

PEM / PG-II, BHEL, PPEI, NOIDA

SPECIAL CONDITIONS OF CONTRACT (SCC) Rev-1

1X800 MW NORTH CHENNAI STAGE-III (BTG) (Job No. 423)

TAMILNADU GENERATION & DISTRIBUTION CORPORATION LTD (TANGEDCO)

These Conditions shall be read and construed along with General Conditions of Contract (GCC) rev.06 & GST related Corrigendum to GCC rev.06, to be enclosed along with the tender enquiry. In case of any conflict or inconsistency, the conditions given in SCC shall prevail over the GCC and its corrigendum.

SI No.	Title	Description
1.	Project Name	1X800 MW North Chennai Stage-III (BTG)
2.	Nature of project & Type of Bidding	Non-Mega & ICB (International Competitive Bidding)
3.	Customer Order Ref No	Lr.No. CE/Proj/SE/T&H(P)/EV/AEE/F.NCTPS Stg-III-BTG/D.13/16 DTD 29.01.2016
4.	BHEL's Customer	Tamil Nadu Generation & Distribution Corporation Ltd (TANGEDCO), Chief Engineer / Projects, 5th Floor, Western Wing, NPKRR Maaligai, 144, Anna Salai, Chennai 600 002
5.	Customer GST No.	TANGEDCO GST REGN NO : - 33AADCT4784E1ZC
6.	Customer Consultants	M/s Fichtner Consulting Engineers (India) Private Limited, Chennai, Tamil Nadu
7.	Consignee Address (Bill To)	BHEL, Power Sector-Project Engineering Management Power Project Engineering Institute, Plot No. 25, Sector-16A, Noida, Uttar Pradesh-201301.
8.	Delivery Address (Ship To)	1X800 MW North Chennai Stage-III (BTG), Tamil Nadu Generation & Distribution Corporation Ltd (TANGEDCO), Athipattu, Pudhunagar, Chennai ,Tamil Nadu- 600120
9.	BHEL Site Office Address	Construction Manager, Bharat Heavy Electricals Limited, NCTPP, Stage III TANGEDCO Athipattu, Pudhunagar, Chennai ,Tamil Nadu-600120
10.	Location of Plant	Plant locations details are as follows: District: Thiruvallur Next big city to site: Chennai (35 Km) Road access: Pattamandri on the Thiruvottiyur- Ponneri highway Nearest Railway Station: - Athipattu Pudunagar (~ 5 Km) on Chennai-Vijayawada Line Nearest Airport: Chennai (60 Km) Nearest Harbour: Ennore (3 Km)
11.	Mode of Dispatch	Air, Road, Rail & Sea Transportation For indigenous supplies: By Rail/Road on door delivery and freight pre-paid basis. For imported supplies: On C&F basis. Transit Insurance will be in BHEL scope
12.	Road Permit /E-waybill	Road Permit / E-way bill, if required, will be arranged by Supplier.
13.	BHEL GSTIN Details	BHEL-PEM is registered in the State of Uttar Pradesh with GSTIN 09AAACB4146P2ZC BHEL-PSSR is registered in the State of Tamil Nadu with GSTIN 33AAACB4146P2ZL
14.	Transit Insurance	In BHEL Scope. For each dispatch, vendor shall inform the following to the Underwriter under intimation to BHEL-PEM and BHEL Site office: (i) Policy No. (ii) Consignee Name. (iii) Consignment Details (items with their weights and value (in INR). (iv) Project Name and P.O. No. (v) LR No. and date, Dispatch origin and destination details, Invoice No. Vendors to intimate the underwriters quoting the insurance Policy No. as mentioned in Purchase Order.

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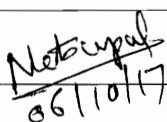
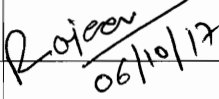
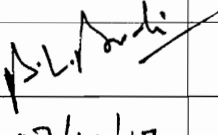
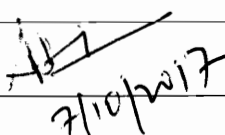
15.	Dispatch intimation	Yes, in writing, not less than 30 (Thirty) days prior to date of shipment and dispatch details to be sent to: BHEL Site office (As mentioned in Sl. No.9) BHEL PEM Noida (As mentioned in NIT) At the point of dispatch, vendor must furnish docs required as given below through Email / Fax - Vendor's invoice - LR / RR / GR / Courier Receipt - Packing List/ Challan indicating the items dispatched (with their weights) - Insurance intimation letter informing the underwriters about the dispatches - MDCC (of BHEL / TANGEDCO) as applicable - Photograph of packing / boxes showing dispatch marking as per Sl. No. 26
16.	Document required for Vendor's payment.	For materials originating from Indian territory For claiming the payment against dispatch, MRC & Freight, documents as mentioned in GCC & its corrigendum shall be submitted by vendor to BHEL. Original money receipt must be submitted for Freight payment. Packing List must comply to Clause No. 19.3 of General Commercial Terms & Conditions of GCC rev.06. Description of items in packing list shall be as per PO such that proper correlation between PO & packing list must be furnished. Soft copy of documents for claiming payment shall be submitted by vendor as advance copy. For materials originating from non-Indian Territory Three (3) original and Three (3) copies of clean bill of lading or One (1) clean original Airway Bill & Three (3) copies, in case of air freight. One (1) original and Three (3) copies of signed Invoices One (1) original and Three (3) copies of Packing List (clearly showing number of packages, gross weight and net weight). Three (3) copies of certificate of country of origin. Copy of MDCC from BHEL / TANGEDCO (as applicable) Three (3) copies of inspection certificate, if any, issued by the customer/his authorised representative. Three (3) of certificate from the vendor to the effect that drawings and catalogues for customs clearance purpose have been kept with the packages for shipment. Three (3) copies of certificate from the vendor to the effect that the contents in each case are not less than that entered in the invoices and guaranteed as new and as per the relevant technical specifications. Shipping Specification – One (1) copy. Quality Certificate – One (1) copy. Approved Test Certificates, if any. - Three (3) copies. Guarantee Certificate – One (1) Original + One (1) copy. Inspection Reports – One (1) Original + One (1) copy. PVC Calculation and copy of all applicable indices, if PVC applicable. – Two (2) copies.
17.	Material Receipt Certificate (MRC)	- For Supply Packages- BHEL-PEM will arrange MRC from BHEL site - For Turnkey Packages (Supply + Erection & Commissioning) – Original MRC duly signed by customer (TANGEDCO) & BHEL site is to be arranged by Vendor.
18.	Buyer and Paying Authority	- Packages for which PO is placed by BHEL-PEM – Buyer and Paying Authority shall be BHEL-PEM, NOIDA. - Packages for which PO is placed by BHEL-PSSR & LOA is issued by BHEL-PEM - Buyer and Paying Authority shall be BHEL-PSSR.

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19.	Demurrage charges	Demurrage charges shall be paid by supplier/vendor to the transporter. No claim shall be acceptable in this regard.
20.	Unloading, Storage & Movement of material at site	a) By BHEL site office for supply packages. b) By vendors for Turnkey i.e. Supply and E&C packages
21.	Concessional custom duty against Essentiality certificate (EC)	Essentiality Certificate (EC) issued by TANGEDCO shall be passed on to vendor through BHEL (Limited to CIF content indicated in tender/order) for availing Concessional Custom Duty as applicable for imported contents under Project Import regulations. Vendors shall indicate the list of imported items, quantity, CIF value (in Rupee and Foreign currency) and country of origin or country supplying raw material in price bid which will be referred to TANGEDCO for issuing EC. Request for additional Item / additional CIF other than that submitted with original tender shall not be entertained by BHEL during contract execution stage. In case of underutilized / unutilized EC, vendor shall provide the necessary documents to revise the EC. Please refer Package specific NIT for CIF detail. Vendors shall be solely responsible for arranging the foreign exchange release for any material, component & Bought out items that may be required to be imported and no foreign exchange will be paid or arranged by BHEL. Any increase or decrease in exchange rate shall be borne by vendor. Vendor shall consider the Concessional Custom Duty as a part of quoted Ex-works price. Vendor shall provide all necessary documents required to allow BHEL to obtain any Tax benefits / closure of bonds that the BHEL is eligible for under applicable laws existing as the effective date or that come into force thereafter. Vendor shall minimize its liability for seller taxes under applicable laws to the extent legally permissible and pass on the benefit of any savings on account of such reduction to BHEL. Vendor shall inform BHEL and provide the necessary documents to obtain required certificates from BHEL to avail exemption. Obtaining custom duty benefit in line with the Essentiality Certificate issued shall be in vendor's scope.
22	Taxes & Duties (For Domestic Vendor)	As per General Conditions of Contract (GCC rev 06) & GST related Corrigendum to GCC rev.06
23	Taxes & Duties (For Order Directly to Foreign Bidders)	In case of foreign vendors, Quoted prices & Dispatches shall be on C & F (Port-Chennai) basis and the Taxes & duties in the country of dispatch shall be borne by Foreign vendor. All the Taxes & duties and other charges applicable in India shall be borne by BHEL-PEM for the direct order placed by PEM to the foreign bidder.
24	Inspection Agency	BHEL/ BHEL approved 3rd party inspection agencies and/or TANGEDCO/ Customer Agency as applicable.
25	Inspection procedure for Domestic supplies	<u>For Domestic supplies</u> Vendor shall raise inspection call at least 15 business days in advance on BHEL CQS website to applicable inspection agency (as mentioned in PO/LOI or to be informed later) and submit copy of inspection call to BHEL-PEM for arranging customer participation in inspection/Joint inspection on the proposed date, as applicable. MDCC shall be issued on the basis of clear inspection report (CQIR). <u>For Foreign supplies</u> In case of Foreign supplies, if TANGEDCO/ TANGEDCO approved 3rd party inspection agency does not participate in the inspection, test certificates & inspection reports duly accepted by the agreed Inspection agency shall be submitted in soft copy to BHEL-PEM. The same shall be reviewed by PEM and then, sent to TANGEDCO for clearance. The dispatch clearance (MDCC) by TANGEDCO/BHEL as applicable shall be given to the foreign supplier or representative in India after acceptance of above test certificates.

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26.	Packing, Identification & marking [if not specified in NIT]	Each box/ Drum shall be marked with Capital Letters indicating any one of the following: Main Supply / Mandatory Spares / Commissioning spares / Tools & Tackles Supplies under each of these headings shall be packed separately. Each package / Drum delivered under the Contract shall be marked by vendor as per details listed below and such markings must be distinct and in English language (all previous irrelevant markings being carefully obliterated) for purpose of identification. Each and every box (package) shall be marked with the following: - Name & address of the Consignee Name of Project Name of BHEL Unit placing the order Package Name, Vendor Name, LR No. and PO No. & Date. Packing No.: (e.g. 1/10, 2/10, 3/10 when there are 10 packages for one consignment) Packing Mark: Symbols indicating "TOP" and other special markings like "TOP", "BOTTOM", "DO NOT TURN OVER", "KEEP DRY", "HANDLE WITH CARE" etc. Following documents must be put inside the box: 01 copy of respective standard manufacturer's erection instruction / O&M manual shall be kept for immediate reference by BHEL site. 01 damage proof copy of Packing List/Challan indicating the items dispatched (with their weights) <u>Above instructions are to be read in conjunction with Clause No. 19 of General Commercial Terms & Conditions of GCC rev.06 and those specified in NIT.</u> Notwithstanding anything stated in this clause, Vendor shall be entirely responsible for loss, damage or deterioration of the material due to faulty and insecure packing. Note: Each of the items under mandatory spares shall be tagged with part no. and PO item ref no. /BBU ref no.
27	Monthly Progress Report	Vendor to provide monthly progress report each month after placement of PO, till supply of material. Monthly progress report of vendor shall include raw material status, manufacturing, inspection & latest dispatch plan. Vendor may use their format to provide required information, however format (if any) issued by Purchaser after placement of PO shall be obligatory to vendor.
28	Submission of Final Drgs/Docs alongwith O&M Manual, Type Test Certificates (if any)	As per GCC rev.06/Technical Specification/Kick-off meeting

	Prepared by	Checked by	Reviewed by	Approved by
Name	Netrapal Singh	Rajeev Lalwani	BL Bedi	S Bhattacharjee
Designation	SR ENGR	MGR	SDGM	AGM/DH
Department	PG-II	PG-II	PG-II	PG-II
Signature				
Date	06/10/17	06/10/17	07/10/17	7/10/2017

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: Tender Enquiry No-.....

Name of Package:

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..... of NIT No..... dated..... 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

1X800 MW TANGEDCO NORTH CHENNAI STIII. BTG

TECHNICAL SPECIFICATION

FOR

***FIRE SEALING SYSTEM (Mortar Based)
SUPPLY & INSTALLATION***

VOLUME-II

SPECIFICATION NO: PE-TS-423-507-E016

REVISION: 0



BHARAT HEAVY ELECTRICALS LIMITED

POWER SECTOR

PROJECT ENGINEERING MANAGEMENT

NOIDA, UP (INDIA) – 201301



TECHNICAL SPECIFICATION FOR
FIRE SEALING SYSTEM
SUPPLY & INSTALLATION

SPECIFICATION NO. PE-TS-423-507-E016

VOLUME II

SECTION

REVISION 0

DATE:

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Sl. No.	DESCRIPTION	NO. OF SHEETS
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	SPECIFIC TECHNICAL REQUIREMENTS	02
	DATA SHEET – A	01
	DATA SHEET – C	02
2.0	SECTION- II	
	STANDARD TECHNICAL REQUIREMENTS	11
	FORMAT OF QUALITY PLAN	02

Total nos. of sheets including cover & separator sheets = 24 sheets



TECHNICAL SPECIFICATION FOR
FIRE SEALING SYSTEM
SUPPLY & INSTALLTION

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SECTION – I

STANDARD TECHNICAL REQUIREMENTS



TECHNICAL SPECIFICATION FOR
FIRE SEALING SYSTEM
SUPPLY AND INSTALLATION

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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 are no deviation with respect to specification other than those furnished in the 'schedule of deviations'.
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



TECHNICAL SPECIFICATION FOR
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1.0 PURPOSE

This specification is intended for finalization of contract between BHEL PEM and Bidder for supply & E & C of Fire sealing system. Technical detail as indicated in the specification shall be agreed upon between BHEL PEM and bidder.

2.0 SCOPE OF ENQUIRY

- 2.1 This enquiry covers the Design, manufacturing, inspection & testing at manufacturer's works, proper packing, delivery to site, handling and erection & commissioning of **Mortar based Fire Sealing and fire coating System** for cable openings through walls, floors & below panels, pipe sleeves and fire protection coating on installed cables conforming to this specification.
- 2.2 It is not the intent to specify herein all the details of design & manufacture of material. However, the material shall, conform in all respects to high standard of design, engineering and workmanship and shall be capable of performing in continuous commercial operation at site conditions.
- 2.3 Technical requirements of the **FIRE SEALING SYSTEM** are indicated in Datasheet-A and Section-II.
- 2.4 The stipulation of Data Sheet-A shall prevail in case of any conflict between the stipulations of Data Sheet-A & Section-II.

3.0 BILL OF QUANTITIES:

- 3.1 The bidder to quote for items as per 'BOQ-cum-Price Schedule' attached with NIT. The BOQ excludes civil works done in the opening and includes cross section area of cables and cable support materials within the area to be fire sealed.
- 3.2 Successful bidder shall submit calculations for supply of material based on area to be provided with fire sealing, cured density (based on type test certificate accepted by BHEL/CUSTOMER) & thickness as applicable for the project, wastage, space occupied by cables, etc. for approval during contract stage.

For the first lot cleared by BHEL, the calculations shall be made based on the average of the minimum & maximum cured density (wherever a range is specified for the cured density by the manufacturer) & minimum thickness. For subsequent lots cleared by BHEL, the calculation shall be based on the cured density & thickness as per accepted type test results, duly adjusting the quantities cleared in earlier lot.



TECHNICAL SPECIFICATION FOR
FIRE SEALING SYSTEM
SUPPLY & INSTALLTION

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4.0 DRAWINGS & DOCUMENTS TO BE SUBMITTED

4.1 The following information shall be furnished with the bid:

- Data Sheet-B
- Type test certificates for fire sealing system and cable coating material as mentioned in section-II.
- Type test procedure
- Typical drawings showing arrangement of various components and thickness etc.
- Complete detail of the system

4.2 Following documents shall be submitted for specific project requirement after placement of order for BHEL & customer's approval:-

S. No	Document No.	Document title	Document type	First Submission	Re-submission
1.	Technical Data Sheet	PE-V0-423-507-E041	Primary	Within 2 weeks of PO	Within 10 days after comments
2.	Installation Drawings	PE-V0-423-507-E042	Primary	Within 2 weeks of PO	Within 10 days after comments
3.	Type test certificates	PE-V0-423-507-E043	Primary	Within 2 weeks of PO	Within 10 days after comments
4.	Manufacturing Quality Plan	PE-V0-423-507-E905	Primary	Within 2 weeks of PO	Within 10 days after comments
5.	Field Quality Plan	PE-V0-423-507-E906	Secondary	Within 2 weeks of PO	Within 10 days after comments
6.	Bill of material for fire stop system	PE-V0-423-507-E044	Secondary	Within 2 weeks of PO	Within 10 days after comments

4.3 Drawings/ documents shall be submitted through Document Management System (DMS).



DOCUMENT TITLE

TECHNICAL SPECIFICATION FOR
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DATASHEET-A

1.0 REFERENCE CODES & STANDARDS

The latest edition of following standards shall be applicable:

- a) ASTM-E-814: Standard test methods for fire test of Through-penetration fire stops.
- b) ASTM E-119: Standard test methods for Fire resistance rating and hose stream test
- c) IS-12458: Method of fire resistance test of fire stop
- d) UL-1479: Standard test methods for Fire resistance rating
- e) BS-476: Standard test methods for Fire resistance rating
- f) IEC-60332-3-23: Flammability test for fire retardant coating
- g) ASTM D-2863: Limiting oxygen index test for fire retardant coating
- h) IS: 6005- Pretreatment shall conform to the requirement of IS: 6005.
- i) IS: 2629- Galvanizing shall be done in accordance with IS: 2629.

2.0 Rating of fire stop : Two (2) hours

3.0 Rating of Fire protection coating : 40 min

4.0 Type of application : Horizontal/ Vertical/ Below panels/ Across Trenches

5.0 Cable laying conditions : Cables on cable trays

6.0 Suitability of fixing arrangement : In masonry work/ In concrete work

7.0 Surface Treatment of Steel Material
(for frame work as applicable)

- a) Surface protection : Galvanization conforming to IS:2629
- b) Mass of Zinc : 460 g/m²

8.0 Type of fire stop system : 1) fire stop system [Mortar based]
2) fire retardant coating

9.0 Minimum shelf life : 12 months
of most perishable material

10.0 Life expectancy of material : Greater than 40 years

11.0 Packing suitable for : Storage on dry Surface



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DATASHEET-B/C

(Guaranteed technical Particulars to be submitted along with the bid)

1.0 GENERAL

1.1 Name of vendor :

1.2 Address :

2.0 APPLICABLE STANDARDS

2.1 ASTM-E-814 & ASTM-E-119 For fire rating test and hose Stream test : YES / NO

2.2 IS-12458: Method of fire resistance test of fire stop : YES / NO

2.3 UL-1479: Standard test methods for Fire resistance rating : YES / NO

2.4 BS-476: Standard test methods for Fire resistance rating : YES / NO

2.5 IEC-60332-3-23: Flammability test for fire retardant coating : YES / NO

2.6 ASTM D-2863: Limiting oxygen index test for fire retardant coating : YES / NO

2.7 IS: 6005- Pretreatment shall conform to the requirement of IS: 6005 : YES / NO

2.8 IS: 2629- Galvanizing shall be done in accordance with IS: 2629 : YES / NO

3.0 TECHNICAL DETAILS

3.1 Type of system : 1) fire stop system Mortar Based []
2) Fire retardant coating []3.2 Fire rating : 1) fire stop system
2) fire retardant coating3.3 Pressure withstand capacity of Fire stop : kg/mm²3.4 Weight of fire stop assembly (without cables) : kg/mm²

3.5 Shelf life of most perishable Material : years

3.6 Life of total assembly : Years



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4.0 TYPE TEST

Type test reports of all the type tests as listed at clause no. 5.0 of section -II and relevant standards for fire sealing system materials shall be submitted. Type test reports shall not be older than 5yers from date of enquiry.



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SECTION – II

STANDARD TECHNICAL REQUIREMENTS

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1.0 CODES AND STANDARDS

- 1.1 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.
- 1.2 The design, material, construction, manufacture, inspection, testing and performance of Fire Sealing System shall conform to the latest revision of relevant standards as per Data Sheet-A. Any other international standards will also be considered if it ensures performance equivalent or superior to standards listed.
- 1.3 In case of conflict between the applicable reference standard and this specification, this specification shall govern.

2.0 TECHNICAL REQUIREMENTS

- 2.1 Fire sealing system and fire retardant coating shall be supplied as per technical particulars specified in Data Sheet – A and Section-II.

2.2 DESIGN REQUIREMENTS FOR FIRE STOP SYSTEM

2.2.1 Type-B fire sealing system shall be of following system:

Mortar based sealing system

- 2.2.2 The fire stop system, in case of fire, shall prevent spreading of fire in cables/systems beyond the fire stops.
- 2.2.3 Cables shall be generally laid in cable trays/cable racks/ conduits and fire stop system shall be designed in such a way that the basic supporting structure of cables is not disturbed.
- 2.2.4 The system shall be retrofit design, physically and chemically stable.
- 2.2.5 Through penetration cable openings on floors and walls shall be divided into modules. Each module shall have spare capacity to accommodate additional cables in future. The fire stop system shall be designed to accept additional cables without impairing fire stop capability and without disturbance/ wastage of material in the nearby modules.
- 2.2.6 The system shall be mechanically secured to the masonry work/concrete work to resist dislocation.

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2.2.7 The system shall remain unaffected due to any vibrations or expansion in cables. The system must also remain unaffected due to adverse temperature and humidity variations in the atmosphere. The system shall be suitable for ambient temperature of 50°C and relative humidity of 100%.

2.2.8 The system should be equally effective in horizontal & vertical formations.

2.2.9 The system should not affect the current carrying capacity of cables passing through the fire stop.

2.2.10 The system should provide firm grip on the outer surface of the cable in the event of fire.

2.2.11 The system shall be capable of withstanding mechanical loads, foot traffic, drop loads and wind pressure etc.

2.2.12 The fire stop system shall be completely gas & smoke tight.

2.2.13 Materials used for fire stop system shall meet the following requirements:

- a) Should not get affected over a period of time due to humidity, moisture, ozone and variation in ambient temperature.
- b) Should not contain volatile solvents after the setting period of system.
- c) Should be able to withstand stresses due to expansion/ vibrations.
- d) Should be free from shrinkage and cracking and should maintain smoke and gas tightness during fire.
- e) Should not react with cable sheaths, galvanized and painted steel material etc.
- f) Should be easy to apply/ install using conventional methods.
- g) Should be non-toxic and harmless to the working personnel
- h) Should have anti –rodent properties and should be repellent to pest & termites.
- i) Should not produce any acid or alkali during gas generation.
- j) Should not produce suffocating/ corrosive gas.

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- k) Should have a very low Expansion co-efficient, which is to be comparable with masonry concrete.
- l) Should not be soluble and reactive to acid and alkali water.
- m) Should have a low thermal conductivity.
- n) The material in contact with the cables in the fire-proof sealing system shall be compatible with the material used for outer sheath of cables.

2.2.14 The system shall have a fire resistance rating of duration as per Data Sheet-A. Fire resistance rating shall be in accordance with ASTM E-119, ASTM E-814, BS-476, UL-1479 and integrity & stability shall be maintained by the system after application of water jet on the exposed side in order to extinguish fire.

2.3 DESIGN REQUIREMENTS FOR FIRE RETARDANT COATING

2.3.1 Materials used for fire retardant coating shall meet the following requirements:

- a) Asbestos free, non-volatile, not eatable by vermin, harmless and non-irritant to skin of human.
- b) Not affecting the current carrying capacity of the cables and the properties of the installed cables.
- c) Coating material shall show no signs of cracking and peeling when the coated cable is bent to the radius of minimum sized cable at 180 degree C.

2.4 WELDING

- a) All welded connections if applicable shall be made by electric arc welding. All welding work shall be carried out by qualified and experienced welders and adequately protecting the already laid cables.
- b) All arc welding shall be carried out with low hydrogen content electrode.
- c) All welded connection shall be allowed to cool down gradually to atmospheric temperature before putting any load on them. No artificial cooling should be adopted to cool welded joints.

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2.5 SURFACE TREATMENT

2.5.1 Supply items:

Surface treatment of all material supplied shall be done as applicable in an approved manner and as per the specific requirements given in the Data Sheet-A. Surface treatment shall include following steps:

- Pretreatment: Pretreatment shall conform to the requirements of IS: 6005. The clean and dry pretreated surface shall be given a coat of red oxide primer paint and shall be left for natural drying.
- Galvanizing: Articles shall be hot dip galvanized after pretreatment. The galvanizing shall be done in accordance with IS: 2629. The galvanizing shall be uniform, clean, smooth, continuous and free from free acid spots. The amount of zinc deposit shall not be less than the value specified in Data Sheet-A.

2.5.2 After erection:

- Galvanized items shall be given a surface treatment only at the welded joints and at the places where the galvanization has been damaged. Welded joints shall be applied with two coats of cold zinc paint whereas damaged portions of galvanizing shall be applied with single coat of zinc paint.
- In addition to the above, the vendor shall ensure after completion of fire stop system that the final finish of all surfaces of materials is in good condition and wherever needed a touch up of cold zinc paint shall be given.
- The final finish of all erected materials shall be uniform, clean, smooth and free from spots.

3.0 QUALITY ASSURANCE REQUIREMENTS

3.1 At contract stage, the successful bidder shall submit the Quality Plan in attached BHEL format 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 minor changes in Quality Plan during contract stage.

3.2 Stages of quality control shall include but not be limited to the following:



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- a) Verification of test certificates for materials before dispatch.
- b) Visual inspection of materials before dispatch (as applicable).
- c) Testing of materials before dispatch.
- d) Inspection of packing before dispatch.
- e) Quality checks during erection.
- f) Inspection & testing of fire stops after erection.

- 3.3 All materials shall be procured, manufactured, inspected and tested by vendor/ sub-vendor as per approved Quality Plan.
- 3.4 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.
- 3.5 In addition to meeting the type test requirements, material/ batch test certificates conducted at the premises of the bidder's principals for the supplies to be made for the project shall be submitted for BHEL/ CUSTOMER review and clearance.
- 3.6 All acceptance & routine tests as per relevant standards & specification shall be carried out. Charges for these shall be deemed to be included in the bid price.
- 3.7 Installation at site shall be as per parameters (i.e. minimum cured density & minimum thickness) achieved during type testing. In case type test waiver is given based on past type test certificates, installation shall be carried out as per the type test certificates accepted.
- 3.8 The successful bidder shall submit Field Quality Plan for storage, preservation, handling and erection work at site for fire-sealing system. The same shall subject to CUSTOMER/ BHEL approval without any commercial implications. Fire sealing shall be as per approved installation drawings.

4.0 TESTING**4.1 FIRE STOP SYSTEM**

- 4.1.1 The system offered shall comply with the following type tests and test reports shall be submitted along with offer:
- a) Accelerated aging test
 - b) Water absorption test
 - c) Fire rating test
 - d) Hose stream test
 - e) Vibration test followed by fire rating test

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4.1.2 System shall be subjected to structural stability test, which shall be conducted at site.

4.2 FIRE RETARDANT COATING

It shall comply with the following tests and test reports shall be submitted along with offer:

- Flammability test
- Liming oxygen test

4.3 The test details have been covered in clause no. 5.0

4.4 System offered shall be **type tested** at **CBRI, Roorkee** or by **NABL accredited government approved Independent agency**.

- The bidder shall furnish the reports of all the type tests for fire sealing system materials. These reports should be for the tests conducted on identical materials to those offered/ proposed to be supplied under the contract.
- In case bidder is not able to submit report of type test(s) conducted or in case type test report(s) are not found to be meeting the specification/ relevant standard requirements, then all such tests under the contract shall be conducted free of cost to the owner, and reports shall be submitted for approval. No charges shall be paid under this contract.

4.5 Type Test charges:

- In case type test certificates are available with vendor & acceptable to BHEL/ CUSTOMER and still vendor being asked to conduct type testing and type tests successfully conducted, the type test charges shall be payable to vendor at actual against Original money receipt of **CBRI Roorkee/ NABL accredited Govt approved lab**.
- In case type test certificates are not available with the vendor or available with the vendor but not acceptable to BHEL/ CUSTOMER and vendor being asked to carry out type testing, and type testing successfully conducted, the type test charges by the vendor shall not be payable.

4.6 BHEL/ CUSTOMER reserve the right to witness type testing on any one lot for the project without any commercial implications.



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5.0 TEST DETAILS**5.1 FIRE STOP SYSTEM****5.1.1 Accelerated aging test:**

The fire stop system specimen shall be subjected to accelerated ageing test for 168 hours. During the test, the system/ components shall be placed in air furnace where the temperature of inside air shall be maintained at 85 deg. C. The specimen shall be taken out of the furnace after 168 hours for water absorption test.

In case the mechanical properties before and after the accelerate aging do not indicate substantial change, the system shall be deemed to have passed the accelerated aging test. Similarly the variation in the form of the system/ component at the end of the test shall not indicate permanent deformation which is likely to affect the sealing properties of the system.

5.1.2 Water absorption test:

The test specimen shall be immersed in fresh clean water at a temperature of 20 ± 2 deg. C for a period of minimum 24 hrs. At the end of 24 hour soak period, the specimen shall be removed from water and mopped with a damp cloth. The specimen shall thereafter be subjected to the live fire test as per clause 5.1.3 below.

5.1.3 Fire rating test: shall be done as per ASTM E 814/BS: 476/UL: 1479/IS: 12458.

5.1.4 Hose stream test: Test shall be conducted on the test specimen immediately after fire resistance test as per ASTM E 119

5.1.5 Vibration test: The test specimen shall be subjected to vibration of 100Hz frequency and 0.5 mm amplitude for a minimum period of 3 hours.

5.1.6 Anti rodent Test

5.1.7 Temperature rise test for cables in fire stop

5.2 FLAME RETARDANT COATING

5.2.1 Flammability test shall be conducted in accordance with IEC-60332-I/ IEC-60332-3-23 CAT-B.

5.2.2 Limiting oxygen index test shall be conducted in accordance with ASTM D-2863. Limiting oxygen index of the material shall not be less than 35 %.

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6.0 APPLICATION OF FIRE SEALING SYSTEM & FIRE PROTECTIVE COATING ON CABLES WITH FIRE RESISTANCE COMPOUND SHALL BE AS UNDER:

6.1. FIRE SEALING SYSTEM

- a) The various openings in the cable vault, vertical/horizontal raceways of cables penetrating walls/floors and the bottom of Electrical Switchgears and panels in Control Equipment room/MCCs/ Distribution Boards/Cabinets/Panels shall be provided with fire stop systems. Cables passing through the openings at various locations are laid on various tiers of the cable trays/racks in the bunch formation. In case, for the purpose of installation of seal system, steel frames are required to be fabricated and fixed in the openings, the fabrication of frame and fixing of the same shall have to be done by the Contractor. The necessary steel section for fabrication of frames shall be supplied by the Contractor without any extra cost. Any, civil works required to be done in the openings shall be carried out by the Contractor. Bidder shall also include one set of tools and accessories required for addition or removal of cables after the seal is made. This shall include special tools, compound injection guns, spray guns, etc.
- b) All openings in the floor and wall for cable access shall be sealed after installation of the cable system with non-inflammable materials, as follows:
 - i) Fire stop/ Penetration seal shall be installed in the cable spreaders and cable raceways.
 - ii) For all H.T., L.T., relay and control panels, Control desk, instrumentation panels, battery charger, D.C. distribution boards and other miscellaneous panels, fire stops should be provided below base plate. The non-inflammable type sealing material shall be supplied by the contractor.
- c) Except for inside an enclosure wherever the cable enters or leave the conduit, the conduit end shall be sealed by suitable sealing compound, having specified fire withstand capability.

6.2. FIRE PROTECTION COATING TO BE APPLIED ON INSTALLED CABLES: -

The cables shall be coated with fire protection material at the strategic locations as follows so as to limit the spread of fire:

- a) At fire stops below electrical switchgear/ MCCs/ Panels/ cabinets etc. On one side coating for the specified rating. i.e. on the cable vault side/ cable trench side.

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- b) For the specified rating on adjacent/ one side(s) of the junction/ crossings of cabling work in open cable routes/ cable trench.
- c) Fire coating shall be provided at an interval of 3 meters for a length of 1.5 meters in the straight portion of each of the cable trays above ground. At bends/ intersections and Tee joints, coating should be done 2 meters from centre line of cable tray on each side.
- d) All vertical cables coming out below the panels shall be coated to a full length of vertical drop from bottom of panel plus 1.5 metres horizontal run after the bend.
- e) Fire break shall be provided at an interval of 15 meters in cable trenches for a length of 3 meters.
- f) In fire risk areas and where specified at suitable intervals at decided upon site conditions in open cable routes.
- g) All Vertical cable runs anywhere in the area shall be coated full.
- h) The coating shall be applied evenly on the cables only.

7.0 PRICES

7.1 Unit prices listed out in this clause shall be applicable for payment to the vendor for activities covered under this specification. The Unit prices shall be inclusive of:

- a) Design, manufacture, testing at works, packing, supply, transportation to site, handling at site of the fire stop system materials.
- b) Visual inspection & transportation of materials from vendor's/owner's storage yard to work site, handling , testing including supply and installation of all associated materials and consumables, carrying out of all associated minor civil works and furnishing of all skilled/unskilled labour and supervisory staff.
- c) Provision of fasteners like nuts, bolts, washers, spring washers, rawl plugs, anchoring bolts and lugs etc.
- d) Provision of all sealing compounds for wall and floor openings.

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- e) Consumables like enamels, cold zinc paint, electrodes for welding etc.
- f) Minor civil works like chipping/breaking of floors/walls and masonry work for reducing/closing of openings on floor/walls including supply of materials like cement, sand, bricks etc. as required. Any work as described above to the extent of 200 mm on all sides of openings on walls and floors for the purpose of fitting the actual fire stop assembly shall be deemed to have been included in the unit prices of fire stop assembly.
- g) Provision of all facilities/equipment for all site fabrication such as cutting, bending and drilling equipment.
- h) Provision of welding sets.
- i) Provision of special tools and tackles for erection.
- j) Provision of all testing equipment and conducting the specified test after erection at site.

7.2 Requirement of Quality Plan and Field Quality Plan shall be considered in the quoted prices.

8.0 MEASUREMENT & WASTAGES

- 8.1 Quantity measurement: For all payment purpose, measurement shall be made on the basis of the execution drawings/physical measurements. Physical measurements shall be made by vendors in the presence of Engineer.
- 8.2 Wastage Allowance: No wastage allowance is permissible. All wastages shall be to the account of vendor.

9.0 ADDITIONAL POINTS OF CONSIDERATION

- 9.1 Bidder shall be deemed to have confirmed to the specification in toto.
- 9.2 All work shall be carried out in accordance with the agreed field quality plan and approved drawings. The field quality plan shall additionally specify the fire sealing material thickness, minimum cured density and other related parameters achieved in the approved type tests for the contract. The work shall be done to the satisfaction of purchaser and acceptance of the work shall be subject to the purchaser's approval.



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- 9.3 The work to be carried out under this specification shall be done under the supervision of purchaser's/owner's representative.
- 9.4 The installation work at site shall be properly coordinated with other services.
- 9.5 All materials, equipment, instrument, hardware, tools, consumables, fasteners, accessories whether specifically mentioned or not in offer required for complete installation and testing in all respect and to the satisfaction of Engineers will be in the scope of vendor and no extra payment will be made for the same.
- 9.6 All materials being supplied or consumed during erection by the vendor in the process of erection work shall be of best quality and according to the relevant standard. All materials shall be got inspected and got approved by the Engineer before the same is used for erection. Also, purchaser reserves the right to carry out inspection of installation work at any stage during erection, testing and commissioning.
- 9.7 Any drilling and welding on building structural steel for fixing supports etc. will not be done without the prior written approval of Engineer.
- 9.8 Any work like chipping, or breaking of existing structure like walls, floors, fabrication etc. shall be done after taking prior approval of Engineer.
- a) After installation of fire stops through a structure, the vendor shall repair/ refabricate the affected portion of structure.
 - b) Any wrong erection shall be removed and re-erected promptly to comply with requirement at no extra cost.
- 9.9 After completion of work the contractor shall remove all debris and Take back all erection implements, left - overs, surplus materials over and above the ordered quantity without any financial implications to either party.

10.0 PERFORMANCE GUARANTEE

Bidder shall guarantee that the system offered shall meet the requirements as indicated in this specification and as confirmed through various clauses of datasheets. If it is proved that the system doesn't conform to performance guarantee, the bidder should be ready to replace the faulty components/ equipment without any loss or extra cost to the purchaser.

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11.0 PACKING & STORAGE

All material/ components of fire stop shall be supplied in proper packing to avoid contamination of material due to dust/ moisture. All packing shall be of durable quality. Space shall be provided by BHEL. Packing containers shall be suitable for storing on dry surface.

FORMAT FOR QUALITY PLAN

		QUALITY PLAN		CUSTOMER		PROJECT TITLE		SPECIFICATION : NUMBER :				
				BIDDER/		QUALITY PLAN		SPECIFICATION				
				VENDOR		NUMBER		TITLE				
		SHEET 1 OF 1		SYSTEM		ITEM :FIRE STOP MATERIAL		SECTION		VOLUME III		
SL. NO.	COMPONENT/OPERATION	CHARACTERISTICS CHECK	CAT.	TYPE/ METHOD OF CHECK	EXTENT OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORM	FORMAT OF RECORD	AGENCY			REMARKS
									P	W	V	
1	2	3	4	5	6	7	8	9	10			11
LEGEND : P : PERFORMER W: WITNESSER V: VERIFIER 1- BHEL 2-VENDOR 3- SUB VENDOR CHP: CUSTOMER HOLD POINT WHICH WILL BE DECIDED AT CONTRACT STAGE.												
BHEL			PARTICULARS			BIDDER/VENDOR						
			NAME									
			SIGNATURE									
			DATE									
											BIDDER'S/VENDORS COMPANY SEAL	

ANNEXURE-1

INSTRUCTIONS FOR QUALITY PLAN

The Quality Plan shall include all the Quality Control Measures and Checks adopted by the Vendor to ensure that the material/component/assembly/services supplied by him meet/will meet the requirements as per specifications and good practices. They shall include all stages of operation such as materials, processes, manufacture, assembly, packing and despatch. The following guide lines may be noted:

Column 1-	Serial Number
Column 2-	Component/Operation- The component and/or operation being checked shall be given here.
Column 3-	Characteristics check- The characteristics being checked shall be given here, e.g., chemical composition, mechanical properties, leak tightness, surface defects etc..
Column 4-	Category - 'CR' stands for critical characteristic - affecting safety of equipment and personnel 'MA' stands for major Characteristic - affecting safety of equipment and personnel 'MI' stands for minor characteristic - affecting appearance etc.
Column 5-	Type/Method of check e.g. chemical analysis tensile testing, hydraulic test, visual examination radiography etc.
Column 6-	Extent of check, such as, 100, 10, 1 percent etc.
Column 7-	Reference Documents - Documents, such as technical specification, drawings, standard specifications (IS, BS ETC.) procedure, etc. according to which check is done.
Column 8-	Acceptance Norms - Standards etc. according to which acceptability or otherwise of the characteristics being checked is decided.
Column 9-	Format of Record - Formats, log shets, reports, etc. in which the observations are recorded. Standard log sheets, reports, formats etc. of the Vendors shall be numbered and such reference numbers shall be included here.
Column 10-	Agency - The agency which performs the test/instruction shall be written in sub-column 'W' The agency which verifies test certificates/inspection records and carries out audit check of the components/operation shall be written in sub-column 'V' The agencies are codified as 1,2 & 3 '1' stands for (BHEL) '1' * means the operation shall be cleared by BHEL before the start of the next operation. '2' Stands for Vendor '3' stands for sub-Vendor of the Vendor and so on.
Example :	
Entry	'3' in column 'P' means test./inspection to be performed by sub-Vendor's QC
Entry	'2' in column 'W' means test./inspection to be witnessed by Vendor's QC
Entry	'1' in column 'V' means verification shall be done by BHEL and next stage to be started only after the hold point is cleared by BHEL
Column11-	Remarks - Any special remarks shall be given here.

NOTES :

1. In absence of correlation with the test certificate(s) (e.g. material identification) samples shall be drawn bgy BHEL and all tests as per relevent specifications shall be carried out in their presence or in recognized Government Laboratory.
2. When materials and components are initially identified and stamped by BHEL QS engineer, the identification marks shall be presserved till despatch. Wherever this is not possible, the identification mark shall be transferred to the components in the presence of BHEL QS Engineer unless other wise agreed.
3. For castings and forgings integral test specimens shall be provided, When this is not possible for casting, they shall be poured in the presence of BHEL QS Engineer unless otherwise, if witnessing of test by BHEL is called for.
4. When welders qualified by reputed inspection agencies or statutory bodies are not available, qualification tests shall be conducted in the presence of BHEL QS Engineer.
5. This Quality Plan is liable to be modified as per the requirements of approved drawings and changes in technical specifications/drawings. If there are contradictions in respect of column 7 & 8 between this Quality Plan and the approved drawings specifications, the latter shall prevail.
6. Wherever inspection by BHELs Purchaser/Third Party/Statutory authorities are mandatory, this shall be compiled with.
7. Inspection reports, log sheets, test reports/certificate. etc. shall be furnished to BHEL at the appropoate stages or at the time of final inspection, as required.
8. This Quality Plan is also applicable to spares, if any, under scope of supply of Vendor.
9. The quality plan shall be submitted in minimum 4 copies with a soft copy of the same or in line with contract requirements.

	PRE-QUALIFICATION REQUIREMENTS FOR FIRE SEALING SYSTEM	PE-PQ-999-507-E006
		REVISION NO. 03 DATE 29/04/2016
		SHEET NO. 1 OF 1

ITEMS : Fire sealing system, fire retardant cable coating

Vendor may be considered for evaluation for one or more of the following type of Fire sealing system:

Type 1 : RTV Silicone Foam

Type 2 : Panel based

Type 3 : Mortar/ Powder based

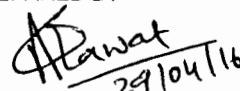
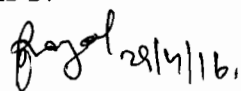
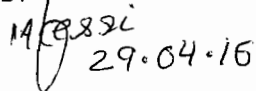
Type 4 : Individual blocks for each cable

SCOPE: Supply : YES; Erection & Commissioning : YES;

1	Availability of type test certificates conducted at independent Lab or witnessed by third party for the applicable type of fire sealing system and fire retardant cable coating as per IS/ International standards.
2	Bidder should be OEM for the applicable type of fire sealing system. In case bidder is not OEM, the offer / application for registration shall be evaluated as per point no. 1 of "general points of PQR" available at http://bhelpem.com/vensection/PMD/PMD.aspx
3	Repeat order received from at least one end user/ purchaser for supply and E&C of applicable type of fire sealing system during last 5 years provided the gap between award of two POs is minimum 2 years. OR Completion certificate from at least one end user/ BHEL PEM for successful execution of supply and E&C for applicable type of fire sealing system.
4	Minimum two (2) nos. purchase orders for fire sealing system of applicable type 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.

NOTE:

Supplier to comply to "general points of PQR" available at <http://bhelpem.com/vensection/PMD/PMD.aspx>
In case supplier is not OEM, the offer shall be evaluated as per point no 1 of "general points of PQR".

PREPARED BY  NAME: A.K. RAWAT DESIGNATION: SR. MGR	REVIEWED BY  NAME: RAJNISH GOYAL DESIGNATION: AGM	APPROVED BY  NAME: MEENA KESRI DESIGNATION: AGM & DH(E)
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General Points of PQR

1. Offers of the JV companies/ Joint Bidders/ bidders having collaboration/ licensing agreement/ MOU/ Indian subsidiaries shall be evaluated as follows:
 - a. If bidder happens to be an Indian subsidiaries of foreign OEM, then the credentials of the foreign OEM can also be considered for meeting PQR.
 - b. If bidder happens to be the Joint Venture Company, then the credentials of any of JV partners can be also considered for meeting PQR.
 - c. If bidder happens to bid jointly with their partner, then credentials of both the partners will be considered for meeting PQR as per distribution of the work. In all such cases, lead bidder as specified in bid documents shall be responsible for overall execution of the contract and all guarantee/ warranty.
 - d. If bidder happens to be the having valid collaboration agreement/ MOU/ licensing agreement with some other company, then the credentials of collaborator/ MOU partner/ licensing company can also be considered for meeting PQR.

Note: If bidder(s) qualifies on the basis of credentials of his principal/ JV partner/ Collaborator/ joint bidder etc., then the principal/ JV partner/ Collaborator/ MOU partner/ joint bidder shall be responsible for overall design vetting and warranty/ guarantee of the package. The scope matrix clearly defining their respective roles including design vetting, manufacturing of critical component, E&C etc. etc. and warranty/ guarantee shall be submitted along with the offer.

2. Bidder to note that the arrangement of bidding (joint bid partners/ collaborator/ MOU partner/ licensing company etc.) once offered to BHEL as a part of bidding documents cannot be changed till the execution of the project.
3. Consideration of offer shall be subject to customer's approval of bidders, if applicable.
4. 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.
5. Any other project specific requirement shall be as per Annexure-I and bidder shall submit relevant supporting documents.
6. 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.
7. After satisfactory fulfillment of all the above criteria/ requirement, offer shall be considered for further evaluation as per NIT and all the other terms of the tender.



1X800 MW TANGEDCO NORTH CHENNAI STIII. BTG

TENDER ENQUIRY REF NO: PE/PG/TAN/E-53222019 dated 12.02.2020

BOQ CUM PRICE SCHEDULE FOR FIRE SEALING SYS TEM (Mortar Based)

NAME OF VENDOR-.....														
SL NO (1)	ITEM CODE (2)	DESCRIPTION-MAIN EQUIPMENT (3)	HSN CODE (4)	UNIT (5)	QUANTITY (6)	LOT-1 QUANTITY	UNIT EX- WORKS PRICE (DUTY PACKED) (INR) (7)	TOTAL EX- WORKS PRICE (INR) (8)	FREIGHT CHARGES (9)		TOTAL PRICES (ex works + freight) (INR) (10)=(8)+(9)	APPLICABLE GST RATE IN % ON TOTAL EX WORKS + FREIGHT BOTH (INR) (11)		TOTAL PRICE F.O.R Prices with taxes (INR) (12)=(10)+(11)
									e % OF TOTAL EX WORKS (9A)	AMOUNT IN (INR) (9B) =(8)(9A)		GST RATE IN % ON TOTAL EX WORKS + FREIGHT (11A)	TOTAL AMOUNT IN (INR) (11B)=(10)+(11A)	
1.0		MAIN SUPPLY												
1.1	507-26078-A	Mortar for floor opening below panel-2hr	3816	SQM	800	560								
1.2	507-26099-A	Mortars for floor opening -2hrs	3816	SQM	260	180								
1.3	507-26121-A	Mortars for wall opening -2hrs	3816	SQM	150	105								
1.4	507-26137-A	Mortars for pipe sleeves -2hrs	3816	NOS	150	105								
1.5	507-26055-A	COATING ON CABLES 40 MIN RATING	3208	SQM	27000	18900								
1.6	507-26013-A	TOOLS & TACKLE	8479	SET	1	1								
		TOTAL OF 1.0 (MAIN SUPPLY)												
2.0		ERECTION & COMMISSIONING												
2.1	507-26038-C	FSS-TYPE B FLOOR OPENING BLW PANELS 2HR.	9954	SQM	800	560								
2.2	507-26035-C	FSS-TYPE B FLOOR OPENINGS 2HR	9954	SQM	260	180								
2.3	507-26041-C	FSS-TYPE B WALL OPENINGS 2HR.	9954	SQM	150	105								
2.4	507-26047-C	FSS TYPE-B PIPE SLEEVES (200 NB) 2HR.	9954	NOS	150	105								
2.5	507-26055-C	COATING ON CABLES 40 MIN RATING	9954	SQM	27000	18900								
		TOTAL OF 2.0 (ERECTION & COMMISSIONING)												
		GRAND TOTAL PRICE FOR MAIN SUPPLY AND ERECTION & COMMISSIONING												
GRAND TOTAL IN FIGURES														
GRAND TOTAL IN WORDS														

NOTES:

- a) 1. One set of tools and tackles to be provided and cost of same shall be included in the bid price. No separate charges shall be paid for Tools & tackles.



Bharat Heavy Electricals Limited
(A Govt. Of India Undertaking)
PROJECT ENGINEERING MANAGEMENT, NOIDA
NOTICE INVITING TENDER (NIT)

Enquiry No: PE/PG/TAN/E-6382/2019

Date- 12-Feb-20

BHEL invites offers from reputed Vendors for Open Tender Enquiry as per following terms and conditions -

1. Mode of Enquiry	E - PROCUREMENT	
2. Project	1X800 MW TANGEDCO NORTH CHENNAI STIII. BTG	
3. End Customer	TANGEDCO	
4. Executing Agency	BHEL-PEM	
5. Package	FIRE SEALING SYSTEM (Mortar Based)	
6. Due Date & Time	22 February 2020	02:00 PM IST
7. Earnest Money Deposit (EMD)	NIL	
8. Security Deposit (SD)	NIL	
9. Tender Cost	NIL	
10. Numbers of Part bid	2-Part bid (Techno-commercial and price bid)	
11. Technical Scope	As per technical specification NO. PE-TS-423-507-E016-(REV0)	
12. Last Date for Seeking Clarification	22 February 2020	
13. Schedule of Pre Bid Discussion	NA	
14. Prequalification Requirement	Financial PQR-NO	Technical PQR- YES
15. Delivery terms	FOR Despatch Station	
16. Delivery Schedule as below:-		
For Main Supply	Type B For Lot-1: Within Four (04) months from date of CAT-1 approval of Primary drawing/documents OR BHEL manufacturing clearance, whichever is later. In case date of CAT-1 approval of Primary drawing/documents is later than the date of BHEL manufacturing clearance then for delay analysis, any delay in submission/re-submission of Primary drawing/documents shall be reduced from the given delivery period of 04 months. Delay in BHEL's comments/approval beyond 18 days shall also be considered for delay analysis. In case BHEL manufacturing clearance date is later than date of cat-1 approval of Primary drawing/documents, then for delay analysis submission/re-submission time of Primary drawing/document shall not be considered. Delivery of subsequent lots: Within Three (03) months from lot clearance by BHEL.	
E & C	Vendor to complete E&C within 3 months from release of fronts by BHEL site.	



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Drawing/document submission/re-submission schedule:

Drawing Title		Primary/ Secondary	Drg Sch for Vendors
TECHNICAL DATA SHEET OF CABLE FIRE SEALING SYSTEM	PE-V0-XXX- 507-E041	Primary	R-0 within 14 days from PO & subsequent revisions incorporating all the BHEL comments within 10 days of comments received from BHEL. BHEL shall furnish comments / approval on each submission within 18 days from receipt.
INSTALLATION DRGS OF CABLE FIRE SEALING SYSTEM	PE-V0-XXX- 507-E042	Primary	
BILL OF MATERIAL	PE-V0-XXX- 507-E044	Secondary	
QUALITY PLAN FOR CABLE FIRE SEALING SYSTEM	PE-V0-XXX- 507-E905	Primary	
FIELD QUALITY PLAN FOR CABLE FIRE SEALING SYSTEM	PE-V0-XXX- 507-E906	Secondary	
TYPE TEST REPORTS/CERTIFICATE S	PE-V0-XXX- 507-E043	Primary	R-0 within 03months of approval of other primary drawing/documents & subsequent revisions incorporating all the BHEL comments within 10 days of comments received from BHEL. BHEL shall furnish comments / approval on each submission within 18 days from receipt.

Notes for delivery: -

- The end period specified is for completion of the deliveries. Deliveries to start progressively so as to meet the completion schedule.
- The delivery conditions specified are for contractual LD purposes, however BHEL may ask for early deliveries without any compensation thereof.
- Non-applicable drawings shall be decided during execution of the package.
- Wherever schedule of drawings/documents submission / re-submission is stipulated in the Technical Specifications, same shall be superseded by delivery specified in NIT.

17. Prices shall be Firm till completion of contract.

18. CIF Content	Not Available	CIF Value: Not Applicable
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19. Integrity Pact Applicability -	NO
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20. **Tender Evaluation - Evaluation will be done on overall L1 (Total Cost to BHEL excluding GST) basis for complete scope of the tender with necessary loading as applicable.**

In case of PBO, the loading (technical/commercial), if any, shall be added by BHEL for evaluation.

In case of RA, the loading (technical/commercial), if any, shall be added by bidder while submitting the bid in reverse auction portal.



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Ordering shall be done after de-loading the commercial/ technical loading from bidder's final price.

21. Terms & Conditions:- The terms & conditions shall be as per enclosed special conditions of the contract (copy enclosed), GCC Rev 07 which is available on www.bhelpem.com and other Terms and Conditions included in this Enquiry Letter.

22. Bidders who fulfil Technical & Financial Pre-Qualification Requirement Criteria are eligible to participate in this tender. Bids of only those bidders shall be evaluated who meet the Technical as well as Financial Pre-Qualifying requirements.

23. Bidder to note that this is an Open Tender enquiry & Price bid (Part-II) opening/RA participation shall be subject to following condition:

- a) Qualifying Technical & Financial Pre-Qualification Requirement.
- b) Techno-commercial acceptance of offer by BHEL-PEM.
- c) Approval of bidder by BHEL's Customer (i.e. M/s TANGEDCO). Same shall be taken up by us with customer based on the latest credentials/reference list (Preferably not older than 5 years) furnished by bidder. Accordingly, you are requested to submit the following on or before technical bid Part-1 opening or along with offer: -
 - i) Company Profile
 - ii) List of projects executed/ on hand for power sectors / Govt. organizations for the subject package.
 - iii) Performance Certificates for satisfactory working of the system /equipment's.
 - iv) Copies of major supply order executed by the vendor.

The bidders who are not registered with BHEL-PEM may apply for registration in BHEL-PEM through Registration Portal available at www.bhelpem.com-->vendor section-->online supplier registration. All credentials and/or documents duly signed & stamped related to registration has to be uploaded on the website & submit the application for registration. One set of hard copy filled-up SRF downloaded from Online Registration Portal duly signed & stamped has to be submitted.

24. Bidders to ensure that Third party/customer issued certificates being submitted as proof of PQR qualification should have verifiable details of document/certificate issuing authority such as name & designation of Issuing Authority and its organisation contact number and email Id etc. In case the same found not available, Purchaser has right to reject such document from evaluation.

25. Latest Update

All corrigenda, addenda, amendments, time extensions, clarifications, etc to the tender will be hosted on BHEL website (www.bhel.com), <https://bhel.abcpocure.com> & BHEL-PEM website (www.bhelpem.com). Bidders should regularly visit websites to keep themselves updated.

26. If bidder mentions Not Applicable / Not required / Not Quoted in BHEL price format, the same to be substantiated by the bidder. If such item is required to be supplied for system completion in future, same will be supplied free of cost.



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27. All other correspondence thereof shall be addressed to the undersigned by name & designation and sent at the following address:

Gaurav Gupta/ Dy.Manager-PG I
M/s Bharat Heavy Electricals Ltd.,
Project Engineering Management,
Power Project Engineering Institute,
HRD & ESI Complex,
Plot No 25, Sector-16 A, Noida-201301
E-MAIL: gauravgupta@bhel.in
Ph. No. 0120-4368685, 9717380606

G.C.Thakur/ Sr.Manager-PG-I
M/s Bharat Heavy Electricals Ltd.,
Project Engineering Management,
Power Project Engineering Institute,
HRD & ESI Complex,
Plot No 25, Sector-16 A, Noida-201301
E-MAIL: gcthakur@bhel.in
Ph. No. 0120-4368519

28. In case of joint bidding, bidders to furnish scope matrix which should be clearly defined between them along with the offer for the complete scope.

29. i) Over all (%) quantity variation: The variation on overall package value due to changes in the scope shall be limited to +/- 30% as mentioned in clause no 6.0 of GCC-REV-07.

30. Bidders to quote freight charges in percentage of their quoted Total Ex-works Prices.

31. GST shall be payable extra at actual as per the HSN code available in PO.

32. In line with clause no 26 of (ITB) GCC-REV-07, this package is not divisible in nature and minimum local content requirement is 50%. The margin of Purchase preference and the procedure for preference to Make in India shall be as per Public Procurement (Preference to Make in India), Order 2017 dated 15.06.2017, 28.05.2018 & 29.05.2019 and subsequent Orders issued by the Ministry, if any. Bidders are required to provide the following certificate along with the part-1 bid (**Format enclosed herewith**):

For value more than Rs 10 cr.

- Provide a certificate (in line with attached draft) from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.
- Provide the details of the location(s) at which the local value addition shall be made.

For value less than Rs 10 cr.

- Provide self-certification that the item offered meets the minimum local content and shall give details of the location(s) at which the local value addition is made

33. All the above terms and conditions, post-bid agreements/MoMs (during Techno- Commercial evaluation) shall automatically become a part of the Order/Contract after its finalisation.

34. Bidders to note that offers shall be submitted strictly in accordance with the requirements of tender documents. Bidders shall upload their complete offer meeting the requirements of the tender documents on e-procurement portal <https://bhel.abcpocure.com>.

Following documents need to be uploaded:

- Offer forwarding/ covering letter
- Documents required for meeting Technical PQRs
- Un-price bid, annexure-II (Cost of Withdrawal of Deviation) and Price bid in e-procurement portal.
- Documents as per Make In India orders.



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35. It shall be the responsibility of the bidder to ensure that the tender is uploaded on or before the due date and time. Late offers are not accepted. Part-I bids shall be opened at 03:00 PM on due date through e-procurement Portal.

36. **Tender submission through e-procurement portal-** Bidders may go through the Sellers' manual & Help documents provided on E-Procurement Portal website (<https://bhel.abcpocure.com>).

E-procurement service Provider details:

M/s E-Procurement Technologies Limited, Ahmedabad

B705, Wall Street II, Opp Orient Club, Near Gujrat college, Ellis Bridge, Ahmedabad,
PIN 380 006.

Please get in touch with our service provider at the earliest for required support. The contact details of the service provider are given at following links below:

<https://bhel.abcpocure.com/EPROC/contactus>

37. Tenders shall be submitted strictly in accordance with the requirements of the above mentioned tender documents. Deviations (Technical as well as Commercial), if any, shall be listed out separately in Annexure-II of GCC, Rev. 07 along with reasons for taking such deviations. Any deviations (Technical as well as Commercial) not mentioned in the Annexure-II shall not be considered. Bidders to note all the points mentioned in "Notes" of Annexure-II to GCC, Rev. 07.

38. Bidders are requested to refer Performance Bank Guarantee (PBG) format & rules and adhere to it while furnishing PBG.

39. In the course of evaluation, if more than one bidder happens to occupy L-1 status, effective L-1 will be decided by soliciting discounts from the respective L-1 bidders.

In case more than one bidder happens to occupy the L-1 status even after soliciting discounts, the L-1 bidder shall be decided by a toss/draw of lots, in the presence of the respective L-1 bidder(s) or their representative(s).

Ranking will be done accordingly. BHEL's decision in such situation shall be final and binding.

Note - In case you are not making an offer against this enquiry, you are requested to send a regret letter so as to reach us on or before the due date

Thanking You.

For and on behalf of BHEL

Dy. Manager / PG-I

Enclosures: - (1) SCC of the project (2) Draft copy of local content certificate (3) Technical Specifications (4) Technical PQR (5) BOQ