#### Amendment no.2

10<sup>th</sup> Sept ,2015

Sub: Supply & Installation of Automatic Online Chemical Dosing System as per tender specifications at HLL, IFC, Irapuram, Kochi.

Ref: IFB No:HLL/CED/IFC/ ACD /2015 Dated 22-08-2015

With reference to the above, we here by incorporate the following amendment to the tender documents as detailed below :

#### **Amendment no.1**

The last date of date for receipt and opening of bid of the above referred tender has been amended as follows.

(a) Last date and time of receipt of tender : 16-09-2015,15.00Hrs (b) Date and time of opening tender : 16-09-2015, 15.30Hrs

(c) Schedule V, Format for quoting

### **EXISTING**

#### **SCHEDULE V FORMAT FOR QUOTING** Sub: Providing Automatic Online Chemical Dosing System for HLL CDM at IFC SI No Item/Work Description Quantity Rate in Rs Amount in Rs Supply & Installation of SS pipes (SS316) with necessary fittings as per drawing and specifications for the following sizes 25mm seamless SS 316 pipe MTRS 10.00 b) 25mm SS Flange (threaded) 2.00 Nos. c) 25mm SS Ball Valve(Make : Minerva/Audco/GG) Nos. 2.00 25 mm SS nipple Nos. 2.00 40mm motorised drain valve e) Nos. 2.00 Fabrication & fixing of structural platform using the following SS materials 2 50/38 mm SS square tube(Material will be supplied a) 50.00 by HLL) Supply & Installation of 4mm thick MS chequered plate including painting with one coat synchromite primer & two coat enamel paint of approved b) KG 130.00 quality. Supply & Installation of SS Tank as per 3 drawing SS Tank having sizea) Nos. 1.00 1000mmX1000mmX1000mmx2mm(L x W x H x T ) 4 Supply, Fabrication & fixing of MS Angle (40x40x4mm)supports including painting with one 25.00 Kq coat synchromite primer & two coat enamel paint of approved quality. 5 Supply & Installation of GI U-clamps with nut,bolt,washer etc. complete for pipe line a) For 75mm PVC pipes 10.00 Nos. b) For 50 mm SS pipes Nos 10.00 For 25mm SS pipes 10.00 Supply & installation of Chemical dosing pump for 2.00 6 Nos. TSP(Tri Sodium Phosphate), Ammonia application Geared Motor Spec: Rating: 0.25 Kw, 3-ph. Direct Drive Geared motor . Motor speed: 1500 RPM, Output : 2 kg/m² Make:Bolfiglioli/Sumitomo, Power Input: 3 Phase AC, 50 Hz 440 V Enclosure : IP 66 Dut class : S1 Temperature class : F Coolina: Fan cooled Factor of Safety: >1.5 Surface and corrosive protection : OKS-S(corrosive category : C3), Efficiency

class : IE 1.

Head : 10mtr

:1500RPM

Delivery: 1"

pump,

SS316

Specification of Pump

Trisodium Phosphate

Type:Chemical

MOC:

Speed

Suction : 1 1/2"

Application:

Discharge :40m3/hr

7	Supply and Installation of Solenoid Valve with acessories			
a)	Solenoid valve (5/2) with 6" PU tube(50 Mtrs) with suitable connectors, Tee connectors.As per relevent IS/IEC Standards with test and calibration certificates	Set	4.00	
8	Supply and Installation of Level sensors			
a)	Ultrasonic level sensors for TSP(Tri sodium phosphate),Ammonia applicationAs per IS/IEC 60947-5-2, level should be indicated digitaly.	Nos.	1.00	
9	Supply and Installation of PLC			
a)	PLC for dosing application(10 bit PLC 5/5 I/O)As per IS/IEC 61131-3/IEC 61499/IEC 61508	Set	1.00	
10	Supply and Installation of Panel board Panel wiring should be as per IS 732 & Earthing of Panel should be as per IS 3043/IEC 60364, Panel should be as per IS 8437(Part 1&2) / IEC 60479-1&2, IS 60529/IEC 60529, IS 9409/IEC 61140, IS 9676, IS 5216 with Test Certificates)			
a)	Panel Board with size 600x600x210 mm with 2 mm Powder Coated CRCA Sheet.	Set	1.00	
11	Supply and Installaion of MCCBAs per IS 13032, IS 13947/IEC 60947-5-2, IS 9409/IEC 61140, IS 8623 (part 1 to 3)/IEC 60439(1to 3), IS 8504/IEC 60216-4-2, IS 60715/IEC 60715, IS 60898/IEC 60898, IS 60947(Part 1&2)/IEC 60947, IS 10118(Part 1 to 4), IS 60529/IEC 60529, IS 9676 with test certificates.			
a)	63 A , 3 Pole 450 V MCB	Nos.	1.00	
12	Supply and Installation of MCB(As per IS 13032, IS 13947/IEC 60947-5-2, IS 9409/IEC 61140, IS 8623 (part 1 to 3)/IEC 60439(1to 3), IS 8504/IEC 60216-4-2, IS 60715/IEC 60715, IS 6098/IEC 60898, IS 60947(Part 182)/IEC 60947, IS 10118(Part 1 to 4), IS 60529/IEC 60529, IS 9676 with test certificates			
a)	10 A ,3 Pole ,415 V MCB	Nos.	2.00	
13	6A , 2pole , 230 V MCB	Nos.	2.00	
14	Supply and Installation of online-starters As per IS 60947(Part 4 & Section 2)/ IEC 60947-4-1 & 2 Standards with Test Certificate			
a)	0-4 A , 3 Pole 415 V (1HP)	Nos.	1.00	
15	Supply and Installation of TimerAs per relevent IS/IEC Standards with test and cslibration certificates			
a)	Digital Timer(programmable type, 0-20minutes)	Nos.	2.00	
16	Supply and Installation of Power Supply( 24 V DC) sourceAs per IEC 61850-3/IEC 60950-1with Test & Calibration Certificates			
a)	Power Supply( 24 V DC) source	Nos.	1.00	
17	Supply of motorised flow valves with size 2"As per relevent IS/IEC standards	Nos.	4.00	
	BASIC PRICE			
	SERVICE TAXES & OTHER TAXES IF ANY			
	GROSS AMOUNT IN RS. (INCLUDIN			

#### ( IN WORDS)

I agree to execute the works as per schedule, at the rates quoted by me as above

SIGNATURE OF THE CONTRACTOR

## **READ AS**

# **SCHEDULE V**

FORMAT FOR QUOTING							
Sub: Providing Automatic Online Chemical Dosing System for HLL CDM at IFC							
SI No	Item/Work Description	Unit	Quantity	Rate in Rs	Amount in Rs		
1	Supply & Installation of SS pipes (SS316) with necessary fittings as per drawing and specifications for the following sizes						
a)	25mm seamless SS 316 pipe	MTRS	10.00				
b)	25mm SS Flange (threaded)	Nos.	2.00				
c)	25mm SS Ball Valve(Make : Minerva/Audco/GG)	Nos.	2.00				
d)	25 mm SS nipple	Nos.	2.00				
e)	40mm motorised drain valve	Nos.	2.00				
2	Fabrication & fixing of structural platform using the following SS materials						
a)	50/38 mm SS square tube(Material will be supplied by HLL)	MTRS	50.00				
b)	Supply & Installation of 4mm thick MS chequered plate including painting with one coat synchromite primer & two coat enamel paint of approved quality.	KG	130.00				
3	Supply & Installation of SS Tank as per drawing						
a)	SS Tank having size- 1000mmX1000mmX1000mmx2mm(L x W x H x T )	Nos.	1.00				
4	Supply,Fabrication & fixing of MS Angle (40x40x4mm)supports including painting with one coat synchromite primer & two coat enamel paint of approved quality.	Kg	25.00				
5	Supply & Installation of GI U-clamps with nut,bolt,washer etc. complete for pipe line						
a)	For 75mm PVC pipes	Nos.	10.00				
b)	For 50 mm SS pipes	Nos.	10.00				
c)	For 25mm SS pipes	Nos.	10.00				
6	Supply& Installation of Chemical Pump as per specification	Nos.	2.00				
	Specification of Pump						
	Capacity : 40m³/hr.						
	Type : Chemical						
	Application : Trisodium Phosphate						
	MOC: SS316						
	Speed: 1500RPM						
	Suction :1 1/2"						
	Delivery: 1"						
	Make : Grundfos Specification of Motor						
	Power: 0.75KW,1HP,3PH						

	Speed : 1500RPM						
	Make : ABB/Siemens/Grundfos						
7	Supply and Installation of Solenoid Valve with acessories						
	Solenoid valve (5/2) with 6" PU tube(50 Mtrs) with						
٠,١	suitable connectors, Tee connectors. As per	Set	4.00				
a)	relevent IS/IEC Standards with test and calibration certificates	Set	4.00				
8	Supply and Installation of Level sensors						
	Ultrasonic level sensors for TSP(Tri sodium						
a)	phosphate),Ammonia applicationAs per IS/IEC	Nos.	1.00				
	60947-5-2, level should be indicated digitaly.						
9	Supply and Installation of PLC PLC for dosing application(10 bit PLC 5/5 I/O)As						
a)	per IS/IEC 61131-3/IEC 61499/IEC 61508	Set	1.00				
۳,		00.					
10	Supply and Installation of Panel board Panel						
	wiring should be as per IS 732 & Earthing of Panel should be as per IS 3043/IEC 60364,						
	Panel should be as per IS 8437(Part 1&2) / IEC						
	60479-1&2 , IS 60529/IEC 60529 , IS 9409/IEC						
	61140 ,IS 9676, IS 5216 with Test Certificates)						
	Panel Board with size 600x600x210 mm with 2						
a)	mm Powder Coated CRCA Sheet.	Set	1.00				
11	Supply and Installaion of MCCBAs per IS 13032						
	, IS 13947/IEC 60947-5-2 , IS 9409/IEC 61140 , IS						
	8623 (part 1 to 3)/IEC 60439(1to 3), IS 8504/IEC						
	60216-4-2 , IS 60715/IEC 60715 ,IS 60898/IEC 60898 , IS 60947(Part 1&2)/IEC 60947, IS						
	10118(Part 1 to 4) , IS 60529/IEC 60529 , IS 9676						
	with test certificates.						
-1	63 A , 3 Pole 450 V MCB	Nos.	1.00				
a) 12	Supply and Installation of MCB(As per IS 13032	1105.	1.00				
	, IS 13947/IEC 60947-5-2 , IS 9409/IEC 61140 , IS						
	8623 (part 1 to 3)/IEC 60439(1to 3), IS 8504/IEC						
	60216-4-2 , IS 60715/IEC 60715 ,IS 60898/IEC 60898 , IS 60947(Part 1&2)/IEC 60947, IS						
	10118(Part 1 to 4), IS 60529/IEC 60529, IS 9676						
	with test certificates						
	40 A 0 B L 445 V MOB	NI.	0.00				
a) 13	10 A ,3 Pole ,415 V MCB 6A , 2pole , 230 V MCB	Nos.	2.00				
14	Supply and Installation of online-starters As	1105.	2.00				
	per IS 60947(Part 4 & Section 2)/ IEC 60947-4-1						
	& 2 Standards with Test Certificate						
-1	0.4.A. 2 Polo.445.\/.441 <b>P</b> \	Nee	1.00				
a) 15	0-4 A , 3 Pole 415 V (1HP) Supply and Installation of TimerAs per relevent	Nos.	1.00				
	IS/IEC Standards with test and cslibration						
	certificates						
a)	Digital Timer(programmable type, 0-20minutes)	Nos.	2.00				
16	Supply and Installation of Power Supply( 24 V						
.0	DC) sourceAs per IEC 61850-3/IEC 60950-1with						
	Test & Calibration Certificates						
a)	Power Supply( 24 V DC) source	Nos.	1.00				
17	Supply of motorised flow valves with size 2"As per relevent IS/IEC standards	Nos.	4.00				
	BASIC PRICE						
	SERVICE TAXES & OTHER TAXES IF ANY						
	CDOSS AMOUNT IN DS. (INCLUSING	TAVEO'					
	GROSS AMOUNT IN RS. (INCLUDING TAXES)						

## ( IN WORDS)

I agree to execute the works as per schedule, at the rates quoted by me as above

SIGNATURE OF THE CONTRACTOR

All other conditions are as per original IFB No:HLL/CED/IFC/ ACD /2015 Dated 22-08-2015

#### **ASSOCIATE VICE PRESIDENT**