

ESP-001- 2A Rev.00		PROJECT ENGINEERING & SYSTEMS DIVISION			Std. / Doc. Number
					Annexure-6
					Rev. No. 00

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Revisions: Refer to record of revisions	Prepared by :	Checked by :	Approved by :	Date :
	Rajeev Jain	Girish Prasad Palo	Siva Prasad Babu	09.06.2018

INSPECTION AND TEST PLAN
 FOR
 DIESEL GENERATING SET

डीजल जनरेटर
 के लिये
 निरीक्षण व परीक्षण योजना
 INSPECTION AND TEST PLAN
 FOR DIESEL GENERATING SET

INSPECTION AND TEST PLAN
 FOR DIESEL GENERATING SET

Rev. No.	Date	Purpose	Prepared by	Checked by	Convenor Standards Committee	Chairman Standards Bureau
0	06.08.02	ISSUED FOR IMPLEMENTATION	VKS	TVD	AKB	GRR
1	21.01.08	REVISED AND RE-ISSUED	CS	SS	MVKK	VC
2	20.11.13	REVISED AND RE-ISSUED	TKK	RKS	SCG	SC

INSPECTION AND TEST PLAN
FOR
DIESEL GENERATING SET

STANDARD SPECIFICATION No.

6-81-0059 Rev.2

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Abbreviations:

CEIL	:	Certification Engineers International Limited	MRT	:	Mechanical Run Test
CIMFR	:	Central Institute of Mining & Fuel Research	NDT	:	Non Destructive Testing
CE	:	Carbon Equivalent	NPSH	:	Net Positive Suction Head
DFT	:	Dry Film Thickness	PO	:	Purchase Order
DPT	:	Dye Penetrant Testing	PESO	:	Petroleum Explosive Safety Organization
DHT	:	De-hydrogen Heat Treatment	PQR	:	Procedure Qualification Record
ERTL	:	Electronics Regional Test Laboratory	PR	:	Purchase Requisition
FCRI	:	Fluid Control Research Institute	PMI	:	Positive Material Identification
HT	:	Heat Treatment	RT	:	Radiography Testing
HIC	:	Hydrogen Induced Cracking	SSCC	:	Sulphide Stress Corrosion Cracking
ITP	:	Inspection and Test Plan	TC	:	Test Certificate
IP	:	Ingress Protection	TPI or TPIA	:	Third Party Inspection Agency
IHT	:	Intermediate Heat Treatment	UT	:	Ultrasonic Testing
IC	:	Inspection Certificate	VDR	:	Vendor Data Requirement
IGC	:	Inter Granular Corrosion	WPS	:	Welding Procedure Specification
MPT/MT	:	Magnetic Particle Testing	WPQ	:	Welders Performance Qualification
MTC	:	Material Test Certificate			

Inspection Standards Committee

Convenor : Mr. S C Gupta

Members:

Mr. R.K. Singh	Mr. T Kamalakannan	Mr. Himangshu Pal
Mr. Neeraj Mathur	Mr. Rajeev Kumar	Mr. Deepak Gupta (Project)
Mr. Mayank Jain		

**INSPECTION AND TEST PLAN
FOR
DIESEL GENERATING SET**

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1.0 SCOPE:

This Inspection Test Plan covers the minimum testing requirements of Diesel Generating Set

2.0 REFERENCE DOCUMENTS:

PO/PR/ Standards referred there in/ Job specifications /Approved documents.

3.0 INSPECTION AND TEST REQUIREMENTS:

S. N O	STAGE/ACTIVITY	CHARACTERISTI CS	QUANTUM OF CHECK	RECORD	SCOPE OF INSPECTION		
					SUB SUPPLIER	SUPPLIER	EIL/TPIA
1.0	Procedures						
1.1	DG Set Load test / Performance test Procedure (As applicable)	Documented Procedures	100%	Procedures	-	H	R
1.2	WPS, PQR, WPQ	Welding procedures, Qualification	100%	WPS/PQR/ WPQ Records	-	H	W- New, R - Existing
2.0	Material Inspection						

INSPECTION AND TEST PLAN
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S. N O	STAGE/ACTIVITY	CHARACTERISTI CS	QUANTUM OF CHECK	RECORD	SCOPE OF INSPECTION		
					SUB SUPPLIER	SUPPLIER	EIL/TPIA
2.1	Incoming Material Diesel Engine, Alternator & Control Panel (Supplier / Sub-Supplier to arrange TPIA Certification)	Functional / Performance test (as applicable)	100%	Inspection / Test report	H	H	R
2.2	Hard Ware items Gaskets, Fasteners, Bearings & Gland Packings etc.	Chemical / Physical properties	100%	Inspection Report	H	R	R
2.3	Accessories Air Receiver , Fuel Tank , Radiators OR Heat Exchanger (Coolers), Coupling etc.	Visual / Dimension & Leak Check & Dynamic balancing for coupling	100%	Manufacturer's Inspection and Test Records	H	W	R
3.0	In Process Inspection						
3.1	Assembly of Alternator, Diesel Engine, Control Panel, Radiators etc.	Visual / Dimension	100%	Manufacturer's Inspection and Test Records	-	H	-
4.0	Final Inspection						
4.1	Load test / Functional test of assembled DG Set	Load / Functional test	100%	Test Report	-	H	H
4.2	Final Visual / Dimension of Skid assembly	Visual / Dimensional check up	100%	Manufacturer's Inspection and Test Records	-	H	R

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S. NO	STAGE/ACTIVITY	CHARACTERISTICS	QUANTUM OF CHECK	RECORD	SCOPE OF INSPECTION		
					SUB SUPPLIER	SUPPLIER	EIL/TPIA
5.0	Painting						
5.1	Painting of pump skid & associated parts	Paint Scheme , Visual & Paint thickness check	100%	Inspection Report	-	H	R
6.0	Documentation						
6.1	Stamping and review of inspection documents, issue of IC (as applicable)	Review of documents for compliance as per PR.	100%	IC	-	-	H
6.2	Review of final documentation of supplier	Compilation of documents as per VDR attached with PR.	100%	Dossier / Completeness certificate	-	H	H

Legend: H- Hold (Do not proceed without approval), P-Perform, RW - Random Witness (As specified or 10% (min.1 no. of each size and type of Bulk item)), R-Review, W-Witness (Give due notice, work may proceed after scheduled date).

NOTES (As applicable):

- This document describes the generic test requirements. Any additional test or Inspection scope if specified in contract documents shall also be applicable.
(Unless otherwise agreed upon)
- Acceptance Norms for all the activities shall be as per PO/PR/STANDARDS referred there in /Job Specification /Approved Documents.

ESP-001- 2A Rev.00		PROJECT ENGINEERING & SYSTEMS DIVISION			Std. / Doc. Number	
					Annexure-7	
					Rev. No.	00

COPYRIGHT AND CONFIDENTIAL The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED, It must not be used directly or indirectly in any way detrimental to the interest of the company.	Annexure-7 EXPERIENCE RECORD PERFORMA
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Revisions: Refer to record of revisions	Prepared by :	Checked by :	Approved by :	Date :
	Rajeev Jain	Girish Prasad Palo	Siva Prasad Babu	09.06.2018

NOTES TO BIDDERS:

1. Prototype DG Set series shall not be considered.

Sr. No.	Parameter	Information on Offered Model	Information on Operating Installation		
			1	2	3
(1)	DG set Model Number/No. of units				
(2)	Net output for electrical consumption at Site Conditions (after accounting for alternator efficiency & power consumed by the auxiliaries), KW				
(3)	Place of Packaging/Utilization				
(4)	Make / Model of Diesel Engine				
(5)	Make / Model of Alternator				
(6)	For all the auxiliary system listed below, specify by whom auxiliary system is engineered & supplied- Engine Manufacturer or DG set vendor				
(a)	Air intake system(including Air filter and Inlet air ducting / piping)				
(b)	Engine exhaust system(including exhaust silencer and exhaust gas ducting/piping, exhaust stack and thermal insulation)				
(c)	Engine Cooling System (including radiator, piping, water circulating pumps) (*)				
(d)	Fuel system (*)				
(e)	Starting system (Battery Starting / Air Starting) (*)				
(f)	Engine Control Panel				

Date: _____ Place: _____

[Signature of Authorized Signatory]*
Name: _____
Designation: _____
Seal: _____

*: To be authenticated in-line with provisions indicated in the Commercial section.
Template No. 5-0000-0001-T3 Rev. 2

[To be submitted in original, along with bid]

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Sr. No.	Parameter	Information on Offered Model	Information on Operating Installation		
			1	2	3
(g)	DG set acoustic enclosure				
	<i>(Note: (*) excluding engine mounted equipments and accessories supplied by engine manufacturer)</i>				
(7)	Skid size (L x W x H) m / Skid Gross weight (Engine + Alternator + Common Skid/Baseplate), kgs				
(8)	Date of Supply				
(9)	Date of commissioning				
(10)	No. of operating hours completed as on the date of issue of inquiry				
(11)	Major problems encountered, if any				
(12)	Name of Plant				
(13)	Purchaser's Name and Address along with details of contact person, telephone / fax number & e-mail ID				

Date: _____ Place: _____

[Signature of Authorized Signatory]*
Name: _____
Designation: _____
Seal: _____

*: To be authenticated in-line with provisions indicated in the Commercial section.
Template No. 5-0000-0001-T3 Rev. 2

[To be submitted in original, along with bid]

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EXPERIENCE RECORD PROFORMA
DIESEL ENGINE
ITEM NO.: _____

Document No.
B016-606-80-43-ERP-7821
REV. A
Page 1 of 2

NOTES TO BIDDERS:

1. Prototype Diesel Engine model/ model series shall not be considered.
2. It is mandatory that all references furnished for Diesel Engine model/ model series should have similar operating parameters & fuels.

DESCRIPTION OF MODEL DESIGNATION: _____

SL. NO.	PARAMETER	INFORMATION ON PROPOSED MODEL	INFORMATION ON REFERRED EXISTING INSTALLATIONS			REMARKS
			Ref.- 1	Ref.-2	Ref.-3	
1.	2.	3.	4.	5.	6.	7.
1.0	GENERAL					
1.1	Make					
1.2	Model					
1.3	No. of units supplied					
1.4	Driven Equipment					
1.5	Type of Drive Arrangement (Direct/Gear Box/Other)					
1.6	Type of Driven Equipment					
1.7	Shop where engine is designed, manufactured & tested with location and complete address					
2	OPERATING CONDITIONS					
2.1	Fuel used					
2.2	Rated Engine Power at Std oper. conditions as per ISO 3046/BS 5514 (ISO Std. Power), KW					
2.3	Rated Engine Power at Site conditions (Service Std. Power), KW					
2.4	Engine rpm					
2.5	BMEP at standard conditions (ISO/BS)/at rated conditions, kg/cm ² g					

Place:
Date:

[Signature of Authorized Signatory]*

Name:
Designation:
Seal:

*: To be authenticated in-line with provisions indicated in the Commercial section.
Format No 1645-ERP-403 Rev.1

[To be submitted in original, along with bid]

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EXPERIENCE RECORD PROFORMA
DIESEL ENGINE
ITEM NO.: _____

Document No.
B016-606-80-43-ERP-7821
REV. A
Page 2 of 2

SL. NO.	PARAMETER	INFORMATION ON PROPOSED MODEL	INFORMATION ON REFERRED EXISTING INSTALLATIONS			REMARKS
			Ref.- 1	Ref.-2	Ref.-3	
1.	2.	3.	4.	5.	6.	7.
3	CONSTRUCTION					
3.1	No. of Cylinders/Cylinder Arrangement					
3.2	Bore x Stroke, mm.					
3.3	Charging type					
3.4	Engine Cooling (Air, Cooled/Water Cooled)					
3.5	Engine frame provided with explosion relief device : Yes/No/Not recommended by vendor					
4	OTHER INFORMATION ON INSTALLATIONS					
4.1	Date of supply of entire unit					
4.2	Date of commissioning of entire unit					
4.3	No. of operating hours completed as on the date of issue of material requisition					
4.4	Major Problems encountered					
4.5	Purchaser's Name and Address along with details of contact person, telephone / fax number & e-mail ID					

Place:
Date:

[Signature of Authorized Signatory]*

Name:
Designation:
Seal:

*: To be authenticated in-line with provisions indicated in the Commercial section.
Format No 1645-ERP-403 Rev.1

[To be submitted in original, along with bid]

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STANDARD SPECIFICATIONS (EQUIPMENT DIVISION)

CAPTIVE POWER PLANT PACKAGE

TENDER No. B016-606-02-43-PG-T-7810

PROJECT	:	VISAKH REFINERY MODERNISATION PROJECT
UNIT No.	:	606
OWNER	:	M/s HPCL , VISAKHAPATNAM
LOCATION	:	VISAKHAPATNAM, INDIA
PMC	:	M/s ENGINEERS INDIA LIMITED
EIL JOB No.	:	B016

A	22/05/2017	ISSUED AS TENDER INPUT	AK/PR/RK	PB	SM
Rev. No.	Date	Purpose	Prepared by	Checked by	Approved by

ESP-001- 2A Rev.00		PROJECT ENGINEERING & SYSTEMS DIVISION			Std. / Doc. Number
					Annexure-8
					Rev. No. 00

Annexure-8 SUB VENDOR LIST	COPYRIGHT AND CONFIDENTIAL The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED, It must not be used directly or indirectly in any way detrimental to the interest of the company.
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Revisions: Refer to record of revisions	Prepared by :	Checked by :	Approved by :	Date :
	Rajeev Jain	Girish Prasad Palo	Siva Prasad Babu	09.06.2018

ANNEXURE-8A.SUB VENDOR LIST FOR MECHANICAL ITEMS		
Sl. No.	Description	Approved Vendors
1	Diesel Engine	GREAVES COTTON LTD. KIRLOSKAR OIL ENGINES LTD WARTSILA INDIA LTD CUMMINS INDIA CATER PILLAR INDIA
2	DG SET	BHEL(BHOPAL) GREAVES COTTON LTD. KIRLOSKAR OIL ENGINES LTD POWERICA LTD. SIEMENS AG STERLING GENERATORS PVT. LTD. WARTSILA INDIA LTD
4	Motor (HV-Rating More than 160 Kw & Above)	BHEL,Bhopal
5	Motor (MV)	ABB INDIA LTD (BANGALORE) ABB INDIA LTD-FARIDABAD BHARAT BIJLEE LIMITED CROMPTON GREAVES LTD. KIRLOSKAR ELECTRIC CO LTD MARATHON ELECTRIC MOTOR I LTD-FORM A350 SIEMENS LIMITED
6	Screw Compressor	AERZENER MASCHINENFABRIK GMBH ATLAS COPCO AIRPOWER N.V (BELGIUM) ELGI EQUIPMENTS LTD. HOWDEN PROCESS COMPRESSORS INGERSOLL-RAND (INDIA) LTD. KOBE STEEL LTD MAN TURBOMASCHINEN AG ATLAS COPCO (I) LTD (PUNE)
7	Reciprocating Compressor	ANDREAS HOFER HOCHDRUCKTECHNIK GMBH BURCKHARDT COMPRESSION AG Burckhardt Compression (India) Pvt.Ltd. DRESSER RAND COMPANY DRESSER RAND INDIA PVT LTD INGERSOLL-RAND (INDIA) LTD. KIRLOSKAR PNEUMATIC CO LTD- (PUNE) KOBE STEEL LTD LEOBERSDORFER MASCHINENFABRIK AG (LMF) NEUMAN & ESSER USA INC
8	PUMP-CENT.HOR(GWS)	BEACON WEIR LIMITED CLYDE UNION LIMITED (FRMLY T722 & W518) DMW CORPORATION EBARA CORPORATION (JAPAN) FLOWERVE CORPORATION (FORMERLY I571) FLOWERVE INDIA CONTROLS PVT LTD FLOWERVE(THOMPSONS KELLY&LEWIS PTY LTD) GOULDS PUMPS INC ITT CORPORATION INDIA PVT LTD KIRLOSKAR BROTHERS LTD KSB PUMPS LTD (POONA) RUHRPUMPEN GMBH(FORMERLY THYSENT509) SULZER PUMPS (US) INC SULZER PUMPS INDIA LIMITED WILO MATHER AND PLATT PUMPS PVT. LTD. WPIL LTD

		EBARA INDIA
9	Pump-Rotary(Screw)	ALEKTON ENGG INDUSTRIES PVT. LTD
		FLOWSERVE CORPORATION (FORMERLY I571)
		NETZSCH TECHNOLOGIES INDIA PVT.LTD
		PLENTY MIRRLESS PUMPS
		POMPE VERGANI SPA
		ROBBINS & MYERS INC.
		SEEPLEX GMBH
		TUSHACO PUMPS PVT. LTD
		UT PUMPS & SYSTEMS PVT. LTD. (BORNEMAN)
		WARREN PUMPS INC
		IMO INDUSTRIES INC (USA)
10	Pump-Rotary(Gear)	DEL PD PUMPS & GEARS PVT. LTD.
		FLOWSERVE CORPORATION (FORMERLY I571)
		MAAG PUMPS SYSTEMS AG
		SHIMADZU CORPORATION
		TUSHACO PUMPS PVT. LTD
		VIKING PUMP INC
		WITTE PUMPS & TECHNOLOGY GMBH
11	Positive Displacement Pump(Recip.-API 674)	DAWSON DOWNIE LAMONT LTD
		DMW CORPORATION
		FLOWSERVE CORPORATION (FORMERLY I571)
		NIKKISO CO LTD (NIKKISO K.K.)
		PERONI POMPE SPA (FORMARLY F.PERONI)
		WEIR MINERALS NETHERLANDS BV(FMLY E620)
12	Heater/Cooler	AERO ENGINEERS
		ANUP ENGINEERING LIMITED (THE)
		BHEL (HYDERABAD)
		BHEL (TRICHY)
		BHEL(BHOPAL)
		BHEL-HEAVY PLATE & VESSELS PLANT
		BREMBANA & ROLLE S.R.L
		BTL EPC LIMITED
		BUILDWORTH LIMITED
		CICB-CHEMICON PVT.LTD.
		COPERION IDEAL PVT. LTD.
		DAEBONG ACROTEC CO.LTD
		DAEKYUNG MACHINERY & ENGINEERING CO.LTD
		DKT CO. LTD (FORMLY DAEKYUNG TECHNOS)
		DOOSAN ENGINEERING & CONSTN.CO.LTD
		ESSAR HEAVY ENGG SERVICES(UNIT OF EPIL)
		EXPO GAS CONTAINERS LTD.
		FABTECH PROJECTS & ENGINEERS LTD.,
		FBM HUDSON ITALIANA S.P.A.
		GEECY ENGINEERING PVT LTD
		GMM PFAUDLER LTD
		GODREJ & BOYCE MFG. CO. LTD.
		GR ENGINEERNG PRIVATE LTD (TARAPORE)
		HANTECH LIMITED
		INDCON PROJECTS & EQUIPMENTS LTD
		INDUS PROJECTS LIMITED
		INDUSTRIAL MANUFACTURERS
		ISGEC HEAVY ENGINEERING LTD
		ISGEC HITACHI ZOSEN LTD
		LARSEN & TOUBRO LTD
		LLOYDS STEELS INDUSTRIES LTD.
		MULTIMAX ENGINEERING WORKS PVT LTD
		NEW FIELD INDUSTRIAL EQUIPMENT PVT LTD
		NEWTON ENGG & CHEMICALS LTD
		OFMECO SPA

		ORIENTAL ENTERPRISE PVT. LTD
		PATELS AIRTEMP (INDIA) LTD
		PHILS HEAVY ENGINEERING PVT LIMITED
		PRABHA STEEL INDUSTRIES
		PRECISION EQUIPMENTS (CHENNAI) PVT. LTD.
		R. D. ENGINEERS (INDIA) PVT. LTD
		RADIANT HEAT EXCHANGER PVT.LTD.
		RAJ ENGINEERING COMPANY
		RELIANCE FABRICATIONS PVT LTD
		TECHNO PROCESS EQUIPMENTS (INDIA) PV LTD
		TEMASME VESELEX INDIA (P) LTD
		TITANIUM EQUIPMENT AND ANODE MFG.CO.LTD
13	Heat Exchanger(ROD/Plate & Heat Exchanger)	DOOSAN ENGINEERING & CONSTN.CO.LTD
		MWL APPARATEBAU GMBH
14	Air Fin Cooler(SS/CS)	AKSHAR PRECISION TUBES PVT LIMITED
		BATIGNOLLES TECHNOLOGIES THERMIQUES BTT
		BATIGNOLLES THERMAL TECH CHANGSHU CO LTD
		BGR ENERGY SYSTEMS LIMITED(FORMRLY G120)
		BHEL (HYDERABAD)
		BHEL-HEAVY PLATE & VESSELS PLANT
		BOLDROCCHI SRL
		ENGINEMATES HEAT TRANSFER PVT LTD
		FBM HUDSON ITALIANA S.P.A.
		JORD INTERNATIONAL PTY LTD.- AUSTRALIA
		LARSEN & TOUBRO LTD
		PAHARPUR COOLING TOWERS LTD.
		PATELS AIRTEMP (INDIA) LTD
		S&T CORPORATION
15	Electric Heater	CHEMTEC PTE LTD
		ESCORTS LIMITED
		ETIREX CHROMALOX
		F.A.T.I . SRL
		SANDVIK ASIA PVT LTD-KANTHAL DIVISION
16	SILENCER	ACOUSTICS INDIA PVT LTD
		BBM ACOUSTIC INDIA PVT LTD
		GRAND PRIX ENGINEERING PVT LTD.
		INDIRA INDUSTRIES
		PR ACOUSTICAL & ENGINEERING WORKS(P)LTD
		PR ACOUSTICAL & ENGINEERING WORKS(P)LTD
17	AIR PRE-HEATER (CAST)	BY CAST N.V
		KAMAL ENGINEERING CORPORATION
18	EXPANSION JOINT-(FABRIC)	EAGLEBURGMANN KE PVT LTD
		KELD ELLENTOFT INDIA PVT LTD
		RM APPLIED ENGINEERS
		URJA PRODUCTS PVT. LTD.
19	EXPANSION JOINTS (RUBBER)	CORI ENGINEERS PVT LTD
		MACOGA,S.A.
		MIL INDUSTRIES LIMITED
		RM APPLIED ENGINEERS
		SRM EXOFLEX PVT. LTD.
20	STRAINERS (FAB/CAST/FORGED)	BOMBAY CHEMICAL EQUIPMENTS
		ESCO STEAMCON PVT. LTD.
		FORBES MARSHALL STEAM SYSTEMS PVT. LTD.
		GRAND PRIX ENGINEERING PVT LTD.
		GUJARAT OTOFILT
		LEADER VALVES LTD
		MULTITEX FILTRATION ENGINEERS LTD.
		PENNANT ENGINEERING PVT LTD

		SUNGOV ENGINEERING PVT LTD
		VERMEER PROCESS TECHNOLOGY B.V
21	Air Filter Regulators	DIVYA CONTROL ELEMENTS PVT LTD
		JANATICS INDIA PVT LTD
		MARSH BELLOFRAM
		PLACKA INSTRUMENTS INDIA P LTD
		SCHRADER DUNCAN LIMITED
		SHAH PNEUMATICS
		SHAVO NORGREN (I) PVT LTD
		THOMPSON VALVES LTD
		VELJAN HYDRAIR PVT LTD
		FESTO
		FISHER
		SMC INDIA
22	SOLENOID VALVES	ALCON ALEXANDER CONTROLS LIMITED
		ASCO JOUCOMATIC LTD
		ASCO JOUCOMATIC SA
		ASCO NUMATICS (INDIA) P. LIMITED
		AVCON CONTROLS PVT. LTD.
		HERION WERKE
		PRECISION INSTRUMENT COMPANY
		ROTEX AUTOMATION LTD.
		SCHRADER DUNCAN LIMITED
		THOMPSON VALVES LTD
		VERSA BV
23	Control valves	ARCA REGLER GMBH
		AST APPARECCHI DI SICUREZZA E TENUTA SPA
		CCI VALVE TECHNOLOGY GMBH
		DRESSER PRODUITS INDUSTRIELS
		DRESSER VALVE INDIA PVT LTD
		EMERSON PROCESS MANGMNT CHENNAI PVT. LTD
		FLOWSERVE INDIA CONTROL PVT LTDBANGALOR
		FLOWSERVE PTE LTD
		FORBES MARSHALL ARCA P LTD.(FORMRLY A214
		ITALVALV S.N.C
		KENT INTROL UK LTD (FORM. A-718)
		KOSO INDIA PVT LTD (FORM.K176)
		METSO FLOW CONTROL OY
		MIL CONTROLS LIMITED
		MOTOYAMA ENGG WORKS LTD
		SAMSON AG MESS-UND REGELTECHNIK
		SAMSON CONTROLS PVT LTD
		SEVERN GLOCON LTD
		SEVERN GLOCON INDIA PVT LTD
		SPX VALVES & CONTROLS (FORMERLY DEZURIK)
		WEIR VALVES & CONTROLS UK LTD
24	Pressure Relief Valve	ANDERSON GREENWOOD CROSBY
		AST APPARECCHI DI SICUREZZA E TENUTA SPA
		BHEL (TRICHY)
		BLISS ANAND PVT LTD
		CURTISS WRIGHT FLOW CONTROL CORPORATION
		DRESSER INC.
		FAINGER LESER VALVES (P) LTD.
		INSTRUMENTATION LTD. (PALGHAT)
		LESER GMBH & CO. KG
		NAKAKITA SEISAKUSHO CO LTD
		PENTAIR SANMAR LTD.
		WEIR BDK VALVES-A UNIT OF WEIR INDIA PVT
25	On/Off Valve	CAMERON ITALY SRL (FORM. D659)

	EL-O-MATIC INDIA (PVT) LTD.
	FLOWSERVE INDIA CONTROLS PVT. LTD.
	FLOWSERVE PTE LTD
	ITALVALV S.N.C
	KITAMURA VALVE MANUFACTURING CO LTD
	KITZ CORPORATION OF EUROPE S.A.
	KOSO INDIA PVT. LIMITED
	L & T VALVES LIMITED
	METSO FLOW CONTROL OY
	MICROFINISH VALVES PVT LIMITED
	MOTOYAMA ENGG WORKS LTD
	PENTAIR VALVES & CONTROLS INDIA PVT LTD
	PERRIN GMBH
	PIBIVIESSE S. R. L.
	ROTEX MANUFACTURERS & ENGINEERS P LTD.
	SAMSON AG MESS-UND REGELTECHNIK
	SPX VALVES & CONTROLS (FORMERLY DEZURIK)
	TYCO VALVES & CONTROLS
	VIRGO VALVES & CONTROLS PVT LTD.
	WEIR BDK VALVES-A UNIT OF WEIR INDIA PVT
	WEIR VALVES & CONTROLS UK LTD
26	Self Actuated Flow Control Valve EMERSON PROCESS MANGMNT CHENNAI PVT. LTD

TD-201 Rev No. 00 Form No.	 	PRODUCT STANDARD PROJECT ENGINEERING & SYSTEMS DIVISION, HYDERABAD	ANNEXURE-05 to PY55294
			Rev No. 00
			Page 2 of 3

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Sub vendors for the DG package (Electricals) components shall be as per the following list:

SN	Component	Make
1)	HT Switchgear Breaker panel	ABB INDIA LTD (NASIK)/ SCHNEIDER ELECTRIC INFRA. LTD(FORM A347)/ SIEMENS LIMITED/L&T Ltd Ahmednagar- Current 3150A Voltage-12 KV, Fault 40 KA, Mfg at Ahmednagar, with VCB model VK from M/s L&T Tamco Malaysia
2)	Relay & control panel	ABB INDIA LTD (BANGALORE)/ ALSTOM T & D INDIA LTD (FORMLY A347)/GE INDIA INDUSTRIAL PVT LTD/ SIEMENS LIMITED/ Schneider Electrical India Pvt Ltd.
3)	MCC	LARSEN & TOUBRO LTD-AHMEDNAGAR/LARSEN & TOUBRO LTD-COIMBATORE/ LARSEN & TOUBRO LTD-POWAI / SCHNEIDER ELECTRIC INDIA PVT LTD.-BARODA/ SIEMENS LIMITED (Note: U POWER BREAKER & DC CONTACTORS MM00 OF L&T not acceptable)
4)	Numerical Relay	ABB/ALSTOMT&D/GE/SIEMENS/SCHNEIDER
5)	Instrument Transformers CT & PT	ABB/KAPPA ELECTRICALS/PRAGATI ELECTRICALS LIMITED/SCHNEIDER/AUTOMATIC ELECTRIC LTD/ELECTRICAL CONTROL & SYSTEMS.
6)	Control Switches / Selector switches	ALSTOM T&D / KAYCEE INDUSTRIES LTD. / LARSEN AND TOUBRO LTD-AHMEDNAGAR/ RELIABLE ELECTRONIC COMPONENTS PVT LTD. / SIEMENS LIMITED/SWITRON DEVICES
7)	Auxillary Relays	ABB/ ALSTOM T&D/ SCHNEIDER/OMRAN/OEN
8)	MCB	Schneider/ ABB / HAVELLS INDIA LTD/ LEGRAND (INDIA) PVT. LTD / SIEMENS LIMITED/L&T
9)	Meters	AUTOMATIC ELECTRIC LTD/ MECO INSTRUMENTS PVT LTD/ NIPPEN ELECTRICAL INSTRUMENTS CO./ RISHABH INSTRUMENTS PVT LTD/ Schneider
10)	PUSH BUTTON AND INDICATING LAMPS	ESSEN DEINKI/ LARSEN & TOUBRO LTD-POWAI/ SCHNEIDER ELECTRIC INDIA P LTD/ SIEMENS LIMITED/ TEKNIC ELECTRIC (I) PVT. LTD.
11)	Timers	LARSEN & TOUBRO LTD-AHMEDNAGAR / SIEMENS LIMITED/ Schneider Electrical India Pvt Ltd./ Legrand India Pvt Ltd
12)	Terminal block	WAGO / PHOENIX / SCHNEIDER-TELEMECHANIQUE/ CONNECTWELL / ELMEX
13)	LED LAMP (Panel mounted indication lamp only)	BINAY / SCHREIDER-TELEMECHANIQUE / GE INDIA / BCH

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COPYRIGHT AND CONFIDENTIAL The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED, It must not be used directly or indirectly in any way detrimental to the interest of the company.	<table border="1"> <tr> <td>14)</td> <td>Cable glands</td> <td>ELECTROMAC INDUSTRIES/ FCG FLAMEPROOF CONTROL GEARS/ FLAMEPROOF EQUIPMENTS PVT.LTD./ PROMPT ENGINEERING WORKS/ FCG POWER INDUSTRIES/ FLEXPOR ELECTRICALS PVT. LTD./ UNITED AGRO ENGINEERING PVT. LTD.</td> </tr> <tr> <td>15)</td> <td>Cable lugs</td> <td>AUTOMIC ELECTRIC/ CHETNA ENGINEERING CO./ ELECTROMAC INDUSTRIES/ FORWARD ENGINEERING INDUSTRIES</td> </tr> </table>	14)	Cable glands	ELECTROMAC INDUSTRIES/ FCG FLAMEPROOF CONTROL GEARS/ FLAMEPROOF EQUIPMENTS PVT.LTD./ PROMPT ENGINEERING WORKS/ FCG POWER INDUSTRIES/ FLEXPOR ELECTRICALS PVT. LTD./ UNITED AGRO ENGINEERING PVT. LTD.	15)	Cable lugs	AUTOMIC ELECTRIC/ CHETNA ENGINEERING CO./ ELECTROMAC INDUSTRIES/ FORWARD ENGINEERING INDUSTRIES
	14)	Cable glands	ELECTROMAC INDUSTRIES/ FCG FLAMEPROOF CONTROL GEARS/ FLAMEPROOF EQUIPMENTS PVT.LTD./ PROMPT ENGINEERING WORKS/ FCG POWER INDUSTRIES/ FLEXPOR ELECTRICALS PVT. LTD./ UNITED AGRO ENGINEERING PVT. LTD.				
	15)	Cable lugs	AUTOMIC ELECTRIC/ CHETNA ENGINEERING CO./ ELECTROMAC INDUSTRIES/ FORWARD ENGINEERING INDUSTRIES				
NOTES: - Vendor shall strictly follow the list of makes for equipments as specified above. - For components other than the above, vendor list shall be as followed in standard EIL projects subject to approval of BHEL/EIL/HPCL during detailed engineering. Also vendor shall submit past track record for proposed sub vendors and obtain the written approval from BHEL. - BHEL reserves the right to choose any particular make from the above list for Protection relays during order execution for overall system integration.							

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
Mechanical		
I	Piping & Layout	
1	CS Pipes (SMLS) <= 4"	HEAVY METALS & TUBES
		ISMT LTD-AHMEDNGR
		ISMT LTD-BARAMATI
		JIANGSU CHENGDE STEEL TUBE SHARE CO. LTD
		JINDAL SAW LTD (NASHIK WORKS)
		JR SEAMLESS PVT.LTD
		LAL BABA SEAMLESS TUBES PVT. LTD
		MAHARASHTRA SEAMLESS LTD.
		MAHARASHTRA SEAMLESS LTD.
		Patels Airflow Ltd.
		TUBOS REUNIDOS SA
		YANGZHOU LONTRIN STEEL TUBE CO.,LTD.
		ZHEJIANG GROSS SEAMLESS STEEL TUBE COLTD
		EVERGREEN SEAMLESS PIPES & TUBES PVT. LTD
		ANAND SEAMLESS TUBES PVT. LTD
		ARCELORMITTAL TUBULAR PRODUCTS ROMAN SA
		AVON TUBETECH PVT LTD
		BAOSTEEL GROUP CORPORATION
		BHEL (TRICHY)
		CHANGSHU SEAMLESS STEEL TUBE CO. LTD
		HENGYANG STEEL TUBE GROUP INTL. TDNG INC
		JFE STEEL CORPORATION
		KASCO
		MAHALAXMI SEAMLESS LIMITED
		NIPPON STEEL AND SUMITOMO METAL
		PANGANG GROUP CHENGDU STEEL & VANADIUM C
		PRODUCTOS TUBULARES S.A.U.
		RATNADEEP METAL TUBES LTD.
		SAINEST TUBES PVT LTD
		SN TUBES PRIVATE LIMITED
		VALCOVNY TRUB CHOMUTOV
		VALLOUREC TUBES FRANCE
		WYMAN GORDON FORGINGS
		YANGZHOU CHENGDE STEEL PIPE CO LTD
		HUBEI XINYESANG STEEL CO. LTD
		AMERICAN PIPING PRODUCTS INC
		ARROW PIPES & FITTINGS FZCO
		BARTHEL KESSELROHRE BOILERTUBES GMBH
		BUHLMANN ROHR-FITTINGS-STAHLMANDEL, GMBH
		COMMERCIALE TUBI ACCIAIO SPA
		EDGEN MURRAY FZE
		GERAB NATIONAL ENTERPRISE L.L.C
		HART BV
		HORST KURVERS GMBH
		IGAWARA INDL. SERVICES & TRADING PTE LTD
		INTERNATIONAL INDUSTRIAL EQPT FZCO.
		KIRTANLAL INTERNATIONAL DMCC
		MARDALE PIPES PLUS LIMITED

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
		MEZON STAINLESS STEEL FZE
		OFFSHORE ENGINEERING & MARKETING LTD
		PETROGAS PIPING MIDDLE EAST FZCO

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
		Peeraj General Trading CO (LLC)
		SIDECO SPA
		TECHNICAL PARTS ESTABLISHMENT
		VAN LEEUWEN BUIZEN
		SHIB DASS AND SONS PRIVATE LIMITED
2	CS Pipes (SMLS) 5" & 6"	HEAVY METALS & TUBES
		ISMT LTD-AHMEDNGR
		ISMT LTD-BARAMATI
		JIANGSU CHENGDE STEEL TUBE SHARE CO. LTD
		JINDAL SAW LTD (NASHIK WORKS)
		LAL BABA SEAMLESS TUBES PVT. LTD
		MAHARASHTRA SEAMLESS LTD.
		MAHARASHTRA SEAMLESS LTD.
		TUBOS REUNIDOS SA
		YANGZHOU LONTRIN STEEL TUBE CO.,LTD.
		ZHEJIANG GROSS SEAMLESS STEEL TUBE COLTD
		EVERGREEN SEAMLESS PIPES & TUBES PVT. LTD
		ANAND SEAMLESS TUBES PVT. LTD
		ARCELORMITTAL TUBULAR PRODUCTS ROMAN SA
		AVON TUBETECH PVT LTD
		BAOSTEEL GROUP CORPORATION
		BHEL (TRICHY)
		CHANGSHU SEAMLESS STEEL TUBE CO. LTD
		HENGYANG STEEL TUBE GROUP INTL. TDNG INC
		JFE STEEL CORPORATION
		JR SEAMLESS PVT.LTD
		KASCO
		MAHALAXMI SEAMLESS LIMITED
		NIPPON STEEL AND SUMITOMO METAL
		PANGANG GROUP CHENGDU STEEL & VANADIUM C
		Patels Airflow Ltd.
		PRODUCTOS TUBULARES S.A.U.
		RATNADEEP METAL TUBES LTD.
		SAINEST TUBES PVT LTD
		SN TUBES PRIVATE LIMITED
		VALCOVNY TRUB CHOMUTOV
		VALLOUREC TUBES FRANCE
		WYMAN GORDON FORGINGS
		YANGZHOU CHENGDE STEEL PIPE CO LTD
		HUBEI XINYEGANG STEEL CO. LTD
		AMERICAN PIPING PRODUCTS INC
		ARROW PIPES & FITTINGS FZCO
		BARTHEL KESSELROHRE BOILERTUBES GMBH
		BUHLMANN ROHR-FITTINGS-STAHLMANDEL, GMBH
		COMMERCIALE TUBI ACCIAIO SPA
		EDGEN MURRAY FZE
		GERAB NATIONAL ENTERPRISE L.L.C
		HART BV
		HORST KURVERS GMBH
		IGAWARA INDL. SERVICES & TRADING PTE LTD

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
		INTERNATIONAL INDUSTRIAL EQPT FZCO.
		KIRTANLAL INTERNATIONAL DMCC
		MARDALE PIPES PLUS LIMITED
		MEZON STAINLESS STEEL FZE
		OFFSHORE ENGINEERING & MARKETING LTD
		PETROGAS PIPING MIDDLE EAST FZCO
		Peeraj General Trading CO (LLC)
		SIDECO SPA
		TECHNICAL PARTS ESTABLISHMENT
		VAN LEEUWEN BUIZEN
		SHIB DASS AND SONS PRIVATE LIMITED
3	CS Pipes (SMLS) 8" & 10"	HEAVY METALS & TUBES
		ISMT LTD-AHMEDNGR
		ISMT LTD-BARAMATI
		JIANGSU CHENGDE STEEL TUBE SHARE CO. LTD
		JINDAL SAW LTD (NASHIK WORKS)
		LAL BABA SEAMLESS TUBES PVT. LTD
		MAHARASHTRA SEAMLESS LTD.
		MAHARASHTRA SEAMLESS LTD.
		PRODUCTOS TUBULARES S.A.U.
		TUBOS REUNIDOS SA
		YANGZHOU LONTRIN STEEL TUBE CO.,LTD.
		YANGZHOU CHENGDE STEEL PIPE CO LTD
		ZHEJIANG GROSS SEAMLESS STEEL TUBE COLTD
		EVERGREEN SEAMLESS PIPES & TUBES PVT. LTD
		ANAND SEAMLESS TUBES PVT. LTD
		ARCELORMITTAL TUBULAR PRODUCTS ROMAN SA
		AVON TUBETECH PVT LTD
		BAOSTEEL GROUP CORPORATION
		BHEL (TRICHY)
		CHANGSHU SEAMLESS STEEL TUBE CO. LTD
		HENGYANG STEEL TUBE GROUP INTL. TDNG INC
		JFE STEEL CORPORATION
		JR SEAMLESS PVT.LTD
		KASCO
		MAHALAXMI SEAMLESS LIMITED
		NIPPON STEEL AND SUMITOMO METAL
		PANGANG GROUP CHENGDU STEEL & VANADIUM C
		Patels Airflow Ltd.
		RATNADEEP METAL TUBES LTD.
		SAINEST TUBES PVT LTD
		SN TUBES PRIVATE LIMITED
		VALCOVNY TRUB CHOMUTOV
		VALLOUREC TUBES FRANCE
		WYMAN GORDON FORGINGS
		HUBEI XINYEGANG STEEL CO. LTD
		AMERICAN PIPING PRODUCTS INC
		ARROW PIPES & FITTINGS FZCO
		BARTHEL KESSELROHRE BOILERTUBES GMBH
		BUHLMANN ROHR-FITTINGS-STAHLANDELE, GMBH

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
		COMMERCIALE TUBI ACCIAIO SPA
		EDGEN MURRAY FZE
		GERAB NATIONAL ENTERPRISE L.L.C
		HART BV
		HORST KURVERS GMBH
		IGAWARA INDL. SERVICES & TRADING PTE LTD

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
		INTERNATIONAL INDUSTRIAL EQPT FZCO.
		KIRTANLAL INTERNATIONAL DMCC
		MARDALE PIPES PLUS LIMITED
		MEZON STAINLESS STEEL FZE
		OFFSHORE ENGINEERING & MARKETING LTD
		PETROGAS PIPING MIDDLE EAST FZCO
		Peeraj General Trading CO (LLC)
		SIDECO SPA
		TECHNICAL PARTS ESTABLISHMENT
		VAN LEEUWEN BUIZEN
		SHIB DASS AND SONS PRIVATE LIMITED
4	CS Pipes (SMLS) 12" & 14"	JIANGSU CHENGDE STEEL TUBE SHARE CO. LTD
		MAHARASHTRA SEAMLESS LTD.
		MAHARASHTRA SEAMLESS LTD.
		PRODUCTOS TUBULARES S.A.U.
		YANGZHOU LONTRIN STEEL TUBE CO.,LTD.
		YANGZHOU CHENGDE STEEL PIPE CO LTD
		ZHEJIANG GROSS SEAMLESS STEEL TUBE COLTD
		EVERGREEN SEAMLESS PIPES & TUBES PVT. LTD
		TUBOS REUNIDOS SA
		ANAND SEAMLESS TUBES PVT. LTD
		ARCELORMITTAL TUBULAR PRODUCTS ROMAN SA
		AVON TUBETECH PVT LTD
		BAOSTEEL GROUP CORPORATION
		BHEL (TRICHY)
		CHANGSHU SEAMLESS STEEL TUBE CO. LTD
		HEAVY METALS & TUBES
		HENGYANG STEEL TUBE GROUP INTL. TDNG INC
		ISMT LTD-AHMEDNGR
		ISMT LTD-BARAMATI
		JFE STEEL CORPORATION
		JINDAL SAW LTD (NASHIK WORKS)
		JR SEAMLESS PVT.LTD
		KASCO
		LAL BABA SEAMLESS TUBES PVT. LTD
		MAHALAXMI SEAMLESS LIMITED
		NIPPON STEEL AND SUMITOMO METAL
		PANGANG GROUP CHENGDU STEEL & VANADIUM C
		Patels Airflow Ltd.
		RATNADEEP METAL TUBES LTD.
		SAINEST TUBES PVT LTD
		SN TUBES PRIVATE LIMITED
		VALCOVNY TRUB CHOMUTOV
		VALLOUREC TUBES FRANCE
		WYMAN GORDON FORGINGS
		HUBEI XINYEGANG STEEL CO. LTD
		AMERICAN PIPING PRODUCTS INC
		ARROW PIPES & FITTINGS FZCO
		BARTHEL KESSELROHRE BOILERTUBES GMBH
		BUHLMANN ROHR-FITTINGS-STAHLANDEL, GMBH

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
		COMMERCIALE TUBI ACCIAIO SPA
		EDGEN MURRAY FZE
		GERAB NATIONAL ENTERPRISE L.L.C
		HART BV
		HORST KURVERS GMBH
		IGAWARA INDL. SERVICES & TRADING PTE LTD
		INTERNATIONAL INDUSTRIAL EQPT FZCO.
		KIRTANLAL INTERNATIONAL DMCC
		MARDALE PIPES PLUS LIMITED
		MEZON STAINLESS STEEL FZE
		OFFSHORE ENGINEERING & MARKETING LTD
		PETROGAS PIPING MIDDLE EAST FZCO
		Peeraj General Trading CO (LLC)
		SIDECO SPA
		TECHNICAL PARTS ESTABLISHMENT
		VAN LEEUWEN BUIZEN
		SHIB DASS AND SONS PRIVATE LIMITED
5	MS Pipes (Welded) > 14"	RATNAMANI METALS AND TUBES LTD
		JCO GAS PIPE LIMITED
		EVERGREEN SEAMLESS PIPES & TUBES PVT. LTD
		A.S.T. PIPES PVT. LTD.(AST GROUP)
		ASIAN MILLS PVT LTD
		ASIAN TUBES LTD.
		ASRANI TUBES LIMITED
		DADU PIPES (P) LTD
		ESSAR STEEL INDIA LIMITED
		GOODLUCK STEEL TUBES LTD
		INDUS TUBE LIMITED
		JINDAL (INDIA) LIMITED
		JINDAL INDUSTRIES LTD
		JINDAL PIPES LTD
		JINDAL SAW LTD (KOSI WORKS)
		LAL BABA SEAMLESS TUBES PVT. LTD
		MAHARASHTRA SEAMLESS LTD.
		MAN INDUSTRIES (INDIA) LTD
		NEZONE TUBES LIMITED
		NORTH EASTERN TUBES LIMITED
		P S STEEL TUBES LTD
		PRATIBHA INDUSTRIES LIMITED
		RAMA STEEL TUBES LTD.
		RAVINDRA TUBES LIMITED
		SAMSHI PIPE INDUSTRIES LIMITED
		SURYA ROSHNI LTD
		SWASTIK PIPES LTD
		UTKARSH TUBES & PIPES LTD (FORMLY. BMW)
		WELSPUN CORP LIMITED (ANJAR)
		WELSPUN CORP LIMITED (DAHEJ)
		ZENITH BIRLA (INDIA) LIMITED
		AMERICAN PIPING PRODUCTS INC
		ARROW PIPES & FITTINGS FZCO

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
		BARTHEL KESSELROHRE BOILERTUBES GMBH
		BUHLMANN ROHR-FITTINGS-STAHLSHANDEL, GMBH
		COMMERCIALE TUBI ACCIAIO SPA
		EDGEN MURRAY FZE
		GERAB NATIONAL ENTERPRISE L.L.C
		HART BV

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
		HORST KURVERS GMBH
		IGAWARA INDL. SERVICES & TRADING PTE LTD
		INTERNATIONAL INDUSTRIAL EQPT FZCO.
		KIRTANLAL INTERNATIONAL DMCC
		MARDALE PIPES PLUS LIMITED
		MEZON STAINLESS STEEL FZE
		OFFSHORE ENGINEERING & MARKETING LTD
		PETROGAS PIPING MIDDLE EAST FZCO
		Peeraj General Trading CO (LLC)
		SIDECO SPA
		TECHNICAL PARTS ESTABLISHMENT
		VAN LEEUWEN BUIZEN
		VALLOUREC TUBES FRANCE
		SHIB DASS AND SONS PRIVATE LIMITED
6	CS Pipes (Welded) > 14"	RATNAMANI METALS AND TUBES LTD
		EVERGREEN SEAMLESS PIPES & TUBES PVT. LTD
		EEW KOREA CO. LTD
		EISENBAU KRAMER GMBH
		ESSAR STEEL INDIA LIMITED
		HYUNDAI RB CO.LTD
		INOX TECH. SPA
		JINDAL SAW LTD (KOSI WORKS)
		MAN INDUSTRIES (INDIA) LTD
		NIPPON STEEL AND SUMITOMO METAL CORPORAT
		TATA STEEL UK LIMITED
		AMERICAN PIPING PRODUCTS INC
		ARROW PIPES & FITTINGS FZCO
		BARTHEL KESSELROHRE BOILERTUBES GMBH
		BUHLMANN ROHR-FITTINGS-STAHLANDEL, GMBH
		COMMERCIALE TUBI ACCIAIO SPA
		EDGEN MURRAY FZE
		GERAB NATIONAL ENTERPRISE L.L.C
		HART BV
		HORST KURVERS GMBH
		IGAWARA INDL. SERVICES & TRADING PTE LTD
		INTERNATIONAL INDUSTRIAL EQPT FZCO.
		KIRTANLAL INTERNATIONAL DMCC
		MARDALE PIPES PLUS LIMITED
		MEZON STAINLESS STEEL FZE
		OFFSHORE ENGINEERING & MARKETING LTD
		PETROGAS PIPING MIDDLE EAST FZCO
		Peeraj General Trading CO (LLC)
		SIDECO SPA
		TECHNICAL PARTS ESTABLISHMENT
		VAN LEEUWEN BUIZEN
		VALLOUREC TUBES FRANCE
		SHIB DASS AND SONS PRIVATE LIMITED
		INDUS TUBE LIMITED
		SWASTIK PIPES LTD

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
7	GI & MS Pipes (Welded) <= 14"	JINDAL PIPES LTD
		SURYA ROSHNI LTD
		MAHARASHTRA SEAMLESS LTD.
		DADU PIPES (P) LTD
		NEZONE TUBES LIMITED
		UTKARSH TUBES & PIPES LTD (FORMLY. BMW)
		A.S.T. PIPES PVT. LTD.(AST GROUP)
		ASIAN MILLS PVT LTD
		ASIAN TUBES LTD.
		ASRANI TUBES LIMITED
		ESSAR STEEL INDIA LIMITED
		GOODLUCK STEEL TUBES LTD
		JINDAL (INDIA) LIMITED
		JINDAL INDUSTRIES LTD
		JINDAL SAW LTD (KOSI WORKS)
		LAL BABA SEAMLESS TUBES PVT. LTD
		MAN INDUSTRIES (INDIA) LTD
		NORTH EASTERN TUBES LIMITED
		P S STEEL TUBES LTD
		PRATIBHA INDUSTRIES LIMITED
		RAMA STEEL TUBES LTD.
		RATNAMANI METALS AND TUBES LTD
		RAVINDRA TUBES LIMITED
		SAMSHI PIPE INDUSTRIES LIMITED
		WELSPUN CORP LIMITED (ANJAR)
		WELSPUN CORP LIMITED (DAHEJ)
		ZENITH BIRLA (INDIA) LIMITED
		JCO GAS PIPE LIMITED
		AMERICAN PIPING PRODUCTS INC
		ARROW PIPES & FITTINGS FZCO
		BARTHEL KESSELROHRE BOILERTUBES GMBH
		BUHLMANN ROHR-FITTINGS-STAHLANDEL, GMBH
		COMMERCIALE TUBI ACCIAIO SPA
		EDGEN MURRAY FZE
		GERAB NATIONAL ENTERPRISE L.L.C
		HART BV
		HORST KURVERS GMBH
		IGAWARA INDL. SERVICES & TRADING PTE LTD
		INTERNATIONAL INDUSTRIAL EQPT FZCO.
		KIRTANLAL INTERNATIONAL DMCC
		MARDALE PIPES PLUS LIMITED
		MEZON STAINLESS STEEL FZE
		OFFSHORE ENGINEERING & MARKETING LTD
		PETROGAS PIPING MIDDLE EAST FZCO
		Peeraj General Trading CO (LLC)
		SIDECO SPA
		TECHNICAL PARTS ESTABLISHMENT
		VAN LEEUWEN BUIZEN
		VALLOUREC TUBES FRANCE
		EVERGREEN SEAMLESS PIPES & TUBES PVT. LT

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
		SHIB DASS AND SONS PRIVATE LIMITED

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
8	SS Pipes (SMLS) <=6"	CHANDAN STEEL LTD
		HEAVY METALS & TUBES LIMITED(MEHSANA)
		KRYSTAL STEEL MFG.PVT.LTD.
		MAXIM TUBES COMPANY PVT LTD
		MBM TUBES PVT LTD
		RATNAMANI METALS AND TUBES LTD
		SANDVIK ASIA PVT. LIMITED (AHMEDABAD)
		SCODA TUBES LTD
		SHUBHLAXMI METALS AND TUBES PVT. LTD
		STEAMLINE INDUSTRIES Ltd
		SURAJ LIMITED
		TUBACEX PRAKASH INDIA PVT. LTD.
		TUBACEX TUBOS INOXIDABLES SAU
		ZHEJIANG JIULI HI-TECH METALS CO., LTD
		IGAWARA INDL. SERVICES & TRADING PTE LTD
		APEX TUBES PVT LTD
		ARVIND PIPES & FITTINGS IND PVT LTD
		BHANDARI FOILS AND TUBES LTD.
		CHANGSHU WALSIN SPECIALTY STEEL CO.,LTD
		GIEMINOX TECTUBI RACCORDI SRL
		HAILONG (ZHANGJIAGANG) INDUSTRY CO., LTD
		IBF S P A
		INOX TECH. SPA
		JIANGSU WUJIN STAINLESS STEEL PIPE GROUP
		JINDAL SAW LTD (NASHIK WORKS)
		MAHALAXMI SEAMLESS LIMITED
		NIPPON STEEL AND SUMITOMO METAL CORPORAT
		PRODUCTOS TUBULARES S.A.U.
		RATNADEEP METAL TUBES LTD.
		SALZGITTER MANNESMANN ST DEUTSCHLANDGMBH
		SANDVIK AB
		SANDVIK MATERIALS TECHNOLOGY (CHINA),CO,
		SCHOELLER-BLECKMANN EDELSTAHLROHR
		SCORODITE STAINLESS (INDIA) PVT. Ltd
		SOSTA GMBH
		WILH SCHULZ GmbH
		ZHEJIANG STELLAR PIPE IND. CO LTD.
		SHALCO INDUSTRIES PVT. LTD.
		HUADI STEEL GROUP CO. LTD
		CENTRAVIS PRODUCTION UKRAINE PJSC
		DIVINE TUBES PVT LTD
		AMERICAN PIPING PRODUCTS INC
		ARROW PIPES & FITTINGS FZCO
		BARTHEL KESSELROHRE BOILERTUBES GMBH
		BUHLMANN ROHR-FITTINGS-STAHLMANDEL, GMBH
		COMMERCIALE TUBI ACCIAIO SPA
		EDGEN MURRAY FZE
		GERAB NATIONAL ENTERPRISE L.L.C
		HART BV
		HORST KURVERS GMBH

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
		INTERNATIONAL INDUSTRIAL EQPT FZCO.
		KIRTANLAL INTERNATIONAL DMCC
		MARDALE PIPES PLUS LIMITED

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
		MEZON STAINLESS STEEL FZE
		OFFSHORE ENGINEERING & MARKETING LTD
		PETROGAS PIPING MIDDLE EAST FZCO
		Peeraj General Trading CO (LLC)
		SIDECO SPA
		TECHNICAL PARTS ESTABLISHMENT
		VAN LEEUWEN BUIZEN
		VALLOUREC TUBES FRANCE
		EVERGREEN SEAMLESS PIPES & TUBES PVT. LT
		SHIB DASS AND SONS PRIVATE LIMITED
9	SS Pipes (SMLS) 8"	MAXIM TUBES COMPANY PVT LTD
		RATNAMANI METALS AND TUBES LTD
		PRODUCTOS TUBULARES S.A.U.
		STEAMLINE INDUSTRIES Ltd
		SURAJ LIMITED
		TUBACEX PRAKASH INDIA PVT. LTD.
		TUBACEX TUBOS INOXIDABLES SAU
		ZHEJIANG JIULI HI-TECH METALS CO., LTD
		IGAWARA INDL. SERVICES & TRADING PTE LTD
		APEX TUBES PVT LTD
		ARVIND PIPES & FITTINGS IND PVT LTD
		BHANDARI FOILS AND TUBES LTD.
		CHANDAN STEEL LTD
		CHANGSHU WALSIN SPECIALTY STEEL CO.,LTD
		GIEMINOX TECTUBI RACCORDI SRL
		HAILONG (ZHANGJIAGANG) INDUSTRY CO., LTD
		HEAVY METALS & TUBES LIMITED(MEHSANA)
		IBF S P A
		INOX TECH. SPA
		JIANGSU WUJIN STAINLESS STEEL PIPE GROUP
		JINDAL SAW LTD (NASHIK WORKS)
		KRYSTAL STEEL MFG.PVT.LTD.
		MAHALAXMI SEAMLESS LIMITED
		MBM TUBES PVT LTD
		NIPPON STEEL AND SUMITOMO METAL CORPORAT
		RATNADEEP METAL TUBES LTD.
		SALZGITTER MANNESMANN ST DEUTSCHLANDGMBH
		SANDVIK AB
		SANDVIK ASIA PVT. LIMITED (AHMEDABAD)
		SANDVIK MATERIALS TECHNOLOGY (CHINA),CO,
		SCHOELLER-BLECKMANN EDELSTAHLROHR
		SCODA TUBES LTD
		SCORODITE STAINLESS (INDIA) PVT. Ltd
		SHUBHLAXMI METALS AND TUBES PVT. LTD
		SOSTA GMBH
		WILH SCHULZ GmbH
		ZHEJIANG STELLAR PIPE IND. CO LTD.
		SHALCO INDUSTRIES PVT. LTD.
		HUADI STEEL GROUP CO. LTD
		CENTRAVIS PRODUCTION UKRAINE PJSC

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
		DIVINE TUBES PVT LTD
		AMERICAN PIPING PRODUCTS INC
		ARROW PIPES & FITTINGS FZCO
		BARTHEL KESSELROHRE BOILERTUBES GMBH
		BUHLMANN ROHR-FITTINGS-STAHLSHANDEL, GMBH
		COMMERCIALE TUBI ACCIAIO SPA
		EDGEN MURRAY FZE
		GERAB NATIONAL ENTERPRISE L.L.C
		HART BV
		HORST KURVERS GMBH
		INTERNATIONAL INDUSTRIAL EQPT FZCO.
		KIRTANLAL INTERNATIONAL DMCC
		MARDALE PIPES PLUS LIMITED
		MEZON STAINLESS STEEL FZE
		OFFSHORE ENGINEERING & MARKETING LTD
		PETROGAS PIPING MIDDLE EAST FZCO
		Peeraj General Trading CO (LLC)
		SIDECO SPA
		TECHNICAL PARTS ESTABLISHMENT
		VAN LEEUWEN BUIZEN
		VALLOUREC TUBES FRANCE
		EVERGREEN SEAMLESS PIPES & TUBES PVT. LT
		SHIB DASS AND SONS PRIVATE LIMITED
10	SS Pipes (Welded)	RATNAMANI METALS AND TUBES LTD
		ZHEJIANG JIULI HI-TECH METALS CO., LTD.
		EEW KOREA CO. LTD
		GIEMINOX TECTUBI RACCORDI SRL
		H.BUTTING GMBH & CO.KG
		INOX TECH. SPA
		NIPPON STEEL AND SUMITOMO METAL CORPORAT
		OUTOKUMPU STAINLESS TUBULAR P.AB(FRMA553
		RIVIT SPA
		SCORODITE STAINLESS (INDIA) PVT. LTD.
		SOSTA GMBH
		TUBACEX PRAKASH INDIA PVT. LTD.
		AMERICAN PIPING PRODUCTS INC
		ARROW PIPES & FITTINGS FZCO
		BARTHEL KESSELROHRE BOILERTUBES GMBH
		BUHLMANN ROHR-FITTINGS-STAHLSHANDEL, GMBH
		COMMERCIALE TUBI ACCIAIO SPA
		EDGEN MURRAY FZE
		GERAB NATIONAL ENTERPRISE L.L.C
		HART BV
		HORST KURVERS GMBH
		IGAWARA INDL. SERVICES & TRADING PTE LTD
		INTERNATIONAL INDUSTRIAL EQPT FZCO.
		KIRTANLAL INTERNATIONAL DMCC
		MARDALE PIPES PLUS LIMITED
		MEZON STAINLESS STEEL FZE
		OFFSHORE ENGINEERING & MARKETING LTD

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
		PETROGAS PIPING MIDDLE EAST FZCO
		Peeraj General Trading CO (LLC)
		SIDECO SPA
		TECHNICAL PARTS ESTABLISHMENT
		VAN LEEUWEN BUIZEN
		VALLOUREC TUBES FRANCE

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
		EVERGREEN SEAMLESS PIPES & TUBES PVT. LT
		SHIB DASS AND SONS PRIVATE LIMITED
11	CS Pipe Fittings (Butt Welded) - Non-IBR	DEE DEVELOPMENT ENGINEERS LIMITED
		GUJRAT INFRAPIPES PVT. LIMITED
		K.S.PIPE FITTINGS (P) LTD
		M.S. FITTINGS MFG. CO PVT LTD
		P.K.TUBES & FITTINGS PVT.LTD.
		PETRO CHEM INDUSTRIES
		SAWAN ENGINEERS PVT LTD
		U I PIPE FITTINGS PVT LTD
		WEIFANG HUODA PIPE FITTINGS MANUFACTURE
		ALLIED INTERNATIONAL S.R.L.
		APCO PIPE FITTINGS CO LTD
		AWAJI MATERIA (THAILAND) CO. LTD.
		CSA FITTINGS
		ERNE FITTINGS GMBH
		EZEFLOW INC.
		IBF S P A
		ITM S.R.L.
		JIANGYIN LONGSHAN PIPE SOLUTIONS CO. LTD
		JIANGYIN TIANNING METAL PIPE FITTING CO
		MUNRO & MILLER FITTINGS LTD
		PATTECH FITWELL TUBE COMPONENTS
		PIANA S.P.A
		RACCORTUBI SPA
		SIDHARTH & GAUTAM ENGINEERS
		SUNGKWANG BEND CO. LTD
		TEEKAY TUBES PVT LTD
		TK CORPORATION
		TOPAZ PIPING INDUSTRIES
		TUBE BEND (CALCUTTA) PVT LTD
		VALVITALIA SPA-TECNOFORGE DIVISION
		VIRGILIO CENA & FIGLI S.p.A.
		WILH SCHULZ GmbH
		YINGKOU LIAOHE PIPE FITTINGS CO. LTD
		FITTECH INDUSTRIES PVT. LTD
		AMERICAN PIPING PRODUCTS INC
		AUSTIN STROUD & CO LTD
		BUHLMANN ROHR-FITTINGS-STAHLSHANDEL GMBH
		EDGEN MURRAY FZE
		HART BV
		HORST KURVERS GMBH
		IGAWARA INDL. SERVICES & TRADING PTE LTD
		INTERNATIONAL INDUSTRIAL EQPT FZCO.
		MARDALE PIPES PLUS LIMITED
		OFFSHORE ENGINEERING & MARKETING LTD
		PETROGAS PIPING MIDDLE EAST FZCO
		Peeraj General Trading CO (LLC)
		SIDECO SPA
		TECHNICAL PARTS ESTABLISHMENT

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
		VAN LEEUWEN BUIZEN

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
12	SS Pipe Fittings (Butt Welded) - Non-IBR	DEE DEVELOPMENT ENGINEERS LIMITED
		GUJRAT INFRAPIPES PVT. LIMITED
		K.S.PIPE FITTINGS (P) LTD
		M.S. FITTINGS MFG. CO PVT LTD
		P.K.TUBES & FITTINGS PVT.LTD.
		PETRO CHEM INDUSTRIES
		SAWAN ENGINEERS PVT LTD
		ALLIED INTERNATIONAL S.R.L.
		CSA FITTINGS
		ERNE FITTINGS GMBH
		EZEFLOW INC.
		IBF S P A
		JIANGYIN TIANNING METAL PIPE FITTING CO
		MUNRO & MILLER FITTINGS LTD
		PIANA S.P.A
		RACCORTUBI SPA
		SIDHARTH & GAUTAM ENGINEERS
		SUNGKWANG BEND CO. LTD
		TEEKAY TUBES PVT LTD
		TK CORPORATION
		TOPAZ PIPING INDUSTRIES
		TOPPER (SHANGHAI) PIPING MATERIALS CO LT
		VALVITALIA SPA-TECNOFORGE DIVISION
		VIRGILIO CENA & FIGLI S.p.A.
		WILH SCHULZ GmbH
		YINGKOU LIAOHE PIPE FITTINGS CO. LTD
		FITTECH INDUSTRIES PVT. LTD.
		AMERICAN PIPING PRODUCTS INC
		AUSTIN STROUD & CO LTD
		BUHLMANN ROHR-FITTINGS-STAHLANDEL GMBH
		EDGEN MURRAY FZE
		HART BV
		HORST KURVERS GMBH
		IGAWARA INDL. SERVICES & TRADING PTE LTD
		INTERNATIONAL INDUSTRIAL EQPT FZCO.
		MARDALE PIPES PLUS LIMITED
		OFFSHORE ENGINEERING & MARKETING LTD
		PETROGAS PIPING MIDDLE EAST FZCO
		Peeraj General Trading CO (LLC)
		SIDECO SPA
		TECHNICAL PARTS ESTABLISHMENT
		VAN LEEUWEN BUIZEN

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
13	CS Pipe Fittings (Forged) - Non-IBR	FLASH FORGE PVT LTD
		LEADER VALVES LTD
		M.S. FITTINGS MFG. CO PVT LTD
		P.K.TUBES & FITTINGS PVT.LTD.
		U I PIPE FITTINGS PVT LTD
		CHERO PIPING SPA
		CSA FITTINGS
		EBY FASTENERS
		FITTINOX SRL
		HILTON METAL FORGING LIMITED
		ITM S.R.L.
		KEONSAE HIGH PRESSURE CO.LTD.
		M.E.G.A SPA
		MUNRO & MILLER FITTINGS LTD
		PROMAT BD LTD MIDDLE EAST
		TK CORPORATION
		TUBE BEND (CALCUTTA) PVT LTD
		WILH SCHULZ GmbH
		AMERICAN PIPING PRODUCTS INC
		AUSTIN STROUD & CO LTD
		BUHLMANN ROHR-FITTINGS-STAHLANDEL GMBH
		EDGEN MURRAY FZE
		HART BV
		HORST KURVERS GMBH
		IGAWARA INDL. SERVICES & TRADING PTE LTD
		INTERNATIONAL INDUSTRIAL EQPT FZCO.
		MARDALE PIPES PLUS LIMITED
		OFFSHORE ENGINEERING & MARKETING LTD
		PETROGAS PIPING MIDDLE EAST FZCO
		Peeraj General Trading CO (LLC)
		SIDECO SPA
		TECHNICAL PARTS ESTABLISHMENT
		VAN LEEUWEN BUIZEN
14	SS Pipe Fittings (Forged) - Non-IBR	FLASH FORGE PVT LTD
		LEADER VALVES LTD
		M.S. FITTINGS MFG. CO PVT LTD
		CHERO PIPING SPA
		CSA FITTINGS
		EBY FASTENERS
		FITTINOX SRL
		HILTON METAL FORGING LIMITED
		ITM S.R.L.
		KEONSAE HIGH PRESSURE CO.LTD.
		M.E.G.A SPA
		MUNRO & MILLER FITTINGS LTD
		TK CORPORATION
		WILH SCHULZ GmbH
		AMERICAN PIPING PRODUCTS INC
		AUSTIN STROUD & CO LTD
		BUHLMANN ROHR-FITTINGS-STAHLANDEL GMBH

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Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
16	CSS Butterfly Valves CL150 <= 14"	CRANE PROCESS FLOW TECHNOLOGIES IND. LTD
		INSTRUMENTATION LTD. (PALGHAT)
		INTERVALVE POONAWALLA LIMITED
		L & T VALVES LIMITED
		ORTON S.R.L
		PENTAIR VALVES & CONTROLS INDIA PVT LTD
		STAFFORD CONTROLS LIMITED
		WEIR BDK VALVES-A UNIT OF WEIR INDIA PVT
		BRAY CONTROLS INDIA PVT. LTD
		FLOWSERVE INDIA CONTROLS PVT LTD-MMN
		FLOWSERVE PTE LTD
		FOURESS ENGG.(INDIA) LTD.(BLR.WORK)
		FRIEDRICH KROMBACH GMBH & CO.KG
		METSO FLOW CONTROL OY
17	Ball Valves (CCS)	AMPO, S.COOP (POYAM VALVES)
		BELGAUM AQUA VALVES PVT. LTD.
		FLOW CHEM INDUSTRIES
		L & T VALVES LIMITED
		MICROFINISH VALVES PVT LIMITED
		OSWAL INDUSTRIES LTD
		VIRGO VALVES & CONTROLS PVT LTD.
		WEIR BDK VALVES-A UNIT OF WEIR INDIA PVT
		ANAND TEKNOVA ENGINEERING INDIA LTD.
		DEMBLA VALVES LTD.
		METSO FLOW CONTROL OY
		BOTELI VALVE GROUP CO.
		FRIEDRICH KROMBACH GMBH & CO.KG
		GM ENGINEERING PVT. LTD.
		INTERVALVE POONAWALLA LIMITED
		JC FABRICA DE VALVULAS S.A.
		KUMKANG VALVE MFG CO.LTD
		LAZARO ITUARTE INTERNATIONAL,SA

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
		MIR VALVE SDN.BHD.
		NITON VALVE INDUSTRIES PRIVATE LTD .
		NSSL ITALIA
		VALBART SRL (A FLOWSERVE COMPANY)
		VALVITALIA SPA
		ZA.VE.RO. SRL
		GALPERTI ENGINEERING AND FLOW CONTROL SPA
		FLUITEK ORSENIGO VALVES S.P.A
18	Ball Valves (CSS)	AMPO, S.COOP (POYAM VALVES)
		BELGAUM AQUA VALVES PVT. LTD.
		FLOW CHEM INDUSTRIES
		L & T VALVES LIMITED
		MICROFINISH VALVES PVT LIMITED
		VIRGO VALVES & CONTROLS PVT LTD.
		WEIR BDK VALVES-A UNIT OF WEIR INDIA PVT
		ANAND TEKNOVA AIDS ENGINEERING INDIA LTD.
		METSO FLOW CONTROL OY
		BOTELI VALVE GROUP CO.
		FRIEDRICH KROMBACH GMBH & CO.KG
		GM ENGINEERING PVT. LTD.
		INTERVALVE POONAWALLA LIMITED
		JC FABRICA DE VALVULAS S.A.
		KUMKANG VALVE MFG CO.LTD
		LAZARO ITUARTE INTERNATIONAL,SA
		NITON VALVE INDUSTRIES PRIVATE LTD .
		NSSL ITALIA
		VALBART SRL (A FLOWSERVE COMPANY)
		VALVITALIA SPA
		ZA.VE.RO. SRL
		GALPERTI ENGINEERING AND FLOW CONTROL SPA

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
19	Ball Valves (Forged)	BELGAUM AQUA VALVES PVT LTD
		MICRO FINISH VALVES PVT.LTD.,
		WEIR BDK VALVES-A UNIT OF WEIR INDIA PVT
		ANAND TEKNOV AIDS ENGINEERING INDIA LTD.
		INTERVALVE POONAWALLA LIMITED
		GALPERTI ENGINEERING AND FLOW CONTROL SPA
21	Gate/Globe/NRV/SRV Valves - Cast Iron	BHEL Trichy
		METAL FORGINGS PVT LTD
		CD INDUSTRIES
		CHW FORGE PVT LTD (FR. CHAUDHRY HAMMER)
		KISAAN STEEL (P) LTD
		CD ENGINEERING CO.
		KUNJ FORGINGS PVT LTD
		ABASI ENGINEERING WORKS
		ANANDMAYEE FORGINGS PVT LTD
		BHARAT FORGE LTD.
		BRUCK GMBH ENSHEIM
		ECHJAY INDUSTRIES PVT LTD. (RAJKOT)
		FIVEBROS FORGINGS PVT.LTD.
		GOOD LUCK ENGINEERING CO.
		HILTON METAL FORGING LIMITED
		ITM S.R.L.
		JAV FORGINGS (P) LTD

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
22	CS Flanges (Non-IBR)	KISAAN DIETECH PVT LTD
		KOREA FLANGE
		LAL METAL FORGE LTD
		M.S. FITTINGS MFG. CO PVT LTD
		MAASS FLANGE INDIA PVT. LTD
		MELESI OFFICINE AMBROGIO MELESI & C.SRL
		OFFICINE NICOLA GALPERTI & FIGLIO S.P.A.
		OFFICINE SANTAFEDE SRL
		P.K.TUBES & FITTINGS PVT.LTD.
		PARAMOUNT FORGE
		PARAMOUNT FORGE
		PRADEEP METAL LIMITED
		PROMAT BD LTD MIDDLE EAST
		R D FORGE
		R.N.GUPTA & CO. LTD
		SANGHVI FORGINGS & ENGINEERING LTD
		ULMA FORJA S.COOP.
		UTSAH ENGINEERING PVT LTD(A CD ENGG COMP
		VALVITALIA SPA-TECNOFORGE DIVISION
		VILMAR SA
		BRITEX ENGINEERING WORKS REV 4
		STEEL STRONG VALVES INDIA PVT LTD REV 4
		JAI AUTO PVT LTD
23	SS Flanges (Non-IBR)	METAL FORGINGS PVT LTD
		CD INDUSTRIES
		CHW FORGE PVT LTD (FR. CHAUDHRY HAMMER)
		CD ENGINEERING CO.
		KUNJ FORGINGS PVT LTD
		ANANDMAYEE FORGINGS PVT LTD
		BHARAT FORGE LTD.
		BRUCK GMBH ENSHEIM
		CHANDAN STEEL LTD
		ECHJAY INDUSTRIES PVT LTD. (RAJKOT)
		FIVEBROS FORGINGS PVT.LTD.
		GOOD LUCK ENGINEERING CO.
		HILTON METAL FORGING LIMITED
		JAV FORGINGS (P) LTD
		KOREA FLANGE
		LAL METAL FORGE LTD
		MAASS FLANGE CORPORATION
		MAASS FLANGE INDIA PVT. LTD
		MELESI OFFICINE AMBROGIO MELESI & C.SRL
		OFFICINE NICOLA GALPERTI & FIGLIO S.P.A.
		OFFICINE SANTAFEDE SRL
		P.K.TUBES & FITTINGS PVT.LTD.
		PARAMOUNT FORGE
		PARAMOUNT FORGE
		PRADEEP METAL LIMITED
		R D FORGE
		SANGHVI FORGINGS & ENGINEERING LTD

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
		ULMA FORJA S.COOP.
		UTSAH ENGINEERING PVT LTD(A CD ENGG COMP
		VALVITALIA SPA-TECNOFORGE DIVISION

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
		VILMAR SA
		VIRAJ PROFILES LIMITED
		BRITEX ENGINEERING WORK
24	Gaskets (Non-IBR)	GOODRICH GASKET PVT LTD
		IGP ENGINEERS PVT. LIMITED
		JAMES WALKER INMARCO INDUSTREIS PVT. LTD
		MADRAS INDUSTRIAL PRODUCTS
		STARFLEX SEALING INDIA PVT LTD
		TEEKAY FLOWFLEX PVT. LTD.
		UNI KLINGER LTD
		BOMBAY CHEMICAL EQUIPMENTS
		CHAMPION JOINTINGS PVT LTD.
		DAVE ENGINEERS PVT.LTD
		NEOSEAL ENGINEERING PRIVATE LIMITED
25	Bolting Material (Non-IBR)	MULTI FASTENERS PVT LTD
		PRESIDENT ENGINEERING WORKS
		MEGA ENGINEERING PVT. LTD.
		PIONEER NUTS & BOLTS PVT LTD
		UDEHRA FASTNERS LTD
		AEP COMPANY
		BEA SRL
		DEEPAK FASTENERS LIMITED(DORAHU UNIT)
		FASTENERS & ALLIED PRODUCTS PVT LTD.
		FIX FIT FASTENERS MFG. PVT.LTD.
		HARDWIN FASTENERS PVT LTD.
		INDUSTRIAL ENGINEERING CORP.
		KOREA PARTS & FASTENERS (KPF)
		KUNDAN INDUSTRIES LTD.
		LAKSHMI PRECISION SCREWS LTD
		NITIN FASTNERS PVT LTD
		OME METALLURGICA ERBESE S.r.l.
		PANKAJ INTERNATIONAL
		PRECISION AUTO ENGINEERS
		PRECISION ENGG. INDUSTRIES
		PROCYON TCHNOLOGY
		SOUVENIR INTERNATIONAL
		SYNDICATE ENGINEERING INDUSTRIES
		TRIPLE FAST MIDDLE EAST LTD
		UDEHRA MECHANICAL WORKS
		SAVETA ENGINEERING CO. PVT. LTD REV 4
		TECHNICAL METAL EST.
26	Strainers	ESCO STEAMCON PVT. LTD.
		PENNANT ENGINEERING PVT LTD
		BOMBAY CHEMICAL EQUIPMENTS
		FORBES MARSHALL STEAM SYSTEMS PVT. LTD
		GRAND PRIX ENGINEERING PVT LTD.
		GUJARAT OTOFILT
		LEADER VALVES LTD
		MULTITEX FILTRATION ENGINEERS LTD.

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
		SUNGOV ENGINEERING PVT LTD
		VERMEER PROCESS TECHNOLOGY B.V
		ESCO STEAMCON PVT. LTD.

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
27	Steam Traps	PENNANT ENGINEERING PVT LTD
		GESTRA AG (FLOWSERVE GROUP)
		UNI KLINGER LTD
		LEADER VALVES LTD
		FORBES MARSHALL STEAM SYSTEMS PVT. LTD
		ARMSTRONG INTERNATIONAL PVT LTD.
		SUNGOV ENGINEERING PVT LTD
		VERMEER PROCESS TECHNOLOGY B.V
28	Raw Material for Pipe Supports	BHEL Trichy
29	Pipe Hangers Package	PIPE HANGERS & SUPPORTS PVT LTD
		PIPE SUPPORTS CO
		SPRING SUPPORTS MFG CO
		CA.S.T.IM.2000 SRL
		PIPE SUPPORTS ASIA LTD
		PIPING & ENERGY PRODUCTS (P) LTD
		TECHNO INDUSTRY
		TECHNO INDUSTRY
		UNISON ETECH CO.LTD
30	Expansion Joints - Rubber	CORI ENGINEERS PVT LTD
		SRM EXOFLEX PVT. LTD.
		MACOGA,S.A.
		MIL INDUSTRIES LIMITED
		RM APPLIED ENGINEERS
31	Flexible Rubber Hoses	DEWAS HYDROQUIP PVT LTD
		GAYTRI INDUSTRIAL CORPORATION
		HELIFLEX HYDRAULICS & ENGG.CO.
		INSAP ENGINEERS PVT. LTD
		PIX TRANSMISSIONS LIMITED
		RM APPLIED ENGINEERS
		SRIDHAR ENGG. & RUBER PRODUCTS PVT
		SWAGELOK CO.
32	Flexible Metallic Hoses	BENGAL INDUSTRIES PVT LTD
		DEWAS HYDROQUIP PVT LTD
		GAYTRI INDUSTRIAL CORPORATION
		HELIFLEX HYDRAULICS & ENGG.CO.
		INDIA FLEX INDUSTRIES PVT.LTD.
		INSAP ENGINEERS PVT. LTD
		RM APPLIED ENGINEERS
		SENIOR INDIA PRIVATE LIMITED
		SWAGELOK CO.
33	Thermal Insulation Package - Rockwool Mattress	GOENKA ROCKWOOL (INDIA)PVT.LTD.
		JAMSHEDPUR MINERALWOOL MFG.CO.(P) LTD
		POLYBOND INSULATION PVT LTD
		ROCKWOOL INDIA PVT. LTD
		SHREERAM EQUITECH PRIVATE LTD
		THERMOCARE ROCKWOOL (I)PVT.LTD.
		HI-TECH ROCK FIBRE PVT LTD

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
	ROCKWOOL mattress	LAPINUS ROCKWOOL PVT LTD
		LLOYD ROCK FIBRES LTD
		MINWOOL ROCK FIBRES LTD
		PUNJSTAR INDUSTRIES PVT LTD

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
		PUNJSTAR INDUSTRIES PVT LTD
		ROXUL ROCKWOOL INSULATION INDIA PVT LTD
34	Thermal Insulation Package - Ancillaries	LLOYD INSULATIONS (INDIA) LTD.,
		LLOYD PROJECTS PVT. LTD.
		SUDHIR TRADING COMPANY
		ENERGY SAVING AND ALLIED PRODUCTS
		SURESH INDUSTRIAL CORPORATION
		SURESH FASTENERS
		ALLIED INSULATIONS (INDIA)
35	Thermal Insulation Package - Aluminium Cladding	BHARAT ALUMINIUM COMPANY LTD
		PRIMACY SYSTEMS PVT. LTD.
		JINDAL ALUMINIUM LIMITED
		HINDALCO INDUSTRIES LTD
		NATIONAL ALUMINIUM COMPANY LTD.
47	Control Valves	INSTRUMENTATION LTD. (PALGHAT)
		FORBES MARSHALL ARCA P LTD.(FORMRLY A214)
		SAMSON CONTROLS PVT LTD
		DRESSER VALVE INDIA PVT LTD
		KOSO INDIA PVT LTD (FORM.K176)
		MIL CONTROLS LIMITED
		EMERSON PROCESS MANGMNT CHENNAI PVT. LTD
		SEVERN GLOCON INDIA PVT LTD
		ARCA REGLER GMBH
		AST APPARECCHI DI SICUREZZA E TENUTA SPA
		CCI VALVE TECHNOLOGY GMBH
		DRESSER PRODUITS INDUSTRIELS
		FLOWERVE INDIA CONTROL PVT LTDBANGALOR
		FLOWERVE PTE LTD
		ITALVALV S.N.C
		KENT INTROL UK LTD (FORM. A-718)
		METSO FLOW CONTROL OY
		MOTOYAMA ENGG WORKS LTD
		SAMSON AG MESS-UND REGELTECHNIK
		SEVERN GLOCON LTD
		SPX VALVES & CONTROLS (FORMERLY DEZURIK)
		WEIR VALVES & CONTROLS UK LTD
49	Pressure Safety Valves	BLISS ANAND PVT LTD
		FAINGER LESER VALVES (P) LTD.
		INSTRUMENTATION LTD. (PALGHAT)
		PENTAIR SANMAR LTD.
		WEIR BDK VALVES-A UNIT OF WEIR INDIA PVT
		BHEL (TRICHY)
		ANDERSON GREENWOOD CROSBY
		CURTISS WRIGHT FLOW CONTROL CORPORATION
		DRESSER INC.
		DARLING MUESCO(I)PVT. LTD.
		LESER GMBH & CO. KG
		NAKAKITA SEISAKUSHO CO LTD
		AST APPARECCHI DI SICUREZZA E TENUTA SPA

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
50	Pneumatic On-Off Ball Valves	L & T VALVES LIMITED
		WEIR BDK VALVES-A UNIT OF WEIR INDIA PVT
		PENTAIR VALVES & CONTROLS INDIA PVT LTD
		VIRGO VALVES & CONTROLS PVT LTD.
		METSO FLOW CONTROL OY
		CAMERON ITALY SRL (FORM. D659)
		EL-O-MATIC INDIA (PVT) LTD.
		FLOWSERVE INDIA CONTROLS PVT. LTD.
		FLOWSERVE PTE LTD
		ITALVALV S.N.C
		KITAMURA VALVE MANUFACTURING CO LTD
		KITZ CORPORATION OF EUROPE S.A.
		MICROFINISH VALVES PVT LIMITED
		MOTOYAMA ENGG WORKS LTD
		PERRIN GMBH
		PIBIVIESSE S. R. L.
		ROTEX MANUFACTURERS & ENGINEERS P LTD
		SAMSON AG MESS-UND REGELTECHNIK
		SPX VALVES & CONTROLS (FORMERLY DEZURIK)
		TYCO VALVES & CONTROLS
		WEIR VALVES & CONTROLS UK LTD
		KOSO INDIA PVT. LIMITED

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
Control & Instrumentation		
51	Instrumentation Cables (TC Cables)	ASSOCIATED CABLES PVT LTD
		CORDS CABLE INDUSTRIES LTD
		DELTON CABLES LIMITED
		KEI INDUSTRIES LIMITED
		T C COMMUNICATION PVT. LTD.
		THERMO CABLES LTD (FORM. T-150)
		UDEY PYROCABLES PVT. LTD.
		LEONI KERPEN
		ASSOCIATED FLEXIBLES & WIRES [P] LTD
51	Instrumentation Cables (Signal Cables)	ASSOCIATED CABLES PVT LTD
		CMI LIMITED
		CORDS CABLE INDUSTRIES LTD
		DELTON CABLES LIMITED
		ELKAY TELELINKS LTD.-
		KEC INETRNLATIONAL - MYSORE
		KEI INDUSTRIES LIMITED
		POLYCAB WIRES PVT LTD
		SUYOG ELECTRICALS LTD
		T C COMMUNICATION PVT. LTD.
		THERMO CABLES LTD (FORM. T-150)
		UDEY PYROCABLES PVT. LTD.
		LEONI CABLE SOLUTIONS (INDIA PVT. LTD.)
		LEONI KERPEN
		ASSOCIATED FLEXIBLES & WIRES [P] LTD
		RALLISON ELECTRICALS PVT. LTD.
53	Instrumentation Cables (Signal Cables Fire Resistant)	CORDS CABLE INDUSTRIES LTD
		ELKAY TELELINKS LTD.
		KEI INDUSTRIES LIMITED
		POLYCAB WIRES PVT LTD
		SUYOG ELECTRICALS LTD
		THERMO CABLES LTD (FORM. T-150)
		ASSOCIATED FLEXIBLES & WIRES [P] LTD
54	Flow Orifice	MINCO (INDIA) PVT LTD (GEN. INST.)
		HYDROPNEUMATICS PVT LTD
		MICRO PRECISION PRODUCTS PVT LTD
		STAR-MECH CONTROLS (INDIA) PVT LTD
		EUREKA INDUSTRIAL EQUIPMENTS (P) LTD
		GURU NANAK ENGG WORKS
		INSTRUMENTATION LTD. (PALGHAT)
		PETROL VALVES SRL
		PIETRO FIORENTINI SPA
		TM TECNOMATIC SPA
		BALIGA LIGHTING EQUIPMENTS (P) LIMITED
		CAMERON LTD.
		CAMERON CANADA CORPORATION
		COMFIT & VALVES PVT. LTD.
		DANIEL MEASURMNT & CONTROL ASIA PACIFIC
		MICRO PRECISION PRODUCTS PVT LTD

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
55	Flow Nozzle (Unidirectional & Bidirectional)	MINCO (I) FLOW ELEMENT P. LTD. (GIC CO.)
		STAR-MECH CONTROLS (INDIA) PVT LTD
		HYDROPNEUMATICS PVT LTD
		INSTRUMENTATION LTD.
		TM TECNOMATIC SPA

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
56	Mass Flow Meter	EMERSON PROCESS MANAGEMENT INDIA PVT LTD
		ENDRESS+HAUSER (I) PVT. LTD.
		YOKOGAWA INDIA LIMITED
		KROHNE MESSTECHNIK GMBH & CO KG
		RHEONIK MESSGERATE GMBH
		ABB AUTOMATION PRODUCTS GMBH
		BRONKHORST HIGH TECH BV
		BROOKS INSTRUMENT
		EMERSON PROCES MGMT ASIA PACIFIC PTE LTD
		ENDRESS + HAUSER FLOWTEC AG
		Endress+Hauser Flowtec (India) Pvt Ltd
		FLUID COMPONENTS INTERNATIONAL LLC
		FOX THERMAL INSTRUMENT INC.
		HEINRICHS MESSTECHNIK GMBH
		KURZ INSTRUMENTS INC
		MAGNETROL INTERNATIONAL N.V
		ROTA YOKOGAWA GMBH & CO. KG

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
57	Ultrasonic Flow Meter	GE INDIA INDUSTRIAL PVT LTD
		DANIEL MEASUREMENT SOLUTIONS P LTD
		DANIEL MEASURMNT & CONTROL ASIA PACIFIC
		KROHNE MESSTECHNIK GMBH & CO KG
		ENDRESS + HAUSER FLOWTEC AG
		ENDRESS+HAUSER (I) PVT. LTD.
		FAURE HERMAN
		FLEXIM FLEXIBLE INDUSTRIEMESSTECNIK GMBH
		FMC MEASUREMENT SOLUTIONS-UK
		CAMERON LTD.
		GE SENSING EMEA (FORMERLY P-593)
		ELSTER-INSTROMET NV-FORMER. I563
		RMG REGEL+MESSTECHNIK GMBH
		SICK AG
		SIEMENS AG
		THERMO FISHER SCIENTIFIC
		THERMO ONIX LIMITED
58	Junction Box (Explosion Proof)	FCG POWER INDUSTRIES PVT LTD
		FLAMEPROOF EQUIPMENTS PVT.LTD
		FCG FLAMPROOF CONTROL GEARS P. LTD (C-157)
		FLEXPRO ELECTRICALS PVT LTD
		BALIGA LIGHTING EQUIPMENTS (P) LIMITED
		STAHL INDIA
		GOVAN INDUSTRIES INDIA P LTD.
		COMET BRASS PRODUCTS
		COMET INDUSTRIES
		SUDHIR SWITCHGEARS PVT LTD
		STANDARD METAL INDUSTRIES
		PROMPT ENGINEERING WORKS
59	Level Transmitters - Radar, Ultrasonic Type	EMERSON PROCESS MANAGEMENT INDIA PVT LTD
		MAGNETROL INTERNATIONAL N.V
		VEGA GRIESHABER KG
		ENDRESS+HAUSER GMBH+CO. KG
		ROSEMOUNT TANK RADAR AB (FORM. S691)
		ENRAF B.V. (GR. COMPANY OF HONEYWELL)
		HAWK MEASUREMENT SYSTEM PTY LTD
		KROHNE MESSTECHNIK GMBH & CO KG
		L & J TECHNOLOGIES
		ENDRESS+HAUSER (I) AUTO. INSTR. PVT. LTD
		MOBREY LTD (FORM. S-578)
		SIEMENS AG
		AMETEK DREXELBROOK
60	Level Transmitters - Guided Wave Radar Type	EMERSON PROCESS MANAGEMENT INDIA PVT LTD
		MAGNETROL INTERNATIONAL N.V
		VEGA GRIESHABER KG
		ENDRESS+HAUSER GMBH+CO. KG
		KROHNE MESSTECHNIK GMBH & CO KG
		L & J TECHNOLOGIES
		ABB INC (FORMLY K622)

Sl. No.	MIPP Item Description	List of Vendors as per Customer's Vendors List
		ENDRESS+HAUSER (I) AUTO. INSTR. PVT. LTD
61	DCS System	YOKOGAWA INDIA LIMITED
62	PLC System	YOKOGAWA INDIA LIMITED

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					Annexure-9
					Rev. No. 00

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Revisions: Refer to record of revisions	Prepared by :	Checked by :	Approved by :	Date :
	Rajeev Jain	Girish Prasad Palo	Siva Prasad Babu	09.06.2018

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						Annexure-12	
						Rev. No.	00
						Sheet 1 of 2	

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Annexure-12

Prebid clarification

Revisions:	Refer to record of revisions	Prepared by :	Checked by :	Approved by :	Date :
		Girish Prasad Palo	Siva Prasad Babu	Siva Prasad Babu	27.03.2017



PROJECT ENGINEERING & SYSTEMS DIVISION

Std. / Doc. Number

Annexure-12

Rev. No. 00

Sheet 2 of 2

DEVIATION SCHEDULE TECHNICAL

Bidder are requested to mark “✓” as applicable

☐ No Deviation required

☐ Deviation required

List of deviations (expectations and /or addition requested by Bidder) from specification, standards and /or drawing etc.

Sl. No.	Section / Part/Subsection	Page No.	Clause No.	Bid Specification	Bidder's Query	Purchaser's Reply

Note: Bidder to furnish this duly filled format along with SEAL & SIGN at pre-bid stage only and any deviations appearing elsewhere shall not be considered.

SIGNATURE : _____

NAME : _____

DESIGNATION : _____

COMPANY : _____

DATE : _____

COMPANY SEAL

ESP-001- 2A Rev.00		PROJECT ENGINEERING & SYSTEMS DIVISION		Std. / Doc. Number	
				Annexure-10	
				Rev. No.	00

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Revisions: Refer to record of revisions	Prepared by :	Checked by :	Approved by :	Date :
	Rajeev Jain	Girish Prasad Palo	Siva Prasad Babu	09.06.2018

**DEVIATION SCHEDULE
(TECHNICAL)**

DEVIATION SCHEDULE - TECHNICAL (BFP PACKAGE)

Bidders are requested to mark “√” as applicable

☐ NO DEVIATION REQUIRED

☐ DEVIATION REQUIRED

List of deviations (exceptions and / or additions requested by bidder) from specification, standards and / or drawings etc.

Sl. No.	DOCUMENT(S)/ DRAWING(S)		DEVIATION PROPOSED
	NO. AND TITLE	PARAGRAPH/ CLAUSE/ DETAIL	

BIDDER'S NAME:

BIDDER'S SIGNATURE
AND SEAL/STAMP

DATE: