

Note No. Attachment: PR DOCS – MAIN – 1900141431 – FRAME WORK AGREEMENT– U BOLTS.pdf

**BHARAT HEAVY ELECTRICALS LIMITED**

RAMACHANDRAPURAM, HYDERABAD-32

PROJECT ENGINEERING & SYSTEMS DIVISION

**BILL OF MATERIAL FOR FRAME WORK
U BOLTS**

Sl.No	MATERIAL CODE	DESCRIPTION	Wt (Kg)	Quantity (No.s)	Total Weight (Kgs)
1	PY9752207049	U-BOLT GALVANIZED 1"	0.215	17000	3655
2	PY9752207197	U-BOLT GALVANIZED 1 1/4"	0.292	370	108
3	PY9752207057	U-BOLT GALVANIZED 1 1/2"	0.292	1950	569
4	PY9752207065	U-BOLT GALVANIZED 2"	0.332	11000	3652
5	PY9752207073	U-BOLT GALVANIZED 2 1/2"	0.37	160	59
6	PY9752207081	U-BOLT GALVANIZED 3"	0.4	1500	600
7	PY9752207090	U-BOLT GALVANIZED 4"	0.838	6550	5489
8	PY9752207103	U-BOLT GALVANIZED 6"	1.04	2675	2782
9	PY9752207111	U-BOLT GALVANIZED 8"	2.07	920	1904
10	PY9752207120	U-BOLT GALVANIZED 10"	2.39	60	143
11	PY9752207138	U-BOLT GALVANIZED 12"	2.71	170	461
				Total Wt.	19423.0

Note:

1. The above is the indicative list of items that are planned to be ordered.
2. The above list is not exhaustive. It shall be binding on the successful bidder, to accept any change in Size and length. Actual BOQ shall be as per the Individual Project Purchase order.
3. The Project Purchase Order Price shall be derived based on the Total Weight of the Project Purchase Order and the Unit Rate finalized for the Framework Agreement (+ PVC).
4. The Unit Weights furnished above, shall be binding on the successful bidder. Any deviations/observations on unit weight of the above mentioned items to be brought up during Pre bid Queries only.

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**BHARAT HEAVY ELECTRICALS LIMITED**

RAMACHANDRAPURAM, HYDERABAD-32

PROJECT ENGINEERING & SYSTEMS DIVISION

PRICE BID FORMAT
U BOLTS

BHEL's Enquiry No & Date : Bidder to Specify
 Bidder's Name : Bidder to Specify
 Bidder's Offer No & Date : Bidder to Specify
 Bidder's Ref No & Date : Bidder to Specify

SI No	Item Description	Package Weight (Kg)	Unit Price per Kg (Rs.)
1	CS GALVANISED U BOLTS FRAME WORK PACKAGE	19423.0	

NOTES:

1. Vendor to Quote **Unit Price Per Kg (Rs)**. for the Total Package.
2. The Frame work is for total weight as indicated in the above table, the individual line item quantities may vary based on requirement.
3. **Unit price quoted by the bidder in the price bid format / finalized during the reverse auction process, shall be binding on the vendor till successful execution of the order and after taking care of PVC as applicable.**
4. The distribution of the line items across the projects is attached as Annexure-A.
5. The permissible ordering limits (+/- 50 %) as specified in NIT are strictly applicable on the Total Framework Value. The same are not applicable at the Individual Project level.
6. Final details of quantity, Project/ Customer shall be informed while placing purchase order.
7. No Observations / Objections shall be entertained after the Techno-Commercial Bid is opened.
8. The Bid Evaluation is on Overall L1 Basis. Each and Every item of the Package shall be quoted by the bidder.
9. Partial offers will not be considered for evaluation and the same are liable for rejection.
10. Gross Weight of the package as given above in the price bid format is arrived at by considering the unit weights of the individual items as per the applicable standards. These unit weights shall be binding on the successful bidder to arrive at the final weight of the package that is supplied.
11. The Unit price per kg. quoted shall be INCLUSIVE of Freight, Packing & Forwarding and Testing Charges.
12. The Unit price per kg quoted shall be EXCLUSIVE of GST, Third party inspection (TPI) & Insurance Charges.
13. Bidder shall confirm submission of the unpriced bid as part of their technical offer by typing "QUOTED" in the above format.

Note No. #1

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DISTRIBUTION OF FRAMEWORK ITEMS ACROSS PROJECTS IN KGS

ANNEXURE-A

ITEM: U BOLTS
PR NO 1900141431

SL NO	Material No	Material Desc	UOM	PMD No	KOTHAGUDEM	BHADRADEI	NORTH KARANPURA	BARH-1	BARH-2	MAUDA	BRISCL NABINAGAR	NIPCL NABINAGAR	RAMAGUNDAM	KORBA	NSPCL BILLAI	TUTICORIN	UDANGUDI	SAGARDIGHI	BHUSAVAL	YADADRI	PATRATU	PANKI
1.00	PY9752207049	U-BOLT GALVANIZED 1"	EA	PE.MP.512																		
2.00	PY9752207197	U-BOLT GALVANIZED 1 1/4"	EA	PE.MP.512																		
3.00	PY9752207057	U-BOLT GALVANIZED 1 1/2"	EA	PE.MP.512																		
4.00	PY9752207065	U-BOLT GALVANIZED 2"	EA	PE.MP.512																		
5.00	PY9752207073	U-BOLT GALVANIZED 2 1/2"	EA	PE.MP.512																		
6.00	PY9752207081	U-BOLT GALVANIZED 3"	EA	PE.MP.512	189	182	239	215	180	188	239	239	239	239	188	189	4416	1716	829	3315	3990	2586
7.00	PY9752207090	U-BOLT GALVANIZED 4"	EA	PE.MP.512																		
8.00	PY9752207103	U-BOLT GALVANIZED 6"	EA	PE.MP.512																		
9.00	PY9752207111	U-BOLT GALVANIZED 8"	EA	PE.MP.512																		
10.00	PY9752207120	U-BOLT GALVANIZED 10"	EA	PE.MP.512																		
11.00	PY9752207138	U-BOLT GALVANIZED 12"	EA	PE.MP.512																		

1.The above list of Weight per project in kgs , project/customer is tentative only. Final details of quantity, Project/ Customer shall be informed at the time of PO

Note No. Attachment: PR DOCS - MAIN - 1900141431 - FRAME WORK AGREEMENT- U BOLTS.pdf
BULK PROCUREMENT OF GENERIC PIPING ITEMS
Pre-Qualification Criteria (Technical)

Package Name : U BOLTS FRAME WORK
PR No : 1900141431

Manufacturers of **U BOLTS**, qualified as per the Pre-qualification criteria laid down below, are allowed to bid. Documentary evidence shall be provided by such bidders to establish their claim. **However, offer consideration is subjected to approval from end Customer.**

The bid evaluation shall be on Overall L1 basis. The Bidder shall meet the Pre-Qualification Criteria (listed below.

Non-compliance to any of the criteria listed below will lead to disqualification of bidder for the subject item of the tender.

Qualification Criteria of the Bidder:

1. The bidder should be an established manufacturer of **U Bolts** and should have successfully completed Manufacture, Supply of **U Bolts**.
2. The Bidder should have successfully completed supply of **U Bolts** for similar specification with a total minimum quantity of **4 Tons, for pipe size upto 14”(M24)** through a single Purchase Order or multiple Purchase Orders in the last 5 years ending on original due date of this tender, with at least one order executed after 01.01.2019.
3. Detailed BOQ of the items supplied, satisfying the criteria laid down above, shall be provided in the format enclosed as Annexure-1, with details like Project & Customer, Description & Quantity of Items supplied, PO details etc. as a minimum for assessing pre-qualification. **PO Copies, Inspection Reports and Dispatch documents shall be enclosed for the references provided.**
4. The bidder should not have been under suspension for business or blacklisted by any of the BHEL units.

Note No. #1

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Annexure-1 PQC Criteria**Supply References for the Last 5 Years (dispatch date) from the Original due date of this tender**

Enquiry Item No & Description: (To be filled by Bidder)

Sl No	Project Name along with name of Customer	Description Item(s) supplied	Purchase Order No & Date (Copy to be enclosed)	Delivery Date as per Order	Value of Order	Inspection Reports / Dispatch Documents (Copy to be enclosed)	Remarks

Note No. Attachment: PR DOCS – MAIN – 1900141431 – FRAME WORK AGREEMENT– U BOLTS.pdf

Bulk Procurement of U Bolts
Price Variation Formula–U BOLTS
PVC-MS-U BOLTS-GALV

$$PO = PA \times \left(\left[0.50 \times \frac{MO}{MA} \right] + \left[0.10 \times \frac{GO}{GA} \right] + \left[0.15 \times \frac{FO}{FA} \right] + \left[0.10 \times \frac{LO}{LA} \right] + 0.15 \right)$$

PO	Purchase Order Value, adjusted in accordance with above Price Variation Formula
PA	Purchase Order Value, as per Original Framework Agreement Price

Escalation for Raw Material:

MO	JPC Retail Market Price of “PIG IRON”, as on the date of respective Project PO Placement, <i>calculated as an Average of the Prices for Kolkata, Delhi, Mumbai, Chennai regions.</i>
MA	JPC Retail Market Price for “PIG IRON”, as on the date of Part-1 bid opening of Framework Agreement Tender, <i>calculated as an Average of the Prices for Kolkata, Delhi, Mumbai, Chennai regions.</i>
As published under the Item “ PIG IRON ” by Joint Plant Committee, Ministry of Steel, Govt of India, in their subscription based bimonthly publication “JPC MARKET PRICE RETAIL”.	

Escalation for Galvanizing:

GO	Wholesale Price Index for “Zinc”, as on the date of respective Project PO Placement
GA	Wholesale Price Index for “Zinc”, as on the date of Part-1 bid opening of Framework Agreement Tender
As published under the Index “ Zinc metal/Zinc blocks ” by Office of the Economic Adviser, Ministry of Commerce and Industry, Govt of India, on their website www.eaindstry.nic.in	

Escalation for Fuel & Power:

FO	Wholesale Price Index for “Fuel & Power”, as on the date of respective Project PO Placement
FA	Wholesale Price Index for “Fuel & Power”, as on the date of Part-1 bid opening of Framework Agreement Tender
As published under the Index “ II Fuel & Power ” by Office of the Economic Adviser, Ministry of Commerce and Industry, Govt of India, on their website www.eaindstry.nic.in	


Escalation for Labour:

LO	All-India Average Consumer Price Index Number for Industrial Workers (Base_2016=100), as on date of respective Project PO Placement
LA	All-India Average Consumer Price Index Number for Industrial Workers (Base_2016=100), as on the date of Part-1 bid opening of Framework Agreement Tender
As published by Labour Bureau, Ministry of Labour and Employment, Govt of India, on their website www.labourbureau.gov.in	

Overheads and Margin:

0.15	Constant for Overheads and Margin
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NOTE: Latest Index Values, as published by respective agencies, **Available as on the date** of Part-1 bid opening of FA Tender / date of PO, shall be considered, for all the factors.

Note No. Attachment: PR DOCS – MAIN – 1900141491 – FRAME WORK AGREEMENT – U BOLTS.pdf	Form No:	 PE&SD	BHARAT HEAVY ELECTRICALS LIMITED PROJECT ENGINEERING & SYSTEMS DIVISION TECHNICAL SPECIFICATION U-BOLTS (GALVANIZED) FOR ASME PIPE SIZES	PY 52 207 Rev. No. 01 Page 1 of 2
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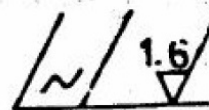
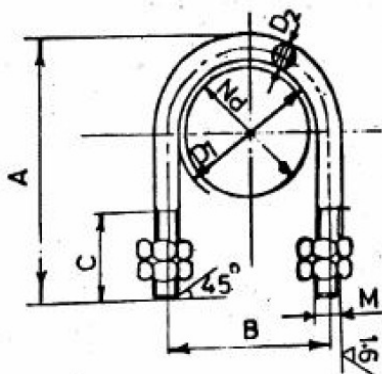
1.0 GENERAL

This specification gives the requirements for ordering and supply of U-Bolts (Galvanized) for ASME Pipe sizes, along with four nuts.

2.0 MATERIAL & CONSTRUCTION:

- 2.1 Material, Construction, Chemical Composition, Mechanical Properties, Heat Treatment, Testing and other requirements related to Material shall be in line with the requirements of **IS 2062 Gr E250 (Fe410W) Quality-A** as per BHEL Corporate Standard AA10108.
- 2.2 Galvanization shall be as per BHEL Corporate Standard AA0673608.

3.0 DIMENSIONS & TOLERANCES:



- 3.1 **U-Bolt:** Shall be as per the Variant Table.
- 3.2 **Nuts:** Shall be as per IS 1364 Part 6 & IS 4218-6H.
Thread Tolerances are applicable after Galvanization.
Thread run outs and ends as per Standard Practice.

4.0 SIZE:

Shall be as per BHEL Enquiry/Order.

5.0 DESIGNATION:

An U-Bolt for 10" Pipe Size shall be designated as: **U-BOLT GALVANIZED 10"**.


6.0 TEST CERTIFICATES:

Three copies of test certificates consisting of mechanical properties and chemical composition of the metals shall be furnished.

7.0 MARKING AND PACKING:

- 7.1 U-Bolts shall be enclosed in a moisture resistant wrapping and packed in such a manner as to prevent damage in transit or during storage.
- 7.2 U-Bolts shall be packed size wise and shall be stamped with the following details:
 - a) BHEL Standard No. PY 52 207
 - b) Manufacturer's Name or Trade Mark.
 - c) U-Bolt Material Code as specified by BHEL in the order.

Refer Doc	LAYOUTS & PIPING ENGINEERING PROJECT ENGINEERING & SYSTEMS DIVISION	PREPARED U PRADEEP	CHECKED CH MANOJ	APPROVED SRIKANTH G	DATE 17.05.17
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Note No. Attachment: PR DOCS – MAIN – 1900141491 – FRAME WORK AGREEMENT – U BOLTS.pdf	Form No: PE&SD	 BHARAT HEAVY ELECTRICALS LIMITED PROJECT ENGINEERING & SYSTEMS DIVISION TECHNICAL SPECIFICATION U-BOLTS (GALVANIZED) FOR ASME PIPE SIZES	PY 52 207 Rev. No. 01 Page 2 of 2
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VARIANT TABLE

Var No.	Nd Inch	D1	A	B	C	D2	M-6g & Nut 6H	Wt./ Set Kg.	Dev. Length	Raw mat. Size dia	Material Code
01	¼"	15	70	20	54	6	M6	0.04	145	6	PY9752207014
02	½"	25	85	30	60	6	M6	0.05	175	6	PY9752207022
03	¾"	32	90	38	60	6	M6	0.056	196	6	PY9752207030
04	1"	38	95	50	55	12	M12	0.215	207	12	PY9752207049
05	1 ½"	52	110	64	56	12	M12	0.292	245	12	PY9752207057
06	2"	64	130	76	70	12	M12	0.332	291	12	PY9752207065
07	2 ½"	80	155	92	70	12	M12	0.37	360	12	PY9752207073
08	3"	94	160	106	70	12	M12	0.400	369	12	PY9752207081
09	4"	120	190	136	80	16	M16	0.838	442	16	PY9752207090
10	6"	176	240	192	80	16	M16	1.04	574	16	PY9752207103
11	8"	228	305	248	90	20	M20	2.07	732	20	PY9752207111
12	10"	282	355	302	90	20	M20	2.39	862	20	PY9752207120
13	12"	332	405	352	90	20	M20	2.71	991	20	PY9752207138
14	14"	365	445	390	90	25	M24	4.62	1088	25	PY9752207146
15	16"	428	510	452	90	25	M24	5.28	1254	25	PY9752207154
16	18"	470	587	495	108	25	M24	5.97	1430	25	PY9752207162
17	20"	525	610	554	90	25	M24	6.26	1509	25	PY9752207170
18	24"	625	685	650	120	25	M24	7.69	1840	25	PY9752207189
19	1 1/4"	46	114	58	56	12	M12	0.292	245	12	PY9752207197

All Dimensions are in "mm" unless otherwise stated

+ + +

RECORD OF REVISIONS:


Rev No	Date	Revision Detail	Revised by	Approved by
00	17.05.2017	FIRST ISSUE	U Pradeep U PRADEEP	SRIKANTH G
01	21.08.2018	VARIANT 19 ADDED	G PARAMESH G PARAMESH	SRIKANTH G


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Note No. #1


Attachment:PR DOCS – MAIN – 1900141431 – FRAME WORK AGREEMENT– U BOLTS.pdf

 PROJECT ENGINEERING & SYSTEM DIVISION		STANDARD MANUFACTURING QUALITY PLAN				QP. NO.:PESD/QA/ FASTENER/01/18-19					
		PRODUCT: FASTENER				BHEL SPEC: AS PER P.O					
										REV NO: 00	
PAGE 1 OF 3											
SL NO	COMPONENTS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	* D	AGENCY	REMARKS
									P	W	V

1.0	BOUGHT OUT ITEMS												
1.1	FASTENERS	Material batch identification, dimensions and GO & NO-GO check	Major	Visual, dimensional, GO & NO-GO check	Sampling plan IS 1367 : Part 17 (AQL=1, LQ10 = 12, sample size = 32, Ac = 1)	BHEL specification or IS Standard IS 1367 : Part 17	BHEL specification or IS Standard IS 1367 : Part 17	MTC and inspection reports	√	2	2	--	Inspection shall be carried out by main supplier.
2.0	FINAL INSPECTION & TESTING												
2.1	FASTENERS	Visual, Dimensions, GO & NO-GO check	Major	Visual, dimensional, GO & NO-GO check	Sampling plan IS 1367 : Part 17 (AQL=0.65, LQ10 = 25, sample size = 8, Ac = 0)	BHEL Specification /BOQ/ IS Standard	BHEL Specification /BOQ/ IS Standard	Inspection reports	√	2	1	--	
2.2		Chemical & Mechanical Properties, Impact test and Heat Treatment (heat treatment if applicable)	Major	TC Review	One sample per Lot			MTC	√	2	--	1	
LEGEND: P: PERFORM, W: WITNESS, V: TC REVIEW. INDICATE 1 FOR BHEL CQS /BHEL NOMINATED INSPECTION AGENCY/END USER & 2 FOR VENDOR/SUB VENDOR AS APPROPRIATE AGAINST EACH COMPONENT /CHARACTERISTIC UNDER P, W & V COLUMNS. * FOR ITEMS MARKED ✓ (TICK) IN COLUMN 'D', TEST CERTIFICATES SHALL BE SUBMITTED TO BHEL FOR RECORDS.						APPROVED BY  BHEL QA SIGNATURE & STAMP			APPROVED BY -NA- CUSTOMER'S SIGNATURE & STAMP (if applicable)				

Note No. #1

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 PROJECT ENGINEERING & SYSTEM DIVISION		STANDARD MANUFACTURING QUALITY PLAN						QP. NO.: PESD/QA/ FASTENER/01/18-19						
		PRODUCT: FASTENER						BHEL SPEC: AS PER P.O		REV NO: 00		DATE: 23-02-2019		
										PAGE 2 OF 3				
SL NO	COMPONENTS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	* D	AGENCY P W V				REMARKS
2.3		PMI#	Major	PMI test	Random			IR/TC	√	2	1	1	# If applicable 10 sets shall be witnessed randomly by "1"	
2.4		Galvanization* (mass of zinc coating Thickness of Coating, embrittlement, adherence, finish appearance, etc)	Major	Measurement	As per specification			IR/TC	√	2	-	1		
2.5		BOM Check	Major	Visual	100%			Inspection reports	√	2	1	--		
3.0 PRESERVATION & PACKING														
3.1	FASTENERS	Packing# and markings	Major	Visual	Random	BHEL Specification	BHEL Specification	Packing List	√	2	1			

LEGEND: P: PERFORM, W: WITNESS, V: TC REVIEW. INDICATE 1 FOR BHEL CQS /BHEL NOMINATED INSPECTION AGENCY/END USER & 2 FOR VENDOR/SUB VENDOR AS APPROPRIATE AGAINST EACH COMPONENT /CHARACTERISTIC UNDER P, W & V COLUMNS. * FOR ITEMS MARKED ✓ (TICK) IN COLUMN 'D', TEST CERTIFICATES SHALL BE SUBMITTED TO BHEL FOR RECORDS.

APPROVED BY



BHEL QA SIGNATURE & STAMP


APPROVED BY

-NA-

CUSTOMER'S SIGNATURE & STAMP
(if applicable)

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 PROJECT ENGINEERING & SYSTEM DIVISION		STANDARD MANUFACTURING QUALITY PLAN				QP. NO.: PESD/QA/ FASTENER/01/18-19							
		PRODUCT: FASTENER				BHEL SPEC: AS PER P.O				REV NO: 00	DATE: 23-02-2019		
										PAGE 3 OF 3			
SL NO	COMPONENTS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	* D	AGENCY P W V			REMARKS

Notes:-

1. This Standard MQP should be read along with specification (Latest revision as per PO), approved drawings & approved datasheet.
2. Drawing/datasheet shall prevail over quality plan for contradiction if any.
3. Any project/customer specific requirements which shall be notified have to be fulfilled by the vendor at the time of execution of order.
4. **NACE requirement:** For items coming under **NACE category**, all tests, reports, MTC and certificates shall be submitted as per **NACE MR0103** requirements.

Abbreviations:-

MTC	-	Material Test certificate	TC	-	Test Certificate
NDE	-	Non Destructive Examination	CS	-	Carbon Steel
PMI	-	Positive Material Identification			
SS	-	Stainless Steel			
IR	-	Inspection Report			

LEGEND: P: PERFORM, W: WITNESS, V: TC REVIEW. INDICATE 1 FOR BHEL CQS /BHEL NOMINATED INSPECTION AGENCY/END USER & 2 FOR VENDOR/SUB VENDOR AS APPROPRIATE AGAINST EACH COMPONENT /CHARACTERISTIC UNDER P, W & V COLUMNS. * FOR ITEMS MARKED ✓ (TICK) IN COLUMN 'D', TEST CERTIFICATES SHALL BE SUBMITTED TO BHEL FOR RECORDS.	APPROVED BY  BHEL QA SIGNATURE & STAMP	APPROVED BY -NA- CUSTOMER'S SIGNATURE & STAMP (if applicable)
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Note: Attachment: PR DOCS – MAIN CONTRACT FRAMEWORK AGREEMENT – U BOLTS.pdf



RC PURAM, HYDERABAD.
QUALITY & BUSINESS EXCELLENCE

INSPECTION / TC REVIEW FORMAT

1	Vendor's Name:		5	Applicable BHEL Spec No:	
2	Project:		6	Approved Drawing No:	
3	PO No:		7	Approved Data Sheet No:	
4	Item Description:		8	Approved QAP No:	

OFFER LIST

S.No	BBU/ PO Sr. No.	Item Description	Total Qty as per PO/BBU	Qty. already accepted	Qty offered for TC review	Cumulative Qty	Balance Qty
A							
B							
C							
D							

TC REVIEW REQUISITION

BBU / PO Sr. No.	QAP Clause No.	Format of Record	Certificate No. & Date	Page No.	REMARKS
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A. Item Description:

B. Item Description:

C. Item Description:

D. Item Description:

E. Item Description:

SUPPLIER / VENDOR SIGNATURE WITH SEAL

BHEL/ BHEL's TPIA SIGNATURE WITH SEAL

Dt:

Dt:

Format No: PESD/QA/10, Rev: 00