BHEL Ref. No.: Indent No.: B/4180/2024/3540V Rev.01 dtd-11/02/2025 /GeM

BUYERS SPECIFIC ADDITIONAL TERMS & CONDITIONS ITEM NAME: POWER CABLE AND FS POWER CABLE

PROJECTS- Raigarh-1 & 2 (Ph-II), Raipur Unit-1 & 2 (Ph-2), Mirzapur Unit-1 & 2 (PH-1), Kawai Unit-1 & 2 (PH-III) & Mahan Unit-1 & 2 (PH-III)

1. SCOPE OF ENQUIRY:

E-bids on GeM portal are invited from bidders for the supply of Power Cable *and* Fs Power Cable for Raigarh-1 & 2 (Ph-II), Raipur Unit-1 & 2 (Ph-2), Mirzapur Unit-1 & 2 (PH-II), Kawai Unit-1 & 2 (PH-III) & Mahan Unit-1 & 2 (PH-IIII) as per requirement mentioned below:

SI. No.	Material Code & Item Description	Total Quantity	Projects	LOT Quantity	Delivery Requirement
1.	W90318105160	1200000 MR	Raigarh Unit-1 (Ph-2)	10000 MR	03/08/2026
	POWER CABLE FOR 24V SOLENOID		Raigarh Unit-2 (Ph-2)	10000 MR	03/01/2026
	VALVE (ARMOURED) 4 X 2.5		Raipur Unit-1 (Ph-2)	10000 MR	30/03/2027
	MM2 SPEC: ST51020 REV: 03		Raipur Unit-2 (Ph-2)	10000 MR	30/09/2027
	SPEC: 5151020 REV: 03		Mirzapur Unit-1 (PH-1)	10000 MR	30/08/2027
			Mirzapur Unit-2 (PH-1)	10000 MR	01/03/2028
			Kawai Unit- 1 (PH -II)	10000 MR	30/01/2028
			Kawai Unit- 2 (PH -II)	10000 MR	30/07/2028
			Kawai Unit-1 (Ph-III)	10000 MR	30/04/2028
			Kawai Unit-2 (Ph-III)	10000 MR	30/10/2028
			Mahan Unit-1 & 2 (PH-III)	10000 MR	28/05/2028
			Mahan Unit-1 & 2 (PH-III)	10000 MR	28/11/2028
2.	W90318105241	48000 MR	Raigarh Unit-1 (Ph-2)	4000 MR	03/08/2026
	FS POWER CABLE FOR 24V		Raigarh Unit-2 (Ph-2)	4000 MR	03/01/2026
	SOLENOID VALVE (ARMOURED)		Raipur Unit-1 (Ph-2)	4000 MR	30/03/2027
	4X2.5 SQMM AS PER SPEC NO		Raipur Unit-2 (Ph-2)	4000 MR	30/09/2027
	ST51020 REV 03		Mirzapur Unit-1 (PH-1)	4000 MR	30/08/2027
			Mirzapur Unit-2 (PH-1)	4000 MR	01/03/2028
			Kawai Unit- 1 (PH -II)	4000 MR	30/01/2028
			Kawai Unit- 2 (PH -II)	4000 MR	30/07/2028
			Kawai Unit-1 (Ph-III)	4000 MR	30/04/2028
			Kawai Unit-2 (Ph-III)	4000 MR	30/10/2028
			Mahan Unit-1 & 2 (PH-III)	4000 MR	28/05/2028
			Mahan Unit-1 & 2 (PH-III)	4000 MR	28/11/2028

2. Project Detail with consignee address:

[A] Project Name	2X800 MW RAIGARH TPP (PH-II) PROJECT	
Consignee Address	Adani Power Limited Village: Chhote Bhandar PO: Bade Bhandar Tehsil: Pussore Raigarh 496100	
[B] Project Name	2X800 MW APL Raipur (Ph-II)	
Consignee Address	Adani Power Limited	
	Village: Raikheda	
	Block: Tilda, Raipur 493225	
	Chhattisgarh	
[C] Project Name	2X800 MW Mirzapur PH-I	
Consignee Address	Mirzapur Thermal Energy (UP) Private Limited	
	Village: Dadri Khurd; PO: Darhi Ram Tehsil: Sadar, District: Mirzapur 231 304 Uttar Pradesh	
[D] Project Name	2X800 MW KAWAI PH-II	
Consignee Address	Adani Power limited, Kawai, 2 x 800 MW(Phase-II) Thermal Power project, Village - Kawai, Tehsil - Atru, Baran -District, Rajasthan Pin-325219	
[E] Project Name	2X800 MW KAWAI PH-III	
Consignee Address	Adani Power limited, Kawai, 2 x 800 MW(Phase-III) Thermal Power project, Village - Kawai,	
	Tehsil - Atru, Baran -District, Rajasthan PIN-325219	
[F] Project Name	2X800 MW Mahan TPP (PH-III)	
Consignee Address	Mahan Energen Limited	
	2x800 MW (Phase-III) Mahan Ultra Supercritical Thermal Power Project,	
	Village: Bandhoura, Karsualal	
	Tehsil: Waidhan, District-Singrauli,	
	Pin - 486886, Madhya Pradesh	

3. EARNEST MONEY DEPOSIT (EMD):

All interested vendors must submit their e-bid along with the proof of submission of following Earnest Money Deposit (EMD) details in GeM portal along with offer. EMD is exempted as per GeM provisions applicable on GeM & mentioned at para no. 3.2 of this ATC.

Details	Amount In INR	Туре
EMD	INR 6,00,000/- (Six lakhs only)	Refundable

3.1: Modes of deposit: The EMD may be accepted only in the following forms:

- (i) Electronic Fund Transfer credited in BHEL account (before tender opening).
- (ii) Banker's cheque/ Pay order/ Demand draft, in favour of BHEL (along with offer).
- (iii) Fixed Deposit Receipt (FDR).
- (iv) Bank Guarantee from any of the Scheduled Banks.
- (v) Insurance Surety Bonds.
- (vi) The EMD shall remain valid for a period of 45 (forty-five) days beyond the final bid validity period as asked in NIT.

For E-Payment, the RTGS details are as mentioned below:

Bank Details	SWIFT Details of bank	Contact Details of Banker
STATE BANK OF INDIA RANIPUR BRANCH,		Contact No.
OPP: BHEL MAIN GATE,	SWIFT NO : SBININBB225	+91 1334 224201
SECTOR-5, RANIPUR, HARIDWAR,	CC ACCOUNT NO : 10667995458	+91 1334 226125
UTTRAKHAND, INDIA PIN CODE: 249403	IFSC CODE : SBIN0000586	Fax: +91 1334 226512

3.2: Exemption of EMD

As per GeM GTC following are the exempted category of EMD/Bid Security.

- a. Micro and Small Enterprises (MSEs) who are holding valid Udyam Registration and are manufacturer of the offered Productor Service (Primary Product / Service in case of bunch bid with total value wise evaluation) and give specific confirmation to this effect at the time of bid submission and claim EMD exemption and whose credentials are validated online through Udyam Registration website of Ministry of MSME and also through supporting document uploaded during bidding process and validated by the Buyer. State Government Buyers may, however, choose to exempt only MSEs from the State of Bid Inviting Authority by specifying the same in ATC of the Bid. In case no such ATC is included, eligible MSEs of all states are exempted.
- **b.** Start-ups as recognized by Department for Promotion of Industry and Internal Trade (DPIIT), holding valid Start-up Recognition Certificate which is to be uploaded while bidding and claiming EMD exemption and to be validated by the Buyer. Bidder to ensure that turnover for any of the financial years has not exceeded beyond limits prescribed in the certificate / Start Up scheme of DPIIT.
- c. KVIC, ACASH, WDO, Coir Board, TRIFED and Kendriya Bhandar.
- **d.** Sellers who have got their credentials verified through the process of Vendor Assessment by Vendor Assessment Agencies for the Primary Product / Primary Service for which Bid / RA has been invited and holding valid Vendor Assessment or Vendor Assessment Exemption Report / confirmation (Seller to upload VA report / VAE confirmation to be validated by the Buyer).
- **e.** Sellers / Service Provider having annual turnover of INR 500 Crore or more, at least in one of the past three completed financial year(s)
- **f.** Sellers / Service Providers holding valid BIS License for the Primary Product Category whose credentials are validated through BIS database and through uploaded supporting documents to be validated by the buyer.
- **g.** Central / State PSUs.
- **h.** In addition to above GeM conditions, offers directly from the manufacturer or their authorized agents are also exempted from submission of EMD.

3.3: Forfeiture of EMD:

- **a.** A bidder's EMD will be forfeited if the bidder withdraws or amends its/his tender or impairs or derogates from the tender in any respect within the period of validity of the tender or if the successful bidder fails to furnish the required performance security within the specified period mentioned in the Tender.
- **b.** EMD by the tenderer to be withheld in case any action on the bidder is envisaged under the provisions of extant "Guidelines on Suspension of business dealings with suppliers/ contractors" and forfeited/ released based on the action as determined under these guidelines.
- **c.** Bid securities of the unsuccessful bidders shall be returned to them after expiry of the final bid validity period / latest by the 30th day after the award of the contract. Since it is a two-part bidding, bid securities of unsuccessful bidders during first stage i.e. technical evaluation shall be returned within 30 days of declaration of result of first stage i.e. technical evaluation.

- d. Bid security/EMD of the successful bidder shall be returned only on conclusion of the order and receipt of a Performance Security/Performance Bank Guarantee of 10% of contract value (excluding taxes) from contractor / Supplier.
- e. EMD/PBG/PS shall not carry any interest.

4. PERFORMANCE SECURITY/PERFORMANCE BANK GUARANTEE:

Successful bidder to submit Performance Security/Performance Bank Guarantee of 5% of the contract Value (Excluding Taxes). The Performance Security/PBG shall be submitted within 30 days of notification of the award of Contract and it should remain valid for a period of 60 (sixty) days beyond the date of completion of all contractual obligations of the supplier, including warranty obligations.

PS/PBG shall be returned to the contractor without interest, after the contractor duly performs and completes the contract in all respects but not later than 60 (sixty) days of completion of all such obligations including the warranty under the contract. The Performance Security/PBG shall not carry any interest.

- **4.1 Modes of deposit of PS/ PBG**: Performance Security/Performance Bank Guarantee shall be furnished in the following forms:
 - I. Local cheques of Scheduled Banks (subject to realization)/ Pay Order/Demand Draft/ Electronic Fund Transfer in favour of BHEL.
 - II. Bank Guarantee from Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The Bank Guarantee format should have the approval of BHEL.
 - III. Fixed Deposit Receipt issued by Scheduled Banks / Public Financial Institutions as defined in the Companies Act (FDR should be in the name of the Contractor, a/c BHEL).
 - IV. Securities available from Indian Post offices such as National Savings Certificates, Kisan Vikas Patras etc. (held in the name of Contractor furnishing the security and duly endorsed/ hypothecated/ pledged, as applicable, in favour of BHEL).
 - V. Insurance Surety Bond.

(Note: BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith)

4.2: Forfeiture of Performance Security/Performance Bank Guarantee:

The Performance Security/ Performance Bank Guarantee will be forfeited and credited to BHEL's account in the event of a breach of contract by the supplier.

- 4.3: Performance Security shall be refunded to the Supplier/Vendor without interest, after the Supplier/Vendor duly performs and completes the contract in all respects but not later than 60(sixty) days of completion of all such obligations including the warranty under the contract.
- 4.4: The Performance Security shall not carry any interest.
- 4.5: There is no exemption of Performance security deposit submission for MSE Vendors.

3.BUYERS SPECIFIC ADDITIONAL TERMS & CONDITIONS IN ADDITION TO GTC

SI. No.	Terms	Description	Supplier confirmation
1.	Documents Checklist:	Please submit signed and stamped copy of your offer on each page along with following documents; • Buyer Specific T&C. • Technical PQR & its supportive document. • Technical drawing & purchase specification. • Certificate/self-certification for minimum local content as per PPP-MII order. • Replica of price bid schedule without prices with part-I offer.	
2.	Special Instruction of	Data sheets and type test reports shall be subject to BHEL approval.	
	Technical	Technical spec ST51020 rev 03 are to read along with add no 41810E2007.	
	requirement	Technical Specification ST 51020 Rev 02 As Indicated in Material Code Description May Be Read As ST 51020 Rev 03.	
		Clause no 5.2 of specification ST 51020 rev03 may be read as "The tolerance on overall ordered length of each type of cable shall be +0% & -2%".	
		The type test reports shall be submitted for one size of LT PVC power cables carried out within last 05 years from the date of bid opening. However, if the vendor is not able to submit report of the type test(s) conducted within last 05 years period from	
		the date of bid opening, or in the case of type test report are not found to be meeting the specification requirements, the vendor shall conduct all such tests under this	
		contract at no additional cost to BHEL in presence of customer/BHEL representative and submit the report for approval. Type test shall be as per standard: IS-1554 Part-1	
		Revised to add type test requirement as per Standard IS-1554 Part-1-Document.	
3.	Compliance of GTC on GeM	General Terms and Conditions on GeM 4.0 (Version 1.22) Dtd -28/02/2025 or it's latest revision of GeM portal shall be applicable against this enquiry. Kindly confirm to compliance the same for this tender.	
4.	Pre- Qualification Requirements	The Pre-Qualification Requirements have been compiled. All the bidders should ensure submission of complete details and documents as called for in these requirements. The Offers submitted by the bidders would be scrutinized with respect to Pre-Qualification Requirements first. Techno-Commercial offer of only those bidders shall be evaluated who meet the Pre-Qualification Requirements.	
5.	Customer approval requirement	Bidders are requested to submit their credentials along with offer (Credentials should include BHEL P.O.s on vendor for the same rating or higher rating turbines, Experience of vendor with state utilities and major PSU like NTPC, End User Certificate wherever available), in order to take up with end customer for approval	
		Supplier to submit following credentials for arranging Customer approval: - • Company Profile	
		• List of Order Executed/ on hand for Power Sector/Gov. organization of same /similar items	
		Copy of Major Supply Orders	
		Performance Certificates for Satisfactory working of System/ Equipment from end users Item.	
		The offer of only those bidders, who meet Pre-qualification requirement (PQR), Technical requirement and approved by the End Customer, will be considered for price-bid opening & RA for the requirement against this enquiry.	
6.	Make in India Clause	"For this procurement, the local content to categorize a supplier as a Class-I Local Supplier / Class-II Local Supplier/ Non-Local Supplier and purchase preference to Class-I Local Supplier, is as defined in Public Procurement (Preference to Make in India), Order-2017 Ref. No. P-45021/2/2017-PP (BE-II) dtd. 04/06/2020 issued by DPIIT. In case of subsequent orders issued, by the nodal ministry, changing the definition of local content for the items of this NIT, but before opening of Part-II bids against this	

		NIT	
		As per Make in India Order, only Class-1 and Class-2 local supplies are eligible to bid in this tender enquiry.	
		For this eligibility criteria, bidders are required to submit certificate of Minimum local content as specified in attached Make In India Declaration format.	
7.	Compliance of Rule 144 (xi) of GFR 2017	Compliance of Restrictions under Rule 144 (xi) of GFR 2017 shall be as per GeM.	
8.	Bid validity/ Validity of offer	Please note that validity of the offer shall be 180 days from the date opening of Techno-Commercial bid (Part-I bid) on GeM portal. Offer of bidder's having validity less than 180 days shall liable to reject. Please confirm. The required validity is considering that offer is complete & clear w.r.t. PQR and all techno-commercial conditions. Vendors need to extend their offer validity for the time taken by them in responding BHEL's comments/clarification sought during techno-commercial scrutiny of the offer. In case regret by any bidder for such validity extension, their offer shall liable to be reject. Please confirm.	
9.	Loading and unloading	Vendor's scope will not cover Loading & Unloading at Final destination of delivery. Unloading at final destination (i.e. BHEL site) is in BHEL 'scope. Loading and unloading at other intermediate places due to any permitted transhipment will be the responsibility of the vendor. Kindly note	
10.	Prices/Basis of Quotation	The offered prices of the items shall remain firm and fixed till the execution of the contract, kindly confirm.	
	Quotation	Kindly confirm that your quote prices are inclusive of P&F, Freight & GST for Total	
		quantity on GeM portal.	
		Transit Insurance would be arranged by BHEL. Please quote your prices accordingly. The prices are to be quoted on Ex-Works with freight Pre-paid up to project	
		destination basis. The goods must be dispatched through any Bank approved	
		transporters having their branch at Haridwar. The names and addresses of transporters approved by IBA as well as BHEL are posted at our website	
		www.bhelhwr.co.in. Please note that, if you dispatch the material by any BHEL un-approved transporter then you will necessarily be required to furnish the MRC (Material Receipt Certificate) from respective Project Site for processing of your invoice. No demurrage charges would be borne by BHEL.	
11.	Special Instructions:	a. ADADNI projects:	
	mstractions.	Please inform 8 digit HSN code for Leak Steam Valve along with spares.	
		08 DIGIT GST HSN CODE to be provided & mentioned in your invoice &	
		packing list.	
		 Invoice, GR/LR, packing list, Test certificate are required in original for billing to end user. 	
		Loose items one marker board needs to be send for each bundle for fixing	
		RFID tag at site.	
		 Vendor to ensure submission billing documents in the same month of material despatch. If vendor fail to provide the despatch documents in the 	
		same month GST Penalty shall be applicable and bear by vendor as per GST rule.	
12.	Evaluation	Evaluation shall be done on total landed cost up to BHEL Project Sites considering all	
	criteria	material codes together for complete scope of enquiry.	
13.	Evaluation	The evaluation currency for this tender shall be INR.	

	Currency			
14.	Payment terms:	For Material portion:		
		The payment shall be done after receipt of Material at BHEL respective project site, within no. of days as defined in the below table from the date of receipt of Material at site i.e. MRC date).		
		Type of Bidder	Payment Terms (Number of Days)	
		Micro & Small Enterprises (MSEs)	45 days	
		Medium Enterprises	60 days	
		Non MSME	90 days	
			ceipt of non-discrepant document from suppl	
15.	GeM charges		le only i.e. buyer's GeM charges shall be in bu all be on seller's account. Please confirm.	ıyer's
16.	Contract execution	Order shall be executed through GeN		
17.	Reverse	_	se Auction (RA) on GEM portal as per	
	Auction (E-bidding)		all be conducted among the techno-commer	cially
18.	Quantity Variation	qualified bidders. BHEL reserves the right to cancel to assigning any reasons thereof.	ender or reject any or all the quotations wi	thout
		_	crease or decrease the tendered quantition	es or
		quantity of individual material code		
			ept order for reduced Quantity without any epared for giving discount in case of Increa	
		Quantity.	pared for giving discount in case of increa	30 111
		Vendor has to take manufacturing clearance from BHEL before starting manufacturing		
		of material. In case ordered quantity is reduced at the time of manufacturing		
		clearance, then payment shall be made accordingly as per decreased quantity. Kindly		Cindly
19.	Delivery Period	confirm. Please note that BHEL's Delivery requirements are mentioned in point no 1 of above.		
19.	Delivery Feriou	Early delivery w.r.t. above lot delivery will be accepted only after written confirmation		
		from BHEL. BHEL reserve right to reject early delivery request of bidders / suppliers.		
		Delivery period indicated in GeM bid is only indicative and final delivery of tender shall		
		be taken as mentioned above.		
		Accordingly bidders to confirm the above deliveries or quote their best possible		
		delivery in no of months / weeks from the date of placement of Purchase order, including all activities like document approval, inspection by TPI time etc.		
20.	Technical	_	AP etc. as called for in the specifications sha	
	Document/	1	omer approval within 30 days of purchase of	
	Drawing		lata sheets/ documents / QAP etc. within 30	days
	approval conditions	of receipt. Any comments on the documents shall be given by BHEL within 7 days of submission		
	Conditions	and vendor shall submit revised document / reply to comments, within 7 days of BHEL		
		comments. However, total time for Document submission and approval shall not		I not
		exceed 30 days for respective party.		
		Delivery is from the date of PO ag	ccordingly, delay in submission / revision o	f the
		-	atically account for to vendor. In case of dela	
		1	roval of the documents, the delivery shall b	•
			by BHEL in excess to 30 days. For delay an	-
			me taken in comments), shall be considere	d for
21	Liquidatad	delivery extension.	o as per clause no. 15 (iii) of Coneral towns	s and
21.	Liquidated	Liquidated Damages shall be lot Wis	e as per clause no. 15 (iii) of General terms	s allu

	Damages (LD) for late delivery	conditions on GeM 4.0 (Version 1.21) as under: kindly confirm. "If the Seller/Service Provider fails to deliver any or all of the Goods/Services within the original/re-fixed delivery period(s) specified in the contract, the Buyer will be entitled to deduct/recover the Liquidated Damages for the delay, unless covered under Force Majeure conditions aforesaid, @ 0.5% of the contract value of delayed quantity per week or part of the week of delayed period as pre-estimated damages not exceeding 10% of the contract value of delayed quantity without any controversy/dispute of any sort whatsoever".	
		The date of LR would be treated as the date of delivery for penalty purposes.	
22.	MDCC clause	Please note that, material shall be dispatched only after issue of Material dispatch clearance certificate (MDCC) from end customer. For issue of MDCC, vendors are required to submit all test certificates (TC) and inspection report of third party (IR) to BHEL. After review & acceptance of the quality document, BHEL will forward the same to end customer for issuance of MDCC. MDCC shall be issued within 7 days of receipt of complete quality documents / TCs,. In case of delay in issuance of MDCC, only delivery shall be extended by no of days taken by BHEL in excess to 7 days and all other terms and conditions of PO shall remains same & binding.	
		In case any material is dispatched without MDCC and any loss is incurred by Supplier/Vendor for any reason whatsoever, BHEL shall not be responsible in any manner to compensate the supplier in this regard. Kindly confirm.	
23.	BREACH OF		
	CONTRACT,	The following shall amount to breach of contract:	
	REMEDIES AND		
	TERMINATION:	I. Non-supply of material/ non-completion of work by the Supplier/Vendor within scheduled delivery/ completion period as per contract or as extended from time to time. II. The Supplier/Vendor fails to perform as per the activity schedule and there are sufficient reasons even before expiry of the delivery/ completion period to justify that supplies shall be inordinately delayed beyond contractual delivery/ completion period. III. The Supplier/Vendor delivers equipment/ material not of the contracted quality. IV. The Supplier/Vendor fails to replace the defective equipment/ material/ component as per guarantee clause. V. Withdrawal from or abandonment of the work by the Supplier/Vendor before completion as per contract. VI. Assignment, transfer, subletting of Contract by the Supplier/Vendor without BHEL's written permission resulting in termination of Contract or part thereof by BHEL. VII. Non-compliance to any contractual condition or any other default attributable to Supplier/Vendor. VIII. Any other reason(s) attributable to Vendor towards failure of performance of contract. In case of breach of contract, BHEL shall have the right to terminate the Purchase Order/ Contract either in whole or in part thereof without any compensation to the Supplier/Vendor. IX. Any of the declarations furnished by the contractor at the time of bidding and/ or entering into the contract for supply are found untruthful and such declarations were of a nature that could have resulted in non-award of contract to the contractor or could expose BHEL and/ or Owner to adverse consequences, financial or otherwise. X. Supplier/Vendor is convicted of any offence involving corrupt business practices, antinational activities or any such offence that compromises the business ethics of BHEL/ in violation of the Integrity Pact entered into with BHEL has the potential to harm the overall business of BHEL/ Owner.	

Note-Once BHEL considers that a breach of contract has occurred on the part of Supplier/Vendor, BHEL shall notify the Supplier/Vendor by way of notice in this regard. Contractor shall be given an opportunity to rectify the reasons causing the breach of contract within a period of 14 days.

In case the contractor fails to remedy the breach, as mentioned in the notice, to the satisfaction of BHEL, BHEL shall have the right to take recourse to any of the remedial actions available to it under the relevant provisions of contract.

Remedies in case of Breach of Contract.

- i) Wherein the period as stipulated in the notice issued under above clause has expired and Supplier/Vendor has failed to remedy the breach, BHEL will have the right to terminate the contract on the ground of "Breach of Contract" without any further notice to contractor.
- ii) Upon termination of contract, BHEL shall be entitled to recover an amount equivalent to 10% of the Contract Value for the damages on account of breach of contract committed by the Supplier/Vendor. This amount shall be recovered by way of encashing the security instruments like performance bank guarantee etc available with BHEL against the said contract. In case the value of the security instruments available is less than 10% of the contract value, the balance amount shall be recovered from other financial remedies (i.e. available bills of the Supplier/Vendor, retention amount, from the money due to the Supplier/Vendor etc. with BHEL) or the other legal remedies shall be pursued.
- iii) wherever the value of security instruments like performance bank guarantee available with BHEL against the said contract is 10% of the contract value or more, such security instruments to the extent of 10% contract value will be encashed. In case no security instruments are available or the value of the security instruments available is less than 10% of the contract value, the 10% of the contract value or the balance amount, as the case may be, will be recovered in all or any of the following manners:
- iv) In case the amount recovered under sub clause (a) above is not sufficient to fulfil the amount recoverable then; a demand notice to deposit the balance amount within 30 days shall be issued to Supplier/Vendor.
- v) If Supplier/Vendor fails to deposit the balance amount within the period as prescribed in demand notice, following action shall be taken for recovery of the balance amount:
- a) from dues available in the form of Bills payable to defaulted Supplier/Vendor against the same contract.
- b) If it is not possible to recover the dues available from the same contract or dues are insufficient to meet the recoverable amount, balance amount shall be recovered from any money(s) payable to Supplier/Vendor under any contract with other Units of BHEL including recovery from security deposits or any other deposit available in the form of security instruments of any kind against Security deposit or EMD.
- vi) In-case recoveries are not possible with any of the above available options, Legal action shall be initiated for recovery against defaulted supplier/Vendor.
- vii) It is an agreed term of contract that this amount shall be a genuine pre-estimate of damages that BHEL would incur in completion of balance contractual obligation of the contract through any other agency and BHEL will not be required to furnish any other evidence to the Supplier/Vendor for the purpose of estimation of damages.
- viii) In addition to the above, imposition of liquidated damages, debarment, termination, de-scoping, short-closure, etc., shall be applied as per provisions of the contract.

Note:

- 1) The defaulting Supplier/Vendor shall not be eligible for participation in any of the future enquiries floated by BHEL to complete the balance work. The defaulting contractor shall mean and include:
- (a) In case defaulted Supplier/Vendor is the Sole Proprietorship Firm, any Sole

Proprietorship Firm owned by same Sole Proprietor.

(b) In case defaulted Supplier/Vendor is The Partnership Firm, any firm comprising of same partners/ some of the same partners; or sole proprietorship firm owned by any partner(s) as a sole proprietor.

24. Suspension of Business Dealings with Suppliers / Contractors:

The offers of the bidders who are under suspension as also the offers of the bidders, who engage the services of the banned firms / principal / agents, shall be rejected. The list of banned firms is available on BHEL web site www.bhel.com.

If any bidder / supplier / contractor during pre-tendering / tendering / post tendering / award / execution / post-execution stage indulges in any act, including but not limited to, mal-practices, cheating, bribery, fraud or and other misconduct or formation of cartel so as to influence the bidding process or influence the price or tampers the tendering process or acts or omits in any manner which tantamount to an offence punishable under any provision of the Indian Penal Code, 1860(Bhartiya Nyaya Samhita 2023) or any other law in force in India, or does anything which is actionable under the Guidelines for Suspension of Business dealings, action may be taken against such bidder / supplier / contractor as per extant guidelines of the company available on www.bhel.com and / or under applicable legal provisions. Guidelines for suspension of business dealings is available in the webpage:

http://www.bhel.com/vender_registration/vender.php.

25. Settlement of Dispute, CONCILIATION & ARBITRATION:

Settlement of Dispute

If any dispute or difference of any kind whatsoever shall arise between BHEL and the Supplier/Vendor, arising out of the contract for the performance of the work whether during the progress of contract termination, abandonment or breach of the contract, it shall in the first place referred to Designated Officer / IEM for amicable resolution by the parties. Designated Officer / IEM who within 60 days after being requested shall give written notice of his decision to the contractor. Save as hereinafter provided, such decision in respect of every matter so referred shall forthwith be given effect to by the Supplier/Vendor who shall proceed with the work with all due diligence, whether he or BHEL desires to resolve the dispute as hereinafter provided or not. If after the Designated Engineer has given written notice of this decision to the party and no intention to pursue the dispute has been communicated to him by the affected party within 30 days from the receipt of such notice, the said decision shall become final and binding on the parties. In the event the Supplier/Vendor being dissatisfied with any such decision or if amicable settlement cannot be reached then all such disputed issues shall be resolved through conciliation in terms of the BHEL Conciliation Scheme 2018 as per 'CONCILIATION' Clause.

CONCILIATION:

Any dispute, difference or controversy of whatever nature howsoever arising under or out of or in relation to this Agreement (including its interpretation) between the Parties, and so notified in writing by either Party to the other Party (the "Dispute") shall, in the first instance, be attempted to be resolved amicably in accordance with the conciliation procedure as per BHEL Conciliation Scheme 2018. The proceedings of Conciliation shall broadly be governed by Part-III of the Arbitration and Conciliation Act 1996 or any statutory modification thereof and as provided in - "Procedure for conduct of conciliation proceedings" (as available in www.bhel.com).

Note: Ministry of Finance has issued OM reference No. 1/2/24 dated 03.06.2024 regarding "Guidelines for Arbitration and Mediation in Contracts of Domestic Public Procurement. In the said OM it has been recommended that Government departments/ Entities/agencies are to encourage mediation under the Mediation Act. 2023. The said Act has not yet been notified by the Government. Therefore, the clause "Settlement of Disputes" shall be modified accordingly as and when the Mediation Act 2023 gets notified.

ARBITRATION:

Except as provided elsewhere in this Contract, in case Parties are unable to reach

amicable settlement (whether by Conciliation to be conducted as provided herein above or otherwise) in respect of any dispute or difference; arising out of the formation, breach, termination, validity or execution of the Contract; or, the respective rights and liabilities of the Parties; or, in relation to interpretation of any provision of the Contract; or. in any manner touching upon the Contract (hereinafter referred to as the 'Dispute'), then, either Party may, refer the disputes to Arbitral Institution and such dispute to be adjudicated by Sole Arbitrator appointed in accordance with the Rules of said Arbitral Institution.

A party willing to commence arbitration proceeding shall invoke Arbitration Clause by giving notice to the other party in terms of section 21 of the Arbitration & Conciliation Act, 1996 (hereinafter referred to as the 'Notice') before referring the matter to arbitral institution. The Notice shall be addressed to the Head of the Region, Power Sector/ Unit, BHEL, executing the Contract and shall contain the particulars of all claims to be referred to arbitration with sufficient detail and shall also indicate the monetary amount of such claim including interest, if any.

After expiry of 30 days from the date of receipt of aforesaid notice, the party invoking the Arbitration shall submit that dispute to the Arbitral Institutions (shall be identified by the contract issuing agency) and that dispute shall be adjudicated in accordance with their respective Arbitration Rules. The matter shall be adjudicated by a Sole Arbitrator who shall necessarily be a Retd Judge having considerable experience in commercial matters to be appointed/nominated by the respective institution. The cost/expenses pertaining to the said Arbitration shall also be governed in accordance with the Rules of the respective Arbitral Institution. The decision of the party invoking the Arbitration for reference of dispute to a specific Arbitral institution for adjudication of that dispute shall be final and binding on both the parties and shall not be subject to any change thereafter. The institution once selected at the time of invocation of dispute shall remain unchanged.

The fee and expenses shall be borne by the parties as per the Arbitral Institutional rules.

The Arbitration proceedings shall be in English language and the seat and venue of Arbitration shall be at the court(s) of Haridwar.

Subject to the above, the provisions of Arbitration & Conciliation Act 1996 and any amendment thereof shall be applicable. All matters relating to this Contract and arising out of invocation of Arbitration clause are subject to the exclusive jurisdiction of the Court(s) situated at Haridwar , shall have exclusive jurisdiction.

Notwithstanding any reference to the Designated Engineer or Conciliation or Arbitration herein, a. the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree. Settlement of Dispute clause cannot be invoked by the Contractor, if the Contract has been mutually closed or 'No Demand Certificate' has been furnished by the Contractor or any Settlement Agreement has been signed between the Employer and the Contractor.

It is agreed that Mechanism of resolution of disputes through arbitration shall be available only in the cases where the value of the dispute is less than Rs. 10 Crores. In case the disputed amount Claim, Counter claim including interest is Rs. 10 crores and above, the parties shall be within their rights to take recourse to remedies other than Arbitration, as may be available to them under the applicable laws after prior intimation to the other party. Subject to the aforesaid conditions, provisions of the Arbitration and Conciliation Act, 1996 and any statutory modifications or re-enactment thereof as amended from time to time, shall apply to the arbitration proceedings under this clause.

In case, multiple arbitrations are invoked (whether sub-judice or arbitral award

		I				
		(including interest cl account while arrivin purpose of clause me crores shall be reso adjudicated by the co	passed) by any party to under this contract, then the cumulative value of claims (including interest claimed or awarded) in all such arbitrations shall be taken in account while arriving at the total claim in dispute for the subject contract for the purpose of clause mentioned above. Disputes having cumulative value of less than 10 crores shall be resolved through arbitration and any additional dispute shall be adjudicated by the court of competent jurisdiction.			
26.	Action against Bidders / vendor / supplier / contractor in case of default:	In order to protect the commercial interests of BHEL, BHEL shall take action against supplies / contractors by way of suspension of business dealings, who either fail to perform or are in default without any reasonable cause, cause loss of business/money/ reputation, indulge in malpractices, cheating, bribery, fraud or any other misconduct or formation of cartels so as to influence the bidding process or influence the price etc.				
		supplier/ contractor	or a bidder and sha with Suppliers/ Co om/guidelines-suspe	ll be as per "Guidel ntractors" available	'Hold" or "Banning" a ines for Suspension of e at BHEL's website ngs-	
27.	MICRO AND SMALL ENTERPRISES (MSE):	-	ce/ Govt. Certificate e		owing details & submit same along with their	
	(Type under MSE	SC/ST owned	Women owned	Others (excluding SC/ ST & Women Owned)	
		Micro				
		Small				
20	HIRISDICTION	Note: If the bidder does not furnish the above, offer shall be processed construing that the bidder is not falling under MSE category. a) MSE suppliers can avail the intended benefits in respect of the procurements related to the Goods and Services only (Definition of Goods and Services as enumerated by Govt. of India vide Office Memorandum F. No. 21(8)/2011-MA dtd. 09/11/2016 office of AS & DC, MSME) only if they submit along with the offer, attested copies of either Udyam Registration. Date to be reckoned for determining the deemed validity will be the last date of Technical Bid submission. Non-submission of supporting document in GeM portal will lead to consideration of their bids at par with other bidders. No benefits shall be applicable for this enquiry if the above required documents are not uploaded at the time of bid submission. Documents submitted by the bidder shall be verified by BHEL for rendering the applicable benefits.				
28.	JURISDICTION:	of India. Subject to cl original Civil Jurisdicti all matters in respect	This contract shall be governed by the Law for the time being in force in the Republic of India. Subject to clause(s) mentioned above of this contract, the Civil Court having original Civil Jurisdiction at Haridwar shall alone have exclusive jurisdiction in regard to all matters in respect of the Contract.			
29.	Force Majeure	parties to contract, by the event before enter not reasonably have either of the particircumstances include foreign enemies. ii) F power, or civil war. contractor's personne Strike or lockout not of the contractor an materials, ionizing re-	either of the parties ering into the contract avoided or overcome ies. And Prevents to but shall not be limited by the commotion of the contractors. The contractors is and other employers of sub-contractors.	could not reasonably (, c) having arisen, eit (e, and d) is not substitute performance of aited to: i) War, host evolution, insurrection or disorder by personner on tractor's personner Encountering munitation by radio-activ	control of either of the y have provided against her of the parties could tantially attributable to f the contract, Such cilities, invasion, act of on, military or usurped ersons other than the and sub-contractors. iv) el and other employees tions of war, explosive ity, except as may be ves, radiation or radio-	

		activity. vi) Natural catastrophes such as earthquake, tsunami, volcanic activity, hurricane or typhoon, flood, fire, cyclones etc. vii) Epidemic, pandemic etc.	
		The following events are explicitly excluded from Force Majeure and are solely the responsibilities of the non-performing party: a) any strike, work-to-rule action, goslow or similar labour difficulty (b) late delivery of equipment or material (unless caused by Force Majeure event) and (c) economic hardship.	
		If either party is prevented, hindered or delayed from or in performing any of its obligations under the Contract by an event of Force Majeure, then it shall notify the other in writing of the occurrence of such event and the circumstances thereof within 15 (fifteen) days after the occurrence of such event.	
		The party who has given such notice shall be excused from the performance or punctual performance of its obligations under the Contract for so long as the relevant event of Force Majeure continues and to the extent that such party's performance is prevented, hindered or delayed. The Time for Completion shall be extended by a period of time equal to period of delay caused due to such Force Majeure event.	
		Delay or non-performance by either party hereto caused by the occurrence of any event of Force Majeure shall not i) Constitute a default or breach of the Contract. ii) Give rise to any claim for damages or additional cost expense occasioned thereby, if and to the extent that such delay or	
		non-performance is caused by the occurrence of an event of Force Majeure. BHEL at its discretion may consider short closure of contract after 1 year of imposition of Force Majeure in line with extant guidelines. In any case, Supplier/Vendor cannot consider deemed short-closure after 1 year of imposition of Force Majeure	
30.	Cartel Formation	The Bidder declares that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s). This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process. In case, the Bidder is found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies/guidelines.	
31.	Order of Precedence:	In the event of any ambiguity or conflict between the Tender Documents, the order of precedence shall be in the order below: a. Amendments/Clarifications/Corrigenda/Errata etc. issued in respect of the tender documents by BHEL. b. Buyer Added Bid Specific ATC c. GeM Bid Technical Conditions of Contract (TCC) d. GeM GTC	
32.	Conflict of interest:	A bidder shall not have conflict of interest with other bidders. Such conflict of interest can lead to anti-competitive practices to the detriment of Procuring Entity's interests. The bidder found to have a conflict of interest shall be disqualified. A bidder may be considered to have a conflict of interest with one or more parties in this bidding process, if: a) they have controlling partner (s) in common; or b) they receive or have received any direct or indirect subsidy/financial stake from any	
		of them; or c) they have the same legal representative/agent for purposes of this bid; or d) they have relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the bid of another Bidder; or e) Bidder participates in more than one bid in this bidding process. Participation by a	
		Bidder in more than one Bid will result in the disqualification of all bids in which the parties are involved. However, this does not limit the inclusion of the components/ sub-assembly/ Assemblies from. one bidding manufacturer in more	

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		than one bid; or f) In cases of agents quoting in offshore procurements, on behalf of their principal manufacturers, one agent cannot represent two manufacturers or quote on their behalf in a particular tender enquiry. One manufacturer can also authorize only one agent/dealer. There can be only one bid from the following: 1. The principal manufacturer directly or through one Indian agent on his behalf; and 2. Indian/foreign agent on behalf of only one principal· or g) A Bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the contract that is the subject of the Bid· or h) In case of a holding company having more than one independently manufacturing units, or more than one unit having common business ownership/management, only one unit should quote. Similar restrictions would apply to closely related sister companies. Bidders must proactively declare such sister/ common business/		
33.	Guarantee clause	management units in same/ similar line of business. Kindly confirm that Guarantee shall be provided for a period of "24 months from the date of despatch/supply". In case of any failure or trouble reported from site, the supplier should depute their representative immediately to attend the problem and replace the defective component/part if required, without any additional cost to BHEL. Supplier shall be responsible for free replacement of defective equipment / material at our site Please note that offers with guarantee period lesser than above mentioned guarantee period may result in rejection of the offer.		
34.	Order Acceptance:	Ink signed order acceptance shall be furnished case, order acceptance do not received within to be accepted by you.	·	
35.	Beneficiary of PO	Kindly confirm on whom the PO will be placed i	n the event of ordering.	
36.	Dispatch documents	Following dispatch documents to be provided immediately after directly dispatch to BHEL Project site for billing purpose: Guarantee/Warrantee Certificates E- Invoice and commercial invoice GeM invoice Original consignee copies of GR/LR/RR (Material shall be dispatched on door delivery basis without consignee copy) Packing list Original GST compliance certificate E-way bill MRC/POD/Receipted LR/RR/GR copy (as per proof of delivery of material at BHEL Project site)		
37.	Integrity Pact	authorized signatory) along with techno-conthree-part bid). Only those bidders who has would be competent to participate in the bid Pact would be a preliminary qualification.	Email iem1@bhel.in iem3@bhel.in is to be submitted (duly signed by ommercial bid (Part-I, in case of two/nve entered into such an IP with BHEL	

			ring process, the matter may be referred to dence with the IEMs shall be done through	
		email only.		
		Note:		
			dressed to the IEM (phone/ post/ email)	
			s or any other administrative queries, etc. on	
			sues shall be addressed directly to the tender	
			ls whose contact details are provided below:	
		Mithlesh Kumar Maurya	Mr. C. L. Meena	
		Designation: Addl. Engineer (PPX-BOI)	Designation: Manager (PPX-BOI)	
		4 th Floor, Main Administrative Building,	4 th Floor, Main Administrative Building,	
		HEEP, BHEL, Hardwar- 249403 Uttarakhand, India	HEEP, BHEL Hardwar- 249403 Uttarakhand, India	
		Ottarakiland, india	Email ID: <u>clmeena@bhel.in</u>	
		mithleshkumar.maurya@bhel.in	Tel: +91 1334 28 1207	
		Tel: +91 1334 28 1690	101. 131 1334 20 1207	
38.	Additional	BHEL reserves the right to consider / Not-c	consider the offers based on the evaluation	
	Conditions for	of documents submitted for the Pre-Qualif	fication Criteria (PQR).	
	Assessment	BHEL also reserves the right to have on-site assessment of the facilities at supplier's		
		works during the bid evaluation.		
39.	Quality	Vendor to confirm and endorse BHEL QP "	QA/BE/QP/318/20243540 REV00.	
	Requirement			
		Vendor to confirm that pre-despatch inspection shall be done by BHEL nominated		
		inspection agency/BHEL TPIA as per BHEL QP "QA/BE/QP/318/20243540 REV00.		
		The Charges for Pre-Inspection would be borne by BHEL. However at least 15 days'		
		notice is to be provided for arranging Pre-Inspection.		
40.	Bidder Contact	Please provide Contact details of yo	ur representative for techno-commercial	
	details	clarifications: Mobile no. & Email id (minin	num 2 person)	

SPECIAL NOTE FOR BIDDERS:

- a. In the event of our customer order covering this tender being cancelled /placed on hold /otherwise modified, BHEL would be constrained to accordingly cancel / hold / modify the tender at any stage of execution.
- b. BHEL may negotiate the L1 rate, if not meeting our budget / estimated cost. BHEL may re-float the tender opened, if L1 price is not acceptable to BHEL even after negotiation.
- c. Any change in applicable rates of Tax or any other statutory levies (Direct / Indirect) or any new introduction of any levy by means of statute and its corresponding liability for the deliveries beyond the agreed delivery date for reasons not attributable to BHEL will be to vendors account. BHEL will not reimburse the same and any subsequent claim in this respect will be summarily rejected.
- d. BHEL reserves its right to reject an offer due to unsatisfactory past performance by the respective Vendor in the execution of any contract to any BHEL project / Unit.
- e. The offers of the bidders who are under suspension and also the offers of the bidders, who engage the services of the banned firms /principal/agents, shall be rejected. The list of banned firms is available on BHEL web site www.bhel.com.
- f. Recovery / deduction as applicable as per Direct and Indirect taxes as notified by Govt. Of India from time to time will be made and information/certificate for such deduction/recoveries shall be provided by BHEL to the vendor.
- g. If the delivery of supply as detailed above gets delayed beyond the delivery period, the Supplier/Vendor shall request for a delivery extension and BHEL at its discretion may extend the Contract. However, if any 'Delivery extension' is granted to the Supplier/Vendor for completion of supply, due to backlog attributable to the Supplier/Vendor, then it shall be without prejudice to the rights of BHEL to impose LD for the delays attributable to the Supplier/Vendor.
- h. In case BHEL increase the quantity during currency of the contract in line with quantity variation clause of GeM bid, delivery extension on pro-rata basis shall be given for supply of these additional quantity.

Following documents are an integral part of this Tender Enquiry and endorsed copies of these documents (duly signed and stamped on each page, as a token of acceptance) are to be submitted/uploaded along with offer on GeM portal against this bid.

- 1. Please submit replica of Price schedule (without prices) showing "quoted" in place of price along with technocommercial bid (Part-I).
- 2. Please submit signed & Stamped copy (each page) of duly filled of confirmation column of "Buyers Specific Additional Terms & Conditions (ATC)" and its clause wise supporting documents where required.
- **3.** Please submit signed & stamped copy (each page) for qualifying PQR with proper filled information and related supporting documents as mentioned in PQR.
- **4.** Please submit signed & stamped copy (each page) of **Integrity Pact**.
- 5. Please submit signed & stamped copy (each page) of BHEL QP "QA/BE/QP/318/20243540 REV00.
- 6. Please submit certificate of Minimum local content as specified in the Make In India Certificate of the tender



CONTROLS & INSTRUMENTATION PRE-QUALIFICATION REQUIREMENT (PQR) GUIDELINES CABLES REQUIRMENT - CORE 2.5MM SQ POWER CABLE

SI. No.	Description	Bid Requirements	Vendor remarks
1	Type of Vendor	Vendor shall be the Original Equipment Manufacturer (OEM) of 5x2.5 mm ² 1.1kv power cables.	Accepted / Not accepted
2	Proven Track record/Past Experience	Vendor shall demonstrate their capability of track record of having supplied at least one customer order of similar lot size and variety of cables, as per the present enquiry, to be deployed in any power plant in India, with at least 30 kms in single order, within last 4 years as on the date of enquiry.	Accepted / Not accepted
		 Vendor shall submit the reference list (signed and sealed) with details of customer, project/site, year of supply, contact details & recent PO copies. 	
	· ·	 Vendor shall submit the copy of the largest purchase order for LT power cables in terms of Quantity & value, executed by them in last 3 years. Vendor should have experience of supplying 	
3	Facilities required	All machineries and facilities that are required for the complete manufacturing of cables, shall be available in house. None of the major stages/processes (wire drawing, stranding, bunching, sheathing (extrusion/wrapping), armouring, printing, embossing) involved in the manufacturing of the cable, shall be off loaded or outsourced. Vendor to furnish details of manufacturing facility and testing facility.	Accepted / Not accepted
4	Testing Facilities	Vendor shall have the facility to conduct acceptance, routine and type tests as per the enquiry, either inhouse or at NABL accredited labs.	Accepted / Not accepted
5	Past Supply Association / Experience with BHEL	Previous purchase orders executed with BHEL, NTPC or State electricity boards, if any shall be referred to. Vendor to inform if party is registered vendor with any BHEL sister unit.	For information.

PREPARED- KAVITA KAY

CHECKED - DEEPAK GOYAL Deep

CHECKED - SURESH CHANDRA

DATE-15.05.24

1 of 1

ITEM: POWER CABLES 4X2.5 sqmm (ARMOURED)

ADDENDUM NO: 41810E2007 :-

ADDENDUM TO SPECIFICATION NO ST51020 REV 03.

321512W 31-2781CLF)

- 1. The power cable shall be armoured conforming to IS:3975 and IS: 1554.
- 2. For fire survival cable material code W90318105241 required taping of fibre glass or any other proven material shall be provided over conductor to meet the requirement of IEC 331, and for it minimum thickness of the tape shall be 0.13 mm and overlapping shall not be less than 30%.
- 3. All cables shall be anti-rodent and anti-termite with moisture resistant and anti-fungus properties. Test for anti-rodent and anti termite shall be conducted as per vendor standard.
- 4. Heat Shrinkable end cap to be provided at both end of the all the cable drums to protect the ingress of water during transportation and storage of drums.
- All Cable Drum shall be of good quality & shall meet the requirement of IS:10418. Drums shall be treated with Anti termite solution.

It must not be used directly or indirectly in any way detrimental to the interest of the



उत्पाद मानक

PRODUCT STANDARD STEAM TURBINE ENGINEERING

ST 51020

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Page 1 of 3

BASED ON OWN EXPERIENCE

PURCHASE SPECIFICATION OF POWER CABLE(2.5mm²) FOR 24V SOLENOID VALVES

1.0 APPLICATION:

Fire retardant low smoke (FRLS) type, 1100 V voltage grade multicore power cable for power plant application. The cable shall be suitable for laying in wet or dry locations in trays, conduits, ducts, trenches and underground-buried installation. Cable shall be suitable for ambient conditions of (-) $10 \,^{\circ}$ C to $60 \,^{\circ}$ C and relative humidity 85%.

2.0 REFERANCE STANDARD: The standard is based on IS:1554 (P+1)-1998 in general.

3.0 CONSTRUCTION:

- 3.1 Conductor: Each core shall be stranded copper (untinned) circular shape material of 2.5 mm² cross sectional area as per IS:8130.The conductor shall be made of annealed high conductivity conductor complying IS:8130.
- 3.2 Insulation: Each core shall be insulated by extrusion process with PVC type A, as per IS:5831, and thickness shall be as per IS:1554 (Pt 1)
- 3.3 Number of cores and cross-sectional area: As per enquiry.
- 3.4 Identification of cores: Colour codes as per IS: 1554 (P.+-1)
- 3.5 Inner sheath: The cable shall be sheathed with FRLS PVC type ST-1, as per IS: 5831 by extrusion process and thickness shall be as per IS: 1554(Pt-1)

Overall diameter and tolerance of cable shall be indicated in offer.

3.6 Armouring: As per enquiry.

_\	PSC Member	Vined Kr.	124/11/15	अनुवादक TRANSLATED BY		हस्ताक्षर एवं वि	
11/11	TSX	Lalit kumar	Lalit Kuman	निर्माणकर्ता WORKED BY	NAME Sandeep Gupta	SIGN. & DA	18.11.15
Cla	QAX	SK Chauhan	9000 nauch	परीक्षणकर्ता CHECKED BY	Suresh Chandra	mur.	18.11.15
1	सहमत विभाग AGREED DEPTT.	नाम NAME	दिनांक एवं हस्ताक्षर DATE & SIGNATURE	पर्यवेक्षणकर्ता SUPERVISED BY	B S Rana		18.11.15
8	(SUPERSEDES)			स्वीकृति :	hur		ST
50				APPROVED BY: K B Ba	tra, AGM (CIE&TCX)		3.50
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PRODUCT STANDARD STEAM TURBINE ENGINEERING

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Page 2 of 3

- 3.7 Outer sheath: The cable shall be sheathed with extrusion process distinctly over inner sheath, with FRLS PVC type ST1 as per IS:5831 and thickness as per IS:1554(Pt-I). The sheath shall be resistant to fungus, termite and rodent attacks & test for same shall be conducted as per manufacturer's standard practice. Colour of sheath shall be black.
- 3.8 Identification marking: Durable identification marking shall be provided at every 1000 mm distance on the outer sheath as per the following example-A 4 core cable of conductor cross section 2.5 mm2 shall be marked as:FRLS -1100 V-4Cx2.5-BHEL (HW).
- 4.0 INSPECTION: At supplier works by BHEL's representative. The test shall include the following:
 - 4.1 Cable shall be visually inspected as per cl.3.0

Following measured values shall be recorded. Conductor cross sectional area, numbers of cores, thickness of insulation, inner sheath & outer sheath.

- 4.2 Routine, Acceptance and type tests for the material used for conductor, insulation, inner sheath, outer sheath, and finished cable shall be conducted as per IS: 1554(Pt-I) and other applicable standards
- 4.3 Following Acceptance tests for FRLS properties of inner and outer sheath material/finished cable are required.
- 4.3.1 Value of oxygen index as per ASTM-D2863 shall be minimum 29.
- 4.3.2 Temperature index of outer sheath as per ASTM-D2863. The test shall be carried out by extrapolation as per BICC Hand book, chapter 6 on "cable in fire". A number of measurements up to 120 °C shall be taken and results plotted in a graph and then extrapolated. Minimum value of temp index shall be 250 °C.
- 4.3.3 Acid gas generation by weight as per IEC-754-1 shall be 20% (max).
- 4.3.4 Smoke generation of sheath material under fire as per ASTM-D2843 shall have maximum smoke density rating of 60%.
- 4.3.5 Flammability characteristics of complete cable as per IEEE-383.

EV NO. 03	निर्माणकर्ता Worked by	S. Gupta	(andee)	18/11/15
	जांचकर्ता Checked by	S.Chandra	Swan	18/11/13

सामग्री सूची संख्या हस्ता INVENTORY NO. SIGI

REV NO.



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PRODUCT STANDARD STEAM TURBINE ENGINEERING

ST 51020

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Page 3 of 3

- 4.3.6 Flammability characteristics of complete cable as per Swedish standard SS-4241475 for class F3.
- 4.3.7 Flammability characteristics of cable as per IEC332 part3.

5.0 PACKING & MARKING:

- 5.1 Cable shall be supplied in non-returnable drums as per IS:10418. Ends of cables shall be properly sealed and secured to the drum. A layer of water proof shall be applied to the surface of drum and over the outer cable layer.
- 5.2 Standard length of cable shall be 1000M/500M(+/-5%) meters. The tolerance on the overall ordered length of each type of cable shall be +5% and -0%.
- 5.3 Identification marking and type of cable (as per Cl. 3.8 above) shall be marked on each drum besides name of manufacturer.

6.0 DOCUMENT:

6.1 Quality plan an detail data sheet shall be submitted by vendor for approval.

7.0 CROSS REFERRED STANDARDS:

IS:- 1554,ASTM-D2863

IEEE-383,IS-10418,ASTM D2843

IS:- 5831, IS: 8130

IEC-754-I, SS-4241475 cl F3, IEC332 part3

निर्माणकर्ता Worked by	S. Gupta	Lander	18/11/15	
जांचकर्ता Checked by	S.Chandra	Jew.	8/11/15	

MANUFA	ACTURER'S NAME AND	ADDRESS			TO BE FILLED BY BHEL			ТО	BE FIL	LED BY	7 BHEL				
		ITEM	POWER CA	ABLE FOR 24	V QP NO.	QA/BE/QP/	318/20243540	BIEL							
BHEL	VENDOR'S NAME		SOLENOID (4X2.5MM2		REV.	00									
DITEL		DRG. NO.	BHEL	Approved Da	ta Sheet										
		SPEC.	ST 51	020 Rev 03 wi	th addendum 418101	E2007									
SL.	COMPONENT &	CHARACTE		CLASS	TYPE OF	QUANTUM	REFERENCE	ACCEPTANCE	FORM			GENC'		REMARKS	š
NO.	OPERATIONS 2	3		4	CHECK 5	OF CHECK 6	DOCUMENT 7	NORMS 8	RECC 9	DRDS	M	10	N	11	
				<u> </u>		, v	,	, ,		1 2		-10			
1.0	RAW MATERIAL														
1.1	Copper Rod							_							
1.1.1		Make/Type/G	rade	Major	Visual	100%	IS 8130	IS 8130	TC	٧	Р	V			
1.1.2		Size		Major	Measurement	100%	Mfg's Std	Mfg's Std	TC	٧	Р	V			
1.1.3		Tensile Streng elongation	th &	Major	Mechanical	1 Sample/lot	IS 10810	IS 8130	TC	٧	Р	V			
1.1.4		Resistivity		Major	Electrical	1 Sample/lot	IS 8130	IS 8130	TC	٧	Р	٧			
1.1.5		Purity		Major	Chemical	1 Sample/lot	IS 8130	IS 8130	TC	٧	Р	V			
1.2	Insulation – extrude	d HR PVC Type-	С												
1.2.1		Make/Type/G	rade	Major	Visual	100%	Mfg's Std	Mfg's Std	TC	٧	Р	V			
1.2.2		Specific Gravit	ty	Major	Physical	1Sample/Lot	IS 10810	IS 5831	TC	٧	Р	V			
1.2.3		Volume Resist	ivity	Major	Electrical	1Sample/Lot	IS 10810	IS 5831	TC	٧	Р	V			-
1.2.4		Tensile Streng Elongation at		Major	Physical	1Sample/Lot	IS 10810	IS 5831	TC	٧	Р	٧			
1.2.5		Loss of mass		Major	Physical	1Sample/Lot	IS 10810	IS 5831	TC	٧	Р	V			
1.2.6		Hot Deformat	ion	Major	Thermal	1Sample/Lot	IS 10810	IS 5831	TC	٧	Р	V			
1.2.7		Heat Shock		Major	Thermal	1Sample/Lot	IS 10810	IS 5831	TC	٧	Р	V			
1.2.8		Shrinkage Tes	t	Major	Thermal	1Sample/Lot	IS 10810	IS 5831	TC	٧	Р	V			
1.2.9		Thermal stabi	lity Test	Major	Thermal	1Sample/Lot	IS 5831	IS 5831	TC	٧	Р	V			
1.3	Inner & Outer sheat	h- extruded FRL	S PVC Type	-ST2											
1.3.1		Make/Type/G	rade	Major	Visual	100%	Mfg's Std	Mfg's Std	TC	٧	Р	V			
1.3.2		Specific Gravit	ty	Major	Physical	1Sample/Lot	IS 10810	IS 5831	TC	٧	Р	V			
1.3.3		Tensile Streng		Major	Physical	1Sample/Lot	IS 10810	IS 5831	TC	٧	Р	٧			
		Elongation at	break												
		before & after													
			EGEND:): RECORDS I	DENTIFIED '	WITH 'TICK' SHALI	BE ESSENTIALL	Y INCLUDED BY	FOR CUSTOM USE	ER						
MANUFA	ACTURER/SUBCO	C	ONTRACTO	R IN QA DOC	UMENTATION.				-	APPROV	/ED B	Y			
NTRACTO		N IN Si 'I	f: MANUFACTURER / SUBCONTRACTOR B: BHEL / NOM. INSPECTION AGENC : CUSTOMER NDICATE 'P' PERFORM 'W' WITNESS 'V' VERIFICATION 'ADS' APPROVED DAT HEET 'In R'INTERNAL RECORDS 'ADS' APPROVED DATA SHEET R'INSPECTION REPORT 'TC' TEST CERTIFICATE ALL 'W' INDICATED IN COLUMN 'N' SHALL BE 'CHP' OF CUSTOMER								\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	shari	Nish Dat	itally signed by hant Kumar :e: 2025.02.20 35:01 +05'30'	

MANUFA	CTURER'S NAME AND	ADDRESS			STANDAR	D QUALI	ΓY PLAN		TO BE FILLED BY BHEL			ТО	BE FIL	LED B	Y BHEL
		ITEM		ABLE FOR 24	V	QP NO.	QA/BE/QP/	318/20243540	BILL						
BHEL	VENDOR'S NAME		SOLENOID (4X2.5MM2			REV.	00								
DHEL		DRG. NO.		Approved Da	ta Sheet										
		SPEC.	ST 510	020 Rev 03 wi	th addendun	n 41810E	E2007								
SL.	COMPONENT &	CHARACTE		CLASS	TYPE	E OF	QUANTUM	REFERENCE	ACCEPTANCE		AT OF		GENCY		REMARKS
NO.	OPERATIONS 2	3		4	CHE 5		OF CHECK 6	DOCUMENT 7	NORMS 8	RECO 9	ORDS D	M	10	N	11
1	<u>L</u>	3		4	1	<u> </u>	0	/	0	<u>, , , , , , , , , , , , , , , , , , , </u>	I D	1	10		11
1.3.4		Loss of mass in	n air oven	Major	Thermal		1Sample/Lot	IS 10810	IS 5831	TC	٧	Р	V		
1.3.5		Hot Deformat	ion	Major	Thermal		1Sample/Lot	IS 10810	IS 5831	TC	٧	Р	٧		
1.3.6		Heat Shock		Major	Thermal	<u> </u>	1Sample/Lot	IS 10810	IS 5831	TC	٧	Р	V		
1.3.7		Shrinkage Tes		Major	Thermal		1Sample/Lot	IS 10810	IS 5831	TC	٧	Р	V		
1.3.8		Thermal Stabi	lity	Major	Thermal		1Sample/Lot	IS 5831	IS 5831	TC	٧	Р	V		
1.3.9		Oxygen Index		Major	Physical Chemica	-	1Sample/Lot	ST51020	ASTMD-2863	TC	٧	Р	V		
1.3.10		Temperature	Index	Major	Physical Chemica	•	1Sample/Lot	ST51020	ASTMD-2863	TC	٧	Р	V		
1.3.11		Acid gas gene	ration	Major	Physical Chemica		1Sample/Lot	ST51020	IEC-754-I	TC	٧	Р	V		
1.3.12		Smoke Genera	ation	Major	Physical Chemica		1Sample/Lot	ST51020	ASTMD-2843	TC	٧	Р	V		
1.4	Galvanized single ro	ound Steel Wire	Strip for A	rmoring	ı					ı	<u> </u>	1			
1.4.1		Chemical Com	position	Major	Chemica	 al	1Sample/Lot	IS 3975 &	IS 3975 &	TC	٧	Р	V		
								IS1554	IS1554						
1.4.2		Tensile streng	th & % of	Major	Physical		1Sample/Lot	IS 3975 &	IS 3975 &	TC	٧	Р	V		
1.1.2		elongation		N 4 - i	Dharaisal		46	IS1554	IS1554	TC		-	V		
1.4.3		Torsion Test		Major	Physical		1Sample/Lot	IS 3975 & IS1554	IS 3975 & IS1554	TC	٧	Р	V		
1.4.4		Wrapping Tes	<u> </u>	Major	Physical		1Sample/Lot	IS 3975 &	IS 3975 &	TC	٧	Р	V		
					,			IS1554	IS1554						
1.4.5		Resistance		Major	Electrica	al	1Sample/Lot	IS 3975 &	IS 3975 &	TC	٧	Р	٧		
		Measurement						IS1554	IS1554						
1.4.6		Mass of Zinc c	oating	Major	Chemica	al	1Sample/Lot	IS 3975 &	IS 3975 &	TC	٧	Р	V		
	Т	<u> </u>						IS1554	IS1554	(ED		<u> </u>			
			EGEND: : RECORDS I	DENTIFIED '	WITH 'TICE	K' SHALL	BE ESSENTIALL	Y INCLUDED BY	FOR CUSTOM USE	IEK					
MANUFA	CTURER/SUBCO	C	ONTRACTOR	R IN QA DOC	UMENTAT	ION.					APPROV	ED B	Y		
NTRACTO	OR		I: MANUFAC : CUSTOMER		BCONTRAC	TOR B:	BHEL / NOM. INS	PECTION AGENO	CY					^ Di	igitally signed by
		II	NDICATE 'P'	PERFORM 'V			RIFICATION 'ADS		ГΑ		A		dan-		ishant Kumar
									ate: 2025.02.20 I:35:14 +05'30'						
							BE 'CHP' OF CUST	ΓOMER					U		

MANUF.	ACTURER'S NAME AND		STANDARD QUALITY PLAN TO BI BHEL POWER CABLE FOR 24 V QP NO. QA/BE/QP/318/20243540								TC) BE FI	LLED B	Y BHEL	
BHEL	VENDOR'S NAME	DRG. NO.	SOLENOI (4X2.5MM	D VALVES	REV.	QA/BE/QP/ 00	318/20243540								
		SPEC.			vith addendum 41810	E2007									
SL. NO.	COMPONENT & OPERATIONS	CHARACTE		CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORM RECO	AT OF ORDS	M	AGENC B	Y N	REMARKS	
1	2	3		4	5	6	7	8	9	D		10		11	
1.4.7		Uniformity of coating	Zinc	Major	Visual	1Sample/Lot	IS 3975 & IS1554	IS 3975 & IS1554	TC	٧	Р	V			
1.4.8		Adhesion Test	t	Major	Physical	1Sample/Lot	IS 3975 & IS1554	IS 3975 & IS1554	TC	٧	Р	V			
1.4.9		Size		Major	Physical	1Sample/Lot	IS 3975 & IS1554	IS 3975 & IS1554	TC	٧	Р	V			
2.0	INPROCESS INSPEC	TION													
2.1	Drawn copper wire	! 													
2.1.1		Dia of wire		Major	Measurement	As per vendor practice	ST51020	ADS	In R	٧	P	V			
2.1.2		Conductor An	nealing	Major	mechanical	-do-	Annealing process	-	In R	٧	Р	٧			
2.1.3		Persulphate T tinned condu	•	Major	Chemical	-do-	ST51020	IS 8130	In R	٧	Р	V			
2.1.4		Elongation		Major	Physical	-do-	ST51020	IS 8130	In R	٧	Р	٧			
2.1.4			Resistivity		Major	Electrical	-do-	IS 10810	IS 8130	In R	٧	Р	٧		
2.1.5		Surface Finish	1	Major	Visual	-do-	No scratches permitted	No scratches permitted	In R	٧	Р	V			
2.2	Stranding of Wire					•			•						
2.2.1		No. of wire & wire	Dia of	Major	Physical	-do-	ST 51020	ADS	In R	٧	Р	V			
2.2.2		Resistance		Major	Electrical	-do-	IS 10810	ADS	In R	٧	Р	٧			
2.2.3		Surface Finish	1	Major	Visual	-do-	Smooth free from scratches	Smooth free from scratches	In R	٧	Р	V			
MANUF. NTRACT	ACTURER/SUBCO FOR	E C M N N III S S S S S S S S S S S S S S S S	CONTRACTO M: MANUFAG N: CUSTOME NDICATE 'P SHEET 'In R'I IR'INSPECTI	OR IN QA DOO CTURER / SU CR ' PERFORM ' INTERNAL R ION REPORT	WITH 'TICK' SHALI CUMENTATION. BCONTRACTOR B W' WITNESS 'V' VEI ECORDS 'ADS' APPE 'TC' TEST CERTIFIC COLUMN 'N' SHALL	BHEL / NOM. INS RIFICATION 'ADS ROVED DATA SHE ATE	SPECTION AGEN APPROVED DA EET	CY	ER	APPRO	VED B	Hant	Nish Date	itally signed by nant Kumar e: 2025.02.20 55:26 +05'30'	

MANUF	ACTURER'S NAME AND	ADDRESS			STANDARD QUAL	ITY PLAN		TO BE FILLED BY BHEL			TO	BE FII	LLED B	Y BHEL
BHEL	VENDOR'S NAME	ITEM DRG. NO.	SOLENOID (4X2.5MM)	O VALVES 2)	LE FOR 24 V QP NO. QA/BE/QP/318/20243540			DIEL						
		SPEC.	ST 51	020 Rev 03 w	vith addendum 41810									
SL.	COMPONENT &	CHARACTE	RISTICS	CLASS	TYPE OF	QUANTUM	REFERENCE	ACCEPTANCE	FORMAT			AGENC		REMARKS
NO.	OPERATIONS 2	3		4	CHECK 5	OF CHECK 6	DOCUMENT 7	NORMS 8	RECOR 9	DS D	M	10	N	11
1	2	3			<u> </u>	0	,	0 1			1	10	<u> </u>	11
2.3	Insulation of core													
.3.1		Type of insula	tion	Major	Chemical	-do-	ST 51020	ADS	In R	٧	Р	٧		
2.3.2		Insulation thic	ckness	Major	Physical	-do-	ST 51020	ADS	In R	٧	Р	٧		
2.3.3		Dia of core		Major	Physical	-do-	ST 51020	ADS	In R	٧	Р	٧		
2.3.4		Color of core		Major	Visual	-do-	ST 51020	ADS	In R	٧	Р	٧		
2.3.5		Spark testing		Major	Electrical	-do-	No failure is permitted	No failure permitted	In R	٧	Р	V		
2.3.6		Numbering of	cores	Major	Visual	-do-	ST 51020	ADS	In R	٧	Р	V		
2.3.7		Surface finish		Major	Visual	-do-	Smooth & free from defects	Smooth & free from defects	In R	٧	Р	V		
2.3.8		Tensile streng	th of	Major	Mechanical	-do-	IS 10810	ADS	In R	٧	Р	V		
2.3.9		Elongation of	insulation	Major	Mechanical	-do-	IS 10810	ADS	In R	٧	Р	٧		
2.3.10		Shrinkage test	t	Critical	Chemical	-do-	IS 10810	ADS	In R	٧	Р	٧		
2.3.11		Thermal stabi	lity	Critical	Chemical	-do-	IS 5831	IS 5831	In R	٧	Р	٧		
2.3.12		Volume resist	ivity	Critical	Electrical	-do-	IS 10810	ADS	In R	٧	Р	٧		
2.4	Laying up for multi	core cables		1	•	·	I	1		1				
2.4.1		Direction of I	ay	Major	Visual	-do-	Mfg's std	Mfg's std	In R	٧	Р	V		
2.4.2		Sequence of I	aying	Major	Visual	-do-	Mfg's std	Mfg's std	In R	٧	Р	٧		
2.4.3		Shape of laid assembly	up	Major	Visual	-do-	Mfg's std	Mfg's std	In R	٧	Р	V		

	LEGEND: D: RECORDS IDENTIFIED WITH 'TICK' SHALL BE ESSENTIALLY INCLUDED BY	FOR CUSTOMER USE	
MANUFACTURER/SUBCO NTRACTOR	CONTRACTOR IN QA DOCUMENTATION. M: MANUFACTURER / SUBCONTRACTOR B: BHEL / NOM. INSPECTION AGENCY N: CUSTOMER INDICATE 'P' PERFORM 'W' WITNESS 'V' VERIFICATION 'ADS' APPROVED DATA SHEET 'In R'INTERNAL RECORDS 'ADS' APPROVED DATA SHEET 'IR'INSPECTION REPORT 'TC' TEST CERTIFICATE		APPROVED BY Digitally signed by Nishant Kumar Date: 2025.02.20
	ALL 'W' INDICATED IN COLUMN 'N' SHALL BE 'CHP' OF CUSTOMER		// 11:35:37 +05'30'

As applicable

2.5

Inner sheath for multicore cables only

MANUFA	MANUFACTURER'S NAME AND ADDRESS								TO BE FILLED BY BHEL			ТО	BE FI	LLED I	BY BHEL
BHEL	VENDOR'S NAME	ITI	SO	WER CAE LENOID V (2.5MM2)	BLE FOR 24 VALVES	V QP NO. REV.	QA/BE/QP 00	/318/20243540	DIEL						
			RG. NO.	BHEL A	Approved Da		•								
			PEC.			ith addendum 41810									
SL. NO.	COMPONENT & OPERATIONS	CHA	RACTERIST	ICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT RECOR		M	GENC B	N	REMARKS
1	2		3		4	5	6	7	8	9	D		10		11
2.5.1		Radial t	thickness		Major	Physical	-do-	ST 51020	ADS	In R	٧	Р	V		
2.5.2		colour			Major	visual	-do-	ST 51020	ADS	In R	٧	Р	٧		
2.5.3		Surface	e finish		Major	visual	-do-	Smooth & free from defects	Smooth & free from defects	In R	٧	Р	V		
2.6	Armouring	<u> </u>				1	II.	1	- 1		l .	1		<u> </u>	
2.6.1		Size of v	wire / strip		Major	Physical	-do-	ST 51020	ADS	In R	٧	Р	V		
2.6.2		Dia ove	er armouring	g	Major	Physical	-do-	ST 51020	ADS	In R	٧	Р	V		
2.6.3		Direction coverage	on of lay & 9	% of	Major	Visual	-do-	Mfg's Std.	ADS	In R	٧	Р	V		
2.6.4		Tightne	ess		Major	Physical	-do-	Mfg's Std.	Mfg's Std.	In R	٧	Р	V		
2.6.5		Surface	finish		Major	Visual	-do-	Smooth	Smooth	In R	٧	Р	V		
2.7	Inner / Outer sheat	:hs				•			•		•			•	
2.7.1		Dia of c	able		Major	Physical	-do-	ST 51020	ADS	In R	٧	Р	V		
2.7.2		Color of	f cable		Major	Visual	-do-	ST 51020	ADS	In R	٧	Р	V		
2.7.3		Radial t	thickness		Major	Physical	-do-	ST 51020	ADS	In R	٧	Р	V		
2.7.4		Emboss identific	sing / cation mark	king	Major	Visual	-do-	ST 51020	ST 51020/ ADS	In R	٧	Р	V		
2.7.5		Surface	e finish		Major	Visual	-do-	Surface shall be smooth & free from defects		In R	٧	P	V		
3.0	FINAL INSPECTION	•				•	•	•	•	•	•	•	•	•	

	LEGEND: D: RECORDS IDENTIFIED WITH 'TICK' SHALL BE ESSENTIALLY INCLUDED BY	FOR CUSTOMER USE		
MANUFACTURER/SUBCO NTRACTOR	CONTRACTOR IN QA DOCUMENTATION. M: MANUFACTURER / SUBCONTRACTOR B: BHEL / NOM. INSPECTION AGENCY N: CUSTOMER INDICATE 'P' PERFORM 'W' WITNESS 'V' VERIFICATION 'ADS' APPROVED DATA SHEET 'In R'INTERNAL RECORDS 'ADS' APPROVED DATA SHEET 'IR'INSPECTION REPORT 'TC' TEST CERTIFICATE ALL 'W' INDICATED IN COLUMN 'N' SHALL BE 'CHP' OF CUSTOMER		APPROVED BY	Digitally signed by Nishant Kumar Date: 2025.02.20 11:35:50 +05'30'

MANUFA	CTURER'S NAME AND A	ESS		S	D QUALITY	PLAN		TO BE FILLED BY			TO BE FILLED I	BY BHEL		
										BHEL				
			ITEM 1	POWER CA	ABLE FOR 24	V	QP NO.	QA/BE/QP/3	318/20243540					
	VENDOR'S NAME			SOLENOID	VALVES		REV.	00						
BHEL			(4X2.5MM2	2)									
			DRG. NO.	BHEL	Approved Dat	a Sheet								
			SPEC.	ST 51	020 Rev 03 wit	h addendun	n 41810E20	007						
SL.	COMPONENT &	(CHARACTERI	STICS	CLASS	TYPE	E OF	QUANTUM	REFERENCE	ACCEPTANCE	FORMAT ()F	AGENCY	REMARKS
NO.	OPERATIONS					CHE	CK	OF CHECK	DOCUMENT	NORMS	RECORDS	S	M B N	
1	2		3	•	4	5		6	7	8	9	D	10	11

3.1	Type Tests											
	to submit report of the	shall be submitted for one size type test(s) conducted within nents, the vendor shall conduct l).	last 05 years	period from the da	te of bid opening, o	r in the case of ty	pe test report are n	ot found to	be mee	ting tl	ne	
3.1.1	Tests on conductor											
a.		Annealing	Major	Process	As per IS	IS 10810	IS 8130	In R	٧	Р	V	
b.		Conductor resistance	Critical	Electrical	As per IS	IS 10810	ADS	IR	٧	Р	V	
3.1.2	Test for armoring w	rires/strips			1		1			1		
a.		Chemical composition	Major	Chemical	As per IS	IS 3975	IS 3975	IR	٧	Р	V	
b.		Tensile strength & % of elongation	Major	Physical	As per IS	IS 3975	IS 3975	IR	٧	Р	V	
C.		Torsion test	Major	Physical	As per IS	IS 3975	IS 3975	IR	٧	Р	V	
d.		Wrapping test	Major	Physical	As per IS	IS 3975	IS 3975	IR	٧	Р	V	
e.		Resistance measurement	Major	Electrical	As per IS	IS 3975	IS 3975	IR	٧	Р	V	
f.		Mass of zinc coating	Major	Physical	As per IS	IS 3975	IS 3975	IR	٧	Р	V	
g.		Uniformity of zinc coating	Major	Visual	As per IS	IS 3975	IS 3975	IR	٧	Р	V	
h.		Adhesion test	Major	Physical	As per IS	IS 3975	IS 3975	IR	٧	Р	V	
i.		Size	Major	Physical	As per IS	IS 3975	IS 3975	IR	٧	Р	V	
3.1.3	Test for thickness of	f insulation & sheaths	1	-			•	,		•		
a.		Thickness	Major	Physical	As per IS	IS 10810	IS 5831 & Addendum	IR	٧	Р	V	

	LEGEND: D: RECORDS IDENTIFIED WITH 'TICK' SHALL BE ESSENTIALLY INCLUDED BY	FOR CUSTOMER USE	
MANUFACTURER/SUBCO NTRACTOR	CONTRACTOR IN QA DOCUMENTATION. M: MANUFACTURER / SUBCONTRACTOR B: BHEL / NOM. INSPECTION AGENCY N: CUSTOMER INDICATE 'P' PERFORM 'W' WITNESS 'V' VERIFICATION 'ADS' APPROVED DATY SHEET 'In R'INTERNAL RECORDS 'ADS' APPROVED DATA SHEET 'IR'INSPECTION REPORT 'TC' TEST CERTIFICATE ALL 'W' INDICATED IN COLUMN 'N' SHALL BE 'CHP' OF CUSTOMER		Digitally signed by Nishant Kumar Date: 2025.02.20

MANUFA	ACTURER'S NAME AND A	DDRESS		\$	STANDAR	D QUALITY	PLAN		TO BE FILLED BY BHEL			TO BE FILLED I	3Y BHEL
		ITEM PO	OWER CA	BLE FOR 24	V	QP NO.	QA/BE/QP/	318/20243540					
	VENDOR'S NAME			VALVES		REV.	00						
BHEL		(4	X2.5MM2	2)									
		DRG. NO.	BHEL	Approved Dat	ta Sheet								
		SPEC.	ST 510	020 Rev 03 wit	th addendui	n 41810E20	007						
SL.	COMPONENT &	CHARACTERIST				E OF	QUANTUM	REFERENCE	ACCEPTANCE	FORMAT (OF	AGENCY	REMARKS
NO.	OPERATIONS				CHI	ECK	OF CHECK	DOCUMENT	NORMS	RECORD	S	M B N	
1	2	3	4 5 6					7	8	9	D	10	11

3.1.4	Physical tests for ins	sulation and sheaths										
a.		Tensile strength & elongation at break	Critical	Physical	As per IS	IS 10810	IS 5831	IR	٧	Р	V	
b.		Ageing in air oven	Critical	Thermal	As per IS	IS 10810	IS 5831	IR	٧	Р	٧	
C.		Shrinkage	Critical	Thermal	As per IS	IS 10810	IS 5831	IR	٧	Р	V	
d.		Hot deformation	Critical	Thermal	As per IS	IS 10810	IS 5831	IR	٧	Р	V	
e.		Loss of mass in air oven	Critical	Thermal	As per IS	IS 10810	IS 5831	IR	٧	Р	V	
f.		Heat shock	Critical	Thermal	As per IS	IS 10810	IS 5831	IR	٧	Р	V	
g.		Thermal stability	Critical	Thermal	As per IS	IS 5831	IS 5831	IR	٧	Р	٧	
h.		Insulation resistance	Critical	Electrical	As per IS	IS 10810	ADS	IR	٧	Р	V	
i.		High Voltage test at RT	Critical	Electrical	As per IS	IS 10810	ADS	IR	٧	Р	V	
j.		High Voltage test (water immersion)	Critical	Electrical	As per IS	IS 10810	ADS	IR	٧	Р	V	
k.		Flammability	Critical	Chemical	As per IS	IS 10810	ADS	IR	٧	Р	٧	
l.		Volume Resistivity	Critical	Electrical	As per IS	IS 10810	IS 5831	IR	٧	Р	V	
m.		Cold bend / Cold impact test	Critical	Physical	As per IS	IS 10810	IS 5831	IR	٧	Р	V	
n.		Color fastness test	Critical	Physical	As per IS	IS 10810	IS 5831	IR	٧	Р	٧	
0.		Bleeding & blooming test	Critical	Physical	As per IS	IS 10810	IS 5831	IR	٧	Р	V	
p.		Test on cable for anti- rodent & anti-termite & Anti fungus	Critical	Chemical	As per vendor's practice	Vendor's standard	Vendor's standard	IR	٧	Р	V	

	LEGEND: D: RECORDS IDENTIFIED WITH 'TICK' SHALL BE ESSENTIALLY INCLUDED BY	FOR CUSTOMER USE		
MANUFACTURER/SUBCO NTRACTOR	CONTRACTOR IN QA DOCUMENTATION. M: MANUFACTURER / SUBCONTRACTOR B: BHEL / NOM. INSPECTION AGENCY N: CUSTOMER INDICATE 'P' PERFORM 'W' WITNESS 'V' VERIFICATION 'ADS' APPROVED DATA SHEET 'In R'INTERNAL RECORDS 'ADS' APPROVED DATA SHEET (IN) INSPECTION DEPORT FOR THE CORD T		by N	itally signed Nishant Kumar e: 2025.02.20
	'IR'INSPECTION REPORT 'TC' TEST CERTIFICATE ALL 'W' INDICATED IN COLUMN 'N' SHALL BE 'CHP' OF CUSTOMER		// 11:3	36:12 +05'30'

MANUFA	ACTURER'S NAME AND	ADDRESS			STANDAR	RD QUALIT	ΓY PLAN		TO BE FILLED BY BHEL			TC	BE FII	LED BY	Y BHEL
BHEL	VENDOR'S NAME	ITEM DRG. NO.	SOLENOII (4X2.5MM			QP NO. REV.	QA/BE/QP/	318/20243540							
		SPEC.		020 Rev 03 w		m 41810F	E2007								
SL. NO.	COMPONENT & OPERATIONS	CHARACTE		CLASS	TYP	E OF ECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMA' RECOR		M	AGENC B	Y N	REMARKS
1	2	3		4		5	6	7	8	9	D		10		11
q.		Test for suitab cable for -10 d +45 deg C amb temperature.	leg C to	Critical	Chemic Therma Physica	al/	As per vendor's practice	International standard	International standard	IR	٧	P	V		
3.2	Routine tests			•	•			•		•	,				
3.2.1		Conductor res	istance	Critical	Electric	al	As per IS	IS 10810	ADS	IR	٧	Р	V		
3.2.2		High Voltage t	est at RT	Critical	Electric	al	As per IS	IS 10810	ADS	IR	٧	Р	V		
3.3	Acceptance tests	1						l .	"	I		ı	1	ı	
3.3.1		Conductor res	istance	Critical	Electric	al	Sample as per IS 1554-I	IS 10810	ADS	IR	٧	Р	W		
3.3.2		Conductor and	nealing	Critical	Mechar	nical	-DO-	Annealing process	Annealing process	In R	٧	Р	V		
3.3.3		Test for thickn insulation & sl		Critical	Physica	_	-DO-	IS 10810	ADS & Addendum	IR	٧	Р	W		
3.3.4		Tapping of Fib Glass(for Mat codeW903181		Critical	Physica	il .	-DO-	IEC331	ADS & Addendum	IR	٧	P	W		
3.3.5		Tensile streng elongation at insulation and	break of	Critical	Physica	_	-DO-	IS 10810	ADS	IR	٧	Р	W		
3.3.6		Volume resisti	vity	Critical	Electric	al	-DO-	IS 10810	ADS	IR	٧	Р	W		
3.3.7		Thermal stability of insulation & sheath		Critical	Chemic	al	-DO-	IS 5831	ADS	IR	٧	Р	W		
3.3.8	Insulation Resi		istance	Critical	Electric	al	-DO-	IS 10810	ADS	IR	٧	Р	W		
3.3.9		High Voltage t	est at RT	Critical	Electric	al	-DO-	IS 10810	ADS	IR	٧	Р	W		
			EGEND:	IDENITIEIED	WITH TIC	W, CHAIT	DE ESSENTIALI	V INCLUDED DV	FOR CUSTOM	IER					

	LEGEND:	TOR COSTONIER		
	D: RECORDS IDENTIFIED WITH 'TICK' SHALL BE ESSENTIALLY INCLUDED BY	USE		
MANUFACTURER/SUBCO	CONTRACTOR IN QA DOCUMENTATION.		APPROVED BY	
NTRACTOR	M: MANUFACTURER / SUBCONTRACTOR B: BHEL / NOM. INSPECTION AGENCY		THI NO TED BI	
Microk	N: CUSTOMER		Digitally signed by	
	INDICATE 'P' PERFORM 'W' WITNESS 'V' VERIFICATION 'ADS' APPROVED DATA		Nishant Kumar	
	SHEET 'In R'INTERNAL RECORDS 'ADS' APPROVED DATA SHEET		Date: 2025.02.20	
	'IR'INSPECTION REPORT 'TC' TEST CERTIFICATE		11:36:24 +05'30'	
	ALL 'W' INDICATED IN COLUMN 'N' SHALL BE 'CHP' OF CUSTOMER		11.30.24 +03 30	

BHEL								BHEL					
	VERBOR STARRE	DRG. NO.	SOLENOID (4X2.5MM2 BHEL	2) L Approved D	REV.	00	2/318/20243540	BILLE					
SL. NO.	COMPONENT & OPERATIONS	CHARACTE:		CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT RECOR		M	AGENCY B N	REMARKS
1	2	3		4	5	6	7	8	9	D	IVI	10	11
3.3.10		Dia. of cable		Major	Physical	-DO-	ST 51020	ADS	IR	٧	Р	W	
3.3.11		Color of cable		Major	Visual	-DO-	ST 51020	ADS	IR	٧	Р	W	
3.3.12		Embossing / identification	marking	Major	Visual	-DO-	ST 51020	ADS	IR	٧	Р	W	
3.3.13		Surface finish	of cable	Major	Visual	-DO-	Surface shall be smooth & free from any defects		IR	٧	P	W	
3.3.14		Dia. over armo	ouring	Major	Physical	-DO-	ST 51020	ADS & Addendum	IR	٧	Р	W	
3.3.15		Size of armour	ing wire /	Major	Physical	-DO-	ST 51020	ADS & Addendum	IR	٧	Р	W	
3.3.16		Mass of zinc co	-	Major	Physical	-DO-	IS 3975	IS 3975	IR	٧	Р	W	
3.3.17		Uniformity of coating of arm wire / strip		Major	Visual	-DO-	IS 3975	IS 3975	IR	٧	Р	W	
3.3.18		Adhesion test armouring wir		Major	Physical	-DO-	IS 3975	IS 3975	IR	٧	Р	W	
3.3.19		No. of cores & core		Major	Physical	-DO-	IS 3975	ADS	IR	٧	Р	W	
3.3.20		Color of core		Major	Visual	-DO-	ST 51020	ADS	IR	٧	Р	W	
3.3.21		Conductor cro	ss section	Major	Physical	-DO-	ST 51020	ADS	IR	٧	Р	W	
3.3.22		No. of wires & wire	Dia of	Major	Physical	-DO-	ST 51020	ADS	IR	٧	Р	W	

	LEGEND: D: RECORDS IDENTIFIED WITH 'TICK' SHALL BE ESSENTIALLY INCLUDED BY	USE		
MANUFACTURER/SUBCO NTRACTOR	CONTRACTOR IN QA DOCUMENTATION. M: MANUFACTURER / SUBCONTRACTOR B: BHEL / NOM. INSPECTION AGENCY		APPROVED BY	
	N: CUSTOMER INDICATE 'P' PERFORM 'W' WITNESS 'V' VERIFICATION 'ADS' APPROVED DATA SHEET 'In R'INTERNAL RECORDS 'ADS' APPROVED DATA SHEET 'IR'INSPECTION REPORT 'TC' TEST CERTIFICATE		Justant	Digitally signed by Nishant Kumar Date: 2025.02.20 11:36:36 +05'30'
	ALL 'W' INDICATED IN COLUMN 'N' SHALL BE 'CHP' OF CUSTOMER			11.50.50 105 50

MANUFA	ACTURER'S NAME AND	ADDRESS			STANDARD QUAL	ITY PLAN		TO BE FILLED BY BHEL			ТО	BE FI	LLED I	BY BHEL
BHEL	VENDOR'S NAME	ITEM	SOLENO (4X2.5M		REV.	QA/BE/QP/	/318/20243540	BILL						
		DRG. NO.	BI	HEL Approved Da	ita Sheet]						
		SPEC.	ST	Γ 51020 Rev 03 wi	ith addendum 41810	E2007]						
SL. NO.	COMPONENT & OPERATIONS	CHARACTE	RISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT (RECORD		M	GENC B	Y N	REMARKS
1	2	3		4	5	6	7	8	9	D	IVI	10	11	11
	1	•			1	1				1				
3.3.23		Constructional of cable	l details	Major	Physical	-DO-	ST 51020	ADS	IR	٧	Р	W		
3.4	FRLS tests on sheat				L						1	1		
3.4.1		Oxygen Index		Critical	Physical / Chemical	1 sample/lot	ST 51020	ASTMD- 2863/ADS	IR	٧	Р	W		
3.4.2		Temperature	Index	Critical	Physical / Chemical	-do-	ST 51020	ASTMD- 2863/ADS	IR	٧	Р	W		
3.4.3		Acid Gas Gene	Acid Gas Generation		Physical / Chemical	-do-	ST 51020	IEC 754-I /ADS	IR	٧	Р	W		
3.4.4		Smoke Genera	ation	Critical	Physical / Chemical	-do-	ST 51020	ASTMD - 2843/ ADS	IR	٧	Р	W		
3.4.5		Flammability characteristics	S	Critical	Chemical	-do-	ST 51020	SS 4241475 Class 3/ ADS	IR	٧	Р	W		
3.4.6		Flammability characteristics	S	Critical	Chemical	-do-	ST 51020	IEEE 383/ ADS	IR	٧	Р	W		
3.4.7		Flammability characteristics	S	Critical	Chemical	-do-	ST 51020	IEC-332 Part- 3	IR	٧	Р	W		
3.4.8		Flammability characteristics	Flammability		Chemical	-do-	ST 51020	SS4241475 class F3	IR	٧	Р	W		
3.4.8		Completion of documents		Critical	Physical / Visual	100%	ST 51020	ST 51020/ QP/ADS	Docum ents	٧	Р	V		
4.0	PACKING & MARKI	NG												
		Identification Marking		Critical	Physical / Visual	100%	ST 51020	ST 51020 & ADS	Docum ents	٧	Р	W		

	LEGEND: D: RECORDS IDENTIFIED WITH 'TICK' SHALL BE ESSENTIALLY INCLUDED BY	FOR CUSTOMER USE	
MANUFACTURER/SUBCO NTRACTOR	CONTRACTOR IN QA DOCUMENTATION. M: MANUFACTURER / SUBCONTRACTOR B: BHEL / NOM. INSPECTION AGENCY N: CUSTOMER INDICATE 'P' PERFORM 'W' WITNESS 'V' VERIFICATION 'ADS' APPROVED DATA SHEET 'In R'INTERNAL RECORDS 'ADS' APPROVED DATA SHEET 'IR'INSPECTION REPORT 'TC' TEST CERTIFICATE ALL 'W' INDICATED IN COLUMN 'N' SHALL BE 'CHP' OF CUSTOMER		APPROVED BY Digitally signed by Nishant Kumar Date: 2025.02.20 11:38:15 +05'30'

MANUFA	ACTURER'S NAME AND A	ADDRESS	В						TO BE FILLED BY BHEL			ТО	BE FII	LLED E	SY BHEL		
		ITEM	POWI	ER CAB	BLE FOR 24	V	QP NO.	QA/BE/QP/	318/20243540								
	VENDOR'S NAME				VALVES		REV.	00									
BHEL				5MM2)													
		DRG. N	O. 1	BHEL A	Approved Dat	ta Sheet											
		SPEC. CHARACTER		ST 5102	20 Rev 03 wi	th addendur	n 41810E20	007									
SL.	COMPONENT &	CHARAC	TERISTICS	S	CLASS	TYPI	E OF	QUANTUM	REFERENCE	ACCEPTANCE	FORMAT	OF	A	GENC'	Y	REMARKS	
NO.	OPERATIONS					CHE	ECK	OF CHECK	DOCUMENT	NORMS	RECORE	S	M	В	N		
1	2		3		4 5 6 7 8		9	D		10		11					
4.1		End sealing			Major	Visual		100%	ST 51020	ST 51020.	In R	٧	Р	V			
										Heat							
										Shrinkable							
										end cap to be							
										provided							
4.2		Stenciling /	marking	on	Major	Visual		100%	ST 51020 &	ST 51020 &	In R	٧	Р	V			
	drum								IS10418	IS10418							
4.3		Packing			Physical	Physical	1/	100%	As per PO	As per PO	In R	٧	Р	V			
	1 336				/ Visual	Visual											

Note:

- Approved Data Sheet means BHEL approved Data Sheet.
 Type tests clearance from BHEL Engineering to be verified by Inspection Engineer during Inspection at vendor's works & the same to recorded in Inspection documents/TCs.
- 3. All page of inspection documents shall be numbered in chronology with the QAP clause, dully mentioning the corresponding QAP clause nos. at the top of each page. One index page containing the documents descriptions, their page no & QAP clause shall be attached upfront the inspection documents.

N: CUSTOMER INDICATE 'P' PERFORM 'W' WITNESS 'V' VERIFICATION 'ADS' APPROVED DATA SHEET 'In R'INTERNAL RECORDS 'ADS' APPROVED DATA SHEET 'IR'INSPECTION REPORT 'TC' TEST CERTIFICATE ALL 'W' INDICATED IN COLUMN 'N' SHALL BE 'CHP' OF CUSTOMER Digitally signed by Nishant Kumar Date: 2025.02.20 11:39:00 +05'30'

BANK GUARANTEE FOR PERFORMANCE SECURITY

Bank Guarantee No:
Date:
То
NAME
& ADDRESSES OF THE BENEFICIARY
Dear Sirs,
In consideration of <u>Bharat Heavy Electricals Limited</u> (hereinafter referred to as the 'Employer' which expression
shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns)
incorporated under the Companies Act, 1956 and having its registered office at1
through its Unit at(name of the Unit) having awarded to (Name of the Vendor / Contractor /
<u>Supplier</u>) with its registered office at² hereinafter referred to as the ' <u>Vendor / Contractor / Supplier</u> ',
which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted
assigns), a contract Ref Nodated
Rupees/FC(in words) for
'Contract') and the Vendor / Contractor / Supplier having agreed to provide a Contract Performance Bank
Guarantee, equivalent to% (Percent) of the said value of the Contract to the Employer for the faithful
performance of the Contract,
we, (hereinafter referred to as the Bank), having registered/Head office at and inter
alia a branch at being the Guarantor under this Guarantee, hereby, irrevocably and unconditionally
undertake to forthwith and immediately pay to the Employer any sum or sums upto a maximum amount of Rs
6 (Rupees) without any demur, immediately on first demand from the Employer
and without any reservation, protest, and recourse and without the Employer needing to prove or demonstrate
reasons for its such demand.
Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank
under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding
Rs
We undertake to pay to the Employer any money so demanded notwithstanding any dispute or disputes raised
by the <u>Vendor / Contractor / Supplier</u> in any suit or proceeding pending before any Court or Tribunal, Arbitrator
or any other authority, our liability under this present being absolute and unequivocal.
The payment so made by us under this Guarantee shall be a valid discharge of our liability for payment
thereunder and the <u>Vendor / Contractor / Supplier</u> shall have no claim against us for making such payment.
We thebank further agree that the guarantee herein contained shall remain in full force and
effect during the period that would be taken for the performance of the said Contract/satisfactory completion of
the performance guarantee period as per the terms of the Contract and that it shall continue to be enforceable till

all the dues of the Employer under or by virtue of the said Contract have been fully paid or discharged.	d and its claims satisfied
WeBANK further agree with the Employer that the Employer shall have to our consent and without affecting in any manner our obligations hereunder to vary conditions of the said Contract or to extend time of performance by the said Vendor / Cottime to time or to postpone for any time or from time to time any of the powers exercing against the said Vendor / Contractor / Supplier and to forbear or enforce any of the terms to the said Contract and we shall not be relieved from our liability by reason of any succeeding granted to the said Vendor / Contractor / Supplier or for any forbearance, act or one Employer or any indulgence by the Employer to the said Vendor / Contractor / Supplier or thing whatsoever which under the law relating to sureties would but for this province in the said vendor is the said vendor of the said vendor of the said vendor is t	any of the terms and ontractor / Supplier from cisable by the Employer s and conditions relating h variation, or extension hission on the part of the er or by any such matter
The Bank also agrees that the Employer at its option shall be entitled to enforce this Guas a principal debtor, in the first instance without proceeding against the <u>Vendor / Contractor / Supplier</u> 's liabilities.	ontractor / Supplier and
This Guarantee shall remain in force upto and including	shall be extended from
This Guarantee shall not be determined or affected by liquidation or winding up, d constitution or insolvency of the <u>Vendor / Contractor / Supplier</u> but shall in all respects binding and operative until payment of all money payable to the Employer in terms thereon	and for all purposes be
Unless a demand or claim under this guarantee is made on us in writin	_
We, BANK lastly undertake not to revoke this guarantee during its cuprevious consent of the Employer in writing.	urrency except with the
Notwithstanding anything to the contrary contained hereinabove:	
a) The liability of the Bank under this Guarantee shall not exceed	6
b) This Guarantee shall be valid up to ⁷	
c) Unless the Bank is served a written claim or demand on or before	⁸ all rights under this
guarantee shall be forfeited and the Bank shall be relieved and discharged from guarantee irrespective of whether or not the original bank guarantee is returned to	
We, Bank, have power to issue this Guarantee under law and the	undersigned as a duly
authorized person has full powers to sign this Guarantee on behalf of the Bank.	
	For and on behalf of (Name of the Bank)
Dated	
Place of Issue	

Annexure-1

INTEGRITY PACT

Between

Bharat Heavy Electricals Ltd. (BHEL), a company registered under the Companies Act 1956 and having its registered office at "BHEL House", Siri Fort, New Delhi - 110049 (India) hereinafter referred to as "The Principal", which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the ONE PART

and
, (description of the party along with address), hereinafter referred to as "The Bidder/ Contractor" which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the OTHER PART
<u>Preamble</u>
The Principal intends to award, under laid-down organizational procedures, contract/s for
(hereinafter referred to as "Contract"). The Principal values full compliance with all relevant laws of the land, rules and regulations, and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder(s)/ Contractor(s).

In order to achieve these goals, the Principal will appoint panel of Independent External Monitor(s) (IEMs), who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section 1- Commitments of the Principal

- 1.1 The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles: -
- 1.1.1 No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
- 1.1.2 The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/ additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
- 1.1.3 The Principal will exclude from the process all known prejudiced persons.
 - 1.2 If the Principal obtains information on the conduct of any of its employees which is a penal offence under the Indian Penal Code 1860 and Prevention of Corruption Act 1988 or any other statutory penal enactment, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions.

Section 2 - Commitments of the Bidder(s)/ Contractor(s)

2.1 The Bidder(s)/ Contractor(s) commit himself to take all measures necessary to prevent corruption. The Bidder(s)/ Contractor(s) commits himself to observe the following principles during participation in the tender process and during the contract execution.

- 2.1.1 The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit which he/ she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.
- 2.1.2 The Bidder(s)/ Contractor(s) will not enter with other Bidder(s) into any illegal or undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
- 2.1.3 The Bidder(s)/ Contractor(s) will not commit any penal offence under the relevant Indian Penal Code (IPC) and Prevention of Corruption Act; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
- 2.1.4 Foreign Bidder(s)/ Contractor(s) shall disclose the name and address of agents and representatives in India and Indian Bidder(s)/ Contractor(s) to disclose their foreign principals or associates. The Bidder(s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.
 - 2.2 The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
 - 2.3 The Bidder(s)/ Contractor(s) shall not approach the Courts while representing the matters to IEMs and shall await their decision in the matter.

Section 3 - Disqualification from tender process and exclusion from future contracts

If the Bidder(s)/ Contractor(s), before award or during execution has committed a transgression through a violation of Section 2 above, or acts in any other manner such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/ Contractor(s) from the tender process, terminate the contract, if already awarded, exclude from future business dealings and/ or take action as per the separate "Guidelines on Banning of Business dealings with Suppliers/ Contractors", framed by the Principal.

Section 4 - Compensation for Damages

- 4.1 If the Principal has disqualified the Bidder (s) from the tender process before award / order acceptance according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/ Bid Security.
- 4.2 If the Principal is entitled to terminate the Contract according to Section 3, or terminates the Contract in application of Section 3 above , the Bidder(s)/ Cotractor (s) transgression through a violation of Section 2 above shall be construed breach of contract and the Principal shall be-entitled to demand and recover from the Contractor an amount equal to 5% of the contract value or the amount equivalent to Security Deposit/ Performance Bank Guarantee , whichever is higher, as damages, in addition to and without prejudice to its right to demand and recover compensation for any other loss or damages specified elsewhere in the contract.

Section 5 - Previous Transgression

- 5.1 The Bidder declares that no previous transgressions occurred in the last 3 (three) years with any other company in any country conforming to the anti-corruption approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.
- 5.2 If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason or action can be taken as per the separate "Guidelines on Banning of Business dealings with Suppliers/ Contractors", framed by the Principal.

Section 6 - Equal treatment of all Bidder (s)/ Contractor (s) / Sub-contractor (s)

- 6.1 The Principal will enter into Integrity Pacts with identical conditions as this Integrity Pact with all Bidders and Contractors.
- 6.2 In case of Sub-contracting, the Principal Contractor shall take the responsibility of the adoption of Integrity Pact by the Sub-contractor(s) and ensure that all Sub-contractors also sign the Integrity Pact.
- 6.3 The Principal will disqualify from the tender process all Bidders who do not sign this Integrity Pact or violate its provisions.

Section 7 - Criminal Charges against violating Bidders/ Contractors /Subcontractors

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the Vigilance Office.

Section 8 -Independent External Monitor(s)

- 8.1 The Principal appoints competent and credible panel of Independent External Monitor (s) (IEMs) for this Integrity Pact. The task of the IEMs is to review independently and objectively, whether and to what extent the parties comply with the obligations under this Integrity Pact.
- 8.2 The IEMs are not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, BHEL.
- 8.3 The IEMs shall be provided access to all documents/ records pertaining to the Contract, for which a complaint or issue is raised before them as and when warranted. However, the documents/records/information having National Security implications and those documents which have been classified as Secret/Top Secret are not to be disclosed.
- 8.4 The Principal will provide to the IEMs sufficient information about all meetings among the parties related to the Contract provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the IEMs the option to participate in such meetings.

- 8.5 The advisory role of IEMs is envisaged as that of a friend, philosopher and guide. The advice of IEMs would not be legally binding and it is restricted to resolving issues raised by a Bidder regarding any aspect of the tender which allegedly restricts competition or bias towards some Bidders. At the same time, it must be understood that IEMs are not consultants to the Management. Their role is independent in nature and the advice once tendered would not be subject to review at the request of the organization.
- 8.6 For ensuring the desired transparency and objectivity in dealing with the complaints arising out of any tendering process or during execution of Contract, the matter should be examined by the full panel of IEMs jointly, who would look into the records, conduct an investigation, and submit their joint recommendations to the Management.
- 8.7 The IEMs would examine all complaints received by them and give their recommendations/ views to the CMD, BHEL at the earliest. They may also send their report directly to the CVO, in case of suspicion of serious irregularities requiring legal/ administrative action. Only in case of very serious issue having a specific, verifiable Vigilance angle, the matter should be reported directly to the Commission. IEMs will tender their advice on the complaints within 30 days.
- 8.8 The CMD, BHEL shall decide the compensation to be paid to the IEMs and its terms and conditions.
- 8.9 IEMs should examine the process integrity, they are not expected to concern themselves with fixing of responsibility of officers. Complaints alleging mala fide on the part of any officer of the Principal should be looked into by the CVO of the Principal.
- 8.10 If the IEMs have reported to the CMD, BHEL, a substantiated suspicion of an offence under relevant Indian Penal Code / Prevention of Corruption Act, and the CMD, BHEL has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the IEMs may also transmit this information directly to the Central Vigilance Commissioner, Government of India.
- 8.11 After award of work, the IEMs shall look into any issue relating to execution of Contract, if specifically raised before them. As an illustrative example, if a Contractor who has been awarded the Contract, during the execution of Contract, raises issue of delayed payment etc. before the IEMs, the same shall be examined by the panel of IEMs. Issues like warranty/ guarantee etc. shall be outside the purview of IEMs.
- 8.12 However, the IEMs may suggest systemic improvements to the management of the Principal, if considered necessary, to bring about transparency, equity and fairness in the system of procurement.
- 8.13 The word 'Monitor' would include both singular and plural.

Section 9 - Pact Duration

- 9.1 This Integrity Pact shall be operative from the date this Integrity Pact is signed by both the parties till the final completion of contract for successful Bidder, and for all other Bidders 6 months after the Contract has been awarded. Any violation of the same would entail disqualification of the bidders and exclusion from future business dealings.
- 9.2 If any claim is made/ lodged during currency of this Integrity Pact, the same shall be binding and continue to be valid despite the lapse of this Pact as specified above, unless it is discharged/ determined by the CMD, BHEL.

Section 10 - Other Provisions

- 10.1 This Integrity Pact is subject to Indian Laws and exclusive jurisdiction shall be of the competent Courts as indicated in the Tender or Contract, as the case may be.
- 10.2 Changes and supplements as well as termination notices need to be made in writing.
- 10.3 If the Bidder(s)/ Contractor(s) is a partnership or a consortium or a joint venture, this Integrity Pact shall be signed by all partners of the partnership or joint venture or all consortium members.
- 10.4 Should one or several provisions of this Integrity Pact turn out to be invalid, the remainder of this Integrity Pact remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- Only those bidders / contractors who have entered into this Integrity Pact with the Principal would be competent to participate in the bidding. In other words, entering into this Integrity Pact would be a preliminary qualification.
- In the event of any dispute between the Principal and Bidder(s)/ Contractor(s) relating to the Contract, in case, both the parties are agreeable, they may try to settle dispute through Mediation before the panel of IEMs in a time bound manner. In case, the dispute remains unresolved even after mediation by the panel of IEMs, either party may take further action as the terms & conditions of the Contract. The fees/expenses on dispute resolution through mediation shall be shared by both the parties. Further, the mediation proceedings shall be confidential in nature and the parties shall keep confidential all matters relating to the mediation proceedings including any settlement agreement arrived at between the parties as outcome of mediation. Any views expressed, suggestions, admissions or proposals etc. made by either party in the course of mediation shall not be relied upon or introduced as evidence in any further arbitral or judicial proceedings, whether or not such proceedings relate to the dispute that is the subject of mediation proceedings. Neither of the parties shall present IEMs as witness in any Alternative Dispute Resolution or judicial proceedings in respect of the dispute that was subject of mediation.

For & On behalf of the Principal (Office Seal)	For & On behalf of the Bidder/ Contracto (Office Seal)
Place Date	
Witness:(Name & Address)	Witness: (Name & Address)

Clause on IP in the tender

Integrity Pact (IP)

(a) IP is a tool to ensure that activities and transactions between the Company and its Bidders/ Contractors are handled in a fair, transparent and corruption free manner. Following Independent External Monitors (IEMs) on the present panel have been appointed by BHEL with the approval of CVC to oversee implementation of IP in BHEL.

SI	IEM	Email
1.	Shri Otem Dai, IAS (Retd.)	iem1@bhel.in
2.	Shri Bishwamitra Pandey, IRAS (Retd.)	iem2@bhel.in
3.	Shri Mukesh Mittal, IRS (Retd.)	iem3@bhel.in

- (b) The IP as enclosed with the tender is to be submitted (duly signed by authorized signatory) along with techno-commercial bid (Part-I, in case of two/ three part bid). Only those bidders who have entered into such an IP with BHEL would be competent to participate in the bidding. In other words, entering into this Pact would be a preliminary qualification.
- (c) Please refer Section-8 of IP for Role and Responsibilities of IEMs. In case of any complaint arising out of the tendering process, the matter may be referred to any of the above IEM(s). All correspondence with the IEMs shall be done through email only.

Note:

No routine correspondence shall be addressed to the IEM (phone/ post/ email) regarding the clarifications, time extensions or any other administrative queries, etc on the tender issued. All such clarification/ issues shall be addressed directly to the tender issuing (procurement) department's officials whose contact details are provided below:

Details of contact person(s):

(1)	(2)
Name:	Name:
Deptt:	Deptt:
Address:	Address:
Phone: (Landline/ Mobile)	Phone: (Landline/ Mobile)
Email:	Email:
Fax:	Fax: