

SCHEDULE OF RATES

PART A

UPSTREAM (GSU/C2+ RECOVERY, ECU-I&II)



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL **ANNEXURE-I**

PART-A-UPSTREAM- GSU/C2+ RECOVERY AND ECU-I &II **PAGE-**

PART-A -SUMMARY OF TOTAL COSTS INCLUDING SECTION-I, SECTION-II & SECTION-III

SI No	CATAGORIES	DESCRIPTION	TOTAL AMOUNT (INR)
1	PART-A (I)	SOR based Piping related maintenance activities	
2	PART-A (II)	SOR based Equipment related maintenance activities	
3	PART-A (III)	Mandays cost for Critical equipments maintenance activities, emergency shutdown activities etc.	
PART-A :: GRAND TOTAL EXCLUDING SERVICE TAX (INR)=			



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

ANNEXURE-I

SCHEDULE OF RATES (SOR)

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-I &II

Page-

PART-A (I)- PIPING RELATED MAINTENANCE ACTIVITIES

SL NO	ITEM DESCRIPTION	UOM	QNTY	RATE (INR)	AMOUNT (INR)
1.0	FLANGE OPENING & BOX UP				
	Flange opening of 150 rating Flanges				
1.1	Flanges of #150 rating :Opening or Boxing up of flanges with new gasket; gasket replacement after cleaning of gasket faces < cutting of gasket from sheets wherever required >; inserting or removal of spectacle blind/ tail blind wherever necessary to isolate piping; equipments such as column; furnace etc. ; including supply of tools; tackles and manpower necessary to complete the job up to the satisfaction of Engineer In-Charge. If hot bolting is required it is to be done without any extra cost. The flange sizes of-				
1.1.1	Flange Opening 0.5-1.5" sizes x 150 #	NOS. (PAIRS)	300.00		
1.1.2	Flange opening 2"-3"x150#	NOS. (PAIRS)	300.00		
1.1.3	Flange opening 4-8"x150#	NOS. (PAIRS)	200.00		
1.1.4	Flange opening 10-14"x150#	NOS. (PAIRS)	150.00		
1.1.5	Flange opening 16-18"x150	NOS. (PAIRS)	100.00		
1.1.6	Flange opening 20"x150# and above	NOS. (PAIRS)	85.00		
	Flange opening of 300-600 rating Flanges				
1.2	Flanges of 300-600 rating :Opening or Boxing up of flanges with new gasket; gasket replacement after cleaning of gasket faces < cutting of gasket from sheets wherever required >; inserting or removal of spectacle blind/ tail blind wherever necessary to isolate piping; equipments such as column; furnace etc. ; including supply of tools; tackles and manpower necessary to complete the job up to the satisfaction of Engineer In-Charge. If hot bolting is required it is to be done without any extra cost. The flange sizes of-				
1.2.1	Flange Opening 0.5-1.5" sizes x 300#-600 #	NOS. (PAIRS)	300		
1.2.2	Flange opening 2"-3"x300#-600 #	NOS. (PAIRS)	250		



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

ANNEXURE-I

SCHEDULE OF RATES (SOR)

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-I &II

Page-

PART-A (I)- PIPING RELATED MAINTENANCE ACTIVITIES

SL NO	ITEM DESCRIPTION	UOM	QNTY	RATE (INR)	AMOUNT (INR)
1.2.3	Flange opening 4-8"x300#-600 #	NOS. (PAIRS)	200		
1.2.4	Flange opening 10-14"x300#-600 #	NOS. (PAIRS)	100		
1.2.5	Flange opening 16-18"x300#-600 #	NOS. (PAIRS)	85		
1.2.6	Flange opening 20"x 300#-600# and above	NOS. (PAIRS)	65		
	Flange opening of 900-2500 rating.				
1.3	Flanges of 900# to 2500#: Opening or Boxingup of flanges with new gasket; gasket replacement after cleaning of gasket faces < cutting of gasket from sheets wherever required > inserting or removal of spectacle blind /tail blind wherever necessary to isolate piping; equipments such as column; furnace etc. ; including supply of tools; tackles and manpower necessary to complete the job up to the satisfaction of Engineer In-Charge. If hot bolting is required it is to be done without any extra cost.				
1.3.1	Flange Opening 0.5-1.5" sizes x 900#-2500 #	NOS. (PAIRS)	100		
1.3.2	Flange opening 2"-3"x900#-2500 #	NOS. (PAIRS)	100		
1.3.3	Flange opening 4-8"x 900#-2500 #	NOS. (PAIRS)	100		
1.3.4	Flange opening 10-14"x 900#-2500 #	NOS. (PAIRS)	60		
1.3.5	Flange opening 16-18"x 900#-2500 #	NOS. (PAIRS)	50		
1.3.6	Flange opening 20"x900#-2500 # and above	NOS. (PAIRS)	45		
2.0	HOT BOLTING OF FLANGES				
2.1	Hot bolting per inch dia for 150# of flange	ID	300		
	Hot bolting per inch-dia for 150# of flanges at all height as per instruction of E-I-C				
2.2	Hot bolting per inch-dia for 300-600# of flange	ID	300		
	Hot bolting per inch-dia for 300-600# of flanges at all height as per instruction of E-I-C				
2.3	Hot bolting per inch-dia for 900-2500# of flanges	ID	250		
	Hot bolting per inch-dia for 900-2500# of flanges at all height as per instruction of E-I-C				



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

ANNEXURE-I

SCHEDULE OF RATES (SOR)

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-I &II

Page-

PART-A (I)- PIPING RELATED MAINTENANCE ACTIVITIES

SL NO	ITEM DESCRIPTION	UOM	QNTY	RATE (INR)	AMOUNT (INR)
3.0	<u>PIPELINE STRAINER CLEANING</u>				
3.1	<u>Strainer cleaning for all types & all sizes</u> Strainer cleaning for all types & all sizes (excluding channel/Basin strainer) take-out the strainer from body; clean the strainer/strainer sitting area with steam; water; air; cold repairing if necessary; box up after cleaning in all respect (flange opening & box-up as per flange rate) as per instruction of E-I-C				
3.1.1	Upto 4"	NOS	40		
3.1.2	4" to 12"	NOS	100		
3.1.3	above 12"	NOS	50		
3.2	<u>Channel strainer cleaning 2x1.5m"</u> Channel Strainer Size 2m *1.5m Cleaning including lifting of strainer from position using chain pully or necessary lifting device; cleaning & refitting the strainer in proper position as per instruction of EIC	NOS	100		
3.3	<u>Basin strainer cleaning 3.5x1.5m"</u> Basin Strainer Size 3.5m * 1.5m Cleaning including lifting of strainer from position using chain pully or necessary lifting device ; cleaning and refitting the strainer in proper position as per instruction of E-I-C	NOS	100		
3.4	<u>Pre & Post filter cleaning dryer</u> Pre & Post filter cleaning < Dryer Section > including dismantling of top cover flange ; filter candle ; cleaning & boxup as per instruction of E-I-C.	NOS	20		
3.5	<u>Lube oil, gas filter cleaning upto 4"</u> Lube oil/gas Filter cleaning/changing upto 4inch size flange or screw joint excluding flange/screwed joint rate including all arrangements of tool and tacksels as may be required; Cleaning of parts as required ;Offering BCPL for inspection if required ; shifting of all spares from workshop/store; Job isto be done as per instruction of BCPL representative ;all relevant data are to be recorded and handed over to concerned engineer in soft and hard copy	NOS	100		
3.6	<u>Lube oil, gas filter cleaning above 4"</u> Lube oil/gas Filter cleaning/changing more than 4inch size flange or screw joint excluding flange/screwed joint rate including all arrangements of tool and tacksels as may be required; Cleaning of parts as required ;Offering BCPL for inspection if required ; shifting of all spares from workshop/store; Job is to be done as per instruction of BCPL representative ;all relevant data are to be recorded and handed over to concerned engineer in soft and hard copy	NOS	150		



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

ANNEXURE-I

SCHEDULE OF RATES (SOR)

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-I &II

Page-

PART-A (I)- PIPING RELATED MAINTENANCE ACTIVITIES

SL NO	ITEM DESCRIPTION	UOM	QNTY	RATE (INR)	AMOUNT (INR)
4.0	PSV MAINTENANCE				
4.1	Dismantling of PSV/TSV (Upto 3 M Height from Ground Level) : Dismantling of PSV/TSV (Upto 3 M Height from Ground Level) ;at all elevation and at all locations;blinding the inlet and outlet connections;dropping it to ground level safely;transporting to workshop for necessary maintenance and repair by other agency;transporting from workshop to site after repair;deblinding the inlet/outlet connections;cleaning...				
4.1.1	Size 0.5" - 8" -Upto 3 M Height from Ground Level	Nos	150		
4.1.2	Size: 8" to 14" -Upto 3 M Height from Ground Level	Nos	100		
4.1.3	Sizes above 14" -Upto 3 M Height from Ground Level	Nos	60		
4.2	Dismantling of PSV/TSV (3 M - 10 M Height from Ground Level) : Dismantling of PSV/TSV (3 M - 10 M Height from Ground Level) ;at all elevation and at all locations;blinding the inlet and outlet connections;dropping it to ground level safely;transporting to workshop for necessary maintenance and repair by other agency;transporting from workshop to site after repair;deblinding the inlet/outlet connections;cleaning...				
4.2.1	Size 0.5" - 8" (3 M - 10 M Height from Ground Level)	NOS	40		
4.2.2	Size 8" - 14" (Upto 3 M - 10 M Height from Ground Level)	NOS	30		
4.2.3	Above 14" (Upto 3 M - 10 M Height from Ground Level)	NOS	25		



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

ANNEXURE-I

SCHEDULE OF RATES (SOR)

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-I &II

Page-

PART-A (I)- PIPING RELATED MAINTENANCE ACTIVITIES

Sl NO	ITEM DESCRIPTION	UOM	QNTY	RATE (INR)	AMOUNT (INR)
4.3	<u>Dismantling of PSV/TSV (Above 10 M Height from Ground Level) :</u>				
	Dismantling of PSV/TSV (Above 10 M Height from Ground Level) ;:at all elevation and at all locations;blinding the inlet and outlet connections;dropping it to ground level safely;transporting to workshop for necessary maintenance and repair by other agency;transporting from workshop to site after repair;deblinding the inlet/outlet connections;cleaning...				
	4.3.1 Size 0.5" - 8" (Above 10 M Height from Ground Level)	NOS	25		
	4.3.2 Size 8" - 14" (Above 10 M Height from Ground Level)	NOS	25		
4.3.3	Above 14" (Above 10 M Height from Ground Level)	NOS	20		
5	<u>ERECTION & DISMANTLING OF SCAFFOLDING</u>				
5.1	Providing and fixing double scaffolding system (cup lock type), up to 06 meter height above ground level, including additional rows of scaffolding in stepped manner as per requirement of site, made with 40 mm dia M.S. Tube, placed 1.5 meter center to center, horizontal and vertical tube jointswith cup and lock system with MS Tubes, MS Tube chalis, MS Clamps and staircase system in the scaffolding for working platform etc and maintaining it in a serviceable condition for complete execution of work and removing it thereafter. The scaffolding system shall be stiffened with bracings, Runners, connecting with the bulding/structure etc wherever required, if feasible, for inspection of work at required locations with essential safety features for the workmen etc. complete as per directions and approval of Engineer-In-Charge. (Note- the volume of the scaffolding i.e. Height and plan area at the top shall be measured for payment purpose)	Cubic Meter	2000		
5.2	Same as item at Sl No- 5.1, but for height up to 10 meter above ground level	Cubic Meter	2000		
5.3	Same as item at Sl No- 5.1, but for height up to 20 meter above ground level	Cubic Meter	2000		
5.4	Same as item at Sl No- 5.1, but for height up to 30 meter above ground level	Cubic Meter	2000		
5.5	Same as item at Sl No- 5.1, but for height up to 50 meter above ground level	Cubic Meter	2000		
5.6	Same as item at Sl No- 5.1, but for height from 10 meter to 20 meter level	Cubic Meter	1000		
5.7	Same as item at Sl No- 5.1, but for height from 20 meter to 30 meter level and above	Cubic Meter	1000		



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

ANNEXURE-I

SCHEDULE OF RATES (SOR)

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-I &II

Page-

PART-A (I)- PIPING RELATED MAINTENANCE ACTIVITIES

SL NO	ITEM DESCRIPTION	UOM	QNTY	RATE (INR)	AMOUNT (INR)
6	OPENING & BOXING UP OF SCREWED FITTINGS				
	Opening and Boxing up of screwed fittings at all height and location with thread sealant; replacement of ferrul etc.; including tightening against leak if there when taken on line ; complete the job up to the satisfaction of Engineer In-Charge..(Excluding Instrumentation Fittings)				
6.1	Screwed fitting upto 3"	NOS	100		
6.2	Screwed fitting 3-6"	NOS	75		
6.3	Screwed fitting above 6"	NOS	50		
7	FABRICATION, WELDING & ERECTION				
	CS-NIBR pipe Fit-up				
7.1	CS pipe Fit-up of different sizes in all site or in position on ground; overhead; at all elevations; including transportation of pipes; flanges; fittings etc. from owner's storage point to work site, deploying adequate resources & complete the job as per satisfaction of E.I.C.	ID	1150		
	CS-NIBR pipe Welding by SMAW				
7.2	CS Pipe Welding by SMAW of different sizes in all site or in position on ground; overhead; at all elevations; including transportation of pipes; flanges; fittings etc. from owner's storage point to work site, deploying adequate resources & complete the job as per satisfaction of E.I.C.	ID	1150		



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

SCHEDULE OF RATES (SOR)

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-I &II

PART-A (I)- PIPING RELATED MAINTENANCE ACTIVITIES

ANNEXURE-I

Page-

SL NO	ITEM DESCRIPTION	UOM	QNTY	RATE (INR)	AMOUNT (INR)
7.3	CS-NIBR pipe Welding by TIG Welding	ID	500		
	CS Pipe Welding by TIG Welding of different sizes in all site or in position on ground; overhead; at all elevations; including transportation of pipes; flanges; fittings etc. from owner's storage point to work site, deploying adequate resources & complete the job as per satisfaction of E.I.C.				
7.4	SS-NIBR pipe Fit-up	ID	500		
	SS pipe Fit-up of different sizes in all site or in position on ground; overhead; at all elevations; including transportation of pipes; flanges; fittings etc. from owner's storage point to work site, deploying adequate resources & complete the job as per satisfaction of E.I.C.				
7.5	SS-NIBR pipe Welding by SMAW	ID	500		
	SS Pipe Welding by SMAW of different sizes in all site or in position on ground; overhead; at all elevations; including transportation of pipes; flanges; fittings etc. from owner's storage point to work site, deploying adequate resources & complete the job as per satisfaction of E.I.C.				
7.6	SS-NIBR pipe Welding by TIG Welding	ID	500		
	SS Pipe Welding by TIG Welding of different sizes in all site or in position on ground; overhead; at all elevations; including transportation of pipes; flanges; fittings etc. from owner's storage point to work site, deploying adequate resources & complete the job as per satisfaction of E.I.C.				
7.7	Alloy steel / LTCS / Monel / Dissimilar material Piping Fit up	ID	250		
	Alloy steel / LTCS / Monel / Dissimilar material Piping Fit up of different sizes in all site or in position on ground; overhead; at all elevations; including transportation of pipes; flanges; fittings etc. from owner's storage point to work site, deploying adequate resources & complete the job as per satisfaction of E.I.C.				
7.8	Alloy steel / LTCS / Monel / Dissimilar material Piping TIG Welding	ID	250		
	Alloy steel / LTCS / Monel / Dissimilar material Piping TIG Welding of different sizes in all site or in position on ground; overhead; at all elevations; including transportation of pipes; flanges; fittings etc. from owner's storage point to work site, deploying adequate resources & complete the job as per satisfaction of E.I.C.				
7.9	Brazing of all kind of materials	ID	750		
7.10	Alloy Steel / LTCS / GR-3 / SS 304, 304L, 304H, 308, 308H, 316, 316L/Dissimilar Welding/Welding with any Special Electrode Piping	ID	250		



ANNEXURE-I

ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

SCHEDULE OF RATES (SOR)

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-I &II

PART-A (I)- PIPING RELATED MAINTENANCE ACTIVITIES

Page:-

SL NO	ITEM DESCRIPTION	UOM	QNTY	RATE (INR)	AMOUNT (INR)
7.11	Erection of piping(any schedule) Erection of piping(any schedule), job includes transportation of materials from store /fabrication yard, boxing up of flange joints of pipes, valves, etc.	IM	3500		
8	OTHER PIPING RELATED MACHINING ACTIVITIES				
8.1	CS-NIBR pipe Flame Cutting of different sizes CS pipe Flame Cutting of different sizes in all site or in position on ground; overhead; at all elevations; including transportation of pipes; flanges; fittings etc. from owner's storage point to work site, deploying adequate resources & complete the job as per satisfaction of E.I.C.	ID	750		
8.2	CS-NIBR pipe Beveling of different sizes CS pipe Beveling of different sizes in all site or in position on ground; overhead; at all elevations; including transportation of pipes; flanges; fittings etc. from owner's storage point to work site, deploying adequate resources & complete the job as per satisfaction of E.I.C.	ID	500		
8.3	SS-NIBR pipe Cutting of different sizes SS pipe Cutting of different sizes in all site or in position on ground; overhead; at all elevations; including transportation of pipes; flanges; fittings etc. from owner's storage point to work site, deploying adequate resources & complete the job as per satisfaction of E.I.C.	ID	600		
8.4	SS-NIBR pipe Beveling of different sizes SS pipe Beveling of different sizes in all site or in position on ground; overhead; at all elevations; including transportation of pipes; flanges; fittings etc. from owner's storage point to work site, deploying adequate resources & complete the job as per satisfaction of E.I.C.	ID	500		
8.5	AS pipe Flame Cutting of different sizes AS pipe Flame Cutting of different sizes in all site or in position on ground; overhead; at all elevations; including transportation of pipes; flanges; fittings etc. from owner's storage point to work site, deploying adequate resources & complete the job as per satisfaction of E.I.C.	ID	300		



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

ANNEXURE-I

SCHEDULE OF RATES (SOR)

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-I &II

Page-

PART-A (I)- PIPING RELATED MAINTENANCE ACTIVITIES

SL NO	ITEM DESCRIPTION	UOM	QNTY	RATE (INR)	AMOUNT (INR)
8.6	AS pipe Beveling of different sizes	ID	200		
	AS pipe Beveling of different sizes in all site or in position on ground; overhead; at all elevations; including transportation of pipes; flanges; fittings etc. from owner's storage point to work site, deploying adequate resources & complete the job as per satisfaction of E.I.C.				
9	PIPING HYDROTESTING/PNEUMATIC TESTING				
9.0	CS/AS/SS Pipe Hydrotesting/ Pneumatic Testing of pipings :	IM	10000		
	CS/AS/SS Pipe Hydrotesting/ Pneumatic Testing of pipings : Carrying out per inch dia per mtr. hydrotesting/ pneumatic testing as specified including all other miscellaneous works like blinding, de-blinding etc.; supply of tools, tackles, pressure gauge, hydro test pump and other resources necessary to complete the job upto the satisfaction of Engineer In-Charge. Hydraulic / Pneumatic testing of pipes: Work involves hydrostatic test ,pneumatic pressure testing as per site requirement. It includes all blinding & debinding jobs,gasket replacement,leakage arresting as per requirements.Hydro/pneumatic testing to be carried out on line as per instruction of Engineer-in-charge. Work involves hydrostatic test, pneumatic pressure testing as per requirement. It is being clarified here that for pipelines fabricated and erected by the contractor, hydraulic / pneumatic testing of the same will be in the scope of contractor and no separate payment will be made for that. However, if the contractor is asked to test any existing pipeline, he will be paid for the same as per SOR. The blinding / de-blinding work, gasket replacement, valves removal required for the test and normalization thereafter will be in the scope of this job and the contractor would not be paid separately for the same				
10	VALVES MAINTENANCE ACTIVITIES				
10.1	Dropping of valves (Any Type, Any rating , at any elevation & by any means):				
	Securely supporting the valve with lifting device/jacking device; Dismantling of end connections of the valve by cutting/loosening of fasteners; Removal of valve from site to designated place/scrap.				
10.1.1	Valves sizes -2"-4"	NOS	200		
10.1.2	Valves sizes -6"-16"	NOS	125		
10.1.3	above 16"	NOS	90		



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

ANNEXURE-I

SCHEDULE OF RATES (SOR)

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-I &II

Page:-

PART-A (I)- PIPING RELATED MAINTENANCE ACTIVITIES

SL NO	ITEM DESCRIPTION	UOM	QNTY	RATE (INR)	AMOUNT (INR)
10.2	Erection of valves (Any Type, Any rating & at any Height) :				
	Removal of dirt/grease/rust/foreign particles from seating surface & fasteners.; Alignment of end connection of valve with the existing pipeline; Boxing up of the flanged valves or erection of welded end valves up to edge preparation & fit up job excluding welding, welding shall be paid separately as per applicable SOR.	NOS			
	Valves sizes -2" -4"	NOS	200		
	Valves sizes -6"-16"	NOS	125		
	above 16"	NOS	90		
10.3	Internal repairing (Opening of bonnet) of all type of Valves				
	Opening of bonnet of all type of gate; g lobe; ball; plug; check; needle; butterfly; control valves or any other similar valves of all sizes and all rating; at all elevations and at all locations; inside cleaning ; replacement of damaged gasket with new one or if required; cut from gasket sheet to proper size; if required, repairing of valve sheet etc. and box-up as per satisfaction of E.I.C.				
	Valves sizes -2" -4"	NOS	200		
	Valves sizes -6"-16"	NOS	100		
	above 16"	NOS	90		
10.4	Dismantling/Assembling of all types of Valves # 150 rating				
	Dismantling/assembling of all type of gate ; globe; ball; plug;check; needle; butterfly; control valves or any other similar valves of all size of 150#; at all elevations and at all locations; dropping it to ground level safely; transporting to & from workshop/store/open yard for necessary maintenance/repair/storage/erection; box-up with proper gasket; if required cutting from gasket sheet after cleaning studs; gasket faces etc. and complete the job as per satisfaction of E.I.C.				
	Valves sizes -2" -4"	NOS	200		
	Valves sizes -6"-16"	NOS	100		
	above 16"	NOS	50		



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

ANNEXURE-I

SCHEDULE OF RATES (SOR)

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-I &II

Page--

PART-A (I)- PIPING RELATED MAINTENANCE ACTIVITIES

SL NO	ITEM DESCRIPTION	UOM	QNTY	RATE (INR)	AMOUNT (INR)
	Dismantling/Assembling of all type of Valves #300-#600 rating				
10.5	Dismantling/assembling of all type of gate ; globe; ball; plug;check; needle; butterfly; control valves or any other similar valves of all size of 300-600# per inch-dia basis; at all elevations and at all locations; dropping it to ground level safely; transporting to & from workshop/store/open yard for necessary maintenance/repair/storage/erection; box-up with proper gasket; if required cutting from gasket sheet after cleaning studs; gasket faces etc. and complete the job as per satisfaction of E.I.C.				
10.5.1	Valves sizes -2"-4"	NOS	200		
10.5.2	Valves sizes -6"-16"	NOS	100		
10.5.3	above 16"	NOS	50		
	Dismantling/assembling of all type of Valves #900-#2500 rating				
10.6	Dismantling/assembling of all type of gate ; globe; ball; plug;check; needle; butterfly; control valves or any other similar valves of all size of 900-2500# per inch-dia basis; at all elevations and at all locations; dropping it to ground level safely; transporting to & from workshop/store/open yard for necessary Maintenance/repair/storage/erection; box-up with proper gasket; if required cutting from gasket sheet after cleaning studs; gasket faces etc. and complete the job as per satisfaction of E.I.C.				
10.6.1	Valves sizes -2"-4"	NOS	100		
10.6.2	Valves sizes -6"-16"	NOS	75		
10.6.3	above 16"	NOS	50		
	Gland repacking of all type of Valves				
10.7	Gland repacking of all type of gate; globe; ball; plug; check; needle; butterfly; control valves or any other similar valves of all size & all rating ; at all elevations and at all locations; with proper size & specification of gland packing; extracting the damaged packings with proper tools; cutting the new packings into proper size; if required tighten after the valve taken in to service; as per instruction of E.I.C.				



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

ANNEXURE-I

SCHEDULE OF RATES (SOR)

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-I &II

Page-

PART-A (I)- PIPING RELATED MAINTENANCE ACTIVITIES

SL NO	ITEM DESCRIPTION	UOM	QNTY	RATE (INR)	AMOUNT (INR)
10.7.1	Valves sizes -2"-4"	NOS	200		
10.7.2	Valves sizes -6"-16"	NOS	100		
10.7.3	above 16"	NOS	75		
	<u>Tightening of gland of type of Valves</u>				
10.8	Tightening of gland of type of gate; globe; ball; plug; check; needle; butterfly; control valves or any other similar valves of all size & all ratings; at all elevations and at all locations; to arrest leakage as per satisfaction of E-I-C.	NOS	200		
	<u>Greasing of all type of Valves</u>				
10.9	Greasing of valve stem / bush.; Operating the valve for smoothening, if required of all type of gate; globe; ball; plug; check; needle; butterfly valves or any other similar valves of all size & all rating; at all elevations and at all locations by hand or grease gun as per requirement; after removing old grease and cleaning properly as per instruction of E-I-C.	NOS	250		
	<u>Gland Leakage Rectification of valve by tightening/replacement as per requirement</u>				
10.10	Removal of gland and old packing material; Cutting of new packing material to size; Assembly of gland with new packing material	NOS	200		
	<u>External Repairing/replacement of wheel/lock nut/ yoke nut/eye bolt etc. of all type of valves</u>				
10.11	Repairing/replacement of wheel/lock nut/ yoke nut/eye bolt etc. of all type of gate; globe; ball; plug; check; needle; butterfly; control valves or any other similar valves of all size & all rating; at all elevations as per instruction of EIC	NOS	150		
11	<u>CLAMP RELATED ACTIVITIES</u>				
	<u>Clamp fabrication Size upto 6inch <dia.</u>				
11.1	Clamp fabrication Size upto 6inch <dia.or cross sectional diagonal> from pipe; structural as per required shape & size; Transportation of all piping items from BCPL's storage point to work site/work shop; fabrication including cutting/grinding; edge preparation; inclusive of grinding the edges of pipe; fittings; flanges etc. to match with the mating edges of uneven; different thickness wherever required; fit-up; bending; welding; threading etc. at all elevation; fulfilling NDT performance; NDT under BCPL's scope; as required by Inspection deptt. of BCPL; with all arrangement for inspection; completing all such works in all respect; including preparation of drawings; as per specification; & instruction of E-I-C.	NOS	75		



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

ANNEXURE-I

SCHEDULE OF RATES (SOR)

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-I &II

Page-

PART-A (I)- PIPING RELATED MAINTENANCE ACTIVITIES

SL NO	ITEM DESCRIPTION	UOM	QNTY	RATE (INR)	AMOUNT (INR)
11.2	Clamp fabrication Size above 6inch <dia.				
	Clamp fabrication Size above 6inch <dia. or cross sectional diagonal> from pipe; structural as per required shape & size; Transportation of all piping items from BCPL's storage point to work site/work shop; fabrication including cutting/grinding; edge preparation; inclusive of grinding the edges of pipe; fittings; flanges etc. to match with the mating edges of uneven; different thickness wherever required; fit-up; bending; welding; threading etc. at all elevation; fulfilling NDT performance; NDT under BCPL's scope; as required by inspection deptt. of BCPL; with all arrangement for inspection; completing all such works in all respect; including preparation of drawings; as per specification; & instruction of E-I-C.	NOS	50		
11.3	Opening or Boxing up size: up to 6inch of Clamps at all height and location including underground with sealant				
	Opening or Boxing up size: up to 6inch of Clamps at all height and location including underground with sealant<magic wrap etc.> in online or offline piping; Cleaning the area where clamping to be done; cutting gasket from sheet; flexible hose wherever required; removing and inserting plugs wherever necessary to arrest leakage; removing water in underground leak by manual or pump; tightening against leak; complete the job up to the satisfaction of Engineer In-Charge.	NOS	50		
11.4	Opening or Boxing up Size: above 6inch <dia. or cross sectional diagonal> of Clamps at all height and location including underground with sealant				
	Opening or Boxing up Size: above 6inch <dia. or cross sectional diagonal> of Clamps at all height and location including underground with sealant<magic wrap etc.> Cleaning the area where clamping to be done; cutting gasket from sheet; flexible hose wherever required; removing and inserting plugs wherever necessary to arrest leakage; removing water in underground leak by manual or pump; tightening against leak; complete the job up to the satisfaction of Engineer In-Charge.	NOS	75		
12	STRUCTURAL STEEL ACTIVITIES				
12.1	Fabrication of steel structural				
	Fabrication of steel structural including transportation of material from owner's storage point to fabrication site/ work shop for pipe racks ; staircases; hand rails; gratings; ladders; platforms brackets etc. of all types; preparation of necessary drawings; including supply of all tools & tackles; equipments; machinery; consumables labour etc. necessary to complete the job in all respect as per drawing; codes& specification; including supply & application of one coat of red oxide primer; as per instruction of engineer incharge.< structural steel material; including nut bolt; washers; etc. will be supplied by BCPL	MT	10		



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

ANNEXURE-I

SCHEDULE OF RATES (SOR)

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-I &II

Page-

PART-A (I)- PIPING RELATED MAINTENANCE ACTIVITIES

SL NO	ITEM DESCRIPTION	UOM	QNTY	RATE (INR)	AMOUNT (INR)
12.2	<u>Structural Erection (e.g. platform, stair case, hand railing, grating etc.) including primer coating.</u> Issuance of all structural items from BCPL designated stores / other storage areas to the site as per instructions of ENGINEER-IN-CHARGE; Supply of all kind of machinery, tools, tackles and consumable items required to complete the erection job are in the scope of the contractor.; Gas Cutting, grinding etc.; Welding as per standard.; Erection at site including handling.; Primer Coat with Red Oxide Primer.; Erection and return of excess/unused material (as per standard Engineering practice) to BCPL designated stores / other storage areas as per instructions of ENGINEER-IN-CHARGE.	MT	10		
12.3	<u>Dismantling of structures of all categories inclusive of Gas cutting, removal of bolts / nuts etc. as per ENGINEER-IN-CHARGE including transporting, unloading & stacking etc. at yard.</u> Dismantling of existing structural work by cutting; grinding; gauging; ncluding cleaning the area; grinding & making smooth the uneven cut surfaces and returning the cut out materials to BCPL store; All kind of machinery, tools, tackles and consumable items required to complete the above job are in the scope of the contractor; equipments; machinery; consumables labour etc. necessary to complete the job in all respect as per drawing; codes; specification & instructions of Engineer In-Charge;	MT	10		
13	<u>SWIVEL JOINTS DISMANTLING & REPAIRING</u>				
13.1	<u>Dismantling or erection of swivel joints by opening or box up of flanges; transportation of swivel joint to and from owner's storage point or maint. Yard completing the job in all respects with supply of all tools; tackles; trolley for transportation of swivel joints as per the instruction of E-I-C.</u>				
13.1.1	Swivel joint dismantling 3" - 4"	NOS	20		
13.1.2	Swivel joint dismantling 6" - 8" and above	NOS	25		
13.2	<u>Repairing of swivel joints by dismantling the bearing balls; lip seal; O' rings; providing tags for identification; cleaning of all parts; reassemble changing parts if reqd. to complete as per the instruction of E-I-C</u>				
13.2.1	Swivel joint repairing 3-4"	NOS	20		
13.2.2	Swivel joint repairing 6-8" and above	NOS	20		



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

ANNEXURE-I

SCHEDULE OF RATES (SOR)

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-I &II

Page-

PART-A (I)- PIPING RELATED MAINTENANCE ACTIVITIES

SL NO	ITEM DESCRIPTION	UOM	QNTY	RATE (INR)	AMOUNT (INR)
14	PLATE CUTTING & WELDING				
14.1	Plate cutting per mm thickness per running mtr.:To & fro Transportation of plates of all sizes from owners storage point to working site, Gas cutting of plates, finishing edge preparation by grinding, deploying adequate resources and complete the job as per satisfaction of E.I.C., UOM: MM thk per RM				
14.1.1	CS Plate cutting per mm thickness per running mtr	RM	500		
14.1.2	SS/AS Plate cutting per mm thickness per running mtr	RM	100		
14.2	Plate welding per mm thickness per running mtr.:To & fro Transportation of plates of all sizes from owners storage point to working site, Edge preparation by grinding, Fit-up & welding with proper electrode, ensuring interstage & final job quality through BCPL., deploying adequate resources and complete the job as per satisfaction of E.I.C., UOM: MM thk per RM				
14.2.1	CS Plate welding per mm thickness per running mtr	RM	250		
14.2.2	AS/SS Plate welding per mm thickness per running mtr.	RM	100		
14.3	Repair / Tack / Stitch / Plate welding(applicable for old/existing structures/pipings, etc	RM	20		



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

ANNEXURE-I

SCHEDULE OF RATES (SOR)

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-I &II

Page-

PART-A (I)- PIPING RELATED MAINTENANCE ACTIVITIES

SL NO	ITEM DESCRIPTION	UOM	QNTY	RATE (INR)	AMOUNT (INR)
15	MISCELLANEOUS ACTIVITIES				
	COPPER TUBING WORKS				
15.1	Copper Tubing work: Transportation of all Cu-tubing & fitting items from BCPL's storage point to work site; including cutting/bending to required length; fixing of valve, fittings etc.; connecting to nearest supply point of steam;air etc.;laying over piping as steam tracing providing as sample collector and complete the job as per satisfaction of E.I.C.	RM	200		
	PIPELINE CLEANING				
15.2	Dechoking of pipe lines of all sizes and ratings at all height and locations including opening of required flanges; if necessary; dropping of pipe line; valve etc.; fixing of steam/air/water hose; dechoking and cleaning with steam/air/water; box up the lines <rate of opening & box up of flanges are as per flange rate> after dechoking as per instruction of E.I.C.				
15.2.1	Upto 6"	IM	2000		
15.2.2	6"-16"	IM	2000		
15.2.3	Above 16"	IM	2000		
	All size expansion bellow opening; fabric part dismentling in RM;				
15.3	All size expansion bellow opening; fabric part dismentling in RM; replacement; refitting ; gasket cutting from sheet; stud; bolt cleaning, complete all job related to expansion joint to the satisfaction of E.I.C.	RM	10		
15.4	DAMPER REPAIRING				
	Damper repairing upto 500mm				
15.4.1	Damper repairing/maintenance up to 500mm diagonal/diameter..	NOS	50		
	Damper repairing above 500 mm				
15.4.2	Dampner repairing more than 500 mm diagonal/diameter.	NOS	30		



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

ANNEXURE-I

SCHEDULE OF RATES (SOR)

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-I &II

Page-

PART-A (I)- PIPING RELATED MAINTENANCE ACTIVITIES

SL NO	ITEM DESCRIPTION	UOM	QNTY	RATE (INR)	AMOUNT (INR)
15.4.3	Damper rope and pulley opening Damper rope and pulley opening; repairing; fixing & re-positing/maintenance	NOS	30		
15.5	Application of cold weld/magic wrap to a rrest leakage Application of cold weld/magic wrap to a rrest leakage from any welding joint or parent metal at any height and loaction including underground piping; supply of magic wrap in BCPL's scope; as per instruction of E-I-C	Nos	50		
15.6	PIPE SUPPORT: Fabrication & erection ofdummy pipe supports PIPE SUPPORT: Fabrication & erection ofdummy pipe supports like shoes; cradles; turn buckles; T-posts etc. of all types including supply & application one coat of red oxide; zinc chromate primer; all necessary equipment; consumables; labour returning surplus materials & scrap etc. to Owners storge points & completing work as per drawing; specifications & instructions of Engineer-in-charge. <The structural steel for pipe support will be supplied by the Owner from storage point free of cost : CS Material.	MT	2		
15.7	Sparay nozzle cleaning Spray Nozzle: opening; cleaning with steam/air/water to the satisfaction of E-I-C and box up with thread sealant after cleaning; if required replenishment; in any location and complete the job as per instruction of E-I-C	NOS	200		
15.8	Steam trap repairing Rectification of faulty steam trap of all sizes & ratings at all locations including opening & cleaning of steam traps along with their internals; lapping of disc seat; assemble; testing and box up as per instruction E-I-C	NOS	120		
15.9	Transportation of materials Transportation of different mechanical /electrical items /equipments e.g. electrical motors control valve rotameters; level trols industrial Valves; etc. using cart; trolley; trailer; crane etc. as per job requirement from one location to another as per instruction of the Engineers In-charge.	MT	75		
15.10	Opening and boxing up of Box Type Manhole Cover Static equipment's Manhole Opening of all sizes & shapes opening, cleaning as per EIC's instruction and box up with proper packing's etc. as per instruction of engineer-in-chargeOpening of Manhole.; Cleaning of mating surfaces with suitable cleaning media.; Minor repair of flange/ blind/Pipe or on nozzle counterpart at seating area which may cause leakage. Shifting of Manhole flange to the work shop, after repair again shifting to site, in case it's taken for repair in workshop, is also included.; Replacement of hardware (i.e. fasteners, gaskets etc.), if required.; Cleaning of fasteners & its threads with suitable cleaning media; Final box up with new gaskets and new/cleaned fasteners and tightening; Hot bolting of the flanged joints as per requirement.	NOS	40		



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

ANNEXURE-I

SCHEDULE OF RATES (SOR)

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-1 &II

Page-

PART-A (I)- PIPING RELATED MAINTENANCE ACTIVITIES

SL NO	ITEM DESCRIPTION	UOM	QNTY	RATE (INR)	AMOUNT (INR)
15.11	Opening and box up of pontoon manway covers Opening and box up of pontoon manway covers by using the U-type lifting lugs; checking of neoprene gasket; changing it if reqd.; putting the cover lock in proper position to complete the job in all respect as per the instruction of E-I-C.	NOS	20		
15.12	Expansion bellow Maintenance All size expansion below opening, fabric part dismantling in RM, replacement, refitting, gasket cutting from sheet, Stud, Bolt Cleaning, complete all job related to expansion joint to the satisfaction of EIC.	RM	50		
15.13	WRAPPING COATING Wrapping and coating in underground piping including application of primer; as specified by BCPL Inspection deptt.;Supply of Wrapping coating and supply of material and all tools & tackles including heating torch in the contractors scope; as per instruction of E-I-C	SQM	100		
15.14	Immediate Hot job group mobilisation Immediate Hot job group mobilisation with all resources like Diesel generator/ Motor generator/Rectifier as per requirement, Gas cutting sets with cylinders, Grinding machines, extension boards, power distribution board with ELCB etc.as required for carrying out Hot jobs.	OCC	5		
15.15	TIGHTENING OF ANY JOINTS (FLANGES/BLINDS/MANHOLE COVERS/THREADED JOINTS/PEEPHOLE COVER ETC. AS PER FLANGE/ PIPE SIZE/ MANHOLE SIZE FOR ANY PURPOSE WITH PARTIAL REPLACEMENT OF FASTENERS ETC, IF REQUIRED.	NOS	20		
PART-A SECTION -I-PIPING ACTIVITIES TOTAL AMOUNT (INR)=					

Applicable Service tax in %

%

(i) Evaluation shall be done on the basis of net of amount . Service tax shall be applicable as per prevailing Govt. rules at the time of invoicing.

ii) Considering nature of job in this section (Part-A (I)), applicable rate of Service Tax is 70% on 14% .i.e. 9.80%



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

ANNEXURE-I

SCHEDULE OF RATES (SOR)

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-I &II

Page-

PART-A (II) - EQUIPMENT RELATED MAINTENANCE ACTIVITIES

SL NO	ITEM DESCRIPTION	UOM	QNTY	RATE (INR)	AMOUNT (INR)
1	RECIPROCATING/PISTON/ PLUNGER / DIAPHRAGM / DOSING PUMPS MAINTENANCE like:				
1.1	Gland Packing tightening of all RECIPROCATING/PISTON/ PLUNGER / DIAPHRAGM / DOSING PUMPS e: Removal of guards, if required; Removal of dirt/grease/rust/foreign particles as per requirement; Tightening of gland including replacement of fasteners, if required.	NOS	2		
1.2	Gland Packing replacement of all RECIPROCATING/PISTON/ PLUNGER / DIAPHRAGM / DOSING PUMPS : Removal of guards, if required; Dismantling of fluid end, as per requirement; Cutting of gland packing to size, if required; Removal of dirt/grease/rust/foreign particles; Inspection/Replacement of Lantern rings/ Bushes/Other internals; Gland Packing replacement; Any sort of repair/replacement, as per requirement; Assembly.	NOS	2		
1.3	Oil seal(s) replacement of all RECIPROCATING/PISTON/ PLUNGER / DIAPHRAGM / DOSING PUMPS : Removal of guards, if required; Dismantling of power end; Removal of dirt/grease/rust/foreign particles; Inspection/Replacement of internals; Oil seal(s) replacement; Any sort of repair/replacement, as per requirement; Assembly; LO flushing & lubricating bearings/ bushings etc.	NOS	10		
1.4	Removal and fixing of coupling hub of all type of RECIPROCATING/PISTON/ PLUNGER / DIAPHRAGM / DOSING PUMPS : Removal of coupling guard; Removal of coupling spacer; Removal of dirt/grease/rust/foreign particles etc; Any sort of repair/replacement, as per requirement; Assembly of coupling hub(s); Alignment; Assembly of coupling spacer & coupling Guard	NOS	10		



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

ANNEXURE-I

SCHEDULE OF RATES (SOR)

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-I &II

Page-

PART-A (II) - EQUIPMENT RELATED MAINTENANCE ACTIVITIES

SL NO	ITEM DESCRIPTION	UOM	QNTY	RATE (INR)	AMOUNT (INR)
1.5	Suction and Discharge NRV Inspection / replacement of all RECIPROCATING/PISTON/ PLUNGER / DIAPHRAGM / DOSING	NOS	10		
	Dismantling of all suction and discharge NRVs / Check valves; Inspection/overhauling/replacement of valves as required; Inspection of other fluid end parts as required; Removal of dirt/grease/rust/foreign particles etc; Any sort of repair/replacement, as per requirement; Assembly				
1.6	Complete overhauling of all RECIPROCATING/PISTON/ PLUNGER / DIAPHRAGM / DOSING PUMPS :	NOS	11		
	Complete dismantling of pump; Shifting of pump to the workshop for repair and back to the position; Cleaning & checking/replacement of suction & discharge valves, piston, plungers, gland packing, diaphragms, oil seal, bush, gland & coupling etc.; Maintenance of stroke adjustment assembly; Maintenance of lubricator assembly; Maintenance /Inspection of all other accessories of pump; Setting of PRVs, checking of damper pressure & charging of N2; Charging of Oil in Oil chambers; Connection of suction & discharge lines with proper gasket and fasteners to pump nozzles; Alignment of pump & motor or pump & gear box and gear box and motor in case of pumps having gear box. Opening of both suction and discharge filter, cleaning & box up.; Flushing & charging of OIL & grease nipples/housings etc(not applicable for equipments having separate oil reservoirs), Job is to be done as per instruction of BCPL representative ; all relevant data are to be recorded and handed over to concerned engineer in soft and hard copy				
1.7	Preventive Maint.for reciprocating/plunger/diaphragm/dosing pumps:	NOS	20		
	Preventive Maint.for reciprocating/plunger/diaphragm/dosing pumps: Carrying out decoupling & coupling including guard open & box-up, Cold alignment, Strainer cleaning including opening & box-up of flanges, All accessories opening, cleaning & box-up, Lube oil/Grease checking & filling etc. complete and record the job as per preventive maintenance check list				
1.8	Shear pin adjustment and replacement of piston and plunger Pump	NOS	4		
	Equipment lockout as per procedure of Manual; Determine the cause of Pin failure, perform any necessary repair if possible; punch out the broken shear pin with a drift Pin; Align the equipment so that the new shear pin can be adjusted; and remove the equipment from lock out.				



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

ANNEXURE-I

SCHEDULE OF RATES (SOR)

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-I &II

PART-A (II) - EQUIPMENT RELATED MAINTENANCE ACTIVITIES

Page-

SL NO	ITEM DESCRIPTION	UOM	QNTY	RATE (INR)	AMOUNT (INR)
1.9	Packing adjustment and replacement of Piston & Plunger type Pumps	NOS	4		
	Check the pump and adjust packing; tighten the packing gland bolts tightly; if it is overtightened then loose slightly; check the packing gland for chocking or misalignment if so then do the needful				
1.10	Stroke adjustment knob repair of Diaphragm Pumps	NOS	2		
	Dismantling of adjustment knob(s); Removal of dirt/grease/rust/foreign particles etc; Minor repair/replacement, as per requirement; Assembly.				
1.11	Diaphragm replacement of Diaphragm Pumps	NOS	14		
	Dismantling of all diaphragms as required; Inspection of diaphragms/ internals as required; Removal of dirt/grease/rust/foreign particles etc; Any sort of repair/replacement, as per requirement; Assembly				
2	MAINTENANCE OF DUPLEX/TRIPLEX PUMPS MAINTENANCE				
2.1	Change Packingset/Plunger/Bush/seal each plunger of duplex/triplex pump	NOS	10		
	Change Packing set /Plunger/ Bush /seals each plunger of pump; Cleaning/Replacement of suction & discharge NRVs of individual pump; Replacement of diaphragm of each individual pump; Cleaning of plunger /diaphragm head assembly & replacement /cleaning of diaphragm, suction & discharge NRVs if required; Job is to be done as per instruction of BCPL representative ; all relevant data are to be recorded and handed over to concerned engineer in soft and hard copy				



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

ANNEXURE-I

SCHEDULE OF RATES (SOR)

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-I &II

Page-

PART-A (II) - EQUIPMENT RELATED MAINTENANCE ACTIVITIES

SL NO	ITEM DESCRIPTION	UOM	QNTY	RATE (INR)	AMOUNT (INR)
2.2	CLEANING /REPLACEMENT OF SUCTION & DISCHARGE NRVs OF INDIVIDUAL PUMP OF DUPLEX & TRIPLEX PUMP				
	Dismantling of suction & discharge NRVs and associates piping"s.; Cleaning of NRVs /replacement of NRVs, if required.; Adjustment/ cleaning of PRVs for setting pressure of each individual pump of duplex / triplex metering pumps; Replacement of diaphragm of each individual pump; Cleaning of plunger /diaphragm head assembly & replacement /cleaning of diaphragm, suction & discharge NRVs if required,.; Box up of all dismantled items Job is to be done as per instruction of BCPL representative ; all relevant data are to be recorded and handed over to concerned engineer in soft and hard copy	NOS	2		
3	MAINTENANCE OF SINGLE STAGE/ MULTISTAGE HORIZONTAL/VERTICAL CENTRIFUGAL/SCREW/GEAR PUMPS/BLOWERS/AGITATORS				
3.1	Preventive Miant.for centrifugal / Rotary pump:				
	Preventive Miant.for centrifugal / Rotary pump: Carrying out decoupling & coupling including guard open & box-up, Cold & Hot alignment, Strainer cleaning including opening & box-up of flanges, All accessories opening, cleaning & box-up, Lube oil/ Grease checking & filling etc. complete and record the job as per the Preventive Maint. check list.	NOS	17		
3.2	Removal & re-assembly of both coupling hubs (per coupling)				
	Removal of coupling guard; Removal of coupling Spacer/belt/chain, Inspection of the coupling; Removal of dirt/Grease/Rust/Foreign particles etc; Any sort of repair/replacement as per requirement, Alignment; Assembly of Coupling & Coupling guard, Job is to be done as per instruction of BCPL representative ; all relevant data are to be recorded and handed over to concerned engineer in soft and hard copy	NOS	17		
3.3	Alignment of Pumps/gear boxes with drive machine:				
	Removal of coupling guard.; Removal of coupling spacer, Alignment of pump with the coupling using suitable method including both cold and hot alignment of all pumps as per requirement. includes all arrangements of tool and tackels as may be required; Cleaning of parts as required; Removal of dirt/grease/rust/foreign particles etc.; Any sort of repair/replacement, as per requirement.; Assembly of coupling & coupling guard ;Offering BCPL for inspection if required ; shifting of all spares from workshop/store;. Job is to be done as per instruction of BCPL representative, all relevant measurement and data are to be recorded and handed over to concerned engineer in soft and hard copy.				



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

ANNEXURE-I

SCHEDULE OF RATES (SOR)

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-I &II

PART-A (II) - EQUIPMENT RELATED MAINTENANCE ACTIVITIES

Page-

<u>SL NO</u>	<u>ITEM DESCRIPTION</u>	<u>UOM</u>	<u>QNTY</u>	<u>RATE (INR)</u>	<u>AMOUNT (INR)</u>
3.3.1	Up to 10 KW	NOS	25		
3.3.2	10 KW to 30 KW	NOS	25		
3.3.3	Above 30 KW	NOS	22		
3.4	Mechanical seal cooler cleaning (per pump):				
	The work involves the blinding / de-blinding the cooler nozzle flanges; cleaning of shell & tube bundle of the cooler by tube bundle removal; Cleaning & box up hydro test (if required.) as per instruction of EIC.; dismantling, removal and cleaning of seal pot and associated lines and Boxing up the same after thorough cleaning.	NOS	50		
3.5	Mechanical seal replacement job:				
	Removal of coupling guard; Removal of coupling Spacer/belt/chain; Recording the alignment readings(with out adjustments); Dismantling of equipment & connected pipings for the purpose of Mechanical Seal inspection/replacement; Dismantling of Seal Flushing line cooler, Cleaning of lines, NRVs, Strainers, valves & Coolers.It also includes re-fixing of lines after proper cleaning; Mechanical seal inspection/replacement; Removal of dirt/Grease/Rust/Foreign particles etc; Any sort of repair/replacement as per requirement; Assembly of Pump; Flushing/charging of Oil/Seal Flushing Fluid, Cleaning Oilers; Alignment; Assembly of Coupling & Coupling guard, Job is to be done as per instruction of BCPL representative ; all relevant data are to be recorded and handed over to concerned engineer in soft and hard copy	NOS	50		



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

ANNEXURE-I

SCHEDULE OF RATES (SOR)

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-I &II

Page-

PART-A (II) - EQUIPMENT RELATED MAINTENANCE ACTIVITIES

SL NO	ITEM DESCRIPTION	UOM	QNTY	RATE (INR)	AMOUNT (INR)
3.6	Decoupling & Coupling of spacer type flexible coupling				
	Decoupling & Coupling of spacer type flexible coupling excluding spider type for all pumps, gear box, clutch, turbine, motor etc. including removal and box up and proper alignment of coupling guard, all arrangements of tool and tackles as may be required; Cleaning of parts, all spares transportation from workshop/store etc. complete the work as per the satisfaction of E.I.C.	NOS	17		
3.7	Decoupling & Coupling of the spider type coupling				
	Decoupling & Coupling of the spider type coupling for all pumps, gear box, clutch, turbine, motor etc. including removal and box up & of coupling guard, all arrangements of tool and tackles as may be required; Cleaning of parts, all spares transportation from workshop/store etc. complete the work as per the satisfaction of E.I.C.	NOS	17		
3.8	Alignment spider type coupling				
	Alignment of pump with lovejoy type coupling using suitable method including both cold and hot alignment all pumps. includes all arrangements of tool and tackles as may be required; Cleaning of parts as required; Offering BCPL for inspection if required; shifting of all spares from workshop/store; to & fro transportation from workshop/store. Job is to be done as per instruction of BCPL representative; all relevant measurement and data are to be recorded and handed over to concerned engineer in soft and hard copy	NOS	17		
3.9	Gland tightening of all pumps per stuffing box:				
	Gland tightening of all pumps per stuffing box for shaft/plunger dia of all size includes all arrangements of tool and tackles as may be required; Cleaning of parts/flushing of auxiliary lines as required; Offering BCPL for inspection if required; shifting of all spares from workshop/store complete the job as per satisfaction of E.I.C.	NOS	10		
3.10	Gland repacking of all pumps per stuffing:				
	Gland repacking of all pumps per stuffing box for shaft/plunger of all sizes includes all arrangements of tools & tackles as required; Cleaning of parts/flushing of auxiliary lines as required; Offering BCPL for inspection if required; shifting of all spares from workshop/store complete the job as per satisfaction of E.I.C.	NOS	10		



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

ANNEXURE-I

SCHEDULE OF RATES (SOR)

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-I &II

PART-A (II) - EQUIPMENT RELATED MAINTENANCE ACTIVITIES

Page-

SL NO	ITEM DESCRIPTION	UOM	QNTY	RATE (INR)	AMOUNT (INR)
3.11	Motor dismantling & erection all pumps.				
	Motor dismantling & erection all pumps.includes all arrangements of tool and tacksels as may be required;Cleaning of parts/flushing of auxillary lines as required ;Offering BCPL for inspection if required ; shifting of all spares from workshop/store; to &fro transportation from workshop/store; . Job is to be done as per instruction of BCPL representative ;all relevent measurement and data are to be recorded and handed over to concerned engineer in soft and hard copy	MT	275		
3.12	Bearing Replacement				
	Removal of Coupling Guard; Removal of Coupling Spacer/belt/chain; Recording the alignment readings(with out adjustments); Dismantling of equipment, Bearing housing & connected piping for the purpose of Bearing inspection/replacement; Removal of Seal flushing system; Bearing Inspection/replacement; Removal of dirt/Grease/Rust/Foreign particles etc; Any sort of repair/replacement as per requirement.; Assembly of equipment/bearing housing; Flushing & charging of Oil (not applicable for pump having separate oil reservoir) /Seal flushing fluid /cleaning oilers/priming of MOP etc.; Alignment before & after maintainance; assembly, Job is to be done as per instruction of BCPL representative ; all relevant data are to be recorded and handed over to concerned engineer in soft and hard copy				
3.12.1	Up to 10 KW	NOS	25		
3.12.2	10 KW to 30 KW	NOS	25		
3.12.3	Above 30 KW	NOS	20		



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

ANNEXURE-I

SCHEDULE OF RATES (SOR)

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-I &II

PART-A (II) - EQUIPMENT RELATED MAINTENANCE ACTIVITIES

Page-

SL NO	ITEM DESCRIPTION	UOM	QNTY	RATE (INR)	AMOUNT (INR)
3.13	Complete Overhauling				
	Removal of Coupling Guard;Removal of Coupling Spacer/belt/chain; Recording the alignment readings(with out adjustments); Dismantling of equipment & connected piping for the purpose of complete overhaul; Complete dismantling of pump; Shifting of pump to the workshop for repair and back to the position; Maintenance/inspection of all other accessories of pump; Flushing & charging of oil (not applicable for pump having separate oil reservoir)/ seal flushing fluid, cleaning oilers, priming of MOP etc. ; Connection of suction/discharge lines with proper gasket, fastener to pump nozzles; Alignment of pump & motor or pump & gear box and gear box and motor in case of pumps having gear box				
	3.13.1 Up to 10 KW	NOS	25		
	3.13.2 10 KW to 30 KW	NOS	20		
	3.13.3 Above 30 KW	NOS	20		
3.14	Maintenance of Screw Pumps				
3.14.1	Complete Disassembly of Screw Pumps				
	Dismantling of the Screw Pump- Close the suction and discharge valves, Disconnect the coupling and suction and discharge flange; Timing gear disassembly, rotor removal, removal of bearing, maintenance procedure as per pumps manual	NOS	16		
3.14.2	Re-assemble of Screw Pumps				
	Install/replace the bearings; check the rotation; removal of dirt, grease, other particles; adjust the clearance of the screws; install the timing gears as per manual, reassemble of the pump	NOS	16		



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

ANNEXURE-I

SCHEDULE OF RATES (SOR)

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-I &II

PART-A (II) - EQUIPMENT RELATED MAINTENANCE ACTIVITIES

Page-

SL NO	ITEM DESCRIPTION	UOM	QNTY	RATE (INR)	AMOUNT (INR)
4	MAINTENANCE OF FANS/BLOWERS				
4.1	COMPLETE O/ H OF BLOWER/FAN All activities required for complete over hauling of equipment e.g. belt/coupling removal, dismantling of bearings/fan casing/ internals etc, as per instruction of EIC, including repair/ replacement & modification as per requirement; Alignment before and after maintenance; Opening of both suction and discharge filter, cleaning and box up; Flushing / charging of oil & grease, cleaning oilers/grease nipples/housings etc.(not applicable for Equipment having separate oil reservoir)				
4.1.1	upto 50 KW	NOS	9		
4.1.2	ABOVE 50 KW	NOS	5		
4.2	CLEANING OF SUCTION & DISCHARGE SILENCERS Removal of suction & discharge filter; Clean /replace suction /discharge filter. Box up.	NOS	10		
4.3	Fin fan Preventive checks Preventive Checks <Belt tension cheking;Alignment checking stracture bolt checking ;greasing> of air fin cooler fan including all arrangements of tool and tackles as may be required;Cleaning of parts as required ;Offering BCPL for inspection if required ; shifting of all spares from workshop/store; Job is to be done as per instruction ofBCPL representative ;all relevant measurement and data are to be recorded and handed over to concerned engineer in soft and hard copy	NOS	14		
5	MAINTENANCE OF RECIPROCATING / DIAPHRAGM/CENTRIFUGAL COMPRESSORS:				
5.1	Dismantling of Head Cover For replacement of Diaphragms and "O" Rings: Dismantling of suction/discharge valves and associates piping.; Cleaning /inspection of valves and piping"s.; Replacement of valve, if required.; Dismantling of top covers, inspection of diaphragm and O rings for any damage.; Replacement of diaphragms, O rings, if required.; Boxing up & connection of all associate piping.; Adjustment of PRVs.; Checking/charging of lube oil.; Removal & refixing of belts from pulley, if required, Job is to be done as per instruction of BCPL representative ; all relevant data are to be recorded and handed over to concerned engineer in soft and hard copy				



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

ANNEXURE-I

SCHEDULE OF RATES (SOR)

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-I &II

PART-A (II) - EQUIPMENT RELATED MAINTENANCE ACTIVITIES

Page-

SL NO	ITEM DESCRIPTION	UOM	QNTY	RATE (INR)	AMOUNT (INR)
5.1.1	Upto 100 KW	NOS	4		
5.1.2	ABOVE 100 KW	NOS	8		
5.2	REPLACEMENT OF GEAR /PISTON LUBE OIL PUMP				
	Opening of side cover of compressor, draining of oil, dismantling of pump.; Replacement of the pump.; Replacement of oil.; Cleaning of filters and box up.; Adjustment of PRVs, if required, Job is to be done as per instruction of BCPL representative ; all relevant data are to be recorded and handed over to concerned engineer in soft and hard copy	NOS	6		
5.3	Compressor all stage cylinder Suction valve:				
	Compressor all stage cylinder Suction valve (including un loader removal & box-up)/ cylinder Discharge valve/Discharge line NRV removal, overhauling & box-up including all arrangement of resources, cleaning of parts, to & fro transportation of all spares/ parts from store/workshop, job is to be done as per instruction of E.I.C., all measurements and data are to be recorded and handed over to concerned engineer in soft & hard copy.	NOS	4		
5.4	Repair of unloading device of compressor:				
	Repair of unloading device of compressor suction valves & clearance pocket including removal & box-up, all arrangements of resources, to & fro transportation of all spares/ parts from store/workshop, job is to be done as per instruction of E.I.C., all measurements and data are to be recorded and handed over to concerned engineer in soft & hard copy.	NOS	2		



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

ANNEXURE-I

SCHEDULE OF RATES (SOR)

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-I &II

Page-

PART-A (II) - EQUIPMENT RELATED MAINTENANCE ACTIVITIES

SL NO	ITEM DESCRIPTION	UOM	QNTY	RATE (INR)	AMOUNT (INR)
5.5	Piston Rod Maintenance:	NOS	4		
	Piston rod main packing/ intermediate packing/ oil scrapper ring removal & assembly after repair for all compressor including opening & box-up of side covers & all arrangement of resources, cleaning of parts, to & fro transportation of all spares/ parts from store/workshop, job is to be done as per instruction of E.I.C., all measurements and data are to be recorded and handed over to concerned engineer in soft & hard				
5.6	Maintenance of Screw Compressors				
5.6.1	Coupling re-installation and alignment of Screw Compressor	NOS	5		
	Removal of coupling; Dis mantling of bearing; Removal of dirt/Grease/Rust/Foreign particles etc; Any sort of repair/replacement as per requirement.; Assembly of equipment/bearing housing; Flushing & charging of Oil (not applicable for pump having separate oil reservoir) /Seal flushing fluid /cleaning oilers/priming of MOP etc.; Alignment before & after maintenance; assembly, Job is to be done as per instruction of BCPL representative ; all relevant data are to be recorded and handed over to concerned engineer in soft and hard copy				
5.6.2	Inspection and replacement of Bearings of Screw Compressor	NOS	7		
	Dismantling of equipment, Bearing housing & connected piping for the purpose of Bearing inspection/replacement; Removal of Seal flushing system; Bearing Inspection/replacement; Removal of dirt/Grease/Rust/Foreign particles etc; Any sort of repair/replacement as per requirement.; Assembly of equipment/bearing housing; Flushing & charging of Oil (not applicable for pump having separate oil reservoir) /Seal flushing fluid /cleaning oilers/priming of MOP etc.; Alignment before & after maintenance; assembly, Job is to be done as per instruction of BCPL representative ; all relevant data are to be recorded and handed over to concerned engineer in soft and hard copy				
6	UPSTREAM SPECIAL EQUIPMENTS				
6.1	Heater Manhole of all sizes & shapes opening and box up with proper packing's etc. as per instruction of engineer-in-charge	Nos	44		
6.2	Burner block dropping:	Nos.	34		
	Dropping of burner block including muffle box; manifold etc dismantling of all burners; guns; nozzle tips; cone pipe etc.; cleaning and re-box up.				



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

ANNEXURE-I

SCHEDULE OF RATES (SOR)

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-I &II

PART-A (II) - EQUIPMENT RELATED MAINTENANCE ACTIVITIES

Page-

SL NO	ITEM DESCRIPTION	UOM	QNTY	RATE (INR)	AMOUNT (INR)
6.3	Burner gun opening:	Nos	104		
	Furnace/Flare/Reformer/Boiler/HIRSG etc. Burner gun opening excluding flange joint cleaning with steam; air; nozzle opening & refitting /replacement. <Including gasket cutting from sheet; o-ring replacement if required				
6.4	Furnace Peephole glass opening; cleaning glass surface by water; cloth etc. removing broken glass; replacement and re-box up.	Nos	34		
7	MAINTENANCE OF STATIC EQUIPMENTS				
7.1	MAINTENANCE OF HEAT EXCHANGERS WITH BUNDLES OUT				
7.1.1	HE Overhauls, tubes up to 200, bundle out	Nos	22		
	Heat Exchanger overhauling, No of tubes up to 200 and tube bundle requires to be taken out, Job includes dismantling of Heat Exchanger, Pulling out the tube bundle, Cleaning of the tubes inside & outside, shell, fasteners etc., inserting the tube bundle, testing the heat exchanger, box up/dropping of test ring, plugging of leaky tubes, if any and retesting, boxing up etc. as per instruction of EIC				
7.1.2	HE Overhauls, tubes up to 201-400, bundle out	Nos	20		
	Heat Exchanger overhauling, No of tubes 201 to 400 and tube bundle requires to be taken out, Job includes dismantling of Heat Exchanger, Pulling out the tube bundle, Cleaning of the tubes inside & outside, shell, fasteners etc., inserting the tube bundle, testing the heat exchanger, box up/dropping of test ring, plugging of leaky tubes, if any and retesting, boxing up etc. as per instruction of EIC				
7.1.3	HE Overhauls, tubes up to 401-600, bundle out	Nos	17		
	Heat Exchanger overhauling, No of tubes ranging from 401 to 600 and tube bundle requires to be taken out, Job includes dismantling of Heat Exchanger, Pulling out the tube bundle, Cleaning of the tubes inside & outside, shell, fasteners etc., inserting the tube bundle, testing the heat exchanger, box up/dropping of test ring, plugging of leaky tubes, if any and retesting, boxing up etc. as per instruction of EIC				



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

ANNEXURE-I

SCHEDULE OF RATES (SOR)

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-I &II

Page--

PART-A (II) - EQUIPMENT RELATED MAINTENANCE ACTIVITIES

SL NO	ITEM DESCRIPTION	UOM	QNTY	RATE (INR)	AMOUNT (INR)
7.1.4	HE Overhauls, tubes up to 601-800, bundle out				
	Heat Exchanger overhauling, No of tubes ranging from 601 to 800 and tube bundle requires to be taken out, Job includes dismantling of Heat Exchanger, Pulling out the tube bundle, Cleaning of the tubes inside & outside, shell, fasteners etc., inserting the tube bundle, testing the heat exchanger, box up/dropping of test ring, plugging of leaky tubes, if any and retesting , boxing up etc. as per instruction of EIC	Nos	15		
7.1.5	HE Overhauls, tubes up to 801-1500, bundle out				
	Heat Exchanger overhauling, No of tubes ranging from 801 to 1500 and tube bundle requires to be taken out, Job includes dismantling of Heat Exchanger, Pulling out the tube bundle, Cleaning of the tubes inside & outside, shell, fasteners etc., inserting the tube bundle, testing the heat exchanger, box up/dropping of test ring, plugging of leaky tubes, if any and retesting , boxing up etc. as per instruction of EIC	Nos	22		
7.2	MAINTENANCE OF HEAT EXCHANGERS WITH BUNDLES NOT TAKEN OUT				
7.2.1	HE Overhauls, tubes up to 200, bundle not taken out				
	Heat Exchanger overhauling, No of tubes up to 200 and tube bundle does not require to be taken out, Job includes opening of Heat Exchanger Covers, Cleaning of the tubes fasteners etc., testing the heat exchanger, box up/dropping of test ring, plugging of leaky tubes, if any and retesting , boxing up etc. as per instruction of EIC	Nos	17		
7.2.2	HE Overhauls, tubes up to 201 to 400, bundle not taken out				
	Heat Exchanger overhauling, No of tubes ranging from 201 to 400 and tube bundle does not require to be taken out, Job includes opening of Heat Exchanger Covers, Cleaning of the tubes fasteners etc., testing the heat exchanger, box up/dropping of test ring, plugging of leaky tubes, if any and retesting , boxing up etc. as per instruction of EIC	Nos	17		
7.2.3	HE Overhauls, tubes up to 401 to 600, bundle not taken out				
	Heat Exchanger overhauling, No of tubes ranging from 401 to 600 and tube bundle does not require to be taken out, Job includes opening of Heat Exchanger Covers, Cleaning of the tubes fasteners etc., testing the heat exchanger, box up/dropping of test ring, plugging of leaky tubes, if any and retesting , boxing up etc. as per instruction of EIC	Nos	17		



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

ANNEXURE-I

SCHEDULE OF RATES (SOR)

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-I &II

Page-

PART-A (II) - EQUIPMENT RELATED MAINTENANCE ACTIVITIES

SL NO	ITEM DESCRIPTION	UOM	QNTY	RATE (INR)	AMOUNT (INR)
7.2.4	HE Overhauls, tubes up to 601 to 800, bundle not taken out				
	Heat Exchanger overhauling, No of tubes ranging from 601 to 800 and tube bundledoes not requir to be taken out, Job includes opening of Heat Exchanger Covers, Cleaning of the tubes fasteners etc., testing the heat exchanger, box up/dropping of test ring, plugging of leaky tubes, if any and retesting , boxing up etc. as per instruction of EIC	Nos	17		
7.2.5	HE Overhauls, tubes up to 801 to 1500, bundle not taken out				
	Heat Exchanger overhauling, No of tubes ranging from 801 to 1500 and tube bundledoes not requir to be taken out, Job includes opening of Heat Exchanger Covers, Cleaning of the tubes fasteners etc., testing the heat exchanger, box up/dropping of test ring, plugging of leaky tubes, if any and retesting , boxing up etc. as per instruction of EIC	Nos	20		
7.2.6	HE Overhauls, tubes more than 1500, bundle not taken out				
	Heat Exchanger overhauling, No of tubes more than 1500 and tube bundledoes not requir to be taken out, Job includes opening of Heat Exchanger Covers, Cleaning of the tubes fasteners etc., testing the heat exchanger, box up/dropping of test ring, plugging of leaky tubes, if any and retesting , boxing up etc. as per instruction of EIC	Nos	20		
7.3	AIR FIN COOLER MAINTENANCE				
7.3.1	Air fin cooler overhauling up to 100 tubes				
	Air fin cooler overhauling, No of tubes up to 100 tubes and tube length more than 8.5 m- Job includes opening of air fin cooler covers, cleaning of the tubes, fins, fasteners etc., testing of air fin cooler, plugging of leaky tubes, if any and retesting, boxing up as per instruction of EIC.	Nos	2		



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

ANNEXURE-I

SCHEDULE OF RATES (SOR)

Page-

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-I &II

PART-A (II) - EQUIPMENT RELATED MAINTENANCE ACTIVITIES

<u>SL NO</u>	<u>ITEM DESCRIPTION</u>	<u>UOM</u>	<u>QNTY</u>	<u>RATE (INR)</u>	<u>AMOUNT (INR)</u>
7.3.2	Air fin cooler overhauling ranging from 101 to 200 tubes	Nos	2		
	Air fin cooler overhauling, No of tubes ranging from 101 to 200 tubes and tube length more than 8.5 m- Job includes opening of air fin cooler covers, cleaning of the tubes, fins, fasteners etc., testing of air fin cooler, plugging of leaky tubes, if any and retesting, boxing up as per instruction of EIC.				
7.3.3	Air fin cooler overhauling ranging from 201 to 300 tubes	Nos	4		
	Air fin cooler overhauling, No of tubes ranging from 201 to 300 tubes and tube length more than 8.5 m- Job includes opening of air fin cooler covers, cleaning of the tubes, fins, fasteners etc., testing of air fin cooler, plugging of leaky tubes, if any and retesting, boxing up as per instruction of EIC.				
7.4	Gasket replacement & Opening/ boxing up of end covers/dish ends:Shell & Tube Type Heat Exchangers				
	Opening & boxing up of end covers/dish ends for gasket replacement, inspection, attending leakages; It includes removal of all end covers/dished end and connecting nozzles; Cleaning of gasket seating area of end covers as well as exchanger/tube bundle.; Cleaning of fasteners; Box up of dish ends and all associated nozzles; Leak test				
7.4.1	Up to 16"	NOS	25		
7.4.2	above 16"- Up to 36"	NOS	28		
7.4.3	above 36"	NOS	25		



ANNUAL MAINTENANCE SERVICE CONTRACT FOR MECHANICAL WORKS OF BCPL

ANNEXURE-I

SCHEDULE OF RATES (SOR)

Page-

PART-A-UPSTREAM- GSU/C2+ RECOVERY & ECU-I &II

PART-A (II) - EQUIPMENT RELATED MAINTENANCE ACTIVITIES

PART-A (II) - EQUIPMENT RELATED MAINTENANCE ACTIVITIES					
SL NO	ITEM DESCRIPTION	UOM	QNTY	RATE (INR)	AMOUNT (INR)
7.5	Overhaul of Plate Frame Exchanger- Including Hydro-testing and Re-gasketing , Diaassembling & Assembling	NOS	6		
	Removal of cover plates.; Cleaning of both sides of each plate by wire brush and water spraying.; Fixing of gasket to the plate properly.; Tightening of end plates properly.; Wire brushes are in contractor"s scope.				
7.6	Surface Condenser end cover opening & box up	NOS	8		
8	MAINTENANCE OF VESSELS & COLUMNS				
8.1	Vessels Hydrotest in CUM:	NOS	6		
	Vessels Hydrotest in CUM: Making arrangement for hydrotesting/ pneumatic testing ; carrying out hydrotesting/ pneumatic testing as specified including all other miscellaneous works like blinding & debinding including supply of tools; tackles;Pressure gauge, testing pumps and manpower necessary to complete the job to the satisfaction of E.I.C.				
8.2	Vessel internal repair & cleaning in CUM	NOS	6		
	Vessel internal repair & cleaning in CUM				
PART A SECTION-II: EQUIPMENTS RELATED MAINTENANCE ACTIVITIES TOTAL AMOUNT (INR)=					

Applicable Service tax in %

%

(i) Evaluation shall be done on the basis of net of amount . Service tax shall be applicable as per prevailing Govt. rules at the time of invoicing.

ii) Considering nature of job in this section (Part-A (II)), applicable rate of Service Tax is 70% on 14% .i.e. 9.80%

