

J&K Project Construction Corporation Ltd.



Standard Bidding Document

| | |
|-------------------------|---|
| Name of Work | Supply, Installation, Testing and Commissioning of 62.5 KVA silent DG set for Auditorium at Reasi. |
| District | Reasi |
| Unit | JKPCC Unit Mechanical Jammu |
| Estimated Amount | Rs. 8.00 lacs |
| Time Completion | of 02 months |

J&K PROJECTS CONSTRUCTION CORPORATION LTD.

(A J&K State Govt. Undertaking)

OFFICE OF DEPUTY GENERAL MANAGER, MCHANICAL UNIT, JAMMU
E-NIT No. MECH/J/NIT/09 of 2018-19 Dated: 15-05-2018

On behalf of Managing Director, Jammu & Kashmir Projects Construction Corporation Ltd., the Deputy General Manager, Mechanical Unit JKPCC Ltd., Jammu invites e-tenders from Principal Manufacturers or their authorized dealers

| Description of work | Approx. Cost Rs. in Lacs | Earnest Money | Cost of tender document | Time of Completion | Class of Contractor |
|--|--------------------------|---------------|-------------------------|--------------------|---|
| Supply, Installation, Testing and Commissioning of 62.5 KVA silent DG set for Auditorium at Reasi. | 8.00 Lacs | 0.16 Lacs | 1000/- | 02 months | Manufacturer or their authorized dealers Approved Makes <u>Prime Movers</u> Cummins/ Caterpillar/ KOEL <u>Alternator</u> Kirloskar Electric / Stamford / Leroysoner/ Crompton Greaves/Leypower /Jyoti/CAT |

Scope of Work:

Supply, Installation, Testing and Commissioning of 62.5 KVA silent DG set for Auditorium at Reasi.

GENERAL CONDITIONS:-

INSTRUCTIONS TO TENDERERS:-

1. The NIT Consisting of qualifying information, eligibility criteria, specifications, Bill of Quantities can be seen/downloaded from the departmental website **www.jktenders.gov.in** from **Dt: 16-05-2018 from 1600 Hrs to Dt: 05-06-2018 upto 1400 Hrs**
2. The pre bid meeting will be held on date **28-05-2018 time 1200 Hrs** in the office chambers of **Deputy General Manager, Mechanical Unit, JKPCC Ltd., Rail Head Complex, Jammu.**
3. The Bids shall be deposited in electronic format on the departmental website **www.jktenders.gov.in** from **28-05-2018 to 05-06-2018 upto 1400 Hrs.**
4. The complete bidding process will be **online.**

5. The original instruments in respect of cost of bid documents, EMD must be delivered to the **General Manager, Mechanical Unit, JKPCC Ltd., Rail Head Complex, Jammu** on or before **05-06-2018 up to 1400 Hrs.**

If the office happens to be closed on the date of receipt of the bids as specified, the bids will be received on the next working day at the same time and venue.

6. The Technical bids shall be opened online on **07-06-2018 at 1200 Hrs** in the Office chambers of **Deputy General Manager, Mechanical Unit, J&K PCC Ltd. Jammu.**

If the office happens to be closed on the date of receipt of the bids as specified, the bids will be received on the next working day at the same time and venue.

7. Financial bids of bidders shall be opened online in the office of Deputy General Manager, JKPCC Ltd., Jammu and shall be communicated separately.
8. The bids for the work shall remain **valid for a period of 90 days from the date of opening of bids.**
9. Bids must be accompanied by bid security and **cost of documents as specified** payable at Jammu pledged in favour of **Dy. General Manager Mechanical Unit, JKPCC Ltd., Jammu.** Bid security shall be in the form of CDR/FDR only and shall have to be valid for 1 year or more after last date of receipt of Bid. The cost of downloaded tender documents in form of DD in favour of Deputy General Manager, Mechanical JKPCC Ltd. Jammu shall be in separate envelop with cover marking - **Cost of document.**
10. A bidder shall not be permitted to bid for works in the jurisdiction of officer responsible for award and execution of contract in which his or his spouse's near relative (defined as first blood relations, and their spouses) is posted as unit Accountant or as an officer in any capacity between the grades of General Manager and Dy. General Manager (both inclusive).
11. No engineer of Gazetted rank or other Gazetted officer employed in Engineering or Administrative duties in an Engineering department of the State Government is allowed to work as a supplier for a period of two years after his retirement from Government service, without Government permission. This contract is liable to be cancelled if either the supplier or any of his employees is found any time to be such a person who had not obtained the permission of the government as aforesaid before submission of the tender or engagement in the contractor's service.
12. Other details can be seen in the bidding documents.
13. Any other information regarding e-tendering process can be had from the Office Deputy General Manager, JKPCC Ltd., Mechanical Unit, Jammu at **Mobile no. 9419121510** or **e Tendering Cell on Mob No. 9419139825.**

14. **To qualify for award of the contract, each bidder should enclosed following certificate in the technical bid cover :**

- A. Copy of manufacturer's certificate or their authorized registered dealership certificate/agreement or registered firms to provide certificate/ dealer ship agreement or authorization to quote for particular tender.
- B. Manufacturers or their authorized registered dealers or registered firm should have valid
 - (a) PAN No
 - (b) GST Registration (Copy of the same should be submitted).
- C) Successful Manufacture, supply, installation, testing and commissioning of at least two no. Silent DG Set/s, not less than 62.5 KVA capacity during the last three years, and Performance certificate of the user/s (Govt/PSU) is to be enclosed.
- D) Brochure depicting technical details of the DG set to be supplied to be enclosed.
- E) Undertaking that the bid shall remain valid for the period of 90 days from the date of opening of bids.
- F) An affidavit affirming that information he has furnished in the bidding document is correct to the best of his knowledge and belief.

15. **Terms and conditions**

- a) The date of start of the work shall be reckoned within 15 Days from the date of issuance of LOI/Contract allotment as the case may be.
- b) **Penalty for delay in completion:-**In case of delay in completion of work beyond stipulated period of completion, penalty@ 0.25per week for the unfinished/incomplete quantity and value of work upto maximum of 5% shall be imposed.
- c) **Time extension:-**Suitable time extension shall be granted in case of increase in scope of work and in the event of delay beyond control of contractor to be determined by the department.
- d) The tender receiving authority reserves the right to accept or reject any tender or all tenders without assigning any reason thereof.
- e) **Defect Liability period:-** The DLP shall be Calculated from date of certified completion of work and period shall be 12 months.
- f) **Safety:** - The contractor shall be responsible for safety of all activities at site of work.
- g) **Tests:-**The contractor shall be solely responsible for carrying out the mandatory tests required for the quality control at his own cost.
- h) **Termination:** - The employer may terminate the contract if the contractor causes a fundamental breach of the contract.
- i) **Conditional tenders should be out rightly rejected.**

16. **Bid Prices**

- 16.1. The Contract shall be for the work as described in NIT.
- 16.2. The Bidder shall quote the item rates for the item's mentioned in bid form.

16.3. The contract amount shall include the supply and installation of all equipment at site, ancillary material and other items whatsoever required for carrying out the job to fulfill the intent and purpose as laid down in the specifications whether specifically mentioned or not. The contract amount shall be inclusive of **GST**, all taxes, Entry tax, duties, packing, forwarding, freight, transit insurance and all other levies as applicable by the Central as well as State Government. Failure to include all other taxes and duties will not entitle the contractor to any extra claims from the employer. The contractor's rates shall remain firm and fixed during the currency of the contract. **However any statutory variation in taxes as per notifications issued by the State/Central Govt. shall be allowed under rules.**

17. **Completion Time:-**

The completion time of the job is 02 months from the date of issuance of allotment order.

18. **Currencies of Bid and Payment.**

The unit rates and prices shall be quoted by the bidders entirely in Indian Rupees. All payments shall be paid in Indian Rupees.

19. **Terms of payment**

80% towards cost of equipment shall be paid against delivery at destination and its verification by the Engineer In charge. 10% payment shall be paid after successful Installation and balance 10% payment shall be paid after successful Testing and Commissioning of 62.5 KVA silent DG sets at auditorium at Reasi.

20. **Warranty**

The equipment supplied shall bear warranty for a period of 12 months against any manufacturing defects noticed during this period.

20.1 **Watch and ward**

Watch and ward of the machinery/equipment supplied during execution shall be included in the scope of contract and any damage to the machinery/equipment during transportation, handling, erection shall be borne by the contractor itself without any extra claim to the department.

21. **Bank Guarantee :**

The firm shall execute bank guarantee of any scheduled bank in favour of Dy. General Manager Mechanical Unit JKPCCLtd. Jammu amounting to 10% of the value of the contract after the issue of the Allotment order and will be released after warranty period is over.

22. **After Sales Service :**

The firm shall provide free services during the guarantee period and give prompt attention to any complaint of consignee at short notice. The firm shall provide service and spares for the said equipment /system for at least 10 years at the mutually acceptable terms and conditions after expiry of the guarantee period of 12 months.

23. **Arbitration :**

In case of any dispute arising at any time between the Contractor and the Corporation, the same shall be referred to the Managing Director, JKPCC Ltd., who may give decision on such a dispute himself or request the Government to nominate any other officer of the Government for arbitration. Decision of the Managing Director or the officer nominated by the Government shall be final and binding on both the parties.

24. **Inspection**

The DG set shall be got inspected at Manufacturer's Works by M/s CEIL New Delhi and Corporation representative. The inspection charges for the third party inspection agency shall be borne by the firm.

25. **Bid Validity**

25.1 Bids shall remain valid for a period of (90) days after the deadline date for bid submission. A bid valid for a shorter period **shall be rejected by the Employer as non-responsive.**

25.2 In exceptional circumstances, prior to expiry of the original time limit, the employer may request the bidder to extend the period of validity for a specified additional period. The request and the bidder's responses shall be made in writing. A bidder may refuse the request without forfeiting his earnest money. A bidder agreeing to the request will not be required or permitted to modify his bid, but will be required to extend the validity of his earnest money for a period of the extension.

26. **Earnest Money**

26.1. The bidder shall furnish, as part of the Bid, earnest Money of Rs. 0.16 lacs

26.2. **The earnest money shall, be in the form of Fixed Deposit Receipt of a scheduled commercial bank, issued in favour of DGM Mechanical Unit, J&KPCC Ltd. Jammu. The Fixed Deposit Receipt shall be valid for six months or more after the last date of receipt of bids. Or after the submission of performance security whichever is later.**

26.3. Any bid not accompanied by an Earnest Money, **Pledged in favour of DGM Mechanical Unit, JKPCC Ltd. Jammu** shall be rejected by the Employer as non-responsive.

26.4. The earnest money of unsuccessful bidders shall be returned within 30 days of the end of the Bid validity period.

26.5. The earnest Money of the successful Bidder will be released when the Bidder has signed the Agreement and furnished the required performance security.

26.6. The earnest money may be forfeited:

- a) If the bidder withdraws the Bid after bid opening (technical bid) during the period of Bid validity :
- b) In the case of a successful Bidder, if the Bidder fails within the specified time limit to :
 - i) Sign the Agreement; and / or
 - ii) Furnish the required performance security

27. **Preparation of Bids**

27.1. Language of Bid is English

27.2 All documents relating to the Bid shall be in the language specified in the Appendix to ITB.

28. **Documents Comprising the Bid**

The bid submitted by the Bidder shall be in two separate parts:

Part I

This shall be named technical Bid and shall comprise parts:

- i. Earnest Money in a separate cover marked Earnest Money.
- ii. Cost of document in a separate cover marked Cost of Document.
- iii. Qualification information, supporting documents, affidavit and undertaking .
- iv. Undertaking that the bid shall remain valid for the period of 90 days from the date of opening of bids.
- v. An affidavit affirming that information he has furnished in the bidding document is correct to the best of his knowledge and belief.

Part II

It shall be named Financial Bid and shall be submitted on line

29. **FORMAT AND SIGNING OF BID**

29.1. The Bidder shall submit one set of the bid comprising of the documents.

29.2. The bid shall be typed or written in indelible ink and shall be signed by a person or persons duly authorized to sign on behalf of the bidder. All pages of the Bid shall be signed by the person or persons signing the Bid.

29.3. The Bid shall contain no overwriting, alterations or additions, except those to comply with instructions issued by the Employers, or as necessary to correct errors made by the Bidder. In that case such corrections shall be made by scoring out the cancelled portion, writing the correction and initialing and dating it by the person or persons signing the Bid.

30. **SUBMISSION OF BIDS**

Deadline for submission of Bids

30.1. The submission of bids shall be online only. However the contractor shall submit the hard copy of Technical Bid only, along-with the original EMD and cost of tender document to the tender opening authority i.e. Deputy General Manager, Mechanical Unit, J&KPCC Ltd., Rail Head Complex, Jammu not later than **05-06-2018 upto 1400 Hrs.** In the event of the specified date for the submission of bids being declared a holiday for the Employer, the Bids will be received upto the specified time on the next working day. This shall be in addition to the bid submitted online, which is mandatory.

30.2. The employer may extend the deadline for submission of bids by issuing an amendment, in which case all rights and obligations of the Employer and the bidders previously subject to the original deadline will then be subject to the new deadline.

31. Late Bids

Any Bid received by the Employer after the deadline prescribed will be returned unopened to the Bidder.

32. Fundamental breach of contract will include:-

- a) Continuous stoppage of Work for a period of 30 days without authorization of Engineer in-charge.
- b) Contractor is declared bankrupt.
- c) Any evidence of involvement of contractor in corrupt practices.
- d) Contractor delays the completion of work beyond stipulated time of completion.
- e) Pursuant to the process of termination of defaulted contract, the employer reserves the right to invite fresh tender for the balance work at the risk and cost of defaulter contractor.
- f) If In case contractor failed to start /complete the work, within the stipulated time period, his CDR/Earnest Money shall be forfeited after termination of the contract. Besides, defaulting contractor shall be debarred from taking works in JKPCC Department at least for one year.

33. MAJOR LABOUR LAWS APPLICABLE TO ESTABLISHMENT ENGAGED IN BUILDING AND OTHER CONSTRUCTION WORK:-

- a) Compliance with Labour Regulation Laws of J&K State.

34. **Specification/Quality Control:-** All items of works shall conform to specifications as per IRC/MORTH/NBO/CPWD/SSR/ Any other prescribed specifications.

35. **Insurance:-** Insurance cover to Labour / Machinery / Work / Plant material / Equipment by the contractor shall be mandatory.

36. **Laws Governing the Contract:-**The contract shall be governed by Laws of the land.

37. **Court's Jurisdiction:-**In case of any disputes/differences between contractor and Department the jurisdiction shall be J&K State

38. **Any other item, not included in the scope of work but necessary for completion of work shall be deemed to be included in the scope of work.**

39. **All other terms and conditions are as same as are in vogue in JKPCC Ltd.**

Deputy General Manager,
Mechanical Unit JKPCC Ltd.,
Jammu

TECHNICAL SPECIFICATION OF THE EQUIPMENT

Supply, Installation, Testing and Commissioning of 62.5 KVA silent DG set for Auditorium at Reasi.

1. The work shall be carried out by a contractor holding valid license issued by the State Government/Competent Authority for carrying out installation work of a voltage classes involved, under direct supervision of the persons holding valid certificates issued or recognized by the state government/competent authority.
2. All the materials to be used in execution of the contract shall be of approved quality and of the class most suited for the purpose specified. Before installation, the materials shall be approved by the engineer-in-charge.
3. All electrical works shall be carried out in accordance with the provisions of Indian Electricity Act, 1910 and Indian Electricity Rules, 1956 , all amended up to date.
4. The works shall also conform to relevant Indian Standard code of Practice for the type of work involved.
5. In all electrical installation works, relevant safety codes of practice shall be followed.
6. Unless otherwise specified, the work shall be carried out as per current CPWD General Specifications for Electrical Works (Part-1 Internal, Part-IV-Substations, Part VII D.G. Sets) 2013 as applicable and as per the instruction of the Engineer in Charge or his authorized representative

D.G.SET

The DG set capacity shall be 1 No. 62.5 KVA, 415V with engine and alternator with suitable coupling. It shall be mounted on a common base frame as per the recommendations of engine manufacturer. The base frame shall be mounted with ant vibration mounts / friction pads. The ant vibration level of the Generator set shall be well within permissible limits. The DG set shall comprise but not limited to the following systems to make it complete in all respects.

1. Fuel oil system
2. Cooling water system
3. Starting system(Auto/remote- start/stop)
4. Lube oil system
5. Exhaust system
6. Acoustic enclosure
7. Addl. Static Battery Charger

The equipment shall be capable of delivering continuously at the generator terminals a net output not less than 62.5 KVA (prime) when operating under the site and ambient parameters and conditions. The design parameters of the generator and excitation system shall be so chosen, that the set is stable while running at any load between no load and full load and also during starting of motors / load.

Operating Conditions

The Engine alternator set shall be capable of working at any ambient temperature between 0°C to 50°C. The Engine Alternator set offered shall be continuous duty type conforming to BS 5514 for generator set applications. The set may be idle for a long period except for routine test periodically.

Fuel System

It shall be fed through engine driven fuel pump. A replaceable element of fuel filter shall be suitably located to permit easy servicing. The daily service tank shall be complete with necessary supports, gauges, connecting pipe work etc. In case of Top Mounted tanks, non return valves are must in fuel supply and return line of specified value. Pipe sealant should be used for sealing for all connections. No Teflon tape to be used. Daily fuel service tank of manufacturer specified capacity, fabricated from M.S. sheet with inlet, outlet connections air vent tap, drain plug and level indicator (gauge) M.S. fuel piping from tank to engine with valves, unions, reducers, flexible hose connection and floor mounting pedestals, twin fuel filters and fuel injectors. The location of the tank shall depend on standard manufacturers design.

Cooling Water System

The cooling water system shall be of radiator cooling type as per bill of quantities. The radiator shall be mounted along with DG set over the common base frame. This system shall be provided with temperature switch so that when the temperature of jacket water goes above the permissible limit, the engine shall stop and give an audio visual alarm.

Starting System

The starting system shall consist of DC motor energized by 12V battery. The capacity of batteries shall be of minimum 180 AH to cater for cranking duty.

Lube Oil System

Lube oil system shall consist of an in-built sump provided in the engine, the engine driven gear pump, duplex filters and lube oil cooler etc. A pressure regulator shall be mounted in the lube oil pump to control lube oil pressure. Filters and screens shall be provided in the L.O. system to remove foreign particles from circulation and prevent damage to bearing or mating surfaces. The L.O. system shall include L.O. pressure sensing device which shall cut off fuel supply to the engine as soon as the pressure falls below a preset value and shall give audio visual alarm. L.O. system shall be provided with pressure gauges and temperature gauges at inlet and outlet of L.O. Cooler.

Exhaust System:

All M.S. Pipes for exhaust lines shall be conforming to relevant IS. The runs forming part of factory assembly on the engine flexible connections up to exhaust silencer shall be exclusive of exhaust

pipng item. The constituents of exhaust gas should be well within permissible limit as per the local authorities like corporation, traffic police, state pollution board etc. No set shall be accepted without the Latest CPCB Certificate of authorized agencies.

Governing System

The governing shall be Electronic type with adjustable droop mechanism. An over speed trip mechanism shall be provided to automatically shut off the fuel and to stop the engine in case the set speed reaches about 110% of the rated speed with audio alarm indication

Frequency Variation The engine speed shall be so maintained that frequency variation at constant load including no load shall remain within a band of 1% of rated frequency.

Diesel Engine

The engine shall be of standard design of the original manufacturers. It should be 4 stroke cycles, water cooled, naturally aspirated/ turbo charged (as per manufacturer standard), diesel engine developing suitable BHP for giving a power rating of 62.5 KVA as per ISO 8528- Part-1 in at the load terminals of alternator at 1500 rpm at actual site conditions. The engine shall be capable for delivering specified Prime Power rating at variable loads for PF of 0.8 lag with 10% overload available in excess of specified output for one hour in every 12 hours. The average load factor of the engine over period of 24 hours shall be 0.85 (85%) for prime power output. The engine shall conform to IS:10000/ ISO 3046/ BS:649/ BS 5514 amended up to date.

The engine shall be fitted with following accessories subject to the design of the manufacturer:

- I. Dynamically balanced Fly wheel
- II. Necessary flexible coupling and guard for alternator and engine.
- III. Air cleaner (dry/ oil bath type) as per manufacturer standard,
- IV. Electronic governor to maintain engine speed at all conditions of load.
- V. Daily fuel service tank as per manufacturer's specifications duly filled with 100 ltrs of diesel
- VI. Dry exhaust manifold with suitable exhaust residential grade silencer to reduce the noise level.
- VII. Suitable self-starter for 12 V DC.
- VIII. Battery charging alternator unit and voltage regulator, suitable for starting.
- IX. Batteries, battery racks with interconnecting leads and terminals.
- X. Necessary gear driven oil pump for lubricating oil, priming of engine bearing as well as fuel systems as per manufacturer recommendations.
- XI. Turbo charger (as per manufacturer standard).

- XII. Lubrication oil cooler.
- XIII. Lubrication oil filters with replaceable elements.
- XIV. Crank case heater as per manufacturer recommendation
- XV. Fuel injection: Engine should have suitable fuel injection system in order to achieve low fuel consumption
- XVI. Fuel control solenoid
- XVII. Fuel pump with engine speed adjustment
- XVIII. Engine Control Panel: fitted and having digital display not limited to the following:
 - (a) Start/stop key switch.
 - (b) kWh indication (b) Lube oil pressure indication
 - (c) Water temp. Indication
 - (d) RPM indication
 - (e) Engine Hours indications
 - (f) Battery charging indication
 - (g) Low lub. Oil trip indication
 - (h) High water temp. Indication
 - (i) Over speed indication.
- XIX. All moving parts of the engine shall be mechanically guarded in such a manner that a human finger cannot touch any moving part.
- XX. Radiator
- XXI. Any other item not included/ specified but is a standard design of the manufacturer

Alternator

Alternator shall conform to BS:5000/ IS:4722 with standard design with IP 23 Protection, suitably rated at 62.5 KVA at 0.8pf, 415 Volts, 3 phase, 4 Wires, 50 Hz., 1500 RPM, self excited (brushless excitation) and self regulated, Voltage Regulation +/-1.5% of rated voltage (from no load to full load), frequency variation limited to +/-1% and Class "H" Insulation. Alternator should be mounted on a common single base frame and coupled directly to the engine. The excitation system shall be provided with high speed, solid state automatic voltage regulator.

Annunciation

Annunciation shall be given for the following: Lub oil low pressure Engine over speed High water temperature Control source failure Fuel level low Engine starting failure Battery charge low Earth leakage trip.

STATIC BATTERY CHARGER:

The inbuilt 12V static battery charger (in addition to the battery charging alternator associated with the engine) shall be of silicon controlled rectifier (SCR) type with automatic trickle and boost charging facility, current and voltage limiting circuits to avoid over charging, short circuit, reverse polarity protection and auto cut off facility when Genset is ON. DC voltmeter and ammeter of approved make, SP DC MCB on DC side and SP MCB on AC side shall also be provided. DC wiring of the battery charger shall be with 2.5 sq. mm multi strand flexible copper conductor cable in heat resistant conduit/armored cable. The battery charging current in Amps shall be 10 hours rating current as per battery AH capacity.

ACOUSTIC ENCLOSURE

The acoustic enclosure shall be of suitable size as per latest norms prescribed by Central Pollution Control Board (CPCB). The guaranteed noise level shall be of 75 decibels at a distance of 1 meter from the DG Set or a lesser value stipulated by CPCB. Necessary certificate to this effect from CPCB agencies is to be obtained and produced. The enclosure shall be of totally weather, vermin and dust proof to enable the generator to operate at an ambient temperature of 48 degree Celsius. The outer casing of the container shall be of sheet steel of suitable thickness. The total enclosure shall be of powder coated. The overall dimensions of the acoustic enclosure (l x b x h) may please be indicated.

TRAINING

Training in Operation & Maintenance of DG set shall be imparted to the concerned personnel of JKPC.

SPARE PARTS

The contractor shall supply the original/manufacture recommended spare parts required during periodic preventive maintenance work like oil filter, fuel filter, air filter, rocker cover gaskets, exhaust inlet/gaskets, water separators, fuel pipes, water hose sets, diesel hose pipes, etc.

TEST CERTIFICATES:

The firm shall submit the following test certificates on supply of the material at site: (i) Manufacturer test certificates for Engine, Alternator, E/A set, Control panel (ii) Routine test certificates for individual items, noise and pollution control type test certificate from designated test house as per specification.

TRIAL RUN Supplier shall perform all standard tests (factory tests) on Engine and alternator and the test reports pertaining to the engine and alternator should be submitted. The D.G. Set shall be run on no-load and on-load conditions continuously for total 6 hours. All D.G. set parameters shall be

assessed and recorded during this trial run. The D.G. set shall deliver satisfactory performance during the trial run for acceptance and taking-over. Any defects or shortcomings noted during the trial run shall be rectified by the Contractor with no extra cost. The satisfactory performance during the trial run of the D.G. Set shall not relieve the Contractor from any of their liabilities during defects liability period or for any period thereon.

NAME PLATE MARKING AND INSTRUCTION MANUALS

A name plate showing rating, connection diagram, year of manufacture etc., should be provided on engine and alternator; all the important major parts should bear their catalogue number, name of the parts etc. All the control wiring shall be provided with letter/number ferrules at both ends. Three sets of manuals giving the details about design specifications, special features of the equipment, schematic and wiring diagram, instructions regarding installation, maintenance /operation etc., should be supplied. The Electrical control wiring diagram, operation and maintenance instructions shall be framed and displayed in the enclosure. The important name plate details of Engine & Alternator, date of commissioning etc shall be displayed in the enclosure.

DRAWINGS AND MANUALS

The successful bidder shall submit the following GA drawings in three copies for approval by client.

- a. General arrangement of each equipment showing fixing dimensions, static weight
- b. Foundation drawing for DG set, if required
- c. Schematic control diagram for DG control panel
- d. TB wiring diagram
- e. After approval of above drawings and after completing of erection, the contractor shall submit As-Built drawings in two copies with one set of reproducible to Owner .
- f. Two sets of operation and maintenance manuals for the DG sets and auxiliaries shall also be submitted to owner.

APPROVALS

It is the responsibility of the contractor to get the approval from relevant authorities like CEIG/CEA, other statutory authorities PDD, Pollution Control Board, etc. The contractor shall prepare necessary drawings for approval by Chief Electrical Inspector to Government, obtain approval for the same, arrange for the inspection by the Electrical Inspectorate Officials and obtain safety certificate from them for commissioning the installation (This building is fed by HT power supply). The statutory fees payable to CEIG/CEA shall be initially borne by the contractor. The same shall be reimbursed on submission of original receipts/challan.

Deputy General Manager,
Mechanical Unit JKPCC Ltd.,
Jammu

LIST OF APPROVED MAKE OF MATERIALS

| S.no. | Description of Item | Acceptable Makes |
|--------------|------------------------------------|---|
| 1 | Alternator | Kirloskar Electric / Stamford /Leroysoner/ Crompton Greaves/Leypower /Jyoti/CAT |
| 2 | Engine | Cummins/ Caterpillar/ KOEL |
| 3 | Switchgear | ABB / Siemens / C&S / L & T |
| 4 | Control Wires | Polycab / Havells/ Finolex/ RR Kabel |
| 5 | Meters | L&T /Cadai / Rishiba |
| 6 | Push Button / Selector Switches | Essen / Vaishnav |
| 7 | Armoured Cables | Polycab / Havells/ Finolex/ RR Kabel |
| 8 | Batteries | Amara Raja / AMCO / Furukawa / Hitachi / Exide/ Prestolite / Standard/ Amron |

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