

TENDER DOCUMENT

ELECTRICAL & INSTRUMENTATION WORKS

**FOR
LNG SATELLITE STATION**

AT

**HLL LIFECARE LIMITED,
PEROORKADA FACTORY,
THIRUVANANTHAPURAM – 695 005,
KERALA, INDIA.**

HLL LIFECARE LIMITED
(A Government of India Enterprise)
Project Division, Peroorkada. PO,
Thiruvananthapuram – 695005,
Kerala, India
Phn: 0471 – 2437270, 2437884
Fax: 0471 – 2432898, 2432647

INVITATION FOR BIDS (IFB)

IFB No : HLL/IP/LNG/SRF-ELECTRICAL/2014
Date : 20-02-2014

HLL Lifecare Limited (HLL), a Government of India Enterprise is in the process of setting up LNG Storage and Regasification facility at Peroorkada Factory. For the said project, Sealed and Super scribed bids are invited from competent and experienced Contractors/Contractors who are capable to do the following work meeting the requirements as per our tender.

SI No	Name of Work	Quantity	EMD Amount
1	Electrical and Instrumentation works for the installation of LNG Satellite Station at HLL Lifecare Ltd., Peroorkada Factory, Thiruvananthapuram.	As per Schedule of Work	Rs 20,000/-

2. The scheduled date for issue, receipt and opening of bids is as follows.

- a) Date of issue of tender document - 20-02-2014
- b) Last date and time for receipt of bids - 07-03-2014 up to 15.00 Hrs
- c) Date and time of opening of bids - 07-03-2014, 15.30 Hrs.
- d) Address for communication, receipt and place of opening of bids:

EXECUTIVE DIRECTOR (INTERNAL PROJECTS),
HLL LIFECARE LIMITED
Projects Division, Peroorkada. PO,
Thiruvananthapuram – 695005, Kerala, India
Phn: 0471 – 2437270, 2437884
Fax: 0471 – 2432898, 2432647
E-mail: nrvikumar@lifecarehll.com, harikrishnankp@lifecarehll.com

3. The Bid must include the following information;

- a. Enquiry No.
- b. EMD
- c. Promised Completion Schedule
- d. Acceptance Form (Schedule III)
- e. Schedule IV - Drawings
- f. Schedule of Work (Schedule V)
- g. All other documents/certificate/information as specified in the bid document.

4. The completed and sealed bid documents should be submitted to **Executive Director (Internal Projects)**, in the above address along with the EMD. The outer cover should bear the Enquiry No, closing date and General description of item tendered, and the words "DO NOT OPEN BEFORE" 15.30 Hrs (IST) on ----- (Indicate the Closing Date). EMD shall be submitted in the form of demand draft drawn from a nationalized bank in favour of HLL Lifecare Limited payable at Thiruvananthapuram. Bids received after due date and time will be rejected. Any bid not accompanied by EMD will be rejected.
5. Bids will be opened in the presence of Bidders representative(s) who choose to attend on the specified date and time, at the office of HLL at the address given in Clause 2 (d) above.
6. In the event of the date specified for bid receipt and opening being declared as a closed holiday for the above Owner's office, the due date for submission of bids and opening of bids will be the following working day at the appointed times.
7. HLL may, at its discretion, extend this deadline for submission of bids by amending the Bid Documents or any other reasons, in which case all rights and obligations of HLL and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.
8. HLL will not be held responsible for the postal delay, if any, in the delivery of the bidding document or the non-receipt of the same. Bids sent by Telex/Fax/Telegraph will not be accepted.
9. The company reserves the right to club or split the items of works, change the qualifying criteria at their discretion and to reject or cancel the Invitation for bids without assigning any reason thereof.
10. In addition to the invitation for bids, the bidding documents include the following Schedules.

SCHEDULE	- I	:	Conditions of Bid
SCHEDULE	- II	:	Conditions of Contract
SCHEDULE	- III	:	Acceptance Form
SCHEDULE	- IV	:	Drawings
SCHEDULE	- V	:	Schedule of Work

EXECUTIVE DIRECTOR (INTERNAL PROJECTS)

SCHEDULE I
CONDITIONS OF BID

1. Definitions

- a. **“Invitation For Bid”** shall mean and include the present document, and such other complements and agenda, which may subsequently be issued in this connection.
- b. **“Owner”** shall mean HLL Lifecare Limited, (Thiruvananthapuram) or its units thereof.
- c. **“Bidder”** shall mean the person, firm or Corporation submitting a bid against this invitation for bid and shall also include his agents and representatives.
- d. **“Contractor”** shall mean the bidder whose bid has been accepted and shall also include his successors and assigns, agents and representatives.
- e. **“Contract”** means signed acceptance of the Letter of Intent, if issued, and order by the Contractor.
- f. **“Site”** shall mean **HLL Lifecare Limited, Peroorkada Factory, Peroorkada, Thiruvananthapuram, Kerala.**

2. Bid Information and Period of Validity

2.1 The Bid must include the following information,

- a. Enquiry / IFB No.
- b. Promised Delivery/ Completion Schedule for each item/work.
- c. Certificate that bid is in total conformity with the specifications and terms and conditions mentioned in the bid document and if not, list of exclusions, and/or exceptions.
- d. All information requested in the specifications, dimensional drawings, technical literature describing the make offered, material etc., as specified in the bid document.
- e. EMD
- f. The Price should be quoted as per the following:
 - i) The Bidder shall indicate all prices including basic price, the relevant duties and taxes, other levies, packing & forwarding charges, charges for inland transportation and other local costs incidental to delivery of the goods to Contractor's site, etc. on the appropriate price schedule (SCHEDULE OF WORK – SCHEDULE IV) attached to these documents for completing the above work as per the Specification, Terms and Conditions as specified in the Bid Documents. Civil work is excluded from the scope of the Contractor.
 - ii) Bidder must quote for unit price and total price based on the requirement shown in the bid document.

iii) Price should be firm without any escalation on any account until the order is completely fulfilled.

iv) All other documents/certificate/information as specified in the bid document.

2.2 Bids shall remain valid for **90 days** after the date of bid opening prescribed by the Owner.

3. Format and Signing of Bid

3.1 All pages of the bid, except for un-amended printed literature shall be signed by the person or persons signing the bid.

3.2 Bids shall be made in English.

3.3 The bid shall contain no interlineations, erasures or overwriting except as necessary to correct errors made by the Bidder, in which case such corrections shall be signed by the person or persons signing the bid.

4. Submission of Bids

Sealing and Marking of Bids

4.2 The bid envelope shall be:

(a) Addressed to the Owner in the following address,

Executive Director (Internal Projects),
HLL Lifecare Limited, Peroorkada Factory,
Thiruvananthapuram – 695 005,
Kerala, India.
Phn: ++91 471 2437270
Fax: ++91 471 2432647

(b) Bear the Enquiry No, closing date and General description of item tendered, and the words "DO NOT OPEN BEFORE" 15.30 Hrs (IST) on ----- (Indicate the Closing Date).

4.3 The envelope shall also indicate the name and address of the Bidder. If the outer envelope is not sealed and marked as indicated above, the Owner will assume no responsibility for the bid's misplacement or premature opening.

4.4 Bids should be hand delivered or sent by courier to ensure timely arrival. Telex, cable, e-mail or facsimile bids will be rejected.

Deadline for submission of Bids

4.5 The bids will be received by the Owner in the above given address (4.2.a) not later than the date and time specified in the Invitation for Bids.

In the event of the specified date for submission of Bids being declared a holiday for the Owner, the bids will be received up to the appointed time on the next working day.

- 4.6 The Owner may, at its discretion, extend this deadline for submission of bids by amending the Bid Documents or any other reasons in which case all rights and obligations of the Owner and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.
- 4.7 It is the responsibility of the bidders to see that the completed bidding documents whether sent by post or by courier or by person are received in the office of Executive Director (Internal Projects), in the above address by the date and time stipulated for receipt as above failing which the bid would be considered late and rejected. Owner will not be held responsible for the postal delay, if any, in the delivery of the bidding document or the non-receipt of the same. Bids received after due date and time will be rejected. Mere handing over of the bid documents at reception counter or at any other counter or room or person cannot be considered as submission of bid.

5. Clarification of Bidding Documents

A prospective Bidder requiring any clarification of the Bidding Documents may notify the Owner in writing, or by fax at the Owners mailing address indicated in the Invitation for Bids. The Owner will respond in writing to any request for clarification of Bidding Documents, which it receives not later than 7 days prior to the deadline for submission of Bids prescribed by the Owner.

6. Amendment of Bidding Documents

- 6.1 At any time prior to the deadline for submission of bids, the Owner may, for any reason, modify the Bidding Documents by amendment.
- 6.2 The amendment will be notified in writing or fax or telegram or e-mail to all prospective Bidders, which have received the Bidding Documents and will be binding on them.
- 6.3 In order to afford prospective Bidders reasonable time in which to take the amendment in to account in preparing their bid, the Owner may, at its discretion, extend the deadline for the submission of bids.

7. Bid Opening by Owner

- 7.1 The Owner will open bids, in the presence of the bidders' representatives who choose to attend, at the date and time specified and in the location given in this document. The Bidders' representatives who are present shall sign a register evidencing their attendance. In the event of the specified date of bid opening being declared a holiday for the Owner, the bids shall be opened at the appointed time and location on the next working day.

- 7.2 The Bidders' names, the presence or absence of the requisite EMD and such other details as the Owner, at its discretion, may consider appropriate will be announced at the opening.
- 7.3 The Owner will prepare appropriate bid opening register and the same shall be signed by bidders present during the opening of the bids and Owner.

8. Clarification of bids

To assist in the examination, evaluation and comparison of bids, the Owner may, at its discretion, ask the bidder for a clarification of its bid. The request for clarification and the response shall be in writing and no change in the price or substance of the bid shall be sought, offered or permitted.

9. Notification of Award

- 9.1 Prior to the expiration of the period of bid validity, the Owner will notify the successful Bidder in writing by post or by cable or telex or fax, to be confirmed in writing by post, that its bid has been accepted. The notification of award may be sent in the form of Letter of Intent / Work order.
- 9.2 The signed acceptance of the notification of award by the Contractor/Contractor will constitute a concluded contract.

10. Earnest Money

- 10.1 Each bid must be accompanied by E.M.D.
- 10.2 The EMD is required to protect the Owner against risk of Bidder's conduct, which would warrant the security's forfeiture
- a. The EMD shall be denominated in Indian Rupees and shall be in the form of cash deposit or demand draft from a nationalized bank drawn in favour of HLL Lifecare Limited payable at Thiruvananthapuram.
 - b. E.M.D of the unsuccessful bidders will be released after tabulating tenders, keeping only the earnest money of the first three lowest bidders.
 - c. E.M.D of the remaining two unsuccessful bidders will be released after the acceptance of the notification of award by the successful bidder.
 - d. In the case of successful bidder, the Earnest Money will be returned after the satisfactory completion of the work and acceptance of item/work by HLL.
- 10.3 The EMD may be forfeited:
- (a) If a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Bid Document; or
 - (b) If the Bidder fails to sign the Contract / Work order, in the case of successful Bidder.

SCHEDULE II

CONDITIONS OF CONTRACT

1. Price

The rates quoted should be inclusive of all material cost, labor charges, tool rentals, loading and unloading charges, all applicable taxes and other levies etc. for completing the work as per the **Schedule of Work (Schedule V)** enclosed.

Price quoted should be firm without any escalation till the order is completely executed.

2. Completion Period

The work as per schedule should be completed within **3 WEEKS** from the date of Letter Of Intent or the date of site clearance by HLL.

3. Terms Of Payment

Payment will be made only after successful completion of work and against actual measurements recorded and certified jointly by HLL Engineer in charge and the Contractor's representative. 5% amount of the Bill will be retained as retention money and will be released only after the Defect liability period of 12 months.

Tax Deduction: All statutory deductions like Income Tax, Works Contract Tax, E.S.I., P.F. or any other government-imposed liabilities shall be borne by the Contractor (as applicable at the time of execution of job) and shall be deducted from each bill submitted by the Contractor.

4. Liquidated damages for delays

If the work is not completed within the time stipulated in the Order, HLL may at their option, either (1) recover from the Contractor liquidated damages at the rate of 0.5 % of the total contract value for every week of delay, subject to a maximum of 7.5 % of the total contract value, or (2) at the risk and cost of the Contractor and without prejudice to the other remedies/rights as per the Contract, terminate the order wholly or partially and complete it themselves or reassign it to other Contractors/Contractors.

5. Scope of Services, Supplies and Materials:

The scope will include all services, supplies etc. for the satisfactory execution of the Contract except in so far as any of those are expressly excluded.

6. Force Majeure

- a. Neither the Contractor nor the Owner shall be considered in default in the performance of their obligations as per the Contract so long as such performance is prevented or delayed because of strikes, war, hostilities, revolution, civil commotion, epidemics, accidents, fire, cyclone, flood or because of any law and order proclamation, regulation or ordinance of Government or subdivision thereof

or because of any act of God. The proof of existence of force majeure shall be provided by the party claiming it to the satisfaction of the other.

- b. The Contractor shall advise Owner initially by a Fax, followed by post, the beginning and end of any of the above causes of delay, failing which Owner shall not be liable to consider delays due to the above reasons. Notice as stated above should be given even in case where only the Contractor's bids are under the consideration of the Owner and no acceptance of the same has been given and detailed order issued.
- c. In the event of definite delay even if arising out of reasons due to force majeure, Owner shall have the right at their discretion to cancel the Order or part of the Order without any liability on their part to make any payment to the Contractor while reserving the right to claim refund of and any payment if advanced or paid to Contractor.

7. Correspondence

All correspondence relating to this enquiry shall be in English, to:

EXECUTIVE DIRECTOR (INTERNAL PROJECTS),
HLL LIFECARE LIMITED
Projects Division, Peroorkada. PO,
Thiruvananthapuram – 695005, Kerala, India
Phn: 0471 – 2437270, 2437884
Fax: 0471 – 2432898, 2432647
E-mail: nnavikumar@lifecarehll.com, harikrishnankp@lifecarehll.com

8. Indemnification Clause

The Contractor shall indemnify and hold harmless the Owner from and against all claims, liability, loss damage or expense, including counsel fees arising from or by reason of any actual or claimed trade mark, patent or copy right infringement or any litigation based thereon with respect to any part of the items covered by the Contract, and such obligations shall survive acceptance of payment for the items.

9. Entirety of the Agreement

All of the terms agreed to between the Contractor and Owner will be included in the Purchase/work Order/Contract and no other communication, proposal or understanding, written, oral or implied, will be considered to be included in the Purchase/work Order/Contract or form part of the Contract between the Contractor and Owner unless specifically agreed to in that behalf in writing between Owner and Contractor.

10. Settlement Of Disputes

Arbitration shall not be a means of settlement of any dispute or claim arising out of the contract relating to the work. Any disputes or difference arising between the parties with respect to the performance of any part of this agreement or any thing connected therewith, etc shall as far as possible be mutually settled by the process of dialog and negotiation. The Courts at Thiruvananthapuram alone shall have jurisdiction in respect of settlement of any matter arising out or in connection with the contract.

SCHEDULE III

ACCEPTANCE FORM

(To be submitted in the letter pad of the firm indicating full name and address, telephone & fax numbers etc.)

From

To

EXECUTIVE DIRECTOR (INTERNAL PROJECTS),
HLL LIFECARE LIMITED
Projects Division, Peroorkada. PO,
Thiruvananthapuram – 695005,
Kerala, India
Phn: 0471 – 2437270, 2437884
Fax: 0471 – 2432898, 2432647
E-mail: nnavikumar@lifecarehll.com, harikrishnankp@lifecarehll.com

Dear Sir,

I / We, hereby offer to supply/fabricate/erect/install/test/commission the system as detailed in schedule hereto or such portion thereof as you may specify in the acceptance of Bid at the price given in the price schedule and agree to hold this offer open till 90 days after the date of bid opening prescribed by the purchaser. I/We have understood the terms and conditions mentioned in the invitation for bid and Conditions of Contract furnished by you and have thoroughly examined the specifications in the bid document hereto and are fully aware of the nature of the scope of work required and my/our offer is to comply strictly in accordance with the requirement and the terms and conditions mentioned above.

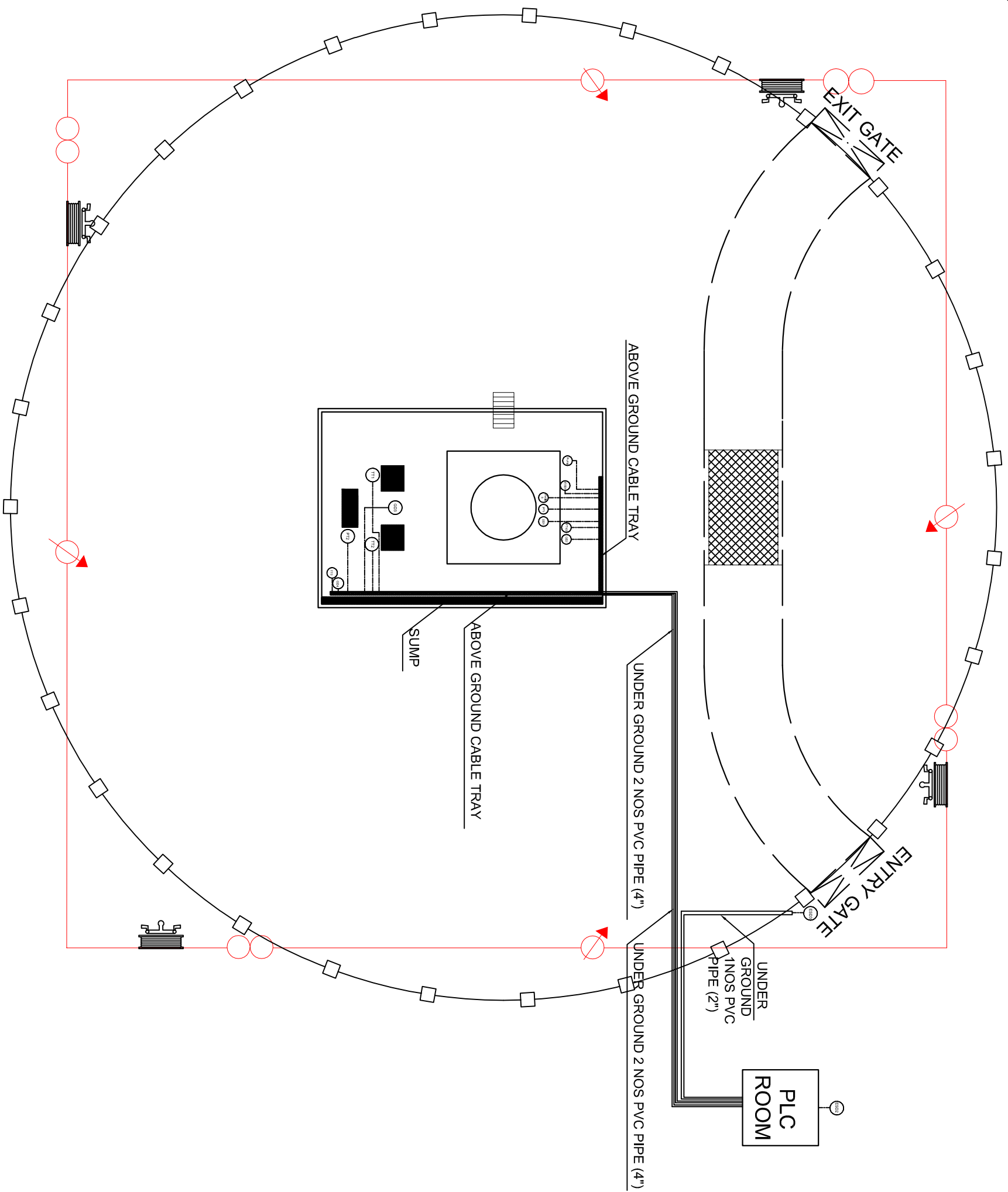
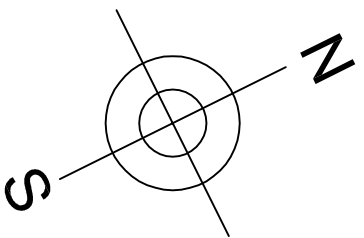
Yours faithfully,

SIGNATURE OF THE BIDDER

SCHEDULE IV

DRAWINGS

- 1) Drawing Ref No: 13KR208 Rev:00 - Cable Layout & Termination
- 2) Drawing Ref No: ISI/EP/02/2013 – Earth Pit Details



TAG NO	DESCRIPTION
ESD 1	EMERGENCY SHUT DOWN
ESD 2	EMERGENCY SHUT DOWN
ESD 3	EMERGENCY SHUT DOWN
Media 6	LEVEL TRANSMITTER
PT 1&2	PRESSURE TRANSMITTER
PT 100	TEMPERATURE SENSOR
GD 1,2,3&4	GAS DETECTOR
TT1,2&3	TEMPERATURE TRANSMITTER

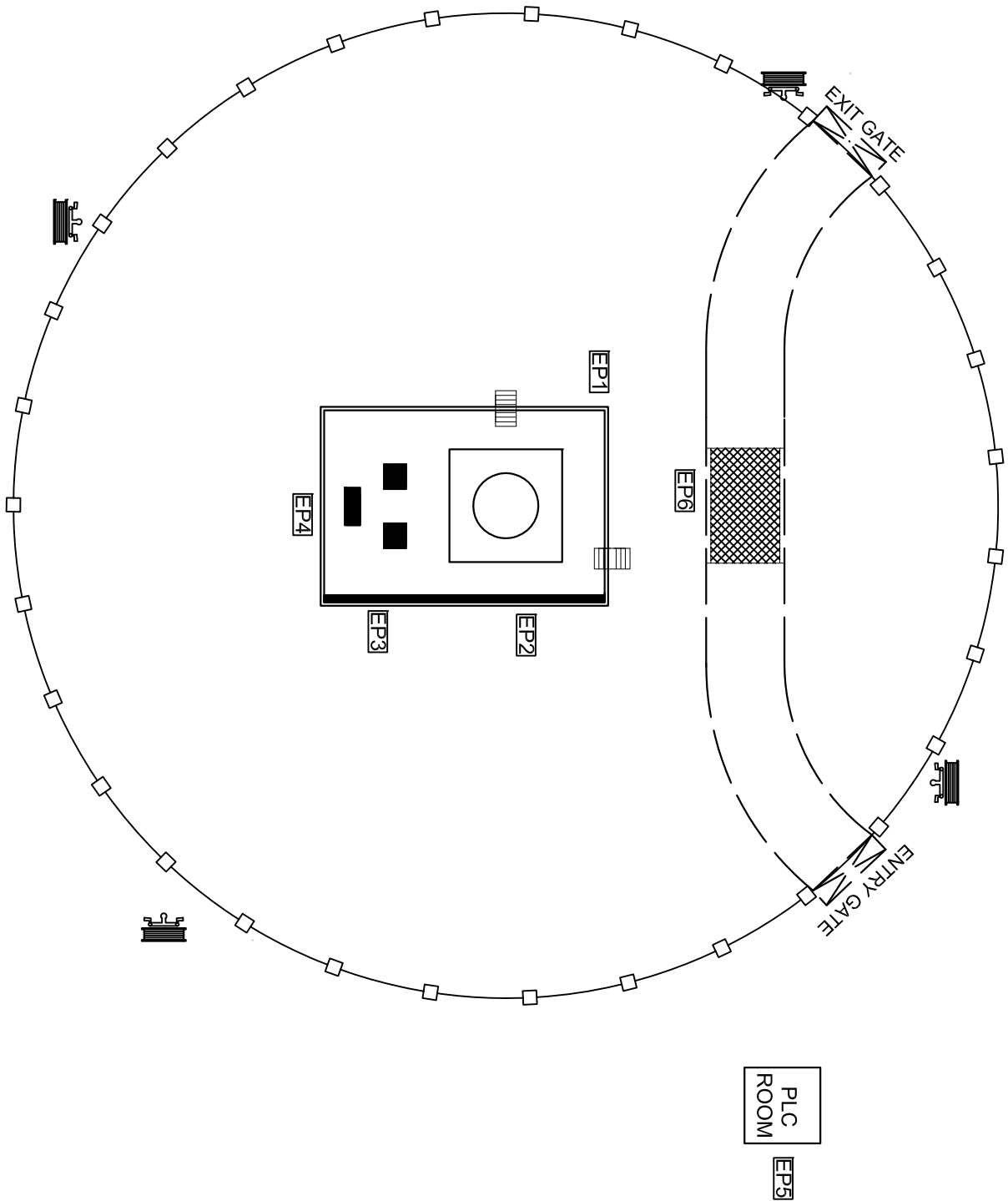
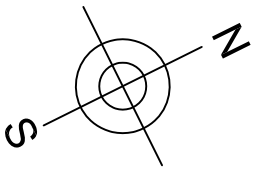
Cable size	Equipment
2x1 shielded data cable (LIYCY)	ESD1, ESD 2, ESD 3, MEDIA 6, PT1,PT2, TT3
3x1 shielded data cable (LIYCY)	GD1, GD2, GD3, GD4 PT100, TT1, TT2
4x16 NYN	PUMP

ELECTRICAL LAYOUT OF LNG YARD

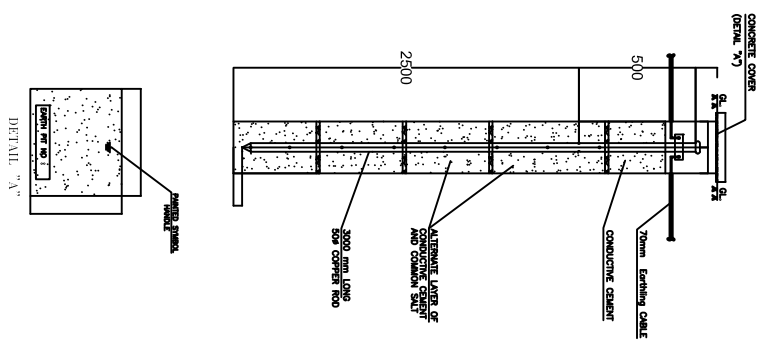


TEL: +90.352.3211343 / FAX: +90.352.3211413 / www.isisan.com.tr / info@isisan.com.tr

Draw No / Rev : 13KR208 / 00



TAG NO	DESCRIPTION
EP 1	EARTH PIT FOR PUMP
EP 2	EARTH PIT FOR LNG TANK
EP 3	EARTH PIT FOR VAPORIZER
EP 4	EARTH PIT FOR PRS
EP 5	EARTH PIT FOR PLC
EP 6	EARTH PIT FOR LNG TANKER



TEL: +90.352.3211343 / FAX: +90.352.3211413 / www.issan.com.tr / info@issan.com.tr
 EARTH PIT DETAIL OF LNG YARD
 Draw No / Rev : ISI/EP/02/2013

SCHEDULE V

SCHEDULE OF WORK

Sub:	Electrical and Instrumentation works for the installation of LNG Satellite Station at HLL Lifecare Ltd., Peroorkada Factory, Thiruvananthapuram - reg.				
SL NO	DESCRIPTION	QTY	UNIT	UNIT RATE IN RS.	AMOUNT IN RS.
1	Installation & commissioning of GI Cable tray of size (150mm width x 30mm height) with cover & with fittings and supports in LNG dike area complete as per direction of HLL's Engineer in Charge. Cable trays will be provided by HLL.	Mtrs	100		
2	Installation & commissioning of 4 inch PVC pipe (including excavation upto a maximum depth of 3 feet & refilling the excavated earth & compacting) for laying cables from PLC control room to LNG dike area & PLC control room to entry gate of LNG yard complete as per Drawing Ref: 13KR208 and direction of HLL's Engineer in Charge. PVC pipes will be provided by HLL.	Mtrs	200		
3	Laying & Installation of cables and fixing the following instruments and 1 no. LNG Pump etc. at site complete as per Drawing Ref: 13KR208 and direction of HLL's Engineer in Charge	Mtrs	100		
	a) Gas Detectors (4 nos.)				
	b) Temperature Sensor (3 nos.)				
	c) Emergency Shutdown Button (3 nos.)				
	d) Pressure Transmitter (2 nos.)				
	e) Level Transmitter (2 nos.)				
4	Laying of cables from PLC control room to LNG dike area & PLC control room to entry gate of LNG yard complete as per Drawing Ref: 13KR208 and direction of HLL's Engineer in Charge	mtrs	100		
5	Termination (fixing & glanding) of the following items complete as per Drawing Ref: 13KR208 and direction of HLL's Engineer in Charge				
	a) 4 x 16 NYY cable in LNG pump	L/s	1		
	b) 2 x 1 shielded data cable (LIYCY) in temperature transmitter (1 nos.), Emergency Shutdown Button (3 nos.), Pressure Transmitter (2 nos.), Level Transmitter (2 nos.)	L/s	1		
	c) 3 x 1 shielded data cable (LIYCY) in Gas detectors (4 nos.), Temperature Transmitter (2 nos.), Temperature Sensor (1 nos.)	L/s	1		
	d) 3 x 1 shielded data cable (LIYCY) , 2 X 1 shielded data cable (LIYCY) in PLC control room.	L/s	1		
6	Construction of earth pits as per the earth pit detail drawing no: ISI/EP/02/2013 and bonding with storage tank (6 meter), LNG Pump (3 meter), Vaporizers (10 meter), Pressure Regulating Skid (3 meter), PLC (8 meter) including supply of earth pit material, copper strip for bonding with equipment etc. complete	Nos	6		
7	Supply of 1100V LT Aluminium Cables XLPE insulated / PVC Sheathed steel armoured cables conforming to IS 7098 - of following sizes :-				
	a) 3.5C X 120 Sqmm	Mtrs	120		

SCHEDULE V

SCHEDULE OF WORK

Sub:	Electrical and Instrumentation works for the installation of LNG Satellite Station at HLL Lifecare Ltd., Peroorkada Factory, Thiruvananthapuram - reg.				
SL NO	DESCRIPTION	QTY	UNIT	UNIT RATE IN RS.	AMOUNT IN RS.
8	Supply of 1100V LT Cables / PVC INSULATED cables Conforming to IS 7098 of following sizes -				
a)	4C x 6 Sqmm (Cu) PVC un armoured	Mtrs	100		
b)	4C X 2.5 Sqmm (Cu) PVC un armoured	Mtrs	150		
c)	2.5 Sqmm (Cu) wire PVC un armoured	Mtrs	300		
d)	3.5c x25sqmm (Aluminium) PVC un armoured	Mtrs	50		
e)	4C X 4 Sqmm (Cu) PVC Armoured	Mtrs	250		
f)	2.5 Sqmm (GI) wire for earthing the street light poles	mtrs	250		
9	Laying of the following size of cables thru cable trench/underground /cable rack/ Conduits as per IS standards and as per the instruction of engineer in charge				
a)	Laying of 3 1/2 C X 120 Sqmm (Aluminium)cables thru cable trench/underground/ cable crossing as per IS 14927/30 standards and as per the instruction of engineer in charge. Excavated Cable trench should have a depth of 0.75mtrs and a width of 0.5 mtrs.M.Sand has to be spread across the full length of cable trench for a min. thickness of 5cm before laying the cables. The cables are to be covered with a sand bed of thickness 5cm over which country fired bricks are to be placed breadth wise for full lengtht of cable and refilled with earth. Cable markers are to be permanantly placed every 10mtrs. If any additional related civil works are to be done, party has to arrange it and rebuild every thing as such it was after layin the cable.	mtrs	120		
b)	4C X 25 Sqmm (Aluminium) - Cable rack/ Conduiting	Mtrs	50		
c)	4C X 6 Sqmm (Copper) - Cable rack/ Conduiting	Mtrs	100		
d)	2.5 Sqmm Cu wire - Cable rack/ Conduiting	Mtrs	300		
e)	4C X 2.5sqmm cu cable laying - Cable rack/ Conduiting	Mtrs	150		
f)	4C X 2.5sqmm cu Armoured cable - Under ground cable laying for Street light poles	Mtrs	250		
10	Supply and providing cable glands & end termination, gland Earthing etc. as per standards for following Al/copper cable sizes -Termination at motors, starters, secondary switches etc. complete as per direction of engineer in charge				
a)	3 1/2 C X 120 Sqmm	Nos	10		
b)	4C X 25 Sqmm	Nos	10		
c)	4C X 6 Sqmm	Nos	10		
d)	4C X 2.5sqmm	Nos	10		
e)	3.5c x25sqmm	Nos	10		
f)	4C X 4 Sqmm	Nos	10		

SCHEDULE V**SCHEDULE OF WORK**

SL NO	DESCRIPTION	QTY	UNIT	UNIT RATE IN RS.	AMOUNT IN RS.
Sub:	Electrical and Instrumentation works for the installation of LNG Satellite Station at HLL Lifecare Ltd., Peroorkada Factory, Thiruvananthapuram - reg.				
11	Supply and laying GI strip / Cu wire thru cable rack/wall clamped properly for Earthing panel boards, Motors and machines etc.				
a)	25 X 3 MM (GI)	Mtrs	200		
b)	No. 8 SWG Bare copper wire	Mtrs	150		
c)	No .14 swg bare copper wire	Mtrs	100		
12	Fabrication, supply, installation, testing & Commissioning of 415V TPN MCCB Distibution Board- vermin proof,with copper bus bar, dust and vermin proof, fabricated out of 14/16 Gauge CRCA Sheet and painted with two coats of anti corrosive Primer & Powder coated with approved color. The DB should be fabricated as per electrical inspectorate standards. Should conform to IS /BIS standards. The DB should consist of a Cat-B type 250 A 3P MCCB as incomer. 3 Pole 125A MCCB -2nos and 3 Pole 63A MCCB-4nos as outgoing (all outgoing MCCBs should be Cat-A type). All MCCB needs to have a adjustable overload setting. Necessary Neutrallink, Earthing, spreader links etc. are to be arranged. Copper Bus of aproprate size should be used. Analog Voltmeter, Ammeter, Digital Trivector meter and phase indicators has to be provided.	No.	1		
13	Supply Installation ,testing & commissioning of 415V 3pole 8way VDB with 63A 3Pole MCB as incomer and 2Pole MCBs of ratings 32A,20A and 10A as outgoing.	Nos	1		
14	Supply and providing standard plate earthing station devices 1200 X1200 X 12 mm Cast iron plate set with 38 mm GI Watering pipe etc; Constructing earth pits with brick work and supplying & installing CI Earth pit cover with mounting frame etc. as per IS 3043 /1987 (Earth plates, GI Pipes, Cross Cu bars and down Cu connections etc.complete.)	Nos	4		
15	4pin industrial plug and socket DB (10A) with MCB	Nos	3		
16	Modular switch boards for Computer, internal lightings & fans	Set	2		

SCHEDULE V					
SCHEDULE OF WORK					
Sub:	Electrical and Instrumentation works for the installation of LNG Satellite Station at HLL Lifecare Ltd., Peroorkada Factory, Thiruvananthapuram - reg.				
SL NO	DESCRIPTION	QTY	UNIT	UNIT RATE IN RS.	AMOUNT IN RS.
17	SUPPLY INSTALALTION TESTING & COMMISSIONING OF STREET LIGHT POLES				
A)	Hot dipped Galvanized octagonal pole structures for yard lighting in accordance with IS 2629. The poles should be single piece with dimensions as Ht.- Min. 10mtr, Top dia- Min.70mm, Bottom Dia. Min.175mm, sheet thickness- Min.3mm. The steel used for fabricaion should be as per BSEN10025. There should be four brackets/arms to hold four nos. of 70-90W LED street light fittings. The Poles should have base plates and anchor bolt with appropriate load bearing capacity to fix the poles. Necessaary civil works to fix the poles has to be done by the party. Necessary earthing, lightning arresters and other other necessary safety provisions has to be provided.	No	1		
B)	Hot dipped Galvanized octagonal pole structers for yard lighting in accordance with IS 2629. The poles should be single piece with dimensions as Ht- Min. 10mtr, Top dia- Min. 70mm, Bottom Dia. Min.175mm, sheet thickness- Min.3mm. The steel used for fabrication should be as per BSEN10025. There should be <u>two</u> brackets/arms to hold four nos. of 70-90W LED street light fittings. The Poles should have base plates and anchor bolt with appropriate load bearing capacity to fix the poles. Necessaary civil works to fix the poles has to be done by the party. Necessary earthing, lightning arresters and other other necessary safety provisions has to be provided.	No	4		
C)	LED street light of out put capacity 70-90Watts, 150-270Volts, 50Hz, Driver Efficiency min 85%, min. pf 0.95, THD less than 20%, LED luminous efficiency min100lm/Watt, IP 45 and Body made of Aluminium alloy.	No.	10		
TOTAL AMOUNT IN RS.					
APPLICABLE TAXES					
GRAND TOTAL IN RS (INCLUSIVE OF TAXES)					
(IN WORDS)					
I agree to execute the works as per the schedule at the rates quoted by me as above					
CONTRACTOR					
NOTE:					
1)	The Bidder shall visit the site and make his own assessments, before quoting for the work. Price quoted should be firm without any escalation till the order is completely executed.				
2)	The rates quoted should be inclusive of all material cost, labor charges, tool rentals, loading and unloading charges, all applicable taxes and other levies etc. for completing the work				
3)	Recommended makes for Switches/MCB/MCCB/VDB/DB - Legrand/ABB/L&T/Siemens/Havells Recommended makes for XLPE/PVC- A/UA cables- Finolex/ Havells/ RR kabel / Nicco Recommended makes for Street light poles and lightings- Bajaj/ Havells/CG/ Sunlit/ Wipro/Phillips				