



Bharat Heavy Electricals Limited

(High Pressure Boiler Plant)

Tiruchirappalli – 620014, TAMIL NADU, INDIA

CAPITAL EQUIPMENT / MATERIALS MANAGEMENT

ENQUIRY

NOTICE INVITING TENDER

Phone: +91 431 257 76 53

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Email : skaruna@bheltry.co.in

Web : www.bhel.com

TWO PART BID	Enquiry Number:	Enquiry Date:	Due date for submission of quotation:
Tender to be submitted in two Parts	2631500006	22.08.2015	22.09.2015

You are requested to quote the Enquiry number date and due date in all your correspondence. This is only a request for quotation and not an order.

Please note that under any circumstances both delayed offer and late offers will not be considered. Hence vendors are requested to ensure that the offer is reaching physically our office before 14.00 hrs on the Date of tender opening.

Item	Description	Quantity
10	Public Addressing System for New Conference Hall as per the technical specification & commercial conditions applicable (to be downloaded from web site www.bhel.com or http://tenders.gov.in)	01 SET

Important points to be taken care during submission of offer

1. This is an E-Tender issued online through our e-procurement site <https://bheleps.buyjunction.in>. The bidder should respond by submitting their offer online in our E-procurement platform at <https://bheleps.buyjunction.in>.
2. The Checklist for Acceptance of Commercial Terms & Conditions to be filled and enclosed along with the offer failing which, the offer will not be considered for evaluation.
3. All updates, amendments, corrigenda, etc., (if any), for each tender will be posted only on the above websites from time to time, as and when required, until each tender is opened. There will be no publication of such updates, amendments, corrigenda, etc., through newspapers or any other media.

BHEL's General guidelines / instructions (refer MM/CE/GENL/001/EMD) including bank guarantee formats and list of consortium banks, commercial terms check-list can be downloaded from BHEL web site <http://www.bhel.com> or from the Government tender website <http://tenders.gov.in> (public sector units > Bharat Heavy Electricals Limited page) under above Enquiry reference.

Tenders should reach us before 14:00 hours on the due date.
Tenders will be opened at 14:30 hours on the due date.
Tenders would be opened in presence of the tenderers who have submitted their offers and who may like to be present.

Yours faithfully,


For **BHARAT HEAVY ELECTRICALS LIMITED**

Sr. Engineer / MM / Capital Equipment

PART-A

Pre-Qualification Criteria for Public Address System supply, erection, testing and commissioning works at Administrative Building New conference hall - BHEL , Trichy complex.

SL.NO	DESCRIPTION	VENDOR TO CONFIRM
1	Only those vendors, who have supplied ,erected, tested and commissioned atleast one similar type PA system in the past 3 years and such installatiobn presently working satisfactorily more than one year after commissioning should quote.	
2	List of customers / companies where PA system for conference hall was supplied and commissioned by the vendor (at least two customers).	
3	Performace certificate from minimum one customer / company regarding satisfactory performance of the equipments for a minimum period of one year from the date of commissioning should be submitted.	
4	Vendor shall quote for supply, erection, testing & commissioning of the PA SYSTEM and allied equipments as per the scope of PART-B ITEMS identified in the NIT	
5	Vendor should compulsorily make a pre-visit to BHEL /Trichy to assess the site condition.	
6	OEM/ Dealership certificate shall be enclosed by the vendor	
7	Only those , who have completed the pre site visit will be qualified for the tendering process.	
8	Vendor/Bidder should confirm all the above said points,without which the offer will not be qualified for further evaluation process.	



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PART - B

TECHNICAL SPECIFICATION FOR PA SYSTEM AT ADMINISTRATIVE BUILDING-NEW CONFERENCE HALL-BHEL TRICHY COMPLEX

SCOPE OF WORK : SUPPLY ,ERECTION ,TESTING AND COMMISSIONING OF PA SYSTEM IN THE ADMINISTRATIVE BUILDING NEW CONFERENCE HALL SIZE: 36' L X 37' 7"B COMPRISING OF THE PUBLIC ADDRESS SOUND SYSTEM EQUIPMENTS LIKE, DESKTOP/WIRELESS MICROPHONES,MIXERS,SOUND SIGNAL PROCESSOR,POWER AMPILIFIER, SPEAKERS, DVD PLAYERS, LEAD MICROPHONE, AUDIO CABLES, CONNECTORS, RACK/STANDS ETC., AS DETAILED BELOW IN ITEM SL. NO.1 TO 16 AND DRAWING FOR NEW CONFERENCE HALL IS ATTACHED.

SL,NO	DESCRIPTION	SPECIFICATION	QTY	VENDOR TO SPECIFY /VENDOR TO CONFIRM
1	WIRED MICROPHONE	DESKTOP WIRED MICROPHONE	13Nos	
1.1	MAKE	ELECTROVOICE / SHURE / AKG		
1.2	MODEL	EV-PC DESKTOP -18 /SHURE-418D-C/ AKG-CGN521 STS UNIT		
1.3	TYPE	PROFESSIONAL,SHOCK ABSORBING, DESKTOP,GOOSENECK MICROPHONE - LENGTH IS 45cm to 50cm		
1.4	ELEMENT	CONDENSER		
1.5	POLAR PATTERN	POLAR SWITCHING PATTERNS: OMINI /CARDIOID/ SUPERCARDIOID/HYPERCARDIOID		
1.6	FREQUENCY.RESPONSE	> 35 Hz to < 20 KHz		
1.7	IMPEDANCE	> 150 ohm to < 750 ohm		
1.8	MAX.I/P SOUND LEVEL	123.0dB (1khz @1% THD,1KW LOAD)		
1.9	POWER REQUIRMENT	12VOLT-52VOLT DC		
1.10.	CONNECTOR TYPE	3PIN XLR		
1.11	CASE MATERIAL /FINISH	STEEL/NON REFLECTIVE CAMERA BLOCK		
1.12	DESKTOP BASE SIZE	BLOCK COLOUR & SUITABLE AT TABLE TOP		
1.13	PROGRAMMABLE SWITCH	ON/OFF SWITCH ATTACHED IN THE UNIT		
1.14	WINDSCREEN	SNAP FIT FOAM WINDSCREEN		
2	WIRELESS MICROPHONE	WIRELESS MICROPHONE SYSTEM (UHF) : HAND HELD TRANSMITTER , RACK MOUNT RECEIVER WITH MINI TABLE STAND, BASE, & CLIP HOLDER	4Nos	
2.1	MAKE	ELECTROVOICE / SHURE / SENNHEISER		


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2.2	MODEL	UHF RANGE HAND HELD TRANSMITTER AND RACKMOUNT RECEIVER MODEL - EV R300HD A / SHURE- SLX24 - BETA58A / SENNHEISER - XSW 65	
2.3	TYPE	UHF HANDHELD TRANSMITTER & RACKMOUNT RECEIVER	
2.4	FREQUENCY RESPONSE	> 40 Hz to < 20 KHz	
2.5	No. OF PRESET CHANNEL	MINIMUM 12 CHANNELS AND RF RANGE-16MHZ	
2.6	POWER REQUIREMENT	12VDC,500mA	
2.7	RECIVER OUTPUT	1/4INCH UNBALANCED,3PIN XLR BALANCED	
2.8	ANTENNA TYPE (Receiver principle)	DIVERSITY TRANSMITTER	
2.9	POLAR PATTERN	CARDIOID/SUPERCARDIOID	
2.10	RF OUTPUT DYNAMIC RANGE	>8mW / >90dB	
2.11	DISTORTION AT 1KHZ	<1.0 %	
2.12	ACCESSORIES	Vendor to Specify	
3	MIXER	16 CHANNEL COMPACT MIXING SYSTEM	1No
3.1	MAKE	ELECTRO VOICE /ALLEN& HEATH / SOUND CRAFT	
3.2	MODEL	EV-DC-CMC1600-3 / ALLEN&HEATH-QU-16 / SOUND CRAFT - SPIRIT FX16II 16 CHANNEL WITH LEXICON EFFECTS PROCESSOR	
3.3	TYPE	COMPACT DIGITAL MIXING CUM PRE AMPLIFIER SYSTEM	
3.4	CHANNELS(MONO+ STEREO)	16CHANNEL (LINE INPUT + STEREO)	
3.5	AUXILIARYS-MONO,FX,AUX	PRE / POST SWITCHABLE	
3.6	THD LEVEL @1KHZ	< 0.09%	
3.7	FREQUENCY RESPONSE @3db, ref @1Khz	> 15 Hz to < 70 kHz	
3.8	INPUT SENSITIVITY @ all level control in maximum	- 60 dBu to< + 15 dBu	
3.9	INPUT IMPEDANCE	Minimum 2 Kohm to Maximum 65 KOhm	
3.10	OUTPUT IMPEDANCE	> 45 ohm to < 150 ohm	
3.11	SIGNAL to NOISE RATIO	- 95 dB to - 140 dBu	

3.12	METERING	Yes		
3.13	CHANNEL LEVEL CONTROL	Fader to be provided		
3.14	GAIN CONTROL	ROTARY CONTROL or OTHER VERSION		
3.15	POWER CONSUMPTION	< 100 WATTS		
3.16	POWER SUPPLY	INTERNAL PSU-90V-240V,AC,50HZ		
3.17	OPTIONAL ACCESSORIES	Vendor to specify		
4	DIGITAL SIGNAL PROCESSOR	DIGITAL AUDIO SIGNAL PROCESSOR WITH FEED BACK REDUCER	1	No
4.1	MAKE	ELECTROVOICE / SHURE / AKG		
4.2	MODEL	EV-DC ONE SOUND SYSTEM PROCESSOR / SHURE DFR22E / AKGDFM4X4		
4.3	TYPE	AUTOMATIC DIGITAL FEED BACK ELIMINATOR		
4.4	FREQUENCY RESPONSE	> 10 Hz to < 22Khz , +/- (0.5 dB to 1 dB)		
4.5	DYNAMIC RANGE	MINIMUM 100dB(A) ,20HZ -22KHZ		
4.6	INPUT IMPEDANCE	10K OHM/40kohm		
4.7	OUTPUT IMPEDANCE	UP TO 200 ohm		
4.8	CLIPPING LEVEL	Ouput 20 dBu to 24 dBu		
4.9	THD LEVEL	< 0.01 % /0.05 %(20HZ TO 20KHZ /22HZ TO 22KHZ)		
4.10.	USB	PC INTERFACE/TYPE -B		
4.11	SERIAL COMMUNICATION PORT	YES		
4.12	ELECTRONICS TYPE	PROCESSOR BASED		
4.13	OPERATING VOLTAGE	90-240V, AC , 50HZ		
4.14	OPTIONAL ACCESSORIES	Vendor to specify		
5	POWER AMPLIFIER	DUAL CHANNEL STEREO POWER AMPLIFIER	2	Nos
5.1	MODEL	EV-Q44-II/LAB GRUPPAN C SERIES 10X4/YAMAHA-XP-2500		
5.2	MAKE	ELECTROVOICE/LAPGRUPPAN/YAMAHA		
5.3	TYPE	RACK MOUNTED DUAL CHANNEL STEREO POWER AMPLIFIER		
5.4	LOAD IMPEDANCE	2 Ohm, 4 Ohm, 8 Ohm		
5.5	SINGLE CHANNEL O/P POWER	> 200WATTS		

5.6	THD @ 1kHz AND 1dB below	< = 0.1%		
5.7	SIGNAL to NOISE RATIO	Not less than 100 dB		
5.8	INPUT IMPEDANCE	20kohm		
5.9	OUTPUT IMPEDANCE @100HZ	Vendor to specify		
5.10.	VOLTAGE GAIN	32 dB		
5.11	CHANNEL SEPRATION @1KHZ	Vendor to specify		
5.12	PROTECTION	Vendor to specify		
5.13	POWER REQUIRMENTS	230VOLT,AC 50HZ		
5.14	AMBIENT TEMPERATURE	SUITABLE FOR +5 DEGREE 'C' TO +45 DEGREE 'C'.		
6	SPEAKER	FULL RANGE, WALL MOUNTED LOUD SPEAKER	5Nos	
6.1	MAKE	ELECTROVOICE / JBL/MACKIE		
6.2	MODEL	ELECTROVOICE - EVID 4.2 / JBL 25AV/MACKIE C 200		
6.3	TYPE	FULL RANGE, WALL MOUNTED , LOUDSPEAKER 200W WITH WALL MOUNTED ACCESSORIES.		
6.4	POWER HANDLING	200WATTS CONTINUOUS		
6.5	IMPEDANCE	8 ohm		
6.6	CROSSOVER FREQUENCY	1.8 KHZ TO 2.2KHZ		
6.7	GRILLES	ZINC PLATED / PAINTED SS GRILLS / Polypropylene material		
6.8	ENCLOSURE MATERIAL	Vendor to specify		
6.9	WALL MOUNTED ACCESSRIES SETS REQUIRED	Vendor to specify		
7	CLIP -ON LAVALIER MICROPHONE	CLIP ON LAVALIER MICROPHONE	1No	
7.1	MAKE	SENNHEISER / SHURE / EELECTRO VOICE		
7.2	MODEL	SENNHEISER-MKE2 - 2R GOLD/ EQUIVALENT IN SHURE / E.VOICE		
7.3	TYPE	CONDENSER, CLIP ON MICROPHONE		
7.4	FREQUENCY RESPONSE	20hz -20 khz / plus or minus 3dB		
7.5	CABLE LENGTH	1.6m		
7.6	SENSITIVITY	5mV		

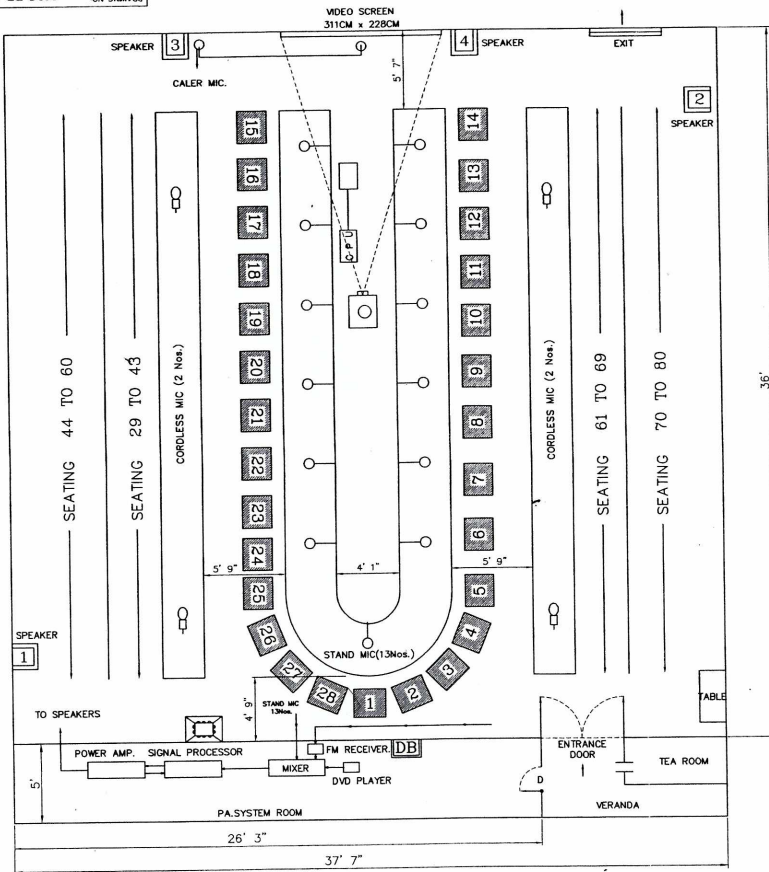
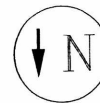

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7.7	NOMINAL IMPEDANCE	1000 OHM		
7.8	NOISE LEVEL WEIGHTED	39 dB		
7.9	MAX.SOUND LEVEL PRESSURE	142 dB		
8	HEAD PHONE	HEAD PHONE WITH JACK		1No
8.1	MAKE	SENNHEISER/AKG/ELECTROVOICE		
8.2	MODEL	SENNHEISER-HD280PRO /AKG-K612PRO / SHURE-SRH 440		
8.3	TYPE	DYNAMIC HEAD PHONE		
8.4	SENSITIVITY	> 101dB/V		
8.5	FREQUENCY RANGE	> 8 Hz to < 40KHz		
8.6	IMPEDANCE	> 40 ohms		
8.7	INPUT POWER	> 200 mW		
8.8	CABLE	3 mtr.		
8.9	CONNECTOR & ADOPTOR	STEREO JACK PLUG 3.5MM & CONVETRABLE JACK PLUG 3.5 mm / 6.3mm - Gold plated		
9	WIRED LEAD MIC	WIRED DYNAMIC VOCAL MICROPHONE WITH CLIP & HOLEDER		1No
9.1	MAKE	SHURE/ELECTROVOICE/ AKG		
9.2	MODEL	SHURE- SM58 / AKG- D5 / ELECTROVOICE - N- D767a		
9.3	TYPE	DYNAMIC VOCAL MICROPHONE -WIRED, BALANCED XLR -3PIN XLR		
9.4	POLAR PATTERN	Cardioid / Super cardioid		
9.5	AUDIO FREQ. BAND WIDTH	> 30 hz TO < 23khz		
9.6	SENSITIVITY	> 1.8 mV / Pa		
9.7	ELECTRICAL IMPEDANCE	Not less than 150 Ohms		
10	DVD PLAYER	DVD PLAYER WITH USB CONNECTIVITY		1No
10.1	MAKE	PHILIPS/SONY/LG		
10.2	MODEL	PHILIPS-DVP3888KX-94 /SONY-DVP-SR 660P/LG-DV 656		
10.3	PLAY BACK MEDIA	COMPACT DISC-DIVX.MP3-CD, CD-R/RW		
10.4	VIDEO & AUDIO PLAY BACK	PM3 CD, MP3DVD , CD -R/RW AUDIO CD,DVD-R/RW DIVX		
10.5	ACCESSORIES	Vendor to specify		




11	MICRO PHONE CABLE	SHIELDED MICRO PHONE CABLE	400M
11.1	MAKE	PERCON/BELDEN/MX AUDIO CABLE	
11.2	TYPE	TWO CORE, INDIVIDUALLY SHIELDED + OUTER SHIELDING	
11.3	COLOUR	OUTER COLOUR BLACK	
11.4	CONDUCTOR	0.35SQ.MM ABOVE, COPPER CONDUCTOR	
11.5	CONFIGURATION	DOUBLE SHIELDED	
11.6	OUTER SHEATH	CYLINDRICAL DIAMETER	
12	SPEAKER CABLE	TWO CORE SPEAKER CABLE	100M
12.1	MAKE	PERCON/BELDEN/MX AUDIO CABLE	
12.2	TYPE	TWO CORE individual shielded with sheathed +PVC SHEATHED SPEAKER CABLE	
12.3	CONDUCTOR	COPPER CONDUCTOR	
12.4	SHEATH	INDIVIDUAL SHEATH AND OVER ALL SHEATH(CIRCULAR)	
13	CONNECTORS	2PIN /3PIN XLR CONNECTOR	60Nos
13.1	MAKE	NEUTRIK / SWITCH CRAFT	
13.2	TYPE	3PIN XLR/2PIN STEREO/MONO-GOLD PLATE TYPE	
13.3	AUDIO APPLICATION	AUDIO CONNECTIVITY	
14	MICROPHONE STAND	MICROPHONE STAND WITH MIC HOLDER	1No
14.1	MAKE	HERCULES or EQUIVALENT MAKE	
14.2	MODEL	MS210B /OTHER EQU. MAKE MODEL	
14.3	BASE	SILVER METAL ROUND H BASE WEIGHTED FOR STABILITY	
14.4	HEIGHT ADJUSTMENT	ONE HANDED ADJUSTMENTS	
14.5	OVER ALL HEIGHT	1020-1680MM	
14.6	MIC HOLDER	3/8 INCH MIC HOLDER	
15	SPEAKER STAND	SPEAKER STAND	2Nos
15.1	MAKE	HERCULES or EQUIVALENT MAKE	
15.2	MODEL	SS200BB /OTHER EQU. MODEL	
15.3	CARRYING BAG & STAND	2 STAND & CARRYING BAG	
15.4	TYPE & SIZE	FOLDED SPEAKER POLE & SIZE - 35MM - 38MM SIZE	
15.5	HEIGHT ADJUSTMENT	128-205CM -ADJUSTABLE	
15.6	LOAD CAPACITY	45KG APPROXI.	
15.7	SPEAKER ADOPTOR	SS100B- MODEL or EQUIVALENT	
15.8	MATERIAL	ALUMINIUM	

16	AUDIO RACK-9U	AUDIO FLOOR RACK WITH FAN, POWER STRIP AND CASTORS	1No	
16.1	MAKE	VALRACK / EQUIVALENT		
16.2	SIZE	ABOVE SUPPLIED ITEMS ACCOMDATION		
17	INTALLATION, WIRING, TESTING & COMMISSIONING OF ABOVE ITEMS	TO BE SPECIFIED		
18	DOCUMENTS REQUIRED	PRODUCT CATELOGUE FOR ITEMS SL.NO. 1 TO 16.		
18.1	OPERATION, MAINTENANCE & TROUBLE SHOOTING MANUALS ATTACHMENTS	TO BE PROVIDED		
18.2	TECHNICAL DATA SHEETS ALONG WITH OFFER	TO BE PROVIDED		
19	PRE DESPATCH INSPECTION	AT VENDOR SITE - TO BE CONFIRMED		
20	SUPPLY, INSTALLATION, TESTING, COMMISSIONING & PROVEOUT THE TOTAL SYSTEM FUNCTIONING.	TO BE CONFIRMED		
21	GENERAL CONDITIONS:			
21.1	PVC PIPES/ CASING -CAPPING WIRING WORKS FOR MICROPHONE CABLING, SPEAKER CABLING ARE PER METER BASIS ARE UNDER VENDOR SCOPE.			
21.2	VENDOR SHOULD SUBMIT SPERATE OFFER FOR AMC CHARGES FOR THE ABOVE SYSTEM AFTER ONE YEAR WARRANTY & GUARANTY PERIOD			


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LEGEND

-  : FM CORDLESS MIC : 4Nos.
-  : STAND MIC : 13Nos.
-  : WALL MOUNTED SPEAKERS : 4Nos.

NEW CONFERENCE HALL AREA : 1357.2 Sq.ft.
 HEIGHT OF CEILING : 8.8 ft.

ITEM NO	DESCRIPTION	DRAWING NO	MATL SPEC	MATL CODE	UNIT WT
EQPT -					
Bharat Heavy Electricals Ltd HIGH PRESSURE BOILER PLANT TIRUCHIRAPALLI - 620014			DRN G.GOVINDARAJ	SIGNATURE <i>G. Govindaraj</i>	DATE 18.10.18
CHD R.RAMAMOORTHY			APD G. THAGARAJAN	SIGNATURE <i>R. Ramamoorthy</i>	DATE 18.10.18
DEPT	M&S	GRADE OF UNITS DWG	SCALE	WEIGHT (kg)	REV TO KEEP DWG NO
CODE	2387	<i>G/M/f</i> 18.10.18	1:1	-	REV TO OLD DWG NO
TITLE NEW CONFERENCE HALL (PUBLIC ADDRESS SYSTEM)			CARD CODE U. 01	DRAWING NO : M&S-PD-14-179	

REV 01	DATE 18.06.15	ALTERED BY G.GOVINDARAJ
2387	REVISED DWGMS.	CHECKED BY R.RAMAMOORTHY APPROVED BY G. THAGARAJAN

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