INVITATION FOR BIDS (IFB)
(TECHNICAL & PRICE BIDS)

FOR THE

INSTALLATION, TESTING & COMMISSIONING OF 1 NO, 125O KVA, OUT DOOR, OIL FILLED, ONAN, 11KV OLTC TRANSFORMER AND ALL RELATED AUXILIARY UNITS

At

HLL LIFECARE LIMITED
(A Government of India Enterprise)
Peroorkada. PO,
Thiruvananthapuram – 695005,
Kerala, India
Phn: 0471- 2437270, 2435090
Fax No. (0471) 2432647

Tender no: PUR/08/R1/PQ/TRANSFORMER-INSTALLATION/2013-14

Date: 20/12/2013

HLL LIFECARE LTD

(A GOVERNEMENT OF INDIA ENTERPRISE)

PEROORKADA.P.O.

THIRUVANANTHAPURAM – 695 005

KERALA, INDIA

Email: materialspft@lifecarehll.com

Ph. (++ 91 471) 2437270, 2435325

Fax: (++ 91 471) 2435013

INVITATION FOR BIDS (IFB)

Tender no. : PUR/08/R1/PQ/TRANSFORMER-INSTALLATION/2013-14

Date : 20/12/2013

HLL Lifecare Limited (HLL) invites sealed and super scribed bids under two bid system (Technical & Price bid) for INSTALLATION, TESTING & COMMISSIONING OF 1 NO 125OKVA, 11KV/433 VOLTS, OUTDOOR, OIL FILLED, ONAN, OLTC TRANSFORMER AND ALL RELATED AUXILIARY UNITS at HLL Lifecare Limited, Peroorkada Factory, Thiruvananthapuram. Supply of OLTC Transformer and RTCC panel are under HLL's scope.

The technical specification and other terms and conditions are given in the Tender documents, which can be had from our Website at www.lifecarehll.com & CPP portal (www.eprocure.gov.in). The vendors can download the tender document from our website & CPP portal and in such case the tender fee of Rs. 520/-should be paid by way of DD along with technical bid.

The Vendor is expected to examine the specifications and terms and conditions in the Bid Documents

Any subsequent changes / amendments will be published only in our website & CPP portal.

TENDER NO. : PUR/08/R1/PQ/TRANSFORMER-INSTALLATION/2013-14

Completed tenders in sealed cover superscribed with Tender No. should reach latest by 3/01/2014; 3.00 P.M. at the following address

Joint General Manager (Purchase)
HLL Lifecare Limited,
Peroorkada P.O.,
Thiruvananthapuram -- 695005
Kerala. India.
Ph. (++ 91 471) 2437270,2433459,2435325
Fax: (++ 91 471) 2435013

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

a) Date of issue of tender document - 21/12/2013 onwards.
b) Last date and time for receipt of bids - 03/01/2014 to 15.00 Hrs.
c) Date and time of opening of Technical bids - 03/01/2014, 15.30 Hrs.

Bids will be opened in the presence of Vendors representative(s) who choose to attend on the specified date and time, at the office of HLL at the address given above.

In the event of the date specified for bid receipt and opening being declared as a closed holiday for HLL's office, the due date for submission of bids and opening of bids will be the following working day at the appointed times.

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 email will not be accepted. The company reserves the right to club or split the items of works at their discretion and to reject or cancel the tender without assigning any reason there of.

JOINT GENERAL MANAGER (PURCHASE)

HLL LIFECARE LIMITED

(A Government of India Enterprise)

THIRUVANANTHAPURAM-695 005, KERALA, INDIA

TENDER NO. : PUR/08/R1/PQ/TRANSFORMER-INSTALLATION/2013-14

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INSTRUCTIONS TO VENDORS

1. Bid Information

1.1 Bidders shall submit their bids in two parts (**TECHNICAL BID** and **PRICE BID**). The Technical Bid must be accompanied by an EMD of Rs. 50,000/= by way of Demand Draft drawn in favour of M/s.HLL LIFECARE LIMITED (HLL) and payable at Thiruvananthapuram, India

1.2 The Technical Bid must include the following information;

a. Enquiry No.
b. Tender Fees
c. Earnest Money Deposit as prescribed in the tender
d. All the details and documents mentioned in the Technical Bid.
e. 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.
f. All other documents/certificate/information as specified in the bid document.

1.3 The Price Bid must be as per the following

a) The bid is invited for **"**INSTALLATION, TESTING & COMMISSIONING OF 1 NO 125OKVA, 11KV/433 VOLTS, OUTDOOR, OIL FILLED, ONAN, OLTC TRANSFORMER AND ALL RELATED AUXILIARY UNITS at HLL Lifecare Limited, Peroorkada Factory, Thiruvananthapuram**"** as per the Specification, Terms and Conditions specified in the Bid Documents. The Bidder shall give the rates inclusive of relevant taxes, duties, other levies, on the appropriate price schedule **(Schedule of Quantities)** attached to these documents for completing the above work as per the Specification, Terms and Conditions as specified in the Bid Documents.

b) Bidder must quote for unit price and total price based on the requirement shown in the bid document.

c) Price should be firm without any escalation on any account till the completion of work.

d) Bids shall remain valid for **90 days** after the date of bid opening prescribed by the Purchaser.

Technical bids, consisting of technical details bringing out clearly in a separate sheet, the deviations in specifications if any, from that of 'Technical Specifications' and also clause-by-clause compliance of specifications and commercial terms and conditions and EMD, excluding price, in separate sealed covers super scribing "Technical Bid" inside a main cover.

Price bids, showing only item wise and total prices in separate sealed covers super scribing "Price Bid" inside a main cover.

When the main cover is opened on the date and time scheduled for bid opening, only the technical bids will be opened. Bidders whose technical bids are found substantially responsive will be informed of the date and time of opening of their price bids. Price bids of others will be returned to them unopened. All pages of the bid, except for un-amended printed literature shall be signed by the person or persons signing the bid. The seal of the company shall be stamped in all pages. Bids shall be made in English.

1.4 Submission of Bids

The envelopes shall be:

(a) Addressed to the Owner in the above address and

Joint General Manager (Purchase)
HLL Lifecare Limited,
Peroorkada P.O.,
Thiruvananthapuram -- 695005
Kerala, India
Ph. (++ 91 471) 2437270, 2433459, 2435325
Fax: (++ 91 471) 2435013

(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 03-01-2014 (Opening Date)

(c) The inner envelopes shall 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.

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

1.5 Deadline for submission of Bids

The bids will be received by the Owner not later than the date and time specified in the Invitation for Bids.

a. 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.

b. 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.

c. 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 JGM-Purchase Dept. in the above address by the date and time stipulated for receipt as above failing which the bid would be considered late and rejected. The 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.

1.6 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.

1.7 Amendment of Bidding Documents

a. At any time prior to the deadline for submission of bids, the Owner may, for any reason, modify the Bidding Documents by amendment.

b. 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. Amendments will also be uploaded on the website.

1.8 Bid Opening by Owner

a. 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.

b. 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.

c. The Owner will prepare appropriate bid opening register and bidders present during the opening of the bids and Owner shall sign the same.

1.9 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 rate or substance of the bid shall be sought, offered or permitted.

1.10 Inspection of site

Every tenderer is expected to inspect the site of the proposed work and acquaint himself with the site conditions, approaches etc. before quoting his rates. No claim whatsoever should be entertained later on the plea of any difficulties involved in the execution of work, which was or was not foreseen by the tenderer.

1.11 Preliminary examination

a. Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be calculated.
b. A bid determined as not substantially responsive will be rejected by the Owner and may not subsequently be made responsive by the bidder by correction of the non-conformity.

1.12 Post – qualification

a. Not withstanding the qualification requirements given in this document, the Owner will determine to its satisfaction whether the Bidder selected as having submitted the lowest evaluated responsive bid is qualified to satisfactorily perform the Contract.
b. The determination will take into account the Bidder's financial, technical and execution capabilities. It will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, as well as such other information as the Owner deems necessary and appropriate.
c. The Owner reserves the right to negotiate with the lowest evaluated responsive bidder.
d. An affirmative determination will be a prerequisite for award of the Contract to the Bidder. A negative determination will result in rejection of the Bidder's bid, in which event the Owner will proceed to the next lowest evaluated bid to make a similar determination of that bidder's capabilities to perform satisfactorily.

1.13 Award Criteria

The Owner will award the Contract to the successful Bidder whose bid has been determined to be substantially responsive and has been determined as the lowest

evaluated bid provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily for the items offered.

1.14 Security Deposit & Execution of Agreement

a. The successful vendor is required to furnish Security Deposit in the form of Demand Draft, drawn in favour of HLL Lifecare Ltd., payable at Thiruvananthapuram OR a Bank Guarantee for an amount equivalent to 5% of the total order value. The EMD of successful vendors will be converted to Security Deposit and will be refunded at the end of contract period. The successful vendor shall arrange for balance after adjusting the EMD amount. Security Deposit shall be retained (B.G. should remain valid) until successful completion of the contract and acceptance of the machinery/works by the purchaser. The Security Deposit will be released against performance guarantee for an amount equivalent to 10% of the total order value, in the form of Demand Draft or Bank Guarantee by the supplier.

b. The Security deposit should be valid until successful completion of the contract and acceptance and handing over of the works and will be released after acceptance of the work by the Owner.

c. Failure of the successful Bidder to accept the notification of award or submission of security deposit within the timeframe shall constitute sufficient grounds for the annulment of the award and forfeiture of the EMD, in which event the Owner may make the award to the next lowest evaluated bidder or call for new bids.

d. E.M.D. of the unsuccessful bidders will be released after tabulating tenders, keeping only the earnest money of the first three lowest bidders. The earnest money deposit of the remaining two unsuccessful bidders will be released after the acceptance of the notification of award by the successful bidder.

e. In the case of successful bidder, the Earnest Money will be returned after signing the agreement and submission of Demand Draft towards Security Deposit, which they will have to offer for the faithful execution of the contract.

1.15 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. In case of the successful Bidder, if the Bidder fails:

(i) To sign the agreement.

(ii) To furnish security deposit.

(iii) Does not accept the correction of his dib price pointed out by HLL.

2 COMMITMENT OF CONTRACTOR

2.1 Interpretation of Contract documents:

All the documents forming part of the contract are to be taken as mutually explanatory, supplementary and complementary to each other. If there is any error, omission or discrepancy in any of them, it shall be brought to the notice of the Owner. The decision of the Owner shall be final and binding. The contractor shall execute the work accordingly.

2.2 Force majeure:

If the execution of work is delayed due to force majeure, then owner as per the affected period may extend the time period.

2.3 Period of Completion

Time is the essence of the contract. Time of completion allowed is **THREE MONTHS** from the date of acceptance of **Letter Of Intent/Work Order**.

2.4 Time Schedule:

The successful tenderer shall submit the time schedule in the form of charts in accordance with HLL's time schedule(Annex.4) before commencing the work and shall execute the work strictly as per the schedule accepted by him and approved by the Owner on turnkey basis.

2.5 Compensation for delay:

Time is the essence of the contract. If the contractor fails to complete the work and clear the site on or before the dates fixed for completion, he shall without prejudice be liable to pay liquidation damage (LD) i.e. **0.5 % of the contract value for every week that the whole or the part of work remains incomplete**.

For the purpose of this condition, the contract value shall be total value of quantities of items in the contract at contract rates plus algebraic sum of the subsequent work ordered. However, **the total amount of LD to be paid under this condition shall not exceed 7.5% percent of the contract value.**

2.6 Default of Contractor:

If the contractor fails to maintain progress and quality of work proportionate to time period allotted for the work in spite of notices or complete the work within the stipulated time period or extended time period, then the Owner shall have the right:

i) To determine the contract: In this event, the contract shall be terminated by giving written notice to the contractor and the unfinished works shall be got completed by labours engaged by the Owner or through other agency at the cost of the Contractor.

ii) Without determining the contract: In this event, the remaining works shall be got executed through a fresh contractor in which case the Contractor shall not have any objection or claim on this account.

v) Termination of Contractor in part or in full for Contractors default: If the Contractor fails to execute the work in the manner described in the contract documents or if he at any time, in the opinion of the Owner.

2.7 Contractor should keep his working site clean and the materials brought for work shall be kept in a properly stacked / stored way.

The work site should be swept at the end of each working day after removal of debris/ left over materials. The Contractor has to take full care so as not to spoil or damage other Contractor's/ Owner's job / material.

3 EXECUTION OF WORK

3.1 General:

All the works shall be executed in accordance with the detailed drawings, specifications and instructions given by the Owner or mentioned in the contract document.

3.4 Defect liability Period:

The liability period of the work shall be 12 months from the date of completion of the work as certified by the Owner and this date will be as indicated in the provisional completion certificate. If any damage or defect occurs in the work during this period then the contractor shall rectify the damage or defect at his own expense to the satisfaction of the Owner .If the contractor fails to do so, then the Owner shall have the authority to get the work done by other means and the expenditure incurred shall be recovered from the contractor.

4.0 CERTIFICATE AND PAYMENT

4.1 Schedule of Rates:

i) The payments to be made to the contractor for various items of works shall be as per the finalised rates in tender document

ii) The rates finalised in the tender document shall remain firm till the completion of the work including extension of time, if any.

4.2 Measurement:

Joint measurements of the various items of the work shall be taken by the Contractor's authorised representative in presence of the Owner's and authorized representative for maintaining the records and preparing the bills. If the contractor fails to send his representative then the measurements taken by the Owner's and shall be final and no claim shall be entertained in this regard.

4.3 Mode of Measurement:

All measurements shall be in the metric system and in accordance with Indian Standard Specifications and in accordance with standard engineering practice.

4.4 Mobilization Advance:

No mobilization advance shall be paid.

4.5 Lump sums in Tender:

Lump sum items considered only where specified.

4.6 Payment of Contractor's Bills:

The payment due to the contractor shall be made only in Indian Currency by Crossed Account Payee Cheques/RTGS. Wherever any claim for the payment against the contractor arises as per the contract, the same may be deducted from the bill of the contractor or from his security deposit.

5. LABOUR LAWS AND SAFETY REGULATIONS

The contractor shall, at his own expenses, comply with all labour laws and the Owner shall not be responsible for any recovery/penalty imposed by the respective authorities for violating the labour laws. If the contractor is covered under the Contract Labour (Regulation & Abolition) Act, he shall obtain a license from the licensing authority (i.e. the Office of Labour Commissioner), by payment of the necessary prescribed fee and deposit, if any, before starting the work. The contractor shall furnish to the Owner, the details of the

workers employed on the works. The contractor shall comply with the provisions of the existing rules and regulations relating to labour laws.

Minor Accident on Duty:

For cases of minor accident on duty not covered under compensation by insurance, the contractor shall have to compensate the affected person by reimbursing these medical expenses against submission of actual expenditure document.

6 SAFETY CODE

6.1 Safety and Protection:

The contractor shall adhere to safe construction practice and guard against hazardous and unsafe working conditions. While carrying out the work, the contractor should provide for;

i) Safety of personnel engaged in the construction.

ii) Protection and safety of works and materials during their progress.

iii) Sanitary and hygienic conditions of working and living for his workers

iv) The Contractor shall have to ensure availability and use of all desire safety gadgets like safety belts, helmets, goggles, hand gloves etc.

6.2 Unsafe working condition:

If any activity is found to be progressing without proper and complete safety measures (including use of safety gadgets) being implemented, the contractor may be asked to stop the work unless he fulfills the desired safety norms. Such delays shall not be allowed to be considered for extension in duration of the allotted time period.

6.3 First Aid:

The contractor shall provide first aid facilities for his employees and those of his sub-contractors. The requisite first aid box and medicines should always be available at work site.

7. RECOVERY FROM THE CONTRACTOR

i) If the contractor or his employees damage or destroy the property of the Owner, then the same shall be replaced/ refunded by the contractor; otherwise the expenses may be recovered from his bill or security deposit.

ii) All compensation & recoveries to be made as per terms of the contract shall be deducted from the contractor's bill or security deposit.

iii) Forfeiture of Security Deposit: Whenever any claim against the contractor is to be recovered then the same may be made from the security deposit. If the contractor abandons the work or leaves the work in complete, then the Owner/has the right to forfeit the security deposit.

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I. TECHNICAL BID FORMS

SCHEDULE A: PREQUALIFICATION REQUIREMENTS

1. The vendor should possess a valid Class 'A' Electrical Contractor license issued by Kerala State Electricity Authorities.
2. The vendor should have a Minimum 10 years experience in the relevant field.
3. Vendor should have satisfactorily completed at least two similar electrical works (HV) of minimum value Rs 20 Lakhs or above in the past three years.
4. Average annual financial turnover of the vendor during the last 3 years, ending 31st March of the previous financial year, should be at least Indian Rupees (INR) 20 Lakhs.
5. Copy of power of Attorney in case an authorized representative has signed the tender.
6. The duly signed acceptance form conforming that all terms & conditions, technical specifications, drawings & volume of job are understood by the vendor. Certificate that bid is in total conformity with the specifications and terms and conditions mentioned in the bid document and certificate
7. Deviation if any, giving reasons for the deviation.
8. Even though the vendor meets the above qualifying criteria, they are subject to be disqualified if they have:

   Record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures etc…

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SCHEDULE A: PREQUALIFICATION REQUIREMENTS

Note: - HLL does not bind itself to accept the lowest or any tender, and reserves to itself the right to accept or reject any or all the tenders, either in whole or in part without assigning any reason for doing so.

Place: **Signature**

Date: **Name and address of the vendor with seal**

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SCHEDULE B: APPLICATION FOR PREQUALIFICATION

Work: INSTALLATION, TESTING & COMMISSIONING OF 1 No 125OKVA 11KV OLTC TRANSFORMER AND ALL RELATED AUXILIARY UNITS at HLL Lifecare Limited, Peroorkada Factory, Thiruvananthapuram.

A. Name of Firm/Company :

1. Postal address :

2. Telephone No :

FAX :

E-Mail :

3. Year of establishment of firm/Company :

B. In the case of Firm

1. Whether proprietary of partnership firm :

2. Name of Managing partner :

3. Name of other partners :

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SCHEDULE B: APPLICATION FOR PREQUALIFICATION

C. In the case of Company

1. Whether Private Limited or Public Limited Company :
2. Name of Managing Director :
3. Name of other Directors :

D. a) Experience in the field (in years) :

b) No. of major similar work completed successfully in India, specify. Enclose two nos. of completion certificates from clients certifying that the works had been executed and commissioned at their site successfully by the vendor and is working satisfactorily till date. The client list shall be also enclosed. (Cost of work not less than Rs. 20Lakhs for each work) executed during the last 3 years.

Note: Refer **SCHEDULE C**

E. Total No. of ongoing similar work.

Note: Details to be furnished in **SCHEDULE D**

i) If so, give the period and details.

F. Annual turnover of the vendor during the last 3 years :

(Refer SCHEDULE A)

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SCHEDULE B: APPLICATION FOR PREQUALIFICATION

G. Tax registration details (domestic vendors)

(a) CST No./ VAT No.

(b) TIN No.

H. Technical Specification: in **SCHEDULE E** (filled and enclosed)

I. Acceptance Form in **SCHEDULE F**

J. CERTIFICATE as per **SCHEDULE H**

I/We hereby certify that the details given in the application form are correct to the best of my/our knowledge. I /We have no objection in contacting any of our clients for reference.

Place: **Signature**

Date: **Name and address of the vendor with seal**

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SCHEDULE C:

DETAILS OF MAJOR INSTALLATIONS (Min 2Nos.) OF SIMILAR WORK COMPLETED SUCCESSFULLY IN INDIA BY THE VENDOR AS PRIME CONTRACTOR DURING THE LAST 3 YEARS				
Sl. No.	Name of Client with full address, telephone numbers and nature of work	Details of Installation	Value of works completed	Period of Completion with dates (in months)

THE TENDERER SHOULD HAVE COMPLETED 2 NOS. OF SIMILAR WORKS (**HV)** IN THE LAST 3 YEARS.

SIGNATURE OF VENDOR WITH SEAL

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SCHEDULE D:

TOTAL NUMBER OF ONGOING INSTALLATIONS OR ORDERS IN HAND FOR SIMILAR WORKS			
Sl. No.	Name of Client with full address, telephone numbers	Order details such as quantity, completion time	Value of works

SIGNATURE OF VENDOR WITH SEAL

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SCHEDULE E: SCHEDULE OF WORK & TECHNICAL SPECIFICATIONS

1 Introduction

This Tendering document is intended to cover the scope of work as listed below;

a. Erection, installation, testing and commissioning of a new 1250kVA, 11kV Oil cooled transformer at electrical 11kV substation of HLL Lifecare Ltd., Peroorkada Factory, Trivandrum 695005.

b. Design, manufacture, assembly, testing at manufacturer's works, supply & delivery, properly packed for transport of MV(433 Volts) panel board to the site with all accessories for efficient and trouble-free operation for the electrical substation at HLL Lifecare Ltd., Proorkada Factory, Trivandrum 695005.

c. The scope of work shall also include, the supervision of erection, testing, commissioning and putting into successful commercial operation of the existing HV switchgear (VCB), Cabling along with necessary protection relays for the new 1250kVA, 11kV OLTC transformer in the existing HV(11kV) panel at electrical substation.

d. Obtaining necessary license for all the installations listed by HLL, from Central Electricity Authority immediately after completion of work.

All the above mentioned works should adhere to all international standards and meeting all specifications furnished by HLL in this tender document.

2 Location and Environmental Conditions

2.1 Plant Location

The Plant is situated at Peroorkada , Trivandrum, Kerala 695005. The works listed shall be done in the electrical substation within plant complex.

3 Scope of Supply

The equipments shall be supplied in accordance with the specification, standards stated herein & enclosed as per the appendices.

3.1 Electrical Equipment & Material:

- Inspection and Testing and submission of documents as specified.
- Painting as specified.
- Preservation, preparation of shipment and delivery to site.
- Start-up spares and commissioning spares.
- List of special tools required (Vendor to provide list with the bid).
- Any other items, required to make system complete.

3.2 Exclusions

All works mentioned as under the scope of HLL, in work schedule.

4 Codes and Standards

4.1 General

All the works listed out by HLL in this tender should be executed, meeting all the specification and latest edition of corresponding applicable IS standards.

4.2 Conflicting Requirements

In case of conflict between documents relating to the enquiry or purchase order, the following priority of documents shall apply.

First priority: This engineering specification along with attached drawings/ data sheets and subsequent purchase order & variations thereto.

Second priority: Relevant Indian /International standards.

5 Technical Particulars:

5.1 Operating Philosophy:

HV Panel

At present an 11kV supply (KSEB) from the **Ring main Unit** is connected to the main incomer VCB in **HV panel** (11kVolts). There is also an 11kV DG set of capacity 1500kVA connected to this HV panel. There are total four outgoing feeders from this HV panel connected to three nos. of 630kVA 11kV Oil cooled Transformer (**Tr No.1**, **Tr. No.2** & **Tr. No.3**) and 1No. of 1000kVA 11kV Oil cooled transformer (**Tr No.4**), Of which HLL is planning to replace one of the existing 630kVA transformer (**Tr No.3**) with a brand new 1250kVA, 11kV Oil cooled transformer. In concurrence to this the existing HV panel metering & protection, switch gear units and cabling have to be upgraded to accommodate the new

1250kVA transformer in place of 630kVA transformer(Tr No.3) without disturbing any other incomer or outgoing feeder in the existing HV panel.

MV Panel

There are five MV panels (433Volts) in substation connected to the existing 4Nos. transformers;

MPB1 having an incomer supply from Tr. No.1 (630kVA). MPB1 can be bus coupled with MPB2**. MPB2 & MPB3** are bus coupled and are having an incomer supply in **MPB3** from Tr. No.3 (630kVA)

MPB4 having two incomer supply, one from Tr. No 2(630kVA) and a 500kVA LV DG set.

MPB5 having incomer supply from Tr No.5 (1000kVA)

Under normal condition the power supply to all these MV panel boards shall be via KSEB supply. In case of grid main supply failure a 1500kVA HT DG set (**DG1**) and a 500kVA LT DG set (**DG2**) will cater the necessary power to all plant loads.

Proposed system by HLL is as follows

1. Replacing the existing 630kVA 11kV Oil cooled Transformer (**Tr. No.3**) with a new 1250kVA 11kV OLTC Transformer
2. Replace the existing MV panel-MPB3 with a new panel board having bus coupling facility to MPB2, The incomer supply will be via bus duct from the proposed new 1250kVA oil cooled transformer

There shall be an electrical and mechanical interlocking among two incomers in all panels such that only one circuit breaker out of two shall be closed at a time.

5.2 Construction:

5.2.1 The dimensional details of MV (433Volts) panel boards are to be as per the drawing (HLL-ELE-DRG No.2, Annex. 3) given by HLL, any change in positioning/dimension of the switches/panel boards shall be done only after consultation with HLL. Switchgears shall be totally enclosed, metal clad, sheet steel fabricated, dust & Vermin proof, freestanding, floor mounted type with self-supporting structure and provided with integral base frame at bottom. Switchgears shall be in double-front,

draw-out execution & fully compartmentalized. The Panels shall have IP 4X degree of protection with gasketed doors. All doors shall be fastened to the vertical section by means of concealed hinges. The sides, top & bottom of each vertical section shall be covered with removable screw-on plates with formed edges all around.

5.2.2 The Switchgears shall be easily extensible on either side by the addition of vertical sections. It shall be possible to extent the Switchgears, irrespective of the type of end panel and design shall be such as to permit addition of extension panels of a type other than the type of end panel. For each shipping section adequate lifting facilities such as hooks for ease of handling on site shall be provided. These hooks when removed shall not affect the degree of protection of Panels. Vendor shall supply accessories such as bus links, etc. for connecting various shipping sections at site.

5.2.3 The Switchgears shall be fabricated preferably from CRCA sheet steel of minimum thickness 2mm. **The bottom plates has to be in such a way that re-termination of existing cables used in old MV panel can be done without disturbing the existing cable glands.**

5.2.4 The dimensions of the new MPB3 panel shall strictly adhere to the drawing as this panel is to replace an old panel, the new panel dimensions should precisely match and fit in place of old panel board MPB3. **The height of bus bar should be such that it will fit perfectly for providing a bus coupling with the adjacent panel MPB2.** The party is advised to visit the site prior to fabrication of panel board.

5.2.5 Bus bars shall not be exposed when CB module is removed. Insulated and isolated vertical bus bars are required. Barriers shall be provided to separate the bus compartment from wiring space at top, bottom and sides of each section and shall be adequate to prevent accidental contact and restrict propagation of unit originated arc into the bus bar compartment.

5.2.6 CB shall be draw-out type. CB compartment door shall be interlocked with door mechanically so that it cannot be opened unless the Switch operating handle is moved to the "OFF" position. However, the Rotary handle mechanisms of the Switch shall be so designed that a qualified person can defeat the door interlock for purpose of inspection without interrupting power.

5.2.7 Each draw-out unit shall be equipped with a mechanical safety interlock

5.2.8 Front access shall be available to all components in each cubicle, which require adjustment, maintenance or replacement.

5.2.9 All incomers, bus couplers & outgoing feeder shall be designated as per feeder list. Incoming feeder shall be mounted in separate vertical section. The arrangement of feeders in the panel shall take into consideration the number & size of cables required for the feeders. Extension box if required for termination of cables shall be included.

5.2.10 Base frame:

Switchgears shall be provided with integral base frame which shall be bolted/welded on the cross members. The base frame shall be of standard sections, re-rolled sections will not be acceptable. Cross members or foundation on which base frame is mounted is excluded from Vendor's Scope of supply.

5.3 Busbars:

5.3.1 The Busbars shall be made of Electrolytic grade high conductivity Aluminum with continuous rating as specified by HLL. All busbars & their main current carrying connections shall have same cross sectional area throughout the length. All bus bars shall be insulated with heat shrinkable PVC sleeves. All bus bars shall be colour coded such that on removal of any door, the phases shall be identifiable. All bus bars shall be accessible for inspection & easily replaceable. Control & earth bus bar shall be of copper bus.

5.3.2 Busbar size shall be determined by taking into consideration the specified continuous current rating & fault level for 1 sec, without exceeding the busbar final temperature of 95ºC. The bus bars shall be supported by insulators of non-carbonizing material resistant to acid and alkali and having non-hygroscopic characteristics and braced to withstand fault level specified. The main horizontal busbars shall be located at the top. Neutral busbar shall include taps for each outgoing cable connection in each vertical section. The clearance between live parts & earth shall be as per IS/IEC.

5.3.3 Busbars and connections shall be secured in such a manner that the insulators are not subjected to bending forces under short circuit conditions. Dynamic stresses shall be calculated on the basis of peak short circuit current. For long Busbars, suitable expansion joints shall be provided.

5.3.4 Separate set of vertical busbars shall be provided for front and rear sections. The vertical busbars shall be sized to carry continuously at least the sum of rated currents of the connected circuit breakers. Short time rating of vertical busbars shall be same as main busbars.

5.3.5 It shall be possible to extend the busbars at either end of the switchboard for addition of future units. Both ends of busbars must be suitably drilled for this purpose.

5.3.6 Where busbars are taken through the partitions of adjacent cubicles, fireproof shrouding shall be provided to prevent spread of fire from one unit to the next.

5.3.7 Thermal design of the busbars shall be based on installation of the switchgear in poorly ventilated conditions. The cooling air volume shall take into account only the bus enclosure.

5.4 Air Circuit Breakers (ACB):

5.4.1 The Circuit Breaker shall be manually & electrically operated, air break, and draw-out type with solid manually detachable type neutral. Short circuit withstands capacity for ACBs shall be same as that of switchgear. Breaker continuous current ratings shall be in panel ratings. No external mean shall be provided for limiting temperature rise in panel box. The rating of the breakers should be as per the schematic diagrams (Annex.3-HLL-ELE-DRG2&3)

5.4.2 Manual closing devices shall also be provided. Operating handle shall be provided for charging the spring manually.

5.4.3 The Circuit Breaker shall be provided with mechanical ON/OFF, TRIP and SPRING CHARGED, DISCHARGED indication, T/N/C control switch, mechanical trip push button, mechanical ‘close' push button, and padlocking facility.

5.4.4 The circuit breaker shall be electrically and mechanically trip free, with anti-pumping feature.

5.4.5 The breaker shall be provided with minimum 6 NO + 6 NC auxiliary contacts. However, the exact requirement shall be as per the details given in the Scheme Specific Requirements. 20% auxiliary contacts (Min. 3 NO + 3 NC) shall be provided for Owner's exclusive use. All spare contacts shall be wired up to terminal blocks. Auxiliary contactor or relay shall be used to multiply contacts.

5.4.6 The auxiliary contact for the shunt trip shall be of advanced nature such that the auxiliary contact close before main contacts.

5.4.7 The fixed portion of the circuit breaker shall have slide rail arrangement over which the chassis can move smoothly. The breaker shall have 3 distinct positions, such as "SERVICE", "TEST" and "ISOLATED", with padlocking facility in 'Test' & 'Isolated' position. It shall be possible to bring the circuit breaker to isolated position with the help of external lever without opening the compartment door. A stop block shall be provided on the slide rails to prevent the movement of the circuit breaker out of the compartment when it reaches the isolated position so that any accidental fall can be avoided.

5.4.8 Wherever cut-outs are provided for the circuit breaker control box, proper continuous gaskets shall be provided. Provision shall be made for closing the cut-out provided for the control boxes when the C.B. is taken out of the compartment.

5.4.9 The circuit breaker shall be provided with automatic safety shutters, so that before the breaker reaches `isolated' position the main isolating contacts are completely shrouded. When the circuit breaker compartment door is open it must not be possible to touch the live parts. All removable covers protecting live parts shall be clearly labelled with warning notices reading LIVE PARTS. ISOLATE ELSEWHERE BEFORE REMOVING COVER".

5.4.10 The circuit breaker compartment shall be so designed that hot gases produced during fault shall be lead away from the operator.

5.4.11 The following interlocks shall be provided on the circuit breaker :

a) It shall not be possible to withdraw the circuit breaker from the service position with the contacts of the breaker closed.

b) It shall not be possible to close the circuit breaker unless any one of the three positions is located, the service position, a definitely located test position, or isolated position.

c) It shall not be possible to open the compartment door when the circuit breaker is ON.

d) The circuit breaker can be padlocked in OFF position with door interlock defeat facility.

e) Castle key interlock shall be provided for incomers & bus couplers to prevent parallel operation where specified.

5.5 Moulded Case Circuit Breakers (MCCB):

5.5.1 MCCBs shall be of four pole construction for panel mounting, operating mechanism shall be trip free, quick make quick break type. Short Circuit with stand capacity for MCCBs shall be same as that of switchgear.

5.5.2 The MCCBs shall be provided with front operating handles & mechanical ON/OFF indicators. In case of trip handles shall remain in an intermediate position.

5.5.3 MCCBs shall be provided with releases and it shall be adjustable type.

5.7 Contactors:

5.6.1 The air break contactors shall be of electromechanical, triple pole type conforming to AC3 category of duty.

5.6.2 The auxiliary contactors shall have 4 NO + 4 NC contacts with at least 2 NO + 2 NC auxiliary contacts for owner's exclusive use. The spare contacts shall be wired up to the terminal block.

5.7 Control Switches, Indication Lamps, Push Buttons & Control Fuses:

5.7.1 Each Air circuit breaker shall be provided with trip-neutral-close control switch and local/remote selector switch.

5.7.2 Necessary multi function meters should be provided as per the schematic diagram (HLL-ELE-DRG 2)

5.7.3 Indication lamps shall be provided for each feeder in Switchgear as per feeder schematics.

5.7.4 Emergency Stop push buttons shall be mushroom headed, stayput type, with press to lock & twist to unlock (release) operation.

5.7.5 Color coding of Push Buttons & Indication Lamps shall be as follows:-

Push Buttons	Lamp(LED)
Start or On	Green
Stop or Off	Red
Alarm Reset	Yellow
Acknowledge	Black
O/L Reset	Blue

Trip circuit healthy check	White
Fault	Amber

5.8 Indicating Instruments & Meters:

5.8.1 All indicating instruments and meters shall be capable of carrying continuously their full load currents and full voltage across their pressure coils

5.8.2 The type and quantity of the measuring instruments shall be as specified in schematic drawings.

5.8.3 Indicating instruments shall be in accordance with the relevant IEC standards and have an accuracy class 1. Meters shall be mounted at a suitable height for easy reading from the front.

5.9 Current Transformers:

5.9.1 The CTs shall be Resin cast bar type. CT secondary shall be 5A. The minimum burden shall be 15VA. However, current transformers shall have sufficient capacity to operate with the burden imposed by the devices shown on drawings with their accuracy classification.

5.9.2 CTs for measuring instruments shall have an accuracy class 0.5 and accuracy limit factor less than 5.0. If a metering load is fed from a protection CT, 5/5 ratio saturable interposing CTs shall be use. CTs for Protection shall have an accuracy class 5P. CTs for restricted earth fault protection shall confirm to class X.

5.9.3 The CTs shall be capable to withstand dynamic and thermal stresses originated by the fault current. Shorting links shall be provided for the secondary of the CTs when wired to terminals.

5.9.4 One side of current transformer secondary shall be grounded in the compartment with the meters or relays which they serve and each CT group shall be grounded with a separate identified lead which may be disconnected for testing.

5.9.5 CT parameters shall be verified by vendor, based on connected relay make & relay manufacturers recommendation.

5.11 Wiring and Identification:

5.11.1 All wiring for control signal, protection and metering shall be by PVC insulated, 650 Volt grade, copper stranded conductor wires of minimum 1.5 sq.mm section. For CT secondary circuit wires of minimum 2.5 sq.mm copper conductors shall be used. Wiring shall run in enclosed channel and shall leave at least 25% spare space for future use. Wires for connection between moving parts shall be flexible stranded copper conductors and the same shall be soldered at the ends before connections are made.

5.11.2 Terminal strips for connecting incoming control cables shall be channel mounted type of adequate size and shall be located conveniently for easy accessibility, without danger of contact with live part, ease of connection and shall be separated by barriers from power circuits. At least 20% spare terminals shall be provided in each terminal strips. CT secondary lead terminals shall be provided with shorting links.

5.11.3 Sufficient terminals shall be provided on each terminal strip to ensure that not more than one outgoing wire is connected per terminal. The wire shall be identified by numbered ferrules at each end, in accordance with the connection diagram. All ferrules shall be made of non-deteriorating materials. The ferrules shall be firmly located on each wire so that they cannot move or turn freely on the wire.

5.11.4 All inter-panel control wiring shall be done by the switchgear vendor. All wiring shall be properly bunched, cleaned, & supported on a panel frame and shall run in plastic wire ducts. The inter panel wiring shall be taken through PVC sleeves or suitable rubber grommets.

Colour Coding for internal panel wiring shall be as follows:

Power Wires	Red, Yellow, Blue for Phases
Control Wires	Grey
Neutral Wires	Black
Ground Wires	Yellow & Green

5.12 Control Supply:

5.12.1 Control supply for control, indication, space heater etc. shall be derived within the switchgear by vendor. Vendors shall provide auxiliary / control supply bus in the switchgear throughout its length for further distribution inside the switchgear.

Vendors shall also provide suitable MCB for receiving, distributing & in each sub-circuit as per requirement.

5.12.2 ACB [spring charging motors], Panel / Motor space heater supply – 240V AC, 1 ph, 50Hz, to be derived by vendor.

5.12.3 Control supply for Annunciators, ACB [indications, closing & tripping coils] – 24V DC, from clients DC UPS.

5.12.4 Space Heaters – 240 AC derived from Lighting DB.

5.12.5 A 240V DC power supply feeders shall be provided for each switchgear from ownersDC UPS. Suitable DC control supply monitoring & selection scheme shall be developed by vendor. Any other intermediate voltage required in the panel shall be derived by providing suitable control transformer.

5.13 Space Heaters and Cubicle Illumination:

5.13.1 Adequately rated anti-condensation space heaters shall be provided in each breaker panel and in cable alleys of the MCC to maintain MCC inside temperature, 5°C above outside ambient temperature.Space heater shall be strip type, rated for operation on 240V, single phase, 50 Hz. A.C. supply unless otherwise specified.

5.13.2 Each space heater shall be complete with a rotary type ON/OFF switch, MCB in the phase, neutral link in neutral and a control thermostat.

5.13.3 Each vertical panel shall have fluorescent light fittings for internal cubicle illumination with door switch.

5.13.4 240V, 15A SPN Industrial socket outlet, complete with MCB & earth leakage protection shall be provided in each vertical panel.

5.14 Earthing:

5.14.1 An earth bus of at least 50mm x 10mm GI shall be provided. The earth bus shall be electrically continuous and shall run the full extent of each board. The earth bus shall be of same material as the main busbars. Each unit shall be constructed to ensure satisfactory electrical continuity between all metal parts not intended to be live and the earth terminals of the unit.

5.14.2 At each end of switchgear, suitable slots shall be provided on main earth bus for connection to Owner's Earth. The earth bus shall be accessible in each cable compartment either directly or through a branch extension to ground the cable armour and shields.

5.15 Busduct Terminations:

5.15.1 MPB3 Incomer will be connected to 1250kVA Transformer by sandwich Cu Busducts from top. Vendor shall furnish flange details for Busduct connection.

5.16 Cable Entry and Terminations:

5.16.1Since the panel is replacing an old panel the cable glanding has to be done without disturbing the cable length. The panel board bas plate should be such that cable termination could be done without disturbing the existing cable glands. For Switchgears, opening with removable gland plate for cable entry shall be provided at the bottom for both incoming and outgoing cables. Terminals shall be located sufficiently away from gland plate to facilitate easy connection.

5.16.2 All terminal blocks shall be furnished with white marking strips marked with terminal numbers in accordance with the wiring diagrams. The terminal blocks shall be physically grouped and located suitably for termination of the cables. Terminal block in all drawout units shall be furnished with pull apart terminals to connect all outgoing wires and shall be furnished with 20% spare terminals at least.

5.16.3 Suitable arrangement shall be made in cable alley for supporting incoming & outgoing cables. Terminal blocks shall not be used to support cables.

5.17 Nameplates:

5.17.1 Permanent non-corrosive nameplate with engraved white letters on black background indicating the switchgear designation shall be fixed at the top of the central panel. A separate nameplate giving feeder details shall be provided for each feeder.

5.17.2 Nameplates shall be provided for each equipment (lamps, push button stations, switches, relays, Auxiliary contactors etc.) mounted on the switchgear. Special warning plates shall be provided on all removable covers or doors giving access to high voltage cables / busbars and inside the switchgear wherever considered necessary. Danger labels shall have black letters on a yellow background.

5.17.3 Internal labels and components identifications shall correspond with identities or circuit references as shown on the schematic diagrams. All external labels shall be attached by screws or rivets only and not by adhesive.

5.17.4 Statutory warning plate should be provided.

5.23 Painting

5.23.1 All metal surfaces shall be thoroughly cleaned and degreased, pickled and phosphatised. Thereafter, a coat of phosphate paint and a coat of zinc chromate primer shall be applied. After removing all imperfections, all metal surfaces shall be sprayed with two coats of final paint as per **colour shade RAL 7032**. Final coat shall be of epoxy based. All unpainted parts shall be plated to prevent corrosion.

5.24 Recommended makes

	ITEMS/PARTICULARS	Recommended makes
1	ACB	L&T/SCHNIEDER
2	MCCB / ISOLATOR / CONTACTOR/DB	ABB/SIEMENS/L&T/LEGRAND
3	MULTI FUNCTION METER	SECURE/CONZERVE
4	LT CABLES (ALUMINIUM /COPPER)	FINOLEX/NICCO/LAPP/HAWELLS
5	HT CABLE	FINOLEX/NICCO/POLYCAB
6	WIRES 1100V GRADE	FINOLEX/RR KABEL/ANCHOR
7	PROTECTIVE RELAYS (MICROPROCESSOR BASED)	AREVA/L&T/ENGLISH ELECTRIC
8	CURRENT TRANSFORMER /PT	RESITECH/INTRANS/UNIPOWER
9	VOLTMETER/AMMETER (DIGITAL)	CONZERV/L&T/EL.MEASURE
10	BUS DUCT 2000A	LEGRAND/L&T/SCHNEIDER/ABB/GE
11	AMF RELAY	C&S

6 Inspection and testing:

6.1 The responsibility for inspection, certification, etc. of all materials, parts lies with the Vendor.

6.2 Inspectors from HLL have the right to request additional inspections or tests to ensure that the equipments comply with the specification and all relevant codes & standards.

6.3 Manufacturer shall furnish valid Type Test Certificates of similar models along with the offer. Fresh type tests for the equipment are not needed, provided the Manufacturer

can submit certificates that the equipment complies with all type tests as prescribed by IEC/IS Standard specifying the test requirements for that equipment.

6.4 The routine tests shall include but not necessarily limited to the following:

a) Operation under simulated service condition to ensure accuracy of wiring, correctness of control scheme & proper functioning of the equipment.

b) Primary current and voltage shall be applied to all instrument transformers.

c) Routine test shall be carried out on all equipment such as circuit breakers, instrument transformers, relays, meters etc.

6.5 Routine tests on the equipment shall be carried out as per the relevant IS/IEC. Equipment offered for final inspection shall be complete and ready for shipment, with the possible exception of the final paint finish.

6.6 Routine Test certificates to be submitted for Equipment and its all auxiliaries. Type test certificate of similar equipment shall be submitted.

6.7 Vendor to furnish required copies of test certificates, Ref Documents, Drawings, and Instruction Manuals before Equipment are dispatched.

6.8 Factory acceptance test (FAT) is required to be done at no extra cost to the purchaser. The purchaser or his representative shall be advised of the tentative date for FAT at least 3 weeks in advance prior to the test date.

6.9 Any defects found by the HLL's appointed Inspector shall be rectified in his presence. The equipment shall not leave the Vendor factory before all defects have been rectified and without the written permission of the Purchaser.

6.11 All spare parts shall be subjected to the same inspection standards and full material certification as the main order.

6.12 The equipment shall not leave the Vendor / Sub-Vendor's factory before all discovered defects have been rectified and without the written permission of the Owner/Purchaser.

6.13 Any acceptance or release of equipment following an inspection or test activity shall in no way relieve the Vendor of his contractual responsibility to provide guarantees as to the suitability of the materials, workmanship and performance of the equipment in accordance with this Specification.

7 Vendor documentation

7.1 All information listed here is to be furnished along with the offer as a minimum.

a) Clause wise comments / deviations on specification if any should be highlighted in the bid document submitted by vendor. If not furnished, compliance to all requirements in specifications will be presumed binding on the Vendor.

b) List of components & accessories with Makes.

c) List of recommended spares for two years normal operation with itemised rates.

d) Complete list of special tools (if required)

7.2 The Manufacturer shall furnish the drawings and documents as per enclosed Requisition for Engineering Documents.

7.3 The Owner will review drawings submitted by Vendor & return to the Vendor one copy of drawings with comments to carry out necessary changes, if any, during the engineering / manufacturing stage.

7.4 The documents required by the Third Party Inspection Agency are not covered under this specification. The Vendor shall provide all the drawings and documents required by the Third Party Inspection agency in compliance with the applicable codes and standards.

8 Spares and special tools:

8.1 Spares

The Manufacturer shall furnish list of spares and provide all necessary spares for testing, pre-commissioning, commissioning. Any of the spares if used during testing/commissioning must be replenished at no extra cost to the purchaser. The Manufacturer shall also provide all consumables required during erection up to commissioning.

8.2 Special tools

The Manufacturer shall include any special tools, which are required for the installation, commissioning, operation and maintenance of the equipment being supplied. A list of special tools shall be supplied along with the offer

SIGNATURE OF VENDOR WITH SEAL

TENDER NO. : PUR/08/R1/PQ/TRANSFORMER-INSTALLATION/2013-14

SCHEDULE F: ACCEPTANCE FORM

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

From

To

JOINT GENERAL MANAGER (PURCHASE)

HLL LIFECARE LTD

PEROORKADA,

THIRUVANANTHAPURAM – 695 005

KERALA, INDIA

Dear Sir,

I / We, hereby offer to supply/test/commission the equipment 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 bid and agree to hold this offer open for one year from 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 quoted 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 VENDOR WITH SEAL

TENDER NO. : PUR/08/R1/PQ/TRANSFORMER-INSTALLATION/2013-14

SCHEDULE G: TERMS & CONDITIONS

1. The Tender should be complete in all respects. Incomplete tenders are liable to be rejected.

2. Unsealed Tenders received are liable to be rejected and this will be at the sole risk of the vendor.

3. The tender is liable to be suspended or cancelled at anytime at the discretion of the company without assigning any reason.

In the event of placing orders: -

a. In vendor shall return one copy of order signed and sealed as a token of acceptance.

b. In case of rejection, the supplied material should be taken back and replaced at yours risk and cost, within 14 days of intimation from HLL.

c. A certificate confirming that the equipment offered is environment friendly i.e., non-hazardous to the environment is to be enclosed with the Technical bid.

d. The supplier agrees to supply strictly as per the specification mentioned in the order. HLL reserves the right not to receive the goods beyond the delivery date given in the order.

TENDER NO. : PUR/08/R1/PQ/TRANSFORMER-INSTALLATION/2013-14

SCHEDULE G: TERMS & CONDITIONS

e. Liquidated damages for delayed supply**:-** The parties have to abide by delivery schedule given in the supply order strictly. Penalty for delay @ 0.5% value of the materials per week of delay subject to a maximum of 7.5% of the value of the supply order will be imposed, if accepted by the Company after the stipulated delivery period.

g. **Payment Terms :-**

(a) The payment shall be made as under:-

i) 70% of the value of goods supplied at site shall be made immediately after supply of materials/work executed at site after acceptance by HLL.

ii) 20% of the value of goods supplied/ work executed at site shall be made immediately after completing/commissioning all the work/equipments, rectification of defects and energizing the complete system to the full satisfaction of Owner

iii) Balance 10% against submission of performance bank guarantee for 10% contract value. The PBG should be in the form of BG/DD in favour of HLL Lifecare ltd. Trivandrum, India valid for one year from the date of acceptance of HLL.

iv) Tax Deduction: All statutory deductions like Income Tax, service 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 bill submitted by the Contractor.

TENDER NO. : PUR/08/R1/PQ/TRANSFORMER-INSTALLATION/2013-14

SCHEDULE G: TERMS & CONDITIONS

WARRANTY

The supplier shall warrant that the goods supplied and work executed under the contract shall have no defect arising from design, materials or workmanship. Period of warranty shall be minimum twelve months from the date of installation and commissioning as certified jointly by the supplier and the Purchaser.

INSURANCE

The goods supplied under the contract, shall be fully insured by the supplier in a freely convertible currency against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery.

DELIVERY/COMPLETION PERIOD

Time being the essence of the Contract, the delivery and completion period stipulated should be strictly adhered to. The Supplier should deliver the equipments and complete the installation & commissioning works as per the Contract within 3months from the date of award of contract.

Delivery of the goods and works to be executed shall be completed by the party in accordance with the terms specified by the purchaser in the notification of award.

INSPECTION AND TESTS

The purchaser or its representatives shall have the right to inspect the machinery and accessories and/ or to test the machinery to confirm if they match the specifications as per the order. The purchaser shall notify the supplier in writing of the identity of the representatives for the purposes.

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SCHEDULE G: TERMS & CONDITIONS

The inspections and tests may be conducted on the premises of the supplier or at point of delivery and/or at site. Where conducted on the premises of the supplier, the Supplier should make available all reasonable facilities including tools, instruments, apparatus, equipment, facilities, and also access to drawings and production data, to enable the Purchaser's nominee to carryout such inspection/tests without obligations to the purchaser.

Goods under the Contract shall not be dispatched unless they have been finally inspected by the purchaser or inspection waived and dispatch specifically authorized in writing.

Should any inspected or tested goods fail to conform to the specifications and performance, the purchaser may reject then and the supplier shall either replace the rejected goods or make all alternations necessary to meet specification requirements free of cost to the purchaser, within a period of 14 (fourteen) days of intimating such rejection.

The purchaser's right to inspect, test and, where necessary, reject the goods after the good's arrival at site shall in no way be limited or waived by reason of the goods having previously been inspected, tested and passed by purchaser or its representatives prior to the good's dispatch from the place of manufacture.

Notwithstanding any such inspection/tests carried out at Supplier's works, the equipment shall be accepted only after receipt and successful commissioning at the site and the inspection/tests carried out at Supplier's works will not relieve his contractual obligations for conforming to the specifications under the contract.

TENDER NO. : PUR/08/R1/PQ/TRANSFORMER-INSTALLATION/2013-14

SCHEDULE G: TERMS & CONDITIONS

PACKING

The supplier shall provide such packing of the goods as is required to prevent damage or deterioration during transit to site. The packing shall be sufficient to withstand, without limitation, rough handling during transit and open storage.

TRANSPORTATION

Vendors are required to supply equipments at our factory premises Peroorkada Trivandrum. The freight and Insurance charges are to be indicated in the rate schedule.

INCIDENTAL SERVICES.

As specified in the price schedule, the supplier may be required to provide any or all of the following services:

a. Performance or supervision of on-site assembly, start-up and successful commissioning,

b. Supply of tools required for assembly and/or maintenance ,

c. Training of the purchaser's personnel.

d. Performance or supervision of maintenance and/or repair of the machines, for the period of warranty specified in the contract.

TENDER NO. : PUR/08/R1/PQ/TRANSFORMER-INSTALLATION/2013-14

SCHEDULE G: TERMS & CONDITIONS

INDEMNITY CLAUSE:

If the supplier fails to execute the order within the time prescribed for the delivery of goods ordered or violates or infringes the existing rates as agreed to as mentioned in the supply order, the supplier shall and will indemnify the company against all loses or damages whatsoever to be incurred or sustained including the legal cost or expenses incurred by the company by reason of non-delivery of goods at agreed quantity and rate with in the time specified in the supply order. The company will initiate legal action if the supplier fails to execute the supply order as per the schedule in the supply order for the actual loss suffered. Responsiveness of the Bid shall be at the discretion of HLL.

Bid pronounced Non Responsive by HLL shall be summarily rejected. The decision of HLL will be final and no correspondence of this shall be entertained.

We have read and understood the above conditions and agree to abide by the same.

PLACE: **NAME AND SIGNATURE OF THE APPLICANT**

DATE: **(WITH OFFICE SEAL)**

TENDER NO. : PUR/08/R1/PQ/TRANSFORMER-INSTALLATION/2013-14

SCHEDULE H: CERTIFICATE

I / we hereby certify that the information given with this bidding document is correct. If, at any stage, it is found to be incorrect, I / we understand that the contract will be liable to be terminated and action could be taken against me/us by the Company for damages.

SIGNATURE(S) OF VENDOR WITH SEAL

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

TENDER NO. : PUR/08/R1/PQ/TRANSFORMER-INSTALLATION/2013-14

SCHEDULE I: COMPLETION PERIOD

I / we hereby agree to complete all supply, installation, testing and commissioning works awarded to us, in compliance with the requirements/specifications as mentioned in this tender document with in a period of **three months** from the date of issue of purchase order abiding the time schedule of HLL (Annexure4-). I/we understand that the contract will be liable to be termination and action could be taken against me/us by the purchaser for any delay caused by us in completing the work within this stipulated time period.

SIGNATURE(S) OF VENDOR WITH SEAL

(Completion period and Time schedule to be filled and submitted in the letter pad of the firm indicating full name and address, telephone & fax numbers etc.)

TENDER NO. : PUR/08/R1/PQ/TRANSFORMER-INSTALLATION/2013-14

ANNEXURE 4: TIME SCHEDULE FOR WORK

Item No.	Time Schedule for work Electrical works related to erection of 1250kVA Transformer.	Time Schedule from the day of placing P.O./L.O.U. Day 1 to 15	Day 16 to 30	Day 31 to 45	Day 46 to 60	Day 60 to 75	Day 76 to 90	Day 90 to 105
1.1.	**11kV HT panel board modification**					■		
	Refer **SCHEDULE E**: **SCHEDULE OF WORK & TECHNICAL SPECIFICATIONS item no. 1.1.1 to 1.1.2** for further details							
1.2	**Connecting HT panel board and 1250kVA transformer using cable**		■					
	Refer **SCHEDULE E**: **SCHEDULE OF WORK & TECHNICAL SPECIFICATIONS item no. 1.2.1 to 1.2.4** for further details							
1.3	**Removing existing 630kVA transformer(Tr. No.3)- All existing cable connections and earth connections to the 630kVA transformer are to be removed.**						■	
1.4	**Installing a 1250kVA OLTC transformer**							
	Refer **SCHEDULE E**: **SCHEDULE OF WORK & TECHNICAL SPECIFICATIONS item no. 1.4.1** for further details							
1.5	**Earthing pit for 1250kVA transformer**	■						
	Refer **SCHEDULE E**: **SCHEDULE OF WORK & TECHNICAL SPECIFICATIONS item no. 1.5.1 to 1.5.5** for further details							
1.6	**Bus Duct**			■				
	Refer **SCHEDULE E**: **SCHEDULE OF WORK & TECHNICAL SPECIFICATIONS item no. 1.6.1 to 1.6.2** for further details							
1.7	**Support structure for Bus duct**							
	Refer **SCHEDULE E**: **SCHEDULE OF WORK & TECHNICAL SPECIFICATIONS item no. 1.7.1** for further details							
1.8	**Supply, installation and commissioning of new MV panel board**				■			
	Refer **SCHEDULE E**: **SCHEDULE OF WORK & TECHNICAL SPECIFICATIONS item no. 1.8.1 to 1.8.4** for further details							
1.9	**Arranging a 5000Volts Megger tester on rental basis.**	■					■	■
1.10	**Charges for obtaining license for all installations from concerned authorities like CEA, Kerala State inspectorate, KSEB etc.**							■

TENDER NO. : PUR/08/R1/PQ/TRANSFORMER-INSTALLATION/2013-14

SCHEDULE J: PRICE BID

ERECTION, INSTALLATION, TESTING & COMMISSIONING OF A 125OKVA 11KV OLTC TRANSFORMER AND ALL RELATED AUXILIARY UNITS

CONTENTS OF PRICE BID FORMS

1. ANNEXURE 5- WORK SCHEDULE FOR SPLIT UP RATES

ANNEXURE-5

TENDER NO. : PUR/08/R1/PQ/TRANSFORMER-INSTALLATION/2013-14

ANNEXURE 5: WORK SCHEDULE FOR SPLIT UP PRICE

Item No.	Schedule of work	Remarks	Unit	Qty	Labour/Installation Cost		Material/Supply cost	
1	**Electrical works related to erection of 1250kVA Transformer.**	**Supply of 1No. 1250kVA type OLTC transformer will be under the scope of M/s HLL**						
1.1.	**11kV HT panel board modification**				**Rate(Rs.)**	**Amount(Rs.)**	**Rate(Rs.)**	**Amount(Rs.)**
1.1.1	Supply, installation, testing & Commissioning of: (1) An identical 3 pole **Areva make CDG 61** relay, replacing the existing one. (2) Master trip relay (3) Auxiliary (Flag) relays for REF, Bucholz Alarm & Trip; Oil temperature alarm & trip; winding temperature alarm& trip; low oil level alarm; Surge alarm & pressure relief alarm. The installation shall be completed with modification of internal wiring as required (listed elsewhere) to make the panel fully functional and documentation covering the internal wiring.	The Existing HT panel is attached to a 630 kVA transformer which is proposed to be replaced by a new 1250kVA OLTC transformer, For which the listed out upgradation works are to be done.	set	1				
1.1.2	The party has to dismantle the existing terminations of control,metering and protective cables and related equipments from the existing relay units and rewire the same using new wire/cables. Necessary cutouts has to be made in the existing HT panel board and repaint the same using epoxy paint after installing all equipments. Unused cut outs shall be properly covered with metal sheets using welded joints before painting	The party is advised to visit the site before quoting and get a clear picture of existing setup.	no.	1				
1.2	**Connecting HT panel board and 1250kVA transformer using cable**							

1.2.1	Supply of 3Core, 185sq.mm XLPE insulated Al. cable 11,000Volts steel wire armoured as per IS 7098 part II 1988 with latest amendments Recommended make **Finolex/NICCO/POLYCAB**		mtr	60				
1.2.2	Laying of 3 core, 185 sq mm XLPE Al. armoured cable in trench having a depth of 1.2m and a width of 0.5 mtrs from HT panel board till 1250kVA transformer. M Sand has to be spread across the full length of cable trench for a min. thickness of 10cm before laying the cables. The cables are to be covered with a sand bed of thickness 10cm over which country fired bricks are to be placed and re-filled with earth. There is a stone retaining wall of length 3*3mtr (Appr.) in this cable route. The party has to take care of all additional-related civil works for successfully laying the cables as per the instructions given by HLL's engineer, meeting all international standards and practises (Ref. IS:1255-1983). The party has to rebuild everything as such it was after laying the cable. Cable route markers are to be provided every 10mtrs	The party is advised to visit the site before quoting and get a clear picture of existing setup.	mtr	60				
1.2.3	Provide 185 sq mm end terminations with heat shrinkable kit including cable gland, lugs, earthing etc at both ends (Panel side and Transformer side)		No	2				
1.2.4	Supply of 12C*2.5sqmm copper armoured PVC control cable.(From transformer to HV panel board) Recommended make Finolex/NICCO/LAPP/Hawells		Meter	120				
1.3	**<u>Removing existing 630kVA transformer(Tr. No.3)-</u>** **<u>All existing cable connections and earth connections to the 630kVA transformer are to be removed.</u>**	Necessary Crane service to lift and relocate the 630kVA transformer shall be arranged by M/s HLL	No.	1				

1.4	**<u>Installing a 1250kVA OLTC transformer</u>**	Installation shall confirm to I.S. 10028 (Part II)-1981						
1.4.1	Installing a 1250kVA OLTC transformer and a OLTC unit in the transformer yard. Terminating all control/protection circuits in transformer marshelling box , OLTC unit and 11 kV panel using good quality panel connectors as per the instructions given by HLL's Engineer	Necessary Crane service to lift and relocate the 1250kVA transformer shall be arranged by M/s HLL. OGA drawing of transformer attached. Annex1	No.	1				
1.5	**<u>Earthing pit for 1250kVA transformer</u>**							
1.5.1	Providing & Laying in ground/trench with clamps of 50*6 mm Cu strips for neutral earthing(5mtr)		No.	1				
1.5.2	Providing & Laying in ground/trench with clamps of 50*6 mm Cu strips for body earthing(5mtr)		No.	3				
1.5.3	CI plate earthing with pipe, funnel, Cu flat, salt, & charcoal (1200x1200x12.5mm)	The earth resistance shll not exceed 5 Ohms	No.	4				
1.5.4	Chamber construction of size 600x600x300 for earthing with removable slabs		No.	4				
1.5.5	Overhauling the existing Earth pits in transformer yard and connecting the Neutral and Body of the new 1250kVA transformer to the Earth Pits as per CEA standards and as per IS 3043/1987 .		No.	4				
1.6	**<u>Bus Duct</u>**	All MV side installations shall confirm to I.S. 732/1989						

1.6.1	Supply, installation, Testing & commissioning of 2000 Amps, TPN AL-bus bar duct having a minimum gross cross sectional area of 2000sqmm per phase (joining portion shall be tinned) made out of suitable rating high conductivity electrolytic copper suitable for 500 volts, 50 Hz, 3 phase and neutral , AC supply operation enclosed in 2 mm thick steel sheet, dust and vermin proof, weather proof enclosure including supply of sheet, fabrication, cutting, silicon based fire/heat resistant coating, powder coated painting of approved quality and colour, non-hygroscopic, high dielectric value FRP busbar supports to withstand a symmetrical fault level of 50 kA. Necessary flexible link shall be provided on transformer side and panel side including earthing with 50x6 mm copper strip on both sides of the duct shall be provided. The manufacturing facility should possess ISO 9001 certification. Recommended makes for Bud duct L&T/Schnieder/Legrand/ABB/GE. Test certificates from approved authorities are to be submitted along with supply	Lay out for proposed bus duct routing is attached DRG. No. HLL-ELE-DRG1 Annex.2. Party is advised to visit the site before quoting.	mtr	32				
1.7	**<u>Support structure for Bus duct</u>**							
1.7.1	Specifications for Support structure of Bus duct:- All main structural fabrication has to be done using MS ISMC of min. size 75X40 as per IS 808-1964, MS angle of size 45X35X5 as per ISA 3535, MS angline of size 32*6 and MS flat plates of size 25*6 or equivalent sizes can be used to increase the stability of the main structure as required. All support structures has to be fully painted with non corrosive epoxy paint.All materials used should ISO certified. Roofing has be provided for the bus duct using 2mm flat Poly carbonate fibre sheets to protect bus duct from rain and dust for a maximum length of 10mtrs (Refer DRG No. 1 - Item No. 12)	Refer DRG. No. HLL-ELE-DRG1 Annex.2.for basic lay out of bus duct routing and structural support required. The party is advised to visit the site before quoting	kg	1750				

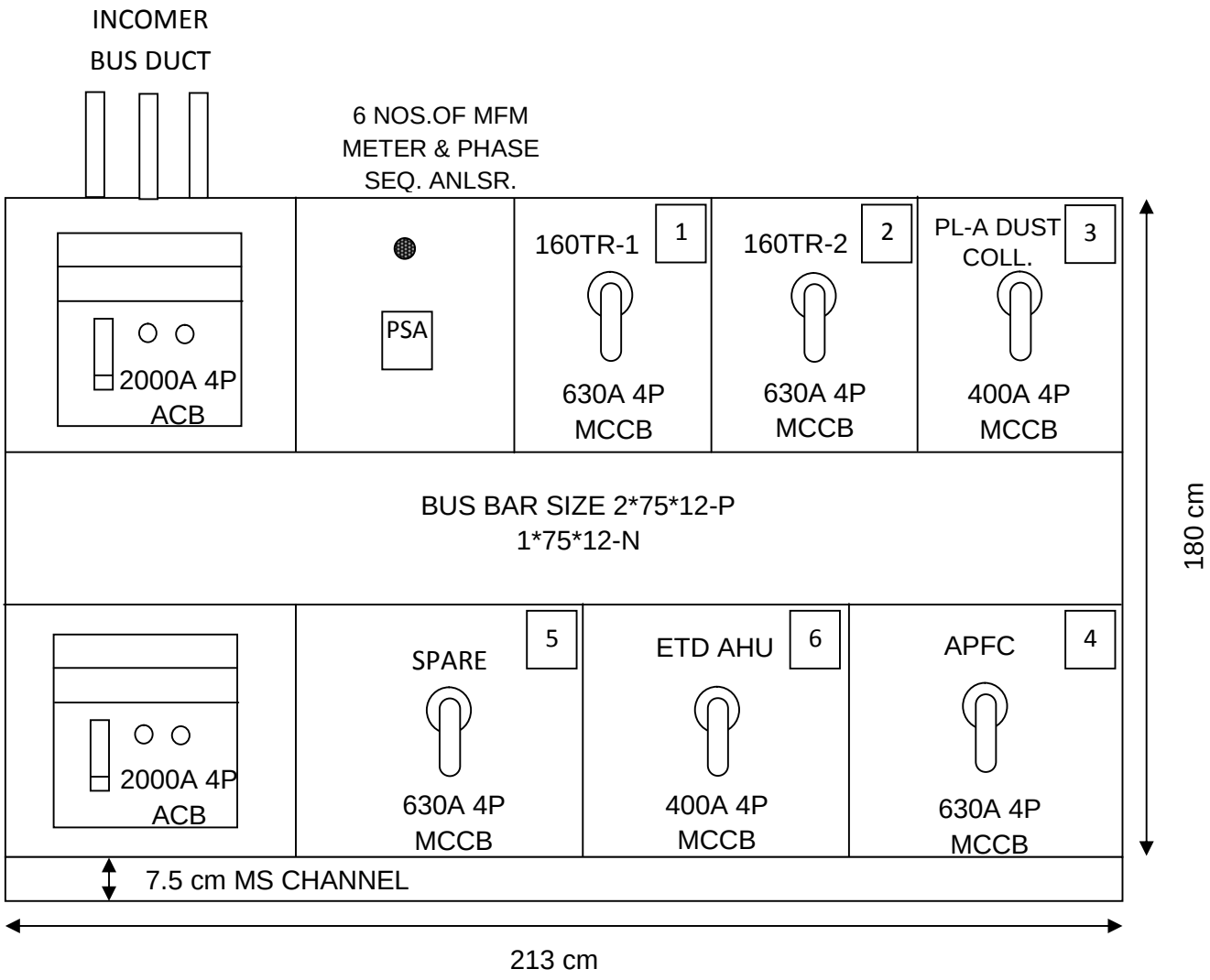
1.8	**<u>Supply, installation and commisioning of new MV panel board</u>**	As per panel board DRG. No. HLL-ELE-DRG2 and as per SLD DRG.No.HLL-ELE-DRG3 Annex.3						
1.8.1	Supply, installation and commisioning of New MV Panel replacing old panel and bus coupling it with the old MV panel no. MPB2 Exact dimensions, switch and busbar positions and connections as per the drawings and schematics are to be retained while fabricating the panel board. No alterations / changes will be accepted by M/s HLL. The old MV panel is to be removed before installing the new MV panel at site.	Party is advised to visit the site before quoting.	No.	1				
1.8.2	Supply of straight joint kits for 400sq.mm cable	As and when required	No.	3				
1.8.3	Supply of straight joint kits for 300sq.mm cable	As and when required	No.	3				
1.8.4	Termination of 400/300sq.mm cables on appropriate switch gears in MPB3 and MPB2		No.	20				
1.9	**Arranging an 5000Volts Megger tester on rental basis.**		Days	3				
1.10	Charges for obtaining license for all installations from concerned authorities like CEA, Kerala State inspectorate, KSEB etc.		Set	1				

SIGNATURE(S) OF VENDOR WITH SEAL

(Vendor should ensure that the all the papers/ documents submitted by him are sealed and signed)

PANEL BOARD LAY OUT AND DIMENSIONS OF MPB3-Annexure 3

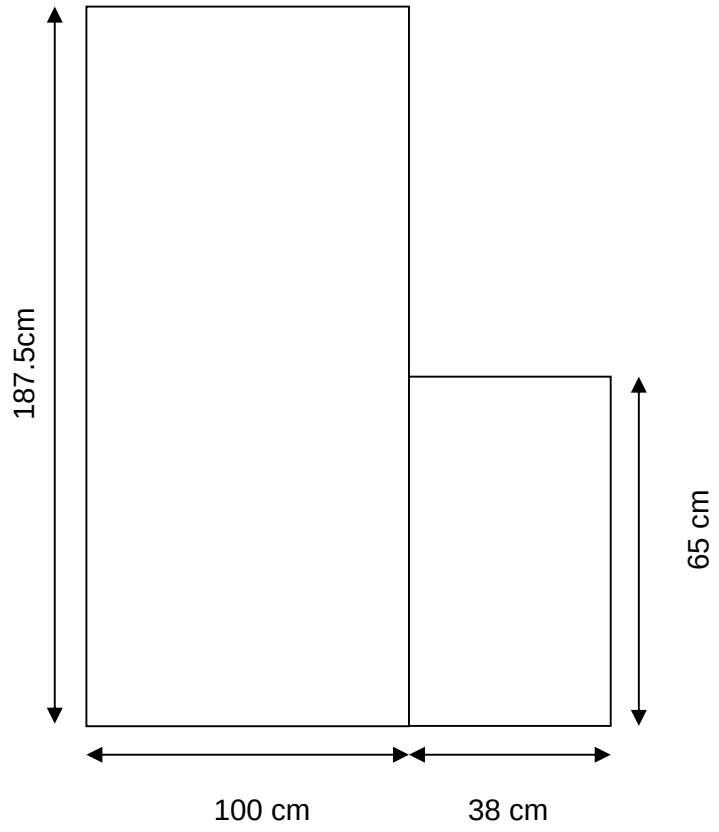
Front elevation



DRAWN by	SHANNEL	REV.	0
CHECKED by	KURIAKOSE		
DRG NO.	HLL-ELE-DRG-2	DATE	26-10-13

PANEL BOARD LAY OUT AND DIMENSIONS OF MPB3-Annexure 3

Side elevation



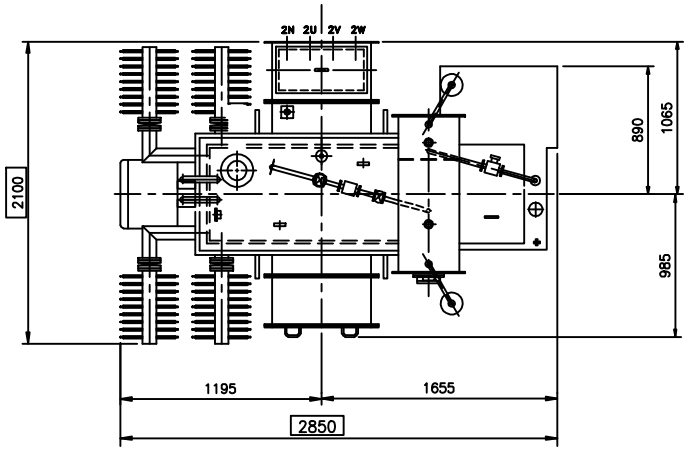
DRAWN by	SHANNEL	REV.	0
CHECKED by	KURIAKOSE		
DRG NO.	HLL-ELE-DRG-2	DATE	26-10-13

OVERALL GENERAL ARRANGEMENT

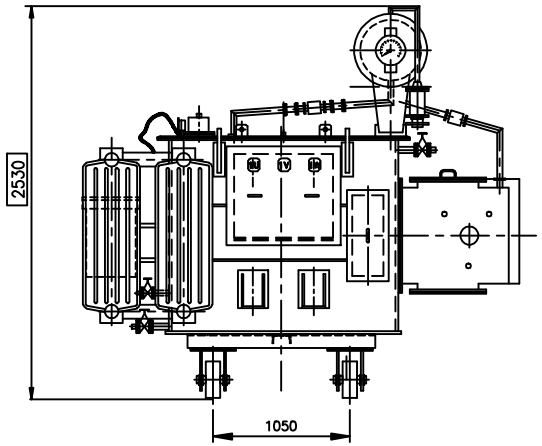
1250kVA 11000/433 V TRANSFORMER

ANNEXURE 4

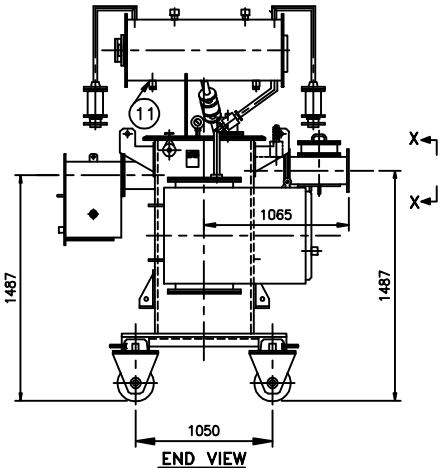
DRAWING NO.4



PLAN



ELEVATION



END VIEW
(Radiators not shown)

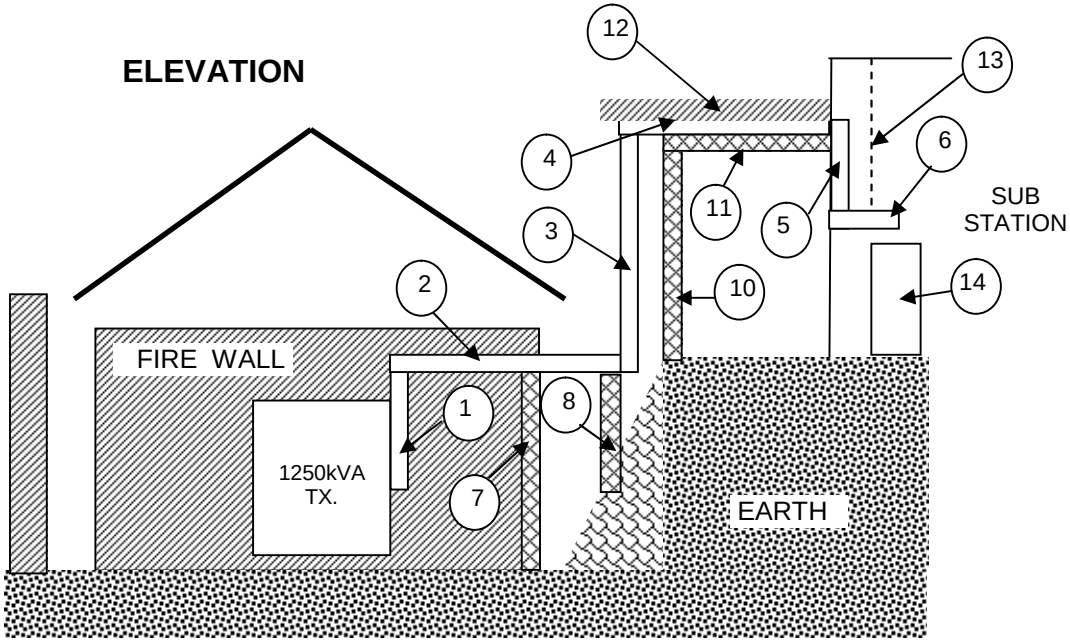
APPROXIMATE WEIGHTS (TOL. ±10 %)	
TOTAL WEIGHT	5786 kg

NOTE:–

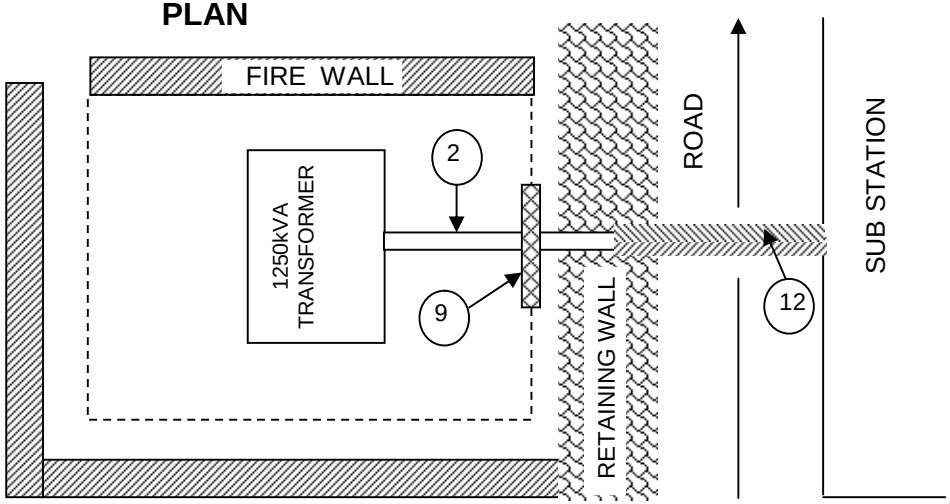
1. ALL DIMENSIONS ARE IN mm AND THE DIMENSIONS MARKED THUS ▭ ARE OVERALL DIMENSIONS.
2. TOLERANCE ON OVERALL DIMENSIONS IS + 5 %.

1250KVA TRANSFORMER BUS DUCT LAYOUT FOR HLL, PEROORKADA SUBSTATION – Annexure No 2

ELEVATION

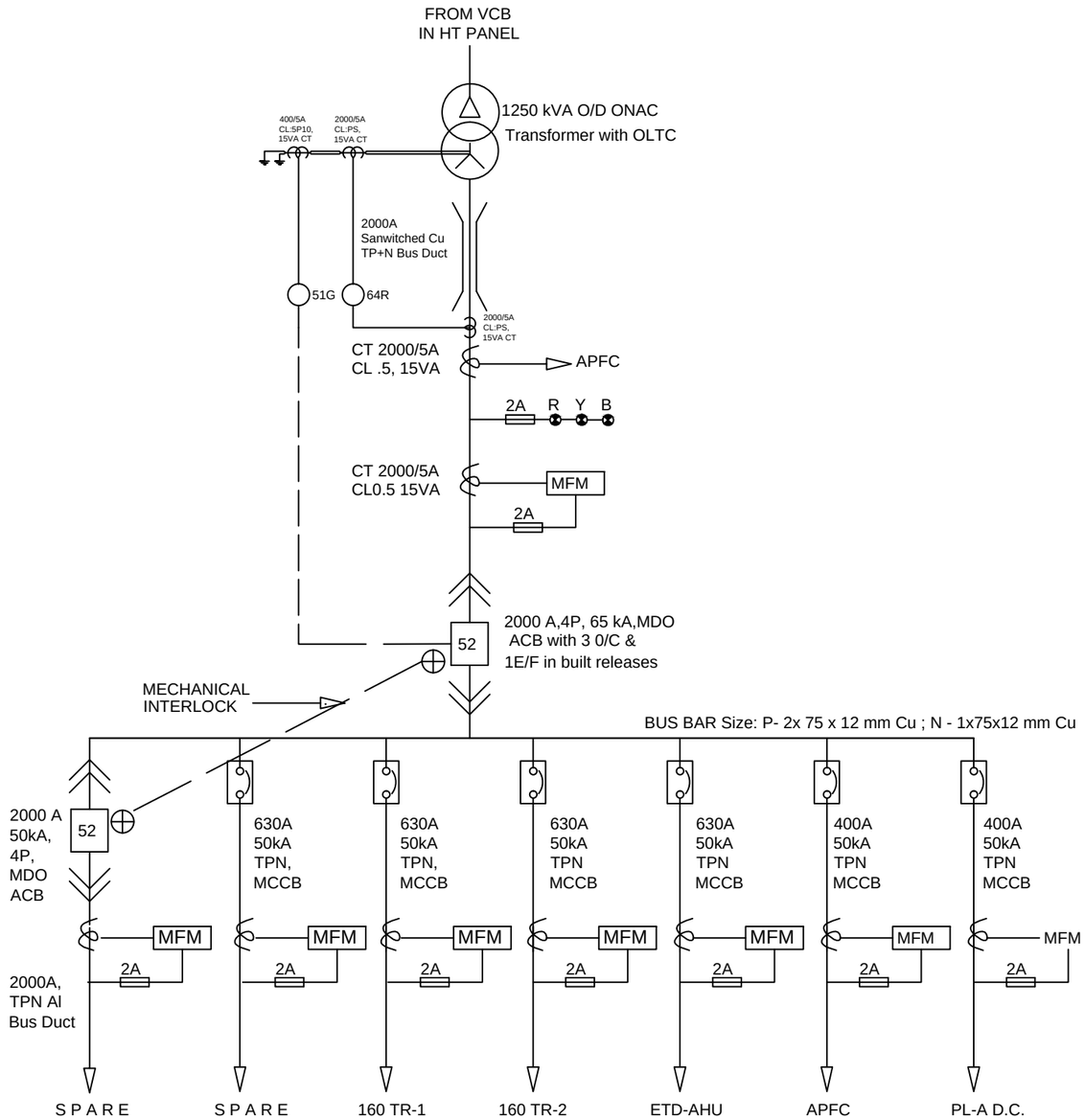


PLAN



1	COPPER BUS DUCT	VERTICAL HT.-1.5MTR
2	COPPER BUS DUCT	HORIZONTAL LT.-6.5MTR
3	COPPER BUS DUCT	VERTICAL HT. – 5MTR
4	COPPER BUS DUCT	HORIZONTAL LT. – 7.5MTR
5	COPPER BUS DUCT	VERTICAL HT. – 3MTR
6	COPPER BUS DUCT	HORIZONTAL LT. – 3MTR
7	MS SUPPORT* 2	VERTICAL HT.-4MTR
8	MS SUPPORT	VERTICAL HT.-2.5MTR
9	MS SUPPORT	HORIZONTAL LT. – 2MTR
10	MS SUPPORT	VERTICAL HT.-5MTR
11	MS SUPPORT	HORIZONTAL LT. – 7.5MTR
12	ROOFING (2mm flat Poly Carbonate sheet)	HORIZONTAL LT.- 8 MTR
13	HANGING SUPPORT	5 MTR
14	MV PANEL	

DRAWN by	SHANNEL	REV.	0
CHECKED	KURIAKOSE		
DRG NO.	HLL-ELE-DRG-1	DATE	26-10-13



MATERIAL:	**HLL LIFECARE LIMITED.** **Thiruvananthapuram-5**	NO:OFF.
DRAWN BY:	PAUL M.P	TITLE:- SINGLE LINE DIAGRAM FOR PANEL BOARD MPB3 (ANNEXURE -3)
CHECKED BY:		
APPROVED BY:		
DATE:		Drg.no:-HLL- ELE-03
SCALE:		SHEET NO: OF / REV:- / DATE:-
ALL DIMENSIONS ARE IN M.M		