

BHARAT HEAVY ELECTRICALS LIMITED

(A Govt. of India Undertaking)

High Pressure Boiler Plant, Tiruchirappalli 620 014, India

MAINTENANCE & SERVICES DEPARTMENT)

☎: (0431) 2575380 Fax: (0431) 2521416

e-mail: esalai@bheltry.co.in



39-300
ISO 9001

BHE: M&S: EC: 9251100072

Date:13-05-2011

NOTICE INVITING TENDER

**Sub: Electrification of various Ancillary and Annexure Buildings
At PPPU - Thirumayam.**

Ref: Enquiry No. 9251100072 Dated 13-05-2011.

** **

Tender of the following work should be submitted in a sealed cover consisting of three inner sealed covers such as one with EMD & Tender document cost, second with Qualification bid and third with Price bid, all superscribing the name of work, enquiry number etc.

- 1) EMD cover shall contain requisite EMD & Tender document cost in the form of separate Demand Drafts drawn in favour of '**BHEL, Tiruchirappalli**'. EMD & Tender document cost in any other form will not be accepted. Tenderers who had already remitted one time EMD should furnish the details of cash receipt No./ date, on the top of EMD cover. Tender without EMD / one time EMD reference will be summarily rejected and the qualification bid & price bid shall not be considered.
- 2) Qualification bid cover shall contain duly filled in qualification bid document signed by the tenderer in all the pages with documentary evidences for pre-qualification such as experience, value of work executed in the similar nature of work etc. Any bid without proper documentary evidence for pre-qualification shall not be considered for further evaluation.

Regd.Office: BHEL House, Siri Fort, New Delhi - 110 049

- 3) The price bid cover shall contain price bid document duly filled in and signed by the tenderer in all the pages. The tenderer has to quote most competitive rates for all the items given in the Bill of Quantities in price bid.

The completed qualification bid and price bid along with requisite **EMD of ₹.1, 00, 000/- and Tender Document Cost of ₹.750/-** (applicable only if documents downloaded from the website) for this work shall reach the office of the undersigned on or before **13-06-2011 at 10.00 Hrs.**

The qualification bid will be opened on the same day at 10.30 hrs. In case of opening day falls on holiday or happened to be declared as a holiday the receipt and opening of the tender shall automatically fall on the same timing of the next working day. Date and time of opening of the Price Bid shall be intimated only to the bidders those who have qualified after evaluation of the qualification bid. You / Your authorized representative may participate in the tender opening.

Clarification if any can be obtained from the undersigned.

Kindly acknowledge the receipt of the entire set of tender document.

Thanking you,

Yours faithfully,
For Bharat Heavy Electricals Limited,

Sr. Dy. General Manager
Planning
Maintenance & Services

Encl:

- 1) General Instructions to Tenderers & General Conditions of contract.
- 2) Qualification Bid.
- 3) Price bid (BOM).

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NOTICE INVITING TENDER

01.	Name of work	Electrification of various Ancillary and Annexure Buildings At PPPU - Thirumayam.
02.	Estimated Cost	₹. 46.24 Lakhs.
03.	Earnest Money Deposit	₹. 1,00,000-00
04.	Completion Time	9 Months (From the date of commencement of the work which will be reckoned from the date handing over the site to the contractor)
05.	Last Date for Receipt of Tenders	10.00 Hrs on 13..06..2011
06.	Date of Qualification Bid Opening	10.30 Hrs on 13..06..2011
07.	Date of Price Bid Opening	Will be intimated to those who are qualified separately.
08.	Guarantee Period	6 (SIX) Months from the date of actual completion of the entire work and handed over to Bharat Heavy Electricals Limited.

The Tender documents can be down loaded from BHEL website / govt. website.

Tender document contains **113 Pages**. (Preamble - **04** Pages, General Instructions to Tenderers - **08** pages, General Conditions of Contract- Electrical - **45** pages, Qualification Bid - **09** pages , Bill of Quantity for Price Bid -**18** pages , Annexure 1 – **01** page, Annexure 2 – **01** page and Building Drawings -**27** pages)

ISSUING OFFICER

BHARAT HEAVY ELECTRICALS LIMITED

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MAINTENANCE & SERVICES DEPARTMENT)

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PREAMBLE

01. The scope of work includes Electrification of Various Ancillary and Annexure Buildings in the newly constructed factory at PPPU - Thirumayam.
02. Time is the essence of the contract. Being a time bound work; the contractor should make all efforts to complete the work in the stipulated period of 9 months.
03. Usually, working hours are limited to day time only. In emergency cases to carryout work during nights, it may be done so with the specific prior permission of BHEL. In such case, it is to be carried out in the presence of BHEL officials or their authorized persons.
04. The tenderers are advised to visit BHEL Factory at Thirumayam and get themselves acquainted with the site conditions before submitting the offer.
05. The following eligibility criteria shall be complied to fulfill the qualification bid:-
 - a) Contractor should have separate Service Tax & PAN No.
 - b) Average annual turnover of similar works in the last three years should be 30% value of respective work.
 - c) During last seven years should have successfully completed works either
 - i) Three similar works each not less than 40% value of respective work or
 - ii) Two similar works each not less than 50% value of respective work or
 - iii) One similar work not less than 80% value of respective work.
 - d) Contractor should have a valid **Electrical ES A / ES B grade license** from State Electrical Licensing Board.
 - e) Solvency shall be produced for at least 40% value of respective work.
06. The norm for qualification with prescribed score is attached in the qualification Bid document. Evaluation will be done accordingly. Minimum score required for qualification is 60.

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07. The works executed in the own name of the tenderer only will be considered for eligibility criteria.
08. Dissimilar/ irrelevant works will not be considered for eligibility criteria.
09. Documentary evidences (Xerox copies – attested) for turnover, works experience, Service Tax & PAN registration etc., all as indicated & required in the tender document should be furnished without which it will not be taken into account.
10. Tender value is only approximate and liable for variation without entitling the tenderer to any compensation, till the total value of contract vary by (+ / -) 20% (twenty percentage).
11. Quoted rate shall be firm throughout the contract period of 9 months and extended contract period also and no cost escalation is allowed on any account.
12. The quantity indicated in the Bill of quantity is only tentative. The contractor has to execute any item of work irrespective of the quantity without any reservation till the total value of contract exceeds by 20%.
13. The work shall be carried out as per the scope of work and related drawings.
14. After award of work the contractor has to furnish the security deposit, as per Clause 16 of THE GENERAL INSTRUCTIONS TO TENDERERS (REVISED). Also it is to be noted that after award of work the contractor has to furnish 50% of security deposit before the commencement of work.
15. The contractor has to carryout the work in production shops without affecting the production by planning such work on holidays/ obtaining proper shut down.
16. The decision of Engineer-in-charge shall be final and binding on the contractor regarding clarification of items in this tender schedule.
17. The contractor shall strictly adhere to various labour laws in force and should have separate Registration Code Nos. for **EPF, ESI / Group Medical Insurance**, at the time of execution of Contract.
18. The contractor shall follow norms of BHEL security system for movement of men & materials within the complex.

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19. Since the responsibility for the quality, workmanship and accuracy of any work being carried out under this contract lies with the contractor, the contractor should ensure that no work is done without the presence of contractor's representative at the work spot.
20. The contractor has to submit the organization chart of their set up for the works and any change thereafter in the organization set up shall have the prior approval of BHEL.
21. The contractor should establish his own site office, handling facility, storage facility to stock installation materials, tools, machines etc., for which sufficient place will be allotted on specific request for which the rent will not be collected.
22. The tenderer has to deploy adequate labour of required categories such as Unskilled, labours, Electricians, Cable jointers, wiremen for field work. The technical persons with experience shall have to produce valid certificate for verification.
23. Separate non-technical persons should be engaged for arranging daily gate passes for labours entry in the gates of Factory complex.
24. The tenderer shall carryout health performance test at his cost for all the workmen engaged in the work through a registered medical practitioner and produce certificate on demand.
25. It shall be the responsibility of the contractor to see the workmen do not utilize the departmental canteen facilities. Contractor has to make his own arrangement to provide refreshment for the workmen.
26. All the works shall be executed as per the standard specifications as provided in Bill of quantities.
27. The works contract to be entered into with the successful tenderer will be governed by the BHEL General Conditions of contract in force.
28. The contractor should maintain proper accounts for all electrical accessories, other materials if any supplied by this organization and supply by the contractor and these should be available at the site of work for verification and check by the officials of this organization at any time.

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29. All materials brought by the Contractor for incorporation in the work shall be got inspected and approved by the Engineer-in –charge before they are incorporated in the work.
30. The contractor should use only the materials of brand and quality as approved by BHEL.
31. The contractor should submit the programme for the completion of work and the list of equipments and labourers to be deployed for the work along with tender.
32. All materials and consumables brought by the contractor should have manufacturer’s certificate.
33. Contractor’s materials and tools & equipments shall have to be brought inside factory with proper invoice/voucher and make necessary entry in the security gate. They should maintain proper record for tools equipments, materials etc. brought inside the factory complex.
34. The contractor should extend fullest co-operation with the third party agencies engaged, if any by BHEL to adhere the Quality Control Procedures ensuring quality.
35. The contractor should extend fullest co-operation to the other contractors who may be doing other works in the same areas to enable them to execute their portions of work without any delay or difficulty.
36. Water, Electricity and compressed air will be provided by this organization at one point at the site of work at free of cost.
37. No advance / mobilization advance will be given.
38. LD/Penalty clause is applicable as per General conditions of contract. All the terms and conditions in the documents are binding on the tenderers and BHEL reserves its right to accept/ reject any or all the tenders and to award the work in full or parts to more than one agency without assigning any reasons.

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**BHARAT HEAVY ELECTRICALS LIMITED
HIGH PRESSURE BOILER PLANT
TIRUCHIRAPALLI – 620 014
TAMILNADU / INDIA**

**M & S CONTRACTS (ELECTRICAL)
GENERAL INSTRUCTIONS TO TENDERERS (Revised on 01st Sep, 2010)**

01. Sealed Tenders enclosed for the work are hereby invited from contractors holding a valid Electrical contractor's license, issued by the Electrical Licensing Board of Govt. of Tamilnadu, experienced in works of similar kind and magnitude.
02. Tenders should be addressed to the DGM / M&S, Bharat Heavy Electricals Limited, Tiruchirapalli-620 014 the full name and address of the Tenderer and the name of the work being noted on the cover with tender No & due date of opening.
03. All entries in the tender documents should be made in one ink. Erasure and over-writing are not permitted. All cancellations and insertions should be duly signed by the Tenderer concerned.
04. Tenderers should fill in all the required particulars in the blank spaces provided for this purpose in the tender documents also sign each and every page of the tender document including the drawing attached there to while submitting their tender.
- 05. *Unit rates should be quoted in figures as well as in words with reference to each item and for all the items shown in the attached schedule. These rates shall be for the furnished work in site. Amount of each item and the totals page by page as also the grand total amount of the whole contract should also be filled in by the Tenderers.***
06. Rates for each item of the tender schedule should be quoted in Rupees and paise only, In case any difference in rates quoted to figures and in words, the lower of the rates will be taken as the tendered rate.
07. Quantities shown in the attached schedule are only approximate and are liable to variation without ending the contract to any compensation, provided the total value of the contract does not vary by more than 20% (Twenty percent)
08. In quoting their rates the tenderers are advised to take into account all factors including any fluctuations in market rates etc. No claim will be entertained on this account after acceptance of the tender or during the currency of the contract.
09. Before tendering, the tenderers are advised to inspect the site of work and its environments and be well acquainted with the actual working and other relevant conditions, position of materials and labour. General and Special conditions of Contract, General Instructions to Tenderers (Revised) drawings and specifications and all other documents which form part of the agreement to be entered into.

TENDERERS ARE REQUESTED TO COVER THEIR EMPLOYEE UNDER PF/ ESI/ MEDICAL GROUP INSURANCE/ CONTRACT LABOUR REGULATIONS ACT.

10. Rates quoted shall include all royalties, terminal taxes, Octroi duties, General or provincial Excise tax, Sales Tax and any other taxes leviable under the state or Central Government Rules. **Service Taxes shall be shown extra in the offer.** The Bharat Heavy Electricals Limited, Tiruchirapalli will not entertain any claim what so ever in this respect.
11. The rates quoted in the tender shall remain valid for a period of “THREE MONTHS” from the date of opening of tender.
12. Should a tenderer find discrepancies or omissions in the drawings or any of the tender documents should be in doubts as to their meaning, he should at once address the authority inviting the tender for clarifications. Every endeavor is made to avoid any error which can materially affect the basis of the tender but the successful tenderer shall taken upon himself to provide for the risk or any error which may be subsequently discovered and shall make no subsequent claim on account thereof.
13. In the event of tender being submitted by the firm, the tender must be signed separately and legibly by each partner or member of the firm or in their absence, by the person holding the power of attorney on behalf of the firm concerned. In the latter case, a copy of the power of attorney duly attested by a Gazetted Officer must accompany the tender.
14. Every tender must be accompanied by Deposit receipt for the amount mentioned in this tender notice as Earnest Money Deposit, pledged to BHEL, Tiruvermbur in any of the forms mentioned in para 15 of the General Instructions to tenderers (Revised). This Earnest Money Deposit will be refunded to the unsuccessful tenderers within 15 days on finalizations of the award of work. In the case of successful tender, the earnest Money Deposit will be retained as part of the Security Deposits for satisfactory completion of the work in accordance with clause 16 of the General Conditions of contract as amended up to date.

Note : “Cheque, Currency Notes or Money Order will not be accepted in lieu of the Deposit Receipt referred to above”.

15. EARNEST MONEY DEPOSIT:

The Earnest Money Deposit may be furnished in any of the following forms:

1. Pay order, Demand Draft duly pledged in favour of BHEL
2. EMD shall not carry any interest.

16. SECURITY DEPOSIT:

1. The amount of security Money to be deposited for proper fulfillment of the contract will be as follows:
 - a. For Contract Valued up to Rs. 10.00 Lakh. 10% of the Contract value
 - b. For Contract Valued above Rs. 10.00 Lakh upto Rs. 50.00 Lakhs 1 lakh plus 7.5% on the balance of the Contract value.
 - c. For Contracts valued above Rs. 50.00 Lakhs Rs.4 lakhs + Plus 5% on the balance of the contract value.

2. The contractor whose tender may be accepted shall, within seven days of receipt by him of the notification of acceptance of his tender, deposit with BHEL, Unit: Tiruverumbur, the prescribed sum as per Clause 16 (1) above towards Security Deposit.
 - a. Pay order or Demand Draft in favour of BHEL.
 - b. Local cheques of scheduled banks, subject to realization.
 - c. Securities available from Post offices such as National Savings Certificates, Kisan Vikas Patra etc. (Certificates should be held in the name of the contractor furnishing the security and duly pledged in favour of BHEL, Trichy and discharged on the back).
 - d. Bank Guarantee from Nationalized, scheduled Banks / Public Financial Institutions as defined in the Companies Act subject to a maximum of 50% of the total security deposit value. The balance 50% has to be remitted either by cash or in the other form of security. The bank guarantee format should have the approval of BHEL.
 - e. Fixed Deposit Receipt issued by Scheduled Banks / Public Financial Institutions as defined in the Companies Act . The FDR should be in the name of the contractor, A/C BHEL, duly discharged on the back.
 - f. Security deposit can also be recovered at the rate of 10% from the running bills. However in such cases at least 50% of the Security Deposit will be collected before start of the work and the balance 50% may be recovered from the running bills.
 - g. EMD of the successful tenderer shall be converted and adjusted against the security deposit.

NO INTEREST SHALL BE ALLOWED ON SECURITY DEPOSITS. BHEL, shall not be responsible for any loss of securities due to liquidation or any other reason whatsoever or any depreciation in the value of the Securities while in their charge or for any loss of interest thereon.

NOTE: Acceptance of Security Deposit against Sl. No. (d) and (f) above will be subject to hypothecation or endorsement on the documents in favour of BHEL. However, BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith.

3. All compensation or other sums of money payable by the contractor to BHEL under the terms of this contract or under any other contract with BHEL, may be deducted from the Security Deposit or realized by the sale of the securities or from the interest arising there from or from any sums which may be due or may become due to the contractor payable by BHEL, on any account whatsoever against this contract or any other contract with BHEL and in the event of his Security Deposit being reduced by reason of such deductions or sale as aforesaid, the Contractor shall within seven days thereafter make good in cash or in securities endorsed as aforesaid, any sum or sums by which the security Deposit has been so reduced.
4. Security Deposit may be refunded on completion of the work and after the expiry of the maintenance period. In case no maintenance period is applicable, then 100% of security Deposit will be refunded after payment of final prescribed format.

17. Unless the Contractor, whose tender is accepted, signs the contract agreement within seven days (7 days) of the date of the order directing him to do so, the amount of Earnest Money Deposit already deposited by him will be forfeited and acceptance of the tender withdrawn.
18. If after opening of tenders, a tenderer revokes his tender or increases his earlier quoted rates or after acceptance of his tender does not commence the work in accordance with the instructions of the Engineering-In-Charge, the Earnest Money Deposited by him will be forfeited and acceptance of his tender withdrawn. If only, a part of the work included in the tender has been awarded to the tenderer and the tenderer refuses to take up the work the amount of Earnest Money to be forfeited will be based on the value of the contract so awarded.
19. The BHARAT HEAVY ELECTRICALS LIMITED, reserves the right to reject any or all the tenders received or accept any tender or part thereof without assigning any reason therefore. In the case of acceptance of the part of tender, time for completion may also be reduced to the extent considered appropriate by the accepting officer.
20. Tenders not submitted on the prescribed forms are liable to be rejected.
21. The Contractors who are not in the approved list of contractors of BHEL must submit the following documents simultaneously with their offers:
 1. A certificate to establish that the tenderer is an independent contractor working on his own.
 2. Atleast 2 certificates from responsible officers of Govt., or firms of repute regarding the tenderer's capacity to undertake and carryout the work tendered for or similar work satisfactorily.
 3. A certificate from a Bank regarding the tenderer's financial position.
 4. License details of the firm and that of the contractor & his employees.
- NOTE:
 - a. Copies of testimonials unless attested by a Gazetted Officer will not be accepted.
 - b. Non-submission of the above documents simultaneously with the tenders may result in the tender being rejected.
22. The tenders should be accompanied by a list of contracts already held by the contractor at time of submission of the tender and giving the following particulars:
 - a. The value of each contract.
 - b. The balance of work remaining to be done on the same.
23. Tenders submitted by Post should be sent by "Registered Post with Acknowledgement Due". These should be posted with due allowance for any delay in postal delivery. Tenders received after the due date of opening of tenders are liable to be rejected.
24. The Contractor's responsibility under this contract shall commence from the date of work order.
25. If a tenderer expires after the submission of his tender or after the acceptance of his tender, the BHEL may at their discretion cancel such tender.

26. The BHARAT HEAVY ELECTRICALS LIMITED, will not be bound by any power of attorney granted by the tenderer or by changes in the composition of the firm, made subsequent to the execution of the contract. They may, however, recognize such power of attorney and changed after obtaining proper legal advice, the cost of which will be charged above to the contractor concerned.
27. If the tenderer deliberately gives wrong information in his tender BHEL, reserves the right to reject tender at any stage.
28. Words imparting the singular number shall also be deemed to include the plural number and vice the context so required.
29. The general and Special Conditions of Contract are complementary to each other and where they are in conflict, the special conditions shall prevail.
30. The expenses for completing and stamping the agreement shall be paid by the contractor.
31. Tenderers shall not increase their quoted rates, in case the BHEL, negotiable for reduction of rates. Such negotiations shall not amount to cancellation or withdrawal of the original offer and the rates originally quoted shall be binding on the tenders for the period of three months from the date of opening of tenders.
32. All contractors will have to produce PAN/income tax clearance certificate from the Income Tax concerned along with their tender. These contractors whose Income is not taxable will be required to give affidavit for their income on the prescribed form. If the successful tenderer fails to produce the PAN/income tax clearance certificate within the stated period, the earnest money deposit and the Security Deposit of the tenderer may be forfeited and the contract terminated.
33. The contractor shall insure the work against loss or damage to the contractor works, temporary work and materials erected in performance of the contract on "all risks" basis from the time of arrival on site until taken over by BHEL on completion of the contract.

The cover shall also include wherever necessary the risks of testing including breakdown or explosion of plant and machinery undergoing testing, trial and commissioning operations. The insurance shall also specifically cover removal of debris cost. The Sum insured shall represent the estimated full value of the contract works inclusive of value of free supply materials by BHEL, transport charges, customs dues, express freight, overtime charges, cost of erection, value of constructional plants and machinery, removal of debris and escalation of costs where the contract includes a maintenance period. The insurance cover shall specifically include the contractor liabilities during the maintenance period. The insurance shall be effected in the name of BHEL and the contractor shall submit to BHEL a draft of the insurance policy for approval. The insurance shall also be extended to cover third party personal injury and property damage for a sum to be specified by BHEL. The policy when issued will be lodged with BHEL together with receipts of premium for such insurance and the contractor shall maintain such policies in force until the obligations of the contractor are fully discharged.

If the contractor fails to comply with the term of this conditions the Accepting Officer may insure the work and may deduct the amount of premium from any money that may become payable to the contractor or may at his discretion refuse payment of any advances to the contractor until the contractor shall have complied with the terms of this condition. This provision does not, however absolve the contractor of his responsibility for taking up the insurances. The contractor is therefore, primarily responsible for taking up the insurance in time.

Note: Sl.No.34,35,36 & 37 : Deleted.

38. All the materials supplied by the contractor should conform to the relevant IS/BS Specifications and agreeable to the engineer-in-charge.
39. The wiring shall conform IS: 732:1989/2005 or any other relevant Indian Standard Specifications and Indian Electricity Rules.
40. In case of PVC / Steel conduit wiring, the switches, plug sockets, regulators and other controls should be mounted on metal boxes. These boxes as well as all metal boxes used for street light controls should be fabricated as per IS 5133: Part-1: 1969 / 1996.
41. Erection of equipments include testing and commissioning of equipments.
42. Completion reports should be submitted in the pro forma as per appendix 'E' of IS 732: 1989/2005.
43. The contractor should be present at the time of inspection of the installation by the Electrical inspector. Any defects pointed out by the Electrical inspector should be rectified by the contractor free of cost.
44. Final lay-out as well as foundation drawings should be submitted in advance for executing the civil works.
45. Any covering letter and comments of the contractor should be submitted in duplicate along with the offer.
46. If the cable have to be laid in ground, the following specification should be followed:
For one run of cable, trenches should be excavated to such a depth the cable will be laid at a minimum depth of 0.75 meter, 75 mm deep layer of sand should be spread below as well as above the cable and covered with one layer of brick.
If two or more cables are run, they should be laid in a horizontal plane and the cable be separated by placing a brick in between them and 75 mm deep layer of sand should be spread below as well as above the cable. The trench should be duly covered after laying of cables, spreading bricks etc., in case where cables have to be taken across the road, the pipes have to be laid across the road and pipe will be issued by BHEL free of cost, at our stores. However, if pipes are already available across the road the cables have to be taken through that only. Cable route/ joint indicators should be provided by the contractor at suitable distance.
47. In case of open trench / wall / column, cables have to be taken with proper clamping either in cable racks / wall / column. The clamps have to be supplied by the contractor.
48. End Termination for the cable include supply and using solerless crimping type tinned copper lugs, glands and if necessary cable adaptor boxes etc. and earthing the glands and adaptor boxes with 8 SWG/7/20 GI wire.
49. The Cement will not be supplied by BHEL.
50. Cubicle / Industrial Type switch boards should be manufactured by any of the reputed manufacturer, if the make of the switch board is not specifically mentioned in the detailed specification of the board who have sufficient experience in manufacture of electrical switch boards. The switch board has to be approved by BHEL before dispatch to work spot.

51. For all sheet metal fabrication, pre-treatment of all metals with acid and rust preventing chemical has to be carried out and two coats of red oxide and one coat of stove enamelling paint has to be applied by spray painting.
52. The Contractor is required to cover their employee / labourers by suitable insurance scheme (like Janatha Insurance) against any risk. The policy taken by them should be produced to BHEL authorities concerned before commencing the work.
53. SAFETY MEASURES:
- a. A list containing the name of persons who are working, their age, designations, pay, nature of work is to be furnished immediately on receipt of work order, in triplicate.
 - b. The work should be carried out in the presence of contract supervisor and prior permission should be obtained from the concerned supervisor and the section before starting the work.
 - c. In case of cable laying work, should be carried out after getting the prior permission from the concerned electrical supervisor and civil department for digging the road when it is required to ensure that proper precautions are taken.
 - d. While digging the road, a good barricade and proper sign boards should be provided in the area.
 - e. While erecting the poles, proper safety precautions such as supporting the poles, tying with ropes suitable lifting tackles etc. are to be adhered.
 - f. While working at heights, proper platform ladder, safety belts, etc. should be used.
 - g. The necessary safety equipments such as gloves, lineman's belts etc. should be used.
 - h. Any other safety measure as necessitated by the nature of work should be strictly followed
 - i. If Contractor's workmen are found to violate the safety regulations punitive action will be taken by with-holding a sum of Rs. 100/- to Rs. 500/- for each such violation.
 - j. These safety measures shall be deemed to form an integral part of the work order/agreement.
54. THE GENERAL INSTRUCTIONS TO TENDERERS (REVISED) shall be deemed to form an integral part of the work to be entered into.

SPECIAL INSTRUCTIONS

1. Small consumables like Screws, clamps, PVC L, T, Coupling, Bend, Elbow , Bolt, Nuts are the scope of the contractor.
2. If any other materials required other than BHEL supply specified in the schedule is meant to contractor's scope of supply.
3. Issue of materials from Stores is subject to the availability. The contractor shall not be entitled to any claim or compensation for non-supply or delay in supply from Stores under any circumstances.
4. Entire work should be completed within the stipulated period.
5. Cable glands, Electrical Power Boards, Switch Boxes are to be properly earthed.
6. Order for all items will be placed on a single contractor only.
7. Before quoting this tender the contractor can visit the area and make study.

8. Safety precautions have to be ensured by the Contractor depending on the work nature. Necessary work permit system and personal protective equipments (PPE) such as electrical resistance rubber gloves, helmet, spectacle goggles, safety shoes, safety belt etc. as applicable to electrical works should be adhered while carrying out the work.
9. Please obtain a separate ESI & PF Code No. for your company.
10. Valid Electrical Licence should be available with the contractor.

CONTRACTOR

ISSUING / ACCEPTING OFFICER

GENERAL CONDITIONS OF CONTRACTS

ELECTRICAL

CONTRACTOR

ISSUING / ACCEPTING OFFICER

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38.	Insurance of works against damage and loss due to fire, tempest, floods, earthquake, riot and against damage by air-craft.	
39.	Damage or loss to private property and injury to workmen	
40.	Completion	
41.	Compensation for delay	

- 42. **Laws governing the contract**
- 43. **Cancellation of contract for corrupt act**
- 44. **Cancellation of contract for Insolvency, assignment or sub-letting of contract**
- 45. **Cancellation of contract for default**
- 46. **Termination of contract for death**
- 47. **Special powers of determination**
- 48. **Fair wage**

CHAPTER – IV

- 49. **Records and measurements**
- 50. **Valuation of deviations**
- 51. **Reimbursement / refund on variation in price**
- 52. **Advances on account**
- 53. **Final Bill**
- 54. **Payment of Bills**
- 55. **Recovery from contractor**
- 56. **Post-technical audit of work and bills**
- 57. **Refund of Security Deposit**
- 58. **Arbitration**

ANNEXURE – ‘A’

- 59. **BHEL Contractor’s Labour Regulations**
- 60. **BHEL Safety code**
- 61. **Form of Register of workmen (Regulation 7)**
- 62. **Form of Employment card (Regulation 8)**
- 63. **Form of wage slip (Regulation 9)**
- 64. **Form of Register of wages – cum – muster roll (Regulation 9)**
- 65. **Form of register of fines (Regulation No.10 vii)**
- 66. **Form of Register of deductions for damages or loss caused to the BHEL by the neglect or default of the employed persons (Regulation No. 10 vii)**

CHAPTER-I

DEFINITIONS

In these General conditions of Contract, the following terms shall have the meaning hereby assigned to them except where the context otherwise requires:-

- (a) The “CONTRACT” means the documents forming the tender and acceptance thereof, together with all the documents referred to therein including General and Special Conditions of Contract, Schedules ‘A’, ‘B’, ‘C’, ‘D’, ‘E’ and/or General Summary attached to the form of tender, the Bharat Heavy Electricals Limited, Schedule of Rates as amended upto the Specifications and the Drawings. All these documents as applicable taken together shall be deemed to form one Contract and shall be complementary to one another.
- (b) The “ TENDER DOCUMENTS” mean the form of Tender, the applicable Schedules ‘A’, ‘B’, ‘C’, ‘D’, ‘E’ and / or General summary, General and Special Conditions of Contract and the Specifications and/or Drawings as given to Contractors on payment for the purpose of preparing their tenders.
- (c) The “WORK” means the work described in the tender documents, in individual work orders and/or accompanying Drawings and Specifications as may be issued from time to time to the Contractor by the Deputy Manager (M&S) or the Engineer-in-charge within the powers conferred upon them, including all modified or additional works and obligations to be carried out either at the site or at any Factory Workshop or other place as required for the performance of the contract.
- (d) The “SITE” means the lands and/or other places on, in, into or through which the work is to be executed under the Contract or any adjacent land, path or street which may be allotted to or used for the purpose of carrying out the contract.
- (e) The “CONTRACTOR” means the individual, firm or Company, whether incorporated or not, undertaking the work and shall include the legal personal representatives of such individuals or the persons composing the firm or Company, or the successors of the firm or company and the permitted assigns of such individual or firm or company.
- (f) The abbreviations C.E., D.C.E., M.P., and A.C.E., means “Chief Engineer” respectively, who direct the contract and the letters “S.E. / C” means “Senior Engineer / Electrical” in-charge of the particular work pertaining to the Contract.
- (g) The “Engineer-in-charge” means the Engineer/ Electrical deputed by Senior Engineer / Electrical to supervise the work, or part of the work.

- (h) “APPROVED” and “DIRECTED” means the approval or direction of the C.E., D.C.E., A.C.E., or S.E. /C or person deputed by them for the particular purpose.
- (i) “BHARAT HEAVY ELECTRICALS LIMITED” hereinafter referred to as BHEL, shall mean the Board of Directors, Resident Director. General Manager / Project Administrator or other Administrative Officers of the said company including the project officer, manager / Projects, Deputy Chief Engineer, Assistant Chief Engineer, Deputy Manager / Projects or Senior Engineer / Electrical authorized to invite tenders and enter into contracts for works on behalf of “BHARAT HEAVY ELECTRICALS LIMITED”, Unit: High Pressure Boiler Plant, Tiruverumbur, Tiruchirappalli – 620 014.
- (j) In the case of Lump-sum Contracts, “CONTRACTOR’S PERCENTAGE” means the percentage offered by the Contractor as addition to or deduction from the cost of buildings, or other works listed in Schedule, ‘A’ to provide a lump sum quotation for performance of the contract inclusive of all extra costs, profit, establishment charges, carriage, insurance, etc., complete.

In the case of Percentage Rate Contracts, “Contractor’s Percentage” shall, if the context so permits, mean the uniform percentage tendered by the Contractor and accepted by the Accepting Officer, and the expression “CONTRACT RATE” shall likewise mean the rates in the BHEL Schedule of Rate as amended upto as adjusted by the said Contractor’s percentage, if any.

- (k) The “CONTRACT SUM” means the sum accepted, or the sum calculated in accordance with the prices accepted in the tender and/or the contract rates as payable to the Contractor for the entire execution and full completion of the work.
- (l) The “FINAL SUM” means the actual amount payable under the Contractor by BHEL, to the contractor for the entire execution and full completion of the work.
- (m)The “DATE OF COMPLETION” is the date or dates for completion of the whole or any part of the work as set out in or ascertained in accordance with the individual Work Orders or the tender documents, or any subsequent agreed amendments thereto.
- (n) A “WEEK” means seven days without regard to the number of hours worked or not worked in any day in that week.
- (o) A “DAY” means a day of 24 (twenty four) hours irrespective of the number of hours worked or not in that day.
- (p) A “WORKING DAY” means any day other than that prescribed by the Negotiable Instruments Act as being a holiday, and consists of the number of hours of labour as commonly recognized by good employers in the trade in the District where the work is carried out as laid down in the BHEL Regulations.
- (q) “DEVIATION ORDER” means an order given by the Senior Engineer / Electrical or Engineer –in-charge to effect an alternation, addition or deduction, which does not radically affect the scope or nature of the contract.

- (r) "EMERGENCY WORKS" mean any urgent measures which, in the opinion of the Engineer-in-Charge, become necessary during the progress of the work to obviate any risk of accident or failure or which become necessary for security.
- (s) "PROVISIONAL SUM" or "Provisional Lump sum" means a lump sum included by the BHEL in the tender documents and represents the estimated value of work for which details are not available at the time of inviting the tender.
- (t) "PROVISIONAL ITEMS" mean items for which approximate quantities have been included in the tender documents.
- (u) "DAY WORK" means an item of work requiring the employment of labour with or without materials as the case may be, which, in the opinion of the Senior Engineer / Electrical-in-charge, is not capable of being evaluated by the accepted methods of measurement or assessment and is paid for on the basis of the actual labour and materials utilized on the particular item of work referred to.

CHAPTER – II

SCOPE OF CONTRACT

2. HEADING TO THE CONTRACT:

The heading to these conditions shall not affect the interpretation thereof.

3. CONTRACT DOCUMENTS:

The Accepting officer shall furnish to the Contractor on demand “FREE OF COST” three copies of signed drawings and one copy of the signed agreement comprising of preamble to agreement, General and Special Specifications, Schedules ‘A’, ‘B’, ‘C’, ‘D’, & ‘E’ etc., (but excluding General Conditions of Contract and Drawings) and three copies of all further drawings issued during the progress of work.

However, for any additional copies of the agreement or drawings required by the Contractor, the same will be supplied on payment of the specified cost.

The Contractor shall keep one copy of all the Drawings and of the Specifications on the site and the Engineer-in-charge or his representative shall at all reasonable times have access to them.

4. WORKS TO BE CARRIED OUT:

The Contract shall, except as provided under Schedules ‘B’ and ‘C’ include all labour, materials, tools, plant, equipment and transport which may be required in preparation for, and in the entire execution and full completion of the work. Schedule ‘A’ shall be deemed to have been prepared in accordance with good practice and recognized principles and unless otherwise stated, the descriptions given therein shall be held to include waste on materials, carriage and cartage, lead, return of empties hoisting, setting, fitting in position and all to the labour necessary in and for the entire execution and full completion aforesaid. Any error in description or quantity in Schedule ‘A’ or any omission there from shall not vitiate the Contract or release the Contractor from the execution of the whole or any part of the work comprised therein according to the Drawings and Specifications, or from any of his obligations under the Contract. The insertion of the name of any firm of suppliers in the Tender Documents is for the purpose of obtaining a particular class or quality of materials or workmanship but the articles or materials specified may be obtained from any other firm subject to the prior written approval of the Senior Engineer / Electrical.

In the case of a discrepancy between Schedule ‘A’ the Specifications and/or the Drawings, the Accepting Officer shall be the sole deciding authority as to which shall prevail and his decision shall be final and conclusive. If neither Drawings nor Specifications contain any mention of minor details of construction, which in the opinion of the Accepting officer whose decision shall be final and conclusive, are reasonable and obviously and fairly intended for the satisfactory completion of the work, such details shall be provided by the Contractor without any extra cost as if they were specially mentioned and shall be deemed to be included in the contract.

The Contractor will be deemed to have satisfied himself as to the nature of the site, local facilities of access and all matters affecting the execution and completion of the work. No extra charges consequent on any misunderstanding in these respects or otherwise will be allowed.

5. PROVISIONAL ITEMS:

The full amount of provisional lump sums and the value annexed to each provisional item inserted in the Tender documents shall be deducted from the contract sum and the value of work ordered and executed there under shall be ascertained by measurement or valuation as for deviations.

No work under these items is to be begun without instructions in writing from the Engineer-in-charge. The extent of quantities or items described as "Provisional" shall not be held to guarantee or limit the amount and description of the work to be executed by the contractor either in respect of the items concerned or the work as a whole.

No addition or deduction shall be made by the Contractor to the amount of the Provisional lump sums as included in the tender documents.

6. DEVIATIONS:

The Contractor shall not make any alteration in addition to or omission from the work as described in the tender documents except in pursuance of the written instructions of the Engineer-in-charge. No such deviation from the work described in the tender documents shall be valid unless the same has been specifically confirmed and accepted by the Accepting Officer in writing and incorporated in the contract.

The Accepting Officer may deviate, either by way of addition or deduction, from the work so described, provided that the contract sum is not thereby varied on the whole by more than the percentage set out in the tender documents. The value of all additions and deductions will be added to, or deducted from the contract sum. Whenever the Accepting Officer intends to exercise such a right, his intention shall specify the deviations which are to be made, the lump sum assessment or the proposed basis of payment, the extra time allowed, if any, and the date of completion of the entire contract.

Any objection by the Contractor to any matter concerning the order shall be notified by him in writing to the Senior Engineer (Electrical) / Engineer in charge within seven days from the date of such order, but under no circumstances shall the work be stopped (Unless so ordered by the Senior Engineer / Electrical) owing to differences or controversy that may arise from such an objection. In the absence of such a notification of objection by the contractor, he will be deemed to have accepted the order and the Conditions stated therein. In the event of the contractor failing to agree with the Senior Engineer / Electrical regarding the terms of the proposed deviation, the objection shall be referred to the C.E., / M.P., / D.C.E., whose decision shall be final, conclusive and binding on the Contractor.

7. TIME:

Time is the essence of the contract and is specified in the tender document or in each individual work order.

As soon as possible after the contract is let or any substantial Work Order is placed and before work under it is begun, the Senior Engineer / Electrical or Engineer –in-charge and the contractor shall (if so required by the Sr.Engineer / Electrical) agree to a Time and Progress Chart. The Chart shall be prepared in direct relation to the time stated in the Tender documents or the work order for the completion of the individual items thereof and/or the contract or Order as a whole. It shall indicate the forecast of the dates for the commencement of the various trade processes or sequences of the work, and shall be amended as may be required by agreement between the Sr.Engineer / Electrical or Engineer-in-charge and the Contractor within the limitation of the time imposed in the tender documents or order.

In the absence of any specific Time and Progress Chart to be agreed to between the Contractor and the Sr.Engineer / Electrical or Engineer –in – charge, the contractor shall ensure and maintain uninterrupted progress of the work such that the entire work shall be completed within the time imposed in the tender documents or Order and that the proportion of work completed upto any time in relation to the entire work to be done under the Contract or Order shall not be less than the proportion that the time elapsed bears to the total time of completion provided in the Tender documents or Order.

The Contractor shall suspend the execution of the work, or any part or parts thereof whenever called upon in writing by the Engineer-in-charge to do so, and shall not resume work thereon until so directed in writing by the Engineer-in-charge. The Contractor will be allowed on extension of time for completion not less than the period of suspension but no other claim in this respect for compensation or otherwise howsoever will be admitted. This may also be extended to allow for alteration of work made by the deviation order.

8. STORES AND MATERIALS:

The Contractor shall, at his own expense, supply all stores and materials required for the contract, other than those listed in Schedule 'B' which may be provided by Bharat Heavy Electricals Limited at the rates detailed therein subject to their availability at the place of issue indicated therein. All stores and materials to be supplied by the Contractor shall be of the best kind as described in the Specifications and the Contractor shall, if required by the Engineer-in-charge, furnish him with proof to his satisfaction that the stores and materials so comply with the specifications.

The Contractor shall, at his own expense and without delay, supply samples of stores and materials proposed to be used in the execution of the work for the approval of the Engineer-in-charge, who may reject all stores and materials not corresponding either in quality or character to the approved samples.

In the case of stores provided under Schedule 'B' the Contractor shall bear the cost of loading, transporting to site, unloading, storing under cover as required, assembling and jointing the several parts together as necessary and incorporating and fixing these stores and materials in the work, including all preparatory work of whatever description that may be required, and closing, preparing, loading and returning empty cases or containers to the place of issue without any extra charges.

9. DELAY AND EXTENSION OF TIME:

If, in the opinion of Senior Engineer / Electrical, the work is delayed:-

- i) by reason of abnormally bad weather, OR
- ii) by reason of serious loss or damage by fire, OR
- iii) by reason of Electrical commotion, local combination of workmen strike or lockout, affecting any of the trades employed on the work, OR
- iv) by delay on the part of the agency or tradesman engaged by BHEL in executing work not forming part of this contract, OR
- v) by reason of any other cause which in the absolute discretion of the M.P. / D.C.E., or Senior Engineer / Electrical is (When he is in the Accepting Officer of the Contract) beyond the Contractor's control, then in any such case. The Accepting Officer, on the recommendation of the Sr.Engineer / Electrical (or higher authority) may make fair and reasonable extension in the completion dates of the individual items of work or the contract as a whole. Such extension which will be communicated to the Contractor by the

Sr.Engineer / Electrical in writing shall be final and binding on the contractor. No other claim in this respect for compensation or otherwise howsoever is admissible. Upon the happening of any such even causing delay, the Contractor shall immediately give notice thereof in writing to the Sr.Engineer / Electrical but shall nevertheless use constantly his best endeavor to prevent or make good the delay and shall do all that may reasonably be required to the satisfaction of the Senior Engineer / Electrical to proceed with the work.

10. PATENT RIGHTS:

The Contractor shall fully indemnify B.H.E.L., or the agent, servant, or employee of B.H.E.L. against any action, claim or proceeding relating to infringement or the use of any patent or design or any alleged patent or design rights, and shall pay any royalties which may be payable in respect of any article / or part thereof included in the contract.

In the event of any claims being made or action brought against B.H.E.L. or any agent, or servant or employee of BHEL in respect of any of the matters aforesaid, the Contractor shall immediately be notified thereof for taking necessary action provided that payment of indemnity shall not apply when such infringement has taken place in complying with the specific directions issued by the BHEL but the Contractor shall pay any royalties payable in respect of any such use.

11. OCTROI AND OTHER DUTIES:

All Charges on account of Octroi, Terminal or Sales Tax and / or other duties on materials obtained for the work (excluding materials provided by B.H.E.L. on payment) shall be borne by the Contractor.

12. ROYALTIES:

Royalties fixed from time to time as per prevalent local rules will be recovered for materials, which the Contractor may be allowed to remove from quarries situated on land which is in charge of the B.H.E.L., authorities.

13. PLANT AND EQUIPMENT:

The Contractor, shall at his own expenses, supply all tools, plant and equipment (hereinafter referred to as T & P) required for the execution of the contract other than those listed in Schedule 'C' which subject to their availability may be hired by BHEL, to the Contractor or issued free for use in the execution of the work, as specified in the Tender documents.

14. ASSIGNMENT OR TRANSFER OF CONTRACT:-

The Contract shall not, without the prior written approval of the Accepting Officer, assign or transfer the Contract or any part thereof, or any share, or interest therein to any other person. No sum of money which may become payable under the Contract shall be payable to any person other than the Contractor unless the prior written approval of the Accepting Officer to the assignment or transfer of such money is given.

14 (a). SUB-CONTRACT:

The Contractor shall not sub-let any portion of the Contract without the prior written approved of the Accepting Officer.

15. COMPLIANCE TO REGULATIONS AND BYE - LAWS:

The Contractor shall conform to the provisions of any statute relating to the work and regulations and bye – laws of any local authority and of any water and lighting Companies or Undertakings with whose system the work is proposed to be connected. He shall, before making any variation from the drawings or the Specifications that may be necessitated for such connections give the Senior Engineer / Electrical notice, specifying the variation proposed to be made and the reasons therefore and shall not carry out any such variation until he has received instructions from the Senior Engineer / Electrical in respect thereof. The Contractor shall be bound to give all notices required by Statute Regulations or Bye – laws as aforesaid and to pay all fees and taxes payable to any authority in respect thereof.

CHAPTER – III

PERFORMANCE OF THE CONTRACT

16. SECURITY DEPOSIT:

- (i) The amount of Security Money to be deposited for proper fulfillment of the Contract will be as follows:
 - (a) For Contract Valued upto Rs.10.00 Lakh - 10% of the Contract Value.
 - (b) For Contract valued above Rs.10.00 Lakh – Rs.1.00 Lakh PLUS
but not exceeding Rs.50.00 Lakhs. 7½% of the amount exceeding
Rs.10.00 Lakh.
 - (c) For Contracts valued above Rs.50.00Lakhs – Rs.4.00 Lakh PLUS
5% of the amount exceeding
Rs.50.00 Lakh.
- (ii) The Contractor whose tender may be accepted shall, within seven days of Receipt by him of the notification of acceptance of his tender, deposit with the BHEL Unit, Thiruverumbur, the prescribed sum as per Clause 16 (i) above towards Security Deposit.

The Earnest Money Deposited at the time of tender will be treated as part of the Security Deposit and the balance amount to makeup the full Security Deposit as referred to in Clause 16 (i) above may be furnished in Cash or in any of the following forms duly pledged to the BHEL.

- (a) Call Deposit Receipt, Pay Order or Demand Draft.
- (b) Post office Cash Certificates, National Savings Certificates, Treasury Savings Deposit Certificates, National Plan Savings Certificates, 12 year National Defense certificates and 10 year Deposit Certificates.
- (c) Fixed Deposit Receipt issued by State Bank of India / Nationalized Bank / Employee's Co-operative Banks.
- (d) Bank Guarantee from Nationalized / Scheduled Banks valid for a period Inclusive of the maintenance period also after the date of completion of work, Where warranted.
- (e) Insurance Guarantee issued by L.I.C. or any of the four General Insurance Corporations valid for a period inclusive of the maintenance period also after The date of completion of the work, where warranted.

Alternatively the requisite amount to make up the full Security Deposit may also be deducted, from each Running Bill in respect of the particular contract Concerned at 10% (ten percent) of the value of the work done by the Contractor as billed till such deductions along with the Earnest Money already deposited by him shall make up the full Security Deposit as per Para 16 (i) above.

No interest shall be allowed on Security Deposits. BHEL shall not be responsible for any loss of Securities due to liquidation or any other reason whatsoever or any depreciation in the value of the Securities while in their charge or for any loss of interest thereon.

- (iii) All Compensation or other sums of money payable by the Contractor To BHEL, under the terms of this Contract or under any other contract with BHEL, may be deducted from the Security Deposit or realized by the sale of the Securities or from the interest arising there from or from any sums which may be due or may become due to the Contractor payable by BHEL, on any account whatsoever against this contract or any other Contract with BHEL, and in the event of his security deposit being reduced by reason of such deductions or sale as aforesaid, the Contractor shall, within seven days thereafter, make good in cash or in securities endorsed as aforesaid, any sum or sums by which the Security Deposit has been so reduced.
- (iv) 50% of the Security Deposit may be refunded on completion of the work after payment of the final bill and the balance 50% of the Security Deposit is refundable only after the expiry of the maintenance period of six (6) months from date of completion of work as stipulated in the Contract concerned.

17. ORDERS UNDER THE CONTRACT:

All orders, notices etc., to be given under the contract shall be in writing, typescript or printed and if sent by registered post to the address given in the tender of the contractor, shall be deemed to have been served on the date when in the ordinary course they would have been delivered to him.

The Contractor shall carry out without delay all orders given to him.

18. ADMISSION TO SITE:

The contractor shall not enter on (other than for inspection purposes) or take possession of the site unless permitted to do so by the Senior Engineer/ Electrical. The portions of the Site to be occupied by the Contractor will be clearly defined and marked on the site plan, and the Contractor will on no account be allowed to extent his operations beyond these areas.

The Contractor shall provide, if necessary, or required at the site, temporary access thereto and shall alter, modify and maintain the same as required from time to time. He shall take out and clear away the access route when no longer required restoring the area to its original condition.

The Senior Engineer / Electrical shall have power to execute other works (Whether or not connected with the work in the contract agreement) on the site contemporaneously with the execution of the original work and Contractor shall give reasonable facilities for this purpose.

B.H.E.L reserves the right of taking over, at any time, any portion of the Site, which they may require, and the Contractor shall at his own expense clear such portion forthwith. No photographs of the Site or of the work or any part thereof shall be taken, published or otherwise circulated, without the prior approval of the Senior Engineer / Electrical.

No such approval shall however exempt the contractor from complying with any statutory provisions in regard to the taking and publication of such photographs.

B.H.E.L. officials connected with the Contract shall have the right of entry to the Site at all times. Senior Engineer / Electrical shall have the power to exclude from the site any person whose admission thereto may, in his opinion, be undesirable for any reason whatsoever.

19. CONTRACTOR'S SUPERVISION:

The Contractor shall either himself supervise the execution of the contract or shall appoint a competent Agent approved by the Senior Engineer / Electrical to act in his stead.

The Contractor shall employ an Engineer / Agent having at least a 'Degree of Bachelor of Electrical Engineering' from a recognized University / on any work with a Contract value exceeding rupees two lakhs, and having at least a 'Diploma in Electrical Engineering' from a recognized college, on work with a contract value exceeding Rs.50,000/- but not exceeding rupees two lakhs.

The Employment of an Engineer / Agent as aforesaid shall not be necessary if the Contractor himself is in possession of a recognized technical qualification and is in opinion of the Senior Engineer / Electrical capable of receiving instructions of the Engineer – in-charge and of executing the work to the satisfaction of the Engineer-in-charge.

If the Contractor fails to appoint a suitable Engineer / Agent as aforesaid, the Senior Engineer / Electrical shall have full powers to suspend the execution of work and stop payment of any advances that may have become due until such date as a suitable Engineer / Agent is appointed and the contractor shall be held responsible for the delay caused to the work and no extension of time on this account shall be given to him as stipulated in condition (9) above.

Orders given to the Contractor's Agent / Engineer shall be considered to have the same force as if they had been given to the Contractor himself.

The Contractor or his Agent shall be in attendance at the site during all working hours and shall superintend the execution of work with such additional assistance in each trade as the Senior Engineer / Electrical may consider necessary.

The Contractor or his accredited agent shall attend, when required and without making any claim for doing so, either the office of the Engineer-in-charge or the worksite to receive instructions.

The Senior Engineer / Electrical shall have full powers, and without assigning any reason, to require the Contractor immediately to cease to employ in connection with this Contract any Agency, Servant or employee whose continued employment is, in his opinion, undesirable.

The Contractor shall not be allowed any compensation on this account.

LABOUR

20. The Contractor shall employ labour in sufficient numbers either directly or through sub-contractors to maintain the required rate of progress and of quality to ensure workmanship of the degree specified in the Contract and to the Satisfaction of the Engineer-in-charge. The Contractor shall not employ in connection with the works any person who has not completed his fifteen years of age.

The Contractor shall furnish to the Engineer – in –charge at the intervals specified by him, a distribution return of the number and description by trades of the work people employed on the works. The Contractor shall also submit on the 4th and 19th of every month to the Engineer-in-charge a true statement showing in respect of the second half of the preceding month and the first half of the current month (i) the accidents that occurred during the said fortnight showing the circumstances under which they happened and the extent of damage and injury caused by them ad (ii) the number of female workers who have been allowed Maternity Benefit as provided in the Maternity Benefit Act, 1961 or Rules made there under and the amount paid to them.

The contractor shall in pay to labour employed by him either directly or through sub-contractors wages not less than fair wages as defined in the contractor's labour Regulation.

The contractor shall in respect of labour employed by him either directly or through sub-contractors comply with or cause to be complied with Contractor's labour Regulations in regard to all matters provided therein.

The Contractor shall comply with the provisions of the Payment of Wages Act, 1936, Minimum Wages Act, 1948, Employers Liability Act 1938, Workmen's Compensation Act, 1923, Industrial Disputes Act, 1947, Maternity Benefit Act, 1961 and Mines Act 1952 or any modifications thereof or any other law relating thereto and rules made there under from time to time.

The Contractor shall be liable to cover under Medical Group Insurance Scheme in respect of all labours employed by him for the execution of the contract.

The Engineer-in-charge shall on a report having been made by an Inspecting Officer as defined in the Contractor Labour Regulations have the power to deduct from the money's due to the Contractor any sum required or estimated to be required for making good the loss suffered by a worker or workers by reason of non-fulfillment of the Conditions of the contract for the benefit of workers, non-payment of wages or of deductions made from his or their wages which are not justified by the terms of the Contract or non-observance of the said Contractor's Labour Regulations.

The Contractor shall indemnify the B.H.E.L. against any payments to be made under and for observance of the Regulations aforesaid without prejudice to his right to claim indemnify from his sub-contractors.

In the event of the Contractor committing a default or breach of any of the provisions of the aforesaid contractor's Labour Regulations, as amended from time to time or furnishing any information or submitting or filling any form/Register/Slip under the provisions of these Regulations which is materially incorrect then on the report of the Inspecting Officers as defined in the Contractor's Labour Regulation, the Contractor shall without prejudice to any other liability pay to the B.H.E.L. a sum not exceeding Rs.50/- as liquidated damages for every default breach or furnishing, making, submitting, filling materially incorrect statement as may be fixed by the Engineer-in-charge and in the event of the Contractor's default continuing in this respect, the liquidated damages may be enhanced to Rs.50/- per day for each day of default subject to a maximum percent of the estimated cost of works put to tender.

The Engineer-in-charge shall deduct such amount from bills or security deposit of the Contractor and credit the same to the Welfare fund constituted under Regulations. The decision of the Engineer-in-charge in this respect shall be final and binding.

MODEL RULES FOR LABOUR WELFARE:

The Contractor shall at his own expense comply with or cause to be complied with model Rules for Labour Welfare as appended to these conditions or rules framed by Government from time to time for the protection of health and for making sanitary arrangements for workers employed directly or indirectly on the works. In case the Contractor fails to make arrangements as aforesaid, the Engineer-in-charge shall be entitled to do so and recover the cost thereof from the contractor.

SAFETY CODE:

The Contractor shall at his own expense arrange for the safety provisions as appended to these conditions or as required by the Engineer-in-charge, in respect of all labour directly or indirectly employed for performance of the works and shall provide all facilities in connection therewith. In case the Contractor fails to make arrangements and provide necessary facilities as aforesaid, the Engineer-in-charge shall be entitled to do so and recover the cost thereof from the Contractor.

Failure to comply with Model Rules for Labour Welfare, Safety code, or the provisions relating to report on accidents and to grant of maternity benefits to female workers shall make the Contractor liable to pay to the B.H.E.L. as liquidated damages an amount not exceeding Rs.50/- for each default or materially incorrect statement. The decision of the Engineer-in-charge in such matters based on reports from the Inspecting Officers as defined in the Contractor's Labour Regulation as defined in the Contractor's Labour Regulation as appended to these conditions shall be final and binding and deductions for recovery of such liquidated damages may be made from any amount payable to the Contractor.

WATER

The Contractor shall allow in his Tender and provide at his cost all water required for the work or his employees on the work, together with all pipes and fittings or other means that may be necessary or required to ensure a proper and ample supply of water for all purpose connected with the work.

In the event of a provision existing in the Tender documents for supply of water on payment by Bharat Heavy Electricals Limited, water will be supplied from the BHEL supply system, or other sources at any points fixed by the Senior Engineer / Electrical on the site of work. The Contractor shall make necessary arrangement for lifting, pumping, carrying or conveying the water as required at his own cost. The levy of water charges to be borne by the Contractor in such case shall be specifically mentioned in the Tender documents.

21. TEMPORARY WORKSHOPS, STORES, ETC:

The Contractor shall, during the progress of work provide, erect and maintain at his own expenses all necessary temporary workshops, stores, offices, etc., required for the proper and efficient execution of the work. The planning, siting and erection of these buildings shall have the approval of the Engineer-in-charge and the Contractor shall at all times keep them tidy and in a clean and sanitary condition to the entire satisfaction of the Engineer-in-charge.

On completion of the work all such temporary buildings shall be cleared away and the site restored and left in a clean and tidy condition to the entire satisfaction of the Engineer-in-charge.

22. STORES AND MATERIALS ON SITE:

All stores and materials required for the work are to be deposited by the Contractor only in places to be indicated by the Engineer-in-charge.

Where in accordance with the contract stipulations certain Stores and Materials (for incorporation in the work) are to be issued to the Contractor by the BHEL as detailed under Schedule 'B' such items will be so issued only to the extent required for the actual completion of the work as stipulated in the Contract. The decision of the Senior Engineer/ Electrical regarding the quantities to be issued as above shall be final and binding on the contractor. For any excess quantities consumed on the work their cost will be recovered from the Contractor at punitive rates which will be 100% (Hundred percent) more than the issue rates of the BHEL.

In regard to the materials and stores which may be issued to the Contractor by BHEL the Contractor shall give the Engineer-in-charge reasonable notice in writing of his requirements of such stores and materials and on the approval of his demand being notified to him, he shall make immediate arrangements for drawing the same. Such stores and materials shall be transported by Contractor at his own expenses direct from the place of issue to the site of the work, unless prior written approval is obtained from the Engineer-in-charge to take them to a Store or Workshop elsewhere.

The Contractor shall have to build a weather-proof shed for the storage of cement required for 15 days consumption of the work.

BHEL officers connected with the Contract shall have the power at any time to inspect and examine any stores or materials intended to be used in or on the work, whether on the site or at any factory or workshop or other place where such stores or materials are being fabricated or manufactured or at any place where the same are lying and the contractor shall give necessary facilities for such inspection and examination.

The Engineer-in-charge shall be entitled to have tests made of any stores or materials supplied by the Contractor who shall provide at his own expense all facilities which the Engineer-in-charge may require for this purpose. If at the discretion of the Engineer-in-charge may require for this purpose. If at the discretion of the Engineer-in-charge an independent expert is employed to make any such tests his charges shall be borne by the Contractor only if the test discloses that the said stores or materials are not in accordance with the provisions of the contract.

Should the Senior Engineer / Electrical consider at any time during the construction or reconstruction, on prior to the expiry of the “MAINTENANCE PERIOD” for any work under this Organization will be SIX MONTHS FROM THE DATE OF ACTUAL COMPLETION of the particular work and handing over to B.H.E.L.)

All Stores and materials brought to the Site shall become and remain the properties of B.H.E.L. and shall not be removed from the site without the prior written approval of the Senior Engineer / Electrical. However, when the work is finally completed the Contractor shall at his own expense forthwith remove from the site all surplus stores and materials originally supplied by him and upon such removal the same shall revert in and become the property of Contractor. All B.H.E.L. Stores and materials issued to making due allowance for reasonable wear and tear / or waste, have not on completion of the work been so incorporated or fixed, shall be returned by the Contractor at his own expense to the place of issue.

Credit for surplus stores and/or materials returned by the Contractor to B.H.E.L. will be given to him at a price based on the prevailing market rate but not exceeding that at which the said stores and materials were originally issued to him but due consideration shall be given to the allowance claimed by B.H.E.L. in respect of any depreciation or damage suffered by the stores and/or materials whilst in the custody of the Contractor regarding which the decision of Senior Engineer / Electrical shall be final and conclusive.

If, in the opinion of the Senior Engineer / Electrical (Which shall be final and conclusive) any stores supplied by B.H.E.L. have either during currency of the work or after completion of the work whilst under the custody of the Contractor, become damaged to such an extent that they cannot be usefully utilized, either in the same work or in other works, the Senior Engineer / Electrical shall not accept the stores and in the event of his rejecting, the Contractor shall be charged for the said Stores at a rate fixed by the Accepting Officer. The Contractor shall not be entitled to any claim whatsoever on this account.

24. TOOLS AND PLANT ON SITE:

All tools, plant and equipment brought to the site shall become the property of B.H.E.L. and shall not be removed from the site without the prior written approval of the Senior Engineer / Electrical. When the work is finally completed or the Contract is determined for reasons other than the default of the Contract, he shall forthwith remove from the site all tools, plant, equipment etc., (Other than those as may have been provided by B.H.E.L.) and upon such removal, the same shall revert in, and become the property of the Contractor.

25. STATEMENT OF HIRE CHARGES:

A monthly detailed statement of the hire charges incurred in respect of B.H.E.L. tools, plant, equipment etc., shall be given to the Contractor by the Engineer-in-charge.

26. PRECAUTIONS AGAINST RISKS:

The Contractor shall be responsible for providing at his own expense, for all precautions to prevent loss or damage from any and all risks and to minimize the amount of any such loss or damage and for the necessary steps to be taken for the said purpose until the works have been handed over complete in all respects to the Engineer-in-charge.

The Contractor shall provide all watchmen necessary, for the protection of the Site, the work, the materials, tools, plant, equipment and anything else lying on the site during the progress of the work. He shall solely be responsible for and shall take all reasonable and proper steps for protecting, securing, lighting and watching all places on or about the work and the Site which may be dangerous to any person whom so ever.

27. NOTICES AND FEES

The Contractor shall give all notices required by any Statutory provision or by the regulations and / or bye-laws of any local Authority and/or of any Public Service, company or Authority affected by the work or with whose system the same are or will be connected. The Contractor shall pay and indemnify B.H.E.L. against any fees and charges, demandable by law under such Acts, Regulations and/or bye-laws in respect of the work and shall make and supply all drawings and plans required in connection with any such notice.

28. SETTING OUT OF THE WORKS AND PROTECTIVE AND MAINTAINING SIGNALS AND WORKS

The Engineer-in-charge shall supply dimensioned drawings, levels and other information necessary to enable the contractor to set out the work. The Contractor shall at his own expense set out accurately according to the drawings and figured dimension thereon, all the work comprised in the contract and any extras or additions thereto and shall be solely responsible for their being so set out and executed.

All bench marks, pegs, signals on the surface, alignment stones, milestones and all similar marks whether put in by B.H.E.L. Authorities for the purpose of checking the Contractor's work or in the nature of permanent survey marks will during the tenure of the contract, be under the care of the Contractor who shall, at his own expense, take all proper and reasonable precautions and care to preserve and maintain them in their true position. In the event of these marks being disturbed or obliterated by accident or due to any other cause whatsoever, the same may, if deemed necessary, be replaced by the Senior Engineer / Electrical at the Contractor's expense and the cost thereof deducted from any money then or thereafter becoming due to the Contractor.

Where requested by the Contractor, the level marks, center line and chain age pegs corresponding to those shown on the Drawing will be pointed out to the Contractor on the ground but all bench marks or chain age pegs additional to those shown on the Drawing will be set out by BHEL authorities.

29. SITE DRAINAGE:

All water that may accumulate on the site during the progress of the work, or in trenches and excavations shall be removed to the entire satisfaction of the Engineer-in-charge and at Contractor's expense.

30. EXCAVATIONS, RELICS, ETC.

Material of any kind obtained from excavation on the site shall remain the property of BHEL and shall be disposed off as the Engineer-in-charge directs.

All gold, silver, oil and other minerals of any description and all precious stones, coins, treasures, relics, antiquities and other similar items which may be found in or upon the site shall be the property of Bharat Heavy Electricals Limited and the Contractor shall duly preserve the same to the satisfaction of the BHEL and shall from time to time deliver the same to such person or persons as the Bharat Heavy Electricals Limited, may appoint to receive the same.

31. FOUNDATIONS:

The Contractor shall not lay any foundations until the excavations for the same have been examined and approved in writing by the Engineer-in-charge.

32. COVERING-IN WORK

The Contractor shall give reasonable notice in writing to the Engineer-in-charge whenever any work is to be permanently covered up or concealed, whether by earth or other means so that it can finally be inspected or measured, if necessary. In default of so doing, the Contractor shall, if required by the Engineer-in-charge uncover such work at his own expense.

33. APPROVAL OF WORKS BY STAGES

All work embracing more than one process shall be subject to examination and approval at each stage thereof and the Contractor shall give due notice in writing to the Engineer-in-charge when each stage is ready. In default of such notice being received, the Engineer-in-charge shall be notice being received, the Engineer-in-charge shall be entitled to approve the quality and extent thereof at any time he may choose and in the event of any dispute, the decision of the Senior Engineer / Electrical thereon shall be final and conclusive.

34. EXECUTION OF THE WORK

The work shall be executed in a workman-like manner and to the satisfaction in all respects of the Engineer-in-charge.

The Engineer-in-charge will communicate or confirm his instructions to the Contractor in respect of the execution of the work in a "Work Site Order Book" maintained at his office and the Contractor shall visit this Office daily and shall confirm receipt of such instructions by signing the relevant entries in this book, such entries will rank as order or notices in writing within the intent and meaning of those conditions.

35. DAY-WORK

No day-work shall be performed without the prior written instructions of the Accepting Officer.

The Contractor shall give to the Engineer-in-charge reasonable notice of the start of any work ordered to be executed by day-work and shall deliver to the Senior Engineer / Electrical-in-charge within two days of the end of each pay-week a return in duplicate giving full detailed accounts of labour and materials for that pay-week. One copy of each of these returns, if found correct, will be certified by the Engineer-in-charge and returned to the contractor and must be produced at the time of adjustment of accounts.

An invoice in duplicate signed by the Contractor or his agent shall be sent with each delivery of materials for day-work and the Contractor will be furnished with a receipt signed by the Engineer-in-charge specifying the description, quantities weight or measurement (as the case may be) of the articles approved, reference will be made in this receipt in the return aforesaid and the receipt itself is to be produced in support of the contractor's Bill.

In the case of Lump sum contracts, the rates to be charged and the percentage addition for profit and establishment charges, etc., will be agreed upon between the Accepting Officer and the Contractor prior to the execution of the work.

INSPECTION OF THE WORK

B.H.E.L. Officers concerned with the Contract shall have power at any time to inspect and examine any part of the work and the Contractor shall give such facilities as may be required to be given for such inspection and examination.

Should Senior Engineer / Electrical consider, at any time during the expiry of the Maintenance period, that any work has been executed with unsound, imperfect or unskilled workmanship or of a quality inferior to that contracted for or not otherwise in accordance with the contract (in respect whereof the decision of the Senior Engineer/ Electrical shall be final and conclusive) the Contractor shall, on demand in writing from the Senior Engineer / Electrical specifying the fault notwithstanding that the same may have been inadvertently passed, certified and paid for, forthwith rectify or remove and reconstruct the work so specified, in whole or in part as the case may be require at his own expense to the entire satisfaction of the Senior Engineer / Electrical and in the event of his failing to do so within a period to be specified by the Senior engineer / Electrical may carry out the work by other means at the risk and expense in all respects of the Contractor. However, the liability of the Contractor under this condition shall not extend beyond the maintenance period except as regards workmanship which the Senior Engineer / Electrical shall have previously given notice of to the Contractor to rectify.

37. RESPONSIBILITY FOR BUILDING

In the event of any building, or part of any building being handed over to the Contractor for the execution of work thereto under the provisions of the Contract, he shall give a written receipt for all fixtures, glass etc. and he shall be required make good at his own expense all damages resulting from any cause whatsoever while in his charge and on completion of the work to deliver up the said building or part thereof a clean state complete in every particular to the entire satisfaction of the Engineer-in-charge.

38. INSURANCE OF WORKS AGAINST DAMAGE AND LOSS DUE TO FIRE, TEMPEST, FLOODS, EARTHQUAKE, RIOT, AND AGAINST DAMAGE BY AIR-CRAFT

The Contractor shall, within one month after the date of acceptance of the contract, insure the work against loss or damage by fire, tempest, floods, earth-quake, riots and against damage by air-craft with an insurance office approved by the Accepting officer. Such Insurance shall be effected in the name of B.H.E.L. and shall be for the full value of the contract sum. The Contractor shall lodge with the B.H.E.L. the policies and receipts of the premiums for such insurance and shall maintain such policies in force until the entire completion of the work as certified by the Senior Engineer / Electrical.

If the Contractor fails to comply with the terms of this condition the Accepting Officer may insure the work and may deduct the amount of premiums from any money that may become payable to the Contractor or may at his discretion refuse payment of any advances to the Contractor until the contractor shall have complied with the terms of this condition.

Such insurance whether effected by the Accepting Officer or the Contractor shall not be a limit or bar to the liability and obligation of the Contractor to complete the entire work in all respects as certified by the Senior Engineer / Electrical.

In case of such a loss or damage as aforesaid, the money payable under such insurance shall be received and may be retained by the BHEL. Until the work is finally completed and shall then be credited to the Contractor in the final statement of accounts in the event of his contract not having been previously cancelled under these conditions.

39. DAMAGE AND LOSS TO PRIVATE PROPERTY AND INJURY TO WORKMEN

The Contractor shall at his own expense reinstate and make good to the satisfaction of the Senior Engineer / Electrical and pay compensation for any injury, loss or damage occasioned to any property or rights of B.H.E.L. (or agents, servants or employees of BHEL) the injury, loss or damage arising out of or in any way in connection with the execution of purported execution of the contract and further the contractor shall indemnify BHEL against all claims enforceable against BHEL (or any agent, servant or employee of BHEL or which would be so enforceable against BHEL) where BHEL a private person, in respect of any such injury (including injury resulting in death loss or damage to any person) whosoever or property, including all claims which may arise under the workmen's Compensation Act or otherwise.

40. COMPLETION

The works shall be completed to the entire satisfactions of the Engineer-in-charge and in accordance with the Contractor's forecast of Time and Progress where operative, and all unused stores and materials, tools, plant, equipment, temporary Buildings, and things shall be removed and the site and work cleared or rubbish and all waste materials and delivered up clean and tidy to the satisfaction of the Engineer-in-charge at the Contractor's expense on/or before the Schedule date of completion.

The BHEL shall have power to take over from the Contractor from time to time such sections of the work as have been completed to the satisfaction of the Engineer-in-charge.

The Senior Engineer / Electrical shall certify to the Contractor the date on which the work is completed and the state thereof.

The Senior Engineer / Electrical shall also certify to the Contractor the state of the work at the end of the maintenance period, where applicable.

The Senior Engineer / Electrical shall also certify to the Contractor the state of the work at the end of the maintenance period, where applicable.

41. COMPENSATION FOR DELAY

If the contractor fails to maintain the required progress in terms of condition 7 or to complete the work and clear the site on or before the contracted or extended date period of completion, he shall, without prejudice to any other right or remedy of the BHEL on account of such breach, pay as agreed compensation an amount calculated as stipulated below or such smaller amount as may be fixed by the BHEL on the contract value of the work for every week that the progress remains below that specified in condition 7 or that the work remains incomplete.

This will also apply to items or groups of items for which separate period of completion has been specified. For this purpose the term 'Contract Value' shall be the value at contract rates of the work as ordered.

- a) Completion period (as originally – Stipulated) not exceeding 6 months. @ 1 Percent per week.
- b) Completion period (as originally- Stipulated) exceeding 6 months and Not exceeding 2 years. @ ½ percent per week.
- c) Completion period (as originally- Stipulated) exceeding 2 years. @ ¼ percent per week

Provided always that the total amount of compensation for delay to be paid under this condition shall not exceed the under noted percentage of the contract value or of the contract value of the item or group of items of work for which a separate period of completion is given:

- d) Completion period (as originally – Stipulated) not exceeding 6 months. @ 10 Percent.
- e) Completion period (as originally- Stipulated) exceeding 6 months and Not exceeding 2 years. @ 7½ percent.
- f) Completion period (as originally- Stipulated) exceeding 2 years. @ 5 percent

The amount of compensation may be adjusted or set-off against any sum payable to the contractor under this or any other contract with the BHEL.

42. LAWS GOVERNING THE CONTRACT:

This Contract shall be governed by the Indian Laws for the time being in force.

43. CANCELLATION OF CONTRACT FOR CORRUPT ACTS:

The Accepting Officer, whose decision shall be final and conclusive, shall without prejudice to any other right or remedy which shall have accrued or shall accrue thereafter to Bharat Heavy Electricals Limited, cancel the contract in any of the following cases and the Contractor shall be liable to make payment to BHEL for any loss or damage resulting from any such cancellation to the same extent as provided in the case of cancellation for default.

If the Contractor shall:

- (a) Offer or give or agree to give to any person in BHEL, Service any gift or consideration of any kind as inducement or reward for doing or forbearing to do or for having done or forborne to do any act in relation to the obtaining of execution of this or any other contract for BHEL service OR
- (b) Enter into a contract with BHEL in connection with which commission has been paid or agreed to be paid by him or with his knowledge, unless the particulars of any such commission and the terms of payment thereof have previously been disclosed in writing to the Accepting officer, OR
- (c) Obtain a contract with BHEL as a result of ring tendering or by non-bonafide methods of competitive tendering without first disclosing the fact in writing to the Accepting Officer.

44. CANCELLATION OF CONTRACT FOR INSOLVENCY, ASSIGNMENT OR TRANSFER OR SUB LETTING OF CONTRACT

The Accepting officer, without prejudice to any other right or remedy which shall have accrued or shall accrue thereafter to BHEL, shall cancel the Contract in any of the following cases:-

If the Contractor,

- (a) Being an individual, or if a firm any partner thereof, shall at any time be adjusted bankrupt or have a receiving order or orders for administration of his Estate made against him or shall take any proceedings, for liquidation or composition under any Bankruptcy Act for the time being in force or make any conveyance or arrangement for the benefit of his creditor or purport to do so, or if any application be under any Bankruptcy Act for the time being in force for the sequestration of his Estate or if a trust deed be granted by him on behalf of his creditors: or
- (b) Being a company, shall pass a resolution or the court shall make an order for the liquidation of its affairs, or a Receiver or Manager on behalf of the debentures holders shall be appointed or circumstances shall arise which entitle the court or debentures holders to appoint a Receiver or Manager OR
- (c) Assigns, transfers, sub-lets or attempts to assign transfer or sub-let any portion of the work without the prior written approval of the Accepting Officer.

Whenever the Accepting Officer exercises his authority to cancel the Contract under this condition, he may complete the work by any means at the Contractor's risk and expense provided always that in the event of the cost of completion (as certified by Senior Engineer / Electrical which is final and conclusive) being less than the contract cost, the advantage shall accrue to the BHEL and that if the cost of completion exceeds the money due to the Contractor under the contract, the contractor shall either pay the excess amount ordered by the Senior Engineer / Electrical or the same shall be recovered from the Contractor by other means.

In case the BHEL completes the work under the provisions of this condition the cost of such completion to be taken into account in determining the excess cost to be charged to the Contractor under this condition shall consist of the cost of materials purchased and / or labour provided by the BHEL with an addition of such percentage to cover superintendence and establishment charges as may be decided by the M.P. / D.C.F. whose decision shall be final and conclusive.

45. CANCELLATION OF CONTRACT IN PART OR IN FULL FOR CONTRACTOR'S DEFAULT

If the contractor:

- (a) Makes default in commencing the work within a reasonable time from the date of handing over of the site and continues in that state after a reasonable notice from Senior Engineer / Electrical, OR
- (b) In the opinion of the Senior Engineer / Electrical at any time, whether before or after the date or extended date for completion, make default in proceeding with the work, with due diligence and continue in that state after a reasonable notice from Senior Engineer / Electrical, OR
- (c) Fails to comply with any of the terms and conditions of the contract or after reasonable notice in writing with orders properly issued there under, OR
- (d) Fails to complete the work, work order and items of work with individual dates for completion and clear the site on or before the date of completion, or fails to achieve the progress as set out under clause 7 of these General conditions of contract.

The Accepting officer may, without prejudice to any other right or remedy which shall have accrued or shall accrue thereafter to BHEL cancel the contract as a whole or in part thereof or only such work order or items of work in default from the contract. Whenever the Accepting officer exercises his authority to cancel the contract as a whole or in part under this condition he may complete the work at the contractor's risk and cost, provided always that in the event of the cost of completion (as certified by Senior Engineer / Electrical which is final and conclusive) being less than the contract cost, the advantage shall accrue to the BHEL. If the cost of completion exceeds, the money due to the contractor under this contract, the contractor shall either pay the excess amount ordered by M.P. or the same shall be recovered from the Contractor by other means.

In case the BHEL complete the work or any part thereof under the provisions of this condition the cost of such completion to be taken into account in determining the excess cost to be charged to the contractor under this condition shall consist of the cost of materials purchased and / or labour provided by the BHEL with an addition of such percentage to cover superintendence and establishment charges as may be decided by the M.P. / D.C.E. whose decision shall be final and conclusive.

46. TERMINATION OF CONTRACT FOR DEATH

Without prejudice to any of the rights or remedies under this contract, if the contractor dies, the Accepting Officer shall have the opinion of terminating the contract without compensation to the Contractor.

47. SPECIAL POWERS OF DETERMINATION:

If at any time after the acceptance of the tender, BHEL shall for any reason whatsoever not require the whole or any part of the work, to be carried out, the M.P. / D.C.E. shall give notice in writing of the fact to the Contractor who shall have no claim to any payment of compensation or otherwise howsoever on account of any profit or advantage which he might have derived from the execution of the work in full but which he did not derive in consequence of the force closing of the work.

He shall be paid at Contract rates, for the full amount of the work executed including such additional works, e.g., clearing the site, etc. as may be rendered necessary by the said fore-closing. He shall also be allowed a reasonable payment (as decided by the Accepting Officer) for any expenses sustained on account of labour and materials collected but which could not be utilized on the work, as verified by the Senior Engineer / Electrical. Neither shall the contractor has any claim for compensation on account of any alterations having been made in the original specifications drawings, designs and instructions, involving any curtailment of the work as originally contemplated.

48. FAIR WAGE:

- (a) The Contractor shall pay not less than the “FAIR WAGE” to labourers engaged by him on the work.
“FAIR WAGE” means wage whether for time or piece work notified at the time of inviting tenders for the work and where such wages have not been notified, the wages prescribed by the Manager / Projects for the stations at which the work is done.
- (b) The Contractor shall, notwithstanding the provision of any contract to the contrary, cause to be paid a “Fair Wage” to labourers indirectly engaged on the work, including any labour engaged by his Sub-Contractors in connection with the said work, as if the labourers had been directly employed by him.
- (c) In respect of all labours directly or indirectly employed on the work for the performance of the Contractors part of this Agreement, the Contractor shall comply with or cause to be complied with the BHEL. Contractor’s Labour Regulations (appended hereto as Annexure ‘A’ to these conditions) in regard to payment of wages, wage period, deductions from wages, recovery of wages, not paid and deductions, unauthorizedly made, maintenance of wage book, wage-slips, Publication of scale of wages and other terms of employment, inspection and submission of periodical returns and all other matters of a like nature.
- (d) The Senior Engineer / Electrical concerned shall have the right to deduct from the money due to the Contractor any sum required or estimated to be required for making good the loss suffered by a worker or workers by reason of non-fulfillment of the conditions of the contract for the benefit of the workers, non-payment of wages or of deductions made from his or their wages which are not justified by the terms of the contract or non-observance of the regulations.
- (e) Vis-à-vis the BHEL the Contractor shall be liable primarily for all payments to be made under the contract and for the observance of the Regulations aforesaid without prejudice to his right the claim indemnify from his sub-contractors.
- (f) The regulations aforesaid shall be deemed to be a part of this contract and any breach thereof shall be deemed to be a breach of this contract.

CHAPTER – IV

VALUATION AND PAYMENT

49. RECORDS AND MEASUREMENTS:

All items having a financial value shall be entered in the BHEL measurement book so that a complete record is obtained of all works performed under the contract.

Buildings, etc., priced in Schedule 'A' as a unit lump sum will be entered by number at the unit lump sum.

Work carried out for agreed lump sums will be described and similarly recorded.

Lump sum omissions will be entered for deduction. Measurement shall be restricted to that required to ascertain the financial liability of BHEL under the contract.

Work which fails to be measured in detail shall be measured physically, without reference to any local custom that may obtain excepting where it may otherwise be directed in the tender document. The measurements shall be taken jointly by any person duly authorized on the part of the BHEL and by the Contractor.

The Engineer-in-charge shall give reasonable notice in writing to the Contractor of appointment for measurement.

The Contractor shall, without extra charge, provide assistance with appliances and other things necessary for measurement.

The Contractor shall bear all the cost of measurement of this work.

Measurement shall be entered in the BHEL Measurement Book and signed and dated by both parties each day at the site on completion of measurement. If the Contractor objects to any of the measurements recorded on behalf of the BHEL a note that effect will be made in the BHEL Measurement Book or against the item or items objected to; and such note shall be signed and dated by both the parties engaged in taking the measurement.

If, as a result of such objection, it becomes necessary to re-measure the work wholly or in part, the expense of such re-measurement shall be borne by the party requiring the measurement to be retaken provided that a net error is found by this re-measurement to amount to less than 5% (five percent) of the value as recorded by the first measurement. But, where the net errors amount to 5% and over the said value, then the cost is to be borne by the other party. If any case, if the net value of errors found exceeds Rs.500/- the expense of re-measurement is to be borne by the other party.

If the Contractor's representative fails to attend when required, the Engineer-in-charge shall have power to proceed by himself to take measurements and in that case these measurements shall be accepted by the Contractor as final.

The Contractor shall, once every month, submit to the Senior Engineer / Electrical with a copy to the M.P. / D.C.E. details of his claims for the work done by him upto and including the previous month which are not covered by his contract agreement in any of the following respects:

- (a) Deviation from the items and specifications provided in the contract documents.
- (b) Extra Items / New items of work.
- (c) Quantities in excess of these provided in the contract schedule.
- (d) Items in respect of which rates have not been settled. He should, in addition, furnish a clear certificate to the effect that the claims submitted By him as aforesaid cover all his claim and that no further claims shall be raised by him in respect of the work done upto and including the period under report.

50. VALUATION OF DEVIATIONS:

Rates for deviated items of work will be fixed as follows:-

I. For any item of work required to be carried out after the contract has been awarded and which is not covered by Contractor's Schedule but is covered by BHEL Schedule of Rates the rate payable for such a fresh item will be derived from BHEL Schedule by the method of proportion as follows:-

- (a) In the same proportion to the rate in BHEL Schedule of Rate as the tendered rate for the nearest analogous item of work in Contractor's schedule bears to the rate for the particular analogous item or work in BHEL Schedule of Rates.
- (b) If a single appropriate analogous item of work is not available in both Schedule (Contractor's and BHEL Schedule then the method of proportion will be applied to the nearest analogous group of items available in both the Schedules referred, i.e., in the same proportion as the total tendered cost of that particular group of items (the sum of the products of the tendered rates and the quantities for which orders are placed) bears to the total cost of the same items and quantities at the BHEL Schedule of Rates.
- (c) If even an appropriate analogous group of items is not available in Contractor's Schedule and BHEL Schedule, then the methods of proportion will be applied to all those items of the whole work, which are available both the Schedules and for which orders proportion as the total cost of all these items of work (the sum of the products of the tendered rates and the quantities for which orders are placed) bears to the total cost of the same items and quantities at the BHEL Schedule of Rates.

II. If any work not covered by any of the foregoing is ordered on the Contractor, the basis of payment shall be decided by the Accepting Officer whose decision shall be final and conclusive and binding on the parties.

The selection of analogous item or analogous group of items referred to above shall be done by the Senior Engineer/Electrical. Where the rates for deviated items or new items of work can be derived by the selection of different analogous items or analogous group of items, the lowest of all such derived rates shall be taken as the correct rate.

In the case of the contracts for which the Senior Engineer / Electrical, is the Accepting Officer, shall dispute regarding the settlement of rates of deviated or new items of work shall be referred to the M.P. / D.C.E. whose decision shall be final and conclusive.

51. REIMBURSEMENT / REFUND ON VARIATION IN PRICE:

MATERIALS

If after submission of the tender and / or during the progress of the works, the price of any material (not being a material supplied from the BHEL store in accordance with the conditions of the contract) is increased or decreased by an Act of Legislature (Central or state) and/or any notification there under or on account of new duties or levies such as octroi or on account of increase or decrease in such duties affecting the price of materials required for incorporation in the works or the price of any item to be incorporated in the works and made from materials of which the price has incorporated in the works and made from materials of which the price has increased or decreased as aforesaid and the contractor has thereupon to pay in respect of such material or item as prevailing immediately before the passing of such Act or levying, increasing /decreasing of such duty, the BHEL Shall incase of increase in price or the duty reimburse to the contractor the increase in price or additional or increased duty paid by the contractor and in case of decrease in price, the BHEL shall be entitled to a refund of the reduction in price or the reduction in duty. Provided however no reimbursement or refund shall be made if the increase / decrease is not more than + 10% of the said price, and if so, and reimbursement of refund shall be made only on the excess over \pm 10% provided always that any such increase shall not be payable if, in the opinion of the M.P. / D.C.E. (Whose decision shall be final and conclusive the increase is attributable to the delay in the execution of the contract within the control of the contract or that any such increase has become operative after the contractor or extended date of completion of the works or items of work in question.

The Contractor shall within a reasonable time of his becoming aware of any alteration in the prices of any such materials, give notice thereof in writing to the Senior Engineer / Electrical, stating that the rate is submitted in pursuance to this condition together with all information relating there to which he may be in a position to supply.

52. ADVANCES ON ACCOUNT:

No payment shall be made for work estimated to cost less than Rupees ONE THOUSAND till after the whole of the work shall have been completed and a certificate of completion given by the competent authority.

In the case of work estimated to cost more than Rupees ONE THOUSAND the contractor may at intervals of not less than one month or as otherwise provided for in the Contract documents, counting from the date on which order to commence work is given by Senior Engineer / Electrical submit claims on BHEL forms for payment of advances on account of work done and of materials delivered in connection with the contract.

The Contractor shall be paid in respect of such claims to the extent approved and passed by the Senior Engineer / Electrical subject a maximum of 90% of the value of the work actually executed on site provided the work has been executed to the satisfaction of the Engineer / Electrical regarding such approval and passing of the sums so payable shall be final and conclusive against the contractor.

“After the full amount of Security Deposit is made up through the 10% deductions from ‘On-account’ bills, 100% payment of all subsequent bills may be made to the contractor”.

The Contractor may also be paid during the progress of the work 75% of the value of any materials which are in the opinion of the Engineer-in-charge in accordance with the contract, and are actually required for incorporation in the work and which have reasonably been brought to the site in connection therewith and are adequately stored and/or protected against damage by weather or other causes, but which have not at the time of payment of the advance been incorporated in the work. Payment of such advance however shall be purely at the discretion of the M.P. / D.C.E Provided always that payment shall not be made under these periodical certificates in respect of perishable materials like lime, cement, timber, sand kakar, etc.

Any sums / due from the contractor on account of Tools and Plant, stores or any other items provided by BHEL shall be deducted from the respective advances.

The Senior Engineer / Electrical shall from time to time certify the sums payable to the contractor after retaining the reserves.

Any certificate relating to work done or materials delivered may be modified or corrected by any subsequent interim certificate or by the final certificate and no certificate of the Senior Engineer / Electrical supporting an advance payment shall itself be conclusive evidence that any work or materials to which it relates are in accordance with the Contract. All such intermediate payments shall be regarded as advances against the final payment only and shall not be considered as an admission of the due performance of the contract or any part thereof in any respect or the accruing of any claim whatsoever. Such intermediate payments shall not conclude. Determine or effect in any way the powers of the Senior Engineer / Electrical as to the final settlement and adjustment of the accounts or otherwise, or in any way vary or affect the contract.

53. FINAL BILL:

As soon as possible after the completion of the work to the satisfaction of the Engineer-in-charge, the contractor shall forward a certified final account on BHEL forms, in duplicate.

It shall be accompanied by all abstracts, vouchers etc., in support thereof and shall be prepared in the manner prescribed by the Senior Engineer / Electrical.

No claims will be entertained after the receipt of the final bill.

The contractor shall be entitled to be paid the final sum less the value of payments already made on account, subject to certification of the final bill by the Senior Engineer / Electrical. Any sums due from the Contractor on account of Tools and Plant, stores or any other items provided by BHEL not yet recovered from the contractor shall be deducted from the final sum aforesaid.

No charge shall be allowed to the Contractor on account of the preparation of the final bill.

PAYMENT OF BILLS:

All payments to be made to the contractor under this contract shall be by "Crossed Cheque" marked 'A/C payee only' (within a reasonable time after the certification by the Senior Engineer / Electrical) at the State Bank of India or their subsidiaries located in the station where either the work is executed or service rendered or at their branch nearest to the station where the office of the Senior Engineer / Electrical is located.

55. RECOVERY FROM CONTRACTOR:

Whenever under the contract any sum of money shall be recoverable from or payable by the contractor the same may be deducted from any sum then due or which at any time thereafter may become due to the contractor under the contract or under any other contract with BHEL or from his security deposit or he shall pay the claim on demand.

56. POST TECHNICAL AUDIT OF WORK AND BILLS:

BHEL reserve the right to carry out a post-payment audit and technical examination of the work and final bill including all supporting vouchers, abstracts etc. and to enforce recovery of any sums becoming due as a result thereof in the manner provided in the proceeding sub-paragraphs provided however that no such recovery shall be enforced after three years of passing the final bill.

57. REFUND OF SECURITY DEPOSIT:

50% of the Security Deposit mentioned in condition 16 above, may be refunded to the contractor in respect of all contracts on completion of work and after payment of final bill and the balance 50% on expiry if the maintenance period, (described under clause 23) provided the contractor shall have rendered a "No-Demand certificate. In case of works where maintenance period is not involved 100% of the security deposit may be refunded after payment of final bill provided that the contractor shall have rendered a "No-Demand Certificate".

58. A R B I T R A T I O N :

Except where otherwise provided for in contract all questions and disputes relating to the meaning of the specifications, designs, drawings and instructions hereinbefore mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim, right, matter or thing whatsoever in any way arising out of or relating to the contract, designs, drawings, specifications, estimates, instructions, orders or these conditions or otherwise concerning the works or the execution of failure to execute the same whether arising during the progress of the work or after the completion or abandonment thereof shall be referred to the sole arbitration of the Managing Director / Executive Director & Group General Manager (General Manager / Chief Engineer of BHEL and if the Managing Director / Chief Engineer is unable or unwilling to act, to the sole arbitration of some other person appointed by the Managing Director / General Manager / Chief Engineer, willing to act as such arbitrator. The Cases referred to arbitration shall be other than those for which the decision of the M.P. / D.C.E. / Senior Engineer / Electrical is expressed in the contract to be final and conclusive. There will be no objection if the arbitrator so appointed is an employee of BHEL and that he had to deal with the matters to which the contract relates and that in the course of his duties as such he had express views on all or any of the matters in dispute or difference. The arbitrator to whom the matter is originally referred being transferred or vacating his office or being unable to act for any reason, such Managing Director / General Manager / Chief Engineer as aforesaid at the time of such transfer, vacation of office or inability to act, shall appoint another person to act as arbitrator in accordance with the terms of the contract. Such person shall be entitled to proceed with the reference from the stage at which it was left by his predecessor.

Subject as aforesaid the provision of the Arbitration Act, 1940 or any statutory modification or re-enactment thereof and the rules made there under and for the time being in force shall apply to the arbitration proceeding under this clause.

It is a term of the contract that the party invoking arbitration shall specify the dispute or disputes to be referred to arbitration under this clause together with the amount or amounts claimed in respect of each such dispute.

The arbitrator(s) may from time to time with consent of the parties enlarge the time, for making and publishing the award.

The work under the contract shall, if reasonable possible, continue during the arbitration proceedings and no payment due or payable to the contractor shall be with held on account of such proceedings.

The Arbitrator shall be deemed to have entered on the reference on the date the issues notice to both the parties fixing the date of the first hearing.

The Arbitrator shall give a separate award in respect of each dispute or difference referred to him. The venue of arbitration shall be such place as may be fixed by the Arbitrator in his sole discretion.

The award of the arbitrator shall be final, conclusive and binding all parties to this contract.

ANNEXURE – ‘A’

B.H.E.L. CONTRACTOR’S LABOUR REGULATIONS

(See condition 20)

1. DEFINITION:

In these regulations unless otherwise expressed or indicated, the following works and expressions shall have the meaning hereby assigned to them.

- a). “Labour” means workers employed by a contractor directly, or indirectly through a sub-contractor, or by an agent on his behalf on a payment not exceeding Rs.500 per month.
- b). “Fair Wage” means wages, which shall include wages for weekly day of rest and other allowances, whether for time or piece work, after taking into consideration prevailing market rates for similar employments in the neighbourhood but shall not be less than the minimum rates of wages fixed under the Minimum wages Act.
- c). “Contractor” for the purpose of these regulations shall include an agent or sub-contractor employing labour on the work taken on contract.
- d). “Inspecting Officer” means any Labour Enforcement officer, or Assistant Labour Commissioner of the Chief Labour commissioner’s organization.
- e). “Form means a form appended to these regulations”.

2. NOTICE OF COMMENCEMENT:

The Contractor shall, within SEVEN DAYS of commencement of the work, furnish in writing to the Inspecting Officer of the area concerned the following information, with copy to the Engineer – in –charge.

- a) Name and situation of the work.
- b) Contractor’s Name and address
- c) Particulars of the Department for which the work is undertaken
- d) Name and address of Sub-contractors as and when they are appointed
- e) Commencement and probable duration of the work.
- f) Number of workers employed and likely to be employed
- g) ‘Fair wages’ for different categories of workers.

3. (i) Number of hours which shall constitute a normal working day: The number of hours which shall constitute a normal working day for an adult shall be NINE hours. The working day of an adult worker shall be so arranged that of intervals, if any, for rest it shall not spread over more than twelve hours on any day, when an adult worker is made to work for more than NINE hours on any day or for more than FORTY EIGHT hours in any week he shall in respect of over time work, be paid wages at double the ordinary rate of wages.

(ii) Weekly day of rest: Every worker shall be given a weekly day of rest which shall be fixed and notified at least TEN days in advance. A worker shall not be required or allowed to work on the weekly rest day unless he has or will have a substituted rest day, on one of the five days immediately before or after the rest day.

Provided that no substitution shall be made which will result in the worker working for more than ten days consecutively without a rest day for a whole day.

Where in accordance with the foregoing provisions a worker works on the rest day and has been given a substituted rest day he shall be paid wages for the work done on the weekly rest day at the overtime rate of wages.

NOTE: The expression 'Ordinary rate of wages' means the fair wage the worker is entitled to.

4. DISPLAY OF NOTICE REGARDING WAGES, WEEKLY DAY OF REST, ETC.

The contractor shall before he commences his work on contract display and correctly maintain and continue to display and correctly maintain in a clean and legible condition in conspicuous places on the works, notice in English and in the local Indian languages, spoken by majority of workers, giving the rate of fair wages, the hours of work for which such wages are payable, the weekly rest days workers are entitled to and name and address of the Inspection Officer. The contractor shall send a copy each of such notices to the Inspecting officers and the Engineer-in-charge.

5. FIXATION OF WAGE PERIODS:

The Contractor shall fix wage periods in respect of which wages shall be payable. No wage period shall normally exceed one work.

6. PAYMENT OF WAGES:

- (i) Wages due to every worker shall be paid to him direct. All wages shall be paid in current coins of currency or in both.
- (ii) Wages of every worker employed on the contract shall be paid where the wage period is one week, within THREE DAYS from the end of the wage period, and in any other case before the expiry of the 7th day or 10th day from the end of the wage period according as the number of workers does not exceed 1,000/-
- (iii) When employment of any worker is terminated by or on behalf of the contractor, the wages earned by him shall be paid before expiry of the day succeeding the one on which his employment is terminated.
- (iv) Payment of wages shall be made at the work site on a working day except when the work is completed before expiry of the wage period, in which case final payment shall be made at the work site within 48 hours of the last working day and during normal working time.

NOTE:

The term "Working Day" means a day on which the work, on which labour is employed, is in progress.

7. REGISTER OF WORKMEN:

A register of workmen shall be maintained in the form appended to these regulations and kept at the work site or as near to it as possible, and the relevant particulars of every workmen shall be entered therein within THREE DAYS of his employment.

8. EMPLOYMENT CARD:

The Contractor shall issue an employment card in the form appended to these regulations to each worker on the day of work or entry into his employment. If a worker has already any such card with him issued by the previous employer the contractor shall merely endorse that employment card with relevant entries. On termination of employment the employment card shall again be endorsed by the contractor and returned to the worker.

9. REGISTER OF WAGES ETC:

- (i) A register of wages-cum-muster roll in the form appended to these regulations shall be maintained and kept at the work site or as near to it as possible.
- (ii) A wage slip in the form appended to these regulations shall be issued to every worker employed by the contractor at least a day prior to disbursement of wages.

10. FINES AND DEDUCTIONS WHICH MAY BE MADE FROM WAGES:

- (i) Wages of worker shall be paid to him without any deductions of any kind except the following:
 - a) Fines:
 - b) Deductions for absence from duty, i.e., from the place or the places where by the terms of his employment he is required to work. The amount of deduction shall be in proportion to the period for which he was absent.
 - c) Deduction for damage to or loss of goods expressly entrusted to the employed person for custody, or for loss of money which he is required to account for, where such damage or loss is directly attributable to his neglect or default.
 - d) Deductions for recovery of advance or for adjustment of over payment of wages. Advance granted shall be entered in a register.

And
 - e) Any other deduction which the BHEL may from time to time allow.
- (ii) No fines shall be imposed on a worker save in respect of such acts and omissions on his part as have been approved by the Chief Labour commissioner.
- (iii) No fine shall be imposed on a worker and no deductions for damage for loss shall be made from his wages until the worker has been given an opportunity of showing cause against such fines or deductions.
- (iv) The total amount of fines which may be imposed in any one wage period on a worker shall not exceed an amount equal to three paise in rupee of the wages payable to him in respect of that wage period.
- (v) No fine imposed on a worker shall be recovered from him in installments, or after expiry of sixty days from the date on which it was imposed. Every fine shall be deemed to have been imposed on the day of the act or omission in respect of which it was imposed.
- (vi) The contractor shall maintain both in English and the local Indian language a list, approved by the chief labour commissioner, clearly stating the acts and omissions for which penalty or fine may be imposed on a workman and display it in good condition in a conspicuous place on the work site.
- (vii) The contractor shall maintain a register of fines and the register of deductions for damage or loss in the forms appended to these regulations which should be kept at the place of work.

11. REGISTER OF ACCIDENTS:

The contractor shall maintain a register of accidents in such form as may be convenient at the work place but the same shall include the following particulars:-

- a) Full particulars of the labourers who met with the accident.
- b) Rates of wages.
- c) Sex
- d) Age
- e) Nature of accident and cause of accident
- f) Time and date of accident
- g) Date and time when admitted in hospital
- h) Date of discharge from the hospital
- i) Period of treatment and result of treatment
- j) Percentage of loss of earning capacity and disability as assessed by Medical Officer
- k) Claim required to be paid under workmen's compensation act.
- l) Date of payment of compensation
- m) Amount paid with details of the person to whom the same was paid.
- n) Authority by whom the compensation was assessed.
- o) Remarks.

12. PRESERVATION OF REGISTERS:

The Register of workmen and the Register of wages-cum-muster roll required to be maintained under these regulations shall be preserved for 3 years after the date on which the last entry is made therein.

13. ENFORCEMENT:

The Inspecting Officer shall either on his own motion or on a complaint received by him carry out investigations, and send a report to the Engineer-in-charge specifying the amounts representing workers' dues an amount of penalty to be imposed on the contractor for breach of these regulations, that have to be recovered from the contractor, indicating full details of the recoveries proposed and the reasons therefore. It shall be obligatory on the part of the Engineer-in-charge on receipt of such a report to deduct such amounts from payments due to the contractor.

14. DISPOSAL OF AMOUNTS RECOVERED FROM THE CONTRACTOR:

The Engineer-in-charge shall arrange payment to workers concerned within FORTY FIVE days from receipt from the inspecting officer except in cases where the contractor had made an appeal under regulations, 16 of these regulations. In cases where there is an appeal, payment of workers dues would be arranged by the Engineer-in-charge, wherever such payments arise, within THIRY days from the date of receipt of the decision of the Regional labour commissioner (R.L.C.).

15. WELFARE FUND:

All money that are recovered by the Engineer-in-charge by way of workers due which could not be disbursed to workers within the time-limit prescribed above, due to reasons such as whereabouts of workers not being known, death of a worker, etc., and also amounts recovered as penalty, shall be credited to a fund to be kept under the custody of BHEL for such benefit and welfare of workmen employed by contractors.

16. APPEAL AGAINST DECISION OF INSPECTING OFFICER:

Any person aggrieved by a decision of the Inspecting Officer may appeal against such decision to the Regional Labour commissioner concerned within THIRY days from the date of the decision, forwarding simultaneously a copy of his appeal to the Engineer-in-charge. The decision of the Regional Labour Commissioner shall be final and binding upon the contractor and the workmen.

17. REPRESENTATION OF PARTIES:

- (i) A workmen shall be entitled to be represented in any investigation or enquiry under these regulations by an officer of a registered trade union of which the said union is affiliated or where the workman is not a member of any registered trade union, by an officer of a registered trade union, connected with, or any other workmen employed in, the industry in which the worker is employed.
- (ii) A contractor shall be entitled to be represented in any investigation or enquiry under these regulations by an office of an association of contractor of which he is a member or by an officer of a federation of associations of contractors to which the said association is affiliated or where the contractor is not a member of any association of employers, connected with, or by any other employer engaged in the industry in which the contractor is engaged.
- (iii) No party shall be entitled to be represented by a legal practitioner in any investigation or enquiry under these regulations.

18. INSPECTION OF BOOKS AND OTHER DOCUMENTS:

The Contractor shall allow inspection of the Registers and other documents prescribed under these regulations by inspecting officer and the Engineer-in-charge or his authorized representative at any time and by the worker or his agent on receipt of due notice at a convenient time.

19. INTERPRETATION ETC:

On any question as to the application, interpretation or effect of these regulations, the decision of the chief Labour commissioner or Deputy Labour Commissioner (Central) shall be final and binding.

20. AMENDMENTS:

Central Government may, from time to time, add to or amend the contractor's Labour Regulations and issue such directions as it may consider necessary for the proper implementation of the contractor's labour regulations or for the administration thereof, based on which the BHEL Contractor's Labour Regulations herein contained shall be subject to revision.

BHEL SAFETY CODE

(See Condition 20)

1. Suitable scaffolds shall be provided for workmen for all work that cannot safely be done from the ground, or from solid construction except such short period work as can be done safely from ladders. When a ladder is used an extra mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well, suitable footholds and handholds shall be provided on the ladder shall be given an inclination not steeper than ¼ to 1 (1/4 horizontal and 1 vertical).
2. Scaffolding or staging more than 3.25 meters above the ground or floor, swung or suspended from an overhead support or erected with stationary support, shall have a guard rail properly attached, bolted, braced and otherwise secured at least 1metre high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such openings as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.
3. Working platform, gangways, and stairways shall be so constructed that they do not sag unduly or unequally, and if height of a platform or gangway or stairway is more than 3.25metres above ground level or floor level, it shall be closely boarded, have adequate width and be suitably fenced as described in 2 above.
4. Every opening in floor of a building or in a working platform shall be provided with suitable means to prevent fall of persons or materials by providing suitable fencing or railing with a minimum height of 1 meter.
5. Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9 meters in length. Width between single side rails in a rung ladder shall in no case be less than 30cm. For ladders upto and including 3 meters in length. For longer ladders this width shall be increased by at least 6mm for each additional 30cm of length. Uniform stop spacing shall not exceed 30cm.

Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites shall be so stacked or placed as to cause danger or inconvenience to any person or the public. The contractor shall provide all necessary fencing and lights to protect public from accidents and shall be bound to bear expenses of defense of every suit action or other proceedings at law that may be brought by any person for injury sustained swing to neglect of the above precautions, and pay any damages and costs to any such person or which any with the consent of the contractor be paid to compromise any claim by any such person.

6. EXCAVATION AND TRENCHING:

All trenches, 1.5metres or more in depth, shall at all times be supplied with at least one ladder for each 30m length of fraction thereof. Ladder shall be extended from bottom of trench to at least 1 meter above surface of the ground. Sides of a trench 1.5metres or more in depth shall be stopped back to give suitable slope, or securely held by timer bracing, so as to avoid the danger of sides collapsing. Excavated materials shall not be placed within 1.5metres of the edge of trench or half the depth of trench, whichever is more. Cutting shall be done from top to bottom. Under no circumstances shall undermining or undercutting be done.

7. DEMOLITION:

Before any demolition work is commenced and also during the process of the work:-

- a) All roads and open areas adjacent to the work site shall either be closed or suitably protected.
- b) No electric cable or apparatus which is liable to be a source of danger over a cable or apparatus used by operator shall remain electrically charges.
- c) All practical steps shall be taken to prevent danger to persons employed, from risk or fire or explosion, or flooding. No floor, roof, or other part of a building shall be so overloaded with debris or materials as to render it unsafe.

8. All necessary personal safety equipment as considered adequate by the Engineer-in-charge shall be available for use of persons employed on the site and maintained in a condition suitable for immediate use and the contractor shall take adequate steps to ensure proper use of equipment by those concerned.

a). Workers employed on mixing asphalt materials cement and lime mortars / concrete shall be provided with protective footwear and protective goggles.

b). Those engaged in handling any material which is injurious to the eye shall be provided with protective goggles.

c). Those engaged in welding works shall be provided with welders protective eye-shields.

d). Stone breaker shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.

e). When workers are employed in sewer and man holes which are in use, the contractor shall ensure that manhole covers are opened and manholes are ventilated at least to get into them. Manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to public.

f). The Contractor shall not employ men below the age of 18 and women on the work of painting with products containing lead in any form. Whenever men above the age of 18 are employed on the work of lead pointing, the following precautions shall be taken:-

- (i) No paint containing lead or lead products shall be used except in the form of paste or ready-made paint.
- (ii) Suitable face masks shall be supplied for use by workers when paint is applied in the form of spray or a surface having lead paint is dry rubbed and scrapped.
- (iii) Overalls shall be supplied by the contractor to workmen and adequate facilities shall be provided to enable working painters to wash during and cessation of work.

9. When work is done near any place where there is risk of drawing, all necessary equipment shall be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision made for prompt first aid treatment of all injuries likely to be sustained during the course of the work.

10. Use of hoisting machine and tackles including their attachments, anchorage and supports shall conform to the following:

- (a) (i) These shall be of good mechanical construction, sound materials and adequate strength and free from defects and shall be kept in good repair and in good working order.
(ii) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength, and free from defects.
- (b) Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years shall be in charge of any hoisting machine including any scaffolding which or give signals to operator.
- (c) In case of every hoisting machine and of every chain, ring, hook, shackle, swivel and pulley block used in hoisting or lowering or as means of suspension, safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall have the safe working load plainly marked thereon. In case of a hoisting machine having a variable safe working load, each safe working load and the conditions under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load expect for the purpose of testing.
- (d) In case of departmental machine, safe working load shall be notified by the Engineer-in-charge. As regards contractor's machines the contractor shall notify safe working load of each machine to the Engineer-in-charge whenever he brings it to site of work and get it verified by the Engineer-in-charge.

11. Motors gearing, transmission, electric wiring and other dangerous parts of hoisting appliances shall be provided with efficient safeguards, hoisting appliances shall be provided with such means as will reduce to the minimum risk of accidental descent of load. Adequate precautions shall be taken to reduce to the minimum risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations which are already energized, insulating materials, working apparel such as gloves, sleeves and boots as may be necessary shall be provided. Workers shall not wear any rings, watches carry keys or other materials which are good conductors or electricity.

12. All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in a safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities shall be provided at or near the places of work.

13. These safety provisions shall be brought to the notice of all concerned by display on a notice board at a prominent place at the work spot. Persons responsible for ensuring compliance with the safety code shall be named thereon by the contractor,

14. To ensure effective enforcement of the rules and regulations relating to safety precautions, arrangements made by the contractor shall be open to inspection by the Engineer-in-charge or his representatives and the Inspecting officers as defined in the contractor's labour regulations.

15. Notwithstanding the above conditions 1 to 14 the contractor is not exempted from the operation of any other act or rule in force.



FORM OF EMPLOYMENT CARD (REGULATION 8)

i. Name and sex of the worker

.....

ii. Father's / Husband's Name

.....

iii. Address

.....

iv. Age and Date of birth

.....

v. Identification marks

.....

Particulars of next of kin (Wife / husband and children, if any, or of dependent next of kin in case the worker has no wife / husband or child) :-

Name

.....

Full address of Dependents (Specify village, District and State).....

.....

Sl.no	Name & Address of employer (Specify whether or a sub-contractor)	Particulars of location of worksite and description of work done	Total Period for which the worker is employed (from To)	Actual number of days worked	Leave taken (No. of days should be specified)	Nature of work done by the worker	Wage rate with particulars of unit in case of place work	Total wage earned by the worker during the period shown under col.5	Remarks	Signature of the Employee
1	2	3	4	5	6	7	8	9	10	11

N.B:- For a worker employed at one time on piece-work basis and at another on daily wages, relevant entries in respect of each type of employment should be made separately.

FORM OF REGISTER OF WAGES-CUM-MUSTER ROLL

(REGULATION 9)

1. Name and address of the Contractor

.....

2. No. & Date of the contractor agreement / work order

3. Name & address of the department awarding the contract

.....

4. Nature of the contract and location of the work

.....

5. Duration of the contract

6. Wage period

Sl. No.	Name and surname of the worker	Father's / Husband's name	Sex	Designation nature of work	Daily attendance (No. of units worked 1,2,3.....31)	Total attendance units	Basic	D.A. & Other allowance	Date	No. of hours	Overtime wages earned
1	2	3	4	5	6	7	8	9	10	11	12

Sl. No.	Total wages paid	Fine *	Deduction for damage or loss	House rent	Recovery of advances	Other deductions	Net wages payable	Date of payment	Signature or thumb impression of the worker	Remarks
13	14	15	16	17	18	19	20	21	22	23

- Reasons to be recorded in column 23

NORMS FOR QUALIFICATION

ENQUIRY NO: 9251100072

Dt: 13.05.2011

NAME OF THE WORK: Electrification of various Ancillary and Annexure Buildings at PPPU - Thirumayam.

(VALUE OF WORK ₹: 46.24 Lakhs)

I	ELIGIBILITY:- 1. Separate Registration for Service Tax & PAN. 2. Average annual turnover in the last 3 years shall be at least 30% value of the respective work. (₹.13.87 L) 3. During last seven years should have successfully completed works either, Three similar works not less than 40% value of the respective work.(₹. 18.50 L) <div style="text-align: center;">or</div> Two similar works not less than 50% value of the respective work. (₹.23.12 L) <div style="text-align: center;">or</div> One similar work not less than 80% value of the respective work. (₹.36.99 L) 4. Contractor should have a valid Electrical ES A / ES B grade license from State Electrical Licensing Board. 5. Solvency shall be produced for at least 40% value of the respective work.(₹. 18.50 L)		
	THRUST AREA	SCORE	QUALIFICATION NORMS
	NATURE OF COMPANY		
II	Public Limited	5	
	Private Limited/Partnership firm	3	
	Sole Proprietor	2	
	SIMILAR EXPERIENCE (Electrical installation work)		
III	Total value of Electrical installation work executed in the last three years		
	More than ₹.13.87 L	30	
	(Pro-rata for in between cases) ₹.06.94 L	18	
	PERFORMANCE ON PREVIOUS WORKS		
IV	Successful completion of three major works in time. ₹. 23.12 L	10	
	Successful completion of two major works in time.	8	
	Successful completion of one major work in time.	6	

	HIGHEST VALUE OF SINGLE WORK COMPLETED		
V	More than ₹.36.99 L	10	
	(Pro-rata for in between cases) ₹.18.50 L	6	
	AVERAGE ANNUAL TURNOVER IN LAST 3 YEARS		
VI	More than ₹.23.12 L	10	
	(Pro-rata for in between cases) ₹.11.56 L	6	
	EQUIPMENTS OWNED		
VII	Welding & erection equipments, crane, crimping tools, Megger and other necessary tools	10	
	Welding & crimping and megger without crane	8	
	Welding & crimping and megger equipments only available.	6	
	Crimping & megger only available.	4	
	QUALIFIED STAFF AVAILABILITY		
VIII	If adequate Graduate Engineers, Supervisors & Electricians available.	5	
	If adequate Graduate Engineers & Supervisors available.	4	
	If adequate Graduate Engineers & Electricians only available.	3	
	If adequate Supervisors & Electricians only available.	2	
	FINANCIAL STABILITY (Solvency)		
IX	More than ₹.36.99 L	10	
	(Pro-rata for in between cases) ₹.18.50 L	6	
X	IT RETURN FOR THE PAST 3 YEARS.	10	

NOTE:

1. Minimum score required for qualification is 60 out of 100.
2. The value of work should exclude cost of materials.

11. Is the individual/sole proprietor/any partner/directors of company:
- (a) Dismissed Government Servant Yes No
- (b) Having business banned/suspended by any government in the past Yes No
- (c) Convicted by a court of law Yes No
- (d) Retired Engineer / Official from Engineering Departments of Govt. of India within last two years Yes No
- (e) Director or partner of any other company / firm enlisted with TNEB or any other department Yes No
- (f) Member of Parliament or any State Legislative Assembly If answer to any of the above is 'Yes', furnish details on a separate sheet Yes No
12. Name of person holding power of attorney.
(Copy to be enclosed)
- (a) Nationality Indian Other
- (b) Liabilities
13. Name of Banker with full address
(Note: Banker's report in original preferably in sealed cover, giving the financial capacity to handle works of the required magnitude should be enclosed)
14. Place of business
15. Date of commencement of business
16. Details of Income Tax paid during last three years. (assessment year) 1. 2011-12
2. 2010-11
3. 2009-10
17. State whether Income Tax Clearance Certificate from the appropriate authority in the prescribed form enclosed. Yes No
18. Contractor's capital in the business. (in case of partnership, please mention percentage of shares and amount)
19. Quantum of business done during last three financial years 1. 2010-11
2. 2009-10
3. 2008-09
20. Value of fixed assets of the business in the last three years 1. 2010-11
2. 2009-10
3. 2008-09
21. Guarantee limits (if any) enjoyed by the firm.
22. Over-draft limits (if any) enjoyed by the firm.

CONTRACTOR

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23. State whether Audited report for Profit and Loss Account & Balance Sheet for last three years enclosed. (Assessment years 2011 -12,2010 -11, 2009 -10) Yes No

24. Details of Technically qualified staff :-

Sl. No.	Name and Designation	Qualification	Experience and Specialisation	Remarks if any

25. Whether the details of T & P, Machinery, Equipments and work shop as per **Annexure – I** given. Yes No

26. Whether enlisted with any other Department (a) If yes, give details: Yes No

- (i) Name of Department & address
- (ii) Money limit
- (iii) Enlistment No. & date
- (iv) Valid upto

27. Licence No. and validity of licence obtained from Dy. Chief Inspector of Factories / Assistant Commissioner of Labour

28. Whether the applicant has registered his workmen under Employees' State Insurance Act. If so, code number may be furnished. If applied, attested copy of application for registration acknowledged by ESI Authorities.

29. Whether the applicant has registered his workmen under Employees' Provident Funds and Miscellaneous Provisions Act ?. If so, the code number may be furnished. If applied, attested copy of application for registration with acknowledged by PF Authorities.

30. Indicate Central / Local Sales Tax, Excise Duty code Numbers and PAN. 1. CST
2. LST
3. ED
4. PAN

31. Is any person working with the applicant as a near relative of the Officer / Official of BHEL Yes No

(a) If yes, give details

- (i) Name
- (ii) Staff No.
- (iii) Designation & Department
- (iv) Unit

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32. Details of similar works completed during the last seven years (To be submitted in separate sheet as per **Annexure-II.**)
33. Certificates from clients in original as per proforma given in **Annexure -III** for all eligible works.
34. Certificates:
 - (i) I/We (including all partners) certify that I/We have read the Preamble & Terms and conditions and shall abide by them.
 - (ii) I/We certify that the information given above is true to the best of our knowledge. I/We also understand that if any of the information is found wrong, I/We am/are liable to be debarred.
 - (iii) I/We certify that I/We will not get myself / ourselves registered as contractor(s) in BHEL under more than one name.
 - (iv) (a) I certify that I did not retire as an Engineer of Gazetted rank or as any Gazetted Officer employed on Engineering or Administrative duties in any Engineering Department of the Government of India during the last two years. I also certify that I have neither such a person under my employment nor shall I employ any such person within two years of his retirement except with the prior permission of the Government. (For Individuals seeking enlistment in their own name).
 - (b) We certify that none of the partners/directors retire as an Engineer of Gazetted rank or as any Gazetted Officer employed on Engineering or Administrative duties in last two years. We also certify that we have neither under our employment any such person nor shall we employ any person within two years of his retirement except with the prior permission of the Government. (For partnership firms and limited companies).

Signature(s) of the applicant(s) Name	Signature	Address (Seal in case of Firm)
1.
2.
3.
4.
5.

Date:

- NOTE:** 1) All the relevant certificates, details etc. should be attached with the application.
 2) The terms that are not applicable may be scored out.

Details of documents attached:-

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

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Annexure-I

**DETAILS OF TOOLS, TESTING / MEASURING INSTRUMENTS
AND EQUIPMENTS OWNED**

Sl.No	Name of Equipments	Capacity or Type	Remarks

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ANNEXURE - II

DETAILS OF SIMILAR WORKS COMPLETED DURING THE LAST SEVEN YEARS (2004-2005 TO 2010-2011)							
Sl. NO	Name of work & Agreement No	Date of commen cement	Date of completion		Reasons for delay & compensation levied, If any	Work Order Value	Name, designation & Complete address of the authority for whom the work was done
			Stipulated	Actual			

DETAILS OF WORK COMPLETION CERTIFICATED,WORK ORDER ETC.ARE TO BE FURNISHED

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ANNEXURE - III
CLIENT'S CERTIFICATE REGARDING PERFORMANCE OF
CONTRACTORS

Name & Address of the Client

.....
.....

Details of works executed by Shri / M/s

1. Name of work with brief particulars :
2. Agreement No. and date :
3. Date of commencement :
4. Stipulated date of completion :
5. Actual date of completion :
6. Details of compensation levied for delay, if any:
7. Tendered amount :
8. Gross amount of the work completed :
9. Name and address of the authority under whom work executed :
10. Whether the contractor employed qualified Engineer/Overseer during execution of work? :
11. (i) Quality of work (indicate grading) :
Outstanding/V.Good/Good/Poor :
(ii) Amount of work paid on reduced rate basis, if any :
12. (i) Did the contractor go for arbitration ? :
(ii) If yes, amount of claim :
(iii) Amount received :
13. Comments on the capabilities of the contractor
(a) Technical Proficiency : Outstanding/V.Good/Good/Poor
(b) Financial Soundness : Outstanding/V.Good/Good/Poor
(c) Mobilisation of adequate T & P : Outstanding/V.Good/Good/Poor
(d) Mobilisation of manpower : Outstanding/V.Good/Good/Poor
(e) General behaviour : Outstanding/V.Good/Good/Poor

NOTE: All columns should be filled in properly.

Signature of the Certifying Officer
with Official seal.

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ELECTRIFICATION OF VARIOUS ANCILLARY AND ANNEXURE BUILDINGS AT PPPU - THIRUMAYAM

ENQUIRY No: 9251100072

Enq.Date: 13.05.2011

Due Date: 13.06.2011

ITEM No.	ITEM TEXT	UOM	QTY	RATE	VALUE
10	<p>Erection and commissioning of floor mounting type Indoors cubicle switch board on the floor,with required masonry works consisting of the following switch fuse units specification. Incomer = 400 A medium voltage TPN Switch Fuse Unit - 1 No Bus bar = 400 A TPN (3phase 4 wire)Aluminium bus bars Outgoing :</p> <p>a) 63 A TPN Switch Fuse Unit -5 Nos b) 100 A TPN Switch Fuse Unit -5 Nos. c) 200A TPN Switch Fuse Unit -2 Nos.</p> <p>Note : 1) Indoor type Floor mounting cubicle switch board only will be issued by BHEL at site.All other materials are under contractor's scope. 2)The PCC's to be fixed in various ancillary & annex buildings at Thirumyan PPPU site.Location wise break up is shown in Annexure 1.</p>	NO	7		
20	<p>Assembly,fixing and testing of surface mounting 7 segment 8 Way, 16 A MCB DB (IP 42 protection type), duly wired with copper conductors/ busbars, supply and fixing of adaptor boxes at top & bottom of DB and fixing on the wall/ column with supply of suitable MS angle iron frame work and commissioning the DB including earthing.</p> <p>Note: 1) 8 Way, 16 Amps MCB DB only will be issued by BHEL at site.All other materials including L angle iron frame work,adaptor boxs and necessary fasteners are under contractor's scope. 2)The MCB DB's to be fixed in various ancillary & annex buildings at Thirumyan PPPU site.Location wise break up is shown in Annexure 1.</p>	NO	12		

ITEM No.	ITEM TEXT	UOM	QTY	RATE	VALUE
30	<p>Assembly, fixing and testing of surface mounting 4 segment, 8 Way, 32 A MCB DB (IP 42 protection type), duly wired with copper conductors/ busbars, supply and fixing of adaptor boxes at top & bottom of DB and fixing on the wall/ column with supply of suitable MS angle iron frame work and commissioning the DB including earthing.</p> <p>Note: 1) 8 Way, 32 Amps MCB DB only will be issued by BHEL at site. All other materials including L angle iron frame work, adaptor boxes and necessary fasteners are under contractor's scope. 2) The MCB DB's to be fixed in various ancillary & annex buildings at Thirumyan PPPU site. Location wise break up is shown in Annexure 1.</p>	NO	13		
40	<p>Assembly, fixing and testing of 12 Way Single row, Flush mounting type MCB DB with Double Door concealed on the wall. Incomer: 32A, DP MCB, 10KA - 1 no Outgoing: 16A, SP MCB - 10kA - 10 nos.</p> <p>Note:- 1) Supply of top & bottom cable adaptor box, suitable MS angle iron frame work (35x35x3 mm), earthing etc. and necessary fasteners are under contractor scope 2) 12 Way SPN MCB Double Door DB, with metal double door only will be supplied by BHEL at site. 3) The MCB DB's to be fixed in various ancillary & annex buildings at Thirumyan PPPU site. Location wise break up is shown in Annexure 1.</p>	NO	83		
50	<p>Assembling and Fixing of 2 x 28 W decorative fluorescent light fitting with lamps on the ceiling/concrete beam using wooden round block with 1/4 inch dia, 4 inch long G.I bolt.</p> <p>Note: 1) Only 2 x 28 W decorative luminaire with lamps will be provided by BHEL at site. All other materials are under contractor's scope. 2) The 2 x 28 W TL fittings to be fixed in various ancillary & annex buildings at Thirumyan PPPU site. Location wise break up is shown in Annexure 1.</p>	NO	628		

ITEM No.	ITEM TEXT	UOM	QTY	RATE	VALUE
60	<p>Assembling and Fixing of 1 x 28 W decorative fluorescent light fitting with lamps on the ceiling/concrete beam using wooden round block with 1/4 inch dia, 4 inch long G.I bolt.</p> <p>Note: 1) Only 1 x 28 W decorative luminaire with lamps will be provided by BHEL at site. All other materials are under contractor's scope. 2)The 1 x 28 W TL fittings to be fixed in various ancillary & annex buildings at Thirumyan PPPU site.Location wise break up is shown in Annexure 1.</p>	NO	260		
70	<p>Supply ,assembling,fixing and testing of 4x14w decorative type T5 flourecent light fitting with four nos.of lamps (4x14 watt square type)on the ceiling with necessary wooden polished round block, ball and socket arrangement and M.S down rods of length 0.8mtr to 1.5mtr. (14mm IDx 19mm ODx2.5mm thickness with both end of suitable thread with chuck nut) and make necessary termination to power supply with earthing.The wooden round block should be grouted with 2 nos of 4inch longx1/4inch dia G.I. bolt on the roof.</p> <p>Note: 1) All materials are under contractor's scope. 2)The 4 x 14 W TL fittings to be fixed in various ancillary & annex buildings at Thirumyan PPPU site.Location wise break up is shown in Annexure 1.</p>	NO	22		
	<p>Specification of Luminaire: Recessed mounting(false celing)decorative mirror optic luminaire,for housing made of epoxy polyester powder coated CRCA sheet with perforated in-fill panel,high gloss matt optic for all round glare and beam control, suitable for 4x14 watts flourscent tube TL'5 lamp, with 2Nos High frequency, high efficiency electronic ballast, with 4Nos of 14watt/ 230V TL'5 cool day Fluorscent lamp. Two lamps are to be controlled by one ballast and the ballast should be enclosed in a metal cover, less than 10% THD level,instant start with pre wiring unit,suitable for 230Volt AC 50HZ AC supply.</p> <p>Philips make,model:TBS 669/4x14/D6 HF and 4x14W TL'5 lamps. Equivalent model from following other makes are only acceptable: Bajaj,GE,Hevells,Crompton.</p>				

ITEM No.	ITEM TEXT	UOM	QTY	RATE	VALUE
80	<p>Supply ,assembling, fixing and testing of decorative type 2x18 watt down light fitting with lamps and should be rested on false ceiling by supply and grouting of hooks and suspending the fittings using 1 mtr to 1.5 mtr length of 4mm G.I chain from ceiling hook to fitting and make necessary termination to power supply with earthing.</p> <p>Note: 1) All materials are under contractor's scope. 2)The 2 x 18 W TL fittings to be fixed in various ancillary & annex buildings at Thirumyan PPPU site.Location wise break up is shown in Annexure 1.</p>	NO	6		
	<p>Specification of Luminaire: Recessed, decorative, low glare luminaries with high- glass optical reflector with 2.5 mm thick CRCA sheet stel powder coated cover with 2x18w high frequency, high efficiency, 10% less than THD level electronic ballast for lamp control suitable for AC, 230volt,50HZ operation,with 2 Nos of 18 W/230V TL'5 cool day Fluorscent lamp. Philips make,model:FBS 300/218 P5 and 2x18 W TL'5 lamps. Equivalent model from following other makes are only acceptable: Bajaj,GE,Hevells,Crompton.</p>				
90	<p>Assembly and fixing of 1200 mm sweep ceiling fan on the ceiling with suitable fasteners.</p> <p>Note: - 1) The ceiling fans with required length down rods only will be issued by BHEL at site. 2) All other required materials are under contractor's scope. 3)The 1200 mm sweep ceiling fans to be fixed in various ancillary & annex buildings at Thirumyan PPPU site.Location wise break up is shown in Annexure 1.</p>	NO	480		
100	<p>Supply and fixing of heavy duty 'U' type clamp with two fastener bolts on the roof for ceiling fans with proper fixing arrangements.</p> <p>Note: - All required materials are under contractor's scope.</p>	NO	480		

ITEM No.	ITEM TEXT	UOM	QTY	RATE	VALUE
110	<p>Assembly and fixing of 380mm sweep Heavy-duty exhaust fan with suitable fixing clamp on the wall of the toilet.</p> <p>Note: 1)The exhaust fan only will be issued by BHEL at site. All the materials required including foundation bolts and nuts, fixing clamp etc. for carrying out the work will be in the scope of the contractor. 2)The 380mm sweep Heavy-duty exhaust fans to be fixed in various ancillary & annex buildings at Thirumyan PPPU site.Location wise break up is shown in Annexure 1.</p>	NO	53		
120	<p>Assembling and fixing of 150W, HPSV street light fitting with lamp on the wall / column with supply of 40mm dia, 1500mm long GI pipe, suitable MS clamps and fasteners etc.(To be fixed at different locations).</p> <p>Note: 1)150W HPSV Luminaire with lamp only will be supplied by BHEL at site.All other materials including GI pipe, MS clamps and fasteners etc, are under contractor's scope. 2)The 150W, HPSV street light fittings to be fixed in various ancillary & annex buildings at Thirumyan PPPU site.Location wise break up is shown in Annexure 1.</p>	NO	46		
130	<p>Assembly and Fixing of 250W, metal Halide Low bay Industrial light fitting with Metal Halidelamp on the ceiling with supply of necessary 'C' clamp and safety chain. Safety chain shall be GI of 5 mm dia. and required length with 'D' Shackle at one end for connecting to the fitting hook and other end to be connected to the ceiling rod hook.</p> <p>Note: 1)Only 250 w Metal Halide Low bay Industrial light fitting with lamp will be supplied by BHEL at site.All other items are under contractor's scope. 2)The 250W, MH Industrial light fittings to be fixed in various ancillary & annex buildings at Thirumyan PPPU site.Location wise break up is shown in Annexure 1.</p>	NO	13		
140	<p>Supply of 3 pin, 5 A/ 15 A modular type socket,controlled by 15 A modular type SPT switch housed in suitable size modular flush mounted metal box with cover plate,duly wired , assembling, inter connecting and concealing on the wall and connecting to the general power supply.</p> <p>Note: 1) All materials are under contractor's scope. 2)The 3 pin, 5 A/ 15 A modular type sockets to be fixed in various ancillary & annex buildings at Thirumyan PPPU site.Location wise break up is shown in Annexure 1. Acceptable Makes: - Legrand/Siemens/ RR Connect/Goldmedal.</p>	SET	278		

ITEM No.	ITEM TEXT	UOM	QTY	RATE	VALUE
150	<p>Supply of 2/3 pin combined, 5 A modular type socket,controlled by 5 A modular type SPT switch housed in suitable size modular flush mounted metal box with cover plate,duly wired, assembling, inter connecting and concealing on the wall and connecting to the general power supply.</p> <p>Note: 1) All materials are under contractor's scope. 2)The 2/3 pin combined, 5 A modular type sockets to be fixed in various ancillary & annex buildings at Thirumyan PPPU site.Location wise breakup is shown in Annexure 1.</p> <p>Acceptable Makes: -Legrand/Siemens/ RR Connect/Goldmedal.</p>	SET	200		
160	<p>Fixing and commissioning of 20A/32A single phase Industrial type plug and socket along with 20A/32A Single pole MCB as incomer with suitable size metal box for Air conditioners and concealing it on the wall.</p> <p>Note: 1) Only 20A/32A single phase Industrial type plug and socket along with 20A/32A Single pole MCB and metal box only will be supplied by BHEL at site.All other materials are under contractor's scope. 2)The 20A/32A single phase Industrial type plug and socket with MCB to be fixed in various ancillary & annex buildings at Thirumyan PPPU site.Location wise break up is shown in Annexure 1.</p>	SET	59		
170	<p>Supply and wiring with 1.5 sqmm unsheathed stranded single core PVC flexible copper conductor cable in 19mm dia. PVC rigid conduit pipe for 2 X 28W/ 1 X 28W/4 X 14W/2 X 18W tube light fittings with continuous running of 16 SWG copper wire as earthing the tube light fittings. Single fitting to be controlled by a 5A 230V flush type modular switch fixed on suitable flush mounting metal box and cover plate, with internal connections and the same is to be concealed on the wall.</p> <p>(SINGLE fitting should be taken as one point.)</p> <p>All materials such as Flush type modular switches,flush mounting metal boxes, cover plates, PVC conduit pipes,T & bends, 1.5 sqmm single core PVC insulated stranded unsheathed wires, 16 swg copper wire and suitable fixing clamps are to be supplied by the contractor.</p>	P	916		

ITEM No.	ITEM TEXT	UOM	QTY	RATE	VALUE
	<p>Note: 1) Flush type, single pole switch, rated for 5 amps, suitable for 230 volt, with brass screws should be used. 2) Flush type Modular switch Acceptable Makes : Legrand/Siemens/ RR Connect/Goldmedal. 3) The cable should be of single core PVC insulated 1.5 sq.mm unsheathed stranded flexible copper cable. Acceptable Makes : L&T/RR kabel/ Havells/Finolux/Delton. 4) The PVC CONDUIT pipe should be medium duty 1.5mm thick, 19mm dia. Acceptable Makes : Avon Plast/ Finolux /Kundan. 5) The dimensional size of the buildings are shown in the drawings attached. 6)Supply should be taken from the nearest MCB DB shown in the drawing attached.</p>				
180	<p>Supply and wiring with 1.5 sqmm unsheathed stranded single core PVC flexible copper conductor cable in 19mm dia. PVC rigid conduit pipe for Ceiling fan with continuous running of 16 SWG copper wire as earthing the ceiling fan. Each ceiling fan to be controlled by 5A 230V flush type modular switch & electronic regulator, fixed on suitable flush mounting metal box and cover plate,with internal connections and the same is to be concealed on the wall. (SINGLE fan should be taken as one point.) All materials such as Flush type modular switches,electronic regulators, flush mounting metal boxes, cover plates, PVC conduit pipes,T & bends, 1.5 sqmm single core PVC insulated stranded unsheathed wires, 16 swg copper wire and suitable fixing clamps are to be supplied by the contractor.</p>	P	480		

ITEM No.	ITEM TEXT	UOM	QTY	RATE	VALUE
	<p>Note:</p> <p>1) Flush type, single pole switch, rated for 5 amps, suitable for 230 volt, with brass screws should be used.</p> <p>2) Flush type Modular switch : Acceptable Makes : Legrand/Siemens/ RR Connect/Goldmedal.</p> <p>3) The cable should be of single core PVC insulated 1.5 sq.mm unsheathed stranded flexible copper cable. Acceptable Makes : L&T/RR kabel/ Havells/Finolux/Delton.</p> <p>4) The PVC CONDUIT pipe should be medium duty 1.5mm thick, 19mm dia. Acceptable Makes : Avon Plast/ Finolux / Kundan.</p> <p>5)Electronic Regulator : Acceptable Makes : Legrand/ Lisha /Anchor/ Ellelus.</p> <p>6) The dimensional size of the buildings are shown in the drawings attached.</p> <p>7)Supply should be taken from the nearest MCB DB shown in the drawing attached</p>				
190	<p>Supply and wiring with 2.5 sq.mm unsheathed stranded single core PVC flexible copper conductor cable in 19mm dia. PVC rigid conduit pipe for Exhaust fans with continuous running of 16 SWG copper wire as earthing .Each exhaust fan to be controlled by 5A 230V flush type modular switch, fixed on suitable flush mounting metal box and cover plate,with internal connections and the same is to be concealed on the wall.</p> <p>(SINGLE fitting / fan should be taken as one point.)</p> <p>All materials such as Flush type modular switches, flush mounting metal boxes, cover plates, PVC conduit pipes,T & bends, 2.5 sqmm single core PVC insulated stranded unsheathed wires, 16 swg copper wire and suitable fixing clamps are to be supplied by the contractor.</p>	P	53		

ITEM No.	ITEM TEXT	UOM	QTY	RATE	VALUE
	<p>Note: 1) Flush type, single pole switch, rated for 5 amps, suitable for 230 volt, with brass screws should be used. 2) Flush type Modular switch : Acceptable Makes : Legrand/Siemens/RR Connect/Goldmedal. 3) The cable should be of single core PVC insulated 2.5 sq.mm unsheathed stranded flexible copper cable. Acceptable Makes : L&T/RR kabel/ Havells/Finolux/Delton. 4) The PVC CONDUIT pipe should be medium duty 1.5mm thick, 19mm dia. Acceptable Makes : Avon Plast/ Finolux /Kundan. 5) The dimensional size of the buildings are shown in the drawings attached. 6)Supply should be taken from the nearest MCB DB as shown in the drawing attached</p>				
200	<p>Supply and wiring with 2 runs of 2.5 sq.mm. Unsheathed stranded single core PVC flexible copper conductor in 19 mm dia. PVC conduit pipes with continuous running of 16 SWG 'Copper wire for 5 A switched sockets,150 W HPSV street light fittings and UPS wiring.</p> <p>One Metre wiring consists of 2 mtrs 2.5 sq.mm wire,1 mtr. 20mm dia. pvc pipe,1 mtr of 16 swg bare copper wire and necessary L ,T , bends,clamps,screws etc</p> <p>All materials including PVC conduit pipes,T & bends, 2.5 sqmm single core PVC insulated stranded unsheathed wires, 16 swg copper wire and fasteners are to be supplied by the contractor.</p>	M	2200		
	<p>Note: 1) The cable should be of single core PVC insulated 2.5 sq.mm unsheathed stranded flexible copper cable. AcceptableMakes: L&T/RR kabel/ Havells/Finolux/Delton. 2) The PVC CONDUIT pipe should be medium duty 1.5mm thick, 19mm dia. Acceptable Makes: Avon Plast/ Finolux / Kundan. .</p>				

ITEM No.	ITEM TEXT	UOM	QTY	RATE	VALUE
210	<p>Supply and wiring with 2 runs of 4 sq.mm. Unsheathed stranded single core PVC flexible copper conductor in 20mm dia. PVC conduit pipes with continuous running of 16 SWG 'Copper wire for the 5/15 A switched sockets,250 W Metal Halide Low bay Industrial light fitting and Switch board incoming.</p> <p>One Metre wiring consists of 2 mtrs 4 sq.mm wire,1 mtr. 20mm dia. pvc pipe, 1 mtr of 16 swg bare copper wire and necessary L ,T , bends,clamps,screws etc</p> <p>All materials including PVC conduit pipes,T & bends, 4 sqmm single core PVC insulated stranded unsheathed wires, 16 swg copper wire and fasteners are to be supplied by the contractor.</p>	M	5000		
	<p>Note: 1) The cable should be of single core PVC insulated 4 sq.mm unsheathed stranded flexible copper cable. Acceptable makes: L&T/RR kabel/ Havells/Finolux/Delton. 2) The PVC CONDUIT pipe should be medium duty 1.5mm thick, 19mm dia. Acceptable makes: Avon Plast/ Finolux /Kundan.</p>				
220	<p>Supply and wiring with 2 runs of 6 sq.mm unsheathed stranded single core PVC flexible copper conductor cable in 20 mm dia. PVC conduit pipes for AC plug and sockets and SPN DB's incoming with continuous running of 16 SWG bare copper wire for earthing and connecting with it.</p> <p>One metre wiring consists of 2 mtrs of 6 sq.mm wire,1 mtr. PVC pipe,1 mtr of 16 swg bare copper wire and necessary tees, elbows,bends,clamps, screws etc.</p> <p>All materials including PVC conduit pipes,T & bends, 6 sqmm single core PVC insulated stranded unsheathed wires, 16 swg copper wire and fasteners are to be supplied by the contractor.</p>	M	900		
	<p>Note: 1) The cable should be of single core PVC insulated 6 sq.mm unsheathed stranded flexible copper cable. Acceptable makes: L&T/RR kabel/ Havells/Finolux/Delton. 2) The PVC CONDUIT pipe should be medium duty 1.5mm thick, 19mm dia. Acceptable makes: Avon Plast/ Finolux /Kundan.</p>				

ITEM No.	ITEM TEXT	UOM	QTY	RATE	VALUE
230	<p>Supply,assembling,fixing and commissioning of 8 Way, triple pole output concealed mounting type MCB DB with door and adaptor boxes at incoming and out going sides,angle iron frame works (angle size:35mmx35mmx3mm) and required fasteners and fixing/ concealing the same with angle iron frame works on the wall.</p> <p>Material Testing Lab - 1 No.</p> <p>The MCB DB should contain the MCB's as follows:</p> <p>Incoming: 125 A TPN MCB.</p> <p>Outgoing: 32 A, triple pole MCB- 8 Nos</p> <p>Adapter boxes: Both incoming and outgoing sides.</p> <p>Acceptable Makes: Legrand/ Siemens/ Schneider/Havells/ABB.</p> <p>Note:All the materials are under contractor's scope.</p>	NO	1		
240	<p>Supply and fixing of 32A Triple pole MCB in suitable metal box and the assembly to be fixed on the wall/work bench with suitable fasteners and connecting it to the supply.</p> <p>Material Testing Lab - 6 Nos.</p> <p>Acceptable Makes: Legrand/ Siemens/ Schneider/Havells/ABB.</p> <p>Note:</p> <p>All the materials are under contractor's scope.</p>	NO	6		
250	<p>Fixing of 3 Phase 415 volts TP/ TPN 100 amps isolator/switch fuse with necessary angle iron frame work on the wall /column. Necessary cable adopter boxes for both incoming & outgoing, support channels with required fasteners are to be supplied by the contractor.</p> <p>Note:-</p> <ol style="list-style-type: none"> 1) Only 100 amps isolator/switch fuse will be supplied by BHEL at site. 2) All the other materials required including adopter boxes, support channels fasteners etc., for carrying out the work will be in the scope of the contractor. 3)The 100 A TPN isolator/switch fuse to be fixed in various ancillary & annex buildings at Thirumyan PPPU site.Location wise break up is shown in Annexure 1. 	NO	1		

ITEM No.	ITEM TEXT	UOM	QTY	RATE	VALUE
260	<p>Fixing of 3 Phase 415 volts TP/ TPN 63 amps isolator/switch fuse with necessary angle iron frame work on the wall / column. Necessary support channels with required fasteners are to be supplied by the contractor.</p> <p>Note:-</p> <p>1) Only 63 amps isolator/switch fuse will be supplied by BHEL at site.</p> <p>2) All the other materials required including support channels fasteners etc.,for carrying out the work will be in the scope of the contractor.</p> <p>3)The 63 A TPN isolator/switch fuse to be fixed in various ancillary & annex buildings at Thirumyan PPPU site.Location wise break up is shown in Annexure 1.</p>	NO	19		
270	<p>Fixing of 3 Phase 415 volts TP/ TPN 32 amps isolator/switch fuse with necessary angle iron frame work on the wall / column. Necessary support channels with required fasteners are to be supplied by the contractor.</p> <p>Note:-</p> <p>1) Only 32 amps isolator/switch fuse will be supplied by BHEL at site.</p> <p>2) All the other materials required including support channels fasteners etc.,for carrying out the work will be in the scope of the contractor.</p> <p>3)The 32 A TPN isolator/switch fuse to be fixed in various ancillary & annex buildings at Thirumyan PPPU site.Location wise break up is shown in Annexure 1.</p>	NO	7		
280	<p>Fixing of 2KVA UPS on the wall / column with suitable iron frame. Necessary support channels / iron frame works with required fasteners are to be supplied by the contractor.</p> <p>NOTE:-</p> <p>1)The Battery and the UPS unit only will be supplied by BHEL at site.</p> <p>2) All the other materials required for carrying out the Work will be in the scope of the contractor.</p> <p>3)The 2KVA UPS units are to be fixed in various ancillary & annex buildings at Thirumyan PPPU site.Location wise break up is shown in Annexure 1.</p>	NO	4		

ITEM No.	ITEM TEXT	UOM	QTY	RATE	VALUE
290	Laying and fixing of 50x6mm G.I.flat for earthing of MP board,PCC etc., in the already opened / excavated trench or on the wall / switch board. Note: - 1) G.I flat will be supplied by BHEL at site. 2) Welding machines, welding cables,Welding electrodes and welding torches are to be brought by the contractor. 3) All the other materials required for carrying out the work will be in the scope of the contractor.	M	1000		
300	Laying and fixing of 25x3mm G.I.flat for earthing of DB, DL boards,TPN switchfuse/ isolators etc., in already opened / excavated trench or on the wall /column /floor/ switch board. Note: - 1) G.I flat only will be supplied by BHEL at site. 2) Welding machines,welding cables,Welding electrodes and welding torches are to be brought by the contractor. 3) All the other materials required for carrying out the work will be in the scope of the contractor.	M	1000		
310	Laying and fixing of 7/20 GI wire for earthing of switch fuse / isolators/ plug points in the already opened or excavated trench or on the wall / switch board. Note: - 1) 7/20 G.I.wires will be supplied by BHEL at site. 2) All the other materials required for carrying out the work will be in the scope of the contractor.	M	2000		
320	Laying and fixing of 16 / 14 SWG copper wire for earthing of switch fuse / isolators/ plug points in the already opened or excavated trench or on the wall / switch board. Note: - 1)16 / 14 swg copper wire only will be supplied by BHEL at site. 2)All the other materials required for carrying out the work will be in the scope of the contractor.	M	2000		

ITEM No.	ITEM TEXT	UOM	QTY	RATE	VALUE
330	Laying of single run of 3.5 core 185sqmm XLPE /PVC AA cable along with 2 runs of no.14 SWG bare copper wire as earth in cable trench /wall /column with proper metal clamping arrangements. Note: 3.5C X 185 sq mm PVC AA cable and no.14 SWG earth wire only will be supplied by BHEL at site.All other materials are under contractor's scope.	M	3300		
340	Laying of single run of 3.5 core 50sqmm XLPE /PVC AA cable along with 2 runs of no.16 SWG bare copper wire as earth in cable trench / wall/column with proper metal clamping arrangements. Note: 3.5C X 50 sq mm PVC AA cable and no.16 SWG earth wire only will be supplied by BHEL at site.All other materials are under contractor's scope.	M	2230		
350	Laying of single run of 3.5 core 25sqmm XLPE /PVC AA cable along with 2 runs of no.16 SWG bare copper wire as earth in cable trench / wall /column with proper metal clamping arrangements. Note: 3.5C X 25 sq mm PVC AA cable and no.16 SWG earth wire only will be supplied by BHEL at site.All other materials are under contractor's scope.	M	1000		
360	Laying of single run of 4 core 10sqmm XLPE /PVC AA cable along with 2 runs of no.16 SWG bare copper wire as earth in cable trench / wall/column with proper metal clamping arrangements. Note: 4C X 10 sq mm PVC AA cable and no.16 SWG earth wire only will be supplied by BHEL at site.All other materials are under contractor's scope.	M	3250		
370	Supply and making end termination of Medium voltage 3.5 core 185 sq.mm XLPE /PVC AA cable with suitable brass cable glands, copper lugs, gland earthing, cable clamping etc. Note: - 1) All required materials including brass cable glands, copper lugs, gland earthing, cable clamping and PVC insulation tape etc. are contractor's scope. 2) Crimping tools and other materials required for carrying out the work will be in the scope of the contractor.	NO	100		

ITEM No.	ITEM TEXT	UOM	QTY	RATE	VALUE
380	<p>Supply and making end termination of Medium voltage 3.5 core 50 sq.mm XLPE /PVC AA cable with suitable brass cable glands, copper lugs, gland earthing, cable clamping etc.</p> <p>Note: -</p> <p>1) All required materials including brass cable glands, copper lugs,gland earthing, cable clamping and PVC insulation tape etc. are contractor's scope.</p> <p>2) Crimping tools and other materials required for carrying out the work will be in the scope of the contractor.</p>	NO	200		
390	<p>Supply and making end termination of Medium voltage 3.5 core 25 sq.mm XLPE /PVC AA cable with suitable brass cable glands, copper lugs, gland earthing, cable clamping etc.</p> <p>Note: -</p> <p>1) All required materials including brass cable glands, copper lugs, gland earthing, cable clamping and PVC insulation tape etc. are contractor's scope.</p> <p>2) Crimping tools and other materials required for carrying out the work will be in the scope of the contractor.</p>	NO	100		
400	<p>Supply and making end termination of Medium voltage 4 core 10 sq.mm XLPE /PVC AA cable with suitable brass cable glands, copper lugs, gland earthing, cable clamping etc.</p> <p>Note: -</p> <p>1) Supply of all materials including brass cable glands, copper lugs, gland earthing, cable clamping and PVC insulation tape etc. are contractor's scope.</p> <p>2) Crimping tools and other materials required for carrying out the work will be in the scope of the contractor.</p>	NO	150		
410	<p>Making straight through joints for 1.1 KV, 3.5 core 185sq.mm XLPE /PVC AA cable with Suitable Heat shrinkable straight through joint kits, accessories & necessary earthing.</p> <p>Note:</p> <p>Suitable Heat shrinkable straight through joint kits and accessories only will be supplied by BHEL at site.All other materials are under contractor's scope.</p>	NO	30		

ITEM No.	ITEM TEXT	UOM	QTY	RATE	VALUE
420	Making straight through joints for 1.1 KV, 3.5 core 50sq.mmXLPE /PVC AA cable with Suitable Heat shrinkable straight through joint kits, accessories & necessary earthing. Note: Suitable Heat shrinkable straight through joint kits and accessories only will be supplied by BHEL at site.All other materials are under contractor's scope.	NO	30		
430	Making straight through joints for 1.1 KV, 3.5 core 25sq.mm XLPE /PVC AA cable with Suitable Heat shrinkable straight through joint kits, accessories & necessary earthing. Note: Suitable Heat shrinkable straight through joint kits and accessories only will be supplied by BHEL at site.All other materials are under contractor's scope.	NO	30		
440	Excavation of earth in the below mentioned grades of soil to form a trench up to a max. depth of 800 mm and refilling the trench with already excavated earth material, to facilitate laying or removal of cables. IN ORDINARY SOIL.	M3	750		
450	Excavation of earth in the below mentioned grades of soil to form a trench up to a max. depth of 800 mm and refilling the trench with already excavated earth material, to facilitate laying or removal of cables. IN ROCKY SOIL.	M3	200		
460	Excavation of earth in the below mentioned grades of soil to form a trench up to a max. depth of 800 mm and refilling the trench with already excavated earth material, to facilitate laying or removal of cables. IN FORMED ROAD.	M3	150		
470	Supply, transporting and spreading of std. Construction bricks over the cable for protection purpose inside and out side the factory. NOTE;- SET DENOTES QUANTITY CONSISTING OF 100 BRICKS	SET	225		
480	Supply and spreading of river sand over the cables laid in trenches inside and outside factory.	M3	200		

ITEM No.	ITEM TEXT	UOM	QTY	RATE	VALUE
490	<p>Manufacturing, Supply, Erection and commissioning of Medium voltage, floor mounting type industrial switch board (MP Board) comprising of fuse switches, busbar chamber conforming to the following specification. The switch board should be erected at the Compressed air plant, Thirumayam PPPU site with necessary support angle, channel, earthing etc.</p> <p>Medium Voltage Industrial type switch Board of the following configuration: Incomer: 630A TPN switch fuse unit with HRC fuses, sheet steel enclosure, 1no. Bus bar Rating: 630 amps, 3 phases, 4 wires, 50HZ aluminium busbars.</p> <p>Outgoing Fuse switch units with fuses 1.200A TPN switch fuse units cast iron enclosure with HRC fuses: 3 nos. 2.100A TPN switch fuse units cast iron enclosure with HRC fuse: 5 nos. 3.63A TPN switch fuse unit cast iron enclosure with HRC fuse: 5 nos.</p> <p>ALL TPN SWITCHES MUST BE MOUNTED ALONG WITH RATED HRC FUSES.</p>	NO	1		
	<p>NOTE: The Medium Voltage industrial type switch board should be supplied with suitable adopter boxes for the incomer and for all the outgoing. The switch board shall be provided with double run 50x6 GI earth flat across MP board with earthing of all switches .The switch board should be painted with 2 coats of red oxide and one coat of Siemens gray color finish paint. The bus bar chamber should be of dust proof and cover shall be provided with Neoprene rubber gas kets. High tensile bolts and spring washers should be provided for all joints. Inter connections with switches and the bus bars shall be of insulated copper conductors of adequate capacity. Required iron angle supports to be made for rigid fixing on the floor.</p> <p>(Switch fuse units make should be ALSTOM /SIEMENS /L&T/GE)</p>				

ITEM No.	ITEM TEXT	UOM	QTY	RATE	VALUE
	<p><u>GENERAL INSTRUCTIONS:</u></p> <p>1) All the wiring should be done as open conduit wiring.</p> <p>2) The modular switch boards and sockets should be concealed in the wall by making necessary pockets in the wall. After concealing, the wall surface around switch boards and sockets should be made neat by necessary masonry work painting.</p> <p>3)Point wiring in schedule nos.170,180 &190 includes only wiring from switch board to tubelights,fans etc . Incoming Supply to switch boards is given in running metres and scheduled seperately and available in schedule no 210.</p> <p>4)For point wiring maximum 800 w only allowed per circuit.</p> <p>5) Lettering identification on the front of MCB DB's ,PCC's and Isolators with paint should be done by the contractor.</p> <p>6)The locations of the tubelights, fans and other electrical installation materials shown in the drawing are liable for change according to the prevailing site conditions at the time of the execution.</p> <p>7)Cable tags should be provided for all power and control cables.</p> <p>8) Electric Power for welding and other erection purpose will be given by BHEL.</p> <p>9) Welding m/c,gas cutting set and regulator should be brought by the contractor.</p> <p>10) Any clarification & modification of the work should be directly discussed with the Electrical In charge.</p> <p>11) Minor paint touching shall be done in the panel the damages caused during transport at contractor's scope.</p> <p>12)The contractor should get proper clearance from the security personnel while taking their supply materials inside and outside the site.They should maintain an invoice register,which is liable for inspection by the Electrical Incharge.</p>				
		TOTAL			

ANNEXURE -1

Sl No	Area	No. of Storeys	L in M	W in M	H in M	2x28 deco	1x28 box	1200 mm Fans	5/ 15A Plug Socket	5A Plug Socket	20A socket MCB set	32A socket MCB set	380 mm Ex. Fans	1x150 w st light sont	250w MH roof	12W 16A SPN DB	8W 16A MCB DB	8W 32A MCB DB	8W 63A MCB DB	PCC	32A TPN Iso	63A TPN Iso	100 A TPN Iso	4x 14w T5	2x 18w CFL	2 KVA UPS
A) External Buildings																										
1	Security office	2	15	5	4 & 8	15	22	12	9	16	1	7	5	4	----	2	1	1	----	1	----	----	----	----	----	1
2	Fire station	1	15	12	4.5	18	3	7	10	5	2	----	2	5	--	2	1	1	----	1	1	1	----	----	----	1
3	Material Testing Lab	2	15	12	4 & 8	40	9	34	18	8	----	12	2	----	----	4	1	1	----	1	----	----	----	----	----	1
4	Factory Medical Centre	2	16.5	12	4 & 8	41	10	46	21	32	----	17	5	6	----	4	1	1	----	1	----	----	----	22	6	1
5	Factory Canteen	2	28	18	4 & 8	111	----	91	22	8	----	----	16	6	----	8	4	1	----	1	4	----	1	----	----	----
6	Transport Garage	1	20	12	3.6	19	5	7	13	7	----	----	2	4	----	2	----	1	----	1	2	----	----	----	----	----
7	Disposal Yard Office Room	1	8	5	3.6	4	----	2	2	1	----	----	----	1	----	1	----	----	----	----	----	----	----	----	----	----
8	Weigh Bridge and Control room	1	5	4	3	3	----	2	2	1	----	----	----	2	----	1	----	----	----	----	----	----	----	----	----	----
9	Water Tank	----	0	0	35	----	----	----	----	----	----	----	----	----	----	----	----	----	----	1	----	----	----	----	----	----
10	Compressed Air Plant	1	20	14	8.5	4	----	4	4	----	----	----	----	4	13	----	1	1	----	1*	----	----	----	----	----	----
11	DG Set Building	1	26	11	8	16	----	3	4	2	----	----	----	2	----	2	----	----	----	----	----	----	----	----	----	----
12	Receiving Substation	2	24	6.3	3,7.6	17	11	11	11	2	----	5	1	6	----	----	1	1	----	----	----	----	----	----	----	----
13	Civil Stores Shed	1	12	6	5	2	4	2	2	----	----	----	----	2	----	1	----	----	----	----	----	----	----	----	----	----
14	SS1	2	28	6.3	4 & 8	10	8	3	7	----	----	----	----	2	----	2	----	----	----	----	----	----	----	----	----	----
15	SS2	2	2.8	6.3	5 & 8	10	8	3	7	----	----	----	----	2	----	2	----	----	----	----	----	----	----	----	----	----
16	MMO Cabin - 1	2	42	12	4 & 8	96	14	48	32	----	----	----	2	----	----	8	2	1	----	----	----	----	----	----	----	----
17	MMO Cabin - 2	2	15	5	4 & 8	48	6	24	16	----	----	----	----	----	----	4	----	1	----	----	----	----	----	----	----	----
18	Artisans Cabin (2 nos)	2	54	12	4 & 8	128	38	128	32	88	----	----	----	----	----	16	----	2	----	----	----	----	----	----	----	----
19	Ladies rest room & Sanitation Staff Room-2 nos	1	12	6	3.6	16	----	8	4	----	----	----	2	----	----	4	----	----	----	----	----	----	----	----	----	----
20	Toilet 1 & 2	1	11.5	5.5	3.5	20	----	----	4	----	----	----	4	----	----	----	----	----	----	----	----	----	----	----	----	----
21	Toilet 3	1	11.5	5.5	3.5	10	----	----	2	----	----	----	2	----	----	----	----	----	----	----	----	----	----	----	----	----
B) Bldgs Inside Shop Floor																										
22	Tool Crib	1	12	10	3.6	----	16	4	4	4	----	----	2	----	----	2	----	----	----	----	----	----	----	----	----	----
23	Intermediate Stores	1	12	10	3.6	----	16	4	4	4	----	----	2	----	----	2	----	----	----	----	----	----	----	----	----	----
24	WTC Electrode/oven room	1	12	10	3.6	----	16	3	4	2	----	1	2	----	----	2	----	----	1	----	----	6	----	----	----	
25	Accessories room (4 nos)	1	12	6	3.6	----	32	12	8	4	----	----	4	----	----	4	----	----	----	----	----	----	----	----	----	----
26	NDT office	2	10	6	4 & 8	----	18	18	12	12	----	8	----	----	----	4	----	1	----	----	----	----	----	----	----	----
27	RTR X ray hall and Control Room (2nos)	1	15	5	4	----	20	----	20	----	----	4	----	----	----	6	----	----	2	----	----	12	----	----	----	----
	TOTAL QTY					628	260	480	278	200	3	56	53	46	13	83	12	13	3	7	7	19	1	22	6	4

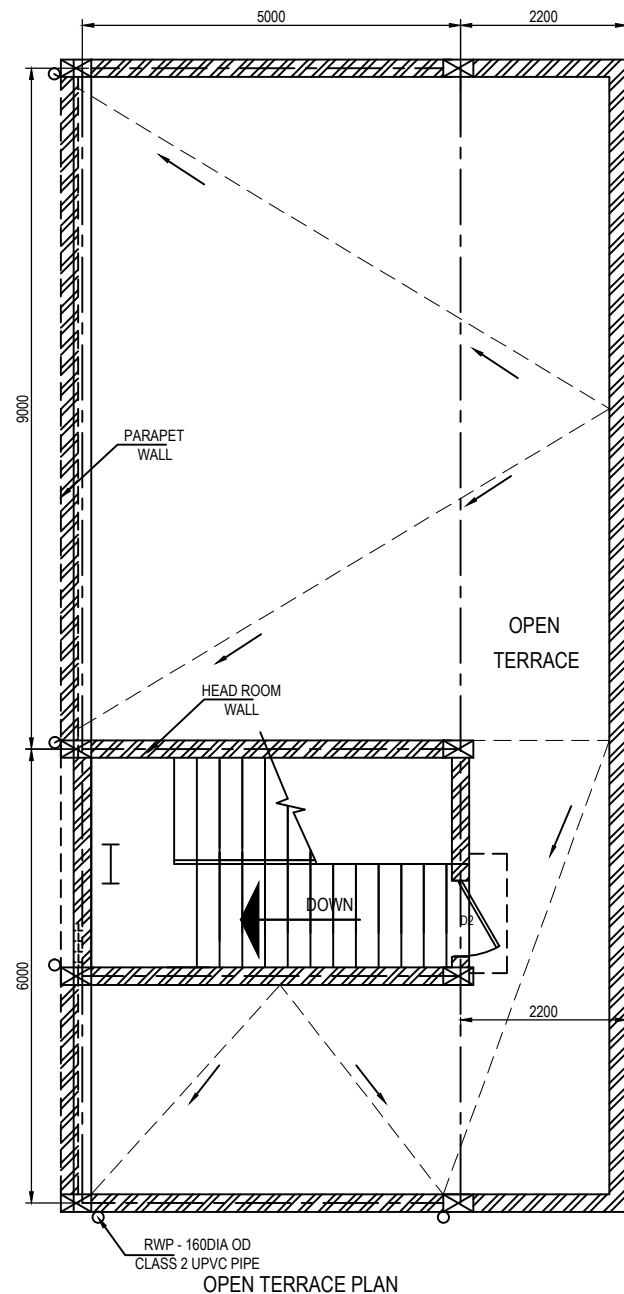
* Industrial type MP Board

NOTE : List of Drawings Attached and their Reference Nos. are shown in Annexure 2

ANNEXURE 2

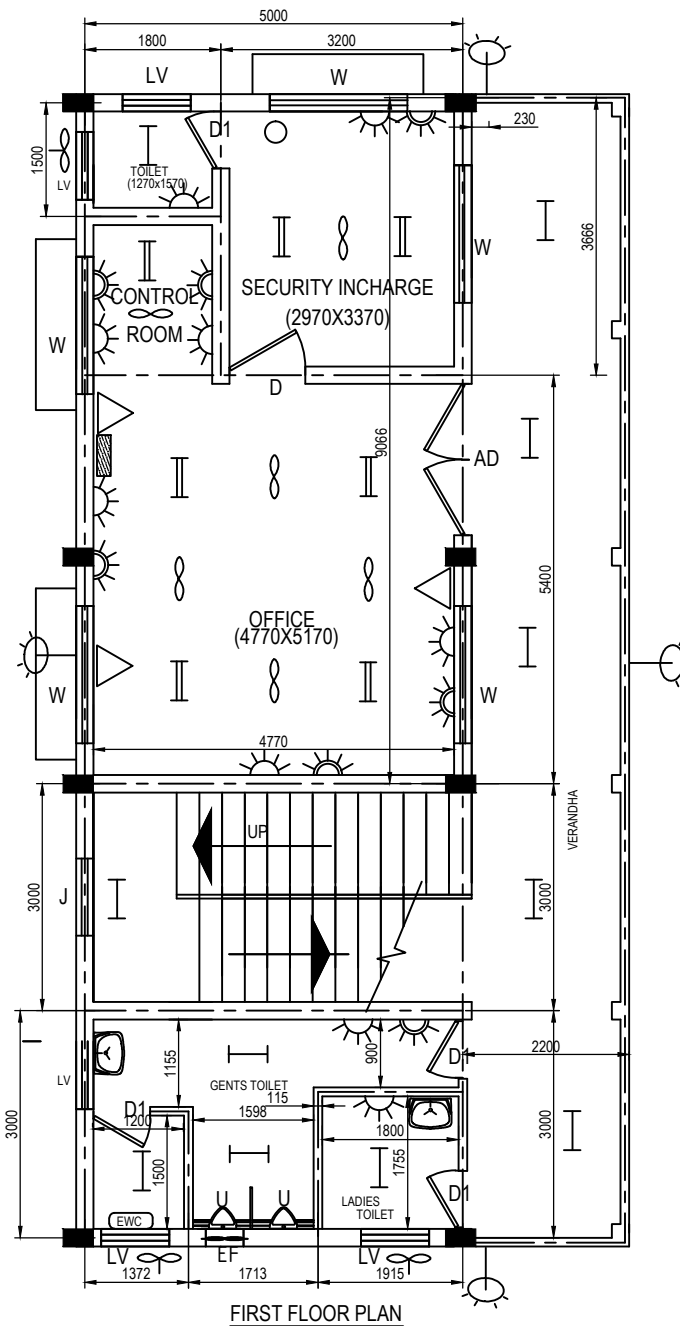
List of Drawings Attached and their Reference Nos

Sl.No	Name of the Building	Drawing Ref. No
1	Security office	M & S : PD : 11 : 009
2	Fire station	M & S : PD : 11 : 010
3	Material Testing Lab	M & S : PD : 11 : 011
4	Factory Medical Centre	M & S : PD : 11 : 012
5	Factory Canteen	M & S : PD : 11 : 013
6	Transport Garage	M & S : PD : 11 : 014
7	Disposal Yard Office Room	M & S : PD : 11 : 015
8	Weigh Bridge and Control room	M & S : PD : 11 : 016
9	Water Tank	M & S : PD : 11 : 017
10	Compressed Air Plant	M & S : PD : 11 : 018
11	DG Set Building	M & S : PD : 11 : 019
12	Receiving Substation	M & S : PD : 11 : 020
13	Civil Stores Shed	M & S : PD : 11 : 021
14	SS1	M & S : PD : 11 : 022
15	SS2	M & S : PD : 11 : 023
16	MMO Cabin - 1	M & S : PD : 11 : 024
17	MMO Cabin - 2	M & S : PD : 11 : 025
18	Artisans Cabin (2nos)	M & S : PD : 11 : 026
19	Ladies rest room & Sanitation Staff Room -(2nos)	M & S : PD : 11 : 027
20	Toilet 1 & 2	M & S : PD : 11 : 028
21	Toilet 3	M & S : PD : 11 : 029
22	Tool Crib	M & S : PD : 11 : 030
23	Intermediate Stores	M & S : PD : 11 : 031
24	WTC Electrode/oven room	M & S : PD : 11 : 032
25	Accessories room (4 nos)	M & S : PD : 11 : 033
26	NDT office	M & S : PD : 11 : 034
27	RTR X ray hall & Control room (2nos)	M & S : PD : 11 : 035



LEGEND:

- | | | | |
|--|----------------------------|--|--|
| | 5/15A Plug Socket - 9 nos. | | Ceiling Fan -12 nos |
| | 5A Plug Socket - 16nos | | Exhaust Fan -5 nos |
| | 1x28W TL5 Fitting- 22 nos | | 12W 16A SPN MCBDB - 2 nos. |
| | 2x28W TL5 Fitting- 15 nos | | 8W 16A, 7Seg MCBDB -1 no |
| | 32A AC BOX -7 nos | | 150W HPSV street light fitting - 4 nos |
| | 20A AC BOX - 1 no | | PCC - 1 no. |
| | | | 8W 32A 4SEG MCBDB - 1 no. |
| | | | 2 KVA UPS - 1 no |

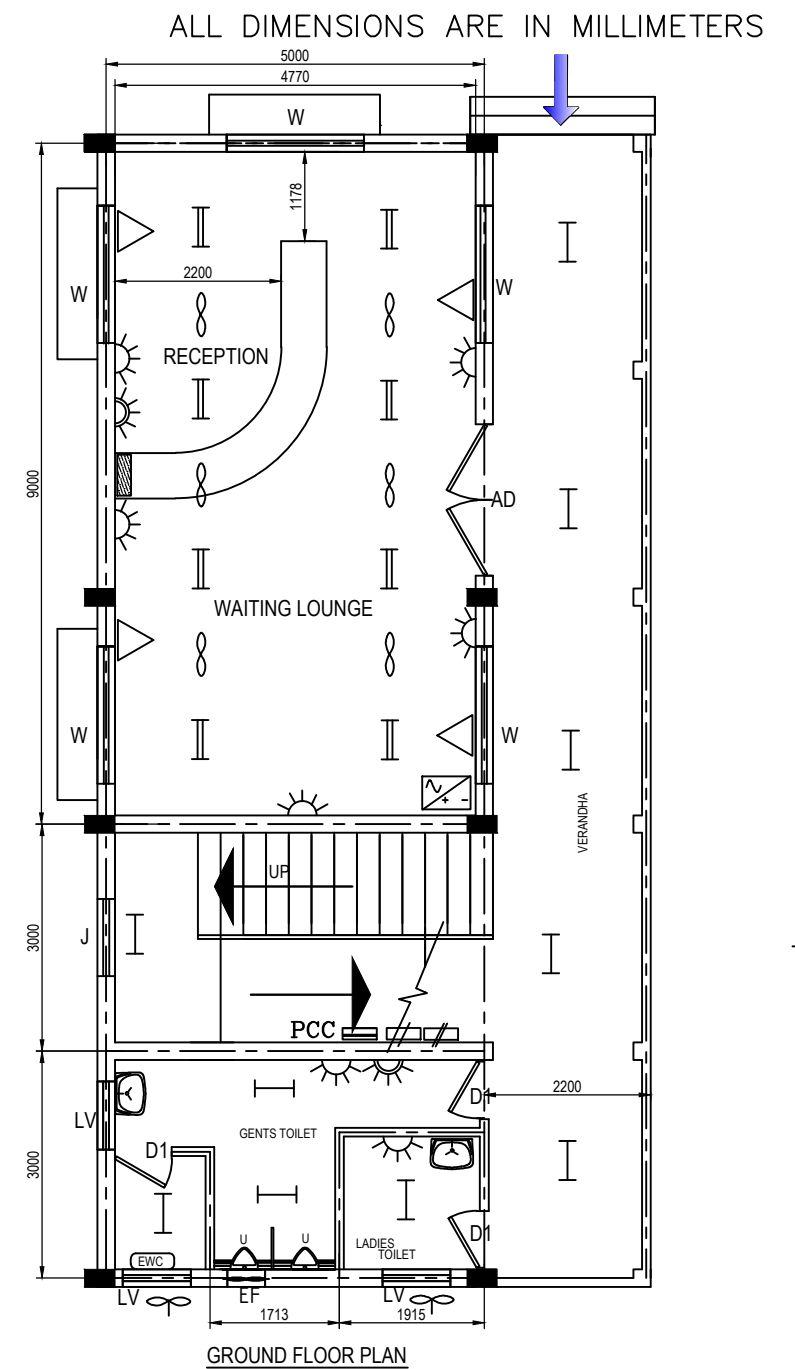


PLAN OF SECURITY OFFICE

DIMENSION:
 Height - 4000mm (Gnd floor)
 Height - 8000mm (First floor)
 Width - 5000mm
 Length - 15000mm

Note:

* Maximum 800 W per circuit for point wiring.

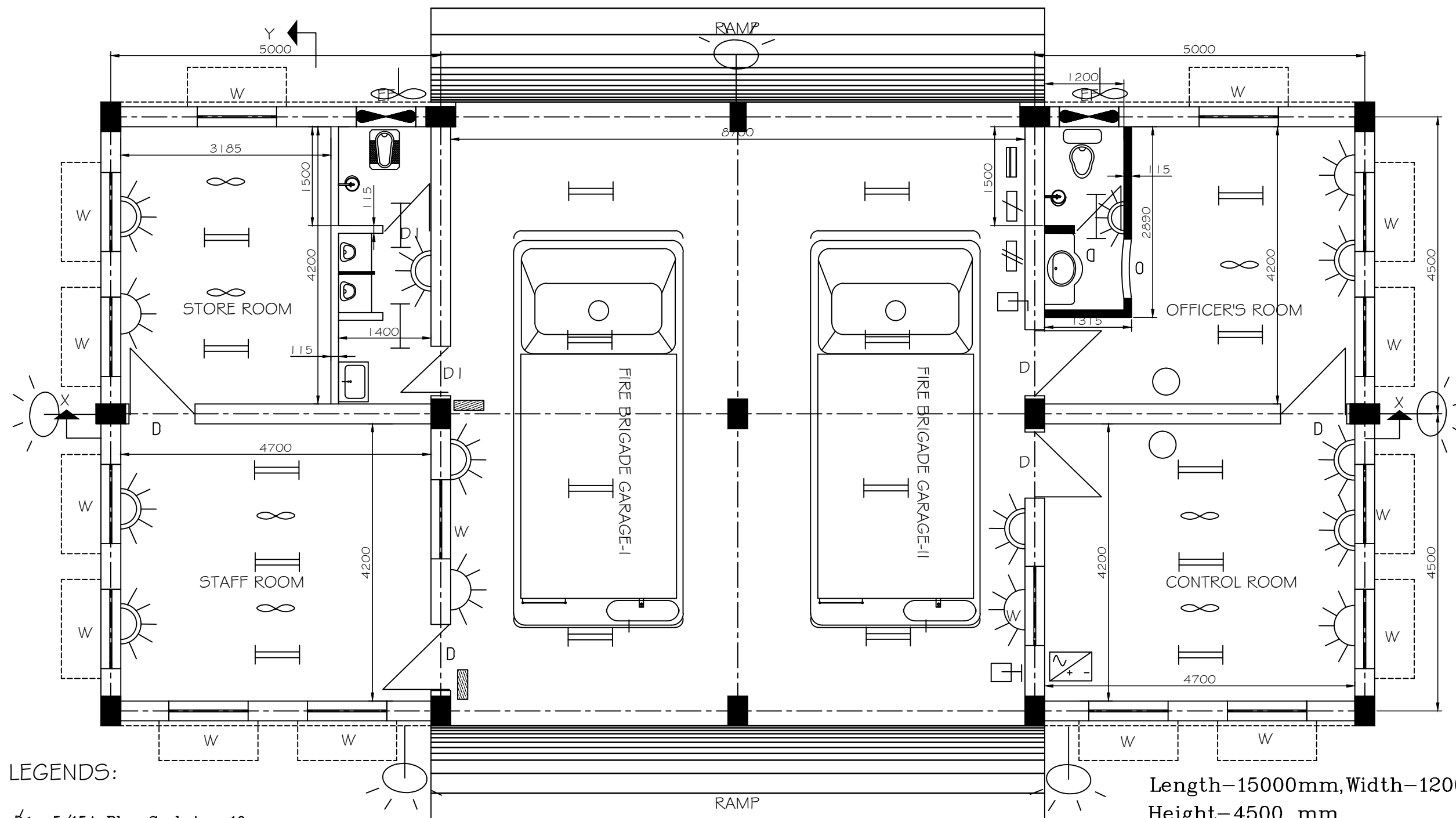


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TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		POWER PLANT PIPING UNIT- THIRUMAYAM			
	Bharat Heavy Electricals Ltd	DRN & CHD	NAME L. Honey Wood Mary	SIGNATURE	DATE 25.03.2011
	UNIT: HIGH PRESSURE BOILER PLANT TIRUCHIRAPALLI - 620014	APPD	V. Ragu		25.03.2011
TITLE		CARD CODE	DRAWING NO :		REV
ELECTRIFICATION OF SECURITY OFFICE		U 01	M&S: PD: 11: 009		00

ELEVATION

ALL DIMENSIONS ARE IN MILLIMETERS



LEGENDS:

- 5/15A Plug Socket - 10 nos
- 5A Plug Socket - 5 nos
- 63A TPN Isolator - 1 no
- Ceiling Fan - 7 nos
- Exhaust Fan - 2 nos
- 32A TPN Isolator - 1 no
- 2 KVA UPS - 1 no
- PCC - 1 no.
- 12W 16A SPN MCB DB - 2 nos.
- 8W 16A, 7Seg MCB DB - 1 no
- 150W HPSV Street Light Fitting-5 nos
- 8W 32A, 4Seg MCB DB - 1 no
- 2x28W TL5 Fitting - 18 nos
- 1x28W TL5 Fitting - 3 nos
- 20A AC box - 2 nos

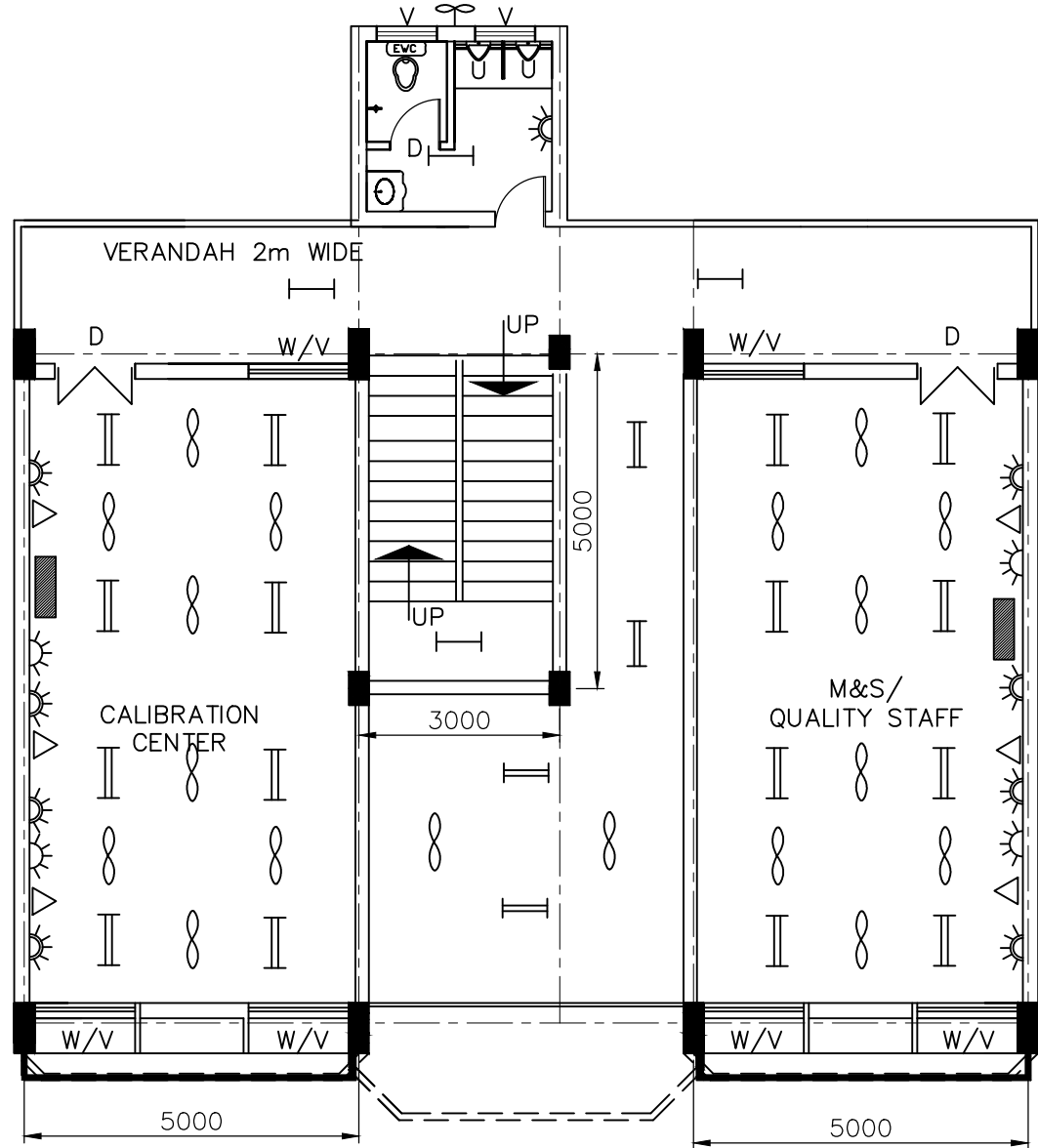
PLAN

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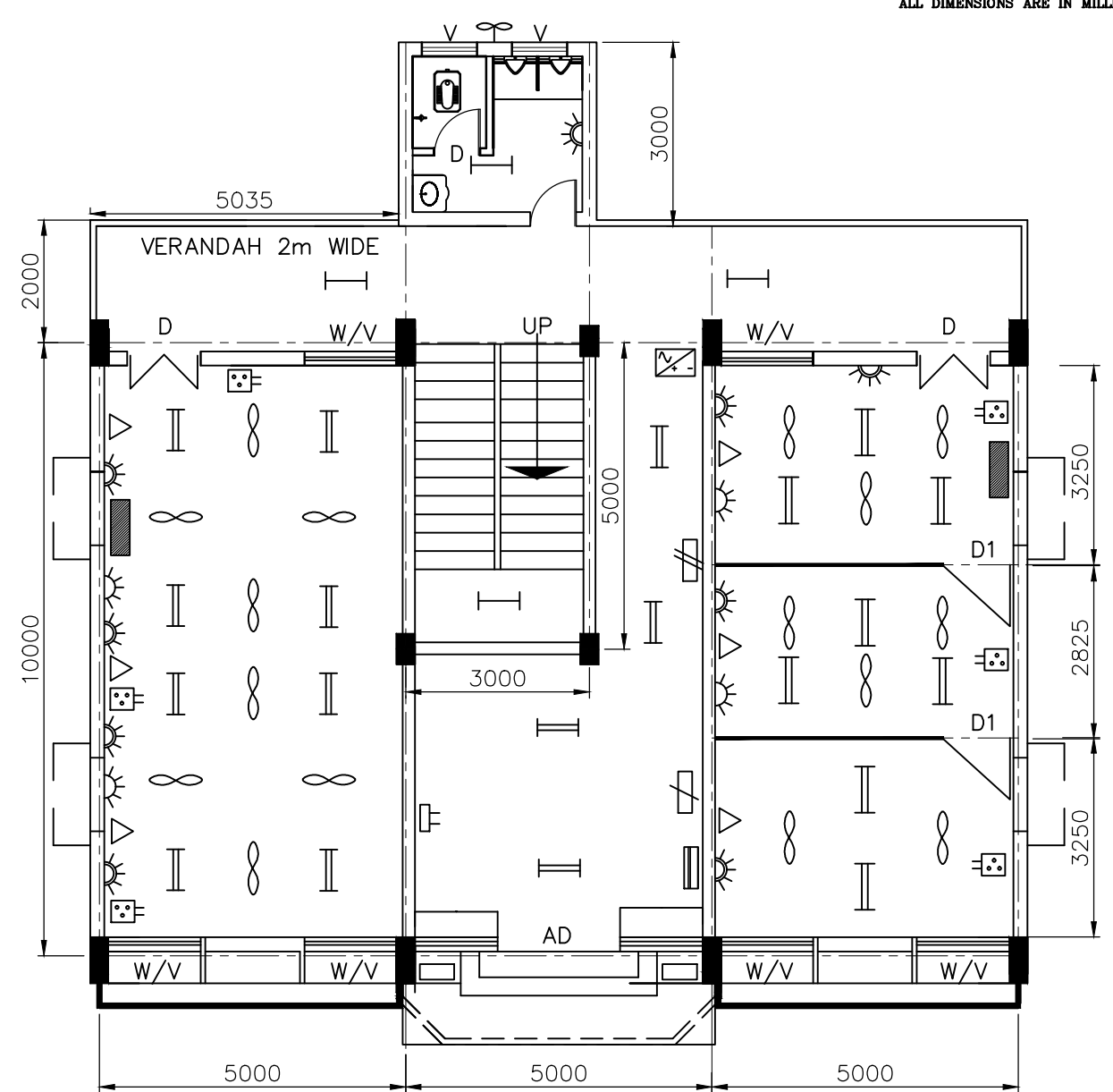
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		POWER PLANT PIPING UNIT- THIRUMAYAM					
	Bharat Heavy Electricals Ltd UNIT: HIGH PRESSURE BOILER PLANT TIRUCHIRAPALLI - 620014		DRN & CHD	NAME <i>L. Honey Wood Mary</i>	SIGNATURE <i>[Signature]</i>	DATE 01.02.2011	NO. OF VAR
			APPD	<i>V. Ragu</i>	<i>[Signature]</i>	01.02.2011	
TITLE		ELECTRIFICATION OF FIRE STATION		CARD CODE	DRAWING NO : M&S: PD: 11: 010		REV
				U 01			00

Length-15000mm, Width-12000 mm
Height-4500 mm

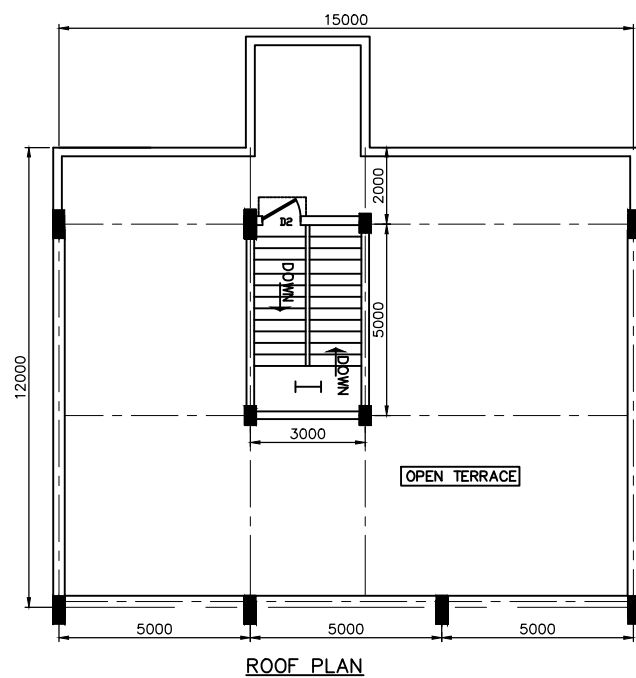
ALL DIMENSIONS ARE IN MILLIMETRES



FIRST FLOOR PLAN



GROUND FLOOR PLAN



ROOF PLAN

LEGENDS:

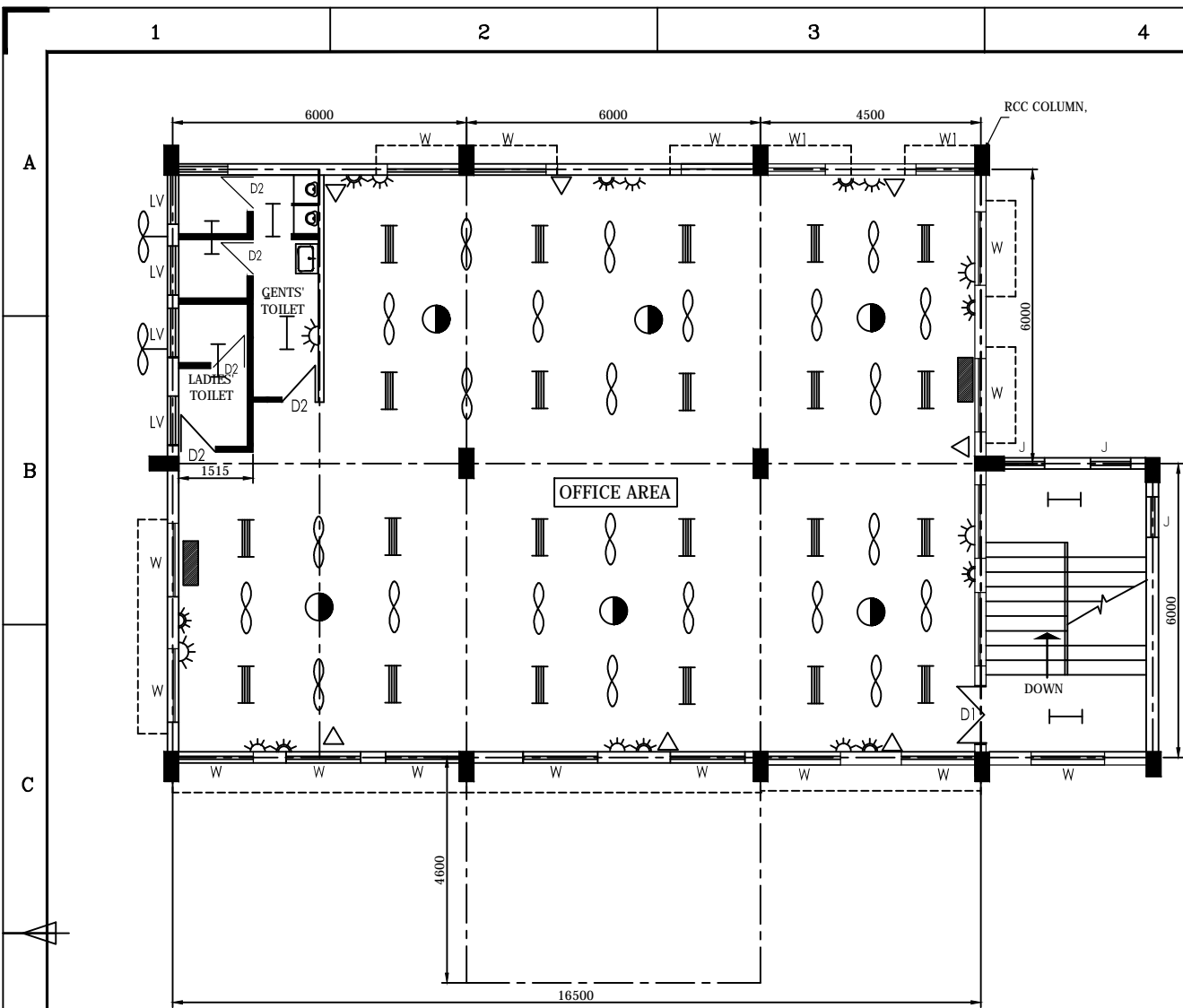
- ☀ 5/15A Plug Socket - 18 nos
- ☀ 5A Plug Socket - 8 nos
- ☑ 3Pole MCB - 6 nos
- △ 32A AC BOX - 12 nos
- ▨ 12W 16A SPN MCB DB - 4 nos.
- ⚡ 8W 16A, 7Seg MCB DB - 1 no
- ⚡ 8W 32A, 4Seg MCB DB - 1 no
- ▬ PCC - 1 no.
- ⚡ 8W TP Output MCB DB - 1 no
- ⚡ 2x28W TL5 Fitting - 40 nos
- ⚡ 1x28W TL5 Fitting - 9 nos
- ☪ Exhaust Fan - 2 nos
- ∞ Ceiling Fan - 34 nos
- ⚡ 2 KVA UPS - 1 no

DIMENSION:

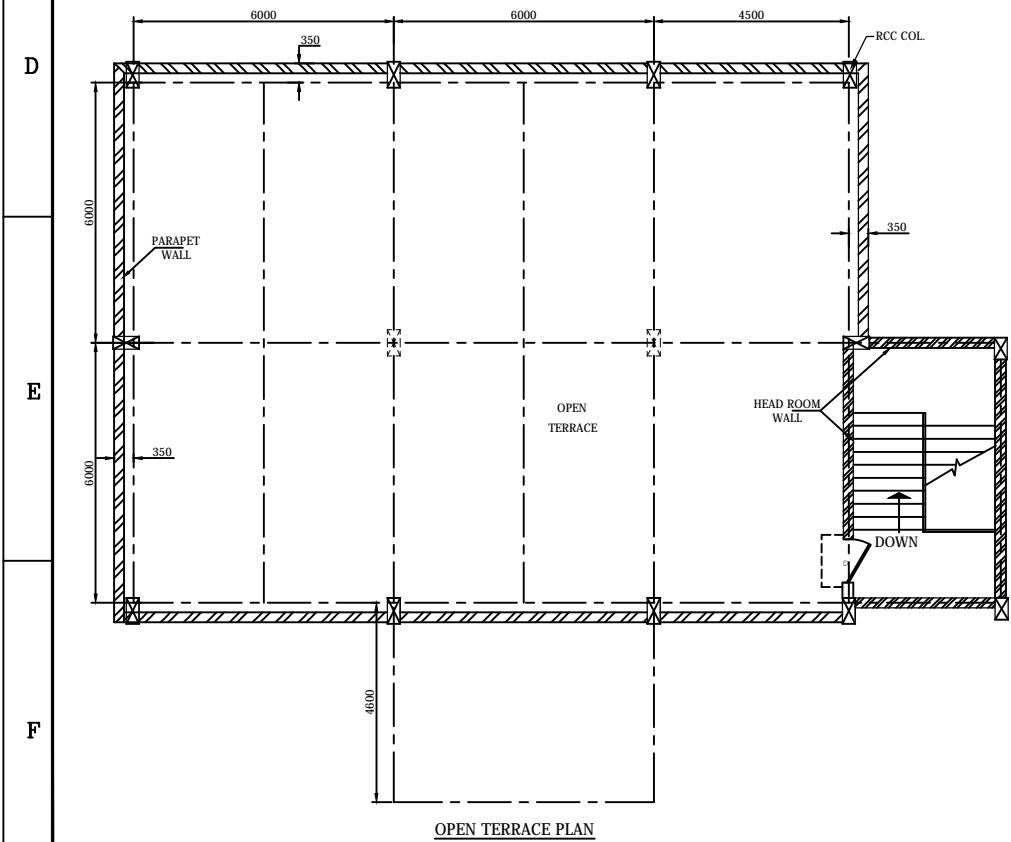
Height - 4000mm (Gnd floor)
 Height - 8000mm (First floor)
 Width - 12000mm
 Length - 15000mm

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	Bharat Heavy Electricals Ltd UNIT: HIGH PRESSURE BOILER PLANT TIRUCHIRAPALLI - 620014	DRN & CHD NAME L. Honey Wood	SIGNATURE 	DATE 02.02.2011	NO. OF VAR	
	TITLE ELECTRIFICATION OF MATERIAL TESTING LAB	APPD V. Ragu	SIGNATURE 	DATE 02.02.2011	REV 00	

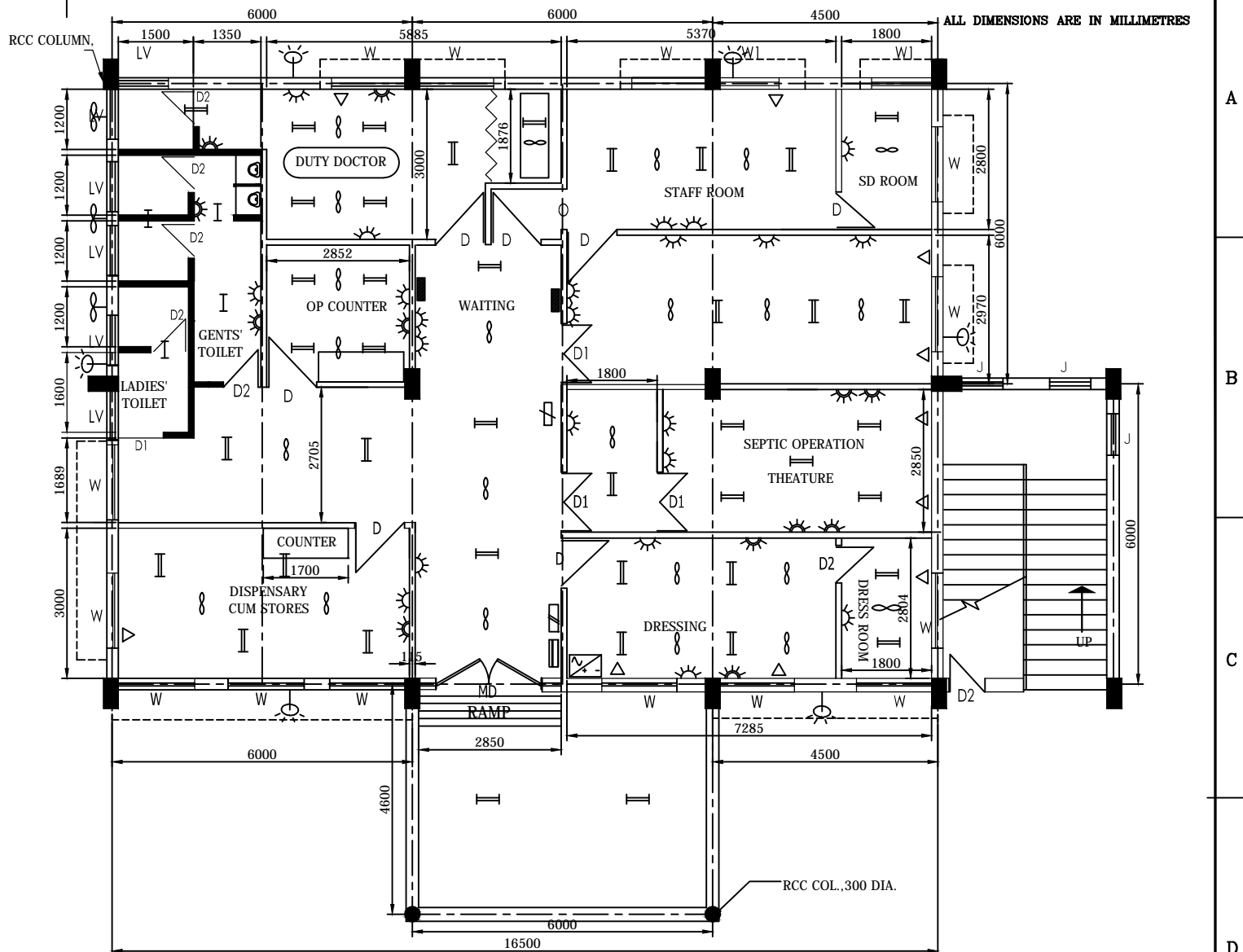
DRAWING NO : M&S: PD: 11: 011



FIRST FLOOR PLAN



OPEN TERRACE PLAN



GROUND FLOOR PLAN

LEGENDS :

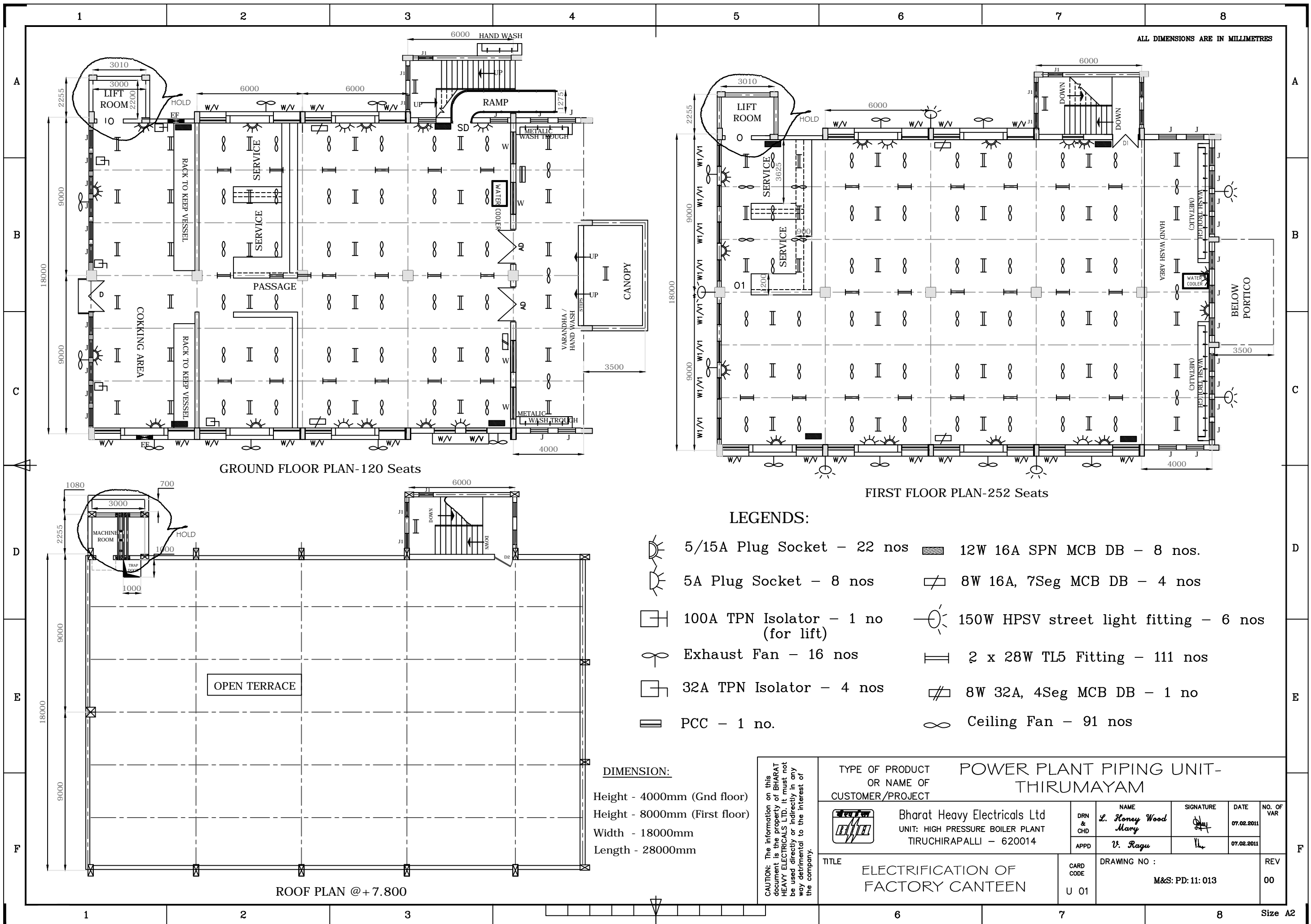
- |— 1x28W TL5 Fitting- 10 nos
- |— 2x28W TL5 Fitting- 41 nos
- ∞ Ceiling Fan - 46 nos
- ⊙ Exhaust Fan - 5 nos
- ⊘ 8W 32A 4SEG MCB DB - 1 no.
- ⊘ 8W 16A, 7Seg MCB DB - 1 no
- △ 32A AC BOX - 17 nos
- ◐ 2 x 18W CFL - 6 nos
- ⊘ 4 x 14W T5 - 22 nos
- ▬ PCC - 1 no.
- ⊘ 150W HPSV street light fitting - 6 nos
- ▨ 12W 16A SPN MCB DB - 4 nos.
- ⊙ 5/15A Plug Socket - 21 nos.
- ⊙ 5A Plug Socket - 32 nos
- ⊘ 2 KVA UPS - 1 no

DIMENSION:

- Height - 4000mm (Gnd floor)
- Height - 8000mm (First floor)
- Width - 12000mm
- Length - 16500mm

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TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		POWER PLANT PIPING UNIT- THIRUMAYAM			
	Bharat Heavy Electricals Ltd UNIT: HIGH PRESSURE BOILER PLANT TIRUCHIRAPALLI - 620014		DRN & CHD <i>L. Honey Wood</i>	SIGNATURE <i>[Signature]</i>	DATE 04.02.2011
			APPD <i>V. Ragu</i>	SIGNATURE <i>[Signature]</i>	DATE 04.02.2011
TITLE		DRAWING NO :		REV	
ELECTRIFICATION OF FACTORY MEDICAL CENTER		U 01		M&S: PD: 11: 012 00	



ALL DIMENSIONS ARE IN MILLIMETRES

GROUND FLOOR PLAN-120 Seats

FIRST FLOOR PLAN-252 Seats

OPEN TERRACE

ROOF PLAN @+7.800

LEGENDS:

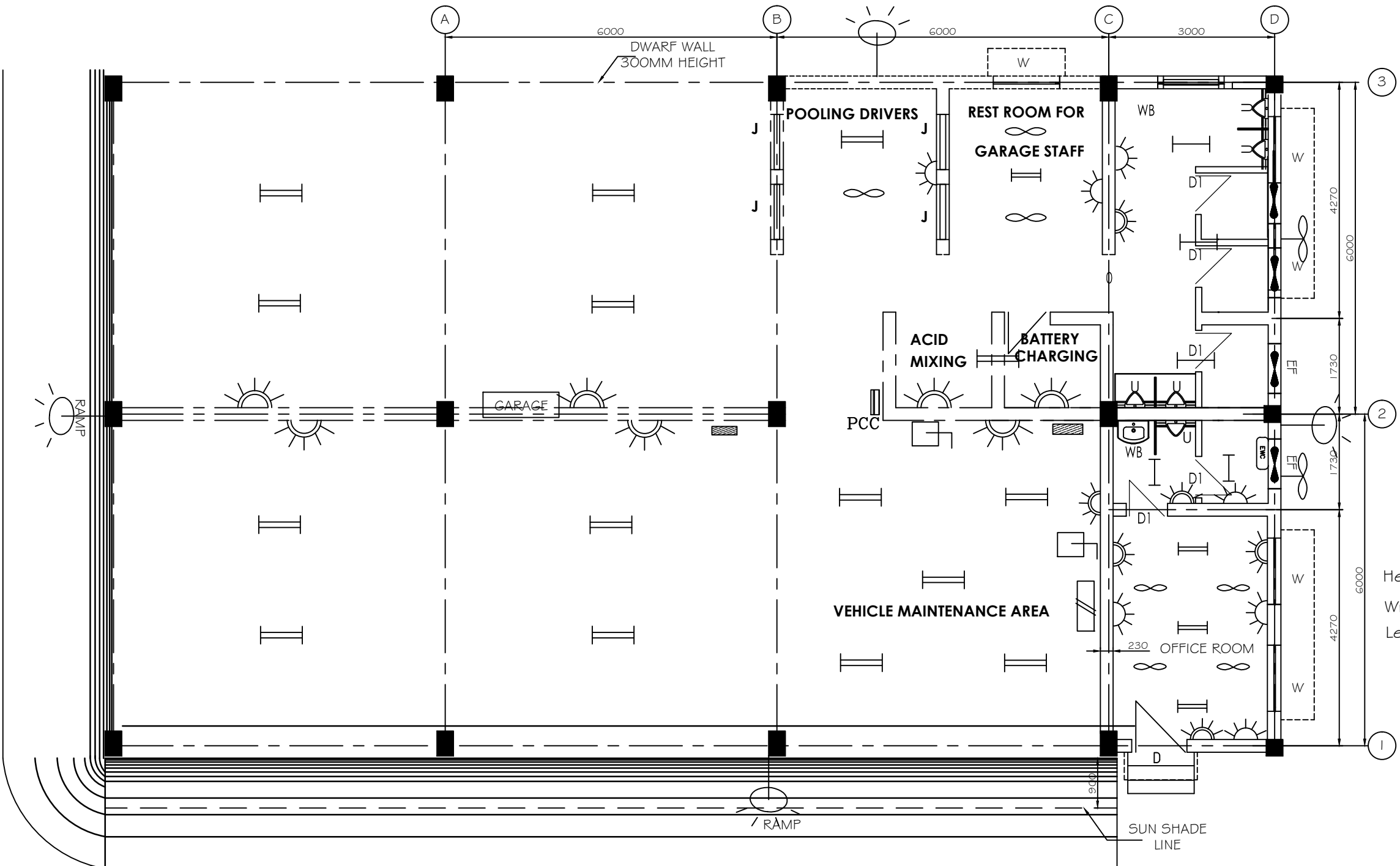
- 5/15A Plug Socket - 22 nos
- 5A Plug Socket - 8 nos
- 100A TPN Isolator - 1 no (for lift)
- Exhaust Fan - 16 nos
- 32A TPN Isolator - 4 nos
- PCC - 1 no.
- 12W 16A SPN MCB DB - 8 nos.
- 8W 16A, 7Seg MCB DB - 4 nos
- 150W HPSV street light fitting - 6 nos
- 2 x 28W TL5 Fitting - 111 nos
- 8W 32A, 4Seg MCB DB - 1 no
- Ceiling Fan - 91 nos

DIMENSION:

Height - 4000mm (Gnd floor)
 Height - 8000mm (First floor)
 Width - 18000mm
 Length - 28000mm

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		Bharat Heavy Electricals Ltd UNIT: HIGH PRESSURE BOILER PLANT TIRUCHIRAPALLI - 620014		DRN & CHD	NAME <i>L. Honey Wood Mary</i>	SIGNATURE <i>[Signature]</i>	DATE 07.02.2011	NO. OF VAR
		APPD			<i>V. Ragu</i>	<i>[Signature]</i>	07.02.2011	
TITLE ELECTRIFICATION OF FACTORY CANTEEN		CARD CODE U 01	DRAWING NO : M&S: PD: 11: 013		REV 00			

ALL DIMENSIONS ARE IN MILLIMETERS



DIMENSION:
 Height - 3600mm
 Width - 12000mm
 Length - 20000mm

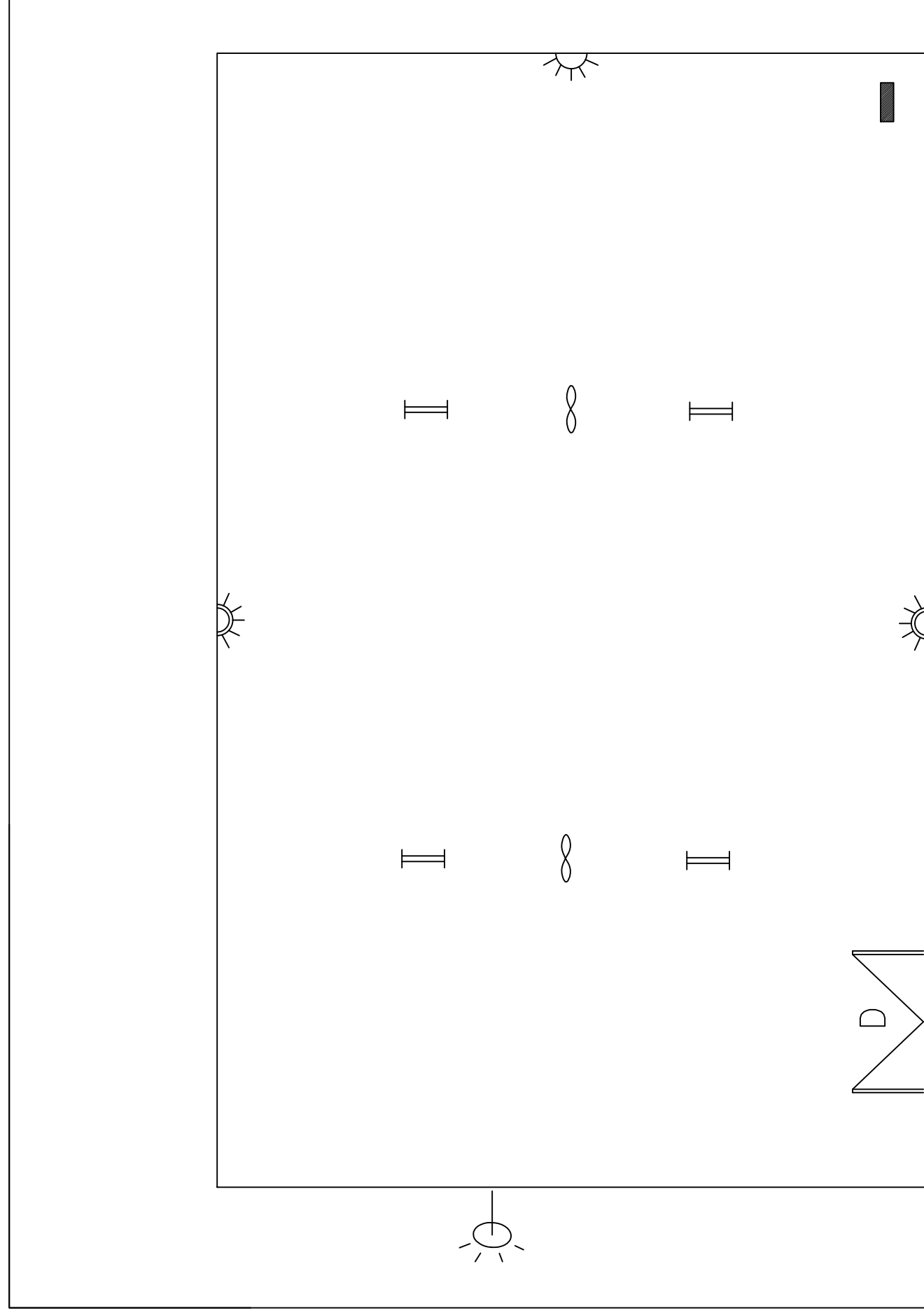
LEGENDS:

- | | |
|-----------------------------|--|
| 5/15A Plug Socket - 13 nos | 150W HPSV Street Light Fitting - 4 nos |
| 5A Plug Socket - 7 nos | 8W 32A, 4Seg MCB DB - 1 no |
| 12W 16A SPN MCB DB - 2 nos. | 2x28W TL5 Fitting - 19 nos |
| Ceiling Fan - 7 nos | 1x28W TL5 Fitting - 5 nos |
| Exhaust Fan - 2 nos | 32A TPN Isolator - 2 nos |
| PCC - 1 no | |

PLAN

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TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		POWER PLANT PIPING UNIT - THIRUMAYAM			
	Bharat Heavy Electricals Ltd	DRN & CHD	NAME	SIGNATURE	DATE
	UNIT: HIGH PRESSURE BOILER PLANT TIRUCHIRAPALLI - 620014	APPD	L. Honey Wood Mary		09.02.2011
TITLE		CARD CODE	DRAWING NO :		REV
ELECTRIFICATION OF TRANSPORT GARAGE		U 01	M&S: PD: 11: 014		00









PLAN OF DISPOSAL YARD OFFICE ROOM

ROOM HEIGHT-3600mm, Width - 5000mm, Length - 8000mm



Note:

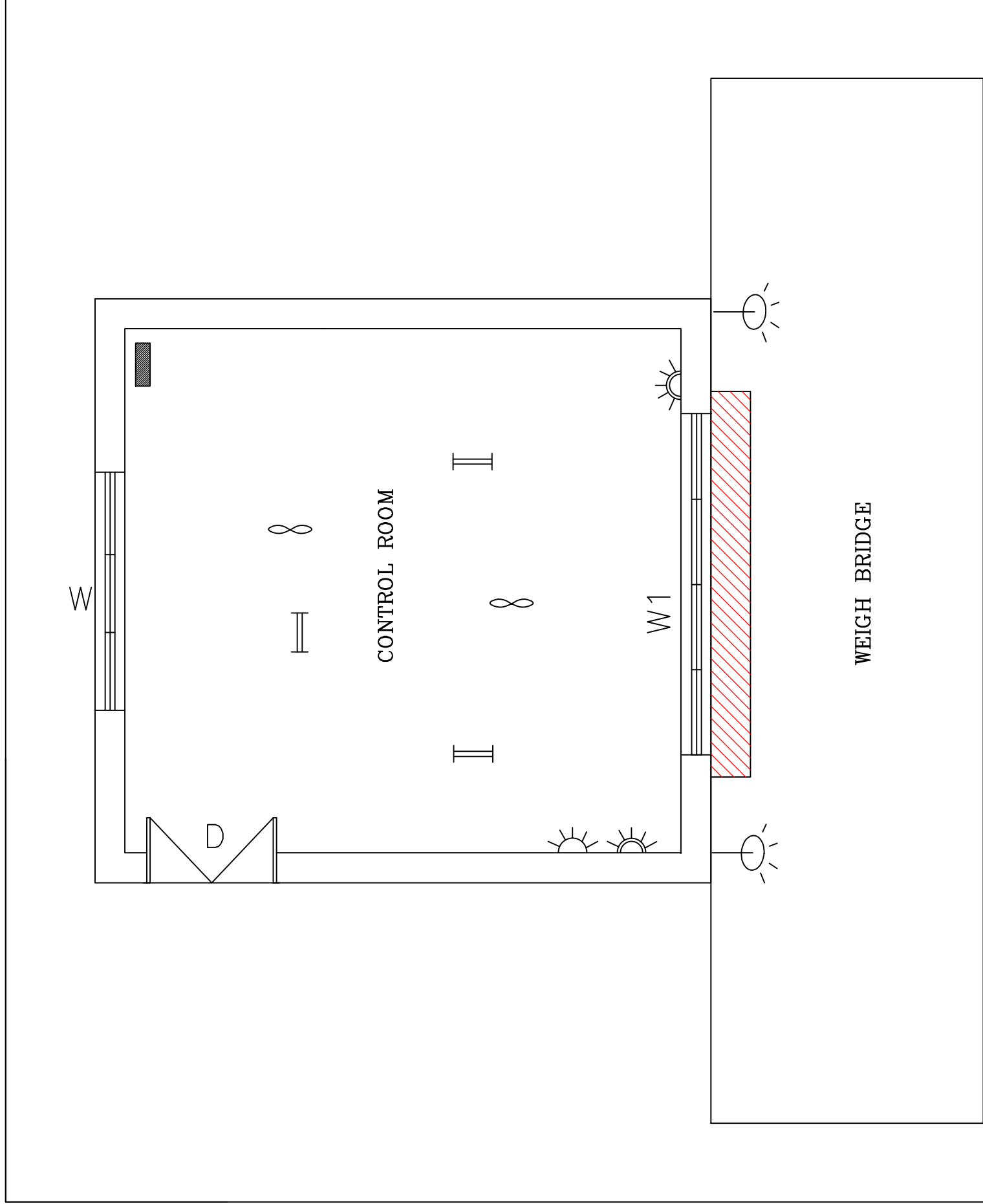
* Maximum 800 w per circuit for point wiring.

LEGEND:

-  12W 16A SPN MCB DB - 1 no.  5/15A Plug Socket - 2 nos.
-  5A Plug Socket - 1 no.  150W HPSV street light fitting - 1 no.
-  2x28W TL5 Fitting -4 nos.  Ceiling Fan - 2 nos.

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TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		POWER PLANT PIPING UNIT- THIRUMAYAM		NO. OF VAR	
 Bharat Heavy Electricals Ltd UNIT: HIGH PRESSURE BOILER PLANT TIRUCHIRAPALLI - 620014	DRN & CHD	NAME	SIGNATURE	DATE	
	APPD	L. Honey Wood Mary		16.02.2011	
TITLE		DRAWING NO :		REV	
ELECTRIFICATION OF DISPOSAL YARD OFFICE ROOM		M&S: PD: 11: 015		00	



PLAN OF WEIGH BRIDGE & CONTROL ROOM

CONTROL ROOM : HEIGHT-3000mm, Width - 4000mm, Length - 5000mm

WEIGH BRIDGE : Width - 10000mm, Length - 30000mm

Note:

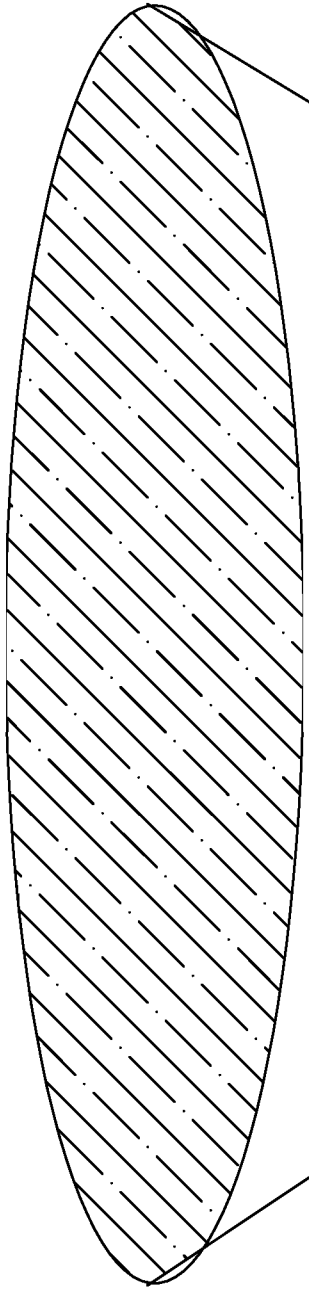
* Maximum 800 w per circuit for point wiring.

LEGEND:


- 12W 16A SPN MCB DB - 1 no.
- ☀ 5A Plug Socket - 1 no.
- ∞ 2x28W TL5 Fitting -3 nos.
- ☀ 5/15A Plug Socket - 2 nos.
- ☀ 150W HPSV street light fitting - 2 nos.
- ∞ Ceiling Fan - 2 nos.

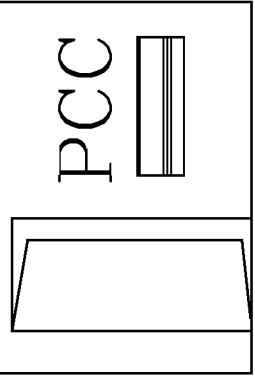
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TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT	POWER PLANT PIPING UNIT- THIRUMAYAM		SIGNATURE	DATE	NO. OF VAR
	Bharat Heavy Electricals Ltd UNIT: HIGH PRESSURE BOILER PLANT TIRUCHIRAPALLI - 620014				
TITLE	ELECTRIFICATION OF WEIGH BRIDGE & CONTROL ROOM	CARD CODE	APPD	DRAWING NO :	REV





LEGEND:

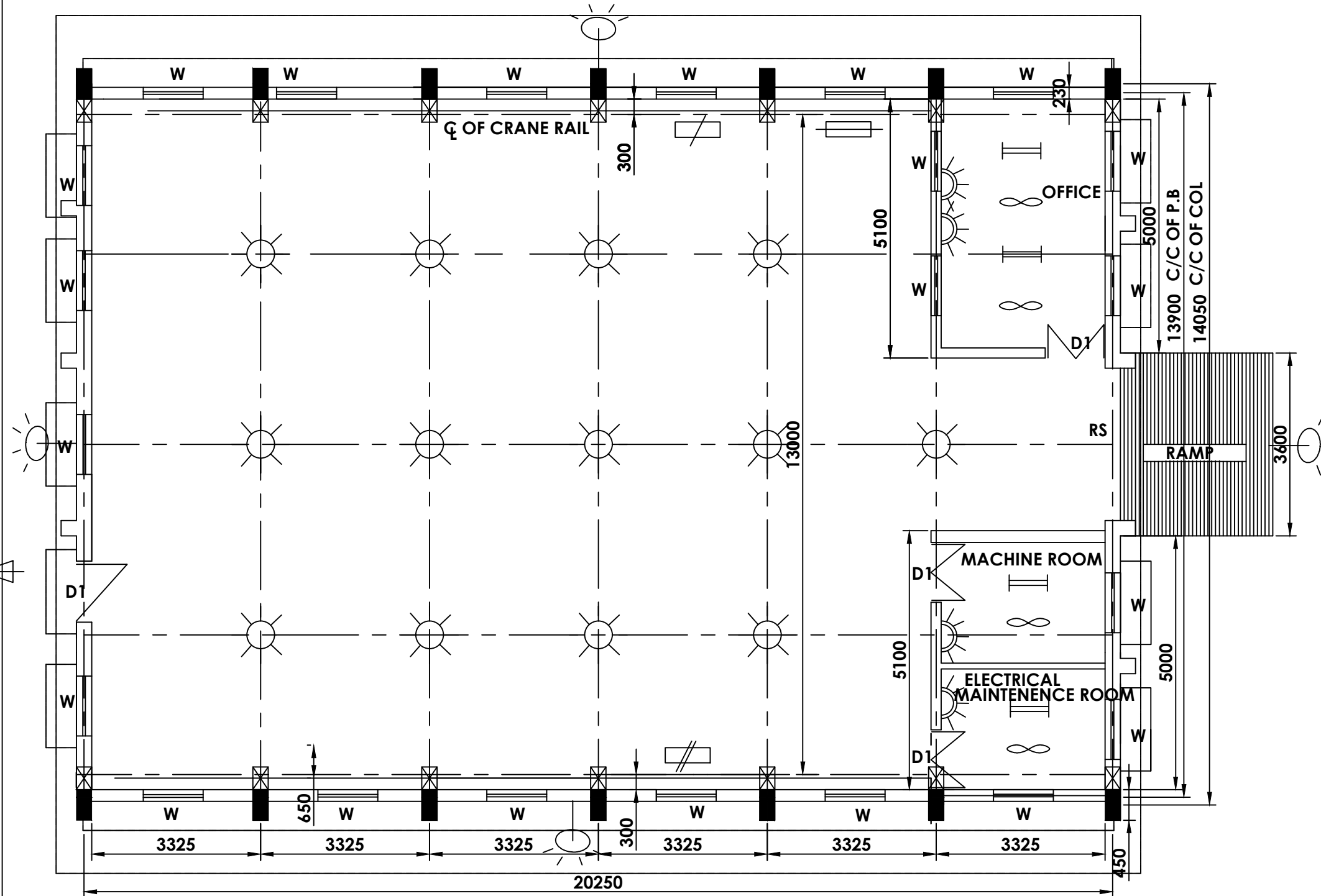
 PCC — 1 NO.



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TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		POWER PLANT PIPING UNIT - THIRUMAYAM		SIGNATURE	DATE	NO. OF VAR
 Bharat Heavy Electricals Ltd UNIT: HIGH PRESSURE BOILER PLANT TIRUCHIRAPALLI - 620014	DRN & CHD	NAME	SIGNATURE	DATE	NO. OF VAR	
	APPD	L. Honey Wood Mary		11.02.2011		
TITLE		DRAWING NO :		REV		
ELECTRIFICATION OF WATER TANK		M&S: PD: 11: 017		00		

ALL DIMENSIONS ARE IN MILLIMETERS



DIMENSION:

Height - 8500mm
 Width - 14000mm
 Length - 20000mm

LEGANDS:

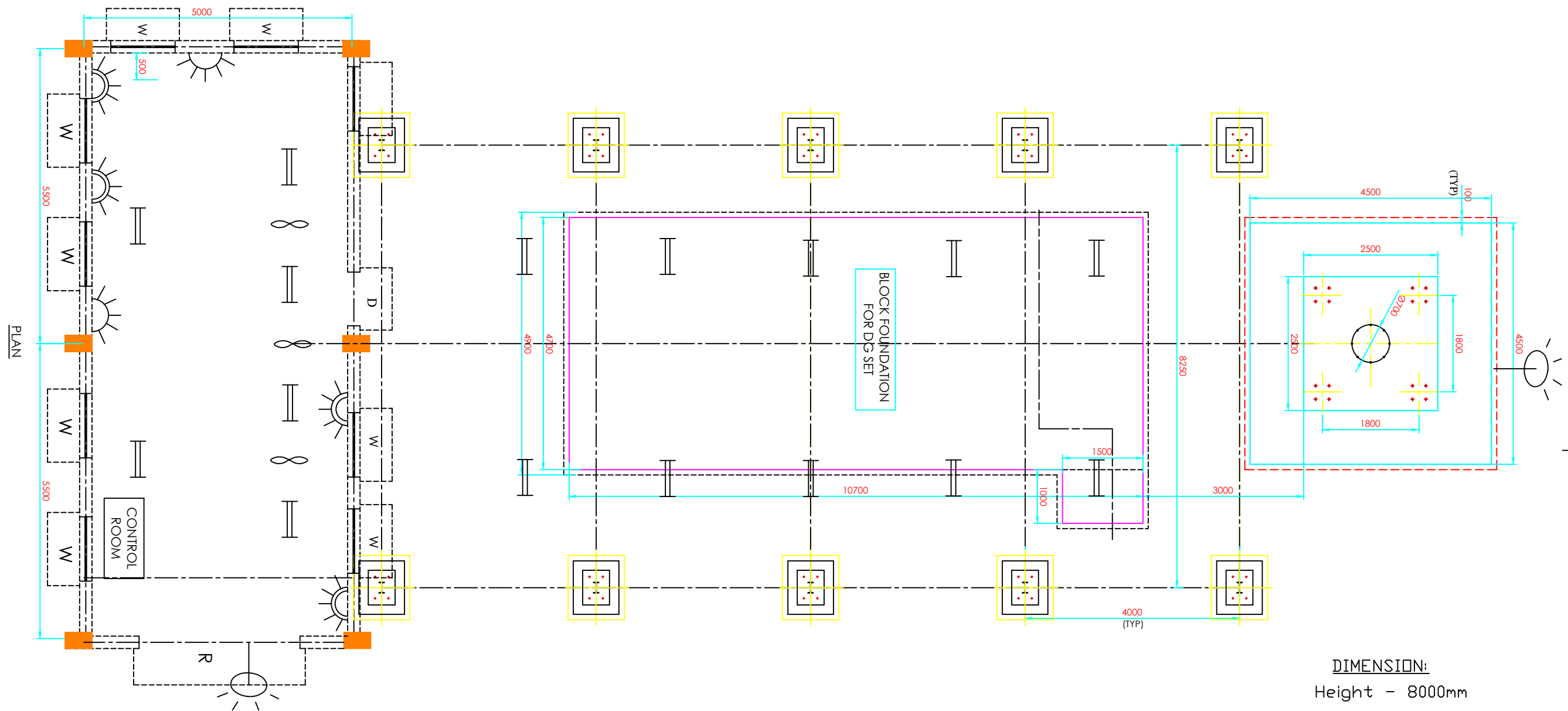
- Ceiling Fan - 4 nos
- 5/15A Plug Socket - 4 nos.
- 150W HPSV street light fitting - 4 nos.
- 250w MH Light-13 nos
- 8W 16A, 7Seg MCB DB - 1no
- 8W 32A 4SEG MCB DB - 1 no.
- 2x28W TL Fitting- 4 nos
- Industrial switch board - 1 no.

PLAN

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TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		POWER PLANT PIPING UNIT- THIRUMAYAM			
	Bharat Heavy Electricals Ltd UNIT: HIGH PRESSURE BOILER PLANT TIRUCHIRAPALLI - 620014		NAME <i>L. Honey Wood Mary</i>	SIGNATURE 	DATE 13.02.2011
	DRN & CHD	APPD	<i>V. Ragu</i>		13.02.2011
TITLE		DRAWING NO :			REV
ELECTRIFICATION OF COMPRESSOR AIR PLANT		CARD CODE U 01	M&S: PD: 11: 018		00

ALL DIMENSIONS ARE IN MILLIMETERS

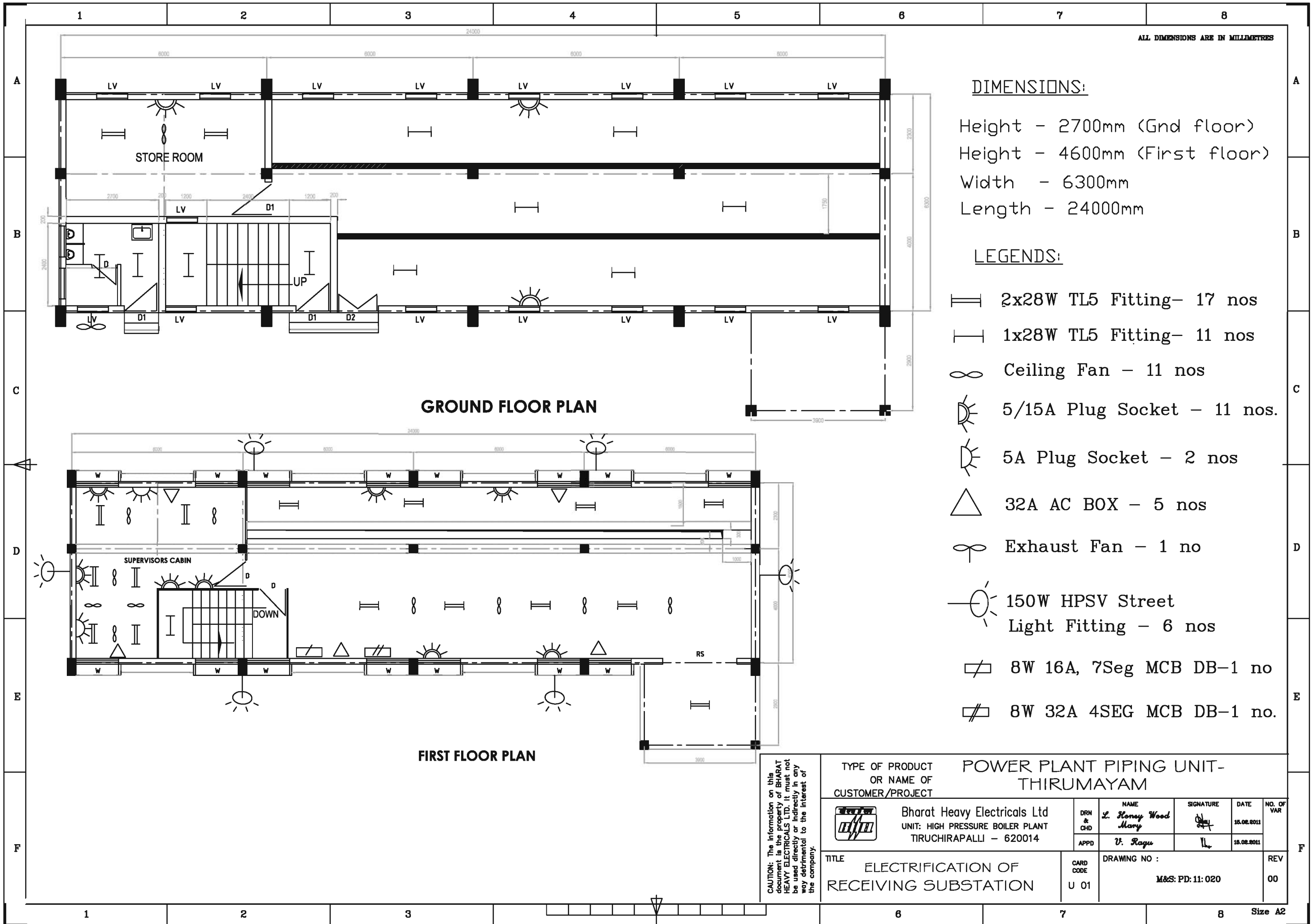


DIMENSION:
 Height - 8000mm
 Width - 11000mm
 Length - 26000mm

LEGEND:

- 2 x 28W TL5 Fitting - 16 nos
- 12W 16A SPN MCB DB - 2 nos.
- Ceiling Fan - 3 nos
- 5/15A Plug Socket - 4 nos.
- 5A Plug Socket - 2 nos.
- 150W HPSV street light fitting - 2 nos.

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		Bharat Heavy Electricals Ltd UNIT: HIGH PRESSURE BOILER PLANT TIRUCHIRAPALLI - 620014		DRN & CHD	NAME <i>L. Honey Wood Mary</i>	SIGNATURE 	DATE 14.02.2011	NO. OF REV
		APPD			<i>V. Ragu</i>		14.02.2011	
TITLE ELECTRIFICATION OF DG SET BUILDING			CARD CODE U 01	DRAWING NO : M&S: PD: 11: 019			REV 00	



ALL DIMENSIONS ARE IN MILLIMETRES

DIMENSIONS:

- Height - 2700mm (Gnd floor)
- Height - 4600mm (First floor)
- Width - 6300mm
- Length - 24000mm

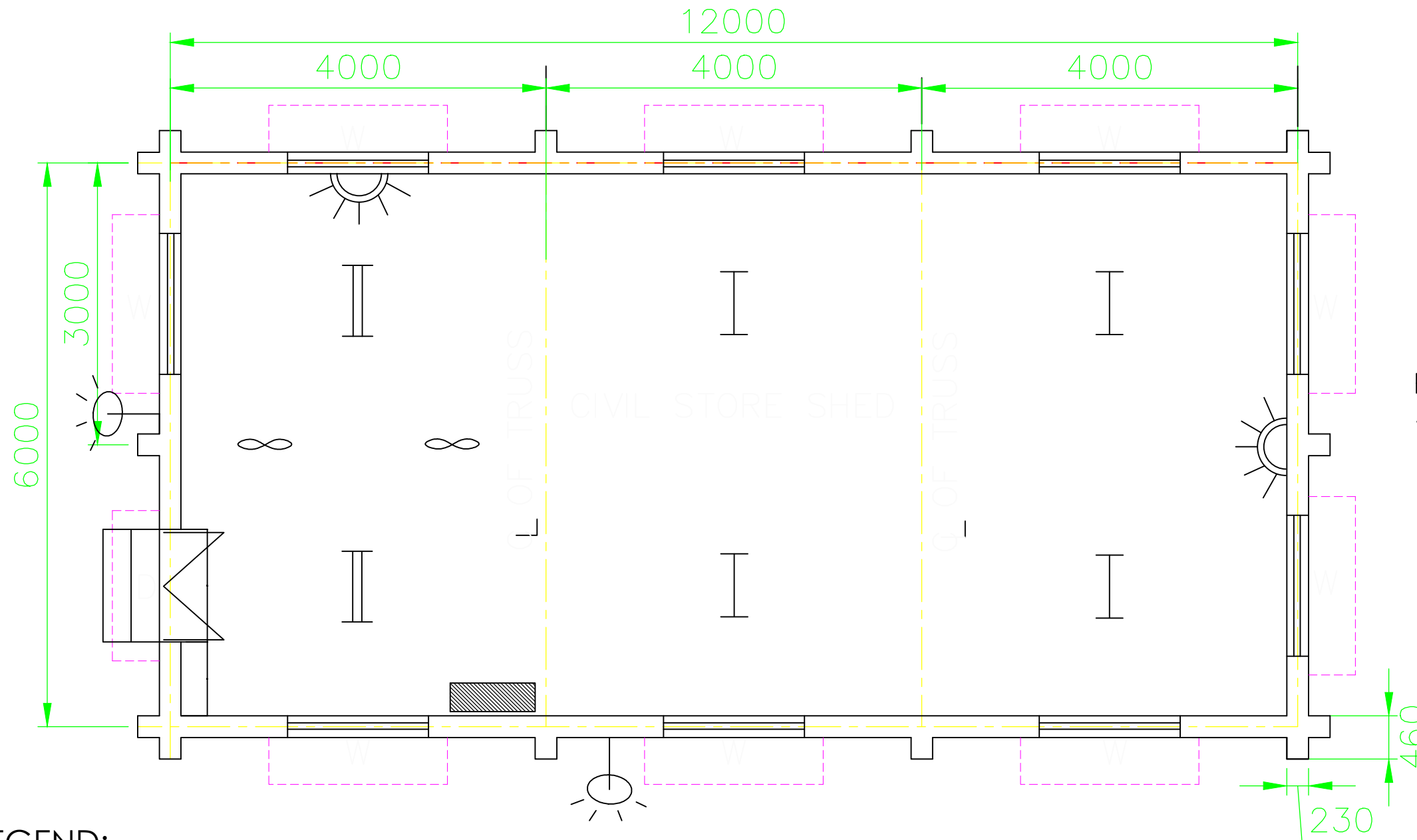
LEGENDS:

- 2x28W TL5 Fitting- 17 nos
- 1x28W TL5 Fitting- 11 nos
- Ceiling Fan - 11 nos
- 5/15A Plug Socket - 11 nos.
- 5A Plug Socket - 2 nos
- 32A AC BOX - 5 nos
- Exhaust Fan - 1 no
- 150W HPSV Street Light Fitting - 6 nos
- 8W 16A, 7Seg MCB DB-1 no
- 8W 32A 4SEG MCB DB-1 no.

GROUND FLOOR PLAN

FIRST FLOOR PLAN

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	Bharat Heavy Electricals Ltd UNIT: HIGH PRESSURE BOILER PLANT TIRUCHIRAPALLI - 620014		DRN & CHD <i>L. Honey Wood Mary</i>	APPD <i>V. Ragu</i>	DATE 15.02.2011	REV 00	
	TITLE ELECTRIFICATION OF RECEIVING SUBSTATION		CARD CODE U 01	DRAWING NO : M&S: PD: 11: 020		REV 00	



DIMENSION:
 Height - 5000mm
 Width - 6000mm
 Length - 12000mm

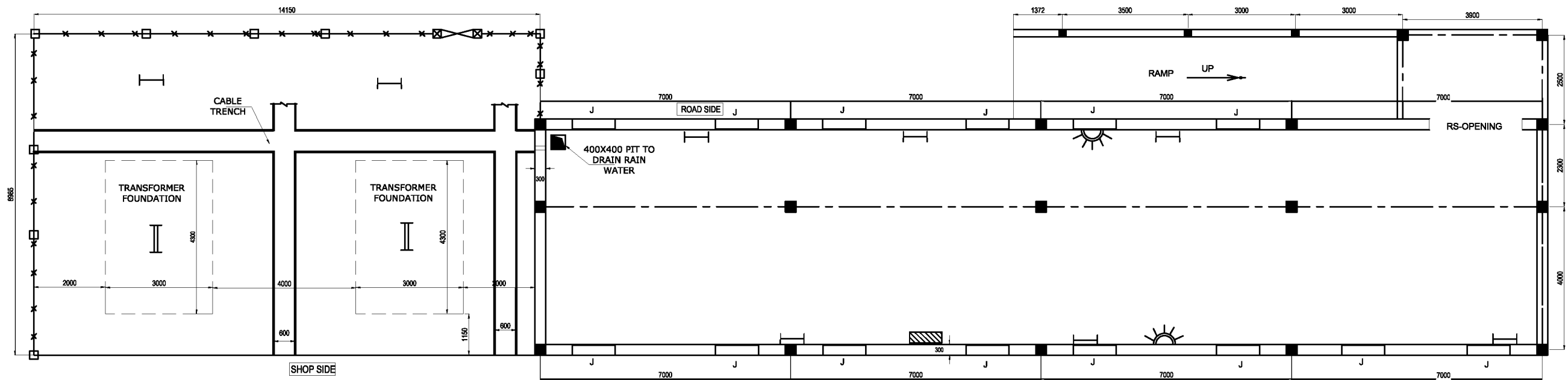
LEGEND:

- 150W HPSV Street Light Fitting - 2 nos.
- 1 x 28W TL5 Fitting- 4 nos
- 12W 16A SPN MCB DB - 1 nos.
- 2 x 28W TL5 Fitting- 2 nos
- Ceiling Fan - 2 nos
- 5/15A Plug Socket - 2 nos.

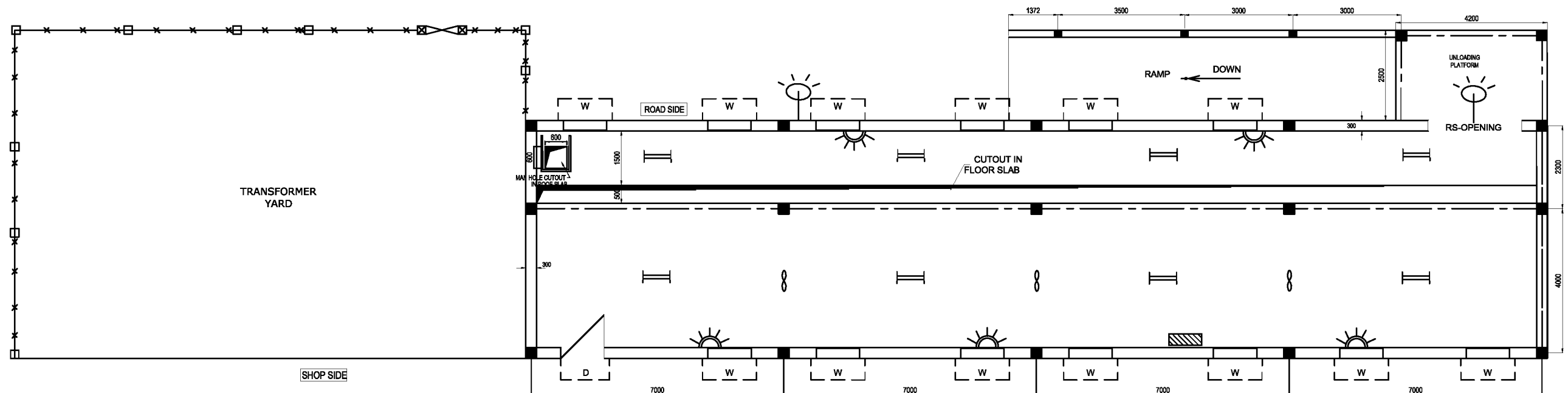
PLAN

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		Bharat Heavy Electricals Ltd UNIT: HIGH PRESSURE BOILER PLANT TIRUCHIRAPALLI - 620014		DRN & CHD	NAME <i>L. Honey Wood Mary</i>	SIGNATURE 	DATE 15.02.2011	NO. OF VAR
		APPD			U 01	DRAWING NO : M&S: PD: 11: 021	REV 00	

ALL DIMENSIONS ARE IN MILLIMETERS









GROUND FLOOR PLAN



FIRST FLOOR PLAN


LEGANDS:

-  Ceiling Fan - 3 nos
-  5/15A Plug Socket - 7 nos.
-  12W 16A SPN MCB DB - 2 nos.
-  1x28W TL5 Fitting- 8 nos
-  2x28W TL5 Fitting- 10 nos
-  150W HPSV street light fitting - 2 nos

DIMENSION:

Height - 4000mm (Gnd floor)
 Height - 8000mm (First floor)
 Width - 6300mm
 Length - 28000mm

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TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		POWER PLANT PIPING UNIT- THIRUMAYAM			
	Bharat Heavy Electricals Ltd	DRN & CHD	NAME <i>L. Honey Wood Mary</i>	SIGNATURE <i>[Signature]</i>	DATE 17.02.2011
	UNIT: HIGH PRESSURE BOILER PLANT TIRUCHIRAPALLI - 620014	APPD	<i>V. Ragu</i>	<i>[Signature]</i>	17.02.2011
TITLE ELECTRIFICATION OF SUBSTATION - I		CARD CODE U 01	DRAWING NO : M&S: PD: 11: 022		REV 00