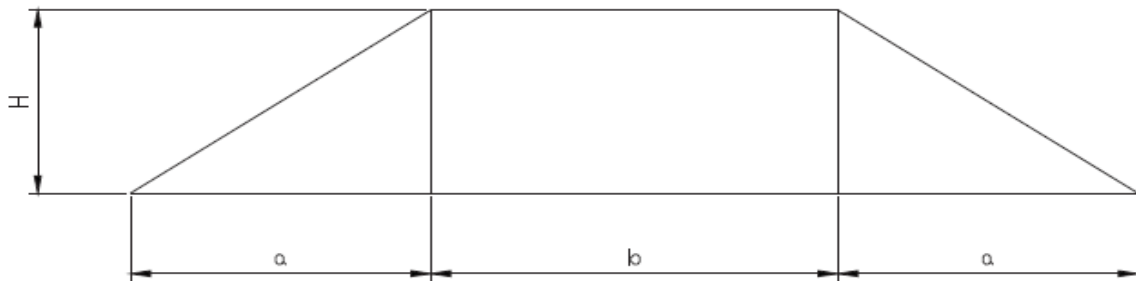
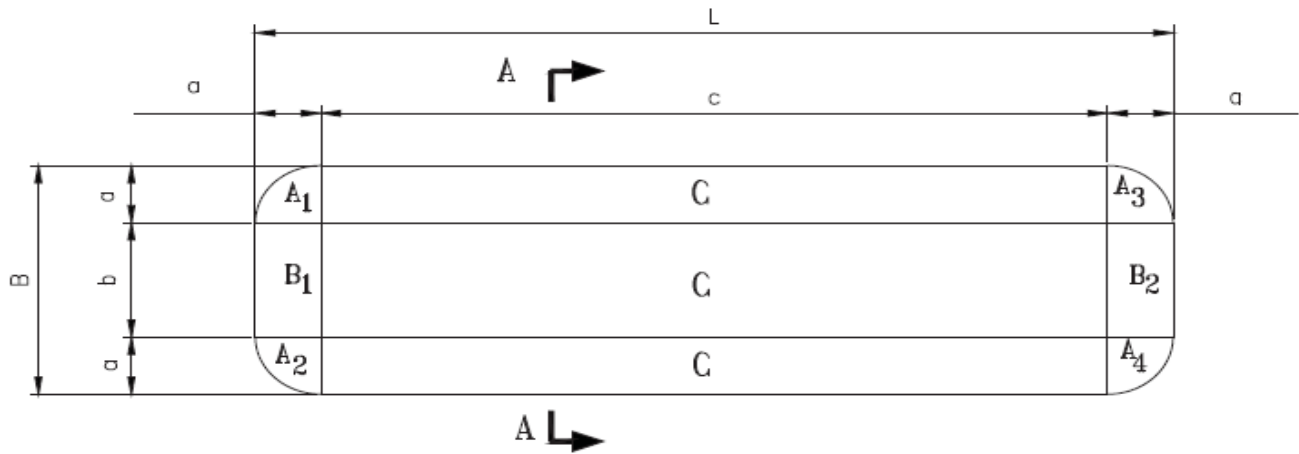


ANNEXURE-3

STOCK PILE STORAGE CAPACITY CALCULATION BASED ON BLENDED COAL IN BMCR



SECTION-AA

Stockpile-Blended coal

Inputs

Total length of stock pile at base	L	MTRS.	442
Total width of stock pile at base	B	MTRS.	50
Angle of repose of stock pile (coal)		DEG	37
Height of stock pile	H	MTRS.	10
Density of Coal in (Compacted coal)		T/ cu. M	0.8
No. of stock Piles		Nos.	6

Calculations

Length (a)	a	MTRS.	13.27
Length (b)	b	MTRS.	23.46
Length (c)	c	MTRS.	415.46

1. Calculation of Volume for 'A' Portion

Where, $A = A_1 + A_2 + A_3 + A_4$

$V_1 =$ Total volume of A (i.e cone) is given as, $= (1/3 \times \pi \times a^2 \times h)$

V1 in		Cu.M	1844.17
-------	--	------	----------------

2. Calculation of Volume for 'B' Portion

Where, $B = B_1 + B_2$

$V_2 =$ Total volume of B is given as, $= 2 \times (1/2 \times (a \times b) \times h)$

V2 in $m^3 =$			3113.13
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3. Calculation of Volume for 'C' Portion

$V_3 =$ Total volume of Trepezoid C is given as, $= (B + b)/2 \times h \times c$

V3 in $m^3 =$			152596.27
---------------	--	--	------------------

Then,

Total Volume of Stockpile = $V1 + V2 + V3$			157553.56
Total Capacity of Each Stockpile C = Total Volume x density of coal			126042.85
Total Capacity of Stockpile (in tonnes) = C x no. of stock piles			756257.09
BMCR (IN TPH) FOR INDIGENOUS COAL			419
NO. OF UNITS			5
Total Capacity of 6 Stockpile (in DAYS)			15.04



TELANGANA STATE POWER GENERATION CORPORATION LIMITED

(A Govt. of Telangana State Undertaking)

Vidyut Soudha, Hyderabad - 500082.
Phone: 040 – 23499261

www.tsgenco.telangana.gov.in
Fax: 040 – 23499263

From:

The Chief Engineer,
Thermal Projects Construction
TSGENCO, Vidyut Soudha,
Hyderabad – 500 082
Fax No.040-23499263

To:

M/s Bharat Heavy Electricals Limited,
Industrial Systems Group,
PO Box No 1249, Prof CNR Rao Circle,
Malleswaram, Bangalore-560012,
Email ID: mvg@bhelisg.com

Kind Attention to : Sri V. Sahadevan (Head-Engg(Mech)/BHEL/ISG)

Lr. No.CPP/211/KTPS & BTPS Projects /Vol-1/D.No: 821 /15, Dtd: 10.11.2015.

Sir,

Sub: TSGENCO-KTPS-VII (1x800MW) and BTPS (4x270 MW) Projects – Approval of Additional Sub-Vendors for KTPS & BTPS Projects -- Reg.

Ref: 1.Your Lr. No. IS-I-14-2006/2007,Dtd: 05.10.2015

Please refer to the above reference wherein, it was requested for approval of the additional sub vendor as listed in annexure for package of coal handling plant pertaining to KTPS (1x800 MW) and BTPS (4x270 MW) Projects.

The same was reviewed and TSGENCO hereby accords approval to M/s BHEL/ISG, Bangalore for items as enclosed in **Annexure** for KTPS (1x800 MW) and BTPS (4x270 MW) Projects in addition to the already approved vendors.

However, this approval does not absolve you from your responsibility of supplying the above annexure items confirming to relevant standards/specifications and to ensure satisfactory performance of the plant as per the contract.

Your faithfully


CHIEF ENGINEER/TPC

Copy to:

DE/Tech to Chairman & Managing Director / TSGENCO/Vidyut Soudha / Hyderabad

AS to Director Projects / TSGENCO/Vidyut Soudha / Hyderabad

CE/O&M/KTPS/TSGENCO/Paloncha/Khammam Dist-507115.

SE/E&M/ KTPS/TSGENCO/Paloncha/Khammam Dist-507115.

SAO / P&A / Vidyut Soudha / Hyderabad.

SAO / Construction KTPS/TSGENCO/Paloncha/Khammam Dist-507115.


Spare

ANNEXURE

ADDITIONAL VENDOR LIST (Approved/Not Approved) FOR CHP MECHANICAL - KOTHAGUDEM (1x 800 MW)& BHADRADRI (4x270 MW) PROJECT

Sl. No.	Description	Proposed Vendor/Supplier Name	M/s TSGENCO Remarks
1	Bearings	Revolvo	Approved
		SKF	Approved
		ZNL	Not Approved
		ZKL	Not Approved
		NBC	Not Approved
		NRB	Not Approved
		TIMKEN	Approved
		ABB	Not Approved
2	Split Type Breaings	FAG	Approved
		Revolvo	Approved
		Cooper	Approved
3	PLUMMER BLOCKS	FLSmith	Approved
		Nandy Engineering	Approved
		MASTA	Approved
		SMR	Not Approved
		SIMCO	Approved
		SIBCO	Not Approved
		JAYCO	Not Approved
4	Gear Box	MBM,NTN	Not Approved
		Premium Transmission	Approved
		Flender Limited	Approved
		Elecon Engineering Co. Ltd.	Approved
		New Allenbary Works	Approved
		SHANTHI	Approved
		BREVENI	Not Approved
5	Fluid Coupling	SEW	Not Approved
		Premium Transmission	Approved
		Fluidomat	Approved
		Elecon Engineering Co. Ltd.	Approved
6	Flexible Gear Coupling (LOW SPEED COUPLING)	Voith	Approved
		Elecon Engineering Co. Ltd.	Approved
		GBM Mfg. (P) Ltd., Kolkata	Approved
		Fenner	Approved
		Wellman Wacoma	Approved
		ESCO	Not Approved
7	Scrapper- Internal & external	LOVEJOY	Not Approved
		CONTITECH/PREMIUM	Not Approved
		Hosch Equipment, Kolkata	Approved
		Kaveri Ultra Polymers Ltd.	Approved
		Synergy	Not Approved
		MARTIN	Approved

8	Brake with Thruster	Electromg Devices, Mumbai	Approved
		Industrial Components	Approved
		Electromagnetic Industries	Approved
9	Belt Weigher along with Panel	IPA	Approved
		Schenk Process	Approved
		PRECIA MOLEN	Approved
10	Electric Hoists / Manual Hoist	Automech Industries	Not Approved
		WH Brady (Brady & Morris)	Approved
11	In-Line Magnetic Separator / Suspended Magnet along with Panel	Electro-Zavod	Approved
		PBL	Approved
		Prayaas Engg.	Not Approved
		Electromag	Approved
		Electromagnetic Industries	Approved
		Magnet Industries	Approved
		Magnetics Corporation of India	Approved
		ERIEZ	Approved
12	Vibrating Feeder	EMI	Not Approved
		Electrozavod	Not Approved
		Schenk Process	Not Approved
		Electromagnetic Industries	Not Approved
		International Combustion	Not Approved
		Electromag	Approved
13	BELT VULCANISING MACHINE	BEVCON	Approved
		Chanda & Co	Approved
14	Dust Extraction System along with Panel	SYNERGY	Approved
		Soil & Enviro	Not Approved
		WRC	Approved
15	Elevator	BEVCON	Approved
		ECE	Approved
		OMEGA Elevators	Approved
16	Coal Sampling System	ALI KRAFT	Not Approved
		Gujrat Apollo	Not Approved
17	Sump/Water Pump	SGS	Not Approved
		Weir Minerals (Warman)	Not Approved
		KBL	Approved
		SAM	Approved
		Metso	Approved
		M/S Mody Industry Pvt Ltd (M/s WPIL LTD groups of company)	Approved
		KIRLOSKAR	Approved
		KSB	Approved
JAYAMBEE.	Not Approved		


 Chief Engineer
 Thermal Projects Construction
 TSSNCO, Vidut Soudha,
 Khairatabad, Hyderabad-52

8	Metal Detector along with Panel	PBL	Approved
		Prayaas Engg.	Not Approved
		Electromag	Approved
		Magnet Industries	Approved
		Electrozavod	Approved
		Electromagnetic Industries	Approved
		EMI	Not Approved
		ERIEZ	Not Approved
9	Skirt Sealing	Tega India	Approved
		Kaveri Ultra Polymers	Approved
		Synergy	Not Approved
		National Rubber	Not Approved
		Indus Con-care Pvt. Ltd	Not Approved
		Thejo Engineering	Not Approved
0	Rail Clamp of Trippers	Industrial Components	Approved
		Bengal Technocrats	Approved
		Bubenzner (Eimco Precima)	Not Approved
		Industrial Syndicate	Not Approved
1	Rail Clamp of SCR	BTPL	Not Approved
		TRF APPROVED SOURCE	Not Approved
2	Flap Gate, Flow Divider, Rod Gate, Rack & Pinion Gate	BSBK Engineers Pvt. Ltd.	Approved
3		Bevcon	Approved
3	Slew Bearing of SCR	Rothe Erde	Not Approved
4	Lubrication System of SCR	AFMC	Not Approved
		CENLUB	Approved
5	Buffer for SCR	Resistoflex	Approved
5	Geared Motor	International Combustion	Not Approved
		Elecon	Approved
		Rossi Gearmotors (India) pvt. Ltd	Not Approved
		Siemens Ltd	Approved
		SEW Eurodrive	Not Approved
		Bonfiglioli	Not Approved
7	BELT FEEDERS	BEVCON	Approved
3	TRAVELLING TRIPPERS, FIXED TRIPPERS & RAILS, COUNTER WEIGHTS	BEVCON	Approved
3	TRIPPERS, FIXED TRIPPERS & Bunker Sealing Arrangement	BSBK	Approved
0	RAW MATERIAL i.e a) MS PLATES b) ANGLES, CHANNELS, BEAMS VENDOR MAKES	VANDANA, MAHAMAYA, DILL, TOPWORTH	Not Approved
1	Conveyor Belt	Eureka Conveyor Belting Pvt.Ltd, No. F-51/52, Chambal Industrial Area, Kota - 324 003, Ph: 0744 - 2480717/ 9314297107	Not Approved
		Flexter Rubber Pvt Ltd, No. 36, strand Road, 2nd Floor, Kolkata - 700001 Phone - 033 - 22433309/ 9748482064	Not Approved

ANNEXURE-2

Kothagudem TPS CHP - MECHANICAL : Vendor list

Sl.No.	Item Description	Vendors name	TSGENCO Remarks
		AMPS ENGINEERING & EQUIPMENTS PVT LTD	Not Approved
		DEVAS ENGINEERING SYSTEMS	Not Approved
		GOLDEN ENGINEERING INDUSTRIES	Not approved
		INDIANA CONVEYORS PVT LTD	Not approved
		VISHWA INDUSTRIAL COMPANY LTD.,	Not approved
		NEW ERA CONVEYORS PVT LTD.,	Not approved
		TURBO ENGINEERS	Not approved
		ROLLWEL CONVEYOR COMPONENTS PVT LIMITED	Approved
		BEVCON	Approved
		L&T	Approved
		ELECON	Approved
		TRF	Approved
		MCNALLI BHARAT ENGINEERING PVT LTD	Approved
		THYSSENKRUPP INDUSTRIES INDIA PVT LTD	Approved
		PROMAC	Not approved
9	IDLER (ALL TYPES) WITH FRAMES	MACMET INDIA LIMITED	Approved
		BENGAL TOOLS	Not approved
		KARAMCHAND THAPAR LIMITED.,	Not approved
		Dearborn Midwest Conveyor Co., Kansas	Not approved
		Hyquip Systems Ltd	Not approved

Approved
9/4/15

		BSBK Engineers Pvt Ltd	Approved
		FMC Technologies Inc.	Not approved
		BIL Infratech Ltd	Not approved
		Vinar Systems Pvt Ltd	Not approved
		POSCO PLANT ENGINEERING CO., LTD.,	Not approved
		SHENYANG MINING MACHINERY CO. LTD., Shenyang City, Liaoning Province,	Not approved
		ENVIRO BULKK HANDLING SYSTEMS (P) LTD	Not approved
		SANDVIK ASIA PRIVATE LIMITED	Not approved
		SHREE CONVEYOR SYSTEMS PVT LTD	Not approved
		THE INDURE PVT., LTD., NEW DELHI	Approved
		A.K. ENTERPRISES	Not approved
		SHAPOORJI PALLONJI & CO., LTD.,	Not approved
		MASYC PROJECTS PVT. LTD.,	Not Approved
		AMPS ENGINEERING & EQUIPMENTS PVT LTD	Not approved
		DEVAS ENGINEERING SYSTEMS	Not approved
		INDIANA CONVEYORS PVT LTD	Not approved
		VISHWA INDUSTRIAL COMPANY LTD.,	Not approved
		NEW ERA CONVEYORS PVT LTD.,	Not approved
		TURBO ENGINEERS	Not approved
		ROLLWEL CONVEYOR COMPONENTS PVT LIMITED	Not approved
		LARSEN & TOUBRO LTD, ECC DIVN	Approved
		ELECON EPC PROJECTS LIMITED (Formerly Elecon Engineering Co., Ltd)	Approved
		TRF LTD., JAMSHEDPUR	Approved
		MCNALLY BHARAT ENGINEERING COMPANY LTD	Approved
		THYSSENKRUPP INDUSTRIES INDIA PVT LTD	Approved
		PROMAC ENGG.INDUSTRIES LTD., BANGALORE	Not Approved
		MACMET INDIA LIMITED	Approved
		Bengals Tools Ltd.	Not Approved
		KARAMCHAND THAPAR LIMITED.,	Not Approved
		Dearborn Midwest Conveyor Co., Kansas	Not Approved
		Hyquip Systems Ltd	Not Approved
		BSBK Engineers Pvt Ltd	Approved
		FMC Technologies Inc.	Not approved
		BIL Infratech Ltd	Not approved
		Vinar Systems Pvt Ltd	Not approved
		FLSMIDTH Private Limited	Approved
		Bevcon Wayors Pvt Ltd	Approved
		POSCO PLANT ENGINEERING CO., LTD.,	Not approved
		SHENYANG MINING MACHINERY CO. LTD., Shenyang City, Liaoning Province,	Not approved
		ENVIRO BULKK HANDLING SYSTEMS (P) LTD	Not approved
		SANDVIK ASIA PRIVATE LIMITED	Not approved
		SHREE CONVEYOR SYSTEMS PVT LTD	Not approved
		THE INDURE PVT., LTD., NEW DELHI	Approved
		VISHWA INDUSTRIAL COMPANY LTD.,	Not approved
		A.K. ENTERPRISES	Not approved
		SHAPOORJI PALLONJI & CO., LTD.,	Not approved
		MASYC PROJECTS PVT. LTD.,	Not approved
10	Pulleys with plummer blocks, bearings sets	PRECISION PROCESSING EQUIPMENT CO.	Not approved

Shankar
9/11/15

11	FLAP GATE	HINDUSTAN M/C TOOLS CORPORATION, KOLKATA.	Not approved
		CONTINENTAL PROFILES LTD., FARIDABAD.	Not approved
		INDIANA CONVEYORS PVT LTD	Not approved
		HMTC ENGINEERING CO,	Not approved
12	GEAR BOX	R&D MULTIPLES (METAL CAST) PVT. LTD.	Not approved
		ESSENTIAL POWER TRANSMISSION PVT.LTD	Not approved
13	SCRAPPER – INTERNAL & EXTERNAL	KATEEL Engineering Industry Pltd	Not approved
		BMH CONCARE TECHNOLOGIES INC	Approved
		GOLDEN ENGINEERING INDUSTRIES	Approved
14	BELT WEIGH SCALE	THEJO ENGINEERING LTD	Approved
		THERMO RAMSAY, AUSTRALIA.	Approved
		AVERY INDIA LTD., NEW DELHI.	Approved
		POWER BUILD, Limited	Approved
		SCHENCK PROCESS	Not Approved
		INDUS CONTROL & AUTOMATION PVT.LTD. BANGALORE.	Not Approved
		KLISTER MORSE AUTOMATION LTD.	Not Approved
15	BRAKES	SIEGERLAND-BREWSEN, GERMANY.	Approved
		STROM KRAFT	Approved
		BCH ELECTRIC LIMITED	Approved
		INDUSTRIES SYNDICATE, KOLKATA.	Approved
		SIEMENS INDIA LTD.	Approved
		KATTEL ENGINEERING INDUSTRY PLTD.	Approved

17	PUMP	KUBOTA CORPN., JAPAN	Covered in AHP list
		SAM TURBO INDUSTRY PRIVATE LTD	
		KIRLOSKAR BROTHERS LTD., PUNE	
		FLOW MORE PVT.LTD. NEW DELHI.	
		BEACON WEIR LTD, CHENNAI.	
		Kishor Pumps Pvt. Ltd., Chennai	
		MCNALLY SAYAJI ENGINEERING LIMITED.	
		METSO MINERALS (INDIA) PVT LTD.	
WIER MINERALS (INDIA) PVT. LTD.			

19	BELT VULCANISING MACHINE	NILOS	Approved
		SV DATTAR, KOLKATA	Approved
		THEJO ENGINEERING LIMITED	Approved
20	WEIGH BRIDGE	ABB LIMITED	Approved
		SARTORIUS MECHATRONICS INDIA PVT LTD.	Not approved
		AVERY (I) LTD., Ballavgarh	Approved
		NARNE TULAMAN MANUFACTURERS PVT LTD	Not approved
		SCHENCK JENSON & NICHOLSON,	Approved
SCHENCK PROCESS INDIA LIMITED	Approved		

Handwritten signature and date: 9/11/10

		ESSAE DIGITRONICS PRIVATE LIMITED	Approved
		IPA, Pvt. Ltd.	Approved
		KLISTER MORSE AUTOMATION LTD	Not approved
21	AIR CONDITIONING SYSTEM	EMERSON NETWORK POWER (I) PVT. LTD. BANGALORE.	Not approved
		VOLTAS LIMITED, MUMBAI.	Approved
		BLUE STAR LIMITED, MUMBAI.	Approved
		CARRIER	Approved
		BATLIBOI LIMITED, BANGALORE.	Not approved
		SK SYSTEMS PRIVATE LIMITED.	Not approved
		Anagha & Associates	Not approved
		Trac Fujico Air Systems Limited	Not approved
		APC AIR SYSTEMS PVT LTD	Not approved
		DHRUVA THARE AIR CONDITIONING	Not approved
		GLOBAL ENVIRO AIR SYSTEM PVT LTD.,	Not approved
		GODREJ & BOYCE MFG. CO., LTD.,	Approved
		GENTECH ENGINEERING SERVICES	Not approved

25	DUST SUPPRESSION & WATER SYSTEM FOR CHP	SPRAYING SYSTEMS INDIA PVT. LTD.,	Approved
		APC SYSTEM	Approved
		EAGLE AGRO INDUSTRIES	Not approved
		DURAG INDIA INSTRUMENTATION PVT. LTD.	Not approved
		NEVCO ENGINEERS PVT LTD.,	Not approved
		F. HARLEY	Approved
		TPS INFRASTRUCTURE LTD.	Approved
		DFW ENVIROTECH (I) PVT LTD	Not approved

Handwritten signature and date: 9/4/15

		CHEMTROLS SAMIL INDIA PVT LTD	Not approved
		ECODEA PROJECTS & CONTROLS PVT LIMITED	Not approved
26	CONVEYOR BELTING AND BELT FEEDER BELTING	PHEONEX YULE, KOLKATA	Approved
		SEMPERTRANS	Approved
		FORECH INDIA LTD, KOLKATA	Approved
		HINDUSTAN RUBBERS, SILVASA	Approved
		NORTHLAND RUBBER MILLS, NEW DELHI	Approved
		ORIENTAL RUBBER INDUSTRIES LTD.,PUNE	Approved
		JONSON RUBBER INDUSTRIES	Approved
		SOMI CONVEYOR BELTINGS LIMITED	Approved
		NRC INDUSTRIES LIMITED , AMRITSAR	Approved
		27	ERW PIPES
WELSPUN GUJARAT STAHL ROHERN LTD	Approved		
ASIAN MILLS PRIVATE LIMITED	Approved		
JNB Steel Industries Pvt. Ltd.,	Not approved		
APL Apollo Tubes Ltd.	Not approved		
Jotindra Steel & Tubes Ltd.	Approved		
SURYA ROSHNI LIMITED	Approved		
Amardeep Steel Centre	Not Approved		
JCO GAS PIPE LIMITED	Approved		
Tubes India	Not approved		
M.J. Patel (India) Limited	Not approved		
ADS PRO - SHIELD	Not approved		
RATNAMANI METALS & TUBES LTD	Approved		
28	VALVES	FOURESS ENGINEERING (I) LTD	Covered in AHP list
		INDIAN VALVE PRIVATE LTD.,	
		SURYA VALVES & INSTRUMENTS, CHENNAI	
		ADVANCE VALVES Pvt Ltd., NOIDA	
		HAWA VALVES (INDIA) PVT LTD	
		LEADER VALVES LTD, JALANDHAR	
		LEVCON CONTROLS PVT.LTD., KOLKATA	
		HAWA VALVES (INDIA) PVT LTD	
		EIP ENVIRO LEVEL CONTROL PVT LTD.,	
		R&D MULTIPLES (METAL CAST) PVT. LTD.	
		UPADHAYA VALVES MANUFACTURERS PVT. LTD.	
		KATEEL Engineering Industry Pltd	
		ENGINEERING SPECIALITIES PVT. LTD	
		SHALIMAR VALVES PVT LTD.	
		KEROMIYONS INTECH PRIVATE LIMITED (Techno Valve Divn)	
		CHEMTROLS SAMIL INDIA PVT LTD	
		ATAM VALVES PVT LTD.,	
		Orbinox India Pvt Ltd	
		Hawa Engineers Ltd	
		PANAM ENGINEERS	
		MICON VALVES (INDIA) PVT LTD.,	
		SURYA VALVES & INSTRUMENTS MFG CO.,	
		DEMBLA VALVES LTD	
A. V. VALVES LIMITED			


 Chief Engineer/TPC