaser's representatives. It should also be ensured that the T&P items and other materials required for carrying out the work on one line do not infringe the other line.
- (viii) Railway reserve the right to stop the work in the absence of proper safety gear and no claim shall be entertained in this regard. Decision of the Engineer-in-charge will be final and binding upon the contractor. The cost of all safety gear is deemed to have been included in the rates quoted and nothing extra is payable under this contract.

PROGRAMME FOR EXECUTION :

- (i) The list of location to be replaced in this section will be handed over to successful bidder. He may make his own arrangement for verifying the requirements of each and every site.
- (ii) After carrying out the survey the contractor will submit detailed program for execution. The contractor will locate proper site to set up his depot for supply of materials subject to approval of the purchaser Engineer.

MATERIAL PROCUREMENT & INSPECTION OF SUPPLY ITEMS.

- (i) The materials to be supplied by the contractor will be strictly as per the specification mentioned for the respective item or as per the latest governing RDSO/CORE specification for the item.
- (ii) All OHE/PSI items will be procured from CORE/RDSO approved Regular Sources (Part-I) only for the respective item. Materials purchased from CORE/RDSO approved Developmental Sources (Part-II) of such items will be accepted where there is no Regular Source (Part-I) for the respective item. The contractor will produce documentary evidence for the same. List of CORE/RDSO approved supplier will be given to successful Tenderer.
- (iii) Materials to be supplied under the scope of this tender has to be deposited at the nominated store / site of **Nodal TRD Supervisor**, who afterwards will issue the materials to the tenderer for execution of the work at site.
- (iv) Supply items may be inspected / tested by RITES / authorized representative of Sr. DEE/TRD/ASN at manufacturer's premises / site as decided by the consignee. The contractor will intimate in advance for readiness of materials for inspection.
- (v) All works will be carried out as per specification and Contractor will offer for stage wise inspection of items carried out. Any work rejected by inspecting official must be rectified / replaced as per instruction of the site in charge and the decision of the site in charge will be final in this regard.

EXPLANATORY NOTES ON SCHEDULE OF PRICE : (Detailed scope of work)

The quantities indicated for each item in following notes are indicative as minimum required. Any part not included in list but considered necessary for successful erection of the equipment shall also be covered in price. The list indicates requirement for standard arrangements, any modification required to suit particular condition will be included.

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Item description: **Supply of 160 sq. mm large Jumper wire as per RDSO's specification No. ETI/OHE/3(2/94) with A&C slip No. 1 or latest.**

The price shall cover supply of 160 sq. mm Annealed Copper Stranded Large Jumper Wire as per RDSO's Specification No. TI/SPC/OHE/JMP/0941 Rev 1 or latest with required fittings complete with fasteners. ETI/OHE/3(2/94) with A & C slip No. 1 or its latest if any. The price however, shall also cover supply of parallel clamp (P.G clamp) and fasteners suitable for 160 sq. mm Annealed Copper Stranded Jumper Wire including all components and fittings required for providing flexible copper jumper connection to OHE from isolator, including terminal connector 19 mm multiple hole bolted type (1009), parallel clamps (1050-3), Al- Cu bimetallic strips, fasteners. Wire shall be procured from CORE / RDSO approved sources only and the contractor should submit documentary evidence for the same. Procurement & inspection of supply items will be as per the "Material procurement & Inspection Clause" mentioned above

Item Description: **Erection of 160 sq mm large jumper wire**

The price shall cover supply and erection of 25KV feeder wire across/ along the track at the location of SP /SSP/FP/Gantries stations. Feeder wire shall be made of hard drawn bare copper conductor of 37/2.5 mm. The price shall be inclusive of cost of feeder wire but exclusive of termination and small parts steel work complete with bolts, nuts etc if any. The price shall cover the erection of the complete jumper assembly including jumper wire. Erection will be as per the instruction supplied by Nodal supervisor/Nodal officer.

Item Description: **Supply of P.G. clamp complete with fasteners (1031-3) as per latest RDSO specification**

The price shall cover supply of Parallel Clamp (1031-3) as per latest RDSO specification including supply of SS bolts & nuts, lock nuts, spring washer etc. PG clamp complete with fasteners (1031-3) or latest and shall be procured from CORE/RDSO approved sources only and the contractor should submit documentary evidence for the same. Procurement & inspection of supply items will be as per the "Material procurement & Inspection Clause" mentioned above

Item Description: **Dismantling of Jumpers**

The price shall cover dismantling of existing 'G' jumpers by opening parallel clamp assembly (PG Clamp) along with fasteners under power block. Railway will arrange for power & traffic block. The contractor should take all safety steps so that there is no untoward incident at site. The price will include transportation of the released 'G' jumpers, clamps with all fasteners/ accessories from the individual site to the nominated store of the purchaser. The price will also include proper stacking of each component of the jumper separately inside the nominated store of the purchaser. Necessary tools tackles and vehicle required for dismantling and transportation of dismantled jumper assembly have to be arranged by the successful tenderer and Railway will not supply any tools, tackles or vehicles, etc

Item Description: **Supply & erection of Copper Feeder Wire (37/2.25 mm HDBC)**

The price shall cover supply and erection of 25KV feeder wire across/ along the track at the location of SP /SSP/FP/BT/ Gantries stations. Feeder wire shall be made of hard drawn bare copper conductor of 37/2.5 mm. The price shall be inclusive of cost of feeder wire but exclusive of termination (which will be paid under item 32) and small parts steel work complete with bolts, nuts etc if any. Procurement & inspection of supply items will be as per the "Material procurement & Inspection Clause" mentioned above

Item Description: **Supply of PG clamp (1051-3)**

The price shall cover supply of Parallel Clamp (1051-3) as per latest RDSO specification including supply of SS bolts & nuts, lock nuts, spring washer etc. PG clamp complete with fasteners (1051-3) or latest and shall be procured from CORE/RDSO approved sources only and the contractor should submit documentary evidence for the same. Procurement & inspection of supply items will be as per the "Material procurement & Inspection Clause" mentioned above.

Item Description: Dismantling of feeder/return conductor

The price shall cover dismantling of feeder, or return conductor including guy rods, terminations, suspension assemblies, super masts and associated small parts steel work.

Item Description: Supply of 20 X Binocular. Brand: Bushnell or similar

The price shall include supply of 20 X Binocular of brand Bushnell or similar. The Binocular should have magnification of 20 X. It should have proper prism type and glass (barium crown) with multi layered coating of prism glass. It should have proper 'field of view'. Material should be as per the specification provided by nodal supervisor. Mandatory Certifications of OEM to be provided. Before supply of item the make, brand, model and technical specification shall be got approved from Sr.DEE/TRD/ASN. Procurement & inspection of supply items will be as per the "Material procurement & Inspection Clause" mentioned above.

Item Description: Geo-Spatial Mapping and Condition Assessment of TRD Assets

The price shall include the Geo-spatial Mapping of each Mast location which include the condition of foundation, mast, anchor, Cantilever, ATD, SI etc. The price shall also include Geo-spatial mapping of All switching posts including TSS/SP/SSP and the between location of span. List of items to be checked given as below:-

ITEMS TO BE CHECKED		
At Mast Location		
SI	Item	Deficiency to be checked
1	Foundation	Damaged or cracked
		Water collection around foundation
2	Mast	Leaning mast towards track
		Leaning mast away from track
		Hit mark or damage to mast parameter marking
3	Anchor	Nut, check nut or lock plate-pin missing
		Anchor bolt rusting.
4	Bracket Assembly	Displumb of bracket assembly
		Bracket assembly rusted
		Condition of inclined RT dropper
		Condition of Anti wind clamp
		Condition of Catenary wire inside suspension clamp
5	Section Insulator	Cantilever parts
		Core insulator having flash marks/damaged
		Core insulator very dirty
		Condition of Runner
6	ATD	SI Dropper condition
		Position of counter weight
		Painting of Balance Weight
		Condition of fittings
		Condition of SS rope
		Condition of equalizing plate
7	Auxiliary Transformer (AT)	Other Deficiency
		Drop out fuse found fallen
		Oil leakage
		Condition of Earth Pit
		Condition of Danger Board

		Condition of Anti Climbing Device
8	Isolator	Isolator no. plate missing
		Isolator lock missing/damaged
		Condition of Earth Pit
		Top view of all connectors & parts
		Any signs of sparking/ overheating
9	Boards	Number plate missing
		Number plate damaged
		Condition of warning boards
10	Insulators	Bracket insulator chipped/damaged/flushed
		Stay insulator chipped/damaged/flushed
		9-tonne anchor insulator chipped/damaged/flushed
11	Bonds	Missing
		Open
		Uprooted
12	PTFE	Condition of Earth Pit
		Any signs of sparking/ overheating
13	Bird Nest	Yes/no
14	Cross feeder at Switching Station	Top view / Condition of cross feeder
		Condition of clamps
15	Tree branches near OHE	Yes/no
16	Any Other Deficiencies	

IN BETWEEN LOCATIONS (SPAN)

1	OHE IN SPAN	In span droppers out of plumb
		In span droppers worn out
		Abnormality in jumpers
		Damage to catenary strands
		Damage to contact wire

IN SWITCHING POST

All TSS	Every item
All SP	Every item
All SSP	Every item

In addition to the above, the mapping of signal posts, i.e., videography of the section, is to be carried out in the section. This includes thorough recording of signals, crossovers, and tracks to ensure accurate and comprehensive data collection. Procurement & inspection of supply items will be as per the “Material procurement & Inspection Clause” mentioned above.

The list is indicative the exhaustive list will be provided after issuance of LOA.

Item Description: - Drone Camera in nano category

The price shall cover Supply of Drone Camera in nano category as per technical criteria mention in scope of work of Explanatory note of Indo-wings or similar make and brand. Mandatory Certifications of OEM to be provided. Before supply of item the make, brand, model and technical specification shall be got approved from Sr.DEE/TRD/ASN. Procurement & inspection of supply items will be as per the “Material procurement & Inspection Clause” mentioned above.

Item Description: Supply of Data Acquisition Machine for analysing Geo spatial mapping

The price shall cover Supply, Installation & Commissioning of Intel Core i7 14 Inch Laptop (Windows 11 Professional) having processor of Intel core i7 with 12 generation or above, RAM size should 16 GB or above, total SSD capacity of 1024GB or above, with wireless connectivity of HP/DELL/APPLE make. Mandatory Certifications of OEM to be provided. Before supply of item the make, brand, model and technical specification shall be got approved from Sr.DEE/TRD/ASN. Procurement & inspection of supply items will be as per the “Material procurement & Inspection Clause” mentioned above.

Item Description: Supply of Laser multi-Function Computer Printer

The price shall cover supply of Multi-Function Laser Computer Printer for Print Scan Copy Monochrome laser multi-Function centre with Automatic 2-sided printing and wireless networking of make /Brand Canon/HP/Epson/Brother. Mandatory Certifications of OEM to be provided. Before supply of item the make, brand, model and technical specification shall be got approved from Sr.DEE/TRD/ASN. Procurement & inspection of supply items will be as per the “Material procurement & Inspection Clause” mentioned below:

Technical specification for Laser Jet Multi Function Printer (Mono)

LaserJet Multi Function Printer Specifications			
(i)	Type of Machine		Multifunction Machine
(ii)	Print technology	:	Laser
(iii)	Type of Printing	:	Mono
(iv)	Cartridge Technology	:	Composite Cartridge
(v)	Platen / Flatbed Size	:	A4
(vi)	Paper Size (Original / Image)	:	A4 / A/4
(vii)	RAM Size (MB)	:	128
(viii)	Minimum Speed per Minute as per ISO/IEC 24734 in A4 Size-Mono	:	20
ix)	Scanning Feature Availability	:	Yes
x)	Duplexing Feature Availability	:	Yes
xi)	Faxing Feature Availability	:	Yes
xii)	Wireless Networking Feature Availability	:	Yes
xiii)	Wi-Fi Availability	:	Yes
xiv)	Wi-Fi Type	:	Wi fi 802.11 b/g/n
xv)	Original Document Feeder Type	:	Platen
xvi)	Feeder Capacity (Number)	:	1
xvii)	Number of Main Paper Tray	:	1
xviii)	Main Paper Tray Capacity (Number)	:	150
xix)	Bypass Facility	:	No
xx)	Yield of the cartridge/Ink Tank/Ink Pack supplied with Machine as per ISO/IEC: 19752/2004(E) for Black (Number of prints)	:	1500
xxi)	Duty Cycle (No of Prints/month)	:	10000
xxii)	Minimum Operating Temperature (Degree C)	:	10
xxiii)	Maximum Operating Temperature (Degree C)	:	30
xxiv)	Minimum Operating Humidity (%RH)	:	20
xxv)	Maximum Operating Humidity (%RH)	:	70
xxvi)	BIS Registration under CRS of MeitY	:	Yes
xxvii)	Other Certifications Available	:	UL, CE
xxviii)	On Site OEM Warranty	:	One year
xxix)	Make	:	Canon, HP, Epson, Brother or similar

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Item Description: **Supply of UPS with AVR of Rating 1.0 KVA with warranty for 03 years.**

The price shall cover supply of UPS of Rating 1.0 KVA with warranty for 3 years.

Technical specification for Line Interactive Back UPS 1.0 KVA

SPECIFICATION for UPS	
Product Capacity	600VA/360W
Input Voltage	160V - 280V 50Hz±1%
Output Voltage	230V AC±10%, 50 Hz±1%
Cabinet Dimensions (cm)	27.9x10.1x14.2
Product Warranty	24 Months
Battery	Off-mode battery charging with high voltage protection
Battery Capacity	12V, 7Ah
No.of Battery	01
Backup Time	10-15 min
UPS Cabinet	ABS, Black
Weight (kg)	4.2
Warranty	03 Years