

ESP-001 - 2A Rev.00		PROJECT ENGINEERING & SYSTEMS DIVISION		Std. / Doc. Number	
				PY 56357	
				Rev. No.	00
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TECHNICAL SPECIFICATION SUPPLY/WORKS OF S&T (RAILWAYS ELECTRICIFICATION)

PROJECT	ELECTRIFICATION WORKS FOR BIRLANAGAR - ETAWAH, BHANDAI -UDI,FARRUKHABAD- SHIKOHABAD INCLUDING MAINPURI - ETAWAH SECTIONS OF NORTH CENTRAL RAILWAY
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Revisions: Refer to record of revisions	Prepared by :	Checked by :	Approved by :	Date :
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**1.0 INTENT OF SPECIFICATION:**

This specification governs the requirements of design, manufacture, testing and packing at manufacturer's work and delivery at site and complete in all respects of this specification.

2.0 TECHNICAL REQUIREMENTS:

All the technical requirements of Items/Works and Accessories shall be as per This technical specification and applicable RDSOs as indicated against each material codes.

3.0 MATERIAL CODES:

Bidder to offer materials as per enquiry and Below Table:

TABLE-1

S.N.	Material Codes	Description	Applicable RDSO	Approved Vendor List
01	PY9756357711	Supply of Point Machine	IRS:S-24/2002 (Amd.1)	1.M/s Vossloh Cogifer Signalling India Pvt. Ltd. 2. M/s Siemens Ltd. 3. M/s S&T Workshop 4. M/s CG Power and Industrial Solution Ltd. 5. M/s Sandhu Technocrats (P) Ltd. 6. M/s Signal Workshop,
02	PY9756357720	Supply of Daido type Single Line Token-less Block Instrument	IRS: S-98/2001 (Amd..3)	1. M/s A.K.G. Electronics Industries, 2. M/s Signal Workshop, 3. M/s Digital Communication & Control Pvt. Ltd.,
03	PY9756357738	Supply of 24 fiber with armored Optic Fiber Cable (OFC)	IRS: TC: 55/2006 Rev. 1 Amdt No.1.1, 2.0 & 3.0	1. M/s Sterlite Technologies Ltd 2. M/s Birla Cable Ltd., 3. M/s Vindhya Telelinks Limited.(OFC unit) 4. M/s West Coast Optilinks 5. M/s Finolex Cables Limited 6. M/s Tamilnadu Telecommunications Limited 7. M/s Himachal Futuristic Communication Ltd, 8. M/s Aksh Optifibre Ltd. 9. M/s Apar Industries Limited . (Unit:- Uniflex cables) 10.M/s Paramount Communications Ltd, 11.M/s U M Cables Ltd.
04	PY9756357770	Supply of Rotary Key Transmitter	IRS:S-21/2001, Drg. No.: SA-22601 (Alt 4)	1. M/s Kiran Infra Engineers Ltd, 2. M/s Sankar Engg. Works 3. M/s G.K. Engg. Works & Stores (P) Ltd 4. M/s Jac Engg. Works (P) Ltd 5. M/s. Agarwal Engineering Works
05	PY9756357797	Supply of 64 KBPS Modem	RDSO/SPN/TC/81/2013	Make of RDSO/SPN/TC/81/2013 to be followed



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S.N.	Material Codes	Description	Applicable RDSO	Approved Vendor List
06	PY9756357002	Supply of DC-DC Convertor 24-32V, 5A	IRS:S 96-2000	1. M/s Surya Electronics 2. M/s Digital Communication & Control,Pvt. Ltd., 3. M/s Ram Electronics,
07	PY9756357010	Supply of DC-DC Convertor 24-40V, 10A	IRS:S 96-2000	
08	PY9756357037	Supply of DC-DC Convertor 24-32V, 1A	IRS:S 96-2000	
09	PY9756357045	Supply of DC-DC Convertor 100-150V, 1A	IRS:S 96-2000	
10	PY9756357053	Supply of LED (Route/'C' On Signal)	IRS:S 96-2000	APPROVED VENDORS: NIL VENDORS FOR DEVELOPMENTAL ORDERS: 1. M/s General Auto Electric Corporation 2. M/s Urban Engg. Association Pvt. Limited, 3. M/s Efftronics Systems Private. Limited., 4. M/s Tilak International (Signal),New Delhi
11	PY9756357061	Supply of LED (RED)	RDSO/SPN/153/2 011	
12	PY9756357070	Supply of LED (YELLOW)	RDSO/SPN/153/2 011	
13	PY9756357088	Supply of LED (GREEN)	RDSO/SPN/153/2 011	
14	PY9756357096	Supply of B Type Choke	IRS: S 65 - 1983	1. M/s General Auto Electric Corporation, 2. M/s Ultra Electronics Pvt. Ltd., 3.M/S Electrostar Signaling & Power Equipments pvt. Ltd. 4. M/s Ram Electronics, 5. M/s Mani Electronics, 6.M/s Sree Chand Elect, Industries (P) Limited,
15	PY9756357100	Supply of Filter unit	IRS S 68-89	1.M/s Epsilon Electronic Eqpt. & Components Pvt. Ltd., 2.M/s Digital Communication & Control, Pvt. Ltd.,
16	PY9756357118	Supply of Wire insulator	IRS:S47-74	Offered item should be operating satisfactorily in Indian Railways for atleast 1 year prior to the date of techno-commercial bid opening. Bidder to submit necessary supproting documents meeting above requirement for minium two projects along with technical offer.

S.N.	Material Codes	Description	Applicable RDSO	Approved Vendor List
17	PY9756357215	Supply of 110V AC LED ECR	STS/E/Relays/ECR	1.M/s AEW Technologies LLP, 2.M/s Hytronics Enterprises 3.M/s CG Power and Industrial Solution Ltd.
18	PY9756357223	Supply of QTA2 9 ohm 4F.2B	BRS:931A	1. M/s CG Power and Industrial Solution Ltd. 2. M/s Eldyne Electro-Systems Pvt.Ltd., 3. M/s AEW Technologies LLP, 4. M/s Orient Relay & Equipments
19	PY9756357231	Supply of Key Lock Relay(KLCR)	RDSO/SPN/219/2 016	Offered item should be operating satisfactorily in Indian Railways for atleast 1 year prior to the date of techno-commercial bid opening. Bidder to submit necessary supproting documents meeting above requirement for minium two projects along with technical offer.
20	PY9756357258	Supply of QNA1 8F/8B Relay	BRS:931A	1.M/s CG Power and Industrial Solution Ltd. 2.M/s Eldyne Electro-Systems Pvt. Ltd., 3.M/s Hytronics Enterprises, 4.M/s AEW Technologies LLP, 5. M/s S&T Workshop 6. M/s Signal Workshop, 7.M/s Orient Relay & Equipments 8. M/s Demson & Co.,
21	PY9756357266	Supply of QSPA1 Relay	BRS:933A	1. M/s CG Power and Industrial Solution Ltd. 2. M/s Eldyne Electro-Systems Pvt. Ltd., 3. M/s Hytronics Enterprises, 4. M/s S&T Workshop 5. M/s AEW Technologies LLP, 6. M/s M/s Orient Relay & Equipments 7. M/s Eldyne Electro-Systems Pvt.Ltd.,
22	PY9756357274	Supply of QBAT Relay	RDSO/SPN/084	1. M/s CG Power and IndustrialSolution Ltd. 2. M/s Eldyne Electro-Systems Pvt.Ltd., 3. M/s Hytronics Enterprises, 4. M/s S&T Workshop 5. M/s AEW Technologies LLP, 6. M/s M/s Orient Relay & Equipments

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S.N.	Material Codes	Description	Applicable RDSO	Approved Vendor List
23	PY9756357282	Supply of TF Charger 110V AC/1-4 Cell 80AH,10A	IRS:S 89/2013	1. M/s Electric Industries, 2. M/s General Auto Electric Corporation, 3. M/s Ultra Electronics Pvt. Ltd., 4. M/S Electrostar Signaling & Power Equipments pvt. Ltd. 5. M/s Mani Electronics,
24	PY9756357304	Supply of DC - DC Converter 24-32 V 5-Amps	IRS:S 96-2000	1. M/s Surya Electronics 2. M/s Digital Communication & Control,Pvt. Ltd., 3. M/s Ram Electronics,
25	PY9756357347	Supply of VF transformer (1120:1120 Isolation)	IRS:TC 22-76	1. M/s Epsilon Electronic Eqpt. & Components Pvt. Ltd., 2. M/s Digital Communication & Control,Pvt. Ltd.,
26	PY9756357355	Supply of VF transformer (1120:470 6 Quad Block Equipment)	IRS:TC 22-76	1. M/s Epsilon Electronic Eqpt. & Components Pvt. Ltd., 2. M/s Digital Communication & Control,Pvt. Ltd.,
27	PY9756357363	Supply of VF transformer (470:600 OFC to QUAD cable)	IRS:TC 22-76	1. M/s Epsilon Electronic Eqpt. & Components Pvt. Ltd., 2. M/s Digital Communication & Control,Pvt. Ltd.,
28	PY9756357371	Supply of VHF set (25 Watts)	RDSO/SPN/TC/73 /2008 Rev 0 Amdt. No. -2	APPROVED VENDORS --NIL-- DEVELOPMENTAL vendors: 1. M/s AE Telelink System Ltd.,
29	PY9756357380	Supply of VHF set (5 watts)	RDSO/SPN/TC/73 /2008 Rev 0 Amdt. No. -2	APPROVED VENDORS --NIL-- DEVELOPMENTAL vendors: 1. M/s AE Telelink System Ltd.,
30	PY9756357398	Supply of Emergency sockets with boxes and pins	RDSO/SPN/TC/44 /2002	1. M/s A-One Enterprises Pvt. Ltd.,



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S.N.	Material Codes	Description	Applicable RDSO	Approved Vendor List
31	PY9756357401	Supply of Portable emergency telephone - 4W/2W	IRS TC 78-2000	1. M/s Epsilon Electronic Eqpt. & Components Pvt. Ltd., 2. M/s Bentron Power Systems 3. M/s Bit & Byte Technosys Pvt. Ltd., 4. M/s ACES Enterprise, 5. M/s Digital Communication & Control,Pvt. Ltd.,
32	PY9756357410	Supply of Thermo-shrinking jointing kit	IRS: TC 77-2012	1. M/s. Western Cables Engineering Pvt.Ltd. 2. M/s General Auto Electric Corporation,
33	PY9756357339	Supply of 19C x 1.5 MM2 cable	IRS: S-63/2014 (Rev.4.0)	1.M/s Continental Telepower Industries.Ltd 2. M/s J.K. Cables Limited, 3. M/s Paramount Communications Ltd, (Unit Paramount Cable Corporation) 4. M/s S. Pal Enterprises Pvt Limited, 5. M/s Myco Electricals (P) Ltd., 6. M/s Tirupati Plastomatics Pvt.Ltd., 7. M/s Sri Ram Cables Pvt. Ltd, 8. M/s Suyog Electricals Ltd 9. M/s Polycab India Limited., 10. M/s CMI Limited, 11. M/s Evershine Electrical Works (I) 12. M/s Special Cables Pvt. Limited 13. M/s Vindhya Telelinks Limited, (OFC Unit) 14. M/s Krishna Udyog, 15. M/s Laser Power & Infra Pvt. Ltd, 16. M/s Golkonda Engineering Enterprises Limited, 17. M/s Kanhha Cable (P). Limited. , 18. M/s Rajasthan Transformers & Switchgears 19. M/s Atlanta Tele Cables, 20. M/s Incom wires & Cables Ltd., 21. M/s SPM Power and Telecom Pvt Ltd 22. M/s Gupta Power Infrastructure Ltd. 23. M/s Paramount Wires & Cables Ltd 24. M/s Ravi cab Cables Pvt. Ltd., 25. M/s Finecab Wires & Cables Pvt. Ltd. 26. M/s Delton Cables Ltd., 27.M/s RMS Power Solutions Pvt. Ltd., 28. M/s N C Cables Ltd 29. M/S Svarn Infratel Pvt. Ltd

**4.0 DOCUMENTATION:****4.1.1 To be submitted along with bid**

a	Technical data sheets (for information).
b	RDSO approval certificate for manufacturing.
c	Type Test Certificates (for information).
d	RDSO Approved Quality Assurance plan.
e	Bidder shall furnish NO DEVIATION SHEET as per Clause .No 5.0 .
f	Check list for Bid Submission as per Clause .No 6.0
g	Duly filled unpriced price schedule as per Annexure-1

Document at Sl. no. “a” to “d” above shall be submitted in line with Applicable & latest RDSOs as mentioned in Table-1 against each material codes.

In case RDSOs approval certificate for the company to manufacture of the enquiry items is/are **not available, the bidder’s offer will be rejected. Hence, OEM should have a valid RDSO approved certificate.**

4.1.2 To be submitted in 6 sets after award of contract

Sl. No.	Description
a	Completely filled in technical data sheets as per railways practices suitable for information & inspection (<i>Separately typed vendor datasheets are NOT acceptable</i>).
b	Type Test Certificates for review
c	Storage Instruction including handling of material at Site.

6 set of all Drawings & document shall be submitted as per Number: RDSO/SPN/TC/45/2013 Revision 2.0 or latest within 1-week time after release of LOI/PO whichever is earlier.

BHEL shall provide comments/approval within 10 days of receipt of drawings. Vendor shall incorporate comments (if any) and submit revised documents/drawings within 7 days for final approval. Vendor is responsible for completion of approval cycle and minimizing number of revisions.

**5.0 NO DEVIATION FORMAT**

ENQUIRY NUMBER _____ NAME OF BIDDER _____
 ITEM _____ OFFER REF _____
 NUMBER _____

S/N	Clause/ Spec Number	Description	Deviation	Nature of Deviation	Remarks
1					
2					
3					
4					
5					

NOTES:

- Technical offer of the bidder will be evaluated only on the basis of No Deviation Schedule. No Deviation Schedule constitutes this sheet (with these Notes) duly signed and stamped.**
- Deviations are not accepted against RDSO standard specification, RDSO approved drawings & RDSO approved quality assurance plan. Accordingly, No deviation schedule shall be filled and submitted along with technical offer.
- No price implications shall be entertained by BHEL during technical scrutiny & order execution stage. Hence, in no case there will be consideration of price implications.
- Bidder to submit the “No Deviation Schedule” by writing “NO Deviations” in this format.
- If the “No Deviation Schedule” is not submitted along with the offer, the bidder’s offer is likely to be rejected without any further interaction with the bidder.

SIGNATURE OF BIDDER _____**NAME** _____**DESIGNATION** _____**DATE** _____**COMPANY SEAL**

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6.0 **GENERAL:**

6.1 CHECKLIST FOR BID SUBMISSION

(TO BE FILLED BY BIDDER AND SUBMITTED ALONG WITH OFFER)

Sl. No.	Description	Bidder Confirmation	Comments/ Remarks
1	Technical offer is conforming to technical specification PY 56357 & its associated Annexures (if any), pre-bid clarifications (if any) etc., Bidder to confirm (Yes / No).		
2	Bidder confirms that they have read the provisions of the Deviation Schedule and have included the deviation Schedule in the Offer after agreeing to the said Provisions (Yes/No).		
3	Bidder confirms that Prices for all items have been Quoted. Unpriced & Priced Schedules are included in the Techno-commercial Offer and Priced Offer respectively.(Yes/NO)		

Notes: Offer received without affirmative confirmation against any of the above points may not be considered for evaluation.

(Signature and stamp of bidder with date)

6.2 Quantities mentioned are tentative requirement. Based on the actual requirement, quantity can be increased or decreased by about 15% on overall qty. Final BOQ will be informed before price bid opening. Unit rates quoted by bidder shall be applicable for the revised BOQ also.

7.0 **INSPECTION & TESTING**

- 7.1 Testing of Items and accessories shall be as per Number: latest RDSOs as applicable.
- 7.2 Stage and final Inspection including document review shall be carried out by RDSO/CORE/ their representative and BHEL at vendor works as per RDSO approved QAP.

8.0 **PACKING & DISPATCH**

Packing and Dispatch of Items and accessories shall be as per Number: latest RDSOs (As applicable).

9.0 **TECHNICAL DATA SHEET**

Technical data sheet shall be provided considering the technical requirement of the Applicable Latest RDSO specifications (As indicated against each material codes in table-1 of this specification). The technical data sheet should suitable for review & inspections. Standard format suitable for current railway practices are accepted with detailed information.

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10.0 DISPATCH INSTRUCTIONS

1. Items and accessories to be manufactured after data sheet approval from BHEL / Railway Authority.
2. Dispatch location and corresponding lot quantities will be intimated during drawing approval stage.
3. BHEL will reserve right to modify the location (with in section), right to change the quantities.



RECORD OF REVISIONS

[illegible]