

ESP-001- 2A Rev.00		<b>PROJECT ENGINEERING &amp; SYSTEMS DIVISION</b>		Std. / Doc. Number	
				PY55356	
				Rev. No.	01
				Sheet 1 of 7	

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<b>Revisions:</b> Refer to record of revisions	<b>Prepared by :</b>	<b>Checked by :</b>	<b>Approved by :</b>	<b>Date :</b>
	K.Venkatesh	Abu Tahir Malick	J.K.Pattanaik	09.02.2019



## PROJECT ENGINEERING &amp; SYSTEMS DIVISION

Std. / Doc. Number

PY55356

Rev. No.

01

Sheet 2 of 7

**TABLE OF CONTENTS**

<b>Sl. No.</b>	<b>Description</b>
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 cadmium copper conductor shall be as per Enquiry and Standard RDSO specification for Cadmium copper conductors for Overhead railway traction with specification No: ETI/OHE/50(6/97) with A&C slip No.1 to 5 and latest amendments as on date i.e 31st Oct 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 catenary 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 Sl. no. a to e above shall be submitted in line with Standard RDSO specification for Cadmium copper conductors for Overhead railway traction with specification No: ETI/OHE/50(6/97) with A&C slip No.1 to 5 and latest amendments as on date i.e 31st Oct 2018

**In case RDSO approval certificate as per RDSO specification for Cadmium copper conductors for Overhead railway traction with specification No: ETI/OHE/50(6/97) with A&C slip No.1 to 5 and latest amendments as on date i.e 31st Oct 2018 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 for Cadmium copper conductors for Overhead railway traction with specification No: ETI/OHE/50(6/97) with A&C slip No.1 to 5 and latest amendments as on date i.e 31st Oct 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.



## PROJECT ENGINEERING &amp; SYSTEMS DIVISION

Std. / Doc. Number

PY55356

Rev. No.

01

Sheet 4 of 7

**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:**

- 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



## PROJECT ENGINEERING &amp; SYSTEMS DIVISION

Std. / Doc. Number

PY55356

Rev. No.

01

Sheet 5 of 7

**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 PY55356 & 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	65 sqmm cadmium copper conductor	PY9755356010
03	65 sqmm cadmium copper conductor	PY9755356037

**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 Cadmium copper conductors for Overhead railway traction with specification No: ETI/OHE/50(6/97) with A&C slip No.1 to 5 and latest amendments as on date i.e 31st Oct 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 Cadmium copper conductors for Overhead railway traction with specification No: ETI/OHE/50(6/97) with A&C slip No.1 to 5 and latest amendments as on date i.e 31st Oct 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	<b>Conductor :</b>	
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
--------------------

PY55356

Rev. No.	01
----------	----

Sheet 7 of 7

## RECORD OF REVISIONS

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