

**2X800 MW MEL SINGRAULI (PH-II)**  
**2 X 800 MW APL RAIGARH (PH-II)**  
**2 X 800 MW APL RAIPUR (PH-II)**  
**2X800 MW MTEUPPL MIRZAPUR (PH-I)**

**TECHNICAL SPECIFICATION  
FOR  
PVC WIRES**

**SPECIFICATION No. PE-TS-APL/MEL-558-E003**  
**ISSUE NO. 01**  
**REV NO. 00**



**BHARAT HEAVY ELECTRICALS LIMITED**  
**POWER SECTOR**  
**PROJECT ENGINEERING MANAGEMENT**  
**NOIDA, INDIA**


	<b>TECHNICAL SPECIFICATION PVC WIRES</b>	<b>PE-TS-APL/MEL-558-E003</b>
		<b>Issue No: 01</b>
		<b>Rev. No. 00</b>
		<b>Date : 01.03.25</b>


## INDEX


SL NO.	DESCRIPTION	SHEET NO.
1	Scope	3
2	General Technical Requirement	4
3	Specific Technical Requirement	
a)	Technical Data - Part - A	5
b)	Technical Data - Part - B (Supplier Data to be submitted after of contract)	7
4	Quality Plan	8
5	Packing Requirement	11
6	Unpriced Schedule	
a)	Supply	12
7	Documentation Requirement	
a)	Documents Required Along With Bid By Bidders	13
b)	Documents to be submitted by Successful Bidder after award of contract along with submission schedule	13
c)	Documents To Be Submitted As Final/As-Built	13
8	Compliance Certificate	14
9	Pre-Qualification Requirement (Technical)	15


	<b>TECHNICAL SPECIFICATION PVC WIRES</b>	<b>PE-TS-APL/MEL-558-E003</b>
		<b>Issue No: 01</b>
		<b>Rev. No. 00</b>
		<b>Date : 01.03.25</b>


<b>SCOPE</b>		
<b>SCOPE OF THIS PACKAGE COVERS THE FOLLOWING:</b>		
<b>SL.NO</b>	<b>PARAMETERS</b>	<b>REQUIREMENT</b>
1	Supply Including Design, Engineering, Manufacturing of PVC WIRE	YES
a)	Main Supply	YES
b)	Commissioning Spares	NO
2	Painting	NO
3	Inspection & Testing	YES
4	Packing	YES
5	Transportation & Delivery To Site	YES
6	Erection & Commissioning	NO
7	Supervision of Erection & Commissioning	NO
8	Mandatory Spares	NO
9	O & M Service	NO
10	O & M Spares	NO

	TECHNICAL SPECIFICATION PVC WIRES	PE-TS-APL/MEL-558-E003
		Issue No: 01
		Rev. No. 00
		Date : 01.03.25
	GENERAL TECHNICAL REQUIREMENT	
1	It is not the intent to specify herein all the details of design and manufacturing. Bidder shall ensure that the offered equipment confirms in all respects to high standards of design, engineering and workmanship.	
2	Bidder shall also ensure that the offered equipment shall comply with all applicable statutory and regulatory requirements.	
3	In the event of any conflict between the requirements of two clauses of this specification, documents or requirements of different codes and standards specified, the more stringent requirement as per the interpretation of the owner shall apply.	
4	Drawing/document submission shall be through web based Document Management System(DMS) of BHEL. Bidder would be provided access to the DMS for drawing/document submission. Bidder to ensure internet connectivity of min speed of 2Mbps at their end.	
5	Drawings/ documents submitted by vendor at any stage shall be complete in all respects. Any incomplete drawing submitted shall be treated as non- submission with delays attributable to vendor. For any clarification/ discussion required to complete the drawings, the bidder shall depute his personnel to BHEL / Customer's Office as per the requirement for across the table submission/ finalizations of drawings.	
6	Latest codes and standards shall be complied with as on date of techno-commercial bid opening	
7	Bidder shall submit Quality Plan in the event of order based on the Quality Plan enclosed therein on compliance route. Inspection / testing shall be witnessed as per same apart from review of various test certificates/ Inspection records etc.	
8	Equipment must be safe, reliable and easy to maintain at all operating condition	


	TECHNICAL SPECIFICATION PVC WIRES		PE-TS-APL/MEL-558-E003
			Issue No: 01
			Rev. No. 00
			Date : 01.03.25
TECHNICAL DATA - PART - A			
SL.NO	DESCRIPTION	UOM	DETAIL
1.0	DESIGN CODES & STANDARDS		
1.1	PVC insulated unsheathed and sheathed cables/cords with rigid and flexible conductor		IS:694
1.2	PVC insulation and sheath of electric cables		IS:5831
1.3	Conductors for insulated electric cables and flexible cords		IS:8130
1.4	Methods of tests for cables		IS:10810
2.0	DESIGN /SYSTEM PARAMETERS		
2.1	Make		BIS approved
2.2	Type of wire		[√] FIRE-RESISTANT (FR)
2.3	Voltage grade	v	1100
2.4	Ambient air temperature	deg. C	50
3	Construction features		
3.1	Conductor		
3.1.1	No. of cores		1
3.1.2	Material		High conductivity untinned annealed copper
3.1.3	Size of conductor	Sq.mm	Refer BOQ
3.1.4	Type		Stranded or Flexible conductor
3.1.5	Class		Class-2 as per IS: 8130
3.1.6	Minimum number of strands		As per IS: 8130 (table-2 or table 3)
3.1.7	Max. resistance of conductor at 20 <sup>0</sup> c		As per IS: 8130 (table-2 or table-3)
3.2	Insulation		
3.2.1	Insulation material		PVC, Type-A or type-D as per IS :5831
3.2.2	Nominal insulation thickness		As per IS: 694 (table-3 or table-4)
3.2.3	Min. volume resistivity		As per IS: 5831
3.3	Max. overall dia		
			As per IS: 694 (table-3 or table-4)
3.4	Standard bundle length	meter	90-100


	TECHNICAL SPECIFICATION PVC WIRES		PE-TS-APL/MEL-558-E003
			Issue No: 01
			Rev. No. 00
			Date : 01.03.25
TECHNICAL DATA - PART - A			
SL.NO	DESCRIPTION	UOM	DETAIL
3.5	Marking on label (the wire shall carry the following information either stencilled on the reel or contained in a label attached to it)		a) Reference of IS 694; b) Manufacturer's name, brand name or trade-mark; c) Type of wire (FR), if applicable, to be used) and voltage grade; d) Number of cores & Nominal cross-sectional area of conductor; e) Colour of wire f) Length of wire on the reel or coil; g) Number of lengths on the reel or coil (if more than one)
4.0	PERFORMANCE PARAMETERS		Not Applicable
5.0	INSPECTION/TESTING		
5.1	Acceptance & Routine test	All acceptance and routine tests as per Quality plan (PE-QP-999-558-E003, REV 02) shall be carried out. Charges for these shall be deemed to be included in the wire price.	

	<b>TECHNICAL SPECIFICATION PVC WIRES</b>	PE-TS-APL/MEL-558-E003	
		Issue No: 01	
		Rev. No. 00	
		Date : 01.03.25	
<b>TECHNICAL DATA - PART - B (SUPPLIER DATA TO BE FURNISHED AFTER AWARD OF CONTRACT ALONGWITH DATASHEET PART-A)</b>			
<b>SL.NO</b>		<b>UOM</b>	<b>DETAIL</b>
	The following technical data shall be submitted by the manufacturer for each size of the wire for Employer's approval.		
1	Manufacturer's name		
2.1	Number of strands	Nos.	
2.2	Dia. of strands (nominal)	mm	
2.3	Min. insulation thickness	mm	
2.4	Max. insulation thickness	mm	
2.5	Overall diameter of conductor	mm	
2.6	Continuous current carrying capacity under standard is: 3961-(v) conditions	Amps	

	<b>TECHNICAL SPECIFICATION PVC WIRES</b>	<b>PE-TS-APL/MEL-558-E003</b>
		<b>Issue No: 01</b>
		<b>Rev. No. 00</b>
		<b>Date : 01.03.25</b>
<div><b>QUALITY PLAN</b></div>		



	<b>MANUFACTURER/ BIDDER/ SUPPLIER NAME &amp; ADDRESS</b>		<b>STANDARD QUALITY PLAN</b>						SPEC. NO :		DATE:																																																								
			CUSTOMER :						QP NO.: PE-QP-999-558-E003, R02		DATE: 22.02.2024																																																								
			PROJECT:						PO NO.:		DATE:																																																								
			ITEM: PVC Wires			SYSTEM: STATION LIGHTING SYSTEM			SECTION: II		SHEET 1 OF 2																																																								
SL NO.	COMPONENT & OPERATIONS	CHARACTERISTICS	CLAS S	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY			REMARKS																																																						
1	2	3	4	5	6		7	8	9	-	**																																																								
					M	B/C				D	M	B	C																																																						
<b>1.0 RAW MATERIAL/BOUGHT OUT ITEMS</b>																																																																			
1.1	CONDUCTOR (COPPER)	1. PHYSICAL PROPERTIES	MA	PHYSICAL TESTS	SAMPLE/ BATCH	-	IS:8130	IS:8130	TEST CERT.	✓	V	V	-																																																						
		2. ELEC. PROPERTIES	MA	ELECTRICAL TESTS	SAMPLE/ BATCH	-	IS:8130	IS:8130	TEST CERT.	✓	V	V	-																																																						
1.2	PVC COMPOUND FOR INSULATION	1. MATERIAL PROPERTIES	MA	PHYSICAL TESTS	SAMPLE/ BATCH	-	IS 5831	IS 5831	TEST CERT.	✓	P	V	-																																																						
<b>2.0 ROUTINE/ ACCEPTANCE TEST</b>																																																																			
2.1	PVC WIRES	SURFACE DEFECTS	MA	VISUAL	IS 694 ANNEX A	-	IS:694	IS:694	INSP. & TEST REPORT FROM MANUF.	✓	P/ V	V	-																																																						
2.2		CONSTRUCTION OF WIRE	MA	VISUAL/ MEASUREME NT	IS 694 ANNEX A	-	IS-694 (TABLE 3) IS-8130 (TABLE-2) APPROVED DS	IS-694 (TABLE-3) IS-8130 (TABLE-2) APPROVED DS	INSP. & TEST REPORT FROM MANUF.	✓	P/ V	V	-																																																						
2.3		ROUTINE TESTS a) CONDUCTOR RESISTANCE TEST b) HIGH VOLTAGE TEST OR SPARK TEST	MA	CR	100%	-	IS 694/ IS 8130	IS 10810	TEST REPORT	✓	P/ V	V	-																																																						
2.4		ACCEPTANCE TESTS a) ANNEALING TEST b) CONDUCTOR RESISTANCE TEST c) THICKNESS OF INSULATION	MA	CR	IS 694 ANNEX A	IS 694 ANNEX A	IS 694/ IS 8130	IS 10810	TEST REPORT	✓	P	W	-																																																						
<table border="1"> <tr> <th colspan="6">BHEL</th> <th colspan="2">BIDDER/ SUPPLIER</th> <th colspan="6">FOR CUSTOMER REVIEW &amp; APPROVAL</th> </tr> <tr> <th colspan="3">ENGINEERING</th> <th colspan="3">QUALITY</th> <th>Sign &amp; Date</th> <th></th> <th>Doc No</th> <th colspan="5"></th> </tr> <tr> <td>Prepared by</td> <td>Sign &amp; Date</td> <td>Name</td> <td>Checked by</td> <td>Sign &amp; Date</td> <td>Name</td> <td>Seal</td> <td></td> <td>Reviewed by</td> <td>Sign &amp; Date</td> <td>Name</td> <td>Seal</td> <td></td> </tr> <tr> <td>Reviewed by</td> <td></td> <td></td> <td>Reviewed by</td> <td></td> <td></td> <td></td> <td></td> <td>Approved by</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>														BHEL						BIDDER/ SUPPLIER		FOR CUSTOMER REVIEW & APPROVAL						ENGINEERING			QUALITY			Sign & Date		Doc No						Prepared by	Sign & Date	Name	Checked by	Sign & Date	Name	Seal		Reviewed by	Sign & Date	Name	Seal		Reviewed by			Reviewed by					Approved by				
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Reviewed by			Reviewed by					Approved by																																																											

	<b>MANUFACTURER/ BIDDER/ SUPPLIER NAME &amp; ADDRESS</b>		<b>STANDARD QUALITY PLAN</b>					SPEC. NO :		DATE:			
			CUSTOMER :					QP NO.: PE-QP-999-558-E003, R02		DATE: 22.02.2024			
			PROJECT:					PO NO.:		DATE:			
			ITEM: PVC Wires			SYSTEM: STATION LIGHTING SYSTEM		SECTION: II		SHEET 2 OF 2			
SL NO.	COMPONENT & OPERATIONS	CHARACTERISTICS	CLAS S	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY			REMARKS
1	2	3	4	5	6		7	8	9	D	M	B	C
		d) TENSILE STRENGTH AND ELONGATION AT BREAK OF INSULATION e) IR TEST f) HV TEST g) FLAMMABILITY TEST h) OXYGEN INDEX TEST i) TEMPERATURE INDEX j) HALOGEN ACID GAS (ONLY FOR FRLSH WIRE) k) SMOKE DENSITY (ONLY FOR FRLSH WIRE)											
25	MARKING		MA	VISUAL	IS 694 ANNEX A	IS 694 ANNEX A	APPD DS	APPD DS	INSP. REPORT	✓	P/V	W	
<b>3.0 PACKING</b>													
	PACKING	SOUNDNESS OF PACKING AGAINST TRANSIT DAMAGE	MAJO R	VISUAL	100%	100%	BHEL APPROVED DOCUMENT	BHEL APPROVED DOCUMENT	INSPECTION REPORT	✓	P	V	-

**NOTE:** Latest revision/ year of issue of all the standards (IS/ ASME/ IEC etc.) Indicated in QP shall be referred

**LEGENDS:**


\*RECORDS IDENTIFIED WITH TICK(✓) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION.  
 \*\* M SUPPLIER/ MANUFACTURER/ SUB-SUPPLIER, B MAIN SUPPLIER/ BHEL/ THIRD PARTY INSPECTION AGENCY, C CUSTOMER,  
 P PERFORM, W WITNESS, V: VERIFICATION, AS APPROPRIATE  
 MA MAJOR, MI MINOR, CR: CRITICAL D: DOCUMENTATION

<b>BHEL</b>				<b>BIDDER/ SUPPLIER</b>		<b>FOR CUSTOMER REVIEW &amp; APPROVAL</b>			
<b>ENGINEERING</b>		<b>QUALITY</b>		Sign & Date		Doc No			
Sign & Date	Name	Sign & Date	Name	Seal		Sign & Date	Name	Seal	
Prepared by: <i>Md. 23/02/24</i>	MEET SAGAR SINGH RAJPAL	Checked by: <i>Suman 23/02/24</i>	Suman			Reviewed by:			
Reviewed by: <i>Hema 23/2/24</i>	HEMA KUSHWAHA	Reviewed by: <i>Hem 23/02/24</i>	Hem			Approved by:			

	<b>TECHNICAL SPECIFICATION PVC WIRES</b>	<b>PE-TS-APL/MEL-558-E003</b>
		<b>Issue No: 01</b>
		<b>Rev. No. 00</b>
		<b>Date : 01.03.25</b>

## PACKING REQUIREMENT

Sl.no	DESCRIPTION
1	<b>Type of Packing :</b>
1.1	The material shall be packed to ensure protection against damage during transit, storage for prolonged periods and handling.
1.2	The wire shall be clean and dry prior to packaging.
1.3	The wire shall be supplied in packed coils. The tapes used for packing shall not bleed, leave residue, or damage the item when removed.
1.4	The inside coil diameters shall not be smaller than the minimum safe allowable bending diameter for wires.
1.5	The coil shall be placed in a corrugated paperboard/ fibreboard container/ mono carton.
1.6	The mono cartons shall be wrapped or bagged or tied in place in master cartons. The master carton shall be taped and then wrapped with cushioning material.
1.7	The dimensions of cartons shall be as per manufacturer's recommendations.

			<b>TECHNICAL SPECIFICATION PVC WIRES</b>						PE-TS-APL/MEL-558-E003		
									Issue No: 01		
									Rev. No. 00		
									Date : 01.03.25		
<b>UNPRICED SCHEDULE</b>											
Sr. No.	Item code	Item description	Unit	2X800 MW MEL SINGRAULI (PH-II)	2 X 800 MW APL RAIGARH (PH-II)	2 X 800 MW APL RAIPUR (PH-II)	2X800 MW MTEUPPL MIRZAPUR (PH-I)	TOTAL	UNIT PRICE (EX-WORKS) (Rs)	TOTAL PRICE (EX-WORKS) (Rs)	REMARKS
1.0	558-0160005-00-A	WIRES 1X2.5 MM2 CU PVC (FR TYPE)	Metres	4,76,000	4,76,000	4,76,000	4,76,000	19,04,000			
2.0	558-0160006-00-A	WIRES 1X4.0 MM2 CU PVC (FR TYPE)	Metres	32,800	32,800	32,800	32,800	1,31,200			
								GRAND TOTAL			
Color wise BOQ description of Wire for each project:											
				WIRES 1X2.5 MM2 CU PVC (FR TYPE)	WIRES 1X4.0 MM2 CU PVC (FR TYPE)						
		BLACK	mtrs.	2,14,000	16,400						
		RED	mtrs.	80,000	6,000						
		YELLOW	mtrs.	64,000	5,200						
		BLUE	mtrs.	70,000	5,200						
		WHITE	mtrs.	24,000							
		GREY	mtrs.	24,000							
			Total	mtrs.	4,76,000	32,800					
3.0	Price variation formulae										
3.1	Price shall be variable as per price variation formulae given below. The price variation shall be limited to +20% of the total ex-works price actually supplied (wire size wise) and -ve price variation shall be unlimited. Rates for working out price variation shall be as per rates published by IEEMA for the factors given below as sl. No. 3.3										
3.2	Prices shall be variable as per following PVC formulae: P = Po + CuF(Cu-Cuo) + CCFCu (PVCC-PVCCo) Where, P is the as on date price and Po is the base month price Cu and PVCC are the copper and insulation prices respectively of the current month. Cuo and PVCCo are the copper and insulation prices for the base month. CuF and CCFCu are the multiplication factors for copper and insulation respectively. CuF and CCFCu shall be as per table below at sl. No. 3.3										
3.3	Variation factor value for CuF and CCFCu as applicable shall be as follows:										
	Cable Size				2.5 sq.mm.		4 sq.mm.				
	IEEMA factor for Insulation (CCFCu) as per IS694 (Insulation thickness rations considered) (MT/Km)				0.0158		0.0217				
	IEEMA factor for CONDUCTOR (CuF) (MT/Km)				0.023		0.036				
3.4	Base date for prices: Initial price (As per IEEMA) for Cuo and PVCCo: Base date shall be- 1st working day of the previous month to the date of issue of tender enquiry Final price(as per IEEMA) for Cu and PVCC: 1 <sup>st</sup> working day of month, one month prior to the date on which wire is notified as being ready for inspection i.e. TPIA inspection call raise date on web portal.										
3.5	PVC shall be payable within contractual delivery period (including any extension thereto)										

	<b>TECHNICAL SPECIFICATION PVC WIRES</b>	<b>PE-TS-APL/MEL-558-E003</b>
		<b>Issue No: 01</b>
		<b>Rev. No. 00</b>
		<b>Date : 01.03.25</b>

## DOCUMENTATION REQUIREMENT

<b>DRAWINGS &amp; DOCUMENTS TO BE SUBMITTED BY ALL THE BIDDERS ALONG WITH THE BID</b>	
<b>Sl. No.</b>	<b>DOCUMENT TITLE</b>
1	PQR CREDENTIALS
2	COMPLIANCE SHEET

<b>DRAWINGS &amp; DOCUMENTS TO BE SUBMITTED BY SUCCESSFUL BIDDER AFTER AWARD OF CONTRACT ALONG WITH SUBMISSION SCHEDULE</b>					
<b>Sl. No.</b>	<b>DOCUMENT TITLE</b>	<b>SUBMISSION SCHEDULE</b>			
		<b>Vendor submission (Days)*</b>	<b>BHEL Comment (Days)</b>	<b>Vendor submission (Days)#</b>	<b>BHEL &amp; Customer comment/ approval (Days)</b>
<b>I</b>	<b>Primary documents</b>				
1	DATA SHEET OF PVC WIRES	7	4	3	16
2	QUALITY PLAN OF PVC WIRES	7	4	3	16
<b>NOTES:</b>					
a) * 1st submission within indicated days from date of purchase order.					
b) # Submission (within indicated days) after incorporating all BHEL comments.					
c) Primary documents shall be considered for Delay analysis					

<b>DRAWINGS &amp; DOCUMENTS TO BE SUBMITTED AS FINAL/AS-BUILT DOCUMENT</b>	
<b>Sl. No.</b>	<b>DOCUMENT TITLE</b>
1	APPROVED DOCUMENTS
2	APPROVED QUALITY PLAN
3	ALL TEST CERTIFICATES

	<b>TECHNICAL SPECIFICATION PVC WIRES</b>	<b>PE-TS-APL/MEL-558-E003</b>
		<b>Issue No: 01</b>
		<b>Rev. No. 00</b>
		<b>Date : 01.03.25</b>

<b>COMPLIANCE CERTIFICATE</b>	
1	It is hereby confirm that the technical specification (sheet 1 to 15) has been read, understood. We confirm compliance to the tender specification including any clarification and amendments without any deviation.
2	It is hereby declared that any technical submittals which was not specifically asked for in NIT shall stand withdrawn.

Signature of authorised Representative


Name and Designation :

Name & Address of the Bidder

Date

	<b>TECHNICAL SPECIFICATION PVC WIRES</b>	<b>PE-TS-APL/MEL-558-E003</b>
		<b>Issue No: 01</b>
		<b>Rev. No. 00</b>
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## PRE QUALIFICATION REQUIREMENT (TECHNICAL)

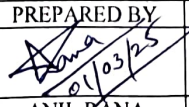
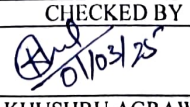
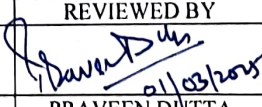
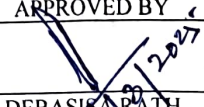
	<b>2 X 800 MW MEL SINGRAULI (PH-II)</b> <b>2 X 800 MW APL RAIGARH (PH-II)</b> <b>2 X 800 MW APL RAIPUR (PH-II)</b> <b>2 X 800 MW MTEUPPL MIRZAPUR (PH-I)</b>  <b>PRE-QUALIFICATION REQUIREMENTS FOR</b> <b>PVC INSULATED WIRES</b>	PE-PQ-000-558-E003
		REVISION NO. 0 DATE 01/03/2025
		SHEET NO. 1 OF 1

**ITEMS : PVC WIRES****SCOPE:** Supply : YES; Erection & Commissioning : NO


1	Vendor should be a BIS approved manufacturer of PVC insulated wire as per IS-694.
2	Availability of test reports of PVC insulated copper wire to establish in-house capability at manufacturer's works to carry out all routine, type & acceptance tests as per relevant IS.
3	Capacity of manufacturing 100 km of PVC insulated copper wire per month.
4	Manufactured and supplied at least one (1) km of PVC insulated FR copper wire.
5	Manufactured and supplied at least 100 km of PVC insulated copper wire in one or more orders.
6	Minimum two (2) nos. purchase orders for PVC insulated copper wire shall be submitted which should not be more than five (5) years old from the date of techno- commercial bid opening for establishing continuity in business.

**NOTES-**


1. In place of PVC insulated copper wire, documents submitted for LT Power/control cables shall also be considered.
2. Consideration of offer shall be subject to customer's approval of bidders, if applicable.
3. Bidder to submit all supporting documents in English. If documents submitted by bidder are in language other than English, a self-attested English translated document should also be submitted.
4. Notwithstanding anything stated above, BHEL reserves the right to assess the capabilities and capacity of the bidder/ collaborators to perform the contract, should the circumstances warrant such assessment in the overall interest of BHEL.
5. After satisfactory fulfilment of all the above criteria/ requirement, offer shall be considered for further evaluation as per NIT and all other terms of the tender.
6. Attached Annexure-1 to be filled by the bidders on quality & general terms. Requisite Documents (like factory registration certificate, R&D set-up details etc.) asked in the Annexure-1, shall also be attached as Annexure-F2.1 to Annexure F2.17 along with the filled response in the Annexure-1.

	PREPARED BY	CHECKED BY	REVIEWED BY	APPROVED BY
SIGNATURE & DATE	 01/03/25	 01/03/25	 01/03/2025	 01/03/2025
NAME	ANIL RANA	KHUSHBU AGRAWAL	PRAVEEN DUTTA	DEBASIS RATH
DESIGNATION	ENGINEER	SR. MANAGER	ADDL. GM	(GM, DH-ELECTRICAL)



	<b><u>ANNEXURE- 1</u></b>  <b>SUB-VENDOR QUESTIONNAIRE</b>
---	--

<b>i.</b>	<b>Item/Scope of Sub-contracting</b>			
<b>ii.</b>	<b>Address of the registered office</b>	<b>Details of Contact Person</b> (Name, Designation, Mobile, Email)		
<b>iii.</b>	<b>Name and Address of the proposed Sub-vendor's works where item is being manufactured</b>	<b>Details of Contact Person:</b> (Name, Designation, Mobile, Email)		
<b>iv.</b>	<b>Annual Production Capacity for proposed item/scope of sub-contracting</b>			
<b>v.</b>	<b>Annual production for last 3 years for proposed item/scope of sub-contracting</b>			
<b>vi.</b>	<b>Details of proposed works</b>			
1.	<b>Year of establishment of present works</b>			
2.	<b>Year of commencement of manufacturing at above works</b>			
3.	<b>Details of change in Works address in past (if any)</b>			
4.	<b>Total Area</b>			
	<b>Covered Area</b>			
5.	<b>Factory Registration Certificate</b>	<b>Details attached at Annexure – F2.1</b>		
6.	<b>Design/ Research &amp; development set-up</b> (No. of manpower, their qualification, machines & tools employed etc.)	<b>Applicable / Not applicable if manufacturing is as per Main Contractor/purchaser design</b> <b>Details attached at Annexure – F2.2</b> (if applicable)		
7.	<b>Overall organization Chart with Manpower Details</b> (Design/Manufacturing/Quality etc)	<b>Details attached at Annexure – F2.3</b>		
8.	<b>After sales service set up in India, in case of foreign sub-vendor</b> (Location, Contact Person, Contact details etc.)	<b>Applicable / Not applicable</b> <b>Details attached at Annexure – F2.4</b>		
9.	<b>Manufacturing process execution plan with flow chart indicating various stages of manufacturing from raw material to finished product including outsourced process, if any</b>	<b>Details attached at Annexure – F2.5</b>		
10.	<b>Sources of Raw Material/Major Bought Out Item</b>	<b>Details attached at Annexure – F2.6</b>		
11.	<b>Quality Control exercised during receipt of raw material/BOI, in-process, Final Testing, packing</b>	<b>Details attached at Annexure – F2.7</b>		

	<b><u>ANNEXURE- 1</u></b>  <b>SUB-VENDOR QUESTIONNAIRE</b>
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12.	<b>Manufacturing facilities</b> <i>(List of machines, special process facilities, material handling etc.)</i>	<i>Details attached at Annexure – F2.8</i>			
13.	<b>Testing facilities</b> <i>(List of testing equipment)</i>	<i>Details attached at Annexure – F2.9</i>			
14.	<b>If manufacturing process involves fabrication then-</b> <b>List of qualified Welders</b> <b>List of qualified NDT personnel with area of specialization</b>	<i>Applicable / Not applicable</i> <i>Details attached at Annexure – F2.10</i> <i>(if applicable)</i>			
15.	<b>List of out-sourced manufacturing processes with Sub-Vendors' names &amp; addresses</b>	<i>Applicable / Not applicable</i>  <i>Details attached at Annexure. –F2.11</i> <i>(if applicable)</i>			
16.	<b>Supply reference list including recent supplies</b>	<i>Details attached at Annexure – F2.12</i> <i>(as per format given below)</i>			
<b>Project/ package</b>	<b>Customer Name</b>	<b>Supplied Item (Type/Rating/Model /Capacity/Size etc)</b>	<b>PO ref no/date</b>	<b>Supplied Quantity</b>	<b>Date of Supply</b>
17.	<b>Product satisfactory performance feedback</b> <b>letter/certificates/End User Feedback</b>		<i>Attached at annexure - F2.13</i>		
18.	<b>Summary of Type Test Report (Type Test Details, Report No, Agency, Date of testing) for the proposed product</b> <i>(similar or higher rating)</i> <b>Note:- Reports need not to be submitted</b>		<i>Applicable / Not applicable</i>  <i>Details attached at Annexure – F2.14</i> <i>(if applicable)</i>		
19.	<b>Statutory / mandatory certification for the proposed product</b>		<i>Applicable / Not applicable</i>  <i>Details attached at Annexure – F2.15</i> <i>(if applicable)</i>		
20.	<b>Copy of ISO 9001 certificate</b> <i>(if available)</i>		<i>Attached at Annexure – F2.16</i>		
21.	<b>Product technical catalogues for proposed item (if available)</b>		<i>Details attached at Annexure – F2.17</i>		
<b>Name:</b> <input type="text"/> <b>Desig:</b> <input type="text"/> <b>Sign:</b> <input type="text"/> <b>Date:</b> <input type="text"/>					

**Company's Seal/Stamp:-**