



LANKA IOC PLC
LEVEL 20, WEST TOWER, WORLD TRADE CENTRE,
ECHELON SQUARE, COLOMBO - 01
SRI LANKA

- 1 TENDER NUMBER : LIOC/ ENG/ PT/ 08/ 2015-16
- 2 NAME OF WORK : REPLACEMENT OF RECEIPT PIPELINES FROM EX PIT TO PRODUCT TANKS AT TRINCOMALEE TERMINAL.
- 3 COMPLETION TIME: 90 DAYS
- 4 PLACE OF WORK: TRINCOMALEE TERMINAL
- 5 BID BOND: LKR 300,000/- (DEMAND DRAFT/ BG AS PER FORMAT FURNISHED)
- 6 DUE DATE & TIME : 19/ 04/ 2016 AT 1000 HRS.

SCHEDULE OF WORKS					
SN	ITEM	QTY	UNIT	RATE	AMOUNT
	SECTION I				
	<u>PART 1: DISMANTLING WORKS</u>				
1	Dismantling of MS piping at various stretches between tanks to exchange pit to bowser sheds, within pump house etc including mechanical/ gas cutting of the pipe lines and removing the flanges/ flange joints etc (valves excluded) in the piping system. The rate shall include dismantling of all above ground & underground pipelines. Note: a. Necessary earthwork excavation required for removal of pipeline running underground shall be measured and paid separately. a. Flushing of the pipelines with water & degassing of product piping shall also be included in the above works. Water for degassing shall be provided by the Terminal. b. The dismantled pipes shall be handed over to the terminal for safe custody. c. All dismantled bolts/ nuts/ washers shall be the property of the contractor and shall be taken out of the premises. The dismantled civil debris shall be carted away and disposed off at unobjectionable place inside the terminal.				
A	300 mm dia pipes	600.00	M	2100.00	1,260,000.00
B	250 mm dia pipes	700.00	M	1750.00	1,225,000.00
2	Dismantling of following sizes of CS Gate valves Note: a. The dismantled nuts/ bolts/ washers shall become the property of the contractor and shall not be used again in the works. b. The dismantled valves to be handed over to safe custody of terminal for re use a latter date.				-
A	300 mm dia valves	14.00	EA	1900.00	26,600.00
B	80 mm dia valves (CS Gate Valves & Ball Valves)	10.00	EA	600.00	6,000.00
	<u>PART 2: CIVIL WORKS FOR ROAD FORMATION, CULVERTS, PIPELINE PEDESTALS/ RCC HUME PIPES, MS STRUCTURAL WORKS ETC</u>				
1	Earthwork excavation in all kinds of soil including soft rock except for hardrock for foundation including shoring, shuttering, bailing out subsoil water if necessary, back filling the sides of foundation/ pits with excavated earth and disposal of surplus earth outside depot premises as directed with all leads and lifts and as per site directions. up to 2.0 M depth	200.00	M3	900.00	180,000.00
2	Supply and filling sand free from dirt, lumps, stones for foundations including consolidation with copious watering etc as directed at site.	20.00	M3	4735.00	94,700.00
3	Supplying and Providing PCC 1:3:6 using 25- 40 mm HG metal for foundations including necessary shuttering, mixing, laying of concrete, compaction and curing etc. complete as directed.	15.00	M3	15174.00	227,610.00
4	Providing, mixing, placing, vibrating, curing, reinforced cement concrete grade G 25 (with minimum cement content of 400 kg per Cum. of finished concrete) in foundations footings, bases, columns ,				

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SEAL

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	plinth/grade beams, tanks/ equipment foundation, cable pedestals,rafts,supports, walls etc. upto plinth level using graded stone aggregates 20 mm nominal size & below including the cost of form work (plain and curved), de-shuttering of but excluding the cost of reinforcement complete. NOTE:- a) Contractor shall be permitted to convert design mix of concrete into suitable volumetric mix to achieve reqd. design strength. b) Unless stated otherwise, the rates shall include the works to be carried out at all levels and for all linear shapes and sizes. c) Rates shall include the watering/ curing as required. d) Unless otherwise specified, all shuttering above ground level shall be with plywood of approved quality. e) For all concreting works, mechanical mixer, vibrator to be used .				
A	Footing/ Plinth/ Columns/ Beams/ Foundations/ Pipe sleepers/ Foundation of product pumps, all places in siding etc. Note: a. Steel reinforcement for concrete works shall be measured and paid separately under respective items. b. For all concrete works, mechanical mixer shall be used. c. Exposed surfaces of concreting shall be finished in CM 1:3, 12 thk including curing as required	10.00	M3	16230.00	162,300.00
B	Same as above but cement concrete in G 20 grade (with minimum 300 Kg of cement per cum of concrete) corresponding to CC 1:2:4 Copping (75 mm thick)	100.00	M2	775.00	77,500.00
5	Providing and laying 230 mm thick and above, BRICK MASONRY using locally available burnt table moulded clay bricks (minimum compressive strength of 75 KSC) at all levels in cement mortar 1:5 including scaffolding, curing etc. complete. Note: The bricks shall be used after the same are tested and approved by the site engineer	50.00	M3	13008.00	650,400.00
6	Providing RANDOM RUBBLE masonry in CM 1:5 at all levels including below & above super structure etc., including providing bond stones at 2m c/c in each layer with raised pointing (20mm thk & 20 mm wide) including scaffolding, curing, lead and lift for all materials, labour etc complete and as directed by site engineer.	40.00	M3	10302.00	412,080.00
7	Plastering the exposed surfaces of brick & RR masnory in CM 1:4, 16 mm thk. at all levels including all materials & labour, curing, etc. complete and as directed at site.	100.00	M2	667.00	66,700.00
8	Supply, fabrication, cutting, welding, erection of MS structural steel works comprising of beams/ channels/ angles/ flat bars/ rods/ plates etc as per complete details shown in relevent drgs. for columns/ base plates/ purlins/ rafters/ bracings/ ties/ gussets and all other places as required including blast cleaning of the structure to SA 2 1/2 and painting the structure with 1 coats of Epoxy Zinc Phosphate primer to a DFT of 75 microns & 2 coats of Synthetic enamel finish paint to a DFT of 40 microns per coat as per enclosed specifications complete and as per directions of site in charge. Total DFT of the painting system shall be 155 microns (min) Note:The item shall be operated for all new structural works/ pipeline supports/ tank valve approaches and similar such utiities etc. The quantity shall also be used for supports for catwalks/ crossovers at all places.	2.00	MT	367000.00	734,000.00
9	Spreading, levelling excavated earth free from vegetation, ash & foreign materials etc. brought from inside the terminal in layers not exceeding	200.00	M3	680.00	136,000.00

SIGNATURE OF TENDERER

SEAL

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	250 mm thick including all leads and lifts, watering, rolling with power roller of 8 - 10 MT capacity to its maximum dry density at optimum moisture content to the required level & profile etc complete & as per technical specifications etc and as directed by site engineer. The job also includes consolidating the original ground level of with a maximum of 6 (six) passes of 8 - 10 MT power roller prior to starting of filling operations. NOTE: a. For the purpose of this item, any land cutting that would be required within terminal area in order to arrive at the final levels shall be included as part of the rate quoted towards the item. The payment towards the item shall be made on initial and final level of GL based on consolidated land area.				
10	Supplying and painting for the pipe rack structurals from exit of the product pump house and upto entry to the 2 number bowser filling sheds including the following: Mechanical cleaning of the existing old painting system on the pipe rack structurals, columns, gussets, brackets etc Power tool cleaning as required at site to expose the surface of metal. Applying 1 coat of high build high exosy mastic coating to a DFT of 175 microns (minimum) Applying 2 coats of Polyurethane finish paint fo approved colour and shade to a DFT of 100 microns Total DFT of painting system shall be 275 microns Note: a. Painting system for the piperack and structurals shall be measured in terms of running meters (linear meters) along the length of the piperack including columns/ beams/ cross supports/ gussets/ base plates and all other parts forming part of pipe rack system. The columns, beams, cross members etc shall not be separately considered. PART 3: PIPELINE WORKS 1 Laying and welding (3 runs min.) above ground/ below ground pipelines from supplied MS pipes (pipes to be supplied anywhere within the depot and the contractor shall shift the same to the site of work at no extra cost with all leads and lifts) of the following sizes as described below, including cutting bevelling and fixing the supplied specials such as elbows, bends tees, reducers etc complete The job includes blast cleaning of the outer surfaces of above ground piping (product) to SA 2.5 ; AG piping shall be painted with one coats of Zinc Ethyl Silicate primer for a DFT of 75 microns, one coat of Epoxy Micacious Iron Oxide (MIO) paint to a DFT of 125 microns & two coats of 2 pack aliphatic acrylic polyurethane paint for DFT of 100 microns. Total DFT of painting system shall be 300 microns (min). Finish colour of the piping shall be Aluminium. The entire works shall be completed as per enclosed specifications & directions. Note: a. The primer and paint shall be as per the list of paint manufacturers enclosed. The make and quality of paint shall be decided in consultation with LIOC prior to use. b. Pipeline colour coding shall be carried out as per LIOC specifications at no extra cost for product piping. c. Successful tenderer shall prepare the complete pipeline routing and get the same approved prior to execution of works A Above ground pipeline to be laid on concrete pedestals (which is to be constructed as per the respective item of this schedule)/ bowser shed/ pump house and manifolds & painting the pipeline as per the specifications enclosed including colour coding coding as per IOC specifications. Welding of pipeline should conform to Radiography quality. Note: a. Any repairs to the defective welding shall be made	200.00	RM	13200.00	2,640,000.00

SIGNATURE OF TENDERER

SEAL

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	good at no extra cost. b) The rates quoted also to include colour coding of pipelines as per the standards.				
a	300mm dia pipes	600.00	M	6900.00	4,140,000.00
b	250 mm dia pipes	700.00	M	5750.00	4,025,000.00
2	Welding of the supplied WNRF/ SORF flanges on the pipe lines with welding on inside and outside etc compete and as per specifications				
a	300 mm dia	24.00	EA	7200.00	172,800.00
b	250 mm dia	20.00	EA	6000.00	120,000.00
3	Making flanged joints for both slip on and blind flanges including supplying and fixing 3 mm thk non metallic compressed asbestos Fibre gaskets, studs/ nuts etc of approved make for the following sizes as per IOC specifications and site instructions. The flange joints shall also include providing and fixing 8 SWG copper wire for bonding of product pipelines.				
a	300 mm dia	24.00	EA	9950.00	238,800.00
b	250 mm dia	20.00	EA	7875.00	157,500.00
4	Fixing supplied GOVs/ CS gate valves/ HBV/ NRVs/ball valves of the following sizes on the pipeline including supplying & fixing 3 mm thk non metallic gaskets, studs/ nuts etc of approved make for the following sizes as per specifications and site instructions. Note: The rate quoted for the above items should include a. mechanical cleaning of the valves after erection. b. supplying and painting the valves/ fittings etc. with two coats of Zinc phosphate primer and two coats of Synthetic enamel finish paint of approved colour and shade as per colour coding specifications for fittings on product lines.				
a	300 mm dia	7.00	EA	22200.00	155,400.00
5	Supplying and providing GI strips for bonding of valves & fittings to be installed in product piping . The job includes bending of GI flats including drilling of holes for bolting purposes.				
a	30mm x 3mm GI strip for fittings of size upto & including 250 mm dia	48.00	EA	300.00	14,400.00
b	50mm x 6mm GI strip for fitting of size 300 mm and above	40.00	EA	745.00	29,800.00
6	Carrying out hydrotesting of the newly laid product pipelines from the jetty up to and including exchange pit to a pressure not exceeding 10.5 KSC. All equipment required for conducting pressure test comprising of pipeline spools, nipples, pressure gages, pressure pumps, water tanks etc shall be supplied by the contractor. Water required for carrying out the pressure test shall be supplied by the terminal free of cost. Note: a) Pressure test to be carried out after mechanical completion of works including erection of valves & fittings and prior to undertaking the pipeline painting. b. The pressure shall be maintained for a period of 4 hrs (during day time) and pressure readings shall be submitted for review by LIOC. c. In case of repairs to piping due to leak, the pipelines shall be once again pressure tested for integrity before commissioning.				
a	Piping from 200 mm - 250 mm dia (approx 300 RM) including all	2.00	EA	150000.00	300,000.00
SECTION II: SUPPLY OF ITEMS TO SITE					
	Note: 1. All items under this section shall be quoted for supply to site including unloading. The materials must be ordered based on ascertaining the exact requirement at the site. The materials to be supplied must also be associated with the manufacturer's test certificate for acceptance by LIOC.				
1	Supply of MS pipes as per specifications.				
a	300 mm dia (API 5L GRADE B PSL 1)	300.00	M	11019.93	3,305,979.60

SIGNATURE OF TENDERER

SEAL

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b	250 mm dia (API 5L GRADE B PSL 1)	530.00	M	10256.40	5,435,892.00
2	Supply of following Slip On flanges (Class 150; ANSI B 16.9 as per BS 4360)				
a	250 mm dia	24.00	EA	7150.00	171,600.00
b	300 mm dia	30.00	EA	10450.00	313,500.00
3	Supply of following BLRF flanges (Class 150; ANSI B 16.5 as per BS 4360)				
a	250 mm dia	8.00	EA	15000.00	120,000.00
b	300 mm dia	10.00	EA	18000.00	180,000.00
3	PIPE FITTINGS. Supplying the following sizes of Elbows/ Tees/ Reducer made of carbon steel seamless pipes with bevelled ends as per enclosed specifications for the following sizes Note: The fittings shall be as per ASTM A 234 Grade WPB schedule 40 and dimensions as per ASME B 16.5 Note: The quantities given are only indicative. The actual quantities to be supplied will be based on the finalised drawing for pipeline routing.				
A	<u>90 Deg LR elbow (1.5D)</u>				
a	300 mm dia	6.00	EA	18975.00	113,850.00
b	250 mm dia	5.00	EA	14000.00	70,000.00
TOTAL					26,963,411.60
QUOTE RATE IN TERMS OF PERCENTAGE (%) OVER THE ABOVE ESTIMATED AMOUNT.					
1	PLUS (+) IN FIGURES				
	PLUS (+) IN WORDS				
2	MINUS (-) IN FIGURES				
	MINUS (-) IN WORDS				
3	AT PAR				

NOTE

- The amount quoted towards the tender shall be arrived at based on applying the percentage quoted on the above indicated estimated amount.
- In case "0" percentage is quoted then it shall be presumed that the tenderer shall accept to carry out the works at par.
- VAT at prevailing rate shall be paid on the above quoted amount.

VP (ENGG.)
LANKA IOC PLC

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