

ANNEXURE-A TO Enquiry No.PE/PG/PA1/E-6247/2019, Dt: 03/07/2019 SCHEDULE OF PRICES

[illegible]

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

Sl No.	Title	Description
1.	Project Name	3 x 800 MW PVUNL PATRATU TPP PHASE-I (EPC)
2.	Nature of project & Type of Bidding	Non-Mega & ICB (International Competitive Bidding)
3.	Customer Order Ref No	01/PVUNL-CS-9585-001-2/NOA-FC dated 08.03.2018 01/PVUNL-CS-9585-001-2/NOA-SC dated 08.03.2018 01/PVUNL-CS-9585-001-2/NOA-TC dated 08.03.2018
4.	BHEL's Customer	PATRATU VIDYUT UTPADAN NIGAM LIMITED (subsidiary of NTPC Limited in joint venture with JBVNL)
5.	PVUNL GST No.	20AAICP3718K1ZH
6.	Customer Consultants	No consultant
7.	Consignee Address (Bill To)	For supply package: BHEL, Power Sector-Project Engineering Management, Power Project Engineering Institute, Plot No. 25, Sector-16A, Noida, Uttar Pradesh-201301. GSTIN: 09AAACB4146P2ZC For turnkey packages (where BHEL-PEM will issue only the LOA and Purchase Order shall be issued by BHEL-PSWR): Construction Manager, BHEL site office, Patratu Vidyut Utpadan Njigam Ltd , PO: PTPS , Patratu , Ramgarh, Jharkhand - 829119 BHEL PSWR GSTIN No.- 27AAACB4146P1ZF
8.	Delivery Address (Ship To)	Construction Manager, Bharat Heavy Electricals Limited, Patratu Vidyut Utpadan Njigam Ltd, PO: PTPS , Patratu , Ramgarh ,Jharkhand - 829119
9.	BHEL Site Office Address	Construction Manager, Bharat Heavy Electricals Limited, Patratu Vidyut Utpadan Njigam Ltd , PO: PTPS , Patratu , Ramgarh, Jharkhand - 829119
10.	Location of Plant	Site is Located just outside the coal belt of South Karanpura in Ramgarh District of Jharkhand State. The nearest Railway Station is Patratu which is at a distance of about 4 km on Barkakhana-Barwadih Railway line. District: Ramgarh (state- Jharkhand) Next big cities to site: Ranchi Nearest Railway Station: - Patratu Nearest Airport: Ranchi (45 km by road from site)
11.	Mode of Dispatch	Air, Road, Rail & Sea Transportation For indigenous supplies: By Rail/Road on door delivery and freight pre-paid basis. For imported supplies: On C&F basis. Transit Insurance will be in BHEL scope
12.	Road Permit /E-waybill	Road Permit / E-way bill, to be arranged by Supplier/ transporter/ BHEL (as per GOI mandate).
13.	BHEL GSTIN Details	For supply packages: BHEL-PEM is registered in the State of Uttar Pradesh with GSTIN 09AAACB4146P2ZC

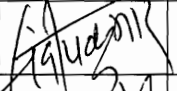
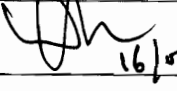
		For Turnkey packages: BHEL PSWR GSTIN No.- 27AAACB4146P1ZF
14.	Transit Insurance	In BHEL Scope. For each dispatch, vendor shall inform the following to the Underwriter under intimation to BHEL-PEM and BHEL Site office: (i) Policy No. (ii) Consignee Name. (iii) Consignment Details (items with their weights and value (in INR). (iv) Project Name and P.O. No. (v) LR No. and date, Dispatch origin and destination details, Invoice No. Vendors to intimate the underwriters quoting the insurance Policy No. as mentioned in Purchase Order.
15.	Dispatch intimation	Yes in writing, Not less than 30 (Thirty) days prior to date of shipment and dispatch details to be sent to: BHEL Site office (As mentioned in Sl. No. 9) BHEL PEM Noida (As mentioned in NIT) At the point of dispatch, vendor must furnish docs required as given below through Email / Fax i. Vendor's invoice ii. LR / RR / GR / Courier Receipt iii. Packing List/ Challan indicating the items dispatched (with their weights) iv. Insurance intimation letter informing the underwriters about the dispatches v. MDCC (of BHEL / NTPC) as applicable vi. Photograph of packing / boxes showing dispatch marking as per Sl. No. 26
16.	Document required for Vendor's payment.	For materials originating from Indian territory For claiming the payment against dispatch, MRC & Freight, documents as mentioned in GCC rev 06 & its corrigendum shall be submitted by vendor to BHEL. Original money receipt must be submitted for Freight payment. Packing List must comply to Clause No. 19.3 of General Commercial Terms & Conditions of GCC rev.06. Description of items in packing list shall be as per PO such that proper correlation between PO & packing list must be furnished. Soft copy of documents for claiming payment shall be submitted by vendor as advance copy. For materials originating from non-Indian Territory Three (3) original and Three (3) copies of clean bill of lading or One (1) clean original Airway Bill & Three (3) copies, in case of air freight. One (1) original and Three (3) copies of signed Invoices One (1) original and Three (3) copies of Packing List (clearly showing number of packages, gross weight and net weight). Three (3) copies of certificate of country of origin. Copy of MDCC from BHEL / NTPC (as applicable) Three (3) copies of inspection certificate, if any, issued by the customer/his authorized representative. Three (3) of certificate from the vendor to the effect that drawings and catalogues for customs clearance purpose have been kept with the packages for shipment. Three (3) copies of certificate from the vendor to the effect that the contents in each case are not less than that entered in the invoices and guaranteed as new and as per the relevant technical specifications. Shipping Specification – One (1) copy. Quality Certificate – One (1) copy. Approved Test Certificates, if any. - Three (3) copies. Guarantee Certificate – One (1) Original + One (1) copy.

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		Inspection Reports – One (1) Original + One (1) copy. PVC Calculation and copy of all applicable indices, if PVC applicable. – Two (2) copies.
17.	Material Receipt Certificate (MRC)	A) For supply packages- BHEL-PEM will arrange MRC from BHEL site B) For Turnkey (Supply + Erection & Commissioning) – Original MRC duly signed by customer (PVUNL) & BHEL site is to be arranged by Vendor.
18.	Buyer and Paying Authority	For packages where PEM will issue the Purchase Order: BHEL PEM will be the paying authority. For packages where BHEL-PEM will issue only the LOA and Purchase Order shall be issued by BHEL-PSWR: BHEL Patratu Site will be the paying Authority.
19.	Demurrage charges	Demurrage charges shall be paid by supplier/ vendor only to the transporter. No claim shall be acceptable to BHEL in this regard.
20.	Unloading, Storage & Movement of material at site	a) By BHEL site office for supply packages. b) By vendors for Turnkey i.e. Supply and E&C packages
21.	Concessional custom duty against Essentiality certificate (EC)	The project has been qualified through Project Import route. Accordingly, the benefits applicable to PI project would be granted for this project in this regard applicable documents such as Essentiality certificate will be issued by NTPC (ultimate customer). Under this, Concessional rate of Customs Duty shall be applicable on the Import Contents of the supplier respectively. Based on the above EC, Customs Duty Benefits will be passed on to the vendor. The Bidder to indicate the Import contents i.e. list of the item, Currency of Import and Country of Import including CIF value in their offers. BHEL shall inform, the availability of CIF value for a particular package, if any, at the time of NIT. The benefits availed in Concessional Customs Duty must be passed on to BHEL in their offer. Vendor shall inform BHEL and provide the necessary documents to obtain required certificates from BHEL to avail exemption. Obtaining custom duty benefit in line with the Essentiality Certificate issued shall be in vendor's scope.
22.	Taxes & Duties (For Domestic Vendor)	As per General Conditions of Contract (GCC rev 06) & GST related Corrigendum to GCC rev.06
23. a	Taxes & Duties (For Order Directly to Foreign Bidders)- supply packages	In case of foreign vendors, quoted prices & Dispatches shall be on C & F (Port-Chennai) basis and the Taxes & duties in the country of dispatch shall be borne by Foreign vendor.
23. b	Taxes & Duties (For Order Directly to Foreign Bidders)- Turnkey packages	Complete responsibility of import including (but not limited to) import clearance, all taxes and duties in the country of export (origin), all taxes and duties in India shall be to vendor's account.
24.	Inspection Agency	BHEL/ BHEL approved 3rd party inspection agencies and/or NTPC/ Customer Agency as applicable.
25.	Inspection procedure for Domestic supplies	<u>For Domestic supplies</u> Vendor shall raise inspection call at least 15 business days in advance on BHEL CQS website to applicable inspection agency (as mentioned in PO/LOI or to be informed later) and submit copy of inspection call to BHEL-PEM for arranging NTPC inspection/Joint inspection on the proposed date, as applicable. MDCC shall be issued on the basis of clear inspection report (CQIR). <u>For Foreign supplies</u> In case of Foreign supplies, if NTPC approved 3rd party inspection agency does not participate in the inspection, test certificates & inspection reports duly accepted by the agreed Inspection agency shall be submitted in soft copy to BHEL-PEM. The same shall be reviewed by PEM and then, sent to NTPC for clearance. The dispatch clearance (MDCC) by NTPC/ BHEL as applicable shall be given to the foreign supplier or representative in India after acceptance of above test certificates.

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26.	Packing, Identification & marking [if not specified in NIT]	Each box shall be marked with Capital Letters in "Red" indicating the PEM SUPPLY (Main Supply/ Commissioning Spares/ Mandatory Spares) for 3 x 800 MW PVUNL PATRATU TPP. NOTE: Main supply item and items for commissioning spares must be packed separately. Each package delivered under the Contract shall be marked by supplier and such marking must be distinct and in English language (all previous irrelevant markings being carefully obliterated). Such marking shall show the description and quantity of contents, the name and address of consignee, the Gross weight and Net weight of the package, the name of the Supplier, PEM P.O. reference number, with a distinctive number of mark sufficient for purposes of identification. Besides above necessary, packing shall bear a special marking 'TOP', 'BOTTOM', 'DO NOT TURN OVER', 'KEEP DRY', 'HANDLE WITH CARE', etc IMPORTANT: - - Two copies of respective standard manufacturer's erection instruction/operation instruction manual shall be kept in each package / container for immediate reference by BHEL site and same shall be reflected in packing slip also - The Packing list details for the consignment must be put inside the Box/Boxes. Items like pumps, Valves, Hoists, Cranes etc shall essentially have O&M Manuals and E&C guidelines duly enclosed in the packing box. Certificate to such effect shall also be reflected in packing slip. Mandatory spares shall be properly packed separately in separate box painted in Red, indicating Mandatory Spares in bold letters and each spare shall be properly tagged giving details i.e. item number of the equipment in line with the CUSTOMER approved BBU for Mandatory spares & Number per item (to match the description given in the packing slip) to facilitate their proper identification by PVUNL/ NTPC. One Copy of Packing list must be put inside the Box along with Manufacturing drawing no. reference, Catalogue reference etc.
27.	Submission of Final Drgs/Docs alongwith O&M Manual, Type Test Certificates (if any)	As per GCC rev.06/ Technical Specification/Kick-off meeting.

	Prepared by	Checked by	Reviewed by	Vetted by	Approved by
Name	Ganesh Garg	/		/	 16/05/18
Designation	Sr. Engr/ PG III	DGM/ PG III	DGM/ PG III	Finance	AGM & DH/ PG III
Signature	Ganesh Garg 08/5/18				DEEPAK GUPTA

	<u>PRE-QUALIFICATION REQUIREMENTS</u>	PE-PQ-999-145-I008
		REVISION NO. DATE 29/04/2016
		SHEET NO. 1 OF 1

ENQUIRY NO: (To be filled by PG)	
PROJECT:	
PACKAGE: ELECTROMAGNETIC FLOW METER	
1.0	Supplier should be Original equipment manufacturer (OEM) for ELECTROMAGNETIC FLOW METER. “Supplier to comply to general points of PQR available at http://bhelpem.com/vensection/PMD/PMD.aspx in case supplier is not OEM , the offer shall be evaluated as per point no 1 of general points of PQR “
2.0	The Product being offered by the Supplier should be in use successfully in power plant or any other industrial application for at least 1 (One) year. Supplier to submit either of following supporting documents for the product: a. Copy of minimum 1 (One) Performance Certificate from end user / customer specifying that product is running successfully for 1 (One) year from date of commissioning. The certificate should clearly indicate date of commissioning, date of issue of certificate and name/designation of the certificate issuer. Copy of purchase order & technical parameter to be attached along with the performance certificate. OR b. Copy of repeat order from minimum 1 (One) purchaser. Order received by supplier from same purchaser with a gap of minimum 2 (Two) years shall be considered as repeat order. Copy of technical parameters for each order to be attached.
3.0	Supplier to furnish experience list of last 5 years indicating customer name, purchase order reference, item supplied & year of supply to establish the continuity of business.

PREPARED BY	REVIEWED BY	APPROVED BY
NAME: DESIGNATION	NAME: DESIGNATION	NAME: DESIGNATION

BANK GUARANTEE FOR PERFORMANCE SECURITY

Bank Guarantee No:

Date:

To

NAME

& ADDRESSES OF THE BENEFICIARY

Dear Sirs,

In consideration of the Bharat Heavy Electricals Limited ¹ (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 at _____ through its Unit at.....(name of the Unit) having awarded to (Name of the Vendor / Contractor / Supplier) having its registered office at _____ ² hereinafter referred to as the 'Contractor/Supplier', which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns), a contract Ref No.....dated³ valued at Rs.....⁴ (Rupees -----)/FC.....(in words.....) for⁵ (hereinafter called the 'Contract') and the Contractor having agreed to provide a Contract Performance 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 a maximum amount Rs ----- (Rupees -----) without any demur, immediately on a demand from the Employer, .

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 Contractor/ Supplier in any suit or proceeding pending before any Court or Tribunal relating thereto 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 contractors/supplier 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 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 and its claims satisfied or discharged.

We BANK further agree with the Employer that the Employer shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Contract or to extend time of performance by the said Contractor/Supplier from time to time or to postpone for any time or from time to time any of the powers exercisable by the Employer against the said Contractor/Supplier and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor/Supplier or for any forbearance, act or omission on the part of the Employer or any indulgence by the Employer to the said Contractor/Supplier or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.

The Bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Contractor and notwithstanding any security or other guarantee that the Employer may have in relation to the Contractor's liabilities.

This Guarantee shall remain in force upto and including.....⁶ and shall be extended from time to time for such period as may be desired by Employer.

This Guarantee shall not be determined or affected by liquidation or winding up, dissolution or change of constitution or insolvency of the Contractor/Supplier but shall in all respects and for all purposes be binding and operative until payment of all money payable to the Employer in terms thereof.

Unless a demand or claim under this guarantee is made on us in writing on or before the⁷we shall be discharged from all liabilities under this guarantee thereafter.

We, BANK lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Employer in writing.

Notwithstanding anything to the contrary contained hereinabove:

- a) The liability of the Bank under this Guarantee shall not exceed.....⁸
- b) This Guarantee shall be valid up to⁹
- c) Unless the Bank is served a written claim or demand on or before¹⁰ all rights under this guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the Bank.

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.....

¹ NAME AND ADDRESS OF EMPLOYER i.e Bharat Heavy Electricals Limited

² NAME AND ADDRESS OF THE VENDOR /CONTRACTOR / SUPPLIER.

³ DETAILS ABOUT THE NOTICE OF AWARD/CONTRACT REFERENCE

⁴ PROJECT/SUPPLY DETAILS

⁵ BG AMOUNT IN FIGURES AND WORDS

⁶ VALIDITY DATE

⁷ DATE OF EXPIRY OF CLAIM PERIOD

⁸ BG AMOUNT IN FIGURES AND WORDS.

⁹ VALIDITY DATE

¹⁰ DATE OF EXPIRY OF CLAIM PERIOD

Note:

1. Units are advised that expiry of claim period may be kept 2/3 months after validity date.

2. In Case of Bank Guarantees submitted by Foreign Vendors-

- a. **From Nationalized/Public Sector / Private Sector/ Foreign Banks (BG issued by Branches in India)** can be accepted subject to the condition that the Bank Guarantee should be enforceable in the town/city or at nearest branch where the Unit is located i.e. Demand can be presented at the Branch located in the town/city or at nearest branch where the Unit is located.
- b. **From Foreign Banks (wherein Foreign Vendors intend to provide BG from local branch of the Vendor country's Bank)**
 - b.1 In such cases, in the Tender Enquiry/ Contract itself, it may be clearly specified that Bank Guarantee issued by **any of the Consortium Banks only** will be accepted by BHEL. As such, Foreign Vendor needs to make necessary arrangements for issuance of Counter- Guarantee by Foreign Bank in favour of the Indian Bank (BHEL's Consortium Bank). It is advisable that all charges for issuance of Bank Guarantee/ counter- Guarantee should be borne by the Foreign Vendor. The tender stipulation should clearly specify these requirements.
 - b.2 **In case, Foreign Vendors intend to provide BG from Overseas Branch of our Consortium Bank** (e.g. if a BG is to be issued by SBI Frankfurt), the same is acceptable. However, the procedure at **sl.no. b.1** will required to be followed.
 - b.3 The BG issued may preferably be subject to Uniform Rules for Demand Guarantees (URDG) 758 (as amended from time to time). In case, of Foreign Vendors, the BG Format provided to them should clearly specify the same.
 - b.4 The BG should clearly specify that the demand or other document can be presented in electronic form.

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

	CORPORATE QUALITY ASSURANCE SUB-VENDOR QUESTIONNAIRE
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10.	Quality Control exercised during receipt of raw material/BOI, in-process , Final Testing, packing	Details attached at Annexure – F2.6												
11.	Manufacturing facilities (List of machines, special process facilities, material handling etc.)	Details attached at Annexure – F2.7												
12.	Testing facilities (List of testing equipment)	Details attached at Annexure – F2.8												
13.	If manufacturing process involves fabrication then-	Applicable / Not applicable												
	List of qualified Welders	Details attached at Annexure – F2.9												
	List of qualified NDT personnel with area of specialization	(if applicable)												
14.	List of out-sourced manufacturing processes with Sub-Vendors' names & addresses	Applicable / Not applicable Details attached at Annexure. –F2.10 (if applicable)												
15.	Supply reference list including recent supplies	Details attached at Annexure – F2.11 (as per format given below)												
	<table border="1" style="width: 100%;"> <tr> <th style="width: 10%;">Project/ package</th> <th style="width: 10%;">Customer Name</th> <th style="width: 30%;">Supplied Item (Type/Rating/Model /Capacity/Size etc)</th> <th style="width: 15%;">PO ref no/date</th> <th style="width: 15%;">Supplied Quantity</th> <th style="width: 20%;">Date of Supply</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	Project/ package	Customer Name	Supplied Item (Type/Rating/Model /Capacity/Size etc)	PO ref no/date	Supplied Quantity	Date of Supply							
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16.	Product satisfactory performance feedback letter/certificates/End User Feedback	Attached at annexure - F2.12												
17.	Summary of Type Test Report (Type Test Details, Report No, Agency, Date of testing) for the proposed product (similar or higher rating) Note:- Reports need not to be submitted	Applicable / Not applicable Details attached at Annexure – F2.13 (if applicable)												
18.	Statutory / mandatory certification for the proposed product	Applicable / Not applicable Details attached at Annexure – F2.14 (if applicable)												
19.	Copy of ISO 9001 certificate (if available)	Attached at Annexure – F2.15												
20.	Product technical catalogues for proposed item (if available)	Details attached at Annexure – F2.16												
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Name:		Desig:		Sign:		Date:								

Company's Seal/Stamp:-

GST related Corrigendum to GCC Rev 06

Clause Ref:	Existing Clause as:	Replaced/ New Clause as:
Clause No.4 of GCTC (General commercial terms and conditions)	TAXES AND DUTIES 4.1 EXCISE DUTY 4.1.1 Seller/ Contractor is required to ensure that excise duty including cess, if any, is quoted as per the existing tariff on the date of the offer and all benefits as per existing rules have been considered. 4.1.2 Excise duty actually incurred by Seller/ Contractor on self-manufactured items alone shall be reimbursed against documentary evidence. Excise duty paid by Purchaser on inputs, bought out items, raw materials and components consigned directly to site from sources other than Seller/ Contractor's factory/ works shall be included by the bidder in the quoted basic price. 4.1.3 If excise duty is paid under protest or dispute, it shall not be reimbursed till the dispute is settled. If the Seller/ Contractor claims/ obtains any refund of the excise duty paid, the same shall be refunded to the Purchaser immediately 4.1.4 Invoice cum Excise duty gate pass (Excise Invoice) should contain the name of the ultimate consignee as per Order/ Contract/ Special Conditions of Contract. 4.1.5 If required by Purchaser, the Seller / Contractor will provide a certificate stating that CENVAT benefit has been availed of on the inputs and the same has been passed on to the Purchaser. 4.1.6 Excise duty shall be paid at actuals against documentary evidence but restricted to the amount and percentage indicated in the Order/ Contract. 4.2 SALES TAX / VALUE ADDED TAX (VAT) 4.2.1 Central Sales Tax / Value Added Tax shall be reimbursed only if the same is paid by the Seller / Contractor to the respective Govt. authorities on direct sales by the Seller/ Contractor to the Purchaser, meeting all statutory requirements and availing all exemptions/ concessions under the respective Central Sales Tax / Value Added Tax Acts. The offer should clearly indicate CST/ VAT percentage and the total	TAXES AND DUTIES 4.1 CGST/SGST/UTGST/IGST 4.1.1 Seller/ Contractor is required to ensure that CGST/SGST/UTGST/IGST (whichever is applicable) is quoted as per the existing tariff on the date of the offer and all benefits as per existing laws have been considered. 4.1.2 It is the responsibility of the seller/contractor to issue the Tax Invoice strictly as per the format prescribed under the relevant applicable GST law (CGST Act/SGST Act/UTGST Act/IGST Act). Vendor to indicate the proper GSTN Registration/ HSN code in their tax invoice. 4.1.3 The purchaser is registered in the State of Uttar Pradesh vide following GST registration number: 09AAACB4146P22C 4.1.4 Seller/contractor is required to mention the above registration number in their tax invoice unless stated otherwise in NIT/SCC. 4.1.5 CGST/SGST/UTGST/IGST shall be paid at actuals against Tax Invoice but restricted to the amount and percentage in the order/contract

GST related Corrigendum to GCC Rev 06

	amount along with concessional form(s), if any. 4.2.2 Purchaser is registered in NOIDA, U.P. vide following Registration Numbers: Central Sales Tax Registration No. : ND – 5341151 w.e.f. 01-07-2006 UP Trade Tax Registration No. : ND – 0345307 w.e.f. 01-07-2006 UP TIN No. : 09765702874 4.2.3 Central Sales Tax/ Value Added Tax shall be reimbursed, as per tariff applicable, but restricted to the percentage and amount shown in the Order/ Contract. If it is shown as included in the quoted price/ not applicable, it will not be reimbursed by the Purchaser. 4.2.4 Purchaser proposes to make sale-in-transit under section 6 (2) (b) of Central Sales Tax Act where goods movement is inter-state. Form-C shall be issued and exchanged against Form-E1/E2 based on quarterly transactions. Seller/Contractor is required to submit his request in the format enclosed at Annexure-VI within 30 days from end of the Quarter, giving State-wise invoice details. 4.2.5 VAT invoices, in format prescribed by the respective State Sales Tax Act, have to be submitted in the name of Nodal Agency specified in Special Conditions of Contract. 4.3 SERVICE TAX 4.3.1 Service Tax paid by the Service Provider /contractor to the Government authorities directly shall only be reimbursed at actuals against documentary evidence, but restricted to the rate and amount mentioned in the order/contract. The offer should clearly indicate the percentage and the total amount of service tax. 4.3.2 Service provider/Contractor to ensure their registration for “Intended Service” to be provided, before claiming Service tax under the “intended category”. Decision of BHEL shall be final w.r.t. the “Intended category” in which the service will be falling. 4.3.3 If required by the Purchaser, the Service Provider/Contractor will provide a certificate stating that “CENVAT Benefit has been availed of on the input and the	4.2 OTHER TAXES & LEVIES 4.2.1 All taxes/duties/Cess other than CGST/SGST/UTGST/IGST shall be deemed to be included in the Ex-Works prices unless specified otherwise by the bidder in the price bid. No variation in other taxes and duties shall be payable by Purchaser. 4.3 CUSTOMS DUTY
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GST related Corrigendum to GCC Rev 06

	same has been passed on to the purchaser” or “CENVAT Benefit has not been availed of on the inputs”. 4.4 OTHER TAXES & LEVIES All taxes and duties other than Excise Duty, Sales Tax/ VAT, Service Tax shall be deemed to be included in the Ex-Works prices unless specified otherwise by the bidder in the price bid. No variation in other taxes and duties shall be payable by Purchaser. However, statutory variation in Octroi will be payable extra against documentary evidence. 4.5 CUSTOMS DUTY 4.5.1 Customs Duty element for imported items as per Special Conditions of Contract shall be included in the Ex-Works prices. No variation in customs duty and exchange rate for imported items shall be payable by Purchaser. 4.5.2 Seller/ Contractor shall arrange for his own import license, if required, since Purchaser will not provide any import license. Therefore, Seller/ Contractor alone shall be responsible for any delay in getting import license or non-availability of the same or completion of other related formalities. Purchaser shall not be responsible for any financial liability, whatsoever, on this account. 4.5.3 Essentiality Certificate or Project Authority Certificate (PAC) as per Import Policy, if required to avail concessional customs duty, shall be clearly specified in the offer. Import content (CIF value in rupees) with list of items, quantity, foreign currency, country of origin etc., shall be submitted by the bidder as part of Price bid. 4.6 DIRECT TAX 4.6.1 Purchaser shall not be liable towards income tax of whatever nature including variations thereof, arising out of this Order/ Contract, as well as tax liability of the Seller/ Contractor and his personnel.	4.3.1 Customs Duty/IGST/Goods and Services compensation cess under Goods and Services Tax (Compensation to States) Act, 2017 element for imported items as per Special Conditions of Contract shall be included in the Ex-Works prices. 4.3.2 Seller/ Contractor shall arrange for his own import license, if required, since Purchaser will not provide any import license. Therefore, Seller/ Contractor alone shall be responsible for any delay in getting import license or non-availability of the same or completion of other related formalities. Purchaser shall not be responsible for any financial liability, whatsoever, on this account. 4.3.3 Essentiality Certificate or Project Authority Certificate (PAC) as per Import Policy, if required to avail concessional customs duty, shall be clearly specified in the offer. Import content (CIF value in rupees) with list of items, quantity, foreign currency, Country of origin etc., shall be submitted by the bidder as part of Price bid. 4.4 DIRECT TAXES 4.4.1 Purchaser shall not be liable towards income tax of whatever nature including variations thereof, arising out of this Order/ Contract, as well as tax liability of the Seller/ Contractor and his personnel. 4.4.2 Deductions of Tax at source at the prevailing rates shall be effected by the Purchaser before release of payment, as a statutory obligation, if applicable. TDS certificate will be issued by the Purchaser as per statutory provisions
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GST related Corrigendum to GCC Rev 06

	4.6.2 Deductions of Tax at source at the prevailing rates shall be effected by the Purchaser before release of payment, as a statutory obligation, if applicable. TDS certificate will be issued by the Purchaser as per statutory provisions.	
	5.0 STATUTORY VARIATION 5.1 If the rates for taxes and duties in respect of the quoted materials and/ or services assumed by the Seller/ Contractor are less than the tariff prevailing at the time of tendering, Seller/ Contractor will be responsible for such under quotations. However, if the rates assumed are higher than the correct rates prevailing at the time of tendering, the difference will be to the credit of the Purchaser. 5.2 Statutory Variations in Excise Duty, Service Tax and Central Sales Tax/ Value Added Tax only on self-manufactured items/ services rendered by vendor himself on the rates prevailing at the time of delivery/ completion in comparison to the date of offer, will be to the account of the Purchaser. No other variations such as on customs duty, exchange rate, minimum wages, prices of controlled commodities, any other input etc. shall be payable by the Purchaser. 5.3 Notwithstanding the above, where the actual completion of the supply occurs beyond the period stipulated in the Order/ Contract or any extension thereof, variations referred to above, will be limited to the rates prevailing on the dates of such agreed completion periods only. For variations after the agreed completion periods, the Seller/ Contractor alone shall bear the impact for the upward revisions and for downward revisions; purchaser shall be given the benefit of reduction in taxes/ duties. This will be without prejudice to the levy of penalty for delay in delivery/ completion schedule. 5.4 Any new tax structure (like Goods & Services Tax) as and when implemented by the Government shall become applicable in addition to or in lieu of existing tax structure.	5.0 STATUTORY VARIATION 5.1 Statutory variation for CGST/SGST/UGST/IGST is available provided the actual completion of supply does not occur beyond the period stipulated in the order/contract or any extension (without levy of penalty). 5.2 For variation after the agreed completion periods, the seller/contractor alone shall bear the impact for the upwards revisions and adjust the price in their basic price in such a manner that total price with tax matches with the ex-works with taxes of Purchase Order/Contract. For downward revisions, purchaser shall be given the benefit of reduction in CGST/SGST/UGST/IGST. This will be without prejudice to the levy of penalty for delay in delivery/completion schedule. 5.4 No other variations such as on Custom Duty, exchange rate, minimum wages, prices of controlled commodities, any other input etc. shall be payable by the purchaser.

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Clause 8	8.0 TRANSPORTATION & FREIGHT CHARGES 8.1 All dispatches shall be through road carriers approved by Purchaser/ Bank, on freight pre-paid basis. 8.2 Road permit/ entry permit, if required as per law of the State, shall be arranged by Purchaser. 8.3 Freight charges (including Service Tax) shall be payable after delivery of the goods at the project site, on receipt of MRC or receipted LR on pro-rata basis.	8.0 TRANSPORTATION & FREIGHT CHARGES 8.1 All dispatches shall be through road carriers approved by Purchaser/ Bank, on freight pre-paid basis. 8.2 Road Permit/E-way bill, if required, will be arranged by Supplier.
	9.0 TERMS OF PAYMENT 9.1 SUPPLY PACKAGES 9.1.1 Ninety percent (90%) of basic price of materials supplied, as per PO, along with 100% taxes and duties (as applicable), shall be paid against receipt of material at site on pro-rata basis. 9.1.2 Ten percent (10%) of basic price of materials supplied will be released on pro-rata basis after receipt of Material Receipt Certificate (MRC) from project site engineer of Owner/ Purchaser, on submission of all final documents for the packages as detailed below, duly certified by Engg. Deptt. of purchaser, and submission of Form E1/ E2 against Form-C, if applicable. List of packages with required final documents is as per Annexure-X. 9.2 SUPPLY PACKAGES WITH PERFORMANCE GUARANTEE / DEMONSTRATION TEST AT SITE IN VENDOR'S SCOPE 9.2.1 Eighty Five percent (85%) of basic price of materials supplied, as per PO / approved billing schedule, along with 100% taxes and duties (as applicable), shall be paid against receipt of material at site on pro-rata basis. 9.2.2 Ten percent (10%) of basic price of materials supplied will be released on pro-rata basis after receipt of Material Receipt Certificate (MRC) from project site engineer of Owner/ Purchaser and submission of Form E1/ E2 against Form-C, if applicable. 9.2.3 Five percent (5%) of the total basic price of materials and PG/ Demonstration test charges shall be released after submission of all final documents as per Technical	9.0 TERMS OF PAYMENT 9.1 SUPPLY PACKAGES Payment of basic price of materials supplied alongwith freight and taxes and duties (as applicable), shall be paid against receipt of material at site on pro-rata basis. 10% of basic price of materials supplied will be retained as security deposit which will be released on pro – rata basis after receipt of Material Receipt Certificate (MRC) from project site engineer of owner/purchaser on submission of all the final documents for the packages as detailed below, duly certified by engineering department of purchaser. List of packages with required final documents is as per Annexure-X. 9.2 Supply packages with performance guarantee/demonstration test at site in vendor's scope Payment of basic price of materials supplied, as per PO/ as per approved billing schedule, along with freight and taxes and duties (as applicable), shall be paid against receipt of material at site on pro-rate basis. 15% of basic price of materials supplied will be retained as security deposit which will be released on pro – rata basis as details below: a) 10% will be released after receipt of Material Receipt Certificate (MRC) from project site engineer of owner/purchaser.

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Specifications and successful completion of the Performance Guarantee (PG)/ Demonstration Test at site. Note: If the Performance Guarantee/ Demonstration Test is not conducted up to 24 months from supply completion for reasons not attributable to the vendor, then last 5% payment will be released against Bank Guarantee of an equivalent amount, valid for 12 months. This bank guarantee will be in addition to Contract Performance Bank Guarantee for 10% of the contract value (excluding taxes, duties and freight). 9.3 SUPPLY PAYMENT FOR TURNKEY PACKAGES (E&C IN VENDOR'S SCOPE) 9.3.1 Eighty Five percent (85%) of basic price of materials supplied, as per approved billing schedule, along with 100% taxes and duties (as applicable), shall be paid against receipt of material at site on pro-rata basis. OR i) Five percent (5%) lump sum payment of total basic price (excluding taxes, duties & freight) against approval of design documents and quality plan as certified by Engineering. Design documents and quality plan shall be as defined in the Technical Specifications. ii) Eighty percent (80%) of basic price of materials supplied, as per approved billing schedule, along with 100% taxes and duties (as applicable), shall be paid against receipt of material at site on pro-rata basis. 9.3.2 Five percent (5%) of basic price of materials supplied along with freight, if applicable, will be released on pro-rata basis after submission of Material Receipt Certificate (MRC) from project site engineer of Owner/ Purchaser and submission of Form E1/ E2 against Form-C, if applicable. Collection of Material Receipt Certificate from Site/ Owner and its submission for claiming the payment shall be the responsibility of the Seller/ Contractor. 9.3.3 Ten percent (10%) of the total basic price shall be released after i) submission of all final documents as per Technical Specifications and ii) successful completion of	b) 5% will be released after submission of final documents as per technical specification and successful completion of the performance guarantee (PG)/ Demonstration test at site. Note: If the Performance Guarantee/ Demonstration Test is not conducted up to 24 months from supply completion for reasons not attributable to the vendor, then 5% security deposit will be released against Bank Guarantee of an equivalent amount, valid for 12 months. This bank guarantee will be in addition to Contract Performance Bank Guarantee for 10% of the contract value (excluding taxes, duties and freight). 9.3 SUPPLY PAYMENT FOR TURNKEY PACKAGES (E&C IN VENDOR'S SCOPE) 9.3.1 Payment of basic price of materials supplied, as per approved billing schedule, along with freight, taxes and duties (as applicable), shall be paid against receipt of material at site on pro-rata basis. 15% of basic price of materials supplied will be retained as security deposit which will be released on pro – rata basis as details below: a) 5% will be released on pro-rata basis after submission of Material Receipt Certificate (MRC) from project site engineer of owner/purchaser. Collection of Material Receipt Certificate from site/owner and its submission for claiming the payment shall be the responsibility of the Seller/Contractor. b) 10% will be released after i) submission of all final documents as per Technical Specifications and ii) successful completion of Performance Guarantee (PG)/ Demonstration Test and handing over of the system/ package, if applicable, as per Order/ Contract
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GST related Corrigendum to GCC Rev 06

	Performance Guarantee (PG)/ Demonstration Test and handing over of the system/ package, if applicable, as per Order/ Contract. 9.4 ERECTION & COMMISSIONING PAYMENT FOR TURNKEY PACKAGES 9.4.1 Eighty percent (80%) payment on pro-rata basis for the work completed, as per approved billing schedule, shall be released by Site authorities/ Region on submission of protocols, duly signed by BHEL Site/ Owner. 9.4.2 Ten percent (10%) of the total value shall be released by Site authorities/ Region on successful commissioning of the complete system/ package. 9.4.3 Ten percent (10%) of the total value shall be released by Site authorities/ Region on successful completion of PG/ Demonstration test(s) and handing over system/ package to the Owner, as applicable. 9.5 PG TEST, INSTALLATION CHECK, SUPERVISION OF ERECTION / COMMISSIONING CHARGES 100% payment shall be released after successful completion of the activity, on Site certification. 9.6 Vendors shall submit documents for payment directly to BHEL. Payment will be released within 60 days after receipt of complete documents as per order/ contract (45 days for vendors qualified and registered as Micro or Small as per MSMED Act). To be eligible for payment as Micro and Small category, vendors shall submit annual certification for validation from designated authority under MSMED Act or Chartered Accountant within first quarter of every financial year. . <u>Note:</u> 1) For indigenous suppliers, if the documents are routed through Bank, then all bank charges will be to vendor's account. 2) Foreign bidders can opt for payment (less agency commission, if applicable) through irrevocable and unconfirmed letter of credit. In that case for	9.4 ERECTION & COMMISSIONING PAYMENT FOR TURNKEY PACKAGES 9.4.1 Eighty percent (80%) payment on pro-rata basis for the work completed, as per approved billing schedule, shall be released by Site authorities/ Region on submission of protocols, duly signed by BHEL Site/ Owner. 9.4.2 Ten percent (10%) of the total value shall be released by Site authorities/ Region on successful commissioning of the complete system/ package. 9.4.3 Ten percent (10%) of the total value shall be released by Site authorities/ Region on successful completion of PG/ Demonstration test(s) and handing over system/ package to the Owner, as applicable. 9.5 PG TEST, INSTALLATION CHECK, SUPERVISION OF ERECTION / COMMISSIONING CHARGES 100% payment shall be released after successful completion of the activity, on Site certification. 9.6 Vendors shall submit documents for payment directly to BHEL. Payment will be released within 60 days after receipt of complete documents as per order/ contract (45 days for vendors qualified and registered as Micro or Small as per MSMED Act). <u>Note:</u> 1) Vendors are required to issue Tax Invoice inclusive of PVC value (if applicable) wherever indices are available. 2) For indigenous suppliers, if the documents are routed through Bank,
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GST related Corrigendum to GCC Rev 06

	evaluation purpose, prices of foreign bidders will be loaded on account of payment through LC, equal to loading specified against 'Payment through Bank' in Annexure-VIII. No loading will be done if foreign vendors agree for 90 days usance LC or submit the documents on collection basis for payment within 90 days of submission of complete documents. 3) LC opening/ negotiation/ confirmation charges will be to vendor's account. 4) Form C/ E1/E2 are not applicable for foreign bidders. 5) In extreme case of vendors not agreeing to link 10% payment with submission of Form E1/ E2 against Form-C as above, their prices will be loaded as per Annexure-VIII. 6) Any negative PVC, if not adjusted in earlier payments, will be adjusted at the time of MRC payment. 7) Payment terms for mandatory spares shall be as per clause 9.1.	then all bank charges will be to vendor's account. 3) Foreign bidders can opt for payment (less agency commission, if applicable) through irrevocable and unconfirmed letter of credit. In that case for evaluation purpose, prices of foreign bidders will be loaded on account of payment through LC, equal to loading specified against 'Payment through Bank' in Annexure-VIII. No loading will be done if foreign vendors agree for 90 days usance LC or submit the documents on collection basis for payment within 90 days of submission of complete documents. 4) LC opening/ negotiation/ confirmation charges will be to vendor's account. 5) Payment terms for mandatory spares shall be as per clause 9.1. 9.7 The applicable TDS under CGST/SGST/UGST/IGST/ Goods and Services (Compensation to States) Act will be deducted from the payments. 9.8 Other clauses 1. Vendor/Supplier will intimate & upload the Tax invoice along with LR/RR(as applicable) on web portal & intimate BHEL immediately on removal of goods from vendor/supplier works. In case of Services, Vendor is required to upload the Tax invoice on Web Portal immediately after raising the invoice. BHEL will issue the delivery order/instruction to dispatch the material to the customer as indicated in SCC. 2. All payments against Tax Invoice to vendors/contractors shall be released only after:
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GST related Corrigendum to GCC Rev 06

		a) Vendor/contractor declaring such invoice in GSTR-1 within the prescribed timeline as per the relevant Act. b) The tax component charged by the vendor in the invoice should be matched with the details uploaded by vendor in GSTR-1. c) Confirmation of payment of GST thereon by vendor on GSTN portal 3. In case, any GST credit is delayed/denied to BHEL due to non/delayed receipt of goods and/or tax invoice or expiry to timeline prescribed in the relevant Act for availing such ITC, or any other reasons not attributable to BHEL, tax amount shall be recoverable from the vendor/contractor along with interest levied/leviable on BHEL. 4. Wherein GST liability arises on BHEL under reverse charge, any interest levied/leviable due to any reasons not attributable to BHEL shall be recovered from the vendor/contractor.
Clause 9	9.7 DOCUMENTS TO BE SUBMITTED BY VENDOR 9.7.1 For Recognition of Dispatch Copy of the following documents by e-mail/ fax immediately on despatch: a. Invoice b. LR along with Delivery Order c. Packing List d. Insurance Intimation e. Dispatch Clearance 9.7.2 For Claiming Payments (under clause 9.1.1, 9.2.1, 9.3.1): a. Invoice – original+1 copy b. Receipted LR (signed & stamped)/ confirmation from site regarding receipt of packages/ Boxes original/ copy	9.7 All same a. to be replaced with “GST compliant invoice” in 9.7.1, 9.7.2, 9.7.3 Modification in the clause Duty drawback documents “As per applicable law” (original+1 copy.)

GST related Corrigendum to GCC Rev 06

	c. Delivery order- 2 copies d. Packing List - clearly showing number of packages, gross weight and net weight. - original+1 copy e. MDCC from BHEL/ Customer – as per SCC – 2 copies f. Guarantee Certificate – Original + 1 copy g. Insurance Intimation - 2 copies CQIR / Inspection Reports – Original+1 copy i. PVC Calculation and copy of all applicable indices, if PVC applicable. – 2 copies j. Duty drawback documents (original excise invoice, original disclaimer certificate, original certificate from excise authority for payment of excise duty), if applicable. – original + 1copy 9.7.3 For Claiming Freight Payment a. Invoice – Original + 1 copy b. Receipted LR (signed & stamped)/ confirmation from site regarding receipt of packages/ Boxes original/ copy c. Transporter’s document indicating the freight amount. Original money receipt to be submitted if required as per SCC. 9.7.4 For Claiming MRC Payment a. Invoice – Original + 1 copy b. Copy of MRC 9.7.5 For Claiming Payment for Services involving Service Tax a. Invoice as per rule 4A of Service Tax Act – Original + 1 copy b. Copy of Service Tax registration certificate c. Copy of challan for Service Tax payment	
Clause 3.0 Instruction to bidders	Total erection & commissioning charges including service tax should be minimum 20% (or as specified in NIT) of the total quoted package price (excluding mandatory spares but including all taxes and freight), failing which the break-up of prices shall be adjusted accordingly for ordering.	Total erection & commissioning charges including applicable tax but excluding freight along with GST should be minimum 20% (or as specified in NIT) of the total quoted package price (excluding mandatory spares but including all taxes and freight), failing which the break-up of prices shall be adjusted accordingly for ordering.

GST related Corrigendum to GCC Rev 06

Clause 16.0 Instruction to bidder	For deviations w.r.t. Payment terms, Liquidated damages, Firm prices and submission of E1/ E2 forms before claiming 10% payment, if a bidder chooses not to give any cost of withdrawal of deviation loading as per Annexure-VIII will apply.	For deviations w.r.t. Payment terms, Liquidated damages, Firm prices before claiming 10% payment, if a bidder chooses not to give any cost of withdrawal of deviation loading as per Annexure-VIII will apply.
Clause 16.0 of GCTC	Purchaser reserves the right to recover from the Seller/ Contractor, as agreed liquidated damages and not by way of penalty, a sum equivalent to half ($\frac{1}{2}$) percent of the total contract price per week or part thereof, subject to a maximum of ten (10) percent of the total contract price excluding elements of taxes, duties and freight, if the Seller/ Contractor fails to deliver any part of the ordered stores within the period stipulated in the Order/ Contract. For Turnkey packages (Supply and E&C in vendor's scope), Liquidated Damages shall be levied on the total contract value of both Supply and E&C orders (excluding taxes, duties and freight) if E&C completion of the package is delayed beyond the contractual completion date or extension thereof. Liquidated Damages will not be withheld from supply payment. LR/ GR/ RR date for indigenous supplies and AWB/ BL date for FOB contracts shall be treated as the date of dispatch for levying LD as per Clause 16. However, for indigenous supply if receipted LR date is beyond three months from the date of LR, such excess period shall also be considered for LD purpose. 2. In case of any amendment/ revision, LD shall be linked to the amended/ revised contract value and delivery date(s)	Purchaser reserves the right to recover from the Seller/ Contractor, as agreed liquidated damages and not by way of penalty, a sum equivalent to half ($\frac{1}{2}$) percent plus applicable GST of the total contract price per week or part thereof, subject to a maximum of ten (10) percent of the total contract price excluding elements of taxes, duties and freight, if the Seller/ Contractor fails to deliver any part of the ordered stores within the period stipulated in the Order/ Contract. For Turnkey packages (Supply and E&C in vendor's scope), Liquidated Damages shall be levied on the total contract value of both Supply and E&C orders (excluding taxes, duties and freight) if E&C completion of the package is delayed beyond the contractual completion date or extension thereof. Liquidated Damages will not be withheld from supply payment. LR/ GR/ RR/ eway bill date for indigenous supplies and AWB/ BL date for C&F contracts shall be treated as the date of dispatch for levying LD as per Clause 16. However, for indigenous supply if receipted LR/eway bill date is beyond three months from the date of LR/e-way bill, such excess period shall also be considered for LD purpose. 2. In case of any amendment/ revision, LD shall be linked to the amended/ revised contract value and delivery date(s)

GST related Corrigendum to GCC Rev 06

Deviation sheet- Cost of Withdrawal	Point no-9 For deviations w.r.t. Payment terms, Liquidated damages, Firm prices and submission of E1/ E2 forms before claiming 10% payment, if a bidder chooses not to give any cost of withdrawal of deviation loading as per Annexure-VIII of GCC, Rev-06 will apply. For any other deviation mentioned in un-priced copy of this format submitted with Part-I bid but not mentioned in priced copy of this format submitted with Priced bid, the cost of withdrawal of deviation shall be taken as NIL.	For deviations w.r.t. Payment terms, Liquidated damages, Firm prices before claiming 10% payment, if a bidder chooses not to give any cost of withdrawal of deviation loading as per Annexure-VIII of GCC, Rev-06 will apply. For any other deviation mentioned in un-priced copy of this format submitted with Part-I bid but not mentioned in priced copy of this format submitted with Priced bid, the cost of withdrawal of deviation shall be taken as NIL.
Annexure-VI		Deleted
Annexure-VIII		Following changes in annexure-8, (remaining portion of annex-8 is same): C) LIQUIDATED DAMAGES If maximum limit asked for is 10% or 5% of Undelivered Portion – 10% value of the total quoted price including GST & freight. If maximum limit asked is less than 10 % of contract value loading shall be to the extent to which not agreed by bidder (at offered value) . E) DEVIATION TO SUBMISSION OF FORM E1/ E2 BEFORE CLAIMING 10% PAYMENT 10% of Ex-Works supply value.
New clauses:		
a) In case of discrepancy in CGST/SGST/UTGST/IGST rate corresponding to HSN ;code and quotes rates, the evaluation shall be done on quoted price and correct CGST/SGST/UTGST/IGST rate shall be considered for ordering (limited to quoted FOR Site Price) b) The bidder should have been registered with the appropriate authority under relevant GST laws. c) The bidder to specify in their offer (part 1 bid) the category of registration under GST i.e. registered dealer and composite dealer d) No CGST/SGST/UTGST/IGST will be reimbursed to composite dealer. In the event of any GST quoted by composite dealer, the same shall be considered for evaluation purpose. However, the ordering will be done without considering the tax. e) In the event of any change in the status of vendor from composite to regular dealer after the submission of the bid but before the supply, no reimbursement of CGST/SGST/UTGST/IGST will be made. However, the vendor has to raise the invoice strictly, as per the law, by adjusting their ex-works price.		

ANNEXURE-II: DEVIATION SHEET (COST OF WITHDRAWAL)**PROJECT:-****PACKAGE:-****TENDER ENQUIRY REFERENCE:-****NAME OF VENDOR:-**

SL NO	VOULME/ SECTION	PAGE NO.	CLAUSE NO.	TECHNICAL SPECIFICATION/ TENDER DOCUMENT	COMPLETE DESCRIPTION OF DEVIATION	COST OF WITHDRAWAL OF DEVIATION	REFERENCE OF PRICE SCHEDULE ON WHICH COST OF WITHDRAWAL OF DEVIATION IS APPLICABLE	NATURE OF COST OF WITHDRAWAL OF DEVIATION (POSITIVE/ NEGATIVE)	REASON FOR QUOTING DEVIATION
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TECHNICAL DEVIATIONS

COMMERCIAL DEVIATIONS

PARTICULARS OF BIDDERS/ AUTHORISED REPRESENTATIVE

NAME	DESIGNATIONS	SIGN & DATE	
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NOTES:

- For self manufactured items of bidder, cost of withdrawal of deviation will be applicable on the basic price (i.e. excluding taxes, duties & freight) only.
- For directly dispatchable items, cost of withdrawal of deviation will be applicable on the basic price including taxes, duties & freight.
- All the bidders have to list out all their Technical & Commercial Deviations (if any) in detail in the above format.
- Any deviation not mentioned above and shown separately or found hidden in offer, will not be taken cognizance of.
- Bidder shall submit duly filled unpriced copy of above format indicating "quoted" in "cost of withdrawal of deviation" column of the schedule above along with their Techno-commercial offer, wherever applicable.
- Bidder shall furnish price copy of above format along with price bid.
- The final decision of acceptance/ rejection of the deviations quoted by the bidder shall be at discretion of the Purchaser.
- Bidders to note that any deviation (technical/commercial) not listed in above and asked after Part-I opening shall not be considered.
- For deviations w.r.t. Payment terms, Liquidated damages, Firm prices and submission of E1/ E2 forms before claiming 10% payment, if a bidder chooses not to give any cost of withdrawal of deviation loading as per Annexure-VIII of GCC, Rev-06 will apply. For any other deviation mentioned in un-priced copy of this format submitted with Part-I bid but not mentioned in priced copy of this format submitted with Priced bid, the cost of withdrawal of deviation shall be taken as NIL.
- Any deviation mentioned in priced copy of this format, but not mentioned in the un-priced copy, shall not be accepted.
- All techno-commercial terms and conditions of NIT shall be deemed to have been accepted by the bidder, other than those listed in unpriced copy of this format.
- Cost of withdrawal is to be given separately for each deviation. In no event bidder should club cost of withdrawal of more than one deviation else cost of withdrawal of such deviations which have been clubbed together shall be considered as NIL.
- In case nature of cost of withdrawal (positive/negative) is not specified it shall be assumed as positive.
- In case of discrepancy in the nature of impact (positive/ negative), positive will be considered for evaluation and negative for ordering.

**TECHNICAL SPECIFICATION
FOR
ELECTROMAGNETIC FLOWMETER**

3 x 800 MW PVUNL PATRATU TPP PHASE-I

**VOLUME - IIB
SECTIONS-A, C & D**

SPECIFICATION No: PE-TS-434-145-I916



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

	TECHNICAL SPECIFICATION FOR ELECTROMAGNETIC FLOWMETER 3X800MW PVUNL PATRATU TPP PHASE-I	SPEC NO.: PE-TS-434-145-I916	
		VOLUME II B	
		SECTION A	
		REV. NO. 00	DATE 04/06/2019
		SHEET 1 OF 2	

SECTION – A

SCOPE OF ENQUIRY

	TECHNICAL SPECIFICATION FOR ELECTROMAGNETIC FLOWMETER 3X800MW PVUNL PATRATU TPP PHASE-I	SPEC NO.: PE-TS-405-145-I916	
		VOLUME II B	
		SECTION A	
		REV. NO. 00	DATE 04/06/2019
		SHEET 2 OF 2	

SCOPE OF ENQUIRY

1.0 SCOPE

- 1.1 This specification covers the Design, Manufacture, Inspection and Testing at manufacturer's works, proper packing for transportation and delivery to site of the electromagnetic flow meter with accessories as mentioned in different sections of this specification for 3X800 MW PVUNL Patratu Thermal Power Plant.
- 1.2 The quality plan enclosed, forms the minimum requirement but not limited to be adhered to by the bidder. Bidder to sign and stamp the same and submit along with the offer as an acceptance.
- 1.3 Scope of supply shall be electromagnetic flow meter along with accessories as indicated in specification
- 1.4 Following formats to be signed, stamped with company seal and submitted:
 - a) Complete offer including calculation sheets, catalogues, etc.
 - b) Quality Plan
 - c) Datasheets A & B, duly filled

2.0 GENERAL TECHNICAL INSTRUCTIONS

- 2.1 It is not the intent here to specify all the details of design and manufacture. However, the equipment shall conform in all respects to high standard of design, engineering and workmanship and shall be capable of performing the required duties in a manner acceptable to the customer / consultant, who will interpret the meaning of drawing and specification and shall be entitled to reject any component or material which in his judgment is not in full accordance herewith.
- 2.2 The omission of specific reference to any component / accessory necessary for the proper performance of the equipment shall not relieve the supplier of the responsibility of providing such facilities to complete the supply within the quoted prices.
- 2.3 BHEL's/Customer's representative shall be given access to the shop in which the equipment is being manufactured or tested and all test records shall be made available to him.
- 2.4 The equipment covered under this specification shall not be dispatched unless the same have been finally inspected, accepted and Material Dispatch Clearance Certificate (MDCC) is issued by BHEL.



TECHNICAL SPECIFICATION FOR
ELECTROMAGNETIC FLOWMETER

3X800MW PVUNL PATRATU TPP PHASE-I

SPEC NO.: PE-TS-434-145-I916

VOLUME II B

SECTION C

REV. NO. 00

DATE 04/06/2019

SHEET 1 OF 2

SECTION-C

- SPECIFIC TECHNICAL REQUIREMENT
- CUSTOMER'S SPECIFICATION

	TECHNICAL SPECIFICATION FOR ELECTROMAGNETIC FLOWMETER	SPEC NO.: PE-TS-434-145-I916	
	3X800MW PVUNL PATRATU TPP PHASE-I	VOLUME II B	
		SECTION C	
		REV. NO. 00	DATE 04/06/2019
		SHEET 1 OF 2	

SPECIFIC TECHNICAL REQUIREMENTS

The technical requirements in this section are specific for this project and shall override the specification under Section-D in case of any contradiction.

- 1.0 Bidder to furnish necessary credentials & performance certificate as per PQR (Doc. No. PE-PQ-999-145-I008) for Electromagnetic Flowmeter.
- 2.0 Flange and counter flange for assembly of instrument on pipe shall be in bidder's scope.
- 3.0 Bidder to note that duly filled up Data Sheet-B, Quality Plan, Format enclosed in Section-D of Volume IIB, to be signed and stamped and submitted with the bid.
- 4.0 Bidder Presence is required for 2 days each time (2 times) for any site support requirement (for supervision). All the expenses like boarding, lodging and travel, Air fare etc. shall be in bidder's scope.

5.0 DOCUMENTATION:

(A) Along with the bids: No separate documentation required at the time of bids except the Catalogue, Proven ness certificate, duly filled Datasheets & Stamped QAP

(B) After the award of contract: 10 sets of the following documents to be enclosed along with the contract documents for approval:

- a) Datasheet C completely filled-up.
- b) Quality plan duly signed and stamped.
- c) Calculation Sheet.
- d) Assembly dimensional drawings.
- e) GA Drawing.

(C) Final documentation: The documentation as listed below shall be submitted as a part of final documentation.

- | | | |
|---|------------|------------------|
| 1. Approved final drawings/data sheets, | – 10 sets | } with 2 CD-ROMS |
| 2. All Test certificates | – 10 sets. | |
| 3. Operation & Maintenance Manuals for Electromagnetic flow meter | – 10 sets | |
| 4. Assembly drawings and QP for approval | – 10 sets. | |
| 5. "As built" drawings | – 10 sets. | |

- 6.0 In case during erection/commissioning of the Electromagnetic flowmeter, any spares are required which have not been specified in the Start-up/commissioning spares list, the same will have to be supplied by the vendor free of cost.
- 7.0 Mandatory spare shall be in bidder scope, same will have to be supplied by vendor as per the attached mandatory spare list.
- 8.0 Canopy shall be required for all outdoor electromagnetic flowmeter and same shall be in bidder's scope.
- 9.0 In case of any discrepancy in Specific Technical Requirement and Equipment specification, Specific Technical Requirement shall prevail.
- 10.0 Electromagnetic flowmeter shall be of Hart compatible.

CLAUSE NO.	TECHNICAL REQUIREMENTS			एनटीपीसी NTPC																												
19.05.00	Electronic Flow-Meter The electronic flow meter shall include flow sensor and flow indicator cum integrator / totaliser and shall include all required accessories for satisfactory operation. The flow meter shall be based on full bore electromagnetic principle and shall be electronic type of proven design, make and model acceptable to the owner. The Bidder shall submit all necessary technical literature and details of selection criteria of the instrument offered to substantiate the model selected. The Bidder shall also furnish list of similar installation along with feed back on satisfactory performance of the instruments. The flow meter shall meet or exceed the following requirement : <table><tr><td>(a)</td><td>Output</td><td>:</td><td>4-20 mA DC Isolated output</td></tr><tr><td>(b)</td><td>Accuracy</td><td>:</td><td>± 0.5% of calibrated span or better *</td></tr><tr><td>(c)</td><td>Repeatability</td><td>:</td><td>± 0.2% of calibrated span or better</td></tr><tr><td>(d)</td><td>Power Supply</td><td>:</td><td>240V AC ± 10%, 50 HZ ± 5%/ 24 V DC, to be arranged by the contractor.</td></tr><tr><td>(f)</td><td>Protection class</td><td>:</td><td>IP-55</td></tr><tr><td>(e)</td><td>Flow tube</td><td>:</td><td>SS304</td></tr><tr><td>(f)</td><td>liner</td><td>:</td><td>Hard Rubber</td></tr></table> The flow meter shall provide local indication for instantaneous flow. It should also be possible to get local display for daily and monthly discharge. The flow meter shall indicate totaliser/ integrator to get the daily and monthly discharge as stated above.				(a)	Output	:	4-20 mA DC Isolated output	(b)	Accuracy	:	± 0.5% of calibrated span or better *	(c)	Repeatability	:	± 0.2% of calibrated span or better	(d)	Power Supply	:	240V AC ± 10%, 50 HZ ± 5%/ 24 V DC, to be arranged by the contractor.	(f)	Protection class	:	IP-55	(e)	Flow tube	:	SS304	(f)	liner	:	Hard Rubber
(a)	Output	:	4-20 mA DC Isolated output																													
(b)	Accuracy	:	± 0.5% of calibrated span or better *																													
(c)	Repeatability	:	± 0.2% of calibrated span or better																													
(d)	Power Supply	:	240V AC ± 10%, 50 HZ ± 5%/ 24 V DC, to be arranged by the contractor.																													
(f)	Protection class	:	IP-55																													
(e)	Flow tube	:	SS304																													
(f)	liner	:	Hard Rubber																													
EPC PACKAGE FOR PATRATU SUPER THERMAL POWER STATION EXPANSION PHASE –I (3X 800MW)		TECHNICAL SPECIFICATIONS SECTION – VI, PART-B BID DOC. NO.: CS:9585-001-2	SUB-SECTION-IIIC-04 MEASURING INSTRUMENTS (PRIMARY & SECONDARY)	PAGE 41 OF 46																												



**TECHNICAL SPECIFICATION
FOR
ELECTROMAGNETIC FLOWMETER**

3X800MW PVUNL PATRATU TPP PHASE-I

SPEC NO.: PE-TS-434-145-I916

VOLUME II B

SECTION D

REV. NO. 00

DATE : 04/06/2019

SHEET 4 OF 4

SECTION-D

- **EQUIPMENT SPECIFICATION**
- **DATA SHEETS – A & B**
- **QUALITY PLAN**
- **BOQ-MAIN SUPPLY**
- **SPARES**

	TECHNICAL SPECIFICATION FOR ELECTROMAGNETIC FLOWMETER		SPEC NO.: PE-TS-434-145-I916	
			VOLUME II B	
	3X800MW PVUNL PATRATU TPP PHASE-I		SECTION D	
			REV. NO. 00	DATE : 04/06/2019
			SHEET 4 OF 4	

1.0 SCOPE

This specification covers the Design, Manufacture, Calibration, Inspection and Testing at the manufacturer's works, proper packing for transportation and delivery to site of Electromagnetic Flow Meter for use in Utility/Captive Power Station/Combined Cycle Station.

2.0 CODES AND STANDARDS

- 2.1 All the equipment specified herein shall comply with the requirements of the latest issue of the relevant National and International standards.
- 2.2 The Electromagnetic Flow Meters shall be of proven reliability, accuracy and repeatability requiring a minimum of maintenance. The Design and Materials used for the components shall also comply with the relevant National and International standards.

3.0 TECHNICAL REQUIREMENT

The Electromagnetic Flow Meters and the accessories shall be suitable for continuous operation under an ambient temperature of 0-55°C for Transmitter and (-) 20 to 100°C for Transducer and Relative Humidity of 5-100% unless specified otherwise in volume IIB Section-B or Section-C.

All accessories required for mounting/erection of these instruments shall be furnished as necessary for completeness of the system.

- 3.1 Accessories: All mounting hardware like clamping fixtures, mechanism to remove the sensors on line, interconnecting screened cables between Transducer & Transmitter, Cable Glands etc. is required to be supplied. Weather canopy for protection from direct sunlight and direct rain shall also be offered as an option. Material of all fittings shall be SS-316.

4.0 GUARANTEE AND PERFORMANCE

The guarantee of flow measuring assembly shall be 18 months from the date of dispatch or 12 months from commissioning whichever is earlier.

5.0 TEST & INSPECTION

- 5.1 The bidder shall adopt suitable quality assurance plan to ensure that the equipments offered will meet the specification requirements in full.
- 5.2 The Quality Plan shall be discussed and finalized with the technically accepted bidders before opening the price bid. The stages where the purchaser would like to be associated for witnessing or verification would be indicated by the purchaser in the Quality Plan before approval.
- 5.3 Inspection will be conducted by BHEL and/or their authorized representatives as per the agreed inspection schedule. The inspection schedule will be submitted by the bidder for BHEL's approval at contract stage. The cost of all tests and inspections will be deemed to have been included in the bid. For all the type tests "Type Test Certificates" as per agreed Quality Plan shall be furnished. In the absence of the same, such Type Tests shall be arranged at the Vendor's works in the presence of BHEL and/or their authorized representatives or in independent Test House/Laboratory approved by BHEL.

	TECHNICAL SPECIFICATION FOR ELECTROMAGNETIC FLOWMETER 3X800MW PVUNL PATRATU TPP PHASE-I	SPEC NO.: PE-TS-434-145-I916	
		VOLUME	II B
		SECTION	D
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		DATE	: 04/06/2019
		SHEET	4 OF 4

6.0 SPARES AND CONSUMABLES

6.1 Commissioning Spares and consumables

As part of the main equipment supply, the bidder shall supply all commissioning spares and consumables required during Start-up,

6.2 Recommended Spares

The bidder shall furnish a list of Recommended Spares along with the normal service expectancy period and frequency of replacement; quantities recommended for 3 years operation along with unit rate against each item to enable BHEL/BHEL's Customer to place a separate order later, if required.

6.3 Special Tools & Tackles

The bidder shall furnish a list of Special Tools & Tackles included in the bid.

7.0 DRAWINGS & DOCUMENTS

7.1 The offer shall include the following in 4 copies each.

- i. Technical data sheet for each flow measuring device assembly in the Pro forma enclosed under Data Sheet-B.
- ii. Catalogue/Technical literature.
- iii. Assembly drawing with dimensional details.

7.2 4 copy each of the following along with 2 CDs to be furnished after award of contract for owner approval.

- i. Technical Data Sheet-C.
- ii. Sizing Calculations.
- iii. Assembly drawing with dimensions.
- iv. Installation drawing.

8.0 FOR INFORMATION

- 8.1 Storage and Commissioning Instruction
- 8.2 O&M are to be supplied as specified.

9.0 PACKING & MARKING

9.1 Each item shall be properly packed with adequate protection against friction, stresses, vibration & shock during transportation. Each packing box shall have marking as per Purchase Order.

9.2 Each assembly shall be identified with the following information.

- Tag No.
- Service.
- Line size & thickness.
- Direction of flow.

	TECHNICAL SPECIFICATION FOR ELECTROMAGNETIC FLOWMETER 3X800MW PVUNL PATRATU TPP PHASE-I	SPEC NO.: PE-TS-434-145-I916	
		VOLUME II B	
		SECTION D	
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10.0 APPLICABLE DATA SHEETS

This document shall be read in conjunction with following data sheets.

1. Data Sheet - A & B : Data sheet no. PES-145-27-DS1-0

**TECHNICAL SPECIFICATION FOR
ELECTROMAGNETIC FLOW METER****3X800MW PVUNL PATRATU TPP PHASE-I**SPEC NO.: **PE-TS-434-145-I916**

VOLUME II B

SECTION C

REV. NO. 00

DATE 04/06/2019

SHEET 7 OF 21

SECTION-D**DATA SHEETS - A&B**

	DATA SHEET FOR ELECTRO-MAGNETIC FLOW METER		SPEC NO.: PE-TS-405-145-1916	
			VOLUME II B	
			SECTION D	
			REV. NO. 00	DATE :03.06.2019
			SHEET 1	OF 14
Tag No. 00GAA10CF011 Data Sheet No. PES-145-27-DS1-0				
DATA SHEET – A & B				
DATA SHEET – A (TO BE FILLED BY PURCHASER)				DATA SHEET – B (TO BE FILLED UP BY BIDDER)
GENERAL	PROJECT	3 x 800 MW PVUNL PATRATU TPP PHASE-I		.....
	OFFER REFERENCE	Bidder to indicate		.....
GENERAL	TAG NO.	00GAA10CF011		.....
	SERVICE:	RAW WATER PT DISCH HDR FLOW		.....
GENERAL	MAKE : MODEL	Bidder to indicate		.....
	PROCESS END CONNECTION	Full Bore		.....
GENERAL	FLOW MEASUREMENT	Instantaneous flow rate as well as totalized flow		.....
	OUTPUT	Isolated 4-20 mA DC with for volumetric flow		.....
GENERAL	ACCURACY	± 0.5%		.....
	FLOW TUBE	SS304		.....
GENERAL	REPEATABILITY	± 0.2% of calibrated span		.....
	RANGEABILITY	10:1		.....
GENERAL	RESPONSE TIME	USER PROGRAMMABLE		.....
	LOAD	500 ohms		.....
GENERAL	DISPLAY/INDICATION	LCD with Internal keypad (Flow rate of totalization). Flow meter with LCD screen backlight based local display and keypad. If required, Transmitter shall be suitably located away from the sensor for better access and visibility. Daily & Monthly Display can also be obtained by using a Data Logger mounted locally.		.....
	OPERATING VOLTAGE	[■] 240V AC [] 24 VDC [] 110 VAC		.....
GENERAL	TOTALIZING FACILITIES	■ YES [] NO		.....
	ENCLOSURE	IP-65		.....
GENERAL	PROCESS END CONNECTION	Inline Flanged (with matching Flange)		.....
	LINER	Hard Rubber		.....
GENERAL	FLUID	RAW WATER		.....
	RATE OF FLOW (CuBM/HR)	NORMAL : 2920, MAX: 3550		.....
GENERAL	UPSTREAM WORKING PRESS (Kg/cm2g)	2.5		.....
	DESIGN PRESS (Kg/cm2g)	12		.....
GENERAL	NORMAL TEMP (Deg C)	33		.....
	MAXIMUM TEMP (Deg C)	60		.....
GENERAL	PIPE LOCATION	OVERGROUND		.....
				

	DATA SHEET FOR ELECTRO-MAGNETIC FLOW METER		SPEC NO.: PE-TS-405-145-I916	
			VOLUME II B	
			SECTION D	
			REV. NO. 00	DATE :03.06.2019
		SHEET 2 OF 14		

PIPE LINE DATA	PIPE SIZE (OD x THK) mm	711 mm x 8mm	.....
	PIPE MATERIAL	CARBON STEEL AS PER IS 2062,	.....
	AVAILABLE PIPE STRAIGHT LENGTH	ROLLED & WELDED AS IS3589 GR.410	.....
		UPSTREAM : 5D	.....
		DOWNSTREAM : 3D	.....

NOTE: -

- 1) Accessories like ½” NPT cable gland, Transducer cable (length 20m), all process end connection hardware, SS nameplate etc. shall be provided.
- 2) Double compression type nickel plated brass cable gland.
- 3) Remote Transmitter:
 - i) Enclosure Material – Die Cast Aluminium (incase PP offered, suitable metal enclosure/housing shall be provided. Since it is located in the field.

	DATA SHEET FOR ELECTRO-MAGNETIC FLOW METER		SPEC NO.: PE-TS-405-145-I916	
			VOLUME II B	
			SECTION D	
			REV. NO. 00	DATE :03.06.2019
			SHEET 3	OF 14
Tag No. 00GAA20CF011 Data Sheet No. PES-145-27-DS1-0				
DATA SHEET – A & B				
DATA SHEET – A (TO BE FILLED BY PURCHASER)				DATA SHEET – B (TO BE FILLED UP BY BIDDER)
GENERAL	PROJECT	3 x 800 MW PVUNL PATRATU TPP PHASE-I		.....
	OFFER REFERENCE	Bidder to indicate		.....
GENERAL	TAG NO.	00GAA20CF011		.....|.....
	SERVICE:	RAW WATER ASH PUMP DISCH HDR FLOW		
GENERAL	MAKE : MODEL	Bidder to indicate		
	PROCESS END CONNECTION	Full Bore		.....
GENERAL	FLOW MEASUREMENT	Instantaneous flow rate as well as totalized flow		.....
	OUTPUT	Isolated 4-20 mA DC with for volumetric flow		.....
GENERAL	ACCURACY	± 0.5%		.....
	FLOW TUBE	SS304		.....
GENERAL	REPEATABILITY	± 0.2% of calibrated span		.....
	RANGEABILITY	10:1		.....
GENERAL	RESPONSE TIME	USER PROGRAMMABLE		.....
	LOAD	500 ohms		.....
GENERAL	DISPLAY/INDICATION	LCD with Internal keypad (Flow rate of totalization). Flow meter with LCD screen backlight based local display and keypad. If required, Transmitter shall be suitably located away from the sensor for better access and visibility. Daily & Monthly Display can also be obtained by using a Data Logger mounted locally.		.....
	OPERATING VOLTAGE	[■] 240V AC [] 24 VDC [] 110 VAC		.....
GENERAL	TOTALIZING FACILITIES	■ YES [] NO		.....
	ENCLOSURE	IP-65		.....
GENERAL	PROCESS END CONNECTION	Inline Flanged (with matching Flange)		.....
	LINER	Hard Rubber		.....
GENERAL	FLUID	RAW WATER		.....
	RATE OF FLOW (CuBM/HR)	NORMAL : 140, MAX : 200		.....
GENERAL	UPSTREAM WORKING PRESS (Kg/cm2g)	3.5		.....
	DESIGN PRESS (Kg/cm2g)	12		.....
GENERAL	NORMAL TEMP (Deg C)	33		.....
	MAXIMUM TEMP (Deg C)	60		.....
GENERAL	PIPE LOCATION	OVERGROUND		.....
				

	DATA SHEET FOR ELECTRO-MAGNETIC FLOW METER		SPEC NO.: PE-TS-405-145-I916	
			VOLUME II B	
			SECTION D	
			REV. NO. 00	DATE :03.06.2019
		SHEET 4 OF 14		

PIPE LINE DATA	PIPE SIZE (OD x THK) mm	219.1 mm x 6 mm	.....
	PIPE MATERIAL	CARBON STEEL AS PER IS 2062,	.....
	AVAILABLE PIPE STRAIGHT LENGTH	ROLLED & WELDED AS IS3589 GR.410	.....
		UPSTREAM : 10D	.....
		DOWNSTREAM : 5D	.....

NOTE: -

- Accessories like ½" NPT cable gland, 20 m Transducer cable, All PROCESS END CONNECTION hardware, SS nameplate etc. shall be provided.
- Double compression type nickel plated brass cable gland.
- Transducer cable min length shall be mentioned as per GA of Pit and location of transmitter.
- Remote Transmitter:
 - Enclosure Material – Die Cast Aluminium (incase PP offered, suitable metal enclosure/housing shall be provided. Since it is located in the field.

	DATA SHEET FOR ELECTRO-MAGNETIC FLOW METER		SPEC NO.: PE-TS-405-145-1916	
			VOLUME II B	
			SECTION D	
			REV. NO. 00	DATE :03.06.2019
			SHEET 5	OF 14
Tag No. 00GHD30CF011 Data Sheet No. PES-145-27-DS1-0				
DATA SHEET – A & B				
DATA SHEET – A (TO BE FILLED BY PURCHASER)				DATA SHEET – B (TO BE FILLED UP BY BIDDER)
GENERAL	PROJECT	3 x 800 MW PVUNL PATRATU TPP PHASE-I		.....
	OFFER REFERENCE	Bidder to indicate		.....
GENERAL	TAG NO.	0GHD30CF011		.....
	SERVICE:	APH WASH PUMP DISCH HDR FLOW		.....
GENERAL	MAKE : MODEL	Bidder to indicate		.....
	PROCESS END CONNECTION	Full Bore		.....
GENERAL	FLOW MEASUREMENT	Instantaneous flow rate as well as totalized flow		.....
	OUTPUT	Isolated 4-20 mA DC with for volumetric flow		.....
GENERAL	ACCURACY	± 0.5%		.....
	FLOW TUBE	SS304		.....
GENERAL	REPEATABILITY	± 0.2% of calibrated span		.....
	RANGEABILITY	10:1		.....
GENERAL	RESPONSE TIME	USER PROGRAMMABLE		.....
	LOAD	500 ohms		.....
GENERAL	DISPLAY/INDICATION	LCD with Internal keypad (Flow rate of totalization).		.....
		Flow meter with LCD screen backlight based local display and keypad. If required, Transmitter shall be suitably located away from the sensor for better access and visibility. Daily & Monthly Display can also be obtained by using a Data Logger mounted locally.		.....
GENERAL	OPERATING VOLTAGE	☒ 240V AC ☐ 24 VDC ☐ 110 VAC		.....
	TOTALIZING FACILITIES	☒ YES ☐ NO		.....
GENERAL	ENCLOSURE	IP-65		.....
	PROCESS END CONNECTION	Inline Flanged (with matching Flange)		.....
GENERAL	LINER	Hard Rubber		.....
	FLUID	CLARIFIED WATER		.....
GENERAL	RATE OF FLOW (CuBM/HR)	NORMAL : 1050, MAX : 1300		.....
	UPSTREAM WORKING PRESS (Kg/cm2g)	9.3		.....
GENERAL	DESIGN PRESS (Kg/cm2g)	12		.....
	NORMAL TEMP (Deg C)	33		.....
GENERAL	MAXIMUM TEMP (Deg C)	60		.....
	PIPE LOCATION	OVERGROUND		.....

	DATA SHEET FOR ELECTRO-MAGNETIC FLOW METER		SPEC NO.: PE-TS-405-145-I916	
			VOLUME II B	
			SECTION D	
			REV. NO. 00	DATE :03.06.2019
		SHEET 6 OF 14		
PIPE LINE DATA	PIPE SIZE (OD x THK) mm	457 mm x 6 mm	.....	
	PIPE MATERIAL	CARBON STEEL AS PER IS 2062,	.....	
	AVAILABLE PIPE STRAIGHT LENGTH	ROLLED & WELDED AS IS3589 GR.410	.....	
		UPSTREAM : 5D	.....	
		DOWNSTREAM : 3D	.....	
NOTE: - - Accessories like ½" NPT cable gland, 20 m Transducer cable, All PROCESS END CONNECTION hardware, SS nameplate etc. shall be provided. - Double compression type nickel plated brass cable gland. - Transducer cable min length shall be mentioned as per GA of Pit and location of transmitter. - Remote Transmitter: - Enclosure Material – Die Cast Aluminium (incase PP offered, suitable metal enclosure/housing shall be provided. Since it is located in the field.				

	DATA SHEET FOR ELECTRO-MAGNETIC FLOW METER		SPEC NO.: PE-TS-405-145-I916	
			VOLUME II B	
			SECTION D	
			REV. NO. 00	DATE :03.06.2019
			SHEET 7	OF 14
Tag No. 00GHD40CF011 Data Sheet No. PES-145-27-DS1-0				
DATA SHEET – A & B				
DATA SHEET – A (TO BE FILLED BY PURCHASER)				DATA SHEET – B (TO BE FILLED UP BY BIDDER)
GENERAL	PROJECT	3 x 800 MW PVUNL PATRATU TPP PHASE-I		.....
	OFFER REFERENCE	Bidder to indicate		.....
GENERAL	TAG NO.	00GHD40CF011		.....
	SERVICE:	SERVICE WATER PUMP DISCH HDR FLOW		.....
GENERAL	MAKE : MODEL	Bidder to indicate		.....
	PROCESS END CONNECTION	Full Bore		.....
TECHNICAL	FLOW MEASUREMENT	Instantaneous flow rate as well as totalized flow		.....
	OUTPUT	Isolated 4-20 mA DC with for volumetric flow		.....
TECHNICAL	ACCURACY	± 0.5%		.....
	FLOW TUBE	SS304		.....
TECHNICAL	REPEATABILITY	± 0.2% of calibrated span		.....
	RANGEABILITY	10:1		.....
TECHNICAL	RESPONSE TIME	USER PROGRAMMABLE		.....
	LOAD	500 ohms		.....
TECHNICAL	DISPLAY/INDICATION	LCD with Internal keypad (Flow rate of totalization).		.....
		Flow meter with LCD screen backlight based local display and keypad. If required, Transmitter shall be suitably located away from the sensor for better access and visibility. Daily & Monthly Display can also be obtained by using a Data Logger mounted locally.		.....
TECHNICAL	OPERATING VOLTAGE	☒ 240V AC ☐ 24 VDC ☐ 110 VAC		.....
	TOTALIZING FACILITIES	☒ YES ☐ NO		.....
TECHNICAL	ENCLOSURE	IP-65		.....
	PROCESS END CONNECTION	Inline Flanged (with matching Flange)		.....
TECHNICAL	LINER	Hard Rubber		.....
	FLUID	CLARIFIED WATER		.....
PROCESS DATA	RATE OF FLOW (CuBM/HR)	NORMAL : 1400, MAX : 1700		.....
	UPSTREAM WORKING PRESS (Kg/cm2g)	7.5		.....
PROCESS DATA	DESIGN PRESS (Kg/cm2g)	12		.....
	NORMAL TEMP (Deg C)	33		.....
PROCESS DATA	MAXIMUM TEMP (Deg C)	60		.....
	PIPE LOCATION	OVERGROUND		.....

	DATA SHEET FOR ELECTRO-MAGNETIC FLOW METER		SPEC NO.: PE-TS-405-145-I916	
			VOLUME II B	
			SECTION D	
			REV. NO. 00	DATE :03.06.2019
		SHEET 8 OF 14		

PIPE LINE DATA	PIPE SIZE (OD x THK) mm	610 mm x 7 mm	.....
	PIPE MATERIAL	CARBON STEEL AS PER IS 2062,	.....
	AVAILABLE PIPE STRAIGHT LENGTH	ROLLED & WELDED AS IS3589 GR.410	.....
		UPSTREAM : 5D	.....
		DOWNSTREAM : 3D	.....

NOTE: -

- 1) Accessories like ½” NPT cable gland, 20 m Transducer cable, All PROCESS END CONNECTION hardware, SS nameplate etc. shall be provided.
- 2) Double compression type nickel plated brass cable gland.
- 3) Transducer cable min length shall be mentioned as per GA of Pit and location of transmitter.
- 4) Remote Transmitter:
 - i) Enclosure Material – Die Cast Aluminium (incase PP offered, suitable metal enclosure/housing shall be provided. Since it is located in the field.

	DATA SHEET FOR ELECTRO-MAGNETIC FLOW METER		SPEC NO.: PE-TS-405-145-1916	
			VOLUME II B	
			SECTION D	
			REV. NO. 00	DATE :03.06.2019
			SHEET 9	OF 14
Tag No. 00GHD50CF011 Data Sheet No. PES-145-27-DS1-0				
DATA SHEET – A & B				
DATA SHEET – A (TO BE FILLED BY PURCHASER)			DATA SHEET – B (TO BE FILLED UP BY BIDDER)	
GENERAL	PROJECT	3 x 800 MW PVUNL PATRATU TPP PHASE-I		.....
	OFFER REFERENCE	Bidder to indicate		.....
GENERAL	TAG NO.	00GHD50CF011		.....
	SERVICE:	FGD MAKE-UP WATER PUMP DISCH HDR FLOW		.....
GENERAL	MAKE : MODEL	Bidder to indicate		.....
	PROCESS END CONNECTION	Full Bore		.....
GENERAL	FLOW MEASUREMENT	Instantaneous flow rate as well as totalized flow		.....
	OUTPUT	Isolated 4-20 mA DC with for volumetric flow		.....
GENERAL	ACCURACY	± 0.5%		.....
	FLOW TUBE	SS304		.....
GENERAL	REPEATABILITY	± 0.2% of calibrated span		.....
	RANGEABILITY	10:1		.....
GENERAL	RESPONSE TIME	USER PROGRAMMABLE		.....
	LOAD	500 ohms		.....
GENERAL	DISPLAY/INDICATION	LCD with Internal keypad (Flow rate of totalization). Flow meter with LCD screen backlight based local display and keypad. If required, Transmitter shall be suitably located away from the sensor for better access and visibility. Daily & Monthly Display can also be obtained by using a Data Logger mounted locally.		.....
	OPERATING VOLTAGE	[■] 240V AC [] 24 VDC [] 110 VAC		.....
GENERAL	TOTALIZING FACILITIES	■ YES [] NO		.....
	ENCLOSURE	IP-65		.....
GENERAL	PROCESS END CONNECTION	Inline Flanged (with matching Flange)		.....
	LINER	Hard Rubber		.....
GENERAL	FLUID	CLARIFIED WATER		.....
	RATE OF FLOW (CuBM/HR)	NORMAL : 675, MAX : 900		.....
GENERAL	UPSTREAM WORKING PRESS (Kg/cm2g)	3.5		.....
	DESIGN PRESS (Kg/cm2g)	12		.....
GENERAL	NORMAL TEMP (Deg C)	33		.....
	MAXIMUM TEMP (Deg C)	60		.....
GENERAL	PIPE LOCATION	OVERGROUND		.....
				

	DATA SHEET FOR ELECTRO-MAGNETIC FLOW METER		SPEC NO.: PE-TS-405-145-I916	
			VOLUME II B	
			SECTION D	
			REV. NO. 00	DATE :03.06.2019
		SHEET 10 OF 14		
PIPE LINE DATA	PIPE SIZE (OD x THK) mm	350 Nb	.....	
	PIPE MATERIAL	CARBON STEEL AS PER IS 2062, ROLLED & WELDED AS IS3589 GR.410	.....	
	AVAILABLE PIPE STRAIGHT LENGTH	UPSTREAM : 10D	.....	
		DOWNSTREAM : 5D	.....	
NOTE: - - Accessories like ½" NPT cable gland, 20 m Transducer cable, All PROCESS END CONNECTION hardware, SS nameplate etc. shall be provided. - Double compression type nickel plated brass cable gland. - Transducer cable min length shall be mentioned as per GA of Pit and location of transmitter. - Remote Transmitter: - Enclosure Material – Die Cast Aluminium (incase PP offered, suitable metal enclosure/housing shall be provided. Since it is located in the field.				

SPEC NO.: PE-TS-405-145-I916

VOLUME II B

SECTION D

REV. NO.

00

DATE :03.06.2019

SHEET

11

OF 14

Data Sheet No. PES-145-27-DS1-0

DATA SHEET – A & B

DATA SHEET – B
(TO BE FILLED UP
BY BIDDER)

GENERAL

PROJECT
OFFER REFERENCE
TAG NO.
SERVICE:
MAKE : MODEL

3 x 800 MW PVUNL PATRATU TPP PHASE-I

Bidder to indicate
00GHD60CF011

ACW MAKE-UP PUMP DISCH HDR FLOW

Bidder to indicate

TECHNICAL

PROCESS END CONNECTION
FLOW MEASUREMENT
OUTPUT

Full Bore
Instantaneous flow rate as well as totalized flow
Isolated 4-20 mA DC with for volumetric flow

ACCURACY
FLOW TUBE
REPEATABILITY
RANGEABILITY

± 0.5%
SS304
± 0.2% of calibrated span
10:1

RESPONSE TIME
LOAD

USER PROGRAMMABLE
500 ohms

DISPLAY/INDICATION

LCD with Internal keypad (Flow rate of totalization).
Flow meter with LCD screen backlight based local display and keypad. If required, Transmitter shall be suitably located away from the sensor for better access and visibility. Daily & Monthly Display can also be obtained by using a Data Logger mounted locally.

OPERATING VOLTAGE
TOTALIZING FACILITIES
ENCLOSURE

☒ 240V AC ☐ 24 VDC ☐ 110 VAC
☒ YES ☐ NO

PROCESS END CONNECTION
LINER

IP-65
Inline Flanged (with matching Flange)
Hard Rubber

PROCESS DATA

FLUID
RATE OF FLOW (CuBM/HR)
UPSTREAM WORKING PRESS (Kg/cm2g)
DESIGN PRESS (Kg/cm2g)
NORMAL TEMP (Deg C)
MAXIMUM TEMP (Deg C)
PIPE LOCATION

CLARIFIED WATER
NORMAL : 325, MAX : 450
2.0
12
33
60
OVERGROUND

	DATA SHEET FOR ELECTRO-MAGNETIC FLOW METER	SPEC NO.: PE-TS-405-145-I916	
		VOLUME	II B
		SECTION	D
		REV. NO.	00	DATE :03.06.2019
		SHEET	12 OF 14

PIPE LINE DATA	PIPE SIZE (OD x THK) mm	250 Nb	.....
	PIPE MATERIAL	CARBON STEEL AS PER IS 2062, ROLLED & WELDED AS IS3589 GR.410	.....
	AVAILABLE PIPE STRAIGHT LENGTH	UPSTREAM : 10D	.....
		DOWNSTREAM : 5D	.....

NOTE: -

- 1) Accessories like ½” NPT cable gland, 20 m Transducer cable, All PROCESS END CONNECTION hardware, SS nameplate etc. shall be provided.
- 2) Double compression type nickel plated brass cable gland.
- 3) Transducer cable min length shall be mentioned as per GA of Pit and location of transmitter.
- 4) Remote Transmitter:
 - i) Enclosure Material – Die Cast Aluminium (incase PP offered, suitable metal enclosure/housing shall be provided. Since it is located in the field.

	DATA SHEET FOR ELECTRO-MAGNETIC FLOW METER		SPEC NO.: PE-TS-405-145-1916		
			VOLUME II B		
			SECTION D		
			REV. NO. 00	DATE :03.06.2019	
			SHEET 13	OF 14	
Tag No. 00GHD09CF011 Data Sheet No. PES-145-27-DS1-0					
DATA SHEET – A & B					
DATA SHEET – A (TO BE FILLED BY PURCHASER)				DATA SHEET – B (TO BE FILLED UP BY BIDDER)	
GENERAL	PROJECT	3 x 800 MW PVUNL PATRATU TPP PHASE-I		.....	
	OFFER REFERENCE	Bidder to indicate		.....	
TECHNICAL	TAG NO.	00GHD09CF011		.....|.....	
	SERVICE:	HVAC MAKE-UP PUMP DISCH HDR FLOW			
	MAKE : MODEL	Bidder to indicate			
	PROCESS END CONNECTION	Full Bore		.....	
	FLOW MEASUREMENT	Instantaneous flow rate as well as totalized flow		.....	
	OUTPUT	Isolated 4-20 mA DC with for volumetric flow		.....	
	ACCURACY	± 0.5%		.....	
	FLOW TUBE	SS304		.....	
	REPEATABILITY	± 0.2% of calibrated span		.....	
	RANGEABILITY	10:1		.....	
TECHNICAL	RESPONSE TIME	USER PROGRAMMABLE		.....	
	LOAD	500 ohms		.....	
	DISPLAY/INDICATION	LCD with Internal keypad (Flow rate of totalization). Flow meter with LCD screen backlight based local display and keypad. If required, Transmitter shall be suitably located away from the sensor for better access and visibility. Daily & Monthly Display can also be obtained by using a Data Logger mounted locally.		.....	
	OPERATING VOLTAGE	[☒] 240V AC [] 24 VDC [] 110 VAC		.....	
	TOTALIZING FACILITIES	[☒] YES [] NO		.....	
	ENCLOSURE	IP-65		.....	
	PROCESS END CONNECTION	Inline Flanged (with matching Flange)		.....	
	LINER	Hard Rubber		.....	
	PROCESS DATA	FLUID	CLARIFIED WATER		
		RATE OF FLOW (CuBM/HR)	NORMAL : 325, MAX : 450		
UPSTREAM WORKING PRESS (Kg/cm2g)		7.0		.....	
DESIGN PRESS (Kg/cm2g)		12		.....	
NORMAL TEMP (Deg C)		33		.....	
MAXIMUM TEMP (Deg C)		60		.....	
PIPE LOCATION		OVERGROUND		.....	

	DATA SHEET FOR ELECTRO-MAGNETIC FLOW METER		SPEC NO.: PE-TS-405-145-I916	
			VOLUME II B	
			SECTION D	
			REV. NO. 00	DATE :03.06.2019
		SHEET 14 OF 14		

PIPE LINE DATA	PIPE SIZE (OD x THK) mm	200 Nb	.....
	PIPE MATERIAL	CARBON STEEL AS PER IS 2062, ROLLED & WELDED AS IS3589 GR.410	.....
	AVAILABLE PIPE STRAIGHT LENGTH	UPSTREAM : 10D	.....
		DOWNSTREAM: 5D	.....

NOTE: -

- 1) Accessories like ½” NPT cable gland, 20 m Transducer cable, All PROCESS END CONNECTION hardware, SS nameplate etc. shall be provided.
- 2) Double compression type nickel plated brass cable gland.
- 3) Transducer cable min length shall be mentioned as per GA of Pit and location of transmitter.
- 4) Remote Transmitter:
 - i) Enclosure Material – Die Cast Aluminium (incase PP offered, suitable metal enclosure/housing shall be provided. Since it is located in the field.



TECHNICAL SPECIFICATION FOR
ELECTROMAGNETIC FLOW METER

3X800MW PVUNL PATRATU TPP PHASE-I

SPEC NO.: PE-TS-434-145-I916

VOLUME II B

SECTION D

REV. NO. 00 DATE : 04/06/2019

SHEET

SECTION-D

QUALITY PLAN

 QUALITY PLAN FOR ELECTRO-MAGNETIC FLOWMETER		QUALITY PLAN NO.: PE-QP-999-145-I 011										
		VOLUME IIB										
		SECTION D										
		REV. NO. 00 DATE: 31.03.2014										
		SHEET 1 OF 2										
Sl. No.	Component / operation	Characteristics Checked	* Category	Type/Method of Check	Extent of Check	Reference documents	Acceptance Norms	Format of Records	Agency \$			Remarks
									P	W	V	

1	Standard Certificates	Certificate of Compliance, Warranty Certificate,	Major	Visual	As applicable	Technical documents/Approved documents	Technical catalogue/Approved documents	Technical catalogue/Approved documents	2/3	---	2, 1	
2	Visual Check	Mechanical	Major	Visual	100%	Technical catalogue/Approved documents	Technical catalogue/Approved documents	Technical catalogue/Approved documents	2/3	1	1	
3	Functional test & power ON	Electrical	Major	Visual	100%	Functional test report for meter & transducer	Approved documents	Technical catalogue/Approved documents	2/3	-	1	
4	HART Communication	Electrical	Major	---	100%	Technical catalogue/Approved documents	Technical catalogue/Approved documents	Technical catalogue/Approved documents	-	-	1	

LEGEND: \$ P - Agency Performing the Test. W - Agency Witnessing the Test. V - Agency Verifying the Test.	1 - Customer 2 - Vendor 3 - Sub-vendor
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TECHNICAL SPECIFICATION FOR
ELECTROMAGNETIC FLOWMETER
3X800MW PVUNL PATRATU TPP PHASE-I

SPEC NO.: **PE-TS-434-145-I916**

VOLUME II B

SECTION D

REV. NO. 00

DATE : 04/06/2019

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SECTION-D

BILL OF QUANTITY

	Technical specification for ELECTROMAGNETIC FLOW METER 3X800MW PVUNL PATRATU TPP PHASE-I		SPECIFICATION NO. PE-TS-434-145-I916	
			VOLUME II-B	
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			SHEET 17 OF 21	

BILL OF QUANTITY

(A) ELECTROMAGNETIC FLOWMETER				
S. No.	KKS	SERVICE/ ITEM DESCRIPTION	FLUID	Quantity for 3 Units (in Nos.)
1	00GAA10CF011	RAW WATER PT PUMP DISCH HDR FLOW	RAW WATER	1
2	00GAA20CF011	RAW WATER ASH PUMP DISCH HDR FLOW	RAW WATER	1
3	00GHD30CF011	APH WASH PUMP DISCH HDR FLOW	CLARIFIED WATER	1
4	00GHD40CF011	SERVICE WATER PUMP DISCH HDR FLOW	CLARIFIED WATER	1
5	00GHD50CF011	FGD MAKE-UP WATER PUMP DISCH HDR FLOW	CLARIFIED WATER	1
6	00GHD60CF011	ACW MAKE-UP PUMP DISCH HDR FLOW	CLARIFIED WATER	1
7	00GHD09CF011	HVAC MAKE-UP PUMP DISCH HDR FLOW	CLARIFIED WATER	1

(B) SUPERVISION CHARGE		
S. No.	SERVICE/ ITEM DESCRIPTION	Quantity for 3 Units (in Man-days)
1	SUPERVISION FOR SITE SUPPORT AT SITE (MAXIMUM MANDAYS) #	4

SUPERVISION CHARGES INCLUDES BOARDING, LODGING AND TRAVEL TIME (TO AND FRO) and TRAVEL FARE.

	Technical specification for ELECTROMAGNETIC FLOW METER 3X800MW PVUNL PATRATU TPP PHASE-I		SPECIFICATION NO. PE-TS-434-145-I916	
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LIST OF MANDATORY SPARES

S. No.	ITEM DESCRIPTION	QUANTITY
1	Transmitters for electromagnetic flow meter.	10% or 1 No., whichever is more, of each type and model.

NOTES:

Wherever % is indicated, the quantity shall be calculated for % of supply for total quantity of 3 units of 3 X800MW, unless otherwise specified. The quantity to be reckoned for % indicated shall be rounded off to the next higher whole number. For example, if the % of total quantity arrived is 0.2, the quantity to be supplied shall be 1 and if the % of total quantity is 5.1, the quantity to be supplied shall be 6.