



चेन्नै पेट्रोलियम कॉर्पोरेशन लिमिटेड
(इंडियन ऑयल की ग्रुप कम्पनी)

Chennai Petroleum Corporation Limited
(A group company of IndianOil)

CORRIGENDUM NO.2

CPCL/PMC/T-064/2010-11

16.03.2011

Dear Sir,

Name of the Work: Construction of Fire Water Tank and Associated Civil and Piping Works at Manali Refinery of CPCL

NIT Ref: CPCL/PMC/T-064/2010-11 dated 16.02.2011
Corrigendum No.1 dated 10.03.2011

This has reference to our Notice Inviting Tender and Corrigendum No.1 for the work cited above. The tender conditions are modified as follows:-

Sl. No.	Tender Part	Page Nos.	Clause No. & Subject	Reference in Corrigendum	Modifications / Additions / Deletions
1.	Techno-Commercial Bid – Part-B - Volume-2 of 6	441 to 473	Mandatory Spares	Sl. No.2 of Corrigendum No.1	Annexure-I attached to Corrigendum No.1 stands deleted and the revised pages are attached as Annexure-I to this Corrigendum No.2.
2.	Techno-Commercial Bid – Part-B - Volume-3 of 6	282	12.2 Mandatory Spares	Sl. No.10 of Corrigendum No.1	Annexure-I attached to Corrigendum No.1 stands deleted and the revised pages are attached as Annexure-I to this Corrigendum No.2.

All other terms and conditions stipulated in the bid document, including the extended due date of bid submission, i.e., **upto 02.00 p.m. on 25.03.2011**, remain unaltered.

The bidder shall enclose this Corrigendum No.2 duly signed and stamped along with un-priced offer.

Thanking you,

Very truly yours,

M. Kalaivanan
Chief Manager (Project - Contracts)

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सब पढ़ें सब बढ़ें



**CHENNAI PETROLEUM CORPORATION LIMITED
MANALI REFINERY****ENABLING TENDER – IV: FIRED WATER TANKS AND ASSOCIATED FACILITIES****TITLE: MANDATORY SPARE LIST****DOCUMENT NO: 44NC-4600-0000/N.02/0028/A4**

1	10.03.11	13	Issued for Tender	SG	RB	LMD
1	06.03.11	22	Issued for Tender	SG	RB	LMD
1	24.11.10	91	Issued for Tender	RB	RPG	BBD
0	21.04.10	91	Issued for FEED	RB	RPG	BBD
Rev No.	Issue Date	Pages	Rev Description	Prepared By	Checked By	Approved By

Jacobs

CPCL, Chennai

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1.0 CENTRIFUGAL HORIZONTAL PUMP (MULTISTAGE)								
Equipment Item Number: _____ Total No. of Units Installed: _____								
Sl.No	Part Description	Quantity Required (Based on No. of Installed Units)						
		1	2	3	4	5	6	7
	MECHANICAL							
	Pumps							
A	Mandatory spares							
1	Set of Case Wear rings	1	1	2	2	2	2	2
2	Set of Impeller Wear rings	1	1	2	2	2	2	2
3	Set of Intermediate bushings	1	1	2	2	2	2	2
4	Set of Balance Drum sleeve(Bushing)	1	1	2	2	2	2	2
5	Set of Labyrinths for bearing housing	1	2	3	3	3	3	3
6	Set of bearing guards	1	2	3	3	3	3	3
7	Set of Gaskets, O-Rings	1	2	2	2	3	3	3
8	Set of Bearings(NDE)-Hydrodynamic type (If applicable)	1	1	2	3	3	3	3
9	Set of Bearings(DE)-Hydrodynamic type (If applicable)	1	1	2	3	3	3	3
10	Complete coupling assembly with Pilot bore	1	1	1	1	1	1	1
	Lube Oil Pumps Rotary (Main + Stand by) (If Applicable to the offered model)							
1	Complete bare Main Pump assembly	1	1	1	1	1	1	2
2	Complete bare Stand by pump assembly	1	1	1	1	1	1	2
3	Set of Mechanical seal for Main Pump	1	2	2	2	2	3	3
4	Set of Mechanical seal for Stand by Pump	1	2	2	2	2	3	3
5	Coupling for Stand by Pump	1	1	1	1	1	2	2
6	Couping for Main Oil Pump	1	1	1	1	1	2	2
7	Lube Oil filter cartridge with set of gaskets	4	6	6	8	8	0	0
8	Set of Gaskets and O rings for Lube Oil coolers	1	2	2	2	4	4	5
9	Lube oil cooler tube bundle	1	1	1	1	1	1	1
	ELECTRICAL							
	LV Motor							
1	Set of Bearings (NDE+DE)	1	1	2	3	3	3	3

Sl.No	Part Description	Quantity Required (Based on No. of Installed Units)						
		1	2	3	4	5	6	7
2.	Set of Cooling Fans	1	1	1	1	1	2	2
3	Inner and outer grease cups	1	1	1	1	1	1	1
4	Terminal board	1	1	1	1	1	1	1
5	Fan cover	1	1	1	1	1	1	1
6	DE & NDE shields	1	1	1	1	1	1	1
	HT motor							
1	Set of bearings (NDE + DE)	1	1	1	1	1	1	1
2	Cooling fans	1	1	1	1	1	1	1
3	Inner and outer grease cups	1	1	1	1	1	1	1
4	Terminal board	1	1	1	1	1	1	1
5	Fan cover	1	1	1	1	1	1	1
6	DE & NDE shields	1	1	1	1	1	1	1
7	DE & NDE locking collar	1	1	1	1	1	1	1
8	DE & NDE labyrinths	1	1	1	1	1	1	1

Note:	
1.	The word 'Set' means the quantity required for full replacement of that part in one machine
2.	The Bidder shall quote for all the mandatory spares as defined above and as applicable to the proposed design of the equipment. In case, any spare which is listed in the checklist but not applicable to the offered model due to specific construction/design of the equipment, the same shall be highlighted as 'Not Applicable' against that spare supported with proper technical explanation.
3.	Spare parts shall be identical in all respects to the parts fitted on the main equipment, including dimensions, material of construction & heat treatment.

2.0 CENTRIFUGAL PUMPS (HORIZONTAL) ONE/TWO STAGES								
Equipment Item Number: _____		Total No. of Units Installed :						
S. No.	Part Description	Quantity Required (Based on No. of Installed Units)						
		1	2	3	4	5	6	7
	MECHANICAL							
	PUMP							
A	Mandatory spares							
1	Set of Impellers(Full Dia)	1	1	1	1	1	2	2
2	Shaft with Keys	1	1	1	1	1	2	2
3	Set of Interstage Shaft Sleeves	1	1	1	1	1	2	2
4	Set of Case Wear rings	1	1	2	3	3	3	3
5	Set of Impeller Wear rings	1	1	2	3	3	3	3
6	Set of Gaskets & O rings(Except for Mech. Seal)	2	4	6	8	8	8	8
7	Set of Interstage bushings	1	1	1	1	1	2	2
9	Set of Labyrinths for bearing housing	1	2	2	3	3	3	3
10	Set of bearing guards	2	2	3	4	4	4	4
11	Set of Bearings(NDE)-Hydrodynamic type (If applicable)	1	1	2	3	3	3	3
12	Set of Bearings(DE)-Hydrodynamic type (If applicable)	1	1	2	3	3	3	3
14	Complete coupling assembly with Pilot bore	1	1	1	1	1	2	2
	ELECTRICAL							
	LV Motor							
1	Set of Bearings (NDE+DE)	1	1	2	3	3	3	3
2.	Set of Cooling Fans	1	1	1	1	1	2	2
3	Inner and outer grease cups	1	1	1	1	1	1	1
4	Terminal board	1	1	1	1	1	1	1
5	Fan cover	1	1	1	1	1	1	1
6	DE & NDE shields	1	1	1	1	1	1	1
	HT motors							
1	Set of bearings (NDE + DE)	1	1	1	1	1	1	1
2	Cooling fans	1	1	1	1	1	1	1

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S. No.	Part Description	Quantity Required (Based on No. of Installed Units)						
		1	2	3	4	5	6	7
3	Inner and outer grease cups	1	1	1	1	1	1	1
4	Terminal board	1	1	1	1	1	1	1
5	Fan cover	1	1	1	1	1	1	1
6	DE & NDE shields	1	1	1	1	1	1	1
7	DE & NDE locking collar	1	1	1	1	1	1	1
8	DE & NDE labyrinths	1	1	1	1	1	1	1
	Note:							
1	The word 'Set' means the quantity required for full replacement of that part in one machine.							
2	The Bidder shall quote for all the mandatory spares as defined above and as applicable to the proposed design of the equipment. In case, any spare which is listed in the checklist but not applicable to the offered model due to specific construction/design of the equipment, the same shall be highlighted as 'Not Applicable' against that spare supported with proper technical explanation.							
3	Spare parts shall be identical in all respects to the parts fitted on the main equipment, including dimensions, material of construction & heat treatment.							

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3.0 SILENCER

Sl.No.	Part Description	Quantity required	
	Silencer		
1	Gaskets	200% for each flanged joint.	
2	Nuts and Bolts	20% But not less than 4 studs with 8 nuts for each flanged joint.	

Note- above indicated spares shall be supplied for each silencer.

Notes:

1. The word 'Set' means the quantity required for full replacement of that part in one machine.
2. The Bidder shall quote for all the mandatory spares as defined above and as applicable to the proposed design of the equipment. In case, any spare which is listed in the checklist but not applicable to the offered model due to specific construction/design of the equipment, the same shall be highlighted as 'Not Applicable' against that spare supported with proper technical explanation.
3. Spare parts shall be identical in all respects to the parts fitted on the main equipment, including dimensions, material of construction & heat treatment.
4. The above Mandatory Spare list is applicable to the total quantity of installed units under each Tag No.

4.0 List of spares for Diesel Engines		
Sl.No.	Part Description	Quantity Required (Based on No. of Installed Units)
1	Air Filter	One per Two Engines
2	Lube Oil Filter	One Set per Two Engines
3	Lube Oil Bypass filter	One Set per Two Engines
4	Radiator Hose	Two Set per Two Engines
5	Seal O Ring	One Set per Two Engines
6	Switch Magnet	One Set per Two Engines
7	Pressure switch	One Set per Two Engines
8	Water Tube	One Set per Two Engines
9	Air Tube	One Set per Two Engines
10	V Belt	Two Set per Two Engines
11	Corrosion Inhibitor	One Set per Two Engines
12	Motor Starter	Two Set per Two Engines
13	Solenoid	One Set per Two Engines
14	Gasket Cylinder Head and Exhaust Manifold	One Set per Two Engines
15	Pulleys	One Set per Two Engines
16	Cam Shaft	One Set per Two Engines
17	Valve Springs	Five per Two Engines
18	Fuel Hose	One Set per Two Engines
19	Piston Rings	Two Sets per Two Engines
20	Push rod	One Set per Two Engines
21	Rocker Arm	Two per Two Engines
22	Gears	One Set per Two Engines
Note:		
1.	The word 'Set' means the quantity required for full replacement of that part in one machine	
2.	The Bidder shall quote for all the mandatory spares as defined above and as applicable to the proposed design of the equipment. In case, any spare which is listed in the checklist but not applicable to the offered model due to specific construction/design of the equipment, the same shall be highlighted as 'Not Applicable' against that spare supported with proper technical explanation.	
3.	Spare parts shall be identical in all respects to the parts fitted on the main equipment, including dimensions, material of construction & heat treatment.	

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5. ELECTRICAL

Sr. No.	Part Description	Quantity Required
A.	H T Switchboard	
1	CT	One No. for each type & rating
B.	L V Switchgear (One set of spares for LV Extension panels supplied by contractor)	
1	Panel limit switches & interlocking switches	10% each type
2	Power / control fuse links (all types & ratings)	20% for each type & rating
3	Contactors	1 No. for each rating
4	Auxiliary Contactors	1 No. for each rating
5	Overload relays	1 No. for each rating
6	Push button unit	5 %
7	Indicating lamps	20 % with min. 3 Nos
8	Indicating lamps covers	3 nos of each colour
9.	Control terminal block	5 %
10	Meter of each type	1 No.
11	Bus Insulators	5%
12.	Panel operating switches (all types)	One No of each type
13	Panel operating switches knob	Three Nos of each type
14	All protection relays & Auxiliary relays	One No. of each type
C.	Lighting Fixtures (One set of spares for each type of lighting fixture)	
1	Lighting Fixture of each type	10%
2	Wire guard	5% of each rating
3	External reflectors	5% of each rating & type
4	Spare glass assembly for well glass fixtures	5 %
5	Neoprene gasket	25% for each type of gasket
6	Control gear components like capacitor, fuses etc.	1 Set / Rating
7	Bulbs / Lamps	10 % of each Wattage rating

Sr. No.	Part Description	Quantity Required
D.	UPS (One set of spares for each rating of UPS)	
1	SCR of all types & ratings	10% with min. 1 No. for each type & rating
2	IGBT of all types & ratings	10% with min. 1 No. for each type & rating
3	PCBs of all types	1 Set
4	Control fuses	20% for each rating of fuse
5	Power fuses	20% for each rating of fuse
6	Switching module with static switch	1 Set
7	Power supply card	1 Set
8	Operating console card / control logic card	1 Set
9	Cooling fans	1 Set
10.	Indicating Lamps	10% with min three nos
11.	Indicating Lamps covers	2 nos of each colour
E.	BATTERY (One set of spares for each type & rating of Battery)	
1	Complete Battery cell	1 Nos
2	Vent plugs per set	1 Nos
3	Inter cell connector per set	2 Nos
4	Nut , bolts and washer per set	2 Nos
F.	LOCAL CONTROL STATIONS	
1	CNT switch knob	10% (1 No. min.)
2	Auto / Manual switch knob	10% (1 No. min.)
3	Terminals	10%
4	Push buttons	10% of each type (Min. 2 Nos.)

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Note:	
1.	The word 'Set' means the quantity required for full replacement of that part in one equipment.
2.	The Bidder shall quote for all the mandatory spares as defined above.
3.	Spare parts shall be identical in all respects to the parts fitted on the main equipment, including dimensions, material of construction & heat treatment.

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6.0 INSTRUMENTATION

SI. No.	Part Description	Quantity Required	
	Mandatory spares shall be quoted and included in base price as follows:		
1	FIELD INSTRUMENTS		
1.1	Pressure Gauges	20% (Subject to min. of 1) of each type, range, material of construction and rating, whichever is higher.	
1.2	Field Transmitters for Pressure, Flow (DP), Level(DP) and others	10% or minimum of 1, whichever is higher of each type, range (model no.), make and material of construction	
1.3	Ultrasonic / Radar instrument	1 number electronic card of each type	
1.4	PLC and SCADA	These spares are in addition to 20% installed spares	
	A) Modules	5% or minimum 2 modules of each type (processor module, I/O module, communication module, power supply module etc.) being used inclusive of those used in consoles. This shall include spare modules for hardwired instruments also.	
		10 % or minimum 2 nos. of Safety Barriers, Signal Converters, Trip Amplifiers etc.	
		20% or minimum one no. of each type of Fuses, MCB's, Auxiliary relays.	
		2 Nos. of bulk power supply unit of each rating	
		10 % or minimum 2 nos. of communication system components such as hubs, switches, routers, etc. whichever is higher	
1.5	Loop powered indicators	20% (subject to minimum of 1) of Loop powered indicators used, whichever is higher	
1.6	Panel mounted instruments	10% or minimum one no. whichever is higher	
NOTES :-			
1	Above-mentioned mandatory spares list defines the minimum requirement. Contractor to provide any additional items as recommended by manufacturer. Contractor to submit mandatory spares list to Owner / PMC for approval.		

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2	Contractor to submit spares list for 2-year operation and maintenance. The prices shall be valid for at least 2 years from date of order.
3	All spare items required for commissioning shall be supplied by contractor.
4	Next rounded figure to be considered wherever % is specified. Example: For total 11 Nos. Instruments with 10% spares basis, 2 Nos. spares shall be provided.

7.0 GENERAL NOTES**7.1 MANDATORY SPARE PARTS LIST**

Mandatory spares, as per the above list shall be quoted and the price of the same shall be included in the lump sum price. As soon as these spares are received at site, the same shall be inspected by Owner, EPCC and the same shall be handed over to owners O&M stores.

7.2 O&M SPARES

Bidder shall submit an exhaustive list of all spare parts with unit rate recommended for the normal operation of the plant for 2 years. Owner would review and select the parts from this list. The bidder shall also furnish necessary section, part list, catalogues for all items of mechanical, electrical and instrumentation etc with ordering information.

7.3 ERECTION & COMMISSIONING SPARES

Contractor shall ensure adequate supply of all spares including consumables as conceived by him for successful erection and commissioning of the plant till handing over. The price of the same shall be included in the lump sum price.

7.4 CONSUMABLES

All consumables shall be supplied and replenished by EPCC upto handing over of the entire plant.

7.5 This list is applicable to individual items in packaged equipment also.