

1 X 660 MW BHUSAWAL TPS
BOQ CUM PRICE SCHEDULE FOR PVC WIRES

SL. NO.	ITEM CODE	ITEM DESCRIPTION	UOM	QUANTITY
1	558-16002-A	WIRE 1 X 2.5MM2 CU PVC	MTR	196000
2	558-16003-A	WIRE 1 X 4.0MM2 CU PVC	MTR	81000
3	558-16007-A	WIRE 1 X 10.0MM2 AL PVC	MTR	196000

NOTE :

Colour-wise breakup of PVC wire shall be as below:

a) For 2.5 SQMM CU PVC wires:

RED: 32000 meters, YELLOW: 32000 meters, BLUE: 32000 meters, BLACK: 96000 meters, WHITE: 2000 meters, GREY: 2000 meters

b) For 4.0 SQMM CU PVC wires:

RED: 13500 meters, YELLOW: 13500 meters, BLUE: 13500 meters, BLACK: 40500 meters

c) For 10 SQMM AL PVC wires:

RED: 32000 meters, YELLOW: 32000 meters, BLUE: 32000 meters, BLACK: 96000 meters, WHITE: 2000 meters, GREY: 2000 meters

GEM Tender-BHUSAWAL-PVC WIRES- RISK & COST PURCHASE CLAUSE- Annexure-II

BHEL reserves the right to terminate the contract or withdraw portion of work and get it done through other agency, at the risk and cost of the contractor after due notice of a period of 14 days' by BHEL in any of the following cases:

- i) If the Seller/Contractor fails to deliver the goods or materials or any instalment thereof within the period(s) fixed for such delivery or the Seller's poor progress of the supply/ services vis-à-vis delivery/execution timeline as stipulated in the Contract, backlog attributable to seller including unexecuted portion of supply does not appear to be executable within balance available period;
- ii) Delivers goods or materials not of the contracted quality and failing to adhere to the contract specifications;
- iii) Withdrawal from or repudiation/ abandonment of the supply/ services by Seller before completion as per contract or if the Seller refuses or is unable to supply goods or materials covered by the Order/Contract either in whole or in part or otherwise fails to perform the Order/Contract;
- iv) Non-supply by the Seller within scheduled completion/delivery period as per Contract or as extended from time to time, for the reasons attributable to the Seller;
- v) Termination of Contract on account of any other reason (s) attributable to Seller.
- vi) Assignment, transfer, subletting of Contract without BHEL's written permission resulting in termination of Contract or part thereof by BHEL.
- vii) If the Seller be an individual or a sole proprietorship Firm, in the event of the death or insanity of the Seller;
- viii) If the Seller/Contractor being an individual or if a firm on a partnership thereof, shall at any time, be adjudged insolvent or shall have a receiving order for administration of his estate made against him or shall take any proceeding for composition under any Insolvency Act for the time being in force or make any assignment of the Order/Contract or enter into any arrangement or composition with his creditors or suspend payment or if the firm dissolved under the Partnership Act;
- ix) If the Seller/Contractor being a company is wound up voluntarily or by order of a Court or a Receiver, Liquidator or Manager on behalf of the debenture holders and creditors is appointed or circumstances shall have arisen which entitles the Court of debenture holder and creditors to appoint a receiver, liquidator or manager;
- x) Non-compliance to any contractual condition or any other default attributable to Seller.

Such defaulting vendor/Seller shall not be eligible to participate in re-tendering conducted on account of risk purchase made due to fault of such vendor/Seller.

3.1 Risk & Cost Amount against Balance Work:

Risk & Cost amount against balance work shall be calculated as follows:

$$\text{Risk \& Cost Amount} = [(A-B) + (A \times H/100)]$$

Where,

A= Value of Balance scope of Work (*) as per rates of new contract

GEM Tender-BHUSAVAL-PVC WIRES- RISK & COST PURCHASE CLAUSE- Annexure-II

B= Value of Balance scope of Work (*) as per rates of old contract being paid to the contractor at the time

of termination of contract i.e. inclusive of PVC & ORC, if any.

H = Overhead Factor to be taken as 5

In case (A-B) is less than 0 (zero), value of (A-B) shall be taken as 0 (zero).

3.2 * Balance scope of work (in case of termination of contract):

Difference of Contract Quantities and Executed Quantities as on the date of issue of Letter for 'Termination of Contract', shall be taken as balance scope of Work for calculating risk & cost amount.

Contract quantities are the quantities as per original contract. If, Contract has been amended, quantities as per amended Contract shall be considered as Contract Quantities.

Items for which total quantities to be executed have exceeded the Contract Quantities based on drawings issued to contractor from time to time till issue of Termination letter, then for these items total Quantities as per issued drawings would be deemed to be contract quantities.

Substitute/ extra items whose rates have already been approved would form part of contract quantities for this purpose.

Substitute/ extra items which have been executed but rates have not been approved, would also form part of contract quantities for this purpose and rates of such items shall be determined in line with contractual provisions.

However, increase in quantities on account of additional scope in new tender shall not be considered for this purpose.

NOTE: In case portion of work is being withdrawn at risk & cost of contractor instead of termination of contract, contract

quantities pertaining to portion of work withdrawn shall be considered as 'Balance scope of work' for calculating Risk &

Cost amount.

3.3 LD against delay in executed work in case of Termination of Contract:

LD against delay in executed work shall be calculated in line with LD clause no. 16 of GCC, for the delay attributable to

contractor. For limiting the maximum value of LD, contract value shall be taken as Executed Value of work till termination

of contract.

Method for calculation of LD against delay in executed work in case of termination of contract" is given below.

i. Let the time period from scheduled date of start of work till termination of contract excluding the period of

Hold (if any) not attributable to contractor = T1

ii. Let the value of executed work till the time of termination of contract = X

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iii. Let the Total Executable Value of work for which inputs/fronts were made available to contractor and were

planned for execution till termination of contract = Y

iv. Delay in executed work attributable to contractor i.e. $T2 = [1-(X/Y)] \times T1$

v. LD shall be calculated in line with LD clause (clause 16) of the Contract for the delay attributable to contractor taking "X" as Contract Value and "T2" as period of delay attributable to contractor.

3.4. Recoveries arising out of Risk & Cost and LD or any other recoveries due from Contractor

Without prejudice to the other means of recovery of such dues from the Seller recoveries from the Seller on whom risk & cost has been invoked shall be made from the following:

- a) Dues available in the form of Bills payable to seller, SD, BGs against the same contract.
- b) Dues payable to seller against other contracts in the same Region/Unit/ Division of BHEL.
- c) Dues payable to seller against other contracts in the different Region/Unit/ division of BHEL.

In-case recoveries are not possible with any of the above available options, Legal action shall be initiated for recovery against contractor.

Delivery Schedule for PVC WIRES package for Bhusawal Project							
Sl. No.	Package name	DEPTT	BHEL Drawing No	Drawing Title	Primary/Secondary	Drg Sch for Vendors	Standard Delivery Terms for Supply Portion
1	PVC WIRES	ELECT	PE-V0-XXX-558-E801	DATA SHEET OF PVC WIRES	Primary	R-O within 14 days from PO & subsequent revisions within 10 days of comments received from BHEL. BHEL shall furnish comments / approval on each submission within 18 days from receipt.	For Lot-1: Within Three (03) months from date of CAT-1 approval of Primary drawing/documents, subjected to drawing/document submission/re-submission schedule as stipulated, in case of any delay in submission/re-submission of Primary drawing/documents, then same shall be reduced from the given delivery period. Delay in BHEL's comments/approval beyond 18 days shall also be considered for delay analysis. For Subsequent Lots, Within 3 months from Lot clearance by BHEL.
			PE-V0-XXX-558-E908	QUALITY PLAN OF PVC WIRES	Primary		



Report ID: GEM/GARPTS/13102021/2EEXI0E8BH6W

Report Name: PVC WIRES

Generated By: Rahul Kumar Shrivastava , Department of Heavy Industry , Ministry of Heavy Industries and Public Enterprises

Generated On: 13/10/2021

Valid till: 12/11/2021

GeM Availability Report and Past Transaction Summary

GeM Availability Report and past transaction summary report is generated based on the specifications searched by the Buyer. The specification may be modified appropriately for searching relevant categories on GeM. Buyer may navigate to GeM category page by clicking on the category link to view category specifications and products/services available in the category.

Order Count and Order Value displayed is on a cumulative basis since GeM inception.

1. Search String: PVC WIRE COPPER AND ALUMINIUM

Search type: Product

1. There are categories available on GeM matching your requirements (as listed here). You can create a bid on GeM with a product closest matching your required specifications and add additional parameters in specifications through Corrigendum using RMS functionality.
2. If you feel that category TP needs updating you can submit category updating request also through RMS.
3. If you do not want to use any of the above option and want to proceed for procurement outside GeM, please suggest the specifications of the required product for creation of new category on GeM for future procurement.

Search Result: Category available/suggested on GeM but marked as "not matching requirements" by the buyer with undertaking as under:

It is certified that I have thoroughly checked all probable categories suggested by GeM and I am satisfied that the product required is not covered / does not fall in any of the suggested categories and can not be procured under any of these categories even after inclusion of List of Values(LOV) wherever possible in category specifications of suggested categories. It is also certified that the technical specification requirement are such that these can not be covered even by adding specification parameters using ATC in any of the GeM suggested categories. This is a one-time requirement hence new category creation is not proposed / or requirement is recurring but request for new category creation will be submitted separately post generation of GeMARPTS.



PRE-QUALIFYING REQUIREMENTS FOR PVC WIRES

PE-PQ-999-558-E003

REV. 02

DATE: 30/09/2021

SHEET 1 OF 1

ITEMS: PVC WIRES

SCOPE:

Supply(Including Design) : 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 application for registration or date of techno- commercial bid opening (as applicable) for establishing continuity in business.

Notes:

1. The vendor can offer PVC copper wire of any BIS approved make meeting criteria S. No. 1 to 5 above. The vendor to furnish the following documents:
 - a) Undertaking from BIS approved manufacturer of offered make to get the inspection & testing of wires carried out at manufacturer's works.
 - b) Credentials of the manufacturer of offered make to meet the PQR requirements of S. No. 1 to 5 above.
 - c) Vendor's Credentials to meet S. No. 6 above.

2. For FGD, Hydro and R & M projects, Clause No. 3, 5 shall be read as below:

Clause no. 3: Capacity of manufacturing 50 km of PVC insulated copper wire per month.

Clause no. 5: Manufactured and supplied at least 50 km of PVC insulated copper wire in one or more orders.

3. In place of PVC insulated copper wire, documents submitted for LT Power/control cables shall also be considered.

General Points of PQR:

1. Consideration of offer shall be subject to customer's approval of bidders, if applicable.
2. 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.
3. Any other project specific requirement shall be as per Annexure – I and bidder shall submit relevant supporting documents.
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.

PREPARED BY

MEET SAGAR
SINGH RAJPAI

MEET SAGAR SINGH RAJPAL
(DY.MANAGER)

Digitally signed by MEET SAGAR SINGH RAJPAL
DN: cn=MEET SAGAR SINGH RAJPAL, o=BHEL,
ou=ELECTRICAL, email=mssrajpal@bhel.in, c=IN
Date: 2021.09.30 16:48:56 +05'30'

REVIEWED BY

PRAVEEN DUTTA

PRAVEEN DUTTA
(AGM)

Digitally signed by PRAVEEN DUTTA
DN: c=IN, o=BHARAT HEAVY ELECTRICALS LIMITED, ou=PS
PEM, postalCode=201301, st=UTTAR PRADESH,
2.5.4.20=da8948aad0c3e2703a9ba0aaca2aed61dd68dbet
c976429c5c374e3b47b930, cn=PRAVEEN DUTTA
Date: 2011.09.30 16:53:41 +05'30'

APPROVED BY

DEBASIS
RATH

DEBASISA RATH
(AGM & DH ELECTRICAL)

Digitally signed by DEBASISA RATH
DN: c=IN, o=BHARAT HEAVY ELECTRICALS
LIMITED, ou=BHEL PS PEM Noida,
postalCode=201301, st=UTTAR PRADESH,
2.5.4.20=6fa841891eca623b359ef779ae76b0d32
9ed700f76a80fcab8a422c815ea7fd,
cn=DEBASISA RATH
Date: 2021.10.04.14:20:54 +0530

BHEL PEM-ELECTRICAL
PRE-QUALIFYING REQUIREMENTS FOR PVC WIRES

ANNEXURE – I

PROJECT SPECIFIC CRITERIA AGAINST ENQUIRY

PROJECT: 1 X 660 MW BHUSAWAL TPS

1. W.r.t. clause 1 to 6 of main PRE-QUALIFYING requirements (PQR), LT Power cables or control cables or Aluminium Wire credentials are also acceptable.

**Rahul
Kumar
Shrivastava**

Digitally signed by Rahul Kumar
Shrivastava
DN: cn=Rahul Kumar Shrivastava,
o=BHEL, ou=PEM,
email=rkshrivastava@bhel.in, c=IN
Date: 2021.10.14 17:46:13 +05'30'

[Dealing Engineer]

**KANHAIY
A KUMAR**

Digitally signed by KANHAIYA
KUMAR
DN: cn=KANHAIYA KUMAR,
o=BHEL, ou=PEM,
email=kanhaiya.kumar@bhel.i
n, c=IN
Date: 2021.10.14 17:47:31
+05'30'

[Controlling Officer]

okumar

Digitally signed by okumar
DN: cn=okumar, o=bhel,
ou=bhel,
email=okumar@bhel.in, c=IN
Date: 2021.10.14 17:50:16
+05'30'

[Section Head]

DEBASISA RATH

Digitally signed by DEBASISA RATH
DN: cn=, ou=BHARATI HEAVY ELECTRICALS
LIMITED, ou=BHEL, PS PEM Noida,
postalCode=201301, st=UTTAR PRADESH,
2.5.4.201-af4841891ec06230359ef779ae76
060226e71007ba0f1c0a8a4221815ea70d,
c=DEBASISA RATH
Date: 2021.10.14 18:00:29 +05'30'

[DH-Electrical]

1 X 660MW BHUSAWAL TPS UNIT-6

VOLUME-II

TECHNICAL SPECIFICATION FOR *PVC INSULATED WIRES*

SPECIFICATION NO: *PE-TS-415-558-E003*

REVISION: 00



**BHARAT HEAVY ELECTRICALS LIMITED
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NOIDA, UP (INDIA) – 201301**

504594/2021/PS-PEM-EL



**TECHNICAL SPECIFICATION
FOR PVC INSULATED WIRES**

1 X 660MW BHUSAWAL TPS UNIT-6

SPECIFICATION NO. PE-TS-415-558-E003

VOLUME II

SECTION I

REVISION 00


DATE: 14.10.2021

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Total nos. of sheets including cover & separator sheets = 15 sheets

504594/2021/PS-PEM-EL

	TECHNICAL SPECIFICATION FOR PVC INSULATED WIRES		SPECIFICATION NO. PE-TS-415-558-E003	
	1 X 660MW BHUSAWAL TPS UNIT-6		VOLUME II	
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COMPLIANCE CERTIFICATE

The bidder shall confirm compliance to the following by signing/ stamping this compliance certificate and furnishing same with the offer.

1. The scope of supply, technical details, construction features, design parameters etc. shall be as per technical specification & there are no exclusion/ deviation with regard to same
2. There is no technical deviation with respect to specification.
3. Only those technical submittals which are specifically asked for in NIT to be submitted at tender stage shall be considered as part of offer. Any other submission, even if made, shall not be considered as part of offer.
4. Any comments/ clarifications on technical/ inspection requirements furnished as part of bidder's covering letter shall not be considered by BHEL, and bidder's offer shall be construed to be in conformance with the specification.
5. Any changes made by the bidder in the price schedule with respect to the description/ quantities from those given in BOQ-Cum-Price schedule of the specification shall not be considered (i.e., technical description & quantities as per specification shall prevail).

BIDDER'S STAMP & SIGNATURE

504594/2021/PS-PEM-EL

**TECHNICAL SPECIFICATION
FOR PVC INSULATED WIRES****1 X 660MW BHUSAWAL TPS UNIT-6**

SPECIFICATION NO. PE-TS-415-558-E003

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SECTION – I

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	1 X 660MW BHUSAWAL TPS UNIT-6		VOLUME II	
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1.0 SCOPE

- 1.1 Manufacture, Inspection and Testing at Manufacturer's works, proper packing and delivery to site of PVC Wires conforming to this specification.
- 1.2 Technical requirements of PVC insulated wires are indicated in Data Sheet-A & Section-II.
- 1.3 The stipulation of Data Sheet-A shall prevail in case of any conflict between the stipulations of Data Sheet-A & Section-II.

2.0 BILL OF QUANTITIES


The bidder to quote for items as per price schedule attached with NIT.

3.0 DRAWINGS & DOCUMENTS TO BE SUBMITTED

- 3.1 Documents shall be submitted after placement of order for BHEL & customer's approval as specified in NIT.
- 3.2 Documents shall be furnished through BHEL's document management system (WRENCH) portal.

Notes:

1. Vendor shall submit the dates for drawing/document submission/BHEL comments/resubmission after approval of all the documents.
2. In BOM each of the item to be uniquely identified with item code no. or item Sl. No. Supplier to ensure that all the items which will find separate mention in the packing list are covered in detailed BOM. Supplier to give following undertaking in BOM: " The BOM provided here completes the scope (in content and intent) of material supply under PO no. ---- dtd ----- Any additional material which may become necessary for the intended application of supplied item/package will be supplied free of cost in most reasonable time."

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DATA SHEET-A

1.0 APPLICABLE STANDARDS & CODES

- a) IS:694 PVC insulated unsheathed and sheathed cables/cords with rigid and flexible conductor.
- b) IS:5831 PVC insulation and sheath of electric cables.
- c) IS:8130 Conductors for insulated electric cables and flexible cords.
- d) IS:10810 Methods of tests for cables.

2.0 MAKE ☒ BIS approved ☐ As per enclosed sub-vendor list

3.0 TYPE OF WIRE :
☒ FIRE-RESISTANT (FR) ☐ FIRE-RESISTANT LOW SMOKE (FRLS)

4.0 CONDUCTOR

- a) NO. OF CORES : 1
- b) MATERIAL : Aluminium and High conductivity untinned annealed copper (As per BOQ)
- c) Type : Stranded conductor
- d) CLASS : Class-2 as per IS: 8130
- e) MINIMUM NUMBER OF STRANDS : As per IS: 8130 (table-2)
- f) MAX. RESISTANCE OF CONDUCTOR : As per IS: 8130 (table-2)

5.0 INSULATION

- a) INSULATION MATERIAL : PVC, Type-A as per IS :5831
- b) NOMINAL INSULATION THICKNESS : As per IS: 694 (table-3)

6.0 MAX. OVERALL DIA. : As per IS: 694 (table-3)

7.0 STANDARD BUNDLE LENGTH : 90-100 meters (For all sizes)



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TECHNICAL PARTICULARS FOR PVC INSULATED WIRES – DATA SHEET-C

(to be submitted by successful bidder after award of contract)

S.No.	Particulars	Unit	Description
1	Manufacturer's name	-	
2	Reference design standards	-	
3	Type of wire		
4	Rated Voltage	V	
5	No. of Cores	No.	
6	Conductor cross section area (nominal)	sq. mm	
7	Conductor		
	a) Material	-	
	b) Reference Standard	-	
	C) Class		
	d) No. of strands	No.	
	e) Diameter of strands (nom.)	mm	
	f) Approx. dia of conductor	mm	
	h) Maximum conductor resistance per Km at 20°C	ohm	
8	Insulation		
	a) Reference Standard	-	
	b) Material composition	-	
	c) Minimum thickness	mm	
	d) Nom. Thickness	mm	
	e) Max. thickness	mm	
	f) Minimum volume resistivity as per IS 5831	Ohm cm	
	g) Dielectric constant	-	
	h) Maximum conductor temperature withstand capacity	°C	
	i) Minimum conductor temperature withstand capacity	°C	
	j) Maximum diameter including insulation	mm	
9	Length of single bundle	M	
10	Details of Marking/ label provided as per specification	Yes/ No	



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CHECK LIST FOR SUBMITTING TECHNICAL PQR DOCUMENTS

Bidder to submit signed & stamped copy of checklist shall be submitted alongwith technical offer to ensure completeness of PQR documents.

Checklist		Remarks	Tick as applicable [√]	
1.	Valid BIS certificate enclosed	Specify date of validity	Yes []	No []
2.	Internal (in-house) type test report submitted	<ul style="list-style-type: none"> •Routine test •Type test • Acceptance test To be Included in internal test report	Yes []	No []
3.	Capacity of manufacturing 100Km of PVC wire per month	Proof of manufacturing such as <ul style="list-style-type: none"> •NSIC certificate •MSME certificate •Chartered engineer certificate •Any other document submitted <i>Note: chartered accountant certificate is not a valid proof for establishing manufacturing capacity</i>	Yes []	No []
4	Manufactured & supplied at least 1 Km of PVC FR copper wire	Proof of manufacturing & supplied FR copper wire such as <ul style="list-style-type: none"> •Purchase order submitted and •Dispatch documents (Performa invoice, dispatch details) submitted 	Yes []	No []
5	Manufactured & supplied at least 100 Km of PVC copper wire in one or more orders	Proof of manufacturing & supplied copper wire such as <ul style="list-style-type: none"> •Single or multiple Purchase order copies submitted and •Single or multiple Dispatch documents (Performa invoice, dispatch documents) submitted 	Yes []	No []
6	Copy of min two PO for PVC wires submitted	•Copy of Purchase order submitted	Yes []	No []

Note: Bidder already registered with BHEL-PEM for PVC wires shall submit documents for criteria no.6 only.

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SECTION-II

STANDARD TECHNICAL REQUIREMENTS



TECHNICAL SPECIFICATION FOR PVC INSULATED WIRES

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1.0 INTENT OF SPECIFICATION

The intent of specification is not to specify all details of design & construction of material. The material shall, however, conform in all aspects to high standard of design, engineering and workmanship and be capable of performing in continuous operation up to & after bidder's guarantee period in manner acceptable to purchaser who will interpret the drawings & specification and shall have power to reject any work or material which in his judgement is not in full accordance with this specification.

2.0 CODES AND STANDARDS

- 2.1 The material shall comply with all currently applicable safety codes and statutory regulations of India as well as of the locality where the material is to be installed.
- 2.2 The material, construction, manufacture, inspection and testing of PVC wires shall conform to the latest revision of relevant standards as per Data Sheet-A.
- 2.3 In case of conflict between the applicable reference standard and this specification, stringent requirement shall govern.

3.0 TECHNICAL REQUIREMENTS

- 3.1 Lighting wires shall be single core, 1100 V grade, light duty PVC insulated, stranded copper wire for fixed wiring installation.
- 3.2 Wire shall be made with the Colour Codes specified below :

a) 3 phase AC Connections

- Phase 1 (R) Red
- Phase 2 (Y) Yellow
- Phase 3 (B) Blue
- Neutral Black

b) DC Connections

- Positive White
- Negative Grey

c) Earth Connection Green

The Colour wise quantity of PVC wires shall be as specified in 'BOQ cum Price schedule'.

- 3.3 Cross-sectional area of PVC wires shall be as specified in 'BOQ cum Price schedule'.
- 3.4 Technical particulars of PVC wires shall be as specified in Data Sheet – A.

4.0 QUALITY ASSURANCE, TESTING & INSPECTION

- 4.1 Bidder shall confirm compliance with the BHEL's Standard Quality Plan (QP.no. PE-QP-999-558-E003) as attached with the specification without any deviations. At contract stage, the



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successful bidder shall submit the Quality Plan for BHEL/ ultimate customer's approval. In case bidder has reference Quality Plan agreed with ultimate customer, same can be submitted for specific project after award of contract for BHEL/ ultimate customer's approval. There shall be no commercial implication to BHEL on account of Quality plan approval.

4.2 All materials shall be procured, manufactured, inspected and tested by vendor/ sub-vendor as per approved quality plan.

4.3 The supplier shall perform all tests necessary to ensure that the material and workmanship conform to the relevant standards and comply with the requirements of the specification. Charges for all these tests for all the equipments & components shall be deemed to be included in the bid price.
In case ordered quantities are manufactured and offered for inspection in more than one lot, BHEL reserves the right to witness testing on all lots without any commercial implications.

5.0 PACKING

5.1 The material shall be packed to ensure protection against damage during transit, storage for prolonged periods and handling.

5.2 The wire shall be clean and dry prior to packaging.

5.3 The wire shall be supplied in packed coils. The tapes used for packing shall not bleed, leave residue, or damage the item when removed.

5.4 The inside coil diameters shall not be smaller than the minimum safe allowable bending diameter for wires.

5.5 The coil shall be placed in a corrugated paperboard/ fibreboard container/ mono carton.

5.6 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.

5.7 The dimensions of cartons shall be as per manufacturer's recommendations.

6.0 MARKING:

6.1 The wire shall carry the following information either stencilled on the reel or contained in a label attached to it:

6.2 Reference of IS 694;

6.3 Manufacturer's name, brand name or trade-mark;


6.4 Type of wire (FR or FRLS , if applicable, to be used) and voltage grade;


6.5 Number of cores & Nominal cross-sectional area of conductor;



6.6 Colour of wire

6.7 Length of wire on the reel or coil;

6.8 Number of lengths on the reel or coil (if more than one);


<div></div>		MANUFACTURER/ SUPPLIER NAME & ADDRESS		BIDDER/ ADDRESS		STANDARD QUALITY PLAN			SPEC. NO. :		DATE:		
		CUSTOMER :				QP NO.: PE-QP-999-558-E003, R01			DATE: 10.07.2020				
		PROJECT:				PO NO.:			DATE:				
		ITEM: PVC Wires		SYSTEM: STATION LIGHTING SYSTEM		SECTION: II			SHEET 1 OF 4				
SL NO.	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY		REMARKS	
1	2	3	4	5	M	6	7	8	9	*	M	C	N
1.0 RAW MATERIAL/BOUGHT OUT ITEMS													
1.1	CONDUCTOR	1. Physical properties	MA	Physical Tests	Sample/ Batch		IS:8130	IS:8130	Certificate of conformance	✓	P/ V	V	-
		2. Elec. Properties	MA	Electrical Tests	Sample/ Batch		-do-	-do-	-do-	✓	P/ V	V	-
1.2	PVC Compound for insulation	1. Material Properties	MA	Physical Tests	Sample/ Batch		IS 5831	IS 5831	Certificate of conformance	✓	P	V	-
2.0 ROUTINE/ ACCEPTANCE/ TYPE TEST													
2.1	PVC Wires	SURFACE DEFECTS	MA	Visual	IS 694 Annex A		IS:694	IS:694	Insp. And test report from manuf.	✓	P/ V	V	-
2.2		CONSTRUCTION OF WIRE	MA	Visual/ Measurement	-DO-		IS-694 (table-3) IS-8130 (table-2) Appd DS	IS-694 (table-3) IS-8130 (table-2) Appd DS	-DO-	✓	P/ V	V	-
2.3		TYPE TESTS	CR	Tests	One sample		One sample of	IS:694 (TABLE-1)	IS:694 (TABLE-1)	Test cert.	✓	P	W
1) Type test shall be conducted on first													
FOR CUSTOMER REVIEW & APPROVAL													
Doc No:													
Sign & Date													
Name													
Seal													
Reviewed by:													
Approved by:													
BIDDER/ SUPPLIER													
Sign & Date													
Seal													
BHEL													
ENGINEERING													
Name													
Sign & Date													
Checked by:													
Name													
MUDIT CHOPRA													
MEET SAGAR SINGH RAJPAL													
PRAVEEN DUTTA													
Reviewed by:													
R. K. JAISWAL													
Digitally signed by R. K. JAISWAL													
Date: 2020.07.30 13:56:25													

MANUFACTURER/ SUPPLIER NAME & ADDRESS		BIDDER/ ADDRESS		STANDARD QUALITY PLAN				SPEC. NO. :		DATE:			
		CUSTOMER : PROJECT: ITEM: PVC Wires		SYSTEM: STATION LIGHTING SYSTEM		SECTION: II		Q.P. NO.: PE-QP-999-558-E003, R01		DATE: 10.07.2020			
								P.O. NO.:		DATE:			
								SHEET 2 OF 4					
SL NO.	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	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	C	N	
					of each wire type & size								project Order supply from rate Contract. 2) Refer note 1 & 2
2.4		ACCEPTANCE TESTS a) Annealing test b) Conductor Resistance test c) Thickness of Insulation d) Tensile strength and elongation at break of insulation e) IR test f) HR Test g) Flammability test h) Oxygen index test i) Temperature index j) Halogen acid	MA	CR	IS 694 Annex A	IS 694 Annex A	IS 10810	Test Report	✓	P	W		Refer note-1

BHEL			
ENGINEERING		QUALITY	
Sign & Date	Name	Sign & Date	Name
 MUDIT CHOPRA <small>Chief Engineer, Quality Control</small>	MUDIT CHOPRA MEET SAGAR SINGH RAJPAL	 R. K. JAISWAL <small>Chief Engineer, Quality Control</small>	KUNAL GANDHI <small>Chief Engineer, Quality Control</small>
Prepared by:		Checked by:	
Reviewed by:		Reviewed by:	

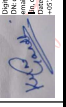
BIDDER/ SUPPLIER			
Sign & Date		Sign & Date	
Seal		Seal	
Reviewed by:		Reviewed by:	
Approved by:		Approved by:	

FOR CUSTOMER REVIEW & APPROVAL			
Doc No:		Sign & Date	
Reviewed by:		Name	
Approved by:		Seal	


MANUFACTURER/ SUPPLIER NAME & ADDRESS		BIDDER/ ADDRESS		STANDARD QUALITY PLAN				SPEC. NO :		DATE:			
		CUSTOMER : PROJECT: ITEM: PVC Wires		SYSTEM: STATION LIGHTING SYSTEM		QP NO.: PE-QP-999-558-E003, R01		DATE: 10.07.2020					
						PO NO.:		DATE:					
						SECTION: II		SHEET 3 OF 4					
SL NO.	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY	REMARKS			
1	2	3	4	5	6	7	8	9	10				
		gas k) Smoke density			M	C/ N		*	M	C	N		
2.5		ROUTINE TESTS	MA	-DO-	100%	-DO-	-DO-	✓	P/ V	V			
2.6		MARKING	MA	VISUAL	IS 694 Annex A	IS 694 Annex A	APPD DS	INSP. REPORT	P/ V	W			
3.0 PACKING													
	PACKING	Soundness of Packing against transit damage	Major	Visual	100%	100%	BHEL approved document	BHEL approved document	Inspection report	✓	P	W	-

NOTES:





- In case of FR type wires, FR properties test (Oxygen Index & Temp. Index) are also applicable.
- Type test report of successfully conducted test on First project of rate contract shall be referred for subsequent purchase orders & further conduction of type test is not required.
- Project specific QP shall be based on customer requirement. In case, any changes in QP commented by customer at contract stage shall be carried out by bidder without any implication to BHEL/ Customer.
- For export jobs, BHEL technical specification for seaworthy packing for export jobs is to be followed.
- Packing shall be suitable for storage at site in tropical climatic conditions. **Refer Annexure-I for packing specification.**
- Latest revision/ year of issue of all the standards (IS/ ASME/ IEC etc.) Indicated in QP shall be referred.
- BHEL reserves the right for conducting repeat test if required.
- After packing and prior to issue MDCC, photographs of items to be dispatched shall be sent to BHEL purchase group for review.

BHEL			
ENGINEERING		QUALITY	
Sign & Date	Name	Sign & Date	Name
 MUDIT CHOPRA MEET SAGAR SINGH RAJPAL	Checked by: R. K. JAIN	Sign & Date 10.07.2020	Name R. K. JAIN
Prepared by: MUDIT CHOPRA MEET SAGAR SINGH RAJPAL	Checked by: R. K. JAIN	Reviewed by: R. K. JAIN	Name R. K. JAIN
Reviewed by: PRAVEEN DUTTA	Reviewed by: R. K. JAIN	Approved by: R. K. JAIN	Name R. K. JAIN

FOR CUSTOMER REVIEW & APPROVAL			
Doc No:	Sign & Date	Name	Seal
Reviewed by:			
Approved by:			

	MANUFACTURER/ SUPPLIER NAME & ADDRESS			STANDARD QUALITY PLAN				SPEC. NO. :	DATE:					
	SL NO.	COMPONENT & OPERATIONS	CHARACTERISTIC S	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANC E NORMS	FORMAT OF RECORD			AGENCY	REMARKS
						6				9	*			
						M	C/ N							
						**								
	1	2	3	4	5			7	8		D	N		
				ITEM: PVC Wires				SYSTEM: STATION LIGHTING SYSTEM				SECTION: II		SHEET 4 OF 4
				PROJECT:				PO NO.:				DATE:		
				CUSTOMER :				QP NO.: PE-QP-999-558-E003, R01				DATE: 10.07.2020		

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

BHEL				FOR CUSTOMER REVIEW & APPROVAL			
ENGINEERING		QUALITY		BIDDER/SUPPLIER			
Sign & Date	Name	Sign & Date	Name	Sign & Date	Name	Seal	
 MUDIT CHOPRA MEET SAGAR SINGH RAJPAL	 KUNAL GANDHI						
 PRAVEEN DUTTA	 RITESH JAIN						
Prepared by:	MUDIT CHOPRA	Checked by:	KUNAL GANDHI	Reviewed by:			
Reviewed by:	PRAVEEN DUTTA	Reviewed by:	RITESH JAIN	Approved by:			

Letter head of Company (<Rs. 10 Cr value)

Ref.....

Date.....

To,

Bharat Heavy Electricals Limited

PEM, PPEI Building, Plot No 25,

Sector -16A, Noida (U.P)-201301

Subject: - Certification regarding local content

Reference: Bid No.- ..

Name of Package: .PVC WIRES

Dear Sir,

We hereby certify that items offered by us of(package name).....for.....(Project Name/Rate contract)..... meets the requirement of minimum local content in line with Cl. No.. and the Public Procurement (Preference to Make in India), Order 2017 dated-15.06.2017, 28.05.2018 & 29.05.2019.

We further confirms that details of location at which the local value addition is made will be our registered works at(address of the works)

Yours very truly

..... (authorized signatory of company)

..... (firm name)

authorized signatory
of company

An undertaking regarding Model Clauses (To be provided alongwith bid)

Reference:

RA/Bid no:

Item: PVC WIRE

Project: 1 X 660 MW BHUSAWAL TPP

TO WHOM SO IT MAY CONCERN

This is with reference to Ministry of Finance circular dated 23.07.20 reg. restriction under rule 144 (xi) of GFR.

“I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India. I hereby certify that M/sis not from such a country and is eligible to be considered against Bid/RA no:”

Sign & Signature

Date:

Place:

Delivery Schedule for PVC WIRES package for Bhusawal Project							
Sl. No.	Package name	DEPTT	BHEL Drawing No	Drawing Title	Primary/Secondary	Drg Sch for Vendors	Standard Delivery Terms for Supply Portion
1	PVC WIRES	ELECT	PE-V0-XXX-558-E801	DATA SHEET OF PVC WIRES	Primary	R-0 within 14 days from PO & subsequent revisions within 10 days of comments received from BHEL. BHEL shall furnish comments / approval on each submission within 18 days from receipt.	For Lot-1: Within Three (03) months from date of CAT-1 approval of Primary drawing/documents, subjected to drawing/document submission/re-submission schedule as stipulated, in case of any delay in submission/re-submission of Primary drawing/documents, then same shall be reduced from the given delivery period. Delay in BHEL's comments/approval beyond 18 days shall also be considered for delay analysis.
			PE-V0-XXX-558-E908	QUALITY PLAN OF PVC WIRES	Primary		For Subsequent Lots: Within 3 months from Lot clearance by BHEL.