

1139112/2022/PS-PEM-EL



1 X 660 MW SAGARDIGHI TPS

PE-PQ-445-558-E003

PRE-QUALIFYING REQUIREMENTS FOR

REV. 00

DATE: 21/10/2022

PVC WIRES

SHEET 1 OF 1

**ITEMS: PVC WIRES****SCOPE:**

Supply (Including Design): YES

Erection &amp; Commissioning: No

1	Vendor should be a BIS approved manufacturer of PVC insulated copper wire as per IS-694. or In case, vendor is not a BIS approved manufacturer of PVC insulated copper wire as per IS-694, then vendor can offer PVC insulated copper wire of any BIS approved make subject to submission of following documents:  a) Undertaking from BIS approved manufacturer (along with its valid BIS certificate) of offered make to get the inspection & testing of aforesaid wires carried out at manufacturer's works. b) Credentials of the manufacturer of offered make to meet the PQR requirements of S. No. 2 to 5 below. c) Vendor's Credentials to meet S. No. 6 below.
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.

PREPARED BY

  
21/10/22  
SOURABH TIWARI  
(MGR.)

CHECKED BY

  
21/10/22  
KAVITA GUPTA  
(MGR.)

REVIEWED BY

  
21/10/2022  
OMKAR KUMAR  
(DGM)

APPROVED BY

  
21/10/22  
DEBASISA RATH  
(DH- ELECT)

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

SL. NO.	ITEM CODE	ITEM DESCRIPTION	UOM	QUANTITY
1	558-16005-A	WIRE 1 X 2.5MM2 CU PVC	MTR	316000
2	558-16006-A	WIRE 1 X 4.0MM2 CU PVC	MTR	48000

## NOTE :

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

a) For 2.5 SQMM AL PVC wires:

RED: 52000 meters, YELLOW: 52000 meters, BLUE: 52000 meters, BLACK: 156000 meters, WHITE: 2000 meters, GREY: 2000 meters

b) For 4.0 SQMM CU PVC wires:

RED: 8000 meters, YELLOW: 8000 meters, BLUE: 8000 meters, BLACK: 24000 meters

*Saveri*  
21/10/22

*Handwritten signature*  
21/10/22

*Handwritten signature*  
21/10/2022

**Annexure-A: Delivery Schedule of PVC Wire for 1x660 MW WBPDCS SAGARDIGHI EXTN  
UNIT-V**

<b>BHEL Drawing No</b>	<b>Drawing Title</b>	<b>Primary/ Secondary</b>	<b>Drg Sch for Vendors</b>
PE-V0-XXX-558-E801	DATA SHEET OF PVC WIRES	<b>Primary</b>	R-0 within 14 days from PO & subsequent revisions within 10 days of comments received from BHEL.
PE-V0-XXX-558-E908	QUALITY PLAN OF PVC WIRES	<b>Primary</b>	

Supply: Within Three (03) months from date of CAT-1 approval of Primary drawing/documents or BHEL manufacturing clearance whichever is later, 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.

For Additional Quantity (if provided separately under QTY variation clause of contract): Within 3 months from Lot clearance by BHEL.

**Notes:**

- a. The end period specified is for completion of the deliveries. Deliveries to start progressively so as to meet the completion schedule.
- b. The delivery conditions specified are for contractual LD purposes, however BHEL may ask for early deliveries without any compensation thereof.
- c. Wherever schedule of drawings/documents submission / re-submission is stipulated in the Technical Specifications, same shall be superseded by delivery specified in NIT.
- d. Vendor to start manufacturing activities only after obtaining specific manufacturing clearance from BHEL Purchase group.
- e. In case BHEL manufacturing clearance date is later than the date of Cat-1 approval of Primary drawing/documents, then the contractual delivery period will be calculated by setting off the time gap between Cat-1 approval date of Primary drawing/documents and the manufacturing clearance date, from any delay by vendor in submission/re-submission of Primary drawing/documents.
- f. Delivery shall be completed as per the terms mentioned above and LD shall be applicable in case of delay beyond the above mentioned delivery terms.



**1 X 660MW SAGARDIGHI THERMAL POWER  
PROJECT**

**VOLUME-II**

**TECHNICAL SPECIFICATION FOR  
*PVC INSULATED WIRES***

**SPECIFICATION NO: *PE-TS-445-558-E003***

***REVISION: 00***



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

1139112/2022/PS-PEM-EL



**TECHNICAL SPECIFICATION  
FOR PVC INSULATED WIRES  
1 X 660MW SAGARDIGHI TPS**

SPECIFICATION NO. PE-TS-445-558-E003

VOLUME II

SECTION I

REVISION 00


DATE: 01.11.2022

**CONTENTS**

<b>SI. No.</b>	<b>DESCRIPTION</b>	<b>NO. OF SHEETS</b>
1.0	SECTION- I	
	COMPLIANCE CERTIFICATE	01
	SPECIFIC TECHNICAL REQUIREMENTS	01
	DATA SHEET – A	01
	DATA SHEET – C	01
	CHECKLIST FOR SUBMITTING TECHNICAL PQR DOCUMENTS	01
2.0	SECTION- II	
	STANDARD TECHNICAL REQUIREMENTS	02
	STANDARD QUALITY PLAN	04
	PACKING SPECIFICATION	01

*Total nos. of sheets including cover & separator sheets = 16 sheets*

1139112/2022/PS-PEM-EL

	<b>TECHNICAL SPECIFICATION FOR PVC INSULATED WIRES</b>	SPECIFICATION NO. PE-TS-445-558-E003	
	<b>1 X 660MW SAGARDIGHI TPS</b>	VOLUME II	
		SECTION I	
		REVISION 00	DATE: 01.11.2022


### 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

1139112/2022/PS-PEM-EL

	<b>TECHNICAL SPECIFICATION FOR PVC INSULATED WIRES</b>	SPECIFICATION NO. PE-TS-445-558-E003	
	<b>1 X 660MW SAGARDIGHI TPS</b>	VOLUME II	
		SECTION I	
		REVISION 00	DATE: 01.11.2022

## SECTION – I

	<b>TECHNICAL SPECIFICATION FOR PVC INSULATED WIRES</b>	SPECIFICATION NO. PE-TS-445-558-E003	
		VOLUME II	
	<b>1 X 660MW SAGARDIGHI TPS</b>	SECTION I	
		REVISION 00	DATE: 01.11.2022

## 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."

	<b>TECHNICAL SPECIFICATION FOR PVC INSULATED WIRES</b>	SPECIFICATION NO. PE-TS-445-558-E003	
	<b>1 X 660MW SAGARDIGHI TPS</b>	VOLUME II	
		SECTION I	
		REVISION 00	DATE: 01.11.2022

### 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 : High conductivity  
untinned annealed copper
- 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)



**TECHNICAL SPECIFICATION  
FOR  
PVC INSULATED WIRES**

SPECIFICATION NO. PE-TS-445-558-E003

VOLUME II

SECTION I

REVISION 00

01.11.22

**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	



**TECHNICAL SPECIFICATION  
FOR  
PVC INSULATED WIRES**

SPECIFICATION NO. PE-TS-445-558-E003

VOLUME II

SECTION I

REVISION 00

01.11.22

**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	•Routine test	Yes [ ]	No [ ]
		•Type test	Yes [ ]	No [ ]
		• 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 •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 •Purchase order submitted and	Yes [ ]	No [ ]
		•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 •Single or multiple Purchase order copies submitted and	Yes [ ]	No [ ]
		•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 [ ]

1139112/2022/PS-PEM-EL



**TECHNICAL SPECIFICATION  
FOR  
PVC INSULATED WIRES**

SPECIFICATION NO, PE-TS-445-558-E003

VOLUME II

SECTION II

REVISION 00

01.11.22

**SECTION-II**

**STANDARD TECHNICAL REQUIREMENTS**



**TECHNICAL SPECIFICATION  
FOR  
PVC INSULATED WIRES**

SPECIFICATION NO. PE-TS-445-558-E003

VOLUME II

SECTION II

REVISION 0

01.11.22

### 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



**TECHNICAL SPECIFICATION  
FOR  
PVC INSULATED WIRES**

SPECIFICATION NO. PE-TS-445-558-E003

VOLUME II

SECTION II

REVISION 0

01.11.22

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);

	<b>MANUFACTURER/ BIDDER/ SUPPLIER NAME &amp; ADDRESS</b>	<b>STANDARD QUALITY PLAN</b>				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
					M	C/ N			9	* D	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	-	BIS APPROVED MAKE
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

BHEL					
ENGINEERING			QUALITY		
	Sign & Date	Name		Sign & Date	Name
Prepared by:	MUDIT CHOPRA MEET SAGAR SINGH RAJPAL	MUDIT CHOPRA MEET SAGAR SINGH RAJPAL	Checked by:	 Digitally signed by Kunal Gandhi Date: 2020.07.20 19:24:56 +05'30'	KUNAL GANDHI
Reviewed by:	PRAVEEN DUTTA	PRAVEEN DUTTA	Reviewed by:	Digitally signed by Ritesh Kumar Jaiswal Date: 2020.07.30 13:36:25 +05'30'	R. K. JAISWAL

BIDDER/ SUPPLIER	
Sign & Date	
Seal	

FOR CUSTOMER REVIEW & APPROVAL			
Doc No:			
	Sign & Date	Name	Seal
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, R01		DATE: 10.07.2020	
			PROJECT:				PO NO.:		DATE:	
			ITEM: PVC Wires		SYSTEM: STATION LIGHTING SYSTEM		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
					M	C/ N			9	* D	M	C	N	


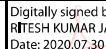
2.5		ROUTINE TESTS	MA	-DO-	100%	-	-DO-	-DO-	-DO-	√	P/V	V	
2.6		MARKING	MA	VISUAL	IS 694 Annex A	IS 694 Annex A	APPD DS	APPD DS	INSP. REPORT	√	P/V	W	

**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				BIDDER/ SUPPLIER		FOR CUSTOMER REVIEW & APPROVAL			
ENGINEERING		QUALITY		Sign & Date		Doc No:			
Sign & Date	Name	Sign & Date	Name	Seal		Sign & Date	Name	Seal	
Prepared by: MUDIT CHOPRA MEET SAGAR SINGH RAJPAL	MUDIT CHOPRA MEET SAGAR SINGH RAJPAL	Checked by: 	KUNAL GANDHI			Reviewed by:			
Reviewed by: PRAVEEN DUTTA	PRAVEEN DUTTA	Reviewed by: 	R. K. JAISWAL			Approved by:			

13:37:53 +05'30'

	<b>MANUFACTURER/ BIDDER/ SUPPLIER NAME &amp; ADDRESS</b>		<b>STANDARD QUALITY PLAN</b>				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 4 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					D	M	

**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						BIDDER/ SUPPLIER		FOR CUSTOMER REVIEW & APPROVAL			
ENGINEERING			QUALITY			Sign & Date		Doc No:			
	Sign & Date	Name		Sign & Date	Name	Seal			Sign & Date	Name	Seal
Prepared by:	MUDIT CHOPRA MEET SAGAR SINGH RAJPAL	MUDIT CHOPRA MEET SAGAR SINGH RAJPAL	Checked by:		KUNAL GANDHI				Reviewed by:		
Reviewed by:	PRAVEEN DUTTA	PRAVEEN DUTTA	Reviewed by:	RITESH KUMAR JAIJSWAL				Approved by:			

4. 4010 Number: 84549701144751830311  
 5000491872030463255044959595005  
 60448, Co. BHEL, E-10, KUMAR JAIJSWAL  
 Date: 20/07/20 13:38:39 +05:30

**ANNEXURE-I**  
**PACKING SPECIFICATIONS- PVC WIRES PACKAGE**

**PACKING**

1. The material shall be packed to ensure protection against damage during transit, storage for prolonged periods and handling.
2. The wire shall be clean and dry prior to packaging.
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.
4. The inside coil diameters shall not be smaller than the minimum safe allowable bending diameter for wires.
5. The coil shall be placed in a corrugated paperboard/ fibreboard container/ mono carton.
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.
7. The dimensions of cartons shall be as per manufacturer's recommendations.

1 X 660 MW SAGARDIGHI TPS

Price Variation Formulae for Wire -Annexure-I

1. Prices shall be variable as per price variation formulae given below.  
The price variation shall be limited to + 20% of 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 at point no.3.

2. Prices shall be variable as per following PVC formulae:

$$P = P_0 + CuF(Cu - Cu_0) + CCFCu (PVCC - PVCC_0)$$

Where,

P is the as on date price and  $P_0$  is the base month price

Cu and PVCC are the copper and insulation prices respectively of the current month.

$Cu_0$  and  $PVCC_0$  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 point no.3

3. Variation factor value for CuF & CCFCu as applicable shall be as following.

Cable Sizes	2.5 sq.mm	4 sq.mm
IEEMA factor for Insulation (CCFCu) as per IS 694 (Insulation thickness ratios considered) (MT/Km)	0.0158	0.0217
IEEMA factor for CONDUCTOR (CuF) (MT/Km)	0.023	0.036

4. Base date for prices:

**Initial Price (As per IEEMA) for- $Cu_0$ , &  $PVCC_0$ :**

Base Date shall be- 1<sup>st</sup> working day of the previous month to the date of issue of tender enquiry.

**Final Price (as per IEEMA) for- Cu, & 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.

5. PVC shall be payable within contractual delivery period (including any extension thereto).

Soumit  
09/11/22

Sanjay  
09/11/22

Praveen Dms  
09/11/2022

# 1 X 660 MW WBPDCS SAGARDIGHI EXTN UNIT V

GeM BID NO. -....., Dt:-

## **ANNEXURE -II (INSTRUCTIONS TO PACKING LIST)**

For faster verification of bills, successful bidder to submit detailed Bill of Material (BOM) at the time of drawings/ documents submission after placement of PO. Each item of the BOM to be uniquely identified with item code no. or item Sl. No. Supplier to ensure that all items which will find separate mention in the packing list are covered in this detailed BOM.

Supplier to also give the following undertaking in the BOM:

“The BOM provided herewith completes the scope (in content and intent) of material supply under PO No. .... Dated ..... Any additional material which may become necessary for the intended application of the supplied items/package will be supplied free of cost in most reasonable time.

Packing List must indicate:

- a) Packing size
- b) Gross weight and net weight of each package
- c) Contents of the package with cross reference to BOM item code no. / Sl. No.
- d) Quantity of each items separately.

The packing list must cover all the BOM items.

Supplier to give following undertaking in the packing list:

The Packing list provided herewith is as per BOM approved under PO No. ----

**ANNEXURE B**  
**1 X 660 MW WBPDCS SAGARDIGHI EXTN UNIT V**

**GeM BID NO. -----, Dt:- --**

**Letter head of Company**

Ref.....

Date.....

To,  
Bharat Heavy Electricals Limited  
PEM, PPEI Building, Plot No 25,  
Sector -16A, Noida (U.P)-201301

**Subject: - Certification regarding local content**

Dear Sir,

We hereby certify that items offered by us of ----- for **1 X 660 MW WBPDCS SAGARDIGHI EXTN UNIT V** meets the requirement of minimum local content in line with clause no. -- of NIT and the Public Procurement (Preference to Make in India), Order 2017 dated-15.06.2017, 28.05.2018, 29.05.2019, 04.06.2020 & 16.09.2020. The Percentage (%) of Local content is .....%.

We further confirm 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

**ANNEXURE C**  
**1 X 660 MW WBPDC SAGARDIGHI EXTN UNIT V**

**GeM BID NO. -....., Dt:-**

**Letter head of Company**

Ref.....

Date.....

To,  
Bharat Heavy Electricals Limited  
PEM, PPEI Building, Plot No 25,  
Sector -16A, Noida (U.P)-201301

**Subject: - Certification regarding Land Border**

Dear Sir,

I have read the clause regarding restrictions of procurement from a bidder of a country which shares a land border with India. I hereby certify that M/s ..... (Organization name) is not from such a country and is eligible to be considered.

**Note :- Bidder is requested to furnish the above undertaking on company letterhead from the highest competent authority at your end (i.e Owner, partner, CMD, Director, company secretariat etc.).**

Yours very truly

..... (authorized signatory of company)

..... (firm name)

authorized signatory  
of company

## **ANNEXURE D : RISK & COST PURCHASE**

### **DEFAULT/ BREACH OF CONTRACT, INSOLVENCY AND RISK PURCHASE**

In case of delays (beyond the maximum late delivery period as per LD clause) in supplies, or if there be defective supplies or non-fulfilment of any other terms and conditions of the Contract as enumerated subsequently in this clause, then, without prejudice to its right to recover any expenses, losses or damages to which the Buyer may be put to incur or sustain by reason of the Seller/Contractor's default or breach of Order/Contract or to suspend business dealings with the Seller/Contractor in terms of the Buyers' Guidelines for Suspension of Business Dealings as applicable from time to time, the Buyer shall also be entitled to cancel the Order/ Contract either in whole or portion thereof without compensation to Seller. On the occurrence of any of the acts/omissions mentioned below, the Buyer may if it so desires, procure upon such terms and in such manner as deemed appropriate, plant/ equipment/ stores not so delivered or others of similar description where plant/ equipment/ stores exactly complying with particulars are not, in the opinion of the Buyer (which shall be final), readily procurable, at the risk and cost of the Seller.

The Seller shall be liable to the Buyer for any excess costs incurred thereof and the Seller shall continue the performance of the Order/Contract to the extent not cancelled under the provisions of this clause. The Seller shall on no account be entitled to any gain on such repurchases. If the Bidder does not agree to this Risk Purchase clause, BHEL reserves the right to reject the bid/offer of the Bidder.

The order/contract may be cancelled in whole or part thereof and Risk & Cost Clause in line with terms and conditions of PO/Contract may be invoked by the Buyer in any of the following cases:

- i. If the Seller/Contractor fails to deliver the goods or materials or any installment 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 the Seller including unexecuted portion of supply does not appear to be executable within balance period available;
- ii. delivers goods or materials not of the contracted quality and failing to adhere to the contract specifications/execution methodology;
- iii. withdrawal from or repudiation/abandonment of the supply/services by the 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 reasons attributable to the Seller;
- v. Termination of Contract on account of any other reason(s) attributable to the Seller.
- vi. Assignment, transfer, sub-letting 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, in the event of death or insanity of the Seller.
- viii. If the Seller/Contractor being an individual or if a partnership firm 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 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 the 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.

BHEL's right to go for Risk and Cost, Calculation of Risk and Cost amount & LD, recovery options to BHEL are given in detail in Annexure-V hereto.

## ANNEXURE-V

### (RISK AND COST CLAUSE)

1. 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-a-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.

#### **1.1 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

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).

#### **1.2 \* 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.

### **1.3 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
- 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.

### **2. 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.*

**PEM/PG-I BHEL, NOIDA**  
**SPECIAL CONDITIONS OF CONTRACT (REV.00) DATED 28-04-2021**  
**1X 660 MW SAGARDIGHI TPP EXTENSION UNIT 5**



These Conditions shall be read and construed along with General Condition of Contract enclosed along with the tender enquiry. In case of any conflict or inconsistency, the condition given in special condition of contract shall prevail over the general condition of the contract and its corrigenda, if any.

- 1.0 **Project Name** : Sagardighi Thermal Power Extension Project Phase- III, Unit 5 [1X660MW, Supercritical]
- 2.0 **Customer** : West Bengal Power Development Corporation Limited.
- 3.0 **Consignee-Ship to Address {to be mentioned in LR/RR, consignment note}** : Construction Manager-BHEL Site office Unit-V  
Sagardighi Thermal Power Project  
P.O. Manigram,  
District - Murshidabad, PIN:742237, West Bengal, India
- 4.0 **Consignee/Buyer's Name (Bill To) To be mentioned in Supplier's Invoice** : For Supply Packages: (Purchase order by BHEL-PEM):  
Bharat Heavy Electricals Limited  
Power Sector – Project Engineering Management  
PPEI Building, Plot No.25, Sector-16A,  
Noida-201301 (Uttar Pradesh)  
GSTIN No. – 09AAACB4146P2ZC
- For Turnkey Packages: (LOA by BHEL-PEM and PO by BHEL-PSER, Sagardighi site):  
Construction manager, BHEL Site office,  
1X660 MW WBPDCS SAGARDIGHI TPP EXTENSION UNIT 5  
P.O. Manigram, District - Murshidabad, PIN:742237, West Bengal, India  
BHEL PSER GSTIN No.- 19AAACB4146P1ZC
- 5.0 **BHEL Site Office Address** : Construction Manager  
BHEL site office Unit-V  
Sagardighi Thermal Power Project  
P.O. Manigram, District - Murshidabad, PIN:742237, West Bengal, India
- 6.0 **Customer Address** : Deputy General Manager (I/C projects)  
Sagardighi Thermal Power Project  
P.O. Manigram,  
District - Murshidabad, PIN:742237, West Bengal, India
- 7.0 **Mode of Dispatch** : By Rail/Road on Door Delivery and freight Pre-Paid Basis.  
Nearest Railway Station :- Manigram
- 8.0 **Road Permit/Way Bill Required** : Yes. Supplier to generate the e-waybill at their end and furnish the scanned copy of e-waybill along with dispatch document to BHEL immediately on dispatch. In case of default, supplier shall be held responsible.
- 9.0 **Project Consultant** : DCPL
- 10.0 **Material Inspection Procedure** : All equipment's/items under inspection category shall be sub categorized as follows:
- CAT-A: QAP will be submitted to WBPDCS / DCPL for approval. Inspection activities will be jointly witnessed by BHEL QC / TPIA and WBPDCS/TPIA of WBPDCS as per approved QAP witness/hold points.
- CAT-B: QAP will be submitted to WBPDCS / DCPL for approval. Inspection shall be carried out by BHEL QC/TPIA only.
- CAT-C: These are non QAP items and shall be accepted by BHEL QC/ TPIA on the basis of review of manufacturer's test certificate / certificate of compliance (COC) / internal

**PEM/PG-I BHEL, NOIDA**  
**SPECIAL CONDITIONS OF CONTRACT (REV.00) DATED 07-01-2021**  
**1X 660 MW SAGARDIGHI TPP EXTENSION UNIT 5**



inspection report/ guarantee certificate etc. issued by the equipment manufacturer itself confirming all the technical and contractual requirements. For these items, submission of QAP and approval by WBPDCCL are not envisaged. However, quality of these items must be ensured through respective BHEL QC.

Vendor to give five (05) days advance notice for stage inspection and ten (10) days for final inspection.

Details for Inspection procedure involving the TPIA shall be intimated later by BHEL/WBPDCCL.

- 11.0 **Clearance for Dispatch of materials** : MDCC will be issued by BHEL/WBPDCCL.
- 12.0 **Prior Dispatch intimation to BHEL Site Office and Underwriters** : YES  
NOTE :- One set consisting dispatch documents indicating the items dispatched (with their gross and net weights) and after informing the underwriters about the value of consignment and dispatch details to be sent to following  
a) BHEL Site Office  
b) BHEL- PEM, PPEI - Noida(U.P)  
c) Insurance Co.  
It is Vendor's responsibility to ensure availability of trucks well in advance where consignment will require more number of trucks to be deployed for dispatch. No concession for non-availability of trucks, after having given dispatch clearance shall be admissible.
- 13.0 **Transit Insurance** : By BHEL (vendor to intimate the underwriters quoting the insurance policy no. as below)
- 14.0 **Insurance Policy No. For intimation to Underwriters (Contact Person)** : Policy details and number shall be informed later
- 15.0 **a. Customer GST No.** : 19AABCT3027C1ZQ  
**b. BHEL-PEM GST No.** : 09AAACB4146P2ZC  
**c. BHEL PSER GST No.** : 19AAACB4146P1ZC
- 16.0 **Unloading at site** : BY BHEL site for supply packages.  
(The supplier shall give LR wise Gross Wt. Of the consignment for the purpose of handling the consignment by BHEL site loading/unloading Contractor.)  
By Vendor for turnkey packages (Scope consists of supply and Erection & Commissioning).  
  
NOTE: - Please note that unloading of materials at site shall take at least 3-4 days. As such, transporters to be advised suitably before dispatch of materials in this regard. Also, no claim on a/c of delay in unloading shall be entertained.
- 17.0 **Storage and handling at site** : By BHEL site for supply packages  
  
By Vendor for Turnkey packages\* (Scope consists of supply and Erection & Commissioning).

**PEM/PG-I BHEL, NOIDA**  
**SPECIAL CONDITIONS OF CONTRACT (REV.00) DATED 07-01-2021**  
**1X 660 MW SAGARDIGHI TPP EXTENSION UNIT 5**



\*Any shortages or damages during unloading and handling at site, including at the time of erection and commissioning, shall be made good by the Seller/ Contractor at his risk and cost, to meet the project schedule. In case of faults/ discrepancies in any material, component, sub-assembly, assembly, etc., the same shall be supplied/ replenished free of cost to enable the equipment to be put to service.

- 18.0 **Movement of Material within Site** : By BHEL/BHEL appointed agency for supply packages  
By Vendor for Turnkey packages Scope consists of supply and Erection & Commissioning).  
No movement of loose materials shall be allowed. Items are to be properly packed to ensure proper and safe transportation & storage at site.
- 19.0 **Paying Authority** : For packages where PEM will issue the Purchase Order: BHEL PEM will be the paying authority.  
For packages where PEM will issue only the LOA and Purchase Order shall be issued by PSER: BHEL Sagardighi Site /PSER will be the paying Authority.
- 20.0 **Documents Required (for supply + freight payment)** : Original + 2 Copies of the following documents: -  
1. Invoice checklist duly signed and stamped  
2. Invoice  
3. Receipted LR (signed & stamped)/ confirmation from site regarding receipt of packages/ Boxes original/ copy)  
4. Packing List – Clearly showing number of packages, gross weight net weight.  
5. Copy of BHEL MDCC  
6. Guarantee Certificates as per GCC.  
7. Copy of insurance Intimation.  
8. PVC Calculation, and copy of all applicable indices, if PVC applicable as per NIT  
9. Transporters document indicating the freight amount  
10. Document as proof of Declaration by supplier that GST payment has been made on GST portal to be submitted for GST claim.  
11. For claiming PVC if applicable as per NIT, invoice to be submitted on PO unit rates and PVC to be claimed as separate debit/credit note. The debit/ credit note to be submitted along with the main invoice.
- 21.0 **Documents Required (for MRC payment)** Original + 2 Copies of the following documents:-  
a. Invoice  
b. Copy of MRC  
c. Proof of submission of final documents ( 6 sets)  
d. O&M Manuals (2CD's + 15 Hardcopies)  
NOTE:-  
1. Customer or his representative will be involved for inspection as per approved Quality Plan.  
2. MDCC will be issued by BHEL in line with approved BBU.  
3. The supplier during inspection of Main supplies & Mandatory Spares by BHEL/BHEL TPIA, WBPDC/ WBPDC-L-Nominee shall obtain separate MDCC for Main Supplies & Separate MDCC for Mandatory Spares in line with the approved Billing Break Up.  
4. It is deemed that copy of complete set of dispatch documents along with necessary TCs will be submitted to BHEL on the date of dispatch.
- 22.0 **Material Certificate(MRC)** : Responsibility to obtain MRC from customer at site  
a) For Supply Packages:- For supply packages BHEL- PEM will arrange MRC from BHEL Site. However supplier/contractor shall provide support for verification of material at site, if required.  
b) For Turnkey Packages:- By Vendor, where Supply/ Erection and commissioning is under Vendor's scope.

**PEM/PG-I BHEL, NOIDA**  
**SPECIAL CONDITIONS OF CONTRACT (REV.00) DATED 07-01-2021**  
**1X 660 MW SAGARDIGHI TPP EXTENSION UNIT 5**



- 23.0 **Dispatch markings** : Each box shall be marked with Capital Letters in "Red" indicating : Main Supply OR Commissioning spare OR Mandatory Spare for 1X 660 MW SAGARDIGHI TPP EXTENSION UNIT 5, P.O. Manigram, District - Murshidabad, PIN:742237, West Bengal, India Each package/Drum delivered under the Contract shall be marked by Supplier as per details listed below and such marking must be distinct and in English Language (all previous irrelevant markings being carefully obliterated) for purposes of identification. Each and every box(package) shall be marked with following:-
- 1) Name and address of the consignee.
  - 2) Project Reference.
  - 3) Name of Supplier
  - 4) P.O. reference no. along with package name.
  - 5) Packing No. (1/10, 2/10, 3/10 when there are 10 packages for one consignment)
  - 6) The Gross weight and net weight of the package.
- Besides above necessary, packing shall bear a special marking "TOP", "BOTTOM", "DO NOT TURN OVER", "DEEP DRY", "HANDLE WITH CARE", etc.
- IMPORTANT
- Two copies of respective standard manufacturer's erection instruction /operation manual shall be provided for immediate reference by BHEL site.

The Copy of complete Packing list for the consignment must be put inside the Box/Boxes.

12 copies of supplier's Erection/ Instruction manuals to be given to the BHEL, PEM, PPEI-Noida and 3 copies to BHEL, PSER, Sagardighi site within 30 days of dispatch for handing over to Customer/BHEL site.

Items like pumps, Valves, Hoists, Cranes, etc. shall essentially have O&M Manuals and E&C guidelines duly enclosed in the packing box.

- 24.0 **Commissioning Spares** : The commissioning spares shall be properly packed separately in separate box and each spare shall be properly tagged giving details i.e. dispatch (to match the description given in the packing slip) to facilitate their proper identification. One Copy of Packing list must be put inside the Box.

- 25.0 **Mandatory Spares** : Supplies of spares will be separate from main supply and separate manufacturing clearance shall be given for mandatory spares. The Mandatory spares shall be properly packed separately in separate boxes & boxes should be painted in red indicating Mandatory Spares in bold letters and each spare shall be properly tagged giving details i.e. item number of the equipment in line with the WBPDCI approved BBU for Mandatory spares & Number per item (to match the description given in the packing slip) to facilitate their proper identification by ultimate customer M/s WBPDCI. One Copy of Packing List must be put inside the BOX along with Manufacturing drawing no. reference, Catalogue reference etc.

Note :- MDCC for mandatory Spares shall be issued only after receipt of detailed list of mandatory spares & photographs before final packing clearly showing mandatory spares with due tagging as per packing list ( to be sent over mail/CD). Separate dispatch clearance will be issued for the mandatory spares in line with availability of customer's stores at site.

- 26.0 **Statutory Clearance and License (For turnkey packages)** : Bidder has to arrange and obtain all statutory clearances and required licenses at their own cost without any financial implication on BHEL.

- 27.0 **Health, Safety and Environment (HSE) (For turnkey packages)** : The bidder will comply with HSE (Health, Safety & Environment) requirements of BHEL and follow all applicable Operational Control Procedures (OCPs) within quoted rate/ price.  
Refer Document Number: HSEP:14-SGD Rev.: 02, DATE: 01.09.2020. Refer Document

**PEM/PG-I BHEL, NOIDA**  
**SPECIAL CONDITIONS OF CONTRACT (REV.00) DATED 07-01-2021**  
**1X 660 MW SAGARDIGHI TPP EXTENSION UNIT 5**



Title: Health, Safety and Environment Plan for Site Operation by Subcontractors for Sagardighi.

**28.0 Responsibilities with regard to employment of Labour etc. (For turnkey packages)**

: Recruitment of Local Labour:

Local labours shall be engaged for unskilled work. Preference may also be given for appointment of local people in semiskilled and skilled categories, if such suitable persons are available.

Labour Laws and Local Regulations:

The Contractor shall abide by the prevailing labour laws and shall have to obtain labour license from the appropriate authority as per the law at his cost and shall indemnify the Purchaser about his financial and other obligations arising out of labours/workers employed by him. On obtaining the labour license, the Contractor at appropriate time shall submit certified photocopy of the same to the Purchaser. The Contractor and its sub-contractor (s) shall possess valid PF & ESI Code.

Wages and Working Hours:

The Contractor shall pay rates of Wages and observe hours and conditions of labour not less favourable than those established for the trade or industry in the district where the work is carried out but not less than the applicable minimum wages or by machinery of negotiation or arbitration to which the parties are organizations of employers and trade union's representatives respectively of substantial proportions of the employers and workers engaged in the trade or industry in the district. In the absence of any rates of Wages, hours or conditions of labour so established the Contractor shall pay rates of wages and observe hours and conditions of labour which are not less favorable than the general levels of wages and hours and conditions observed by other contractor whose general circumstances in the trade or industry in which he is engaged are similar.

Contractor to furnish return of labour employed:

The Contractor shall, if required by the Engineer, deliver to the Engineer or to his office a return in such form and at such intervals as the Engineer may prescribe showing in detail category-wise number of classes of labour from time to time employed by the Contractor on the Site and such information respecting construction machinery as the Engineer may require.

The Contractor shall make his own arrangements for the engagement of all labour and provide on the Site in so far as the Contract otherwise provides, for the transport, housing, feeding and payment thereof.

The Contractor shall, so far as is reasonably practical, having regard to local conditions, provide on the Site, to the satisfaction of the Engineer an adequate supply of drinking and other water for the use of his staff and labour.

Other Requirements:

- a) The Contractor shall not, otherwise than in accordance with the Statutes, Ordinances and Government Regulation or Orders for the time being in force, import, sell, give, barter or otherwise dispose of any alcoholic liquor, or drugs, or permit or suffer any such importation, sale, gift, barter or disposal by his sub-contractor(s), agents of employees.
- b) The Contractor shall not give, barter or otherwise dispose of to any person or persons any arms or ammunition of any kind or permit the same as aforesaid.
- c) The Contractor shall in all dealings with labour in his employment have a due regard to all recognized festivals, days of rest and religious or other customs.

**PEM/PG-I BHEL, NOIDA**  
**SPECIAL CONDITIONS OF CONTRACT (REV.00) DATED 07-01-2021**  
**1X 660 MW SAGARDIGHI TPP EXTENSION UNIT 5**



- d) In the event of any outbreak of illness of an epidemic nature, the Contractor shall comply with and carry out such regulations, orders and requirements as may be made by the Government, or the local municipal or sanitary authorities for the purpose of dealing with and overcoming the same.
- e) The Contractor shall at all times take all reasonable precautions to prevent any unlawful riotous or disorderly conduct by or amongst his employees and for the preservation of peace and protection of persons and property in the neighborhood of the Site against the same.
- f) The Contractor shall be responsible for observance by his sub-contractor(s) of the foregoing provisions.

Contractor shall deploy only qualified and experienced engineers/ supervisors. They shall have professional approach in executing the work.

The contractor's supervisory staff shall execute the work in the most professional manner in the stipulated time. Accuracy of work and aesthetic finish are essential part of this contract. They shall be responsible to ensure that the assembly and workmanship conform to dimensions and tolerances given in the drawings/instructions given by BHEL engineer from time to time. The supervisory staff employed by the contractor shall ensure proper outturn of work and discipline on the part of the labour put on the job by the contractor. Also in general they should see that the works are carried out in a safe and proper manner and in coordination with other labour and staff employed directly by BHEL or other contractors of BHEL or BHEL 's client.

If at any time, it is found that the contractor is not in a position to deploy the required engineers/supervisors/workmen due to any reason, BHEL shall have the option to make alternate arrangements at the contractor's risk and cost.

**29.0 Type of Project**

Project Import Route (Non Mega)

**30.0 Taxes and duties**

- :
- i) Concessional Custom duty in line with the Essentiality certificate issued by customer shall be applicable for packages for which CIF content is available as per NIT.
  - ii) GST- CGST/SGST/IGST: as per GCC Rev 07 or further revisions of BHEL PEM GCC as applicable for the specific Tender enquiry.
  - iii) Vendor has to comply the BOCW norms as per details of activities noted vide relevant Annexure of NIT.

Information as per Annexure-1 shall be provided by supplier in the GST compliant invoice.

Vendor may collect TCS under section 206C(1H) of Income Tax Act,1961 if applicable. In case, vendor collects TCS under section 206C(1H) of Income Tax Act,1961, following compliance is required.

- a) TAN and PAN of vendor should appear in all invoices/claims. Copy of TAN /TCS registration is to be submitted.
- b) Amount of TCS and Assessable value on which TCS has been calculated should be specified clearly in the invoice.
- c) You shall be required to submit certificate of TCS in Form no. 270 within 15 days from the due date for furnishing the statement of tax collected at the source.

In case, you do not collect TCS under section 206C(1H) of Income Tax Act, 1961, following declaration is to be submitted alongwith each invoice: -

**PEM/PG-I BHEL, NOIDA**  
**SPECIAL CONDITIONS OF CONTRACT (REV.00) DATED 07-01-2021**  
**1X 660 MW SAGARDIGHI TPP EXTENSION UNIT 5**



"I/We hereby declare that I/We are not required to collect TCS" under section 206C(1H) of Income Tax Act,1961, on this bill.

In event of failure to comply with the provisions of the Act, or proper certificate not issued, or if tax collected but not remitted to the Government, or for any other reason and thereby causing loss to BHEL, the same shall be recoverable from the vendor with applicable interest.

Vendor shall comply with all statutory amendment/notifications in this respect

**31.0 Construction power &  
Construction water**

Construction power shall be provided on free of charge. Construction water shall be provided free of cost. However, metering arrangement shall be established for measuring electricity & water consumption.

**PEM/PG-I BHEL, NOIDA**  
**SPECIAL CONDITIONS OF CONTRACT (REV.00) DATED 07-01-2021**  
**1X 660 MW SAGARDIGHI TPP EXTENSION UNIT 5**



**ANNEXURE -1 TO SCC**

Excerpts from Chapter VI for compliance of GST Invoice as per Rule 46  
 TAX INVOICE, CREDIT AND DEBIT NOTES

46. Tax invoice.- Subject to rule 54, a tax invoice referred to in section 31 shall be issued by the registered person containing the following particulars, namely,-
- (a) name, address and Goods and Services Tax Identification Number of the supplier;
  - (b) a consecutive serial number not exceeding sixteen characters, in one or multiple series, containing alphabets or numerals or special characters- hyphen or dash and slash symbolised as "-" and "/" respectively, and any combination thereof, unique for a financial year;
  - (c) date of its issue;
  - (d) name, address and Goods and Services Tax Identification Number or Unique Identity Number, if registered, of the recipient;
  - (e) name and address of the recipient and the address of delivery, along with the name of the State and its code, if such recipient is un-registered and where the value of the taxable supply is fifty thousand rupees or more;
  - (f) name and address of the recipient and the address of delivery, along with the name of the State and its code, if such recipient is un-registered and where the value of the taxable supply is less than fifty thousand rupees and the recipient requests that such details be recorded in the tax invoice;
  - (g) Harmonised System of Nomenclature code for goods or services;
  - (h) description of goods or services;
  - (i) quantity in case of goods and unit or Unique Quantity Code thereof;
  - (j) total value of supply of goods or services or both;
  - (k) taxable value of the supply of goods or services or both taking into account discount or abatement, if any;
  - (l) rate of tax (central tax, State tax, integrated tax, Union territory tax or cess);
  - (m) amount of tax charged in respect of taxable goods or services (central tax, State tax, integrated tax, Union territory tax or cess);
  - (n) place of supply along with the name of the State, in the case of a supply in the course of inter-State trade or commerce;
  - (o) address of delivery where the same is different from the place of supply;
  - (p) whether the tax is payable on reverse charge basis; and
  - (q) signature or digital signature of the supplier or his authorized representative:
- (r) Quick Reference code, having embedded Invoice Reference Number (IRN) in it, in case invoice has been issued in the manner prescribed under sub-rule (4) of rule 48".

	PREPARED BY	CHECKED BY	REVIEWED BY	APPROVED BY
Name:	TARUN ARYA	ASHUTOSH SHARMA	HASEEN AHMED	B. L. BEDI
Designation	DY MANAGER /PEM (PG I)	DY MANAGER /PEM (PG I)	SR. MANAGER /PEM (PG I)	AGM(DH)/ PEM (PG I&II)
Signature				
Date				