

ESP-001- 2A Rev.00		PROJECT ENGINEERING & SYSTEMS DIVISION		Std. / Doc. Number	
				PY55355	
				Rev. No.	01
				Sheet 1 of 7	

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TECHNICAL SPECIFICATION FOR CONTACT WIRE FOR OVERHEAD ELECTRIC TRACTION

PROJECT	ELECTRIFICATION WORKS FOR BIRLANAGAR - ETAWAH, BHANDAI -UDI,FARRUKHABAD-SHIKOHABAD INCLUDING MAINPURI - ETAWAH SECTIONS OF NORTH CENTRAL RAILWAY 386 RKM/440 TKM
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Revisions: Refer to record of revisions	Prepared by :	Checked by :	Approved by :	Date :
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**PROJECT ENGINEERING & SYSTEMS DIVISION**

Std. / Doc. Number

PY55355

Rev. No.

01

Sheet 2 of 7

TABLE OF CONTENTS

Sl. No.	Description
1.0	INTENT OF SPECIFICATION
2.0	TECHNICAL REQUIREMENTS
3.0	MATERIAL CODES
4.0	DRUM LENGTH REQUIREMENTS
5.0	DOCUMENTATION
6.0	NO DEVIATION FORMAT
7.0	GENERAL
8.0	INSPECTION & TESTING
9.0	PACKING AND DISPATCH
10.0	TECHNICAL DATASHEET

**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 hard drawn grooved copper contact wire shall be as per Enquiry and Standard RDSO specification for Hard drawn Grooved Contact Wire For Electric Traction (Drawn Out Of CCC Wire Rods) with Specification No: **ETI/OHE/76(6/97) with A&C slip No.1 of (4/01), 3 of (03/05) , 4 of (12/06), 5 of (7/09), 6 of (5/12), 7 of (12/13), 8 of (9/16) and 9 of (11/16)** and latest amendments as on 31st October 2018.

3.0 MATERIAL CODES :

Bidder to offer material as per enquiry requirements.

4.0 DRUM LENGTH REQUIREMENTS:

Technical requirement of drums shall be as per above-mentioned specification and the drum lengths will be informed during detail engineering and can be with tolerance of +2% and -2%.

5.0 DOCUMENTATION:**5.1 DRAWINGS, DATA AND MANUAL:****5.1.1 To be submitted along with bid**

a	Technical data sheets for information.
b	Cross sectional drawing of contact wire for information.
c	RDSO approval certificate for manufacture of wire.
d	Type Test Certificates for information.
e	RDSO Approved Quality Assurance plan.
f	Catalog
g	Bidder shall furnish NO DEVIATION SHEET as per Cl.No 6.0 .
h	Check list for Bid Submission as per Cl.No 7.0
i	Duly filled unpriced price schedule

Document at S. no. a to e above shall be submitted in line with Standard RDSO specification for Hard drawn Grooved Contact Wire For Electric Traction (Drawn Out Of CCC Wire Rods) with Specification No: **ETI/OHE/76(6/97) with A&C slip No.1 of (4/01), 3 of (03/05) , 4 of (12/06), 5 of (7/09), 6 of (5/12), 7 of (12/13), 8 of (9/16) and 9 of (11/16)** and latest amendments as on 31st October 2018.

In case RDSO approval certificate as per RDSO specification for Hard drawn Grooved Contact Wire For Electric Traction (Drawn Out Of CCC Wire Rods) with Specification No: ETI/OHE/76(6/97) with A&C slip No.1 of (4/01), 3 of (03/05) , 4 of (12/06), 5 of (7/09), 6 of (5/12), 7 of (12/13), 8 of (9/16) and 9 of (11/16) is found not meeting the specification requirements, the bidder's offer will be rejected.

5.1.2 To be submitted in 6 sets after award of contract

Sl. No.	Description
a	Completely filled in technical data sheets as per relevant formats given shall be furnished. Separately typed vendor datasheets are NOT acceptable.
b	Type Test Certificates for review
c	Cross sectional drawing of contact wire for information.
d	Storage Instruction including handling of material at Site

6 set of all Drawings & document shall be submitted as per with Standard RDSO specification for Hard drawn Grooved Contact Wire For Electric Traction (Drawn Out Of CCC Wire Rods) with Specification No:



PROJECT ENGINEERING & SYSTEMS DIVISION

Std. / Doc. Number

PY55355

Rev. No.

01

Sheet 4 of 7

ETI/OHE/76(6/97) with A&C slip No.1 of (4/01), 3 of (03/05) , 4 of (12/06), 5 of (7/09), 6 of (5/12), 7 of (12/13), 8 of (9/16) and 9 of (11/16) and latest amendments as on 31st October 2018 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 drawings within 7 days for final approval. Vendor is responsible for completion of approval cycle and minimizing number of revisions.

6.0 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:

1. **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.

- As vendor is RDSO approved vendor, 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

**7.0 GENERAL:****7.1 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 PY55355 & 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)

7.2 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.

TABLE -1: Material Codification

Var. No.	Material Description	BHEL Material Code
00	107 sqmm hard drawn copper contact wire	PY9755355006
04	107 sqmm hard drawn copper contact wire	PY9755355049

8.0 INSPECTION & TESTING

8.1 Stage & Final Inspection shall be done by Purchaser/CORE/RDSO/Third party appointed by Purchaser or End user as per approved QAP. Twenty days advance notice along with three sets of drawing approved by BHEL with factory test reports shall be furnished along with the inspection call.

8.2 Testing of contact wire shall be as per Standard RDSO specification for Hard drawn Grooved Contact Wire For Electric Traction (Drawn Out Of CCC Wire Rods) with Specification No: **ETI/OHE/76(6/97) with A&C slip No.1 of (4/01), 3 of (03/05), 4 of (12/06), 5 of (7/09), 6 of (5/12), 7 of (12/13), 8 of (9/16) and 9 of (11/16)** and latest amendments as on 31st October 2018

8.3 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 .

9.0 PACKING & DISPATCH

Packing and Dispatch of wire shall be as per Standard RDSO specification for Hard drawn Grooved Contact Wire For Electric Traction (Drawn Out Of CCC Wire Rods) with Specification No: **ETI/OHE/76(6/97) with A&C slip No.1 of (4/01), 3 of (03/05), 4 of (12/06), 5 of (7/09), 6 of (5/12), 7 of (12/13), 8 of (9/16) and 9 of (11/16)** and latest amendments as on 31st October 2018

**10.0 TECHNICAL DATA SHEET**

Sl.No	Description	
1	Wire size	
2	BHEL material code	
3	Applicable standards:	
4	Name of vendor	
5	Maximum conductor temperature under Normal operating conditions	
6	Maximum conductor temperature under Short circuit conditions	
7	Permissible voltage variation:	
8	Permissible frequency variation:	
9	Combined voltage & frequency variation	
10	Conductor :	
10.a	Conductor material :	
10.b	Size (sq.mm) Nominal(Main/Neutral)	
10.c	No.of wires & diameter of each wire (No/mm)	
10.d	Shape of conductor	
11	Nominal outer diameter of wire	
12	Tolerance on outer diameter	
13	Electrical parameters:	
13.a	AC resistance at 90 deg.C:	
13.b	Wire reactance:	
13.c	Wire impedance:	
14	Maximum drum length of Wire:	
15	Tests to be conducted:	



PROJECT ENGINEERING & SYSTEMS DIVISION

Std. / Doc. Number

PY55355

Rev. No.	01
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Sheet 7 of 7

RECORD OF REVISIONS

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