

BPL/AMARYLLIS/SUPREEM/ELECTRICAL/PHASE-1/WC-75/2020 Dtd:-01.06.2020

M/s SUPREEM ENTERPRISES,

Nazaf Garh Road,

Nangloi, Delhi - 110086.

Contact Person- Ms Supriya Singh

Contact No. - +91-95405-57760

**Subject: Work Order for External Electrical Works for Phase-1 of "The Amaryllis" project at New Rohtak Road, Delhi.**

Dear Sir,

With reference to your offer and subsequent discussions / negotiations we had with you for above works, we are pleased to issue this work contract for Misc Finishing Works of our project - "The Amaryllis".

You are requested to proceed immediately on issue of this order and complete the entire work within timelines issued. The execution shall be governed as per attached Bill of Quantities in Annexure - 1, on following major terms and conditions:-

- 1. Scope of Works:** Your scope of work shall include fixing of VCB, Transformer, Main LT Panel, Ventilation Panel, Light & Power Panel, laying Lt cables, cable tray etc including all lead and Lift on all Floors and all levels complete as per instructions given by engineer and hand over the same to Engineer complete in all respects as per the time lines instructed from site. Finishes are to be clean in tone, and smooth and without variation between any sides. Rates includes all kinds of consumables like thinbles, glans etc required for fixing and laying of mentioned materials complete. The scope of work shall be governed by the Bill of Quantities and specifications, standard practices and subsequent drawings / clarifications issued to you from time to time.

Note:- Material to be supplied by Client at Ground Floor Free of Charge at one point.

- 2. Specifications:** The work shall be carries out as per the drawings, standard engineering practices, IS codes, latest CPWD specifications & directions of the Project in Charge. Defective works or bad workmanship shall be redone / repaired by you to the satisfaction of Engineer in Charge without any extra charge.
- 3. Contract Value:** The rates shall be as per enclosed Bill of Quantities. The contract value shall be **Rs 50,00,000/- (Rs Fifty Lakhs Only)** for works as per attached BOQ and specifications as annexure 1. The prices are inclusive of Freight, Loading and unloading, transit insurance,

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erection/installation, scaffolding, insurance premiums, contributions towards employees benefits including ESI, PF, etc. or any other statutory/financial obligations etc.

However, GST (CGST, IGST, SGST) shall be paid extra as per actual.

This is an item rate contract and quantity and contract price is derived from a tentative quantity assumptions and the actual payment shall be made as per the work done and actual measurements on site.

4. **Price Variation:** The rates and prices specified by the Contractor shall be deemed to cover any escalation in prices of materials, labour, consumable etc. if any, during the Contract Period including any extension, and any claims by the Contractor for any escalation/additional costs shall not be admissible.
5. **Payment Terms:** Payment under this contract shall as follows:
  - a) 80% after Installation on Prorata basis.
  - b) 10% after successfully Testing & Commissioning on Prorata basis.
  - c) 10% after Handing over to Engineer in Charge on Prorata basis.
6. **Retention Money:** 5% and will be released Twelve Months after completion of Work.
7. **TDS:** TDS shall be deducted by the Owner from all payments made to the contractor as per the prevailing rates as applicable. TDS certificate shall be provided by the Owner.
8. **Work to the Satisfaction of Engineer:** The Contractor shall execute and maintain the Works strictly in accordance with the Contract which will be to the entire satisfaction of the Engineer and shall comply with and adhere strictly to the Engineer's written instructions and directions on any matter whether mentioned in the Contract or not, touching or concerning the Works. The Engineer's decision relating to the use and quality of materials and visual and aesthetic effect shall be final.
9. **Liquidated Damages / Compensation for Delays:** Should the job be delayed for the reasons attributed to the contractor beyond the time of completion given in the contract and the extension granted if any, by the Owner. The same shall be charged compensation for the delay @ 1% (One Percent) for every week of delay and to the maximum of 10% (Ten Percent) of the total contract value.
10. **Risk & Cost:** In case that the Project in charge finds that the works is not proceeding a per schedule or the quality of works being executed is consistently not to the satisfaction of the Project in charge, the Owner shall be at liability to cancel the contract without any



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financial implications. The balance work shall be executed at the contractor's risk and cost, as deemed fit by the Project in Charge.

- 11. Defect Liability Period:** Defects liability period shall be 12 (Twelve) Calendar Months, after completion & successful handover of the works to the Owner's Project in Charge. Should the Engineer consider, at any time during the construction or reconstruction or prior to the expiration of Maintenance Period, that any work has been executed with sub-standard or imperfect materials or by un-skilful workmanship or of a quality inferior to that contracted for or not otherwise in accordance with the Contract, then in that event, the decision of the Engineer shall be final and binding. The Contractor shall, on demand in writing from the Engineer, specifying the fault, notwithstanding that the same may have been inadvertently passed, certified and paid for, rectify forthwith or remove and reconstruct the defective work so specified, in whole or in part, as the case may require, at his own cost and risk; and in the event of his failing to do so within the period specified by the Engineer in his demand/ direction, the Owner, may carry out the work by other means at the risk and expense, in all respects, of the Contractor.
- 12. Amendments:** This agreement may be modified only by a written instrument duly executed by each party. No breach of any covenant, agreement, warrant or representation shall be deemed waived unless expressly waived in writing by the party who might assert such breach. All amendments and other modifications hereof shall be in writing and signed by each of the parties.
- 13. Extra Items:** If the altered / additional or substituted works or any additional work required to be executed as per Owner's requirement for which there are no established rates in schedule of items, the same shall be payable as per following procedure;
- (a) The rate shall be determined by the Engineer on the basis of the cost to the Contractor at Site plus 10% to cover his overheads and profits. Provided that if the Contractor is not satisfied with the rate fixed by the Engineer, he shall be entitled to represent the matter to the Owner's Representative within fourteen days of the receipt of the rate fixed by the Engineer and the decision of the Owner's Representative thereon, shall be final and binding.
- 14. Water & Electricity:** Owner shall provide water & electricity at one point free of charge. However branching shall be done by the contractor by his own and nothing extra shall be payable on this account.
- 15. Plant, Ladders, Scaffolding, etc:** Plant and machinery will be arranged or issued by the Owner and the Contractor shall arrange to erect/deploy at his own cost all plant, machines, shuttering and scaffolding, tools and tackles necessary/incidental to due performance of the Contract.



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**16. Working at All Heights:** Item rates quoted by the Contractor in the bills of quantities shall include allowance for executing work at all heights above and at all depths below the ground level except where specific provision has been made to measure work separately at different heights. Method of measurements given in the CPWD Specifications 2009 and in the Indian Standard Method of Measurement shall be deemed to be modified accordingly.

**17. Sub-Letting/ Sub-Contracting:** The Contractor shall not be permitted to Sub-Let/Sub-Contract the whole of the Works. Further the Contractor shall not Sub-let any part of the Works without the prior written consent of the Owner's Representative except as provided for in these conditions, and such consent shall not be unreasonably withheld. Such consent, if given, shall not relieve the Contractor from any liability or obligation under the Contract and he shall be responsible for the acts, defaults and neglects of any Sub-Contractor(s), his/their agents, servants or workmen as fully as if they were acts, defaults or neglects of the Contractor himself, his agents, servants or workmen. Engagement of labour contractor on a piecework basis shall not be deemed to be a Sub-Letting/Sub-Contracting under this Clause.

**18. Storage and safe Custody of material:** We shall provide you space in tower/s as per your requirement and accessibility. However storing, stacking and safety of the material will be in your scope. Round the clock watch and ward of store and material will be solely your responsibility. Owner shall not be responsible for any damage / loss / theft occurs to material stored by you at site.

**19. Safety to Workmen and material:** You shall take all adequate measures for complete safety of man, material and machinery deployed at site, whether your own or those of any sub-contractor. The Owner shall not be liable for or in respect of any damages or compensation payable at law in respect or in consequence of any accident or injury resulting to any workmen or other person in the employment of the Contractor or any sub-contractor and the Contractor shall indemnify and keep indemnified the Owner against all such damages and compensation and against all claims, demands, proceedings, costs, charges and expenses whatsoever in respect thereof or in relation thereto. All statutory requirements, Factories Act, ESI, Workmen Compensation, Bonus Act, Provident Fund & Gratuity Act, Industrial Dispute Act, etc., wherever applicable and where contributions/compensation/payments are to be made the same shall be borne by the contractor either during the term of contract or after.

**20. Labour Law & Compliances:** Refer **Annexure A** attached.

**21. Compliance of Safety Norms, Environment & Health at Project Site:** You shall comply with all the safety norms, environment aspects pertaining to but not

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limited to disposal of civil construction material away from the water source drains etc. and also be responsible for the health of workers. You alone shall be liable for any breach or violation thereof and shall keep us indemnified against any loss or damages suffered by us on this account. You shall make all necessary arrangements for the required tools, tackles and other safety equipments like helmets, gloves, shoes, safety belts etc. for examination of the workers on occupational health and safety aspects.

**22. Insurance of Works And Contractor's Equipment:** Without in any way limiting the other obligations and liabilities of the Contractor under the Contract, the Contractor shall effect and maintain in force, the insurances specified in this Clause and elsewhere in the Contract. The cost of procuring such insurances shall be deemed to have been included in the rates and prices quoted by the Contractor and the Contractor shall not be entitled to claim any additional payments or compensation on account of procuring the same.

**i) Third Party Insurance**

Before commencing the execution of the Works, the Contractor shall insure against his liability for any material or physical damage, loss or injury which may occur to any property, including that of the Owner and other adjoining properties and to any person including any personnel of the Owner, Consultant, Architect, by or arising out of the execution of the Works or in the carrying out of the Contract and shall fully indemnify and hold harmless the Owner, the Engineer and all persons who may be associated with or connected with the Owner or the Engineer against all claims, proceedings, damages, costs, charges and expenses whatsoever arising out of any damage caused to them. Such insurance shall be effected with an insurer and in terms approved by the Owner and for amounts as stated in Annexure "A". The Contractor shall, whenever required, produce to the Engineer the policy or policies of insurance and the receipts for payment of the current premiums.

**ii) Insurance against Accident or Injury to Workers:**

The Owner shall not be liable for, or in respect of any damages or compensation payable at law in respect or in consequence of any accident or injury or loss of life or limb to any workman or other personnel engaged by the Contractor or any Sub-Contractor.

The Contractor shall indemnify and keep indemnified and hold harmless the Owner, the Engineer, and all persons who may be associated with or connected with the Owner or the Engineer against all such damages and compensation, and against all claims, proceedings, costs, charges and expenses whatsoever in respect thereof or in relation thereto.

The Contractor shall insure against such liability with an insurer approved by the Owner and shall continue such insurance during the whole of the time that any personnel are engaged by him or the Sub-Contractor on the Works and shall, when required, produce to the Engineer such policy of insurance and the receipt for payment of the

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current premium. Provided always that, in respect of any persons employed by any Sub-Contractor, the Contractor's obligation to insure as aforesaid under this sub-clause, shall be satisfied, if the Sub-Contractor, shall have insured against the liability in respect of such persons, in such manner that the Owner is indemnified under the policy, but the Contractor shall require such Sub-Contractor to produce to the Engineer, when required, such policy of insurance and the receipt for the payment of the current premium.

**iii) Remedy on Contractor's Failure to Insure; Waiver of Subrogation:**

If the Contractor shall fail to effect and keep in force insurance, as per the terms of Contract, the Owner may effect and keep in force any such insurance and pay such premium or premiums as may be necessary for that purpose and from time to time deduct the amount so paid by the Owner as aforesaid from any monies due or which may become due to the Contractor, or recover the same from the Contractor.

It shall be the responsibility of the Contractor to lodge and settle all insurance claims, which may arise. The responsibility and liability of making good losses shall rest with the Contractor irrespective of the status of settlement of claims and the Owner shall not be liable for any additional cost on this account.

Insurance policies procured and maintained by the Contractor or any Sub-Contractor shall include a waiver of any right of subrogation of the insurers thereunder against the Owner, the lenders to the Owner, and their respective assigns, subsidiaries, affiliates, parent companies, employees, and of any right of such insurers under such policies to any set-off or counterclaim or any other deduction, whether by attachment or otherwise, in respect of any liability of any such person insured under any such policy. The Contractor further releases, assigns and waives any and all rights of recovery against the Owner, the lenders to the Owner, and their respective assigns, subsidiaries, affiliates, parent companies, employees, insurers and underwriters, which the Contractor may otherwise have or acquire in or from or in any way connected with any loss covered by the policies of insurance maintained or required to be maintained by the Contractor pursuant to the Contract or because of deductible clauses in, or inadequacy of limits of, any such policies of insurance.

Each insurance policy required to be maintained by the Contractor shall provide that the insurance will not, as against one named party to the insurance, be invalidated by any act, breach, omission, neglect or failure of another party.

**23. Entire Agreement:** This agreement constitutes the entire agreement and understanding of the parties with respect to the subject matter and supersedes all oral communications and prior writings with respect thereof.

**24. Force Majeure:** In case either of u are unable to fulfill our obligations under this agreement owing to force majeure conditions like war, floods and the like,, the party in default must immediately inform the

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other party of the existence and/or determination of the circumstances preventing the performance of their obligations under this agreement to enable the non-defaulting party to verify the facts and make alternative arrangements, if possible, at the cost of defaulting party.

**25. Assignment:** The order shall not be assignable by either party to any other person. This order shall be binding upon and insure o the benefit of either party acquiring all substantially all of the business and assets of the party.

**26. Prohibition of conflicting activities:** The Contractor shall not engage, and shall cause its Personnel as well as its Sub-Consultants not to engage, either directly or indirectly, in any business or professional activities that would conflict with the activities assigned to them under this Agreement.

**27. Arbitration and Jurisdiction Clause:**

**A) Resolution of Disputes:** All or any disputes arising out or touching upon or in relation to the terms of this Agreement including the interpretation and validity of the terms thereof and the respective rights and obligations of the Parties shall be settled amicably by mutual discussions, cooperation and consultation in the first place, failing which the same shall be settled through arbitration. The arbitration shall be governed by the Arbitration and Conciliation Act, 1996 or any statutory amendments/modifications thereof for the time being in force. The arbitration proceedings shall be held at an appropriate location as may be decided by Owner. The arbitration proceedings shall be conducted by a Sole Arbitrator who shall be appointed by Owner and whose decision shall be final and binding upon the Parties. The Contractor hereby confirm(s) that it shall have no objection to the appointment of Sole Arbitrator by Owner even if the person so appointed is an employee or advocate of the Owner or is otherwise connected to Owner and the Contractor confirms that notwithstanding such relationship/connection, it shall have no doubts as to the independence or impartiality of the Sole arbitrator.

**B)** The courts at Delhi alone and High Court of Delhi at New Delhi alone shall have the jurisdiction in all the matters arising out of/touching and/or concerning this Agreement regardless of the place of execution of this Agreement which is deemed to be at New Delhi.



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C) **Governing Law:** The Governing Law shall be the Law of India.

D) **Indemnity:** The seller/Contractor shall be liable to compensate and indemnify, defend and hold harmless the company, the company's directors, officers, employees and any person connected with the company from and against any and all losses, liabilities, damages, deficiencies, legal actions, fees, costs and expenses (including attorney's fees, costs and expenses) or other losses incurred hereby or caused thereto, directly or indirectly, in respect of any breach by the supplier/contractor under this purchase order/work order/contract/any other agreement signed/to be signed between parties. The seller/contractor also agrees and accept that it shall be solely responsible for any loss, damages or injury caused to any property, material or human life that takes place due to any accident etc. which has occurred in the said building/said plot whether directly or indirectly or due to negligence of the seller/contractor or its employees, agents, licensees and agrees and undertakes to indemnify all the pecuniary and consequential losses and damages of the company/affected person/s and shall keep the company, the company's directors, officers, employees and any other person connected with the company harmless and fully indemnified in this regard.

In witness whereof the Parties here to have caused this Agreement to be executed by their Authorized persons on the day and year first written above.

Duplicate copy of this Work is enclosed which may please be signed at your end and returned to this office in token of your acceptance for our records.

Thanking you,  
Yours faithfully

Read, understood and accepted  
all the terms and conditions

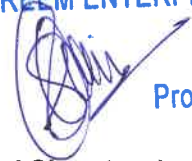
for **BASANT PROJECTS LIMITED.**

for **M/s SUPREEM ENTERPRISES**

**For SUPREEM ENTERPRISES**



(Authorised Signatory)



Proprietor

(Authorised Signatory)

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## ANNEXURE A

### LABOUR LAW & COMPLIANCES

#### 1. Engagement of Labour:

i) The Contractor shall make his own arrangements for the engagement of labour, local or otherwise, and for their transport, housing and payment. All personnel engaged by the Contractor on the Works shall remain the sole responsibility of the Contractor and no claim shall lie against the Owner by them or Contractor or the Sub-Contractor or any person claiming on their behalf against the Owner in respect of any right or benefit due to the personnel in their employment.

ii) The Contractor shall obtain a valid license under the Contract Labour (Regulation and Abolition) Act, 1970 and registration under Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996 before the commencement of the work and continue to have a valid license and registration until the completion of work or expiry of maintenance period, if applicable. The submission of Form V by the Owner shall not absolve the Contractor in any manner whatsoever of its liabilities and responsibility regarding Contract Labour Regulation and Abolition Act and the rules and regulations thereunder.

iii) The Contractor shall pay the personnel employed by him directly or through Sub-Contractors, wages not less than the minimum wages notified under the Minimum Wages Act.

iv) The Contractor shall in respect of personnel employed by him either directly or through Sub-Contractor comply or cause to be complied with the provisions of all prevailing labour laws such as but not limited to the Payment of Wages Act, 1936; Minimum Wages Act, 1948; Owners Liability Act, 1938; Employees' Compensation Act, 1923; Maternity Benefit Act, 1961; Contract Labour (Regulation and Abolition) Act, 1970; Employees Provident Fund Act, 1952; Child Labour (Prohibition and Regulation) Act, 1986; Employees' State Insurance Act, 1948; Payment of Bonus Act, 1952; Payment of Gratuity Act, 1972; Employees' Compensation Act, 1923; Inter-State Migrant Workman (RECS), 1979; The Employees Deposit Linked Insurance Scheme, 1976; The Building and Other Construction Workers (Regulation of Employment and Conditions of Services) Act, 1996 and any other Act, rules or regulations for labour as may be enacted by the Government or any modification thereof or any other law relating thereto and rules made there under from time to time.

v) The Owner shall, on a report from Inspecting Officer, defined under Contract Labour (Regulation and Abolition) Act, 1970, have the power to deduct from the monies due to the Contractor any sum notified under the provisions of the relevant Act.

vi) The Contractor shall indemnify the Owner against all or any payments to be made under and for observance of any Act, rules and regulations aforesaid without prejudice to his right to claim indemnity from his



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Sub-Contractors. The Contractor shall submit to the Owner an Indemnity Bond as per format at Appendix "G" of the General Conditions of Contract in this regard.

vii) The Contractor shall not give, barter or otherwise dispose off to any persons any arms or ammunition of any kind, or permit such actions at Site by his agents, personnel or Sub-Contractors or personnel of the Sub-Contractors.

viii) In the event of any outbreak of illness of an epidemic nature, the Contractor shall comply with and carryout such instructions, orders and requirements of Medical or Sanitary Authorities or other governmental instrumentalities for the purpose of dealing with and overcoming the same. The Contractor shall also, at his expense, conform to all anti-malarial instruction given to him by the Engineer or by any local authority including filling up of borrow pits.

ix) That the Contractor shall be liable to comply with all the statutory enactments which shall be applicable to it as a result of this Contract undertaken by it. The Contractor in compliance with the provisions of law undertakes to submit all the statutory returns wherever required. In case of breach of any statutory enactment or rules framed there under the Contractor alone shall be liable for the consequences while no proceeding or penal action for such breach shall be maintainable against the Owner, its Directors, its personnel, Agents, Representatives and all those connected with the Owner. The Contractor shall accordingly submit on a monthly basis a "Certificate of Compliance" as given in Appendix "F".

x) That the Contractor undertakes to pay wages to its workers/personnel not less than the minimum wages as prescribed by the Government and revised from time to time. The Contractor shall also ensure full compliance with regard to the provisions of Employees Provident Fund and Miscellaneous Provisions Act, 1952 and the Scheme framed there under and shall deposit the requisite contributions (both employer's and employee's share) with the concerned Authorities within the stipulated dates as laid down under law and also submit the Statutory Returns as required. If the Contractor is already a covered unit under the Employees Provident Fund and Miscellaneous Provisions Act, 1952 it would cover the personnel under the Code Number already allotted by the concerned RPFC and in case no such Code Number has been allotted, the Contractor shall ensure that he obtains the coverage before the commencement of the Project and the Provident Fund contributions in respect of the personnel engaged in or in connection with the Works are enrolled as member of the Fund including those employed through a Sub-Contractor.

xi) In the event of the applicability of the Employees' State Insurance Act, 1948 (ESI Act), the Contractor shall comply with the provisions of the said Act and deposit ESI Contributions. If for any reason, the Owner is required to pay any ESI contribution in respect of the personnel engaged by the Contractor/Sub-Contractor, by operation of the law or otherwise, the same shall be immediately reimbursed by th

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Contractor to the Owner, failing which the amount so paid shall be recovered from the bills payable to the Contractor.

xii) That the Contractor shall obtain an insurance policy against the accident(s) or loss of life in respect of all the personnel including those engaged through a Sub-Contractor providing adequate coverage against any disability or infirmity or death which may be caused to the personnel as a result of the accidents on the site.

xiii) That the Contractor having been covered under the provisions of Contract Labour (Regulation and Abolition) Act, 1970 shall obtain the requisite Licences from the concerned Authorities clearly setting out the number of persons to be engaged by it for the construction of the Works assigned under this Agreement. The Contractor shall maintain the requisites registration of Muster Roll and issue wages slips to each of its personnel including those engaged through a Sub-Contractor.

xiv) In case of an accident whether resulting in any injury or disability or death of the personnel including those engaged through a Sub-Contractor, the Contractor shall be liable to pay to such personnel compensation in accordance with the provisions of Employees' Compensation Act, 1923. Such compensation shall be paid to the concerned personnel or the legal heirs within one month of the date of the accident.

xv) In the event the Contractor fails to pay the requisite compensation to its personnel including the one engaged through a Sub-Contractor, the Owner shall be entitled to pay to such personnel of the Contractor the requisite compensation and the payment so made shall be adjusted against the bills payable to the Contractor by the Owner.

xvi) It is clearly understood and agreed to by the Contractor that it is the statutory obligation on the part of the Contractor as a Principal Employer to faithfully comply with the provisions of all the statutory enactments that are applicable to it including the Employees Provident Fund and Miscellaneous Provisions Act and the scheme framed there-under. The Contractor shall with effect from the date of the appointment of each personnel including those engaged through a Sub-Contractor shall be covered by the provisions of the EPF and MP Act and their PF contribution both employer and employee, shall be deposited with the Regional Provident Fund Commissioner. In the event if it is found either by the Office of the RPFC or otherwise that the Provident Fund contributions are not being paid or deposited in respect of all the personnel including those engaged through a Sub-Contractor and a liability on this account is created and is required to be paid to the RPFC by the Owner, such amount shall be recovered from the bills that would be payable to the Contractor by the Owner and the Contractor shall not be entitled to raise any dispute in this regard.

xvii) The Contractor alone shall be the employer in relation to the personnel employed by it including those through the Sub-Contractor for fulfillment of its obligations under this Agreement. It is therefore, the Contractor who alone shall be responsible and liable to pay wages to its personnel including those engaged through a Sub-

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Contractor and as such, the Owner shall in no case be liable for any such claim or claims. Neither the Contractor nor the personnel engaged by it including those engaged through a Sub-Contractor shall be entitled to raise any dispute, demand or claim in this regard against the Owner. All claims in this regard would only be directed against the Contractor and the Contractor alone shall be liable to pay the same.

xviii) That the Contractor shall strictly adhere to his Safety Plan/ Owner's Safety Manual and shall ensure that all safety provisions as provided therein are strictly adhered to and implemented; provided that nothing contained in the Contract shall in any manner whatsoever limit or absolve the Contractor of its obligations to ensure that all applicable safety and health related laws and regulations are complied with. The safety precautions and requirements expressly stipulated in the Contract shall not in any manner preclude the Contractor or relieve the Contractor of its responsibility for taking all additional safety measures as may be warranted for the particular type of work or situations. The Contractor shall ensure the safety of the persons working at the site as well as the property of the Owner. The Contractor shall ensure that all personnel including those engaged through a Sub-Contractor also adhere to the safety norms and use helmets, safety belts, safety boots, safety gloves, goggles etc. while performing their work. It shall be the responsibility of the Contractor and he shall ensure that all safety equipments are also available at the site of the construction and no personnel shall be permitted to work on the site without using of the requisite protective covers forming part of his Safety Plan/Owner's Safety Manual.

xix) In the event of any accident of any nature whatsoever at the Site or otherwise related to the Works awarded to the Contractor including Temporary Works, then the Contractor alone shall be liable for all the consequences arising out of such accident(s) and provide explanation to the Police/ Authorities, if required. Since the Owner is not involved in the construction of the Works, it shall not be responsible in any manner whatsoever in respect of such accident(s) and any legal proceedings, if instituted, would lie against the Contractor only and not against the Owner. The Contractor shall be solely responsible for any loss or damage to property or injury to any person (including but not limited to any injury to or death of any personnel engaged by the Contractor, any Subcontractor, the Owner, the Owner's Representative, the Engineer, the Architect or any other contractor or consultant engaged by or behalf of the Owner in relation to the Works or injury to or death of any member of the public) and the Contractor hereby expressly absolves the Owner from any such liabilities.

xx) It is clearly understood and agreed to by the Contractor that if by virtue of the Works undertaken by him and personnel deployed by the Contractor at the said project, the Owner is saddled with any liability, financial or otherwise under any statutory enactment or otherwise, the amounts which may be payable shall be recovered from

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CIN NO U74899DL1996PLC078373

For SUPREEM ENTERPRISES

Proprietor



the Contractor upon any such liability coming to the notice of the Owner.

xxi) That the Contractor shall be fully responsible in respect of all matters including the payment of wages etc. in respect of the Sub-Contractor and the personnel engaged through them. For the purposes of this Agreement, the Contractor shall be the deemed employer in respect of the personnel employed by or through Sub-Contractors and as such it shall be the exclusive responsibility of the Contractor to ensure that all statutory provisions of law which are applicable to the direct workers/ employees/ personnel of the Contractor are duly applied to the employees/personnel employed by or through Sub-Contractors, and they shall not be discriminated in any manner whatsoever, and the Contractor shall not be entitled to absolve his responsibility and/or liability on the plea that they are not his direct employees/personnel.

xxii) The Contractor shall at all times take all reasonable precautions to prevent any un-lawful riotous or disorderly conduct by or amongst his personnel and for the preservation of peace and protection of person(s) and property in the Works, neighbourhood of the Works, against the same. The Contractor shall in all dealings with the personnel in his employment have due regard to all recognised festivals, days of rest, religious or other customs.

xxiii) That the Contractor shall ensure that no personnel stays in the Site premises. The Contractor will therefore ensure that the personnel on the close of their shift timings or duties leave the Site. Any personnel if found staying at the Site after his duty hours would be treated as an unauthorized person and shall not have the approval of the Owner nor the Owner shall be liable for any claim(s), if on account of the unauthorized conduct of such personnel, any injury is caused to him.

xxiv) That the Contractor shall provide the welfare facilities at the Site such as drinking water, washing facilities, rest room, canteen, toilets and urinals etc. and shall also ensure that the First-Aid equipment is always available in adequate quantity at the Site.

xxv) The Contractor shall comply with the Child Labour (Prohibition and Regulation) Act, 1986 and no child shall be employed at Construction site in any capacity and no women shall be deployed at work during night after 7 pm.

xxvi) The Contractor on the Completion/ Foreclosure/ determination of this Agreement shall forthwith settle all the accounts and/or claims of all the personnel including those engaged by or through Sub-Contractors and shall produce the relevant record showing such payments having been made to the personnel and shall also make affidavit certifying that the legal dues of all the personnel including those engaged through Sub-Contractors have been settled. It is only on the receipt of such an affidavit and upon satisfying after checking, the relevant records that such payments have been made, that the bills of the Contractor shall be passed for payment. In case the Contractor fails to furnish the requisite record or give an affidavit

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in the manner mentioned above, the Owner shall be within its competence to with-hold the payment of the pending bill of the Contractor.

**xxvii)** The Contractor alone shall be responsible for observance of the foregoing provisions by his Sub-Contractors.

**xxviii)** The Owner shall be entitled to carry out audits either through his representatives or through a third party to ensure that the Contractor has complied with all the provisions of labour and other laws as may be applicable to him from time to time. The Contractor shall resolve all audit observations as intimated to him expeditiously.

**Returns of Labour:**

The Contractor shall furnish to the Engineer, a return every fortnight, in such detail and form as the Engineer may prescribe, showing the supervisory staff and number of several classes of personnel from time to time employed by the Contractor and Sub-Contractors on the Site, indicating their working hours and wages paid to them (statutory compliances) and any other information as directed by the Engineer.

**No Liability towards Staff Employed:**

The Contractor shall employ person/s to carry out the work as defined under scope of work & BOQ. Person/ Persons engaged by you to carry out the aforesaid activities shall work under your direct control and supervision. Nothing herein shall be construed as establishing any relationship of employer and employee between us and the person/s engaged by you to carry out work awarded to you. You shall be liable for payment of all remuneration statutory dues in respect of persons engaged by you.

You shall also comply with all laws, bye-laws, rules and regulations as are or shall be applicable on you /your establishment. You shall keep us harmless and indemnified against any claim or demand, litigation, loss or expenses that may be suffered or incurred by us on account of any claim or demand raised by the person/s appointed by you including claim for wages/compensation and/or other dues whether statutory or not on any account whatsoever and/or on account of any violation of law/s, rules, regulations etc. committed by you/persons employed by you.



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## **BILL OF QUANTITIES**

# External Electrical Works for Phase-1

## BOQ

S. NO.	DESCRIPTION OF ITEM	UNIT	QTY.	Rate (Rs.)	Amount (Rs.)
	<b>SUB HEAD - I : (EQUIPMENTS - HT PANEL BOARD, TRANSFORMERS &amp; H.T. CABLE)</b>				
<b>1</b>	<b>INDOOR TYPE HT VCB NEAR METER ROOM</b> Installation of 2mm thick sheet steel clad, dust and vermin proof free standing 1 No. vacuum Circuit Breaker panel board of 11 KV, 500 MVA, 630Amp, V.C.B.s having a set of isolating plug and socket; trip free spring charged 220V, AC motor operated closing mechanism, complete as detailed out in attached specifications as required .  <b>One no. VCB comprising of :</b> 1 No. 630Amp. 3 P VCB 1 No. - 11KV/ 110Volts PT Class 0.5 accuracy and 200 VA burden with dual core calibrated digital multi functional meter of class 0.5 or better accuracy to record demand (KVA), energy (KWH) total power factor, current voltage with communication port. 1 No. -Microprocessor based numerical relay with O/L , E/F and S/C protection . 1 No. - set of dual core dual ratio 3 CTs 600/300/5/5 A of 15VA burden and accuracy Class-0.5 for metering and class 5P10 for protection . One number microprocessor based IDMT directional relay. Cable box suitable for three core 240 sqmm XLPE cables. One set inbuilt DC power pack. One set electronic KWH meter with pulse out. Strip heater with thermostat to prevent absorption of moisture.	Set	1	21000.00	21000
<b>2</b>	<b>HT VCB 4 No's PANEL BOARD</b> Installation of indoor type floor mounted metal clad, 11 KV VCB panel with 4 No. VCBs, totally enclosed & fully interlocked, horizontal drawout, horizontal isolation type breaker as per IS 13118, as amended up to date and additional specifications, having capacities as mentioned below, single break, trip free mechanism, motorized charged and auto/manually closing breaker suitable for use on 11 KV, 3 Phase, 50Hz A.C. supply with short circuit fault level of 500 MVA, complete with self contained, fully interlocked, rack in and rack out mechanism, air insulated but encapsulated copper bus bars of 630 Amps capacity suitable power pack of 24 volts D.C. breaker featured with mechanical ON/OFF indicator with hand trip device, spring release coil, shunt trip coil and auxiliary switch of 4 NO + 4 NC with computer compatible and equipped with following switchgears and accessories i/c connections suitable for 3C x 240 sq.mm. on incomer breaker and 3C x 240 sq.mm. on outgoing breaker XLPE 33KV cable (cable entry from bottom), end termination with heat shrinkable jointing material etc. as required. (Note-Cost of end termination not included in this item)				
<b>A.</b>	<b>Incomer</b>				
a)	1 No. 630Amp. 3 P VCB				
b)	1 No. - 33KV/ 110Volts PT Class 0.5 accuracy and 200 VA burden with dual core calibrated digital multi functional meter of class 0.5 or better accuracy to record demand (KVA), energy (KWH) total power factor, current voltage with communication port.				
c)	1 No. -Microprocessor based numerical relay with O/L , E/F and S/C protection .				
d)	1 No. - set of dual core dual ratio 3 CTs 600/300/5/5 A of 15VA burden and accuracy Class-0.5 for metering and class 5P10 for protection .				
<b>B</b>	<b>Outgoing</b>				
a)	3 Sets. 630 A 3P VCB				
b)	3 Sets - dual core calibrated digital multi functional meter of class 0.5 or better accuracy to record demand (KVA), energy (KWH) total power factor, current voltage with communication port.				
c)	3 Sets. - Microprocessor based numerical relays with O/L, E/F & S/C protections .				
d)	3 Sets. - set of dual core dual ratio 3 CTs 100/50/5/5 A of 15VA burden and accuracy Class-0.5 for metering and class 5P10 for protection.				

For SUPREEM ENTERPRISES

Proprietor  
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# External Electrical Works for Phase-1

## BOQ

S. NO.	DESCRIPTION OF ITEM	UNIT	QTY.	Rate (Rs.)	Amount (Rs.)
e)	3 Nos. Potential transformers 11KV/110 V, 100VA, CL - 1.0 Epoxy cost resin type provided.	Set	1	54000	54000
3	laying and fixing of the following sizes earthed amoured aluminium conductor XLPE power cable of 11 KV grade confirming to IS 7098(Part II) amended upto date of following sizes on existing cable tray as required.				
3.1	3 x 240 Sq.mm	Mtr.	100	150	15000
4	making indoor cable end terminations with heat shrinkable jointing kit complete with all accessories including lux suitable for following size of 3 core XLPE AL conductor cable of 11 KV grade as required.				
4.1	240 Sq.mm	Sets	9	3000	27000
5	<b>TRANSFORMER 1600KVA</b> installation of Cast resin OIL type,1600 KVA 11/0.433 KV, 3 Phase, 50Hz, Dyn11 vector group, copper wound, class F or higher insulation level, associated with winding temperature indicator/controller actuated by means of resistance temperature detector embedded in LV windings, Indoor type transformer with approximately 6.25% impedance maximum allowable losses of 0.90% at 50% load and 1.20 % at full load, with OFF Load Tap Changer on HV side in steps of -15 to +5 % in steps of 1.25 %, having cable end boxes on HV side suitable for 3C x 240 Sqmm XLPE cable of 11KV grade and arrangement on LV side suitable size for cables separately with all accessories and confirming to IS 11171:1985 & as per specification attached complete in all respects as required at site.(-cost of civil works is not included in this item)	Set	3	40000	120000
<b>TOTAL - Sub Head 1</b>					<b>237000</b>
<b>SUB HEAD 2 - LT CABLES</b>					
1	laying of 1.1 kv grade XLPE insulated PVC sheathed aluminium armoured stranded conductor ISI marked LT Cables in trenches/ ducts/ through RCC pipes under roads/ on cable trays of following sizes, complete all as specified (as per CPWD specifications for External Electrical works), i/c clamping, dressing, earth work etc. as required & approved by Engineer's Incharge. (Tagging to be provided with aluminium strips on both the ends as approved).				
1.1	3½ core X 300 Sq.mm.	meter	8150	65.00	529750.00
1.2	3½ core X 240 Sq.mm.	meter	3250	61.00	198250.00
1.3	3½ core X 95 Sq.mm.	meter	80	44.00	3520.00
1.4	3½ core X 50 Sq.mm.	meter	RO	44.00	
1.5	3½ core X 35 Sq.mm.	meter	2250	28.00	63000.00
1.6	3 core X 16 Sq.mm.	meter	RO	25.00	
1.7	3 core X 10 Sq.mm.	meter	4037	25.00	100925.00
1.8	3 core X 6 Sq.mm.	meter	7217	25.00	180425.00
1.9	3 core X 4 Sq.mm.	meter	RO	25.00	
1.10	4 core X 25 Sq.mm.	meter	1300	25.00	32500.00
1.11	4 core X 16 Sq.mm.	meter	1221	22.00	26862.00
1.12	4 core X 10 Sq.mm.	meter	19900	21.00	417900.00
1.13	4 core X 6 Sq.mm.	meter	3493	21.00	73353.00
1.14	4 core X 4 Sq.mm.	meter	RO	21.00	
2	Supply & making cable end termination with double brass compression glands and aluminium lugs including inhibiting compound to be used in each lug, for the following XLPE aluminium conductor armoured cables of 1.1 KV grade etc, complete as required. <b>Make- Gland HMI, Thimble Action,indogrip.</b>				
2.1	3½ core X 300 Sq.mm.	set	142	2300.00	326600.00
2.2	3½ core X 240 Sq.mm.	set	50	1975.00	98750.00
2.3	3½ core X 95 Sq.mm.	set	2	1215.00	2430.00
2.4	3½ core X 50 Sq.mm.	set	RO	800.00	
2.5	3½ core X 35 Sq.mm.	set	78	610.00	47580.00
2.6	3 core X 25 Sq.mm.	set	RO	560.00	
2.7	3 core X 16 Sq.mm.	set	RO	420.00	
2.8	3 core X 10 Sq.mm.	set	138	480.00	66240.00

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Proprietor

# External Electrical Works for Phase-1

## BOQ

S. NO.	DESCRIPTION OF ITEM	UNIT	QTY.	Rate (Rs.)	Amount (Rs.)
2.9	3 core X 6 Sq.mm.	set	250	420.00	105000.00
2.10	3 core X 4Sq.mm.	set	RO	420.00	
2.11	4 core X 25 Sq.mm.	set	12	560.00	6720.00
2.12	4 core X 16 Sq.mm.	set	70	420.00	29400.00
2.13	4 core X 10 Sq.mm.	set	1490	400.00	596000.00
2.14	4 core X 6 Sq.mm.	set	188	400.00	75200.00
2.15	4 core X 4 Sq.mm.	set	RO	400.00	
<b>CABLES &amp; PIPE</b>					
3	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 kV grade of following size on cable tray as required. (if it is single other wise rate will same as cable rate.)				
3.1	Upto 35 sq. mm (clamped with 1mm thick saddle)	meter	11000	20.00	220000.00
3.2	Above 35 sq. mm and upto 95 sq. mm (clamped with 25x3mm MS flat clamp)	meter	80	22.00	1760.00
3.3	Above 95 sq. mm and upto 185 sq. mm (clamped with 25/ 40x3mm MS flat clamp)	meter	RO	22.00	
3.4	Above 185 sq. mm and upto 400 sq. mm (clamped with 40x3mm MS flat clamp)	meter	2500	50.00	125000.00
<b>Cable Tray</b>					
4	Fabricating and installing following size of G.I. perforated type cables trays including suspending from ceiling with rods connection pieces, (L pieces, T pieces, 90/45 degree/ any other fitting required.) G.I. nut bolts, G.I. washers, fasteners etc. complete in all respect as required at site as required & approved by the Engineer Incharge.				
4.1	900mm widthx75mm depthx2.0mm thickness	Mtrs.	40	220.00	8800.00
4.2	1000mm widthx75mm depthx2.0mm thickness	Mtrs.	390	220.00	85800.00
4.3	750mm widthx75mm depthx2.0mm thickness	Mtrs.	175	150.00	26250.00
4.4	600mm widthx75mm depthx2.0mm thickness	Mtrs.	100	120.00	12000.00
4.5	450 mm width X 50 mm depth X 1.6 mm thickness	Mtrs.	320	100.00	32000.00
4.6	300 mm. Width x 50mm. depth x 1.6mm. Thickness.	Mtrs.	310	85.00	26350.00
4.7	150 mm. Width x 50mm. depth x 1.6mm. Thickness.	Mtrs.	1160	80.00	92800.00
Note	fabrication and installing of MS Angle for Cable Tray Support. Including - cutting blade , welding road , painting the frame. Fastener and Paint is not included.	kg	300	45.00	13500.00
<b>TOTAL - Sub Head 2</b>					<b>3624665.00</b>
<b>SUBHEAD - 3 - MISCELLANEOUS</b>					
1	<b>Rubber mat</b>				
1.1	fixing cable route marker with 10 cm X 10 cm X 5 mm thick G.I. plate with inscription there on, bolted /welded to 35 mm X 35 mm X 6 mm angle iron, 60 cm long and fixing the same in ground as required for HT/LT 11KV, 1.1KV cable route marking including PCC base as required all as specified.(Material is not included)	Nos.	5	50.00	250.00
2	laying ISI marked following electric insulating mats of 11/3.3 KV working voltage grade of approved make as per IS-15652-2007 amended up-to-date complete as required & approved by Engineer Incharge.				0.00
2.1	3mm thick 11kv working voltage level grade.	Sqm.	25	50.00	1250.00
3	laying of fire buckets of 10 liters Capacity of approved quality, painted white from inside and red outside and having inscription "FIRE" in white conforming to I.S. 2546/1974 duly amended upto date complete as required & approved by Engineer Incharge.(only hanging the bucket)	Nos.	10	120.00	1200.00
4	fixing of MS pedestal stand heavy duty with rain protection cover as required suitable for supporting Six fire buckets as required for fire fighting system.(only fixing of already constructed stand)	Set	2	60.00	120.00

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External Electrical Works for Phase-1					
BOQ					
S. NO.	DESCRIPTION OF ITEM	UNIT	QTY.	Rate (Rs.)	Amount (Rs.)
5	fixing carbon dioxide (CO2) type fire extinguishers conforming to IS 15683 with cylinder duly charged of capacity 4.5kgs. including fixing clamps, brackets, bolts and nuts etc. as required & approved by the Engineer Incharge.(only fixing no material of any kind not included)	Nos.	20	200.00	4000.00
6	fixing 10kg capacity Modular Automatic Fire Extinguishers dry chemical powder nitrogen type pre-set at works ranging from 57 deg C/ 68 deg C/ 79 deg C fire extinguishers conforming to IS 15683 including fixing clamps, brackets, bolts and nuts etc. (only fixing of extin. any kind of material is not included)	Nos.	10	200.00	2000.00
7	shock treatment/ restoration charts written in Hindi/ local language and English duly framed and covered with 3.0 mm glass as required. (only hanging the frame)	Set	3	50.00	150.00
8	First Aid Box made of 16 SWG MS Sheet duly painted within inside and outside surfaces with one coat of primer and two coats of synthetic paint of required shade comprising the following minimum but not limited. (only Install the box.)	Set	2	50.00	100.00
9	minimum 1 No. band aid bandage 150mm, 1 No. Savlon Soap 30 ml, 1 No bottle Betadine 30 ml, 1 No Packet dressing material etc. as required.	Set	13		0.00
9.2	HT 12 KV rubber gloves as per IS 4770 (only labour no material)	Set	4	59.00	236.00
10	fixing of Caution Boards manufactured out of 16 SWG, MS sheet of 450mmx 300mm size duly painted white and having 'MAN ON LINE' and 'DO NOT SWITCH ON' written in Red complete. (only fixing no material or other)	Nos.	4	119.00	476.00
11	fixing H.T. danger notice plate of 250 mm X 200mm, made of mild steel, at least 2 mm thick, and vitreous enameled white on both sides, and with inscription in single red colour on front side as required.(only fixing)	Each	4	50.00	200.00
12	fixing LT Danger Notice Plate of 200mmx 200mm made of mild steel at least 1.6mm thick and vitreous enamelled, white on both sides and with inscription in letters, figures and conventional signal red colour on front side as required & approved by the Engineer Incharge.(only fixing)	Nos.	5	46.00	230.00
13	fixing of fire sealants to shafts, ceiling, cut-outs etc. with 2 hour fire rated composition as per specifications, NEC2011, relevant IS & as per approved makes of material & making good the same complete with accessories as required per site(only labour no material.)	Sqm	30	58.00	1740.00
14	Laying 12mm thick chequered rubber matting of 1.1.kv 1m wide of approved make as per IS-5424-1969.	Sqm	30	90.00	2700.00
Total - Sub Head 3					14652
SUB HEAD - 4 -MAIN LT PANEL, APFC PANEL					
NOTE: All panel shall be completely modular and compartmentalized with Form 4B Separation as per IEC 61439. The panel shall be free standing floor mounted type . The Main Panel & APFC shall be TTA and shall be manufactured as per IEC 61439.					
1	Main LT Cum Synchronization panel (TTA PANEL)				



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*[Signature]*  
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# External Electrical Works for Phase-1

## BOQ

S. NO.	DESCRIPTION OF ITEM	UNIT	QTY.	Rate (Rs.)	Amount (Rs.)
	<p>Handling, Re-handling &amp; Installation, of Main LT Cum SYN. Panel. dust, damp and vermin proof cubicle free floor, indoor type factory built sheet steel enclosed modular bolted construction extendable <b>MAIN LT PANEL CUM SYN. PANEL</b>, suitable for operation on <math>415 \pm 10\%</math> volts, 50 Hz AC 3 phase 4 wire supply system fabricated out of suitable sized square tubular section and covered with CRCA sheet steel of 2mm thick for frame work and covers, 3mm thick for gland plates i/c cleaning &amp; finishing complete with 7 tank process for powder coating in approved shade, having extensible type TPN Aluminium bus bars of high conductivity, SMC bus bar supports, with bottom base channel of section not less than ISMC 75mm, fabrication shall be done in transportable sections, entire panel shall have a common G.I. earth bus bar to switch gears with required size of Alum. bus bars and inter-connection with solid copper conductor wires / aluminium strips, neutral links, including control wiring with 1.5 / 2.5sqmm. PVC insulated FRLS copper conductor Single Core cable, cable alleys, cable gland plates in two half, etc.</p> <p>necessary metering protections &amp; indications and mounted with the following switch gears as per drawing and technical specifications etc. complete as required. Incoming &amp; outgoing bus ducts/ cables will be from bottom &amp; top both sides as per site requirement. Proper heat dissipation system should be provided in the panel. Panel should have converter from Modbus to Ethernet for energy meters etc. complete as required.</p> <p><b>Section- 1</b> <b>Incomers:</b> <b>2500 Amp. 4 Pole ACB - 1 set (For DG supply)</b> <b>2500 Amp. 4 Pole ACB - 1 set (For Transformer supply)</b> Air Circuit Breaker Horizontal drawout type of fault breaking capacity 50KA (Ics=Icu=Icw) Electrical Draw Out Motorized operated, fitted with interlocked door, automatic safety shutters, mechanical ON/OFF and service/ test/isolated position indicators and frame earthing contact, conforming to IS-13947-2 1993 as amended up-to-date complete with Independent Electrical &amp; manual spring closing mechanism, Microprocessor release (EMI &amp; EMC certified) for over current, earth fault &amp; short circuit protection, Shunt trip coil 24V D.C / 220V A.C, Breaker Control Switch - 16A, Test terminal block set, circuits as per standard practice, auxiliary contactors with contacts (minimum 4NO+4NC) for positive interlocking of the breakers, necessary interlocking with PLC auto controls etc. as required including following accessories and suitable to receive bus duct/cable connections.</p> <p><b>Metering, indications and protections for each incomer:</b> a) LED indication lamps for RYB, breaker 'ON/ OFF/ TRIP', spring charged, DC control supply healthy etc with 2Amp control MCBs b) Set of Digital flush type multifunction meters (with RS485 port) 0- 2500A, class - 0.5 accuracy , showing V, A, PF, Hz, KW, KWH, etc. with 3 Nos. cast resin current transformers of 2500/5 Amp ratio, 15 VA Class 0.5 metering.(for DG ) b) Set of Digital flush type multifunction meters (with RS485 port) 0- 2500A, class - 0.5 accuracy , showing V, A, PF, Hz, KW, KWH, etc. with 3 Nos. cast resin current transformers of 2500/5 Amp ratio, 15 VA Class 0.5 metering.(for transformer) d) Under voltage/ Overvoltage with definite time relay &amp; master trip relays - 1 set for Transformer incomer &amp; Master trip relays - 1 set for DG incomer. e) Suitable size &amp; nos of CT's for all protection relays (class 5P10, 15VA) &amp; APFC Relay (class 0.5, 15VA) as per drawings f) Surge Protection Device of type 1+ 2 of 25KA.</p> <p><b>Bus Bar :</b> TPN aluminium extensible type main bus bars of minimum of 3000 Amps. capacity &amp; auxiliary Bus Bars of suitable capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bars supports at required intervals complete for cross section, size supports &amp; their spacing etc. for withstanding fault level of 50ka capacity.</p> <p><b>Outgoings:</b> 1 No. - 1250 Amp. 50ka three pole microprocessor release, MDO ACB (Ics=Icu=Icw) with O/L, S/C &amp; earth fault protection. <b>(Capacitor-1)</b></p>				



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**External Electrical Works for Phase-1**

**BOQ**

S. NO.	DESCRIPTION OF ITEM	UNIT	QTY.	Rate (Rs.)	Amount (Rs.)
	<p>2 No. - 1000 Amp. 50ka TPN microprocessor release, MDO ACB (lcs=lcu=lcw) with O/L, S/C &amp; earth fault protection. <b>(RM-- 11AB, 1 Spare)</b></p> <p>2 No. - 800 Amp. 50ka TPN microprocessor release, MDO ACB (lcs=lcu=lcw) with O/L, S/C &amp; earth fault protection. <b>(RM-- 9A, 9C)</b></p> <p>4 Nos. - 630 Amp. TPN microprocessor release, MDO ACB (lcs=lcu=lcw) with O/L, S/C &amp; earth fault protection. <b>(RM-- 9B, Ventilation panel 1 basement 2, RM-11C , 1 Spare)</b></p> <p>2 Nos. - 160 Amp. 50ka TPN thermal release, MCCB (lcs=lcu) with O/L, S/C &amp; modular earth fault protection. <b>(Light power panel T9,1Spare)</b></p> <p><b>Each outgoing breaker shall have the following accessories-</b></p> <p>a) 1 No. - 96 sq.mm. flush pattern digital type multifunction meter (with RS485 port) showing V, A, PF, Hz, KW, KWH, KVAR, etc. with three nos. cast resin suitable rating of CT's, class 0.5 accuracy &amp; 15 VA burden, protection MCB's etc.</p> <p>b) LED indication lamps with 2Amp back up control MCB for RYB, breaker 'ON/OFF/ TRIP', spring charged, DC control supply healthy, test terminal block set, circuits as per standard practice etc. as required for all ACB's.</p> <p>c) Extended rotary operating mechanism, terminal extension spreaders, LED indication lamps with 2Amp control MCB for breaker 'ON/OFF' for all MCCB's.</p> <p><b>BUS COUPLER - 1</b></p> <p>1 No. 2500 Amps, 50 KA, 440 volt 4-P EDO ACB without release complete with following:</p> <p>6 Nos. NO/NC contacts for remote opening &amp; closing</p> <p>Red/Green / Amber / ON/OFF / Trip indicating lamps with 2A SP MCB as backup protection.</p> <p>Backup MCB and terminal blocks as required.</p> <p>TNC Breaker Control switch</p> <p>Required Operation / Interlocking with other incomers &amp; Bus Coupler to be provided as per Interlocking / operation scheme indicated in Drawing No. -</p> <p>Operation / Interlocking shall be through micro PLC.</p> <p><b>Section- 2</b></p> <p><b>Incomers:</b></p> <p><b>SPACE FOR ACB ONLY 4 Pole ACB (For DG supply)</b></p> <p><b>2500 Amp. 4 Pole ACB - 1 set (For Transformer supply)</b></p> <p>Air Circuit Breaker Horizontal drawout type of fault breaking capacity 50KA (lcs=lcu=lcw) Electrical Draw Out Motorized operated, fitted with interlocked door, automatic safety shutters, mechanical ON/OFF and service/ test/isolated position indicators and frame earthing contact, conforming to IS-13947-2 1993 as amended up-to-date complete with Independent Electrical &amp; manual spring closing mechanism, Microprocessor release (EMI &amp; EMC certified) for over current, earth fault &amp; short circuit protection, Shunt trip coil 24V D.C / 220V A.C, Breaker Control Switch - 16A, Test terminal block set, circuits as per standard practice, auxiliary contactors with contacts (minimum 4NO+4NC) for positive interlocking of the breakers, necessary interlocking with PLC auto controls etc. as required including following accessories and suitable to receive bus duct/cable connections.</p> <p><b>Metering, indications and protections for each incomer:</b></p> <p>a) LED indication lamps for RYB, breaker 'ON/ OFF/ TRIP', spring charged, DC control supply healthy etc with 2Amp control MCBs</p> <p>b) Set of Digital flush type multifunction meters (with RS485 port) 0- 2500A, class - 0.5 accuracy , showing V, A, PF, Hz, KW, KWH, etc. with 3 Nos. cast resin current transformers of 2500/5 Amp ratio, 15 VA Class 0.5 metering.(for DG )</p> <p>b) Set of Digital flush type multifunction meters (with RS485 port) 0- 2500A, class - 0.5 accuracy , showing V, A, PF, Hz, KW, KWH, etc. with 3 Nos. cast resin current transformers of 2500/5 Amp ratio, 15 VA Class 0.5 metering.(for transformer)</p> <p>d) Under voltage/ Overvoltage with definite time relay &amp; master trip relays - 1 set for Transformer incomer &amp; Master trip relays - 1 set for DG incomer.</p>				

For SUPREEM ENTERPRISES

Proprietor

# External Electrical Works for Phase-1

## BOQ

S. NO.	DESCRIPTION OF ITEM	UNIT	QTY.	Rate (Rs.)	Amount (Rs.)
	<p>e) Suitable size &amp; nos of CT's for all protection relays (class 5P10, 15VA) &amp; APFC Relay (class 0.5, 15VA) as per drawings</p> <p>f) Surge Protection Device of type 1+ 2 of 25KA.</p> <p><b>Bus Bar :</b> TPN aluminium extensible type main bus bars of minimum of 3000 Amps. capacity &amp; auxiliary Bus Bars of suitable capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bars supports at required intervals complete for cross section, size supports &amp; their spacing etc. for withstanding fault level of 50ka capacity.</p> <p><b>Outgoings:</b> 1 No. - 1250 Amp. 50ka three pole microprocessor release, MDO ACB (lcs=lcu=lw) with O/L, S/C &amp; earth fault protection. <b>(Capacitor-2)</b> 1 No. - 1250 Amp. 50ka TPN microprocessor release, MDO ACB (lcs=lcu=lw) with O/L, S/C &amp; earth fault protection.<b>(Ventilation panel 3 1st basement)</b> 3 Nos. - 800Amp. 50ka TPN microprocessor release, MDO ACB (lcs=lcu=lw) with O/L, S/C &amp; earth fault protection. <b>(RM-10A, RM-10C, 1 no. Spare)</b> 2 Nos. -630Amp. 50ka TPN microprocessor release, MDO ACB (lcs=lcu=lw) with O/L, S/C &amp; earth fault protection. <b>(RM-10B, Fire fighting)</b> 3 Nos. - 400 Amp. 50ka TPN microprocessor release, MCCB (lcs=lcu) with O/L, S/C &amp; modular earth fault protection.<b>(ventilation panel-2,Club,1 no. spare)</b> 1 Nos. - 160 Amp. 50ka TPN thermal release, MCCB (lcs=lcu) with O/L, S/C &amp; modular earth fault protection. <b>(Light and Power T-10)</b> 1 Nos. - 63 Amp. 50ka TPN thermal release, MCCB (lcs=lcu) with O/L, S/C &amp; modular earth fault protection.<b>(External lighting)</b> <b>Each outgoing breaker shall have the following accessories-</b> a) 1 No. - 96 sq.mm. flush pattern digital type multifunction meter (with RS485 port) showing V, A, PF, Hz, KW, KWH, KVAR, etc. and three nos. cast resin suitable rating of CT's, class 0.5 accuracy &amp; 15 VA burden, protection MCB's etc. b) LED indication lamps with 2Amp back up control MCB for RYB, breaker 'ON/OFF/ TRIP', spring charged, DC control supply healthy, test terminal block set, circuits as per standard practice etc. as required for all ACB's. c) Extended rotary operating mechanism, terminal extension spreaders, LED indication lamps with 2Amp control MCB for breaker 'ON/OFF' for all MCCB's.</p> <p><b>BUS COUPLER - 2</b> 1 No.3200Amps, 50 KA, 440 volt 4-P EDO ACB without release complete with following: 6 Nos. NO/NC contacts for remote opening &amp; closing Red/Green / Amber / ON/OFF / Trip indicating lamps with 2A SP MCB as backup protection. Backup MCB and terminal blocks as required. TNC Breaker Control switch Required Operation / Interlocking with other incomers &amp; Bus Coupler to be provided as per Interlocking / operation scheme indicated in Drawing No. - Operation / Interlocking shall be through micro PLC.</p> <p><b>Section- 3</b> <b>Incomers:</b> <b>SPACE FOR ACB ONLY 4 Pole ACB (For DG supply)</b> <b>SPACE FOR ACB ONLY 4 Pole ACB (For Transformer supply)</b></p>				



For SUPREEM ENTERPRISES

Proprietor

# External Electrical Works for Phase-1

## BOQ

S. NO.	DESCRIPTION OF ITEM	UNIT	QTY.	Rate (Rs.)	Amount (Rs.)
	<p>Air Circuit Breaker Horizontal drawout type of fault breaking capacity 50KA (Ics=Icu=Icw) Electrical Draw Out Motorized operated, fitted with interlocked door, automatic safety shutters, mechanical ON/OFF and service/ test/isolated position indicators and frame earthing contact, conforming to IS-13947-2 1993 as amended up-to-date complete with Independent Electrical &amp; manual spring closing mechanism, Microprocessor release (EMI &amp; EMC certified) for over current, earth fault &amp; short circuit protection, Shunt trip coil 24V D.C / 220V A.C, Breaker Control Switch - 16A, Test terminal block set, circuits as per standard practice, auxiliary contactors with contacts (minimum 4NO+4NC) for positive interlocking of the breakers, necessary interlocking with PLC auto controls etc. as required including following accessories and suitable to receive bus duct/cable connections.</p> <p><b>Metering, indications and protections for each incomer:</b></p> <p>a) LED indication lamps for RYB, breaker 'ON/ OFF/ TRIP', spring charged, DC control supply healthy etc with 2Amp control MCBs</p> <p>b) Set of Digital flush type multifunction meters (with RS485 port) 0- 1600A, class - 0.5 accuracy , showing V, A, PF, Hz, KW, KWH, etc. with 3 Nos. cast resin current transformers of 1600/5 Amp ratio, 15 VA Class 0.5 metering.(for DG )</p> <p>b) Set of Digital flush type multifunction meters (with RS485 port) 0- 2500A, class - 0.5 accuracy , showing V, A, PF, Hz, KW, KWH, etc. with 3 Nos. cast resin current transformers of 2500/5 Amp ratio, 15 VA Class 0.5 metering.(for transformer)</p> <p>d) Under voltage/ Overvoltage with definite time relay &amp; master trip relays - 1 set for Transformer incomer &amp; Master trip relays - 1 set for DG incomer.</p> <p>e) Suitable size &amp; nos of CT's for all protection relays (class 5P10, 15VA) &amp; APFC Relay (class 0.5, 15VA) as per drawings</p> <p>f) Surge Protection Device of type 1+ 2 of 25KA.</p> <p><b>Bus Bar :</b></p> <p>TPN aluminium extensible type main bus bars of minimum of 3200 Amps. capacity &amp; auxiliary Bus Bars of suitable capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bars supports at required intervals complete for cross section, size supports &amp; their spacing etc. for withstanding fault level of 50ka capacity.</p> <p><b>Outgoings:</b></p> <p><b>SPACE FOR ACB ONLY</b> three pole microprocessor release, MDO ACB (Ics=Icu=Icw) with O/L, S/C &amp; earth fault protection. <b>(Capacitor-3)</b></p> <p>3 No. - 1000 Amp. 50ka TPN microprocessor release, MDO ACB (Ics=Icu=Icw) with O/L, S/C &amp; earth fault protection.<b>(RM-1AB , RM-1CD, ventilation panel 4)</b></p> <p>2 No. - 630 Amp. 50ka TPN microprocessor release, MDO ACB (Ics=Icu=Icw) with O/L, S/C &amp; earth fault protection.<b>(Fire fighting,Spare)</b></p> <p>1 Nos. - 400 Amp. 50ka TPN microprocessor release, MCCB (Ics=Icu) with O/L, S/C &amp; modular earth fault protection.</p> <p>2 Nos. - 160 Amp. 50ka TPN thermal release, MCCB (Ics=Icu) with O/L, S/C &amp; modular earth fault protection.<b>( Light power T1 , light power T2)</b></p> <p><b>Each outgoing breaker shall have the following accessories-</b></p> <p>a) 1 No. - 96 sq.mm. flush pattern digital type multifunction meter (with RS485 port) showing V, A, PF, Hz, KW, KWH, KVAR, etc. with three nos. cast resin suitable rating of CT's, class 0.5 accuracy &amp; 15 VA burden, protection MCB's etc.</p> <p>b) LED indication lamps with 2Amp back up control MCB for RYB, breaker 'ON/ OFF/ TRIP', spring charged, DC control supply healthy, test terminal block set, circuits as per standard practice etc. as required for all ACB's.</p> <p>c) Extended rotary operating mechanism, terminal extension spreaders, LED indication lamps with 2Amp control MCB for breaker 'ON/OFF' for all MCCB's.</p> <p><b>BUS COUPLER - 3</b></p> <p>1 No. 1000 Amps, 50 KA, 440 volt 4-P EDO ACB without release complete with following:</p> <p>6 Nos. NO/NC contacts for remote opening &amp; closing</p>				

For SUPREEM ENTERPRISES

Proprietor

# External Electrical Works for Phase-1

## BOQ

S. NO.	DESCRIPTION OF ITEM	UNIT	QTY.	Rate (Rs.)	Amount (Rs.)
	Red/Green / Amber / ON/OFF / Trip indicating lamps with 2A SP MCB as backup protection. Backup MCB and terminal blocks as required. TNC Breaker Control switch Required Operation / Interlocking with other incomers & Bus Coupler to be provided as per Interlocking / operation scheme indicated in Drawing No. - Operation / Interlocking shall be through micro PLC.				
	<b>Section- 4</b> <b>Incomers:</b> <b>SPACE FOR ACB ONLY 4 Pole ACB (For DG supply)</b> Air Circuit Breaker Horizontal drawout type of fault breaking capacity 50KA (Ics=Icu=Icw) Electrical Draw Out Motorized operated, fitted with interlocked door, automatic safety shutters, mechanical ON/OFF and service/ test/isolated position indicators and frame earthing contact, conforming to IS-13947-2 1993 as amended up-to-date complete with Independent Electrical & manual spring closing mechanism, Microprocessor release (EMI & EMC certified) for over current, earth fault & short circuit protection, Shunt trip coil 24V D.C / 220V A.C, Breaker Control Switch - 16A, Test terminal block set, circuits as per standard practice, auxiliary contactors with contacts (minimum 4NO+4NC) for positive interlocking of the breakers, necessary interlocking with PLC auto controls etc. as required including following accessories and suitable to receive bus duct/cable connections.				
	<b>Metering, indications and protections for each incomer:</b> a) LED indication lamps for RYB, breaker 'ON/ OFF/ TRIP', spring charged, DC control supply healthy etc with 2Amp control MCBs b) Set of Digital flush type multifunction meters (with RS485 port) 0- 1000A, class - 0.5 accuracy , showing V, A, PF, Hz, KW, KWH, etc. with 3 Nos. cast resin current transformers of 1000/5 Amp ratio, 15 VA Class 0.5 metering.(for DG panel) b) Under voltage/ Overvoltage with definite time relay & master trip relays - 1 set for DG incomer. c) Suitable size & nos of CT's for all protection relays (class 5P10, 15VA) as per drawings d) Surge Protection Device of type 1+ 2 of 25KA.				
	<b>Bus Bar :</b> TPN aluminium extensible type main bus bars of minimum of 1000Amps. capacity & auxiliary Bus Bars of suitable capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bars supports at required intervals complete for cross section, size supports & their spacing etc. for withstanding fault level of 50ka capacity.				
	<b>Outgoings:</b> 2 Nos. - 315 Amp. 50ka TPN thermal release, MCCB (Ics=Icu) with O/L, S/C & modular earth fault protection. <b>(WTP, Spare)</b> 1 Nos. - 160 Amp. 50ka TPN thermal release, MCCB (Ics=Icu) with O/L, S/C & modular earth fault protection. <b>(STP)</b> 2 Nos. - 63 Amp. 50ka TPN thermal release, MCCB (Ics=Icu) with O/L, S/C & modular earth fault protection. <b>(External, Spare)</b>				
	<b>Each outgoing breaker shall have the following accessories-</b> a) 1 No. - 96 sq.mm. flush pattern digital type multifunction meter (with RS485 port) showing V, A, PF, Hz, KW, KWH, KVAR, etc. with three nos. cast resin suitable rating of CT's, class 0.5 accuracy & 15 VA burden, protection MCB's etc. b) LED indication lamps with 2Amp back up control MCB for RYB, breaker 'ON/ OFF/ TRIP', spring charged, DC control supply healthy, test terminal block set, circuits as per standard practice etc. as required for all ACB's. c) Extended rotary operating mechanism, terminal extension spreaders, LED indication lamps with 2Amp control MCB for breaker 'ON/OFF' for all MCCB's.				

For SUPREEM ENTERPRISES

Proprietor



# External Electrical Works for Phase-1

## BOQ

S. NO.	DESCRIPTION OF ITEM	UNIT	QTY.	Rate (Rs.)	Amount (Rs.)
	<p><b>PLC BASED AUTO SYNCHRONISING, AUTO LOAD TRANSFER, AUTO LOAD SHARING, AUTO LOAD BALANCING PANEL HAVING FACILITY FOR 4 NO DG's (3 Nos. 1010KVA &amp; 1 No. 500KVA) &amp; 3 No. TRANSFORMER (1600 KVA Each).</b></p> <p>Design, manufacturing, testing at site, handling, assembling, installing in correct assigned position, effecting proper connections, testing and commissioning of PCC 3300/ PLC based Auto Synchronising panel.</p> <p>a. 1 No. analog Double voltmeter 0-500V, (144 sq.mm.)</p> <p>b. 1 No. Double frequency meter (415V/110V) (144 sq.mm.) reed type.</p> <p>c. 1 No. Synchroscope, 110 V (144 sq.mm.) Analog.</p> <p>d. 2 nos. 110 V AC dark lamps.</p> <p>e. 4 Nos. under voltage monitors.</p> <p>f. 1 No. synchronising switch</p> <p>g. 1 No. set selector switch.</p> <p>h. 1 No. Manual/Auto switch.</p> <p>i. Push buttons for Test, Accept, Reset, Fault Reset, Engine Start, Engine stop, ACB close, ACB Trip Emergency stop.</p> <p>j. 8 Nos. Joysticks for voltage raise/ lower and speed raise/ lower.</p> <p>k. 4 Nos. manual/ auto AMF toggle switch.</p> <p>l. 8Nos. 24V DC semaphore, 38 mm.</p> <p>m. PLC Hardware as required and as per specifications.</p> <p>n. Auxiliary relays as required and as per specifications.</p> <p>o. 1 No. check synchronising relay, 110 V AC 50 Hz.</p> <p>p. 230V AC/24V DC, 10A, stabilized power supply with voltage trimmer and maintenance free battery.</p> <p>q. Annunciators as required and as per specifications.</p> <p><b>16 Window annunciation panel (for each D.G. Set) for following indications/ alarms :</b></p> <p>Set fails to start</p> <p>Engine overheat.</p> <p>Excitation failure.</p> <p>High temperature</p> <p>Low Lube oil pressure.</p> <p>Over speed</p> <p>Low fuel oil level</p> <p>Cooling water flow failure</p> <p>Breaker Trip</p> <p>Generator fault.</p> <p>DC control supply failure.</p> <p>Voltage out of limits.</p> <p>Spares.</p> <p>Necessary interlocking/ controlling with PLC auto controls i/c PLC hardwares &amp; software etc. complete as required.</p> <p><b>Main LT Cum Synchronization Panel described as above &amp; as per Drawing.</b></p>	Set	1	105000	105000
2.	<p><b>APFC Panel - 670 KVAR</b></p> <p>Handling, Re-handling &amp; installation of APFC Panel dust, damp and vermin proof cubicle free floor, indoor type factory built sheet steel enclosed modular bolted construction extendable APFC panel comprising of <b>670 KVAR</b> with heavy duty capacitors units in a bank formation to achieve Automatic operation. suitable for operation on 415 ±10% volts, 50 Hz AC 3 phase 4 wire supply system fabricated out of Form 4b compartmentalized design and covered with CRCA sheet steel of 2mm thick for frame work and 1.6mm thick for doors/ covers, i/c cleaning &amp; finishing complete with 9 tank process for powder coating in approved shade, TPN Aluminium bus bars of high conductivity, DMC/SMC bus bar supports, with short circuit with stand capacity of 50KA for 1 sec., bottom base channel of section not less than ISMC 75mm, fabrication shall be done in transportable sections, entire panel shall have a common copper earth bar of suitable size with 2 nos earth studs, including control wiring with 1.5sqmm. PVC insulated FRLS copper conductor Single Core cable for voltage &amp; 2.5sqmm for current circuits, danger notice plates, etc. necessary metering</p> <p><b>Incomer:</b></p> <p>1 No. - 1250 Amp. 50ka FP pole microprocessor release, MDO ACB (lcs=lcu=lcw) with O/L, S/C &amp; modular earth fault protection.</p>				



For SUPREEM ENTERPRISES  
  
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# External Electrical Works for Phase-1

## BOQ

S. NO.	DESCRIPTION OF ITEM	UNIT	QTY.	Rate (Rs.)	Amount (Rs.)
	Suitable cubicle size for cables in bus bar				
i)	1 No. - 96 sq.mm. flush pattern digital type volt meter with built in selector switch class 0.5 accuracy, protection MCB's etc.				
ii)	1 No. - 96 sq.mm. flush pattern digital type ammeter with built in selector switch and three nos. cast resin suitable rating of CT's, class 0.5 accuracy & 15 VA burden.				
iii)	1 Set of three phase R,Y,B indicating lamps along with 2A SP control MCB backup protection.				
iv)	Control MCB'S, control terminals & wiring as required.				
v)	Required nos of summation CTs of suitable rating for interlocking with Transformer incomers				
vi)	Automatic P.F.C.R. 13 stage with power factor meter & CT's for unbalanced load - 1 Set.				
	<b>Bus Bar :</b> TP aluminium extensible type main bus bars of minimum of 1250 Amps. capacity & auxiliary Bus Bars of suitable capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bars supports at required intervals complete for cross section, size supports & their spacing etc. for withstanding fault level of 35ka capacity.				
	<b>Outgoings :- Control MCB/ MCCBs with capacitor banks:</b>				
i)	125Amp. TP MCCB '35ka' Thermal Magnetic release having O/L & S/C protection with 50 KVAR, 415V (fixed) Heavy duty capacitor bank etc. - <b>1 set.</b>				
ii)	200Amp. TP MCCB '35ka' Thermal Magnetic release having O/L & S/C protection with 100 KVAR, 14% Detuned Reactor, 415V Heavy duty capacitor bank, Capacitor Duty Contactor etc - <b>4 sets.</b>				
iii)	125Amp. TP MCCB '35ka' Thermal Magnetic release having O/L & S/C protection with 50 KVAR, 14% Detuned Reactor, 415V Heavy duty capacitor bank, Capacitor Duty Contactor etc - <b>3 sets.</b>				
iv)	63Amp. TP MCCB '35ka' Thermal Magnetic release having O/L & S/C protection with 25 KVAR, 14% Detuned Reactor, 415 V Heavy duty capacitor bank, Capacitor Duty Contactor etc - <b>2 sets.</b>				
v)	63Amp. TP MCCB '35ka' Thermal Magnetic release having O/L & S/C protection with 20 KVAR, 14% Detuned Reactor, 415 V Heavy duty capacitor bank, Capacitor Duty Contactor etc - <b>1 sets.</b>				
	<b>APFC Panel as above</b>	Set	2	19000	38000
	<b>Total - SUB HEAD 4</b>				<b>143000</b>
	<b>SUB HEAD - 5 - VENTILATION PANELS</b>				
<b>1</b>	<b>Ventilation Panel-1</b> Handling, Re-handling & Installation Ventilation Panel of dust, damp and vermin proof free floor standing factory built sheet steel enclosed non-drawout modular type Ventillation Panel fabricated out of 2.0 mm thick CRCA sheet hinged doors of 1.6mm thick CRCA sheet, duly painted complete with earth bus, aluminium bus bar, numbering & sign writing, interconnection & including the cost of connection through bus bar / copper conductor flexible as shown in drawing as per specification and mounted with the followings. The Panel should be IBMS compatible. <b>Incoming:</b> 630 Amp FP, 25 kA MCCB - 1 No. 3 Nos. Phase indication LED lamps with 2 Amps back up MCB, breaker 'ON/OFF' indicating light with 2A MCB 1 No. Intelligent multi-function digital panel meters of class 0.5 accuracy with communication interface port R 485 for recording V (Between Phases and between each phase and neutral), A (In each phase and neutral), KWHr with suitable rating CTs, CT shorting links, R,Y, B LED indicating lamp and 2 A control SP MCB's. <b>Bus Bar</b> Electrolytic high conductivity aluminium three phase and neutral (full rated) busbars rated at 433V, 50 Hz., 800 amps, 25kA, insulated with heat shrinkable coloured PVC sleeves & clip on shrouds for joints. <b>Outgoings:</b>				

For SUPREEM ENTERPRISES

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# External Electrical Works for Phase-1

## BOQ

S. NO.	DESCRIPTION OF ITEM	UNIT	QTY.	Rate (Rs.)	Amount (Rs.)
	125amps, 415V 4P MCCB '25kA' with overcurrent and short circuit Thermal based release.- 10 Nos. (2 No. Spare) <b>Ventilation Panel described as above</b>	Set	1	19000	19000
2	<b>Ventilation Panel-2</b> Handling, Re-handling & Installation Ventilation Panel of dust, damp and vermin proof free floor standing factory built sheet steel enclosed non-drawout modular type Ventillation Panel fabricated out of 2.0 mm thick CRCA sheet hinged doors of 1.6mm thick CRCA sheet, duly painted complete with earth bus, aluminium bus bar, numbering & sign writing, interconnection & including the cost of connection through bus bar / copper conductor flexible as shown in drawing as per specification and mounted with the followings. The Panel should be IBMS compatible. <b>Incoming:</b> 400 Amp FP, 25 kA MCCB - 1 No. 3 Nos. Phase indication LED lamps with 2 Amps back up MCB, breaker 'ON/OFF' indicating light with 2A MCB 1 No. Intelligent multi-function digital panel meters of class 0.5 accuracy with communication interface port R 485 for recording V (Between Phases and between each phase and neutral, A (In each phase and neutral), KWHr with suitable rating CTs, CT shorting links, R,Y, B LED indicating lamp and 2 A control SP MCB's. <b>Bus Bar</b> Electrolytic high conductivity aluminium three phase and neutral (full rated) busbars rated at 433V,50 Hz., 500 amps, 25kA, insulated with heat shrinkable coloured PVC sleeves & clip on shrouds for joints. <b>Outgoings:</b> 125amps, 415V 4P MCCB '25kA' with overcurrent and short circuit Thermal based release.- 5 Nos. (1 No. Spare) 100amps, 415V 4P MCCB '25kA' with overcurrent and short circuit Thermal based release.- 3 Nos. (1 No. Spare) 40Amp 4P, MCB - 3 Nos. (1 Spare) 32Amp 4P, MCB - 2 Nos. <b>Ventilation Panel described as above</b>	Set	1	19000	19000
3	<b>Ventilation Panel-3</b> Handling, Re-handling & Installation Ventilation Panel of dust, damp and vermin proof free floor standing factory built sheet steel enclosed non-drawout modular type Ventillation Panel fabricated out of 2.0 mm thick CRCA sheet hinged doors of 1.6mm thick CRCA sheet, duly painted complete with earth bus, aluminium bus bar, numbering & sign writing, interconnection & including the cost of connection through bus bar / copper conductor flexible connection with necessary interlocking with existing panel as shown in drawing as per specification and mounted with the followings. The Panel should be IBMS compatible. <b>Incoming:</b> 1250 Amp TPN, 25 kA ACB - 1 No. 3 Nos. Phase indication LED lamps with 2 Amps back up MCB, breaker 'ON/OFF' indicating light with 2A MCB 1 No. Intelligent multi-function digital panel meters of class 0.5 accuracy with communication interface port R 485 for recording V (Between Phases and between each phase and neutral, A (In each phase and neutral), KWHr with suitable rating CTs, CT shorting links, R,Y, B LED indicating lamp and 2 A control SP MCB's. <b>Bus Bar</b> Electrolytic high conductivity aluminium three phase and neutral (full rated) busbars rated at 433V,50 Hz., 1600 amps, 25kA, insulated with heat shrinkable coloured PVC sleeves & clip on shrouds for joints. <b>Outgoings:</b> 160amps, 415V 4P MCCB '25kA' with overcurrent and short circuit Thermal based release.- 7 Nos. (1 No. Spare) 125amps, 415V 4P MCCB '25kA' with overcurrent and short circuit Thermal based release.- 9 Nos. (1 No. Spare) 40Amp 4P, MCB - 9 Nos. (1 Spare) 32Amp 4P, MCB - 8 Nos.				

For SUPREEM ENTERPRISES

Proprietor

# External Electrical Works for Phase-1

## BOQ

S. NO.	DESCRIPTION OF ITEM	UNIT	QTY.	Rate (Rs.)	Amount (Rs.)
	<b>Ventilation Panel described as above</b>	Set	1	21000	21000
<b>4</b>	<b>Ventilation Panel-4</b> Handling, Re-handling & Installation Ventilation Panel of dust, damp and vermin proof free floor standing factory built sheet steel enclosed non-drawout modular type Ventilation Panel fabricated out of 2.0 mm thick CRCA sheet hinged doors of 1.6mm thick CRCA sheet, duly painted complete with earth bus, aluminium bus bar, numbering & sign writing, interconnection & including the cost of connection through bus bar / copper conductor flexible connection with necessary interlocking with existing panel as shown in drawing as per specification and mounted with the followings. The Panel should be IBMS compatible. <b>Incoming:</b> 1000 Amp TPN, 25 kA ACB - 1 No. 3 Nos. Phase indication LED lamps with 2 Amps back up MCB, breaker 'ON/OFF' indicating light with 2A MCB 1 No. Intelligent multi-function digital panel meters of class 0.5 accuracy with communication interface port R 485 for recording V (Between Phases and between each phase and neutral, A (In each phase and neutral), KWHr with suitable rating CTs, CT shorting links, R,Y, B LED indicating lamp and 2 A control SP MCB's. <b>Bus Bar</b> Electrolytic high conductivity aluminium three phase and neutral (full rated) busbars rated at 433V,50 Hz., 1250 amps, 25kA, insulated with heat shrinkable coloured PVC sleeves & clip on shrouds for joints. <b>Outgoings:</b> 160amps, 415V 4P MCCB '25kA' with overcurrent and short circuit Thermal based release.- 4 Nos. (1 No. Spare) 125amps, 415V 4P MCCB '25kA' with overcurrent and short circuit Thermal based release.- 9 Nos. (1 No. Spare) 100amps, 415V 4P MCCB '25kA' with overcurrent and short circuit Thermal based release.- 3 Nos. (1 No. Spare) 63amps, 415V 4P MCCB '25kA' with overcurrent and short circuit Thermal based release.- 1 Nos. (1 No. Spare) 40Amp 4P, MCB - 13 Nos. (1 Spare) 32Amp 4P, MCB - 1 Nos.	Set	1	21000	21000
<b>5</b>	<b>Ventilation Zone Panel</b> Handling, Re-handling & Installation Ventilation Panel of dust, damp and vermin proof free floor standing factory built sheet steel enclosed non-drawout modular type Ventilation zone Panel fabricated out of 2.0 mm thick CRCA sheet hinged doors of 1.6mm thick CRCA sheet, duly painted complete with earth bus, aluminium bus bar, numbering & sign writing, interconnection & including the cost of connection through bus bar / copper conductor flexible as shown in drawing as per specification and mounted with the followings. The Panel should be IBMS compatible. <b>Incoming:</b> 125 Amp FP, 25 kA MCCB - 1 No. 3 Nos. Phase indication LED lamps with 2 Amps back up MCB, breaker 'ON/OFF' indicating light with 2A MCB 1 No. Intelligent multi-function digital panel meters of class 0.5 accuracy with communication interface port R 485 for recording V (Between Phases and between each phase and neutral, A (In each phase and neutral), KWHr with suitable rating CTs, CT shorting links, R,Y, B LED indicating lamp and 2 A control SP MCB's. <b>Bus Bar</b> Electrolytic high conductivity aluminium three phase and neutral (full rated) busbars rated at 433V,50 Hz., 160 amps,25kA, insulated with heat shrinkable coloured PVC sleeves & clip on shrouds for joints. <b>Outgoings:</b> 63Amp TP, MCCB - 1 Nos. 40Amp TP, MCCB - 2 Nos.				



For SUPREEM ENTERPRISES

*[Signature]*  
Proprietor

# External Electrical Works for Phase-1

## BOQ

S. NO.	DESCRIPTION OF ITEM	UNIT	QTY.	Rate (Rs.)	Amount (Rs.)
	Fully automatic Star Delta starter for operating above and including 7.5 kw motors/fan capacity, complete with contactors,Timer, overload protection relay, current sensing type single phase preventer, ON indications, push buttons, auto / manual / off selector switch,other accessories. complete as required and arrangement of potential free NO/NC contact for starter tripping complete as required.with 24V relay and auxillary contacts complete as required. - <b>3 Nos.</b>				
	<b>Ventilation Zone Panel described as above</b>	Set	24	5000	120000
<b>6</b>	<b>Ventilation Zone Panel</b> Handling, Re-handling & Installation Ventilation Panel of dust, damp and vermin proof free floor standing factory built sheet steel enclosed non-drawout modular type Ventillation zone Panel fabricated out of 2.0 mm thick CRCA sheet hinged doors of 1.6mm thick CRCA sheet, duly painted complete with earth bus, aluminium bus bar, numbering & sign writing, interconnection & including the cost of connection through bus bar / copper conductor flexible as shown in drawing as per specification and mounted with the followings. The Panel should be IBMS compatible. <b>Incoming:</b> 100 Amp FP, 25 kA MCCB - 1 No. 3 Nos. Phase indication LED lamps with 2 Amps back up MCB, breaker ' ON/OFF' indicating light with 2A MCB 1 No. Intelligent multi-function digital panel meters of class 0.5 accuracy with communication interface port R 485 for recording V (Between Phases and between each phase and neutral, A (In each phase and neutral), KWHr with suitable rating CTs, CT shorting links, R,Y, B LED indicating lamp and 2 A control SP MCB's. <b>Bus Bar</b> Electrolytic high conductivity aluminium three phase and neutral (full rated) busbars rated at 433V,50 Hz., 160 amps,25kA, insulated with heat shrinkable coloured PVC sleeves & clip on shrouds for joints. <b>Outgoings:</b> 40Amp TP, MCCB - 2 Nos. Fully automatic Star Delta starter for operating above and including 7.5 kw motors/fan capacity, complete with contactors,Timer, overload protection relay, current sensing type single phase preventer, ON indications, push buttons, auto / manual / off selector switch,other accessories. complete as required and arrangement of potential free NO/NC contact for starter tripping complete as required.with 24V relay and auxillary contacts complete as required. - <b>2 Nos.</b>				
	<b>Ventilation Zone Panel described as above</b>	Set	4	5500	22000
<b>7</b>	<b>Starter</b>				
7.1	Fully automatic <b>DOL starter</b> suitable with MCB/MCCB for operating upto 7.5 kw motors/fan capacity, complete with contactors, overload protection relay, current sensing type single phase preventer, ON indications, push buttons, auto / manual / off selector switch,other accessories and arrangement of potential free NO/NC contact for starter tripping complete as required.with 24V relay and auxillary contacts complete as required.	Set	33	2051	67683
<b>Total - Sub Head 5</b>					<b>289683</b>
<b>SUB HEAD - 6 - TOWER-1 PANELS</b>					
<b>1</b>	<b>Light &amp; Power Panel-1 (Basement &amp; Common Area)</b> Handling, Re-handling & Installation Light & Power Panel of dust, damp and vermin proof free floor standing factory built sheet steel enclosed modular construction extendable panel, suitable for operation on 415 ± 10% volts, 50 Hz AC 3 phase 4 wire system fabricated out of suitable sized square tubular section and covered with 2.0mm thick CRCA sheet, hinged doors of 2mm thick CRCA sheet, duly painted complete with aluminium bus bars, interconnection with solid copper conductor wires / aluminium strips, neutral links, earth bus etc. necessary metering protections & indications and mounted with the following as per drawing and technical specifications attached etc. complete as required.				

For SUPREEN ENTERPRISES  
Proprietor

**External Electrical Works for Phase-1**

**BOQ**

S. NO.	DESCRIPTION OF ITEM	UNIT	QTY.	Rate (Rs.)	Amount (Rs.)
	<b>Incoming:</b> 1 No. of 160 Amp 4P MCCB of 25 kA (Ics=Icu) Breaking capacity thermal based release with On Indicating Lamp with 2A SP MCB back-up. <b>Bus Bars:</b> Electrolytic high conductivity aluminium three phase and neutral (full rated) busbars rated at 433V, 50 Hz., 200 amps, 25kA, insulated with heat shrinkable coloured PVC sleeves & clip on shrouds for joints. <b>Outgoing:</b> 63A 4P MCB '10kA' - 10 nos. (3 nos. spare) <b>Light &amp; Power Panel describe as above</b>	Set	1	9000	9000
2	<b>UPS Panel</b> Handling, Re-handling & Installation UPS Panel of dust, damp and vermin proof free floor standing factory built sheet steel enclosed modular construction extendable panel, suitable for operation on 415 ± 10% volts, 50 Hz AC 3 phase 4 wire system fabricated out of suitable sized square tubular section and covered with 2.0mm thick CRCA sheet, hinged doors of 2mm thick CRCA sheet, duly painted complete with aluminium bus bars, interconnection with solid copper conductor wires / aluminium strips, neutral links, earth bus etc. necessary metering protections & indications and mounted with the following as per drawing and technical specifications attached etc. complete as required.				
A	<b>INCOMING:</b> 1 Nos. 63 Amp FP, 10KA MCB as incomer breaker 1 Nos. 0 to 60 Amp ammeter with selector switch with 60/5A CTs 2 Set of phase indicating lamp with MCB				
B	<b>BUSBAR:</b> 100Amps 4P including in different sections of the panel for connection to various outgoing feeders as per drawing.				
C	<b>OUTGOINGS:</b> a) 40 Amp 240 volts, DP, 10 KA MCB, - 8 No. (2 No. spare) <b>UPS Panel Described as above</b>	Set	1	9000	9000
<b>Total - Sub Head 6</b>					<b>18000</b>
<b>SUB HEAD - 7 - TOWER-9 PANELS</b>					
1	<b>Light &amp; Power Panel-1 (Basement &amp; Common Area)</b> Handling, Re-handling & Installation Light & Power Panel of dust, damp and vermin proof free floor standing factory built sheet steel enclosed modular construction extendable panel, suitable for operation on 415 ± 10% volts, 50 Hz AC 3 phase 4 wire system fabricated out of suitable sized square tubular section and covered with 2.0mm thick CRCA sheet, hinged doors of 2mm thick CRCA sheet, duly painted complete with aluminium bus bars, interconnection with solid copper conductor wires / aluminium strips, neutral links, earth bus etc. necessary metering protections & indications and mounted with the following as per drawing and technical specifications attached etc. complete as required. <b>Incoming:</b> 1 No. of 160 Amp 4P MCCB of 25 kA (Ics=Icu) Breaking capacity thermal based release with On Indicating Lamp with 2A SP MCB back-up. <b>Bus Bars:</b> Electrolytic high conductivity aluminium three phase and neutral (full rated) busbars rated at 433V, 50 Hz., 200 amps, 25kA, insulated with heat shrinkable coloured PVC sleeves & clip on shrouds for joints. <b>Outgoing:</b> 63A 4P MCB '10kA' - 10 nos. (4 nos. spare) <b>Light &amp; Power Panel describe as above</b>	Set	1	9000	9000
2	<b>UPS Panel</b>				



For SUPREEM ENTERPRISES  
  
 Proprietor

# External Electrical Works for Phase-1

## BOQ

S. NO.	DESCRIPTION OF ITEM	UNIT	QTY.	Rate (Rs.)	Amount (Rs.)
	Handling, Re-handling & Installation UPS Panel of dust, damp and vermin proof free floor standing factory built sheet steel enclosed modular construction extendable panel, suitable for operation on $415 \pm 10\%$ volts, 50 Hz AC 3 phase 4 wire system fabricated out of suitable sized square tubular section and covered with 2.0mm thick CRCA sheet, hinged doors of 2mm thick CRCA sheet, duly painted complete with aluminium bus bars, interconnection with solid copper conductor wires / aluminium strips, neutral links, earth bus etc. necessary metering protections & indications and mounted with the following as per drawing and technical specifications attached etc. complete as required.				
<b>A</b>	<b>INCOMING:</b> 1 Nos. 63 Amp FP, 10KA MCB as incomer breaker 1 Nos. 0 to 60 Amp ammeter with selector switch with 60/5A CTs 2 Set of phase indicating lamp with MCB				
<b>B</b>	<b>BUSBAR:</b> 100Amps 4P including in different sections of the panel for connection to various outgoing feeders as per drawing.				
<b>C</b>	<b>OUTGOINGS:</b>				
a)	40 Amp 240 volts, DP, 10 KA MCB, - 8 No. (3 No. spare) <b>UPS Panel Described as above</b>	Set	1	9000	9000
<b>Total - Sub Head 7</b>					<b>18000</b>
<b>SUB HEAD - 8 - TOWER-10 PANELS</b>					
<b>1</b>	<b>Light &amp; Power Panel-1 (Basement &amp; Common Area)</b> Handling, Re-handling & Installation Light & Power Panel of dust, damp and vermin proof free floor standing factory built sheet steel enclosed modular construction extendable panel, suitable for operation on $415 \pm 10\%$ volts, 50 Hz AC 3 phase 4 wire system fabricated out of suitable sized square tubular section and covered with 2.0mm thick CRCA sheet, hinged doors of 2mm thick CRCA sheet, duly painted complete with aluminium bus bars, interconnection with solid copper conductor wires / aluminium strips, neutral links, earth bus etc. necessary metering protections & indications and mounted with the following as per drawing and technical specifications attached etc. complete as required. <b>Incoming:</b> 1 No. of 160 Amp 4P MCCB of 25 kA (Ics=Icu) Breaking capacity thermal based release with On Indicating Lamp with 2A SP MCB back-up. <b>Bus Bars:</b> Electrolytic high conductivity aluminium three phase and neutral (full rated) busbars rated at 433V, 50 Hz., 200 amps, 25kA, insulated with heat shrinkable coloured PVC sleeves & clip on shrouds for joints. <b>Outgoing:</b> 63A 4P MCB '10kA' - 10 nos. (4 nos. spare) <b>Light &amp; Power Panel describe as above</b>	Set	1	9000	9000
<b>2</b>	<b>UPS Panel</b> Handling, Re-handling & Installation UPS Panel of dust, damp and vermin proof free floor standing factory built sheet steel enclosed modular construction extendable panel, suitable for operation on $415 \pm 10\%$ volts, 50 Hz AC 3 phase 4 wire system fabricated out of suitable sized square tubular section and covered with 2.0mm thick CRCA sheet, hinged doors of 2mm thick CRCA sheet, duly painted complete with aluminium bus bars, interconnection with solid copper conductor wires / aluminium strips, neutral links, earth bus etc. necessary metering protections & indications and mounted with the following as per drawing and technical specifications attached etc. complete as required.				
<b>A</b>	<b>INCOMING:</b> 1 Nos. 63 Amp FP, 10KA MCB as incomer breaker 1 Nos. 0 to 60 Amp ammeter with selector switch with 60/5A CTs 2 Set of phase indicating lamp with MCB				
<b>B</b>	<b>BUSBAR:</b>				

For SUPREEM ENTERPRISES

Proprietor

# External Electrical Works for Phase-1

## BOQ

S. NO.	DESCRIPTION OF ITEM	UNIT	QTY.	Rate (Rs.)	Amount (Rs.)
	100Amps 4P including in different sections of the panel for connection to various outgoing feeders as per drawing.				
C	<b>OUTGOINGS:</b>				
a)	40 Amp 240 volts, DP, 10 KA MCB, - 8 No. (3 No. spare) <b>UPS Panel Described as above</b>	Set	1	9000	9000
	<b>Total - Sub Head 8</b>				<b>18000</b>
	<b>SUB HEAD - 9 - TOWER-11 PANELS</b>				
1	<b>Light &amp; Power Panel-1 (Basement &amp; Common Area)</b> Handling, Re-handling & Installation Light & Power Panel of dust, damp and vermin proof free floor standing factory built sheet steel enclosed modular construction extendable panel, suitable for operation on 415 ± 10% volts, 50 Hz AC 3 phase 4 wire system fabricated out of suitable sized square tubular section and covered with 2.0mm thick CRCA sheet, hinged doors of 2mm thick CRCA sheet, duly painted complete with aluminium bus bars, interconnection with solid copper conductor wires / aluminium strips, neutral links, earth bus etc. necessary metering protections & indications and mounted with the following as per drawing and technical specifications attached etc. complete as required. <b>Incoming:</b> 1 No. of 160 Amp 4P MCCB of 25 kA (Ics=Icu) Breaking capacity thermal based release with On Indicating Lamp with 2A SP MCB back-up. <b>Bus Bars:</b> Electrolytic high conductivity aluminium three phase and neutral (full rated) busbars rated at 433V, 50 Hz., 200 amps, 25kA, insulated with heat shrinkable coloured PVC sleeves & clip on shrouds for joints. <b>Outgoing:</b> 63A 4P MCB '10kA' - 10 nos. (4 nos. spare)				
	<b>Light &amp; Power Panel describe as above</b>	Set	1	9000	9000
2	<b>UPS Panel</b> Handling, Re-handling & Installation UPS Panel of dust, damp and vermin proof free floor standing factory built sheet steel enclosed modular construction extendable panel, suitable for operation on 415 ± 10% volts, 50 Hz AC 3 phase 4 wire system fabricated out of suitable sized square tubular section and covered with 2.0mm thick CRCA sheet, hinged doors of 2mm thick CRCA sheet, duly painted complete with aluminium bus bars, interconnection with solid copper conductor wires / aluminium strips, neutral links, earth bus etc. necessary metering protections & indications and mounted with the following as per drawing and technical specifications attached etc. complete as required.				
A	<b>INCOMING:</b> 1 Nos. 63 Amp FP, 10KA MCB as incomer breaker 1 Nos. 0 to 60 Amp ammeter with selector switch with 60/5A CTs 2 Set of phase indicating lamp with MCB				
B	<b>BUSBAR:</b> 100Amps 4P including in different sections of the panel for connection to various outgoing feeders as per drawing.				
C	<b>OUTGOINGS:</b>				
a)	40 Amp 240 volts, DP, 10 KA MCB, - 8 No. (3 No. spare) <b>UPS Panel Described as above</b>	Set	1	9000	9000
	<b>Total - Sub Head 9</b>				<b>18000</b>
	<b>SUB HEAD - 10 - FIRE PANEL</b>				
1	<b>Fire Panel</b>				



For SUPREEM ENTERPRISES  
Proprietor

# External Electrical Works for Phase-1

## BOQ

S. NO.	DESCRIPTION OF ITEM	UNIT	QTY.	Rate (Rs.)	Amount (Rs.)
	Handling, Re-handling & Installation Fire Panel of <b>Electrical Fire Motor Control Panel</b> of cubical construction, floor mounted type, fabricated out of 2mm. thick CRCA sheet, compartmentalized with hinged lockable doors, dust and vermin proof, powder coated of approved shade after 7 tank treatment process, cable alley, interconnection with solid aluminium strip / single core PVC insulated FRLS copper conductor cable, having suitable mountings for switchgears and accessories and internal control & power wiring with suitable rating PVC insulated FRLS copper conductor, earth terminals, numbering etc. complete in all respects, suitable for operation on 415 V, 3 phase 50 HZ AC supply with enclosure protection class IP 42 with aluminium bus bar etc complete as required.				
	<b>Incoming:</b>				
a)	2Nos. 630Amp TPN,EDO ACB 35 kA ( <b>both incomers electrically connected</b> )				
b)	3 Nos. Phase indication LED lamps with 2 Amps back up MCB, breaker 'ON'				
c)	1 No. Intelligent multi-function digital panel meter for recording V (Between Phases and between each phase and neutral, A (In each phase and neutral), KWHr with suitable rating CTs, CT shorting links.				
	<b>Bus Bar</b>				
	800Amp., FP Al. Bus Bar				
	<b>Outgoings:</b>				
	The all outgoing shall be provided with 3 Nos. Phase indication LED lamps with 2 Amps back up MCB, breaker 'ON'				
	250 Amp. 25ka TP microprocessor release, MCCB (Ics=Icu) with O/L, S/C & modular earth fault protection. - 3 Nos. ( <b>1 spare</b> )				
	125 Amp. 25ka TP microprocessor release, MCCB (Ics=Icu) with O/L, S/C & modular earth fault protection. - 1 Nos.				
	63Amp TP, 16 kA MPCB - 3 Nos. (1 Spare)				
	Fully automatic Star Delta starter for Operationg 90kw motor with suitable rating MPCB magnetic type only complete with contactors, overload protection relay, current sensing type single phase preventor, ON/OFF indications, push buttons, auto / manual / off selector switch, Digital Ammeter with CT's and all other accessories with suitable rating PVC insulated FRLS single core copper conductor cable etc. complete as required. - <b>2 Sets</b>				
	Fully automatic Star Delta starter for Operationg 30kw motor with suitable rating MPCB magnetic type only complete with contactors, overload protection relay, current sensing type single phase preventor, ON/OFF indications, push buttons, auto / manual / off selector switch, Digital Ammeter with CT's and all other accessories with suitable rating PVC insulated FRLS single core copper conductor cable etc. complete as required. - <b>1 Sets</b>				
	Fully automatic DOL starter for upto 5.5kw motor with suitable rating MPCB magnetic type only complete with contactors, overload protection relay, current sensing type single phase preventor, ON/OFF indications, push buttons, auto / manual / off selector switch, Digital Ammeter with CT's and all other accessories with suitable rating PVC insulated FRLS single core copper conductor cable etc. complete as required. - <b>2 Sets</b>				
	Note:- The MPCB shall be selected as per type-II coordination chart of manufacturer.				
	<b>Diesel Engine Control</b>				
i)	Auto / Manual selector switch and 3 attempt Starting device, Electronic timer, Relays, Auxiliary switches, Rotary switches, Tripping relays, Contactors, Push button for manual Start / Stop etc. to make the equipment automatic as per functional requirement.				
j)	Battery charging unit suitable for 24 V DC with boost and trickle charger, selector switch, with suitable rating transformer, rectifier, RC filter network, fuses on AC and DC protection, 0 - 30 V DC Digital Volt meter, 0 - 20 A DC Digital Ammeter, the charger should be cut off when the engine is started and the batteries shall be charged from battery charging alternator provided in the engine.				
k)	Suitable rating & type standard relays, contactors and other accessories for automatic operation of diesel engine				

For SUPREMACY ENTERPRISES

Proprietor

External Electrical Works for Phase-1					
BOQ					
S. NO.	DESCRIPTION OF ITEM	UNIT	QTY.	Rate (Rs.)	Amount (Rs.)
l)	Indication LED's for high / low lub, oil pressure, water temperature, engine on indicator, with suitable alarms, acknowledgement button etc.				
	<b>System Controller</b>				
m)	Designing, Supply, Installation, Testing and Commissioning of system controller to control operation of Main Electric Fire Pumps, Diesel Engine Pump, Jockey Pumps, in sequence as per specification consisting of relays, timers, sensors, annunciation window for fault indication, complete as per specification.				
n)	First Jockey pump will start than hydrant and sprinkler pump start, in case of failure of power diesel pump will start.				
o)	Colour coded internal wiring and connections etc. with suitable size Fire Retardant Low Smoke PVC insulated copper cable / solid aluminium strip / bus bar from incoming to bus bar and from bus bar to switch gears / MCCB, starters, meters, selector switches, indicating LED's, interlocking and sequence operation arrangements.				
p)	Terminal facility for repeat indicator of various audio and visual indications.				
q)	First Jockey pump will start than hydrant and sprinkler pump start, in case of failure of power diesel pump will start.				
r)	Colour coded internal wiring and connections etc. with suitable size Fire Retardant Low Smoke PVC insulated copper cable / solid aluminium strip / bus bar from incoming to bus bar and from bus bar to switch gears / MCCB, starters, meters, selector switches, indicating LED's, interlocking and sequence operation arrangements.				
s)	Terminal facility for repeat indicator of various audio and visual indications.				
	<b>Fire Panel as described above</b>	Set	1	19000	19000
	<b>Total Sub Head 10</b>				<b>19000</b>
	<b>Sub Head - 11</b>				
1	Handling, Re-handling, & Instalation of all Towers <b>METER BOARD PANEL</b>	Set.	107	5000	535000
2	Handling, Re-handling & Installation of all Towers <b>Lift Panels.</b>	Set	13	5000	65000
	<b>Total - Sub Head 11</b>				<b>600000</b>
	<b>GRAND TOTAL OF BOQ</b>				<b>5000000.00</b>



For SUPREEM ENTERPRISES

*[Signature]*  
Proprietor