

राष्ट्रीय कोशिका विज्ञान केंद्र
NATIONAL CENTRE FOR CELL SCIENCE
(जैवप्रौद्योगिकी विभाग, भारत सरकार की स्वायत्त संस्था/
An Autonomous Institution of the Department of Biotechnology, Govt. of India)
सावित्रीबाई फुले पुणे विश्वविद्यालय परिसर, गणेशखिंड, पुणे-411007
Savitribai Phule Pune University Campus, Ganeshkhind Pune -411007

भाग-I /PART-I (तकनीकी बिड/TECHNICAL BID)

**SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF
380KVA DG SET AT JIDNYASA BLDG., KOTHRUD, PUNE**



प्रस्तुत करने की नियत तारीख/DUE DATE FOR SUBMISSION: 21/11/2023 @ 15 HRS

प्रेषित करने के लिए पता/ TO BE SUBMITTED TO:

निदेशक/The Director

राष्ट्रीय कोशिका विज्ञान केंद्र/National Centre For Cell Science

सावित्रीबाई फुले पुणे विश्वविद्यालय परिसर/ Savitribai Phule Pune University Campus,

गणेशखिंड/ Ganeshkhind, पुणे/Pune 411007 (महाराष्ट्र, भारत/Maharashtra, India)

बिडर का नाम एवं पता/NAME AND ADDRESS OF BIDDER:_____

Tender Cost: Nil

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2. समाचार पत्रों में प्रकाशन हेतु जारी की जानेवाली मुद्रणालय सूचना/
PRESS NOTICE TO BE ISSUED FOR PUBLICATION IN NEWSPAPERS

<div style="text-align: center;"> राष्ट्रीयकोशिकाविज्ञानकेंद्र NATIONAL CENTRE FOR CELL SCIENCE <small>Savitribai Phule Pune University Campus, Ganeshkhind, Pune 411007</small> </div>					
NOTICE INVITING TENDER The Director NCCS, Pune invites sealed tenders in two bid system for following works					
Sr. No.	NIT No.	Name of Work	Estimated Cost	EMD	Time of Completion
1	NCCS/MA/NT/HT/454D/2023	SITC of 400 KVA Substation at Jidnyasa Bldg., Kothrud, Pune	Rs. 74 Lakh	Rs. 1.49 Lakh	Four Month
2	NCCS/MA/NT/DG/454E/2023	SITC of 380 KVA DG Set at Jidnyasa Bldg., Kothrud, Pune	Rs.49 Lakh	Rs.0.98 Lakh	Four Month
3	NCCS/MA/NT/GMP/454C/2023	SITC and Validation of c-GMP Compliant Mammalian Cell Line Repository on Turnkey Basis at NCCS Jidnyasa Building, Kothrud, Pune	Rs.910 Lakh	Rs.18.20 Lakh	Six Month
Detail tender document can be downloaded from our website www.nccs.res.in and https://eprocure.gov.in . All further information, instructions, corrigendum/addendum or notices will be published on website only.					

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Savitribai Phule Pune University Campus, Ganeshkhind Pune 411007

3. NOTICE INVITING TENDER

NCCS/MAINT/DG/454E/2023

01/11/2023

National Centre for Cell Science is a Premier Research, Autonomous Institute under Department of Biotechnology, Govt. of India having office at Savitribai Phule Pune University Campus, Ganeshkhind, Pune- 411007.

The Director, NCCS Pune invites sealed Item Rate tender in Two Bid System from registered Electrical contractors with CPWD, Railways, MES., BSNL, PSU's or interested, inline, experienced, reputed Individuals, firms, Contractors, OEM, Companies etc for **"SITC OF 380KVA DG Set at Jidnyasa Bldg., Kothrud, Pune"**.

Name of the Work	Estimated Cost (Rs.)	EMD (Rs.)	Time for Completion
SITC OF 380KVA DG Set at Jidnyasa Bldg., Kothrud, Pune	Rs.49 Lakh	Rs. 0.98 Lakh	Four Month

3.1. SCHEDULE OF TENDERING PROCESS:

1	Tender available on website for download	:	01/11/2023 to 21/11/2023
2	Pre-bid Meeting	:	10/11/2023 @ 12:00 Hrs
3	Tender Submission due date	:	21/11/2023 @ 15:00 Hrs
4	Opening of Technical Bid	:	21/11/2023 @ 15:15 Hrs
5	Opening of Commercial Bid	:	Will be communicated in due course of time

3.2. PRE QUALIFICATION CRITERIA: (Please attached self- attested documents)

- (i) The bidder should have registration for Shop Act, GST and PAN Number. Bidder should have legal status whether it will be a registered Proprietorship Firm/Partnership Firm/ Company under Companies Act having legal entity having all statutory licenses/registration for carrying out such activity.
- (ii) The bidder should be a manufacturer of DG Set or submit valid authorization letter from the manufacturer of DG Set.
- (iii) The bidder should carried out similar type of work within last seven years upto previous day of last day of submission of tender. The value of each work order should be not less than

One similar completed works consisting not less than Rs.39 Lakh

“OR”

Two similar completed works consisting not less than Rs.29 Lakh

“OR”

Three similar completed works consisting not less than Rs.20 Lakh

“Similar nature of works means SITC of DG set etc.”

- (iv) The bidder should have average annual turnover of not less than **Rs. 25 Lakh (Rupee Twenty Five Lakh only)** for the last three years. The Bidder should not have loss for any consecutive two years during last three years ending 31st Mar 2023. The bidder should submit audited balance sheet and Profit & loss account duly attested by chartered accountant.
- (v) The Bidder should submit the Bank Solvency Certificate of **Rs. 20 Lakh (Rupees Twenty Lakh only)** from any Nationalized / Commercial/ Scheduled Bank as per attached format in the tender.
- (vi) The Bidder should accompany a DD / BG of **Rs.98000/- (Rupee Ninety Eight Thousand only)** drawn on any Nationalized / Scheduled Bank in the favour of the Director, National Centre for Cell Science, Pune payable at Pune towards Earnest Money Deposit (EMD). BG should be valid for minimum of six months. The MSME firms registered in NSIC are not exempted from payment of EMD for this work.
- (vii) The Bidder should submit undertaking that their firm / organization have never been blacklisted by any Govt/ Semi Govt Organizations/ Institutes/ PSU's/ MSEDCL etc as per attached format in the tender.

3.3 BID ISSUE AND SUBMISSION:

The interested bidders can download the tender document from website www.nccs.res.in and <https://eprocure.gov.in> which is available at free of cost. However in case of downloading of tender documents from website it will be the responsibility of bidders /applicants / firms to ensure that complete tender documents have been downloaded.

The offer should be submitted in the downloaded bid document in two-envelope system i.e. Technical Bid and Commercial Bid in two separate sealed envelopes super-scribing “**SITC OF 380KVA DG Set at Jidnyasa Bldg., Kothrud, Pune**” in the respective envelopes and both the envelopes shall be submitted together in another sealed envelope duly addressed to

**The Director,
National Centre for Cell Science,
Savitribai Phule Pune University Campus,
Ganeshkhind, Pune 411007.**

The ‘**Technical bid**’ should consist of the following documents:

- a) Application form along with documents relating to eligibility pre-qualification criterion (Forms & Annexure).
- b) Bid Security (EMD)- DD/BG.
- c) Power of attorney of person authorized to sign the Bid,
- d) Complete Tender Document duly signed and stamped.
- e) Detail drawings with specifications of all items offered by Bidder as per Bill of Quantity with product leaflet, brochure etc.

The ‘**Financial bid**’ should contain the following documents:

- a) As per the prescribed format (Part-II Commercial / Price bid)

The tender document should be submitted intact in a sealed cover either in person or by post without tampering with any of the pages and drawings thereof and duly filled in, signed and seal at the bottom of each pages and drawings, by the Bidder or his / their authorized representative and it shall reach at N.C.C.S., Pune within scheduled date and time. The tender received after the scheduled time on due date will not be considered. The bid should be valid and open for acceptance for a period of 90 from the date of opening the technical bid.

The Director, N.C.C.S., Pune reserves the right to amend or withdraw any of the terms and conditions contained in the tender document before accepting the tender or to reject any or all the tenders without giving any notice or assigning any reason. The decision of the Director, N.C.C.S., in this regard shall be final and binding on all.

DIRECTOR

4. DEFINITIONS AND TERMS:

In this document the following words and expressions have the meaning hereby assigned to them

- 4.1 **Employer** shall mean National Centre for Cell Science, Pune and shall include his successors and assign, as well as his authorized officers or representatives. National Centre for Cell Science shall be known as "N.C.C.S."
- 4.2 **Bidder** shall mean the Proprietor / Individual, Partnership firm, Company / Corporation, Society; they shall be, for the purpose of this contract.
- 4.3 **Consultant** shall mean MJA Pharmatech Pvt. Ltd, Bangalore appointed by NCCS for the said works and shall include their legal representatives, assigns and successors.
- 4.4 **Contractor** shall mean the person or the persons, firm or company whose tender has been accepted by the NCCS and shall include his/their heirs, and legal representatives, the permitted assigns and successors.
- 4.5 **Contract** shall mean the Articles of Agreement, Terms & conditions, the Appendix, Schedule of Quantities and Specifications attached hereto and duly signed.
- 4.6 **Site** shall mean the site of the contracted works at **National Centre for Cell Science, Survey No.85/2, Jidnyasa Building, Near Vanaz Company Ltd, Kothrud, Pune- 411038.**
- 4.7 **Work** shall mean the works to be executed and recorded in accordance with the Contract and shall include all extra or additional altered or substituted works as required and recorded for the performance of the Contract.
- 4.8 This Contract shall include the notice inviting Tenders, the Articles of Agreements, the General Conditions of Contract, the Special conditions of contract, the Appendix, the Schedule of Quantities, Specifications for Materials, Work-Sheet and mode of measurements and drawings pertaining to the work. All sections of this Contract Document are to be read together. Further such correspondence between the NCCS and Contractors as admitted by the NCCS before award of work and thereafter shall also form part of contract documents.

5. INSTRUCTIONS TO THE BIDDERS:

5.1. METHOD OF APPLICATION:

- 5.1.1. If the Bidder is an individual, the application shall be signed by him above his full type- written name and current address.
- 5.1.2. If the Bidder is a proprietary firm, the application shall be signed by the proprietor above his full typewritten name and the full name of his firm with its current address.
- 5.1.3. If the Bidder is a firm in partnership, the application shall be signed by all the partners of the firm above their full typewritten names and current addresses or alternatively by a partner holding power of attorney for the firm. In the latter case a certified copy of the power of attorney should accompany the application. In both cases, a certified copy of the partnership deed and current addresses of all the partners of the firm should accompany the application.
- 5.1.4. If the Bidder is a limited company or a corporation, the application shall be signed by a duly authorized person holding power of attorney for signing the application accompanied by a copy of the power of attorney. The Bidder should also furnish a copy of the Memorandum of Articles of Association duly attested by a Public Notary.
- 5.1.5. Joint Ventures are not allowed for this work
- 5.1.6. The Bidder should submit Technical Bid & Commercial Bid in separate sealed Envelopes super scribing "Technical Bid" and "Commercial Bid" as the case may be as mentioned in the Tender Notice and both the envelopes shall be submitted together in another sealed envelope super scribing "Name of work and Tender Notice Ref. No".
- 5.1.7. Bidders shall go through all documents before quoting the rates.
- 5.1.8. Bidder should ensure that the documents are attached with Technical Bid as per Check list and all pages of Tender and documents are signed and stamped. Failure to do so shall lead to the rejection of bids.
- 5.1.9. Bidder should submit their details as per attached format Letter of Transmittal and All Forms/ Annexures with self-attested documents.
- 5.1.10. Overwriting should be avoided. Correction, if any, should be made by neatly crossing out, initialing, dating and rewriting, Pages of the qualification document are numbered. Additional sheets, if any added by the Bidder, should also be numbered by him. They should be submitted as a package with signed letter of transmittal.

5.1.11. References, information and certificates from the respective clients certifying suitability, technical knowhow or capability of the Bidder should be signed by an authorized person or officer.

5.1.12. Any information furnished by the Bidder found to be incorrect either immediately or at a later date, would render him liable to be debarred from tendering /taking up of work in NCCS.

5.2. BIDDER TO VISIT SITE:

The bidder must visit/examine the site and it's surrounding on pre bid meeting for the proper assessment of prospective assignment (scope of works). No claims later on shall be entertained.

Intending Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bids as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. A bidder shall be deemed to have full knowledge of the site whether he inspects it or not and no extra cost consequent on any misunderstanding or otherwise shall be allowed. The bidders shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by a bidder implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plant, etc. will be issued to him by the Government and local conditions and other factors having a bearing on the execution of the work.

The site shall be handed over in its present existing condition, to the successful bidder for execution of the works. The existing fittings/fixtures and items to be dismantled shall be handed over to NCCS.

5.3. PRICE:

5.3.1. Bidder must ensure to quote percentage rate against Total Project Cost put to tender.

5.3.2. The rate(s) and amounts are in Indian Rupees only. The total amount should be written both in figures and in words.

5.3.3. In addition to this, while selecting the cells a warning appears that if the cell is left blank the same shall be treated as "0". Therefore, if the cell is left blank and no rate is quoted by the bidder, rate shall be treated as "0" (ZERO).

5.3.4. However, if tenderer doesn't quote any percentage above or below on the total amount of the tender in percentage rate tender, the tender shall be treated as invalid and will not be consider as lowest tenderer.

- 5.3.5. The rates for all tendered items shall be inclusive of GST, all taxes, duties, levies, transportation, transit insurance, cost of the materials, equipment/item, stores, freight, transit insurance, loading unloading including mathadi charges, packing & forwarding, clearance charges for imported goods, inspection/inspective certificate charges any contingency charges etc. and including all other incidental charges whichever is applicable for the equipment/item supply, erection, installation, testing and commissioning with all men, material, tools & tackles complete in all respect..

5.4. CORRECTION OF ERRORS

Tenders determined to be substantially responsive will be checked by NCCS for any arithmetic errors. Errors will be corrected by the NCCS as follows:-

- (a) Where there is a discrepancy between the rates in figures and in words, the lower of the two will govern; and
- (b) Where there is a discrepancy between the unit rate and the line-item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will govern.
- (c) The amount stated in the Tender will be adjusted by the NCCS in accordance with the above procedure for the correction of errors and, with the concurrence of the bidder, shall be considered as binding upon the bidder. If the bidder does not accept the corrected amount the bid is liable to be rejected, and the earnest money deposit may be forfeited.

5.5. CLARIFICATION OF BID:

- 5.5.1. To assist in the examination and comparison of Bids, the NCCS, Pune may, at its discretion, ask any Bidder for clarification of his Bids. The request for clarification and the response shall be in writing or by email / fax, but no change in the price or substance of the Bid shall be sought, offered, or permitted.
- 5.5.2. Any effort by the Bidder to influence the NCCS's Bid evaluation, bid comparison or contract award decisions, may result in the rejection of his bid.
- 5.5.3. Corrigendum/amendments etc., if any, will be notified only on the NCCS web site and no separate advertisement will be made for the same. All prospective bidders are therefore advised to regularly visit the NCCS web site (i.e. www.nccs.res.in) for any future information or update.

5.6. BID OPENING:

On the due date as specified in tender, NCCS Pune will first open technical bid of all bids received in the presence of the bidders/ their representatives who wish to attend.

5.7. TECHNICAL EVALUATION OF BID:

Initially bidders will be shortlisted as per eligibility criteria led down in the tender. N.C.C.S. may at any time after opening of the technical bid, depute a

team of its' officials to the site / work place / office of the Bidder to get the credentials of the information furnished by the Bidder and to verify the status, workmanship & quality of the work / services rendered by them. The tender of the bidder shall be liable for rejection in case of

- Any information furnished by the Bidder is found incorrect.
- The quality of the work and workmanship is found unsatisfactory

The technically qualified responsive bidder only will be short listed for opening of the commercial bids.

5.8. AWARD OF CONTRACT:

The NCCS, Pune shall award the Contract to the Bidder whose evaluated offer/Bid has been found to be the technically suitable, financially lowest considering Life Cycle Cost (Equipment cost and AMC Cost) and is substantially responsive to the bidding document, provided further that the Bidder is found to be qualified to execute the contract satisfactorily.

The Director, NCCS reserves the right to accept or reject any bid or all the bids at any time, without thereby incurring any liability to the affected bidder or specifying the grounds for the same.

The work to be carried out under the Contract shall, except as otherwise provided in these conditions, include all labour, materials, tools, plants, equipment and transport which may be required in preparation of and for and in the full and entire execution and completion of the works. The descriptions given in the Schedule of Quantities shall, unless otherwise stated, be held to include wastage on materials, carriage and cartage, carrying and return of empties, hoisting, setting, fitting and fixing in position and all other labour necessary in and for the full and entire execution and completion of the work as aforesaid in accordance with good practice and recognized principles.

On acceptance of the tender, the name of the accredited representative(s) of the contractor who would be responsible for taking instructions from the E-I-C shall be communicated in writing to the E-I-C.

The Contractor shall prepare an BAR Chart for the execution of the work showing clearly all activities with sequence from the start of the work to the completion, with detailed of manpower, materials, equipments and machinery required for the fulfillment of the programme within the stipulated period or earlier and submit the same for approval of the E-I-C.

6. GENERAL CONDITIONS OF CONTRACT:

6.1 PRE BID CONFERENCE-

- 6.1.1. The objective of PBC is to provide a platform for clarifying issues and clearing doubts, if any, about the specification and other allied technical/commercial details of the bid document. Bids should be submitted only after the PBC so as to take care of the change made in the bidding document. Bidders are requested to send their written queries, doubts, clarifications if any well in advance on following email, minimum two days before meeting.

Email: pmtamhane@nccs.res.in

- 6.1.2. The Minutes of the pre-bid meeting will be uploaded on the NCCS website. All Bidders are requested to formulate their bids accordingly.

6.2 VALIDITY OF OFFER:

Bidder/s shall keep his / their offer valid for a period of at least two months (60 days) from the date of opening of the Technical Bid. If any Bidder withdraws or amends impairs or derogates from the tender in any respect within the period of validity of his offer, the EMD is liable to be forfeited.

6.2. RIGHT TO ACCEPT OR REJECT TENDER:

The Director, N.C.C.S. reserves the right to amend or withdraw any of the terms and conditions contained in the tender document before accepting the tender or to reject any or all the tenders without giving any notice or assigning any reason. The decision of the Director, N.C.C.S. in this regard shall be final and binding on all.

The Director NCCS reserves the right to delete items, reduce or increase the scope of work without the contractor claiming any compensation for the reduction in the scope of work. Contractor has bound to carry out the reduced or increased quantity of work at the quoted rates.

6.3. ABNORMALLY HIGH RATE (AHR) & ABNORMALLY LOW RATE (ALR) ITEM:

If the bid of the successful bidder is seriously unbalanced in relation to the estimate of the cost of work to be performed under the contract, the NCCS may require the bidder to produce detailed price analysis for any or all items of the Bill of quantities of demonstrate the internal consistency of these prices with the working method and the schedule proposed.

6.4. ESCALATION:

Escalation is not applicable for this work.

6.5. PERFORMANCE BANK GUARANTEE (PBG)-

- 6.5.1. The Successful Bidder shall submit an irrevocable Performance Bank Guarantee of **5%** (Five percent) of the contract amount for his proper performance of the contract agreement, (not withstanding and/or without prejudice to any other provisions in the contract) within period of seven days from the date of issue of letter of Intent as per attached format of any Nationalized /Scheduled bank.

After receipt of Performance Bank Guarantee from the successful Bidder, formal work order will be issued and physical site will be handed over and EMD will be refunded to all bidders within one week without any interest.

If he / she / they decline/s or fail/s to submit the PBG within the stipulated time, the EMD shall stand forfeited, without prejudice to N.C.C.S.'s right to rescind the contract and other rights and remedies warranted by the law.

In the event of refusal to carry out work within fifteen days by the successful Bidder on any grounds, its Earnest Money Deposit / Performance Bank Guarantee shall be forfeited.

- 6.5.2. The Performance Bank Guarantee shall be initially valid up to the stipulated date of completion plus sixty days beyond that. In case the time for completion of work gets enlarged, the contractor shall get the validity of PBG extended to cover such enlarged time for completion of work. After recording of the completion certificate for the work by the NCCS, the PBG will be returned to the contractor on written request by contractor, without any interest.
- 6.5.3. The Engineer-in-Charge shall not make a claim under the PBG except for amounts to which NCCS is entitled under the contract (not withstanding and/or without prejudice to any other provisions in the contract agreement) in the event of:
- i) Failure by the contractor to extend the validity of the PBG as described herein above, in which event the Engineer-in-Charge may claim the full amount of the PBG.
 - ii) In the event of the contract being determined or rescinded under provision of any of the Condition of the agreement, the PBG shall stand forfeited in full and shall be absolutely at the disposal of the NCCS.

6.6. SIGNING OF THE CONTRACT:

- The successful Bidder shall be required to execute an agreement with NCCS as per the General Conditions / Special conditions enumerated in the tender documents and as per attached format, on a Non-Judicial Stamp Paper of **Rs.500/- (Rupees Five Hundred only)** within 15 days from the date of LOI. In the event of failure on the part of the successful Bidder to

sign the agreement within the above stipulated period. The NCCS reserves the right to forfeit the EMD / PBG and cancel the contract.

- Until the Agreement is formally signed, the Letter of Intent/ Work Order of Tender issued to the successful Bidder and accepted by him shall be operative and binding on the NCCS and the Contractor.
- No payment for the work done will be made unless contract is signed by the Contractor.

6.7. **INDEMNITY BOND:**

The Contractor shall at all times hold N.C.C.S. harmless and effectively indemnified (as per attached format) on a Non-Judicial Stamp Paper of **Rs.500/- (Rupees Five Hundred only)** within 15 days from the date of receipt of the notice of acceptance of tender. This clause shall survive the termination of this contract.

The Contractor shall indemnify, protect and save NCCS against all claims, losses, costs, damages, expenses, action suits and other proceedings, resulting from infringement of any patent, trademarks, copyrights etc. or such other statutory Infringements in respect of the equipments etc. supplied by him

6.8. **PAYMENT TO CONTRACTOR:**

6.8.1. No advance payment will be paid against this work order.

6.8.2. 70%.Payment will be made within 15 to 20 working days against delivery of material at NCCS in good condition against Invoice, report with delivery challans.

30% Payment will be made within 15 to 20 working against satisfactory completion of installation, testing and commissioning of the DG Set and allied equipments at site complete in all respect and as per actual measurements of work carried out at site.

Security deposit of 10% deducted from respective bills shall be paid after completion of Defect Liability Period of two year from the date of completion of work.

6.8.3. Payments will be made by online through RTGS / NEFT.

6.8.4. TDS will be deducted as per Prevailing Rules.

6.9. **SECURITY DEPOSIT:**

Security Deposit will be refunded after twenty four months of defect liability period from the date of completion of work. In case of unsatisfactory performance by the Contractor Security Deposit will be forfeited.

6.10. FOR AMC/ CAMC:

Contractor should submit fresh equal AMC/CAMC amount of the irrevocable Performance Bank Guarantee for his proper performance of the contract agreement, (not withstanding and/or without prejudice to any other provisions in the contract) within period of seven days from the date of issue of work order. The Performance Bank Guarantee shall be valid for the entire AMC/CAMC period of contract plus sixty days.

The original PBG will be returned to the contractor from the date of completion of AMC/CAMC period plus sixty days on written request by contractor, without any interest.

6.11. It shall be the responsibility of the Contractor to meet transportation, food, medical and any other requirements in respect of the workers engaged by him at NCCS Pune. NCCS shall have no liabilities in this regard.

6.12. The NCCS will not be responsible for any damages, losses, theft, claims, financial or other injury to any workers deployed by service providing Bidder in the course of their performing the functions / duties, or for payment towards any compensation.

6.13. DISCIPLINE:

Contractor shall carry out the works hereunder with due diligence and in a safe and workman like manner according to good Contractor's employees and shall abide by and conform to all rules and regulations promulgated by the NCCS governing the operations.

6.14. SAFETY CODE:

The Contractor shall take adequate precautions to ensure that the tendered works not at all affects the working of the NCCS. He shall take adequate measures to barricade the work sites so that unauthorized persons do not enter the work site. All the safety codes and the preventive measures for this type of work shall be strictly followed. All the personnel and staff shall be under the Contractor's authority and it shall be the responsibility of the Contractor for all insurance, accident claims etc. at the site. The Contractor shall strictly abide by the labour laws in force from time to time and comply with the same and will co-ordinate directly with the concerned authorities. Contractor should follow CPWD safety code norms and IE norms applicable for this work at his own risk and cost.

6.15. QUALITY OF WORK:

The quality of work at all stages should be as per the standards laid down, as per NIT and explained to the Contractor by N.C.C.S., Pune. It is made clear that there cannot be any compromise in the material quality and workmanship

of work. It shall be the responsibility of the Contractor to ensure that the standards laid down from time to time are strictly maintained. Contractor should use approved brands of materials only and get approved sample of each material from Engineer in charge before use.

6.16. DATE OF COMPLETION:

6.16.1. Time is the essence of the Contract. The entire work shall be completed in 120 days (four month) in all respects within the period.

6.16.2. The Bidder should submit detailed tentative BAR Chart showing delivery of materials, installation, testing, commissioning, training, documentation and handing over the project with this tender document. The work shall not be considered as complete until the Engineer in charge of NCCS have certified completion in writing. The defects liability period shall commence from the date of such certificate.

6.17. DEFECT LIABILITY PERIOD:

The Defect Liability Period (Period of Maintenance) for the work is twelve month from the date of the completion of work. During the period of maintenance, the contractor will be responsible for rectifying any defects in working caused due to bad workmanship and poor quality of materials etc. This will be rectified by the contractor at his own expenses otherwise SD (10%) will be forfeited.

6.18. COMPENSATION FOR DELAY:

If the contractor fails to maintain the required progress or to complete the work and clear the site on or before the contract or extended date of completion, he shall, without prejudice to any other right or remedy available under the law to the NCCS on account of such breach, pay as agreed compensation the amount calculated at the rates stipulated below as the Engineer in Charge of NCCS (whose decision in writing shall be final and binding) may decide on the amount of tendered value of the work for every completed day/month (as applicable) that the progress remains below that specified in Clause- Time and Extension for Delay or that the work remains incomplete.

Compensation for delay of work with rate 2% per month of delay to be computed on per day basis based on quantum of damage suffered due to stated delay on the part of Contractor, provided always that the total amount of compensation for delay to be paid under this Condition shall not exceed 10% of the contract value of work.

The amount of compensation may be adjusted or set-off against any sum payable to the Contractor under this contract with the NCCS or the security deposit will be forfeited.

6.19. WHEN CONTRACT CAN BE DETERMINED:

Subject to other provisions contained in this clause, the Engineer-in-Charge may, without prejudice to his any other rights or remedy against the contractor in respect of any delay, inferior workmanship, any claims for damages and/or any other provisions of this contract or otherwise, and whether the date of completion has or has not elapsed, by notice in writing absolutely determine the contract in any of the cases as mentioned or elaborated General condition of Contract, reference shall be made to CPWD Manual or Amended upto date .

6.20. TIME AND EXTENSION FOR DELAY:

The time allowed for execution of the Works as specified in the NIT or the extended time in accordance with these conditions shall be the essence of the Contract. The execution of the works shall commence from such time period as mentioned in NIT or from the date of handing over of the site whichever is later. If the Contractor commits default in commencing the execution of the work as aforesaid, Director NCCS shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the earnest money & performance guarantee absolutely.

As soon as possible after the Contract is concluded, the Contractor shall submit a Time and Progress Chart for each mile stone and get it approved by the Engineer-in Charge. The Chart shall be prepared in direct relation to the time stated in the Contract documents for completion of the works. It shall indicate the forecast of the dates of commencement and completion of various trades of sections of the work and may be amended as necessary by agreement between the Engineer-in-Charge and the Contractor within the limitations of time imposed in the Contract documents, and further to ensure good progress during the execution of the work, the contractor shall in all cases in which the time allowed for any work, exceeds the time period to complete the work as per mile stones given in NIT.

6.20.1. IF THE WORK(S) BE DELAYED BY:-

- force majeure, or
- abnormally bad weather, or
- serious loss or damage by fire, or
- civil commotion, local commotion of workmen, strike or lockout, affecting any of the trades employed on the work, or
- delay on the part of other contractors or tradesmen engaged by Engineer-in-Charge in executing work not forming part of the Contract, or
- Any other cause which, in the absolute discretion of the Engineer-in-Charge is beyond the Contractor's control.

Then upon the happening of any such event causing delay, the Contractor shall immediately give notice thereof in writing to the Engineer-in Charge but shall nevertheless use constantly his best endeavors to prevent or make good the

delay and shall do all that may be reasonably required to the satisfaction of the Engineer-in-Charge to proceed with the works.

6.20.2. Request for rescheduling of Mile stones and extension of time, to be eligible for consideration, shall be made by the Contractor in writing of the happening of the event causing delay on the prescribed form to the Engineer-in Charge. The Contractor may also, if practicable, indicate in such a request the period for which extension is desired.

6.20.3. Request for rescheduling of Mile stones and extension of time, to be eligible for consideration, shall be made by the Contractor in writing of the happening of the event causing delay on the prescribed form to the Engineer-in Charge. The Contractor may also, if practicable, indicate in such a request the period for which extension is desired.

6.20.4. In any such case the Engineer-in Charge may give a fair and reasonable extension of time and reschedule the mile stones for completion of work. Such extension shall be communicated to the Contractor by the Engineer-in Charge in writing after receipt of such written request. Non application by the contractor for extension of time shall not be a bar for giving a fair and reasonable extension by the Engineer-in Charge and this shall be binding on the contractor.

6.21. MEASUREMENTS OF WORK DONE:

All measurements shall be taken jointly by the Engineer-in-Charge or his authorized representative and by the contractor or his authorized representative after completion of the work and such measurements shall be signed and dated by the Engineer-in-Charge and the contractor or their representatives in token of their acceptance.

6.22. CONTRACTOR TO KEEP SITE CLEAN:

On completion of the work, all rubbish materials related to contract works shall be removed by the contractor(s) at his/their own expenses and the site cleaned and handed over to the NCCS and shall intimate officially of having completed work as per contract.

If it is noticed that the Contractor does not clean the place of work, then N.C.C.S. Pune reserves the right to get the area cleaned and unilaterally debit the cost of cleaning to the Contractor or deduct the cost incurred, from the Contract amount as deemed fit.

6.23. DISMANTLED MATERIAL NCCS PROPERTY:

The contractor shall treat all materials obtained during dismantling of a structure, excavation of the site for a work, etc. as NCCS property and such materials shall be handed over to NCCS after completion of work.

6.24. INCONVENIENCE TO NCCS ACTIVITIES:

The Contractor shall not deposit materials on any site which will seriously inconvenience to any of the NCCS activities. The Engineer in charge may instruct the Contractor to remove such materials which are considered by him to him by the dangerous or inconvenient to the activities of the NCCS.

6.25. WORK TO BE EXECUTED IN ACCORDANCE WITH SPECIFICATIONS, DRAWINGS AND ORDERS ETC:

The contractor shall execute the whole and every part of the work in the most substantial and workmanlike manner both as regards materials and otherwise in every respect in strict accordance with the specifications. The contractor shall also conform exactly, fully and faithfully to the design, drawings and instructions in writing in respect of the work signed by the Engineer-in-Charge and the contractor shall be furnished free of charge copy of the contract documents together with specifications, designs, drawings and instructions as are NIT.

The contractor shall comply with the provisions of the contract and with the care and diligence execute and maintain the works and provide all labour and materials, tools and plants including for measurements and supervision of all works and other things of temporary or permanent nature required for such execution and maintenance in so far as the necessity for providing these, is specified or is reasonably inferred from the contract. The Contractor shall take full responsibility for adequacy, suitability and safety of all the works and methods for execution of the works.

6.26. DEVIATION / VARIATION – EXTENT & PRICING:

The Engineer-in-Charge shall have power to make any alterations in, omissions from, additions to or substitutions for, the original specifications, drawings, designs and instructions that may appear to him to be necessary during the progress of the work and the contractor shall carry out the work in accordance with any instructions which may be given to him in writing signed by the Engineer-in-Charge, and such alterations, omissions, additions or substitutions shall not invalidate the contract and any altered, additional or, substituted work which the contractor may be directed to do in the manner above specified as part of the work shall be carried out by the contractor on the same conditions in all respects on which he agreed to do the main work. The time for the completion of the work shall be extended in the proportion that the altered, additional or substituted work bears to the original contract work, and the certificate of the Engineer-in-Charge shall be conclusive as to such proportion. Over and above this, a further period to the extension shall be allowed to the contractor. The rates for such additional, altered or substituted work under this clause shall be worked out in accordance to the prevailing market rate analysis.

6.27. For elaboration of any items of the General condition of Contract, reference shall be made to CPWD Manual or Amended upto date. The Contractor shall in advance seek clarification on any elaboration.

7. SPECIAL CONDITIONS OF CONTRACT:

- 7.1. For Technical data and specifications if in doubt / unclear / mismatch, the same are to be clarified with the Engineer in Charge.
- 7.2. The bills of quantities indicated in this tender are approximate and are liable to change at the discretion of the NCCS. Any variation in quantities will not be applicable for change/modification in quoted rates.
- 7.3. The nomenclature of the item given in the schedule of quantities gives in general the work content but is not exhaustive i.e. does not mention all the incidental works required to be carried out for complete execution of the item of work. The work shall be carried out, all in accordance with true intent and meaning of the specifications and the drawings taken together, regardless of whether the same may or may not be particularly shown on the drawings and / or described in the specifications, provided that the same can be reasonably inferred there from. There may be several incidental works, which are not mentioned in the nomenclature of each item but will be necessary to complete the item in all respect. All these incidental works / costs which are not mentioned in item nomenclature but are necessary to complete the item shall be deemed to have been included in the rates quoted by the contractor for various items in the schedule of quantities. No adjustment of rates shall be made for any variation in quantum of incidental works due to variation / change in actual working drawings. Also, no adjustment of rates shall be made due to any change in incidental works or any other deviation in such element of work (which is incidental to the items of work and are necessary to complete such items in all respects) on account of the directions of Engineer-in-Charge. Nothing extra shall be payable on this account.
- 7.4. Unless otherwise provided in the Schedule of Quantities, the rates quoted by the Contractor shall be inclusive of carrying out the works at and / or upto all heights, lifts, leads and depths. The contractor shall make all arrangements for the same. Nothing extra shall be payable on this account.
- 7.5. All ancillary and incidental facilities required for execution of work like labour camp, stores, fabrication yard, offices for Contractor, watch and ward, temporary ramp, temporary structure for plants and machineries, installation and temporary electricity supply, telephone, water etc. if required for execution of the work, etc., protection works, barricading, testing facilities / laboratory at site of work, facilities for all field tests and for taking samples etc. during execution or any other activity which is necessary (for execution of work and as directed by Engineer-in-Charge), shall be deemed to be included in rates quoted by the Contractor, for various items in the schedule of quantities. Nothing extra shall be payable on these accounts.
- 7.6. **PROCEDURE FOR APPROVAL OF MATERIALS, SHOP FLOOR DRAWINGS AND COMMENCEMENT OF WORK**

Within prescribed time period as per the mile stone the contractor shall visit the site and submit following documents for approval

1. List of makes & Model numbers of all items of equipment and accessories.
 2. Catalogues of the equipment to be supplied along with design details, technical specification, safety certifications etc. as required for each product.
 3. Shop floor drawings of each package shall be submitted separately for approval. It is the responsibility of the tenderer to get the makes, models and shop floor drawings approved by the department. The makes and models offered should be as per the specification and BOQ of the NIT. The decision of Engineer-in –charge is final in this regard. The materials can be brought to site only after the due approval of drawings, makes, models from the department.
- 7.7. The Contractor shall be responsible for the due and proper execution of all the works as per the terms and conditions. The contracting agency should study the design details and understand clearly, prior to quoting. The responsibility of performance shall be with the Contractor.
- 7.8. The debris arisen during the period of work of execution will have to be cleared then and there to keep the site / surroundings clean and tidy. Such debris shall be cleared at Contractors risk and cost.
- 7.9. The contractor should to use additional supports, scaffoldings, materials, accessories, equipments, crane for lifting & shifting loading & unloading, hardware, labour, insurance etc. for proper execution and performance of the work. No additional cost will be paid for this.
- 7.10. The NCCS reserve the right to call explanations and rate analysis from any bidder, regarding the calculations / clarifications on any details. They may also visit the office of the bidder / various works carried out by him. The necessary co-operation in this regard is envisaged form the bidder.
- 7.11. The NCCS or their representatives shall have access to the workshop /Manufacturing facilities of the bidder and or successful contractor so as to assure themselves of the quality of the material and workmanship.
- 7.12. Min. one experienced, competent engineer of the contractor, capable of understanding all the technical points etc., related to this work and act accordingly, should be available on site all the times.
- 7.13. In case of conflict in specifications or terms, between tender, general engineering practice, National and International Codes, more stringent among all will be applicable.
- 7.14. The NCCS shall have a right to delete any item of work from the scope of contract and contractor shall not make any extra claim on this account.
- 7.15. The time for supply of items is very important factor to the NCCS. Only those Tenderers, who are confident and willing to supply the requested items to NCCS within the prescribed time period after the receiving of confirm work order from NCCS are requested to participate in this Tender.

- 7.16. The submission of tender shall be deemed to be an admission on the part of the bidder that it has fully acquainted with the contract terms and no claim other than what stated in the tender shall be paid in the event of award of Contract.
- 7.17. The successful tenderer is responsible to provide the required manpower with qualified persons to meet the requirements of the maintenance of the installation during the guarantee period. The contractor shall provide any materials required. Tools required for the maintenance shall be arranged by the contractor.
- 7.18. The staff to be engaged on this work shall have full knowledge and experience of the work in which they are engaged. The electrician shall have valid licenses for corresponding trades.
- 7.19. No subletting or subcontracting of the work will be permitted.
- 7.20. Necessary protective and safety equipment shall be provided to the Site Engineer, workers & Supervisory staff by the Contractor at his own cost for use at site.
- 7.21. The contractor shall execute the whole and every part of the work in the most sound and substantial and workmanlike manner, and in strict accordance with the specifications both as regards materials and workmanship. The contractor shall also conform exactly, fully and faithfully to the designs, drawings and instructions in writing relating to the work signed by the NCCS / Consultant.
- 7.22. In case of conflict in specifications or terms, between tender, general engineering practice, National and International Codes, more stringent among all will be applicable.

The order of preference in case of any discrepancy as indicated to be read as following:

- a) Nomenclature of item as per Bill of Quantities.
- b) Additional specifications, particular specifications & special conditions.
- c) General Conditions.
- d) Tender drawings and specifications mentioned in drawings.
- e) Tender specifications.
- f) Indian Standard specifications of BIS.
- g) Sound engineering practice as per directions of NCCS / Consultant.
- h) Manufactures specifications.

A reference made to any Indian Standard specifications in these documents reference to the latest version of that standard, including such revisions /amendments as issued by Bureau of Indian standards up to last date of receipt of tender. The contractor shall keep at his own cost all such publications of relevant Indian Standards applicable to the work at site.

- 7.23. The NCCS shall have a right to increase or delete any item of work from the scope of contract and contractor shall not make any extra claim on this account.

- 7.24. In case this tender document does not contain a provision or terms for dealing with a situation that may arise during the execution of the works, the relevant provisions contained in the CPWD manual amended upto date or any other laws/rules shall be followed in such cases and the same will be binding on the Contractor.
- 7.25. Contractor should arrange power supply at his own cost if required. Contractor shall be given water free of cost at one point. The contractor has to make his own arrangement for taking it up to using place at his own expense. The contractor shall make further arrangements at his own cost ensuring safety of instruments and persons at all time.
- 7.26. It shall be the responsibility of the Contractor to meet transportation, food, medical and any other requirements in respect of the workers engaged by him at NCCS Pune and NCCS shall have no liabilities in this regard.
- 7.27. The NCCS will not be responsible for any damages, losses, theft, claims, financial or other injury to any workers deployed by service providing Bidder in the course of their performing the functions / duties, or for payment towards any compensation.
- 7.28. The Contractor should have the requisite license for running their own establishment from authorities such as Local Authority, State / Central Departments etc., at its' own cost. The NCCS shall not be responsible in any way for any breach of these rules and regulations by the Contractor.
- 7.29. The Contractor shall comply with all the statutory requirement in respect of engaging the personnel, their service condition, rules and regulation and all liabilities under the various labour law and other statutory obligations like PF, ESIC, Bonus, workmen's compensation, gratuity and also comply with the provisions of Minimum Wages Act, Payment of Wages Act etc. shall be that of the Contractor, and NCCS, Pune shall in no way be responsible or liable in case of any dispute, prosecution or awards made by court of law or other authorities.
- 7.30. **SAFETY, HEALTH AND ENVIRONMENT**
- i. The Contractor(s) shall take all precautions to avoid accidents by exhibiting necessary caution boards. He shall be responsible for all damage and accidents caused to existing/new work due to negligence on his part. In case of any accident of labour / contractual staff the entire responsibility will rest on the contractor and any compensation under such circumstances if becomes payable shall be entirely borne by the contractor.
 - ii. Appropriate personnel protective equipments such as helmets, gloves, goggles, aprons, safety belts etc. shall be provided to the workers employed at the work site.
 - iii. All hazardous materials shall be labeled with the name of the materials, the hazards associated with its use and necessary precaution to be taken.

- iv. Contractor shall ensure that during the performance of the work, all hazard to the health of personnel, have been identified, assessed and eliminated.
- v. The contractor has to keep a record of all the workers employed at site, mark daily attendance along with the location of the work. All the labour record shall be made available for inspection and verification as and when required.

7.31. QUALITY ASSURANCE:

- i. The contractor shall establish, document and maintain an effective quality assurance system as outlined in the specifications and various codes and standards.
- ii. The bidder shall understand scope of the work, drawing, specifications and standards etc. attached with the tender or to be followed and shall seek clarification, if any before submission of the tender
- iii. The quality assurance system plans / procedures / method statement to be followed shall be furnished in the form of quality assurance manual. It should cover quality assurance, plan procedure, specifications, frequency of the inspection, testing, acceptance criteria, method of sampling, testing etc. to be followed for quality.
- iv. The approval of quality assurance does not absolve the contractor of the contractual obligations towards executing the work as laid down in the specification of the work.
- v. The contractor shall produce quality control records in the formats approved by Engineer-in-charge / Consultant in the quality assurance plan.
- vi. The contractor shall ensure the enforcement of quality assurance plan by all his specialized agencies as approved. The NCCS reserves the right to inspect, witness, review any stage of the work at shop / site as deemed necessary for quality assurance and / or timely completion of work.
- vii. The contractor shall procure required materials in advance so that there is sufficient time for testing of the materials and clearance of the same before use in the work. The contractor shall provide at his own cost suitable measuring arrangements at site for checking the dimensions as may be necessary for execution of work.

7.32. RESOLUTION OF DISPUTES :

Any dispute arising out of this contract including any clarification as to the intent or interpretation of any of the provisions of these terms and conditions, the same shall be first referred to /sought from the Director, NCCS, whose decision in the matters shall be final and binding on the Contractor. Any other matter relevant to but not covered in the contract shall also be decided by making reference to the Director, NCCS whose decision will be final and binding on the Contractor.

If the dispute is not resolved through the reference made to the Director, NCCS, a reference of the same shall be made to an Arbitrator to be appointed by the Director NCCS Pune for adjudication of the same in accordance with the provisions of Arbitration & Conciliation Act-1996 and any statutory modification

there under from time to time. There shall be no objection if the Arbitrator to be appointed is a Competent Officer of NCCS in the discretion of the Director NCCS Pune.

LEGAL JURISDICTION: If any dispute is not resolved by Arbitration will be referred to the Court of Pune Jurisdiction only.

8. SCOPE OF THE WORK:

1. INTRODUCTION:

The scope of contract covers engineering, assembly, Inspection / testing at manufacturing works, packing into properly sized units, forwarding, delivery to FOR site and erection & commissioning of DG set including all required items / equipment and accessories as mentioned in the document. The details of the items/equipment and works to be supplied and carried out are given in Technical Specification.

The scope of work covers the following but not limited:-

- 1. Supply, installation, testing, loading, unloading, insurance, freight & commissioning of min. 380 kVA DG Set having weather and sound proof canopy etc complete as detailed below suitable for outdoor application.**
- 2. Exhaust piping, insulations etc.**
- 3. Civil foundations etc.**
- 4. LA, Earthings etc as per requirements and approval.**
- 5. Liasioning work with Electrical Inspectorate / Pollution Control Board for obtaining approval and permissions for energizing the DG set.**
- 6. Other any related works required as per guidelines but not mentioned anywhere, will be in the scope of work without any cost to NCCS.**

The scope includes provision of any minor additional items though not specifically mentioned, but as may be required for satisfactory completion of work, within the contract price. The contractor within contract price shall arrange special tools, tackles & instruments as may be required for satisfactory erection, installation, testing & commissioning at site of equipment supplied by them.

It is not the intent to specify herein complete details of design and construction. The equipment offered shall conform to the relevant standards and be of high quality, sturdy, robust and of good design and workmanship complete in all respects and capable to perform continuous and satisfactory operations in the actual service conditions at site and shall have sufficiently long life in service. All supplies and services necessary for this purpose shall be provided by the contractor within the contract price.

The contractor is required to ascertain the entire scope of work that may be necessary for completion of the work envisaged on their past experience of similar projects. The tenderer is advised to inspect and examine the site and satisfy himself about the nature of work and site before submitting the tender. It shall be deemed that the tenderer has full knowledge of the site whether the site is inspected or not and no extra charges consequent on misunderstanding or otherwise shall be allowed.

All materials, tools and tackles, equipments, labour, including all labour facilities as per labour laws are to be arranged by the contractor. Cost of transportation of labour and materials shall have to be borne by the contractor. In the event of any dispute of

any kind related to the works, decisions of the Engineer-in-charge for this work shall be final and binding.

The successful tender in his own interest shall insure all the materials for transit up to destination. Also insure all the men employed in the work till handing over. The rate quoted by the firm shall be inclusive of insurance charges.

The entire electrical installation work shall be carried out in accordance with approved drawings and in general conformity with the requirements of the Indian Electricity Rules, 3803, the relevant I.S. Codes of practice, as amended upto date, wherever applicable and the regulations of the local licensing bodies, CEA, CPB, Electrical safety inspector, Fire Regulations etc., if required and the installation shall be planned and executed also confirming to their regulations/rules. All works in general shall be carried out as per CPWD specifications with up to date amendment.

The design and constructional aspects of materials shall not withstanding any anomalies, discrepancies, omissions, in-completeness, etc. in these specifications and will be subject to good engineering practice in conformity with the required quality of the product, and to such tolerances, allowances and requirements for clearances etc. as are necessary by virtue of various stipulations in that respect in the relevant Indian Standards (IS), IEC standards, I.E. Rules, I.E. Act and other statutory provisions.

Wherever, this specification calls for a higher standard of materials and or workmanship than those required by any of the above mentioned regulations and specification then the specification here under shall take precedence over the said regulations and standards.

2. FOUNDATION AND CIVIL WORKS

- a. Equipment foundations, concrete trenches and other civil works are in the scope of contractor. The foundation drawing /details of the equipments may be furnished by the contractor and get it approved from NCCS and Consultant.
- b. The contractor shall check the existing foundations before casting and commencement of erection to ensure their suitability/correctness.
- c. All final adjustment of foundation levels, chipping and dressing of foundation surfaces drilling holes on foundation channels to suit the equipment/structure setting and grouting of anchor bolts, sills, inserts and fastening devices shall be carried out by the contractor including minor modification of civil work as may be required for erection.
- d. Any cutting of masonry work, which is necessary, shall be done by the contractor at his own cost and shall be made good to match the original work. The contractor shall obtain approval before proceeding with the cutting of masonry /concrete work.
- e. The Contractor shall perform all small excavation and backfilling if required for his system.
- f. All excavation shall be back filled to the original level with good consolidation.

3. MATERIALS

- a. Materials shall be supplied as per the BOQ items under schedule of quantities of tender documents.
- b. All the materials required for this work should conform to relevant IS specifications.
- c. The type test certificates, routine test certificates and acceptance test certificates for DG set etc as applicable shall also to be submitted.

4. MAKES

In general, make of various items shall be as per the approved list. However, NCCS reserves the right to accept /opt any make in the interest of work. Where makes have not been indicated in the list, they shall be of ISI marked / reputed brands or approved brands by NCCS/ Consultant. Reputed brand implies a brand which is supported by nationwide sales & service distributors/ dealers/ network/ centers. All makes of items to be got approved by the In-charge Maint before manufacture/ supply/ use in the work irrespective of appearing in the approved list.

5. STORAGE OF MATERIALS

The contractor shall provide proper and adequate storage facilities to protect all the materials and equipment against damage from any cause whatsoever. The watch & ward of the stores, equipment & materials shall be the responsibility of the contractor till the completion, commissioning & handing over to NCCS.

The contractor shall take away the balance of any materials left at the site after commissioning of the system. The cost, if already paid, for such items shall be deducted from the subsequent running bills. NCCS shall not be liable to pay for any of the incidental charges connected with the above.

6. STACKING OF MATERIAL AND SITE HANDING OVER

Prior permission has to be obtained before stacking of materials in the premises. The work shall be done in phases, in close co-ordination with civil /electrical and other works as directed by NCCS.

The contractor shall note that the site for installation will be made available in parts or in phases. It is the responsibility of the contractor to programme his work accordingly. No extra amount will be paid on account of site being made available in phases/parts.

Surplus/dismantled material with no scrap value shall be removed from the site to maintain the site free of any surplus material at all times. Dismantled item with scrap value shall be stacked up neatly inside NCCS at no additional cost.

7. CO-ORDINATION

The Contractor shall co-operate and co-ordinate with all other agencies working in the project and so arrange his work so that there will be no interference during execution of the work.

The Contractor shall forward to NCCS all correspondence and drawings exchanged. Failure to do so will render the Contractor responsible for subsequent change found necessary and its cost. However, the Contractor shall arrange necessary facilities to execute the work simultaneously with other agencies. No claim on this account shall be entertained by NCCS.

Contractor shall plan all activities to ensure that there is minimal interference with existing installation and operation is not affected.

8. TESTING AND MEASURING EQUIPMENTS

Equipment for measurement of work and testing the installation shall be procured by the Contractor for their use at their own cost. The same shall also be made available to NCCS without any charges to NCCS.

9. SITE MAINTENANCE DURING CONSTRUCTION

The Contractor shall from time to time clear and remove all rubbish and obstructions from the site and the work area shall be kept clear and unobstructed at all times. Nothing extra shall be paid on this account.

10. CONFORMITY TO IE ACT, IE RULES AND REGULATIONS

All electrical works shall be carried out in accordance with the provisions of Indian Electricity Act 1910, Indian Electricity Rules 1956 amended upto date (date of call of tender unless specified otherwise) and the State Electrical Inspectorate. The works shall also conform to relevant Indian standard Codes of Practice (COP) for the type of work involved.

All materials to be used in work shall be ISI marked, wherever applicable. In all electrical works, relevant safety codes of practices shall be followed.

11. OPERATION AND MAINTENANCE MANUALS

For all the equipments supplied by the contractor, he shall submit to the owner one set of copy of the O&M manuals. The manual shall contain the operational features of the equipments, DOS & DON'TS, Trouble shooting, maintenance schedules for preventive maintenance, detail dimensional drawings, cross sectional drawings, method of assembly, dismantling, etc. to make the owners staff acquainted with the equipments as well as to enable them to operate and maintain the same in prescribed manner.

Manuals shall contain all information for ordering of the spares, like part name, part no., etc. Contractor shall ensure that these O&M manuals are made available to the owner well before starting of initial trials of equipments.

Note:

- a. These specifications are not meant to be exhaustive and prescribe the minimum acceptable standards. Where these do not cover certain items and aspects, the best engineering practice/NCCS's instructions shall be followed.***
- b. All codes and standards means the latest. Necessary I.S. Codes are mentioned alongwith these specifications and all relevant codes with divisions published on date shall be applicable.***

TECHNICAL SPECIFICATION FOR DG SET

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1. INTRODUCTION:

National Centre for Cell Science (NCCS) is a premier autonomous research institute, under the Department of Biotechnology, Govt. of India located at Savitribai Phule Pune University Campus, Ganeshkhind, Pune- 411007.

Under the aegis of the National Biopharma Mission, NCCS has been entrusted with responsibility to establish a state-of-the-art National cGMP-compliant mammalian cell line repository in the existing building of NCCS at Jidnyasa, near Vanaz Engineers Ltd., S.No. 85/2, Paud Road, Kothrud, Pune- 411038.

The plot area of the site is approximately 14500 Sq. Ft. The existing building consists of a basement + 3 floors with a total built up area of approximately 9000 Sq. Ft. The approximate area available on average per floor is 2500 Sq. Ft. The building is a complete empty shell with no activities presently and also there is no power supply to this bldg.

The proposed repository would be required to be established in par with international cell repositories using global benchmarks, stringent quality control parameters in GMP as per National (DGCI-CDSCO-India) and International (FDA-US & EMA-EU) regulatory requirements along with compliance with Environmental norms.

2. DESIGN BRIEF: -

The DG set specification shall cover the Design, Manufacture, Testing, Delivery, and commissioning of one number DG set with outdoor acoustic enclosure required for NCCS's JIDNYASA BLDG, KOTHRUD at Pune, Maharashtra.

SITE CONDITION

Ambient Air Temperature : min 10⁰C max 45⁰C
Relative Humidity : min 29% max 90%

Note: The climatic conditions are prone to wide variations in ambient conditions and hence the equipment shall be of suitable design to work satisfactorily under these conditions.

The DG set offered shall conform to the relevant standards, shall be of high quality, robust with good design and workmanship. The DG set shall be complete in all respects and capable of continuous and satisfactory operations in actual service conditions at site.

DG set size is designed based on the equipment power load list and considering following loadfactors as mentioned in below table: -

ELECTRICAL LOAD SUMMARY

Sr. No.	DESCRIPTION	LOAD IN KW	LOAD FACTOR	LOAD IN KW AFTER LOAD FACTOR	LOAD IN KVA	POWER FACTOR CONSIDERED
1	LAB EQUIPMENT	168	40%	67	84	PF 0.8
2	UTILITY EQUIPMENT	30	70%	21	26	PF 0.8
3	HVAC EQUIPMENT	171	70%	120	149	PF 0.8
4	LIGHTING LOAD	6	100%	6	6	PF 1.0
5	LV SYSTEM, EMS & NETWORKING SYSTEM - ACTIVE SWITCHES	14	100%	14	14	PF 1.0
6	MISCELLANEOUS LOAD	10	80%	8	8	PF 1.0
	TOTAL LOAD	399		236	288	
	TOTAL IN KW (AFTER LOAD FACTOR)	236				
	TOTAL IN KVA (AFTER LOAD FACTOR)	288				
	CONSIDERING ABOVE LOAD AND CONSIDERING TRANSFORMER BEING LOADED MAXIMUM 80%, REQUIRED TRANSFORMER IN KVA	360				
	SUGGESTED TRANSFORMER CAPACITY IN KVA	400 KVA				
	CONSIDERING ABOVE LOAD AND CONSIDERING DG SET BEING LOADED MAXIMUM 80%, REQUIRED DG IN KVA	360				
	SUGGESTED D.G SET RATING IN KVA	380 KVA				
	CONTRACT DEMAND					
	CONVERTING KW TO KVA AT 0.95 PF	248				

LIST OF RELEVANT INDIAN / INTERNATIONAL STANDARDS:

(A) Generating Set		
ISO 8528	Part - I	Application, rating and performances.
	Part - II	Engines
	Part - III	A.C. Generator for generating set
	Part - IV	Control gear & switch gear
	Part - V	Generating Sets
	Part - VI	Test methods
	Part - VII	Technical declaration for specification and design
	Part - VIII	Low power general purpose generating sets
	Part - IX	Measurement and evaluation of mechanical vibration
	Part - X	Measurement of Airborne Noise - Enveloping surface method
	Part - XI	Security generating sets with uninterruptible power system
(B) Engines		
IS 10000	Part - I 1980	Methods of tests for I.C. Engines Part - I - Glossary of terms relating of test method
(Naturally Aspirated)	Part-II 1980	Standard reference condition
	Part-III 1980	Measurements for testing units and limits of accuracy.
	Part-IV 1980	Declaration of Power, Efficiency, fuel consumption, lubricating oil consumption.
	Part - V	Preparation for tests and measurement of wear
	Part - VI	Recording of test results.
	Part - VII	Governing test for constant speed engines and selection of engines for use with electrical generators.
	Part - VIII	Performance tests
	Part - IX	Endurance test
	Part - X	Tests for smoke level, limit and correction for smoke level for variable speed.
	Part - XI	Information to be supplied by the purchaser to the MFG and information to be supplied by the MFG alongwith the engine.
	Part - XII	Specimen test certificates
	Part - XIII	Recommendations on nature of tests required for functional changes in critical components.
BS 5514	Part 5 -1979	Reciprocating Internal Combustion engines,

b.

ISO-3046	Part V 3801	Performance, torsional vibrations.
	Part -I 3802	Declaration of powers, fuel and lubrication oil consumption and test methods.
	Part -3 1989	Test measurement
	Part- 4 1997	Speed Governing
	Part -6 1990	Overspeed protection.
BS 649		Reciprocating Internal Combustion engines, performance, torsional vibrations.
(C) Alternator		
IS 4889/BS - 269		For declaring efficiency of electrical machines.
IS 4722 - 1992		Capability of machine to withstand over current/overload.
IS – 13364	Part I 1992	Alternator - Voltage Regulation upto 20 KVA
IS – 13364	Part II 1992	Alternator - Voltage Regulation above 20 KVA to 80 KVA
IEC 34 -1 - 1983		Rotating Electrical machines - Rating & Performance
IP – 21	IS -4691/85	Alternator (Degree of Protection)
(D) Acoustic Enclosure		
IS – 8183		Insulation material for sound absorption.
ISO 3744	1998 (E)	Acoustics-Determination of sound power levels of noise sources.
ISO 8528	Part - 10	Measurement of Air borne noise by enveloping surface method.
	1998 (E)	
ISO 9614 -	1993 Part -I	Requirement of grade - II. Accuracy for insulation.
ISO 9614 -	1996 Part-II	Requirement of grade - II. Accuracy for insulation.
(E) Control Panel/ AMF Panel		
IS -2147 1962		Degree of protection.
IS – 4722		H.V. testing for panel

(Ref: CPWD General Specifications for Electrical Works PART-VII (DG SETS)-2013 amended upto date / State PWD amended upto date)

1. SCOPE:

Only Manufacturer / Authorized dealer / OEM of DG set is authorized to submit the following tender: -

The Supplier has to arrange for unloading of the DG set at the site. The supplier should commission the DG set in the presence of O.E.M /Manufacturer. The Supplier has to get the PCB consent from local PCB & drawing & commissioning approval from CEIG / local authority. Tenderer / manufacturer has to attach letter (In case of tenderer a letter issued by manufacturer) consisting of the following:

Compliance of the emission norms for the engine as laid down by CPCB currently.
Deration for the engine power as per Kothrud, Pune site condition.

The substation layout and schematic drawing and the other relevant drawings must be prepared in consultation with NCCS/Consultant and submitted to the concerned state authority (CEIG) for approval and obtain approval of the same. After the completion of the work, the installation must be approved by CEIG and in the event any modifications are suggested by CEIG the same must be carried out within the scope of the work. After the completion of the rectification work the compliance report must be submitted to CEIG and if required re-inspection of the installation must be arranged by the Vendor.

All the electrical installations must confirm to the special conditions of the contract for electrical installation in addition to the specific requirements furnished in the specification.

c. TECHNICAL SPECIFICATIONS:

a. DESCRIPTION:

Suitably rated Diesel Engine, Water Cooled, and Turbocharged with after cooler suitable for Generating Set application, with an output of 380kVA under NTP conditions of BS: 5514, with an overload capacity of 10% for one hour in any 12 hours' operation (prime rating). The set will comprise Diesel Engine, Alternator, acoustic enclosure, common MS base frame, anti- vibration mountings etc., and with all required accessories.

b. DIESEL ENGINE BRIEF NOTE:

a. The Engine shall be complete with the following accessories: -

- a. Engine Block with either V type or inline cylinder arrangement as per manufacturers design.
- b. Radiator with blower fan
- c. Corrosion inhibitor coolant/ liquid coolant
- d. Paper element filters-fuel, lube oil and by-pass
- e. Flywheel housing and flywheel to suit selected alternator
- f. Engine barring mechanism
- g. Suitable flexible coupling
- h. Dry type air cleaners with pre-cleaners and vacuum indicator
- i. Heavy Duty Residential silencers
- j. Stainless steel exhaust flexible bellows
- k. Electric starters
- l. Battery charging alternator
- m. Integrated Digital Electronic governor with digital speed and Voltage control.

b. Integrated Electronic Control Panel (displaying the following Engine parameters but not limited to):

- Battery Voltage monitoring
- Coolant Water Temperature
- Lubricating Oil Pressure
- Engine Speed
- Engine Hours
- Voltage / frequency Control for better block loading.

The Genset controller should have following minimum features:

- a. Inbuilt feature for synchronizing with any similar DG set utility bus.
- b. Programmable fault thresholds
- c. Master first start sensor for providing interlock to prevent multiple sets.
- d. Simultaneously closing on dead bus
- e. Modbus output of both Engine and Alternator parameters.

c. ALTERNATOR BRIEF NOTE:

Suitable standard design Alternator, rated at 380 KVA at 0.8 PF, 415 Volts, 3 Phase, 4 wires, 50 cycles/sec., 1500 RPM, self-excited and self-regulated, with brushless excitation, Band of Voltage Regulation + 0.5% of rated voltage, from no load to full load, Insulation Class "H". The Alternator to confirm to BS: 5000/IS: 4722. The alternator shall be provided with thermistor winding for protection against overheating. The temperature sensor of the thermistor winding shall be connected to DG set control panel and the alternator shall be supplied with Automatic voltage regulator.

d. DIESEL ENGINE:

Cooling System

- a. Radiator Cooled
- b. Engine water pump
- c. Coolant Inhibitor / Liquid coolant
- d. On board after coolers

Fuel System

- a. Fuel pump
- b. Injectors
- c. Fuel filters – Paper element type

Lubricating System

- a. Oil pump
- b. Lube oil cooler : Plate type
- c. Oil filter : Paper element type
- d. Bypass filter
- e. Self-contained piping

Air Intake System

- a. Dry type paper element Air cleaners
- b. Air intake manifold with necessary connections Turbo charged after cooled.
- c. Restriction Indicator

c. Exhaust System

- a. Exhaust manifold
- b. Stainless steel flexible connections
- c. Silencers : outdoor type Residential grade

d. Governing System

- a. Electronic Digital Governor
- b. Starting System
- c. Starter, 24 V, DC
- d. Battery Charging Alternator

e. Safety System (Engine Protection – Trip)

- a. Low lube oil pressure
- b. High water temperature
- c. Over speed
- d. Low coolant level (alarm and shutdown)

f. Other System

- a. Flywheel
- b. Flywheel housing

v. Genset Controls

The control shall be a microprocessor based Integrated generator set monitoring, metering, protection and control system for high reliability and optimum Genset performance (Both Engine and Alternator) with digital display and having in built provision to allow the system parameters to be integrated, monitored and adjusted with a PC. And having following features:

- a. Digital Electronic governing.
- b. Digital voltage regulation.
- c. Protection for alternator Over Current, Short Circuit, Reverse power relay (RPR), Under Voltage, Over Voltage, provision for mounting Earth restricted relay (64) CTs.
- d. Digital AC output metering.
- e. Battery monitoring system to sense and warn against a weak battery condition.
- f. Digital alarm and status message display.
- g. Genset monitoring displays status of all critical engine and generator set functions.
- h. Smart starting control system: Integrated fuel ramping to limit black smoke and frequency overshoot.

vi. ALTERNATOR

The alternator shall be of self-excited, self-regulated, brushless construction and shall conform to BS: 5000/ IS 4722 and shall give rated output. Salient technical parameters shall be as given below:

- a. Rated power : 380 kVA
- b. Type : PMG (Permanent Magnet generator)
- c. Power factor : 0.8
- d. Rated voltage : 415 Volts
- e. Supply system : 3 phase and neutral
- f. Frequency : 50 cycles/sec
- g. Rated rpm : 1500 RPM
- h. Casing protection : As per IP-23
- i. Insulation : Class 'H'
- j. Overload capacity : 10% of one hour in any 12 hours of operation.
- k. Voltage regulation : +/- 0.5 % for all loads between no loads to full load Supply.

vii. Base frame:

Sturdy, fabricated, welded construction, channel iron Base Frame for mounting the above Engine and Alternator. Required number of anti-vibrations mounting pads, charged battery, battery stand, battery charger and leads etc.,

viii. Fuel Tank:

Each DG set shall have its own fuel tank of maximum capacity within frame work of petroleum rules and requiring no storage licenses for storage of class 'B' petroleum. To be provided with mounting brackets, complete with level indicator, fuel inlet and outlet, air vent, drain plug, inlet arrangement for direct filling and set of 10 ft. long fuel hoses.

ix. Fuel System

The fuel oil tank shall be installed at the required location as suggested by the engineer-in-charge / Equipment supplier with necessary wall and floor supports for each DG sets. MS Piping's between DG sets and tank shall also be carried out. The scope of the job will also include Installation of required MS oil pipelines both to Installation and return and including isolation valves for the fuel outlet and level gauge (both for suction and return lines from fuel tank and service tank). Rate of these materials must include in your quotation. Required diesel, 990ltrs / suitable for trial run

will be supplied by bidder. Capacity day tank with level indicators and controllers for pick up and closing of fuel pumps on lower and upper limits, mounted on necessary steel frame / structure.

x. Battery:

1. Each set of 12 Volts, 160AH dry maintenance free, made of Pure lead Thin Plate technology batteries with leads and terminals.
2. The 24-volt battery supplied along with the DG set shall be installed as required with necessary Mild steel or FRP stand. The scope includes the Installation of the stand as per direction of in charge and initial charging the dry batteries.

xi. Battery charger:

- i. SMPS based unit with inbuilt auto /manual and float / Boost facility.
- ii. DC Voltmeter and Ammeter (separate).

a. Other features:

1. The diesel engine and the alternator shall be mounted on specially designed combination Base plate and MS structure of extremely rigid fabrication. The base plate shall be suitable for mounting the set on RCC foundation with anti-vibration mounting pads.(Cushy foot/equivalent make)
2. The set with engine, alternator, closely / flexible coupling, assembled completely on base Frame shall be supplied to site.
3. First time lube oil charging.
4. Foundation drawing has to be provided one month before the supply of DG set to site. The vendor has to work with the civil contractor to ensure the foundation is done as per the requirement.

b. Special features for DG set

1. The engine speed should be regulated through a digital governing system which shall also provide over speed protection.
2. DG set should have a microprocessor based Genset controller with LCD display for engine and alternator parameter.
3. The DG set should have digital electronic governor with adjustable volts / frequency to object and obtain best possible block loading capacity.

xii. Fuel / Exhaust Piping:

Supplier shall size these pipes adequately for easy and proper functioning of the set. The pipe shall be of class B quality MS and painted to prevent corrosion. Exhaust piping shall be provided with glass wool insulation and cladded with aluminium sheet. The height of the exhaust pipe shall be in compliance with norms of CPCB. The support structure shall be provided with access ladder with plate form at sampling point, at aviation lamp & lightning arrestor level for any maintenance activity.

Supplier shall size these pipes adequately for easy and proper functioning of the set. The pipe shall be of class B quality MS and painted to prevent corrosion. Exhaust piping (Vertical and Horizontal) shall be provided with Mineral wool/glass wool insulation and cladded with aluminium sheet. The height of the exhaust pipe shall be in compliance with norms of Local PCB / CPCB. MS 'B' class exhaust pipe along with bend flexible pipe from the DG set manifold which is also supplied is to be connected to the exhaust piping. The silencer shall be fitted in this piping. Anchor support system for exhaust pipe and providing and Installation of heat resistant paint is included in the scope of the job. For pipe supports only anchor fastener to be used. The scope should also include necessary civil works foundation details for exhaust structure M.S. Standalone structure for 380KVA DG set. The wind pressure calculation of the structural details to be considered by the supplier. The M.S structure should be painted. The support structure shall be provided with access ladder with plate form at sampling point & at aviation lamp & lightning arrestor level for any maintenance activity.

Rate of these materials must be included in your quotation.

- a) Lightning Arrestor BIS grade/ BS EN 62305-1 / IS 2309
- b) Aviation warning light with twin lamps (LED Type) & necessary supporting arrangement.

Design should be furnished from the qualified structural consultant along with wind velocity calculation.

xiii. Earthing:

Supply, Installation & Testing of Pipe with plate Earth pits and the earthing of all equipment supplied and allied parts such as panels, piping, fuel tank, etc. shall comply with relevant TN-S standard with IS 3043 standard, the requirement of the Electrical inspectorate. Alternator neutral shall be earthed by providing two separate copper plate earth pits.

xiv. Control wiring on engine/ alternator/ isolator panel:

1. The Electrical wiring on the engine / alternator unit shall be carried out with cables having standard copper conductor of minimum cross section of 2.5 sq mm for single core cables and 1.5 sq mm for multi core copper cables. All wiring shall be adequately supported and protected from incidental damage and properly installed and terminated in suitable terminal boxes with flexible connections, all in accordance with the manufacturer's recommendations. The conductor will be of copper only.
2. Shifting of the DG sets along with its accessories from its stored place onto the foundations in the proposed DG location shall be included in the scope of the job. In case the DG set supplied is in knocked down conditions, the diesel engine and the alternator are to be coupled and aligned.
3. The inter connection between alternator and the control panel shall be carried out as instructed by the Engineer-in-charge. The necessary control cable interconnecting suitable size copper cable between alternator and control panel supplied and terminated with necessary cable glands. Crimping type of lugs shall be as specified in electrical installation of the tender. The supply of the cable glands and lugs is included in the scope of work at no extra cost. The cable termination box extension for the termination of suitable size cable on alternator shall be carried out without any extra cost. Suitable size field control wiring with copper armoured control cable between DG set control panel and engine instrument panel is also to be provided as part of the job/ requirement. However, payment for these power and control cables shall be measured and paid separately for actual quantity executed as per the unit rate quoted by the bidder in the schedule of quantity.
4. The neutral of the generator shall be double earthed with copper strips. The body of the generator and the control panel shall be cable earthed with GI strips. The necessary earth pits and the earth strips for DG set will be measured and paid separately at actual as per unit rate quoted by the bidder in the schedule for quantity.
5. The successful tenderer shall prepare the required layout drawing and arrange to obtain the electrical inspectorate and State pollution control board approval for the installation and commissioning. Statutory fee paid, if any shall be reimbursed against documentary evidence. Obtaining approval from state electricity Board for installation of DG set is also included in the scope of erection. Required diesel for trial run will be supplied by project authority.

6. The design construction, manufacture and performance of the isolator panel shall conform to the latest applicable Indian standards and comply with all currently applicable statutory requirements and safety codes in the locality where the equipment will be installed.

xv. Painting:

All metal surfaces shall be thoroughly cleaned and degreased to remove all scales, rust grease and dust. Fabricated structures shall be pickled and treated to remove any trace of acid the under- surface shall be prepared by applying phosphate paint and a coat of yellow zinc primer. The under surface shall be made free from all imperfections before undertaking the final coat.

After preparation of the under surfaces, the panel shall be powder coated with Siemens gray color with texturized finished of 60-80 micron and the sheet steel fabrication should be treated in seven tank cold pretreatment process before powder coated painting.

The finished panels shall be dried in storing ovens in dust free atmosphere, panel finish shall be free from imperfections like pin holes, orange feels, run paints etc.

xvi. Name Plate:

Name plates for all incoming and outgoing feeder shall be provided on doors of each compartments. Name plate shall be fixed by screws only. Special danger plate shall be provided as per requirement inside the panels sticker should be provided for all components giving identification number as per detailed wiring diagram.

xvii. Auxiliary wiring:

- i. Wiring for all control, protection, metering, signaling, etc. inside the switch Board shall be done with 1100/650volts gray color FRLS insulated copper conductor. Minimum size of control wire shall be 2.5 sqmm.
- ii. All control wiring should provide with necessary sockets/ lugs at both the ends. Each termination shall be identified at both the ends by PVC ferrules having numbers corresponding to the control circuit diagram.

Air circuit breakers:

MCCBs shall comply with standards IS/IEC 60947-1 & 2. MCCB shall have a rated operational voltage (Ue) of 415V, insulation voltage (Ui) of 690 V (AC 50/60 Hz) & impulse voltage (Uimp) of not less than 8kV.

MCCBs rating up to 630Amp shall be current limiting type preferably having an encapsulated double break design having two fixed contacts, one moving contact and two arc chutes per pole. The design is required to minimize the effects of short circuit currents i.e. limit the let through energy and improve the life of cables.

MCCB should have a provision for LOTO facility.

The Electrical life of MCCBs shall be 8,000 operations up to 250A & 4000 operations upto 630A.

Current Transformers (CTS):

- i. Current transformers shall be cast resin type. The short time withstand rating of CTs shall be equal to that of the associated switchgear for one second.
- ii. The protection CTs shall be of 15 VA, accuracy class 0.5 and an accuracy limit factory of 10 unless otherwise specified.
- iii. The instrument CTs shall be of 15 VA, accuracy class 1.0 and an instruments safety factory of CTs shall not be directly mounted on the buses. CTs on MCCB feeders shall be mounted fixed portion of the compartment.
- iv. Separate CTS shall be provided for protection and metering purpose.
- v. Separate class 5P20 CTs to be provided for restricted earth fault relay.

Protective Relays:

The relays shall be mounted on front door of the compartment and accessible for setting and resetting from the front. Hand- reset flag indicators visible from the front shall be provided.

Indicating Instruments:

These shall be minimum 96 mm square, flush mounting type with range as per corresponding feeder. Energy meters shall be of flush mounting type and suitable for measuring unbalanced loads.

Indicating Lamps:

Colors shall be as under:

- Phases : Red, yellow & Blue
- ON : Green
- OFF : Red
- TRIP : Yellow/Amber

Indication lamps shall be in the form of cluster of high intensity protected type light emitting diodes (LED) to give bright indication. These lamps shall be 22.5 mm dia and having operating voltage of 240 V, AC supply. These shall be provided with translucent Covers of red, green and amber color as required. Lenses shall be easily replaceable type from the front.

Push Buttons:

Push buttons shall be momentary contact type, rated to carry 10A, 240V AC with NO + 2 NC contacts.

Color codes shall be as under:

- Start, Close : Green
- Stop, open : Red

The push button shall conform to IP 65 protection against dust and water ingress.

Testing & Inspection:

- i. During fabrication, switchgear shall be subject to inspection by owner or by an independent agency authorized by the owner. Manufacturer shall furnish all necessary information concerning the supply to owner's inspector.
- ii. Tests shall be carried out at manufacturer's works under his care and expense. All routing tests as specified by the applicable standard code shall be conducted. In addition, specific tests shall be conducted to check mechanical and electrical operation and switchboard wiring to purchaser's specification and schematic diagrams as detailed under:
 - These tests shall be provisionally conducted at the manufacturer's works by providing temporary connections to switchgear units to stimulate the actual conditions.
 - Tests shall be finally performed at the site in the presence of the manufacturer's specialists, once the external cable connections have been completed.
 - Shop tests shall be witnessed by an inspector of owner or of an agency authorized by the owner.

iii. Acceptance test shall be as follows:

- A general visual check shall be carried out. This shall cover measurement of overall dimensions, location number and type of devices, terminal boxes, location and connection of terminals etc.
- Manual and electrical operation of C.B./relays shall be checked under the worst conditions of auxiliary supply voltage.
- Dry insulation test with power frequency voltage shall be conducted for the main and auxiliary circuits.
- Insulation resistance of the main and auxiliary circuits shall be checked.
- Operation check shall be carried out for every control function as per the schematic diagrams by manually simulating fault conditions and operation of control switches/relays etc.
- Preferably relays shall be tested with secondary injection test equipment.
- For equipment bought from other sub-suppliers certified test reports to tests carried out at the manufacturer's works shall be submitted. Normally all routine tests as specified in the relevant standards shall be conducted by the sub-supplier at his works.

Drawings and Calculations:

- i. Suppliers shall submit for owner's approval the single line diagram and general arrangement drawings, foundation requirement details and schematic diagrams. Owner's approval of drawing is required before the manufacturer commences fabrication of cubicles and cubicle wiring.
- ii. These diagrams shall show any wiring inside the cubicles starting from the cubicle terminal strips. This diagram shall be used by the owner for troubleshooting and shall show every device, terminal and wire number.
- iii. Manufacturer shall submit the required number of prints and reproducible of schematic, general arrangement and wiring diagram as indicated in the material requisition.
- iv. Detailed calculation of bus bar sizing shall be furnished based on the design parameters stated in clause motor starters shall be suitable for AC3 duty (mixed duty).

Functional Requirements:

- i. Power cables for use on 415 V systems shall be of 1100 volts grade, copper conductor, XLPE insulated, FRLS sheathed armoured and overall FRLS sheathed, strictly as per IS: 1554 (PART-I) 1976. Unarmoured cables to be

used only if specifically mentioned in Schedule of quantities.

- ii. The size of these cables shall be as specified in schedule of quantities or as per attached drawing. The minimum conductor diameter shall be 2.5 sqmm Test/guarantee certificates from the original manufacturer shall be provided for the cables supplied to the site.

Acoustic Enclosure:

- i. Design & Installation of outdoor Acoustic Enclosure as per site conditions to house 380KVA D.G. Set.
- ii. The acoustic enclosure should be fabricated using 16/18SWG thick cold roll sheet steel structure.
- iii. Specially designed to meet stringent MOEF/CPCB/ARAI norms of 75 dBA @ 1 mtr at 75% load under free field conditions
- iv. Designed to have optimum service ability.
- v. Air inlet louvers specially designed to operate at rated load even at 50 deg C air inlet temp.
- vi. Made on special purpose CNC machines for consistency in quality and workmanship.
- vii. Powder coated for long lasting service life and superior finish With UV resistant powder coating, can withstand extreme environments Use of stainless-steel hardware
- viii. Insulation material meets exacting IS 8183 specs for better attenuation with 64 density, 100mm thickness rock wool covered with fiber tissue.
- ix. Preparation of foundation Bed for the above acoustic enclosure
- x. Designed to have optimum serviceability.

Accessories:

- i. Silencer suitably optimized to meet stringent sound emission standards laid down by MOEF/CPCB

D.G. Set Routine Test Procedure

- i. D.G. Set will be tested at our test bench as per DG set manufacturers standard procedures detailed as under: -
- ii. Before testing, the following details shall be recorded on test report:
 - Engine Sr. No.
 - Alternator Sr. No.
 - Engine Model and Make.

- Alternate Model and Make.
- Engine & Alternator Rating.
- Date of Testing.
- Cooling System Type.
- Rated Speed, Voltage & KW rating.
- iii. Check the tightness of all bolts and necessary connections before starting the DG set.
- iv. Start the DG set and run at Idle for a few minutes. If any leakages occur, rectify them and note down the parameters on test report.
- v. Raise the load gradually and allow the performance parameters to reach steady state.
- vi. Conditions and note down the following parameters on test report:
 - Speed in RPM.
 - Load in KW.
 - Current in AMPS.
 - Voltage.
 - Frequency (HZ).
 - Lube Oil Pressure.
 - Water Temperature.
 - Lube Oil Temperature.
 - Regulation of Voltage & Speed.
- vii. Above parameters will be recorded at following loads and duration:
 - Idle run - 05 mins
 - 15 % load - 05 mins
 - 50 % load - 05 mins
 - 75 % load - 05 mins
 - 100% load - 10 mins
 - 110% load - 10 mins- Not applicable for standby DG sets.
- viii. The DG set is tested with standard test bench facilities as per ISO 8528-6.
- ix. The above test is conducted through PLC based resistive load bank at unity power factor.

5. PERFORMANCE CONTRACT:

- i. Arrangement of temporary power and water for erection work shall be made by project authority in the site at free of cost. The contractor shall make his own arrangements to carry and distribute the power, wherever required within the site.
- ii. The bid price should be inclusive of storage cum erection insurance, incidental changes up to handling over of the plant is included under the scope of this contract.

- iii. Spares for any equipment/panels are not covered under the scope of the contract.
- iv. The bidder must visit the site and get acquainted with the site conditions prior to submitting the offer. Also, bidders must take into account all the relevant local conditions prior to submitting their bid.
- v. Bidders has to quote for both the parts i.e., supply and installation. In the event any offer is received only for one part the same will be treated as nonresponsive and will not be considered for further evaluation.
- vi. The successful bidder must submit to purchaser the drawing with details for the equipment static/dynamic loads, dimensional details etc. within FOUR weeks after receipt of the order, foundations for the equipment will be prepared accordingly. After the foundations are made any modifications required, electrical contractor shall be responsible for the rectification of the defective work resulting from the incorrect or insufficient information provided by him.
- iii. The offer shall be complete in all respects and shall include all materials, tools, and appliances, whether specified or not, required for the completion of the supply, installation, testing and commissioning of the above complete works. Electrical contractor's scope shall also include furnishing accessory equipment, sufficient supervision, labour, consumable materials, etc. covered in this contract/specification to put the system into satisfactory commercial operation.
- vii. The equipment/works shall conform in all respects to high standards of engineering, design and workmanship and be capable of performing in continuous commercial operation in a manner acceptable to the purchaser, who will interpret the meaning of drawings and specifications and shall be entitled to reject any work in his judgment which is not in full accordance.
- viii. Work has to be carried out strictly as per the instructions of the Engineer-in-charge. Detailed work schedule should be prepared and got approved from NCCS.
- ix. General arrangement, power schematic and control schematic drawings of the panels are to be submitted for approval prior to taking up the work for fabrication.
- x. Any fees paid to the statutory bodies will be reimbursable against documentary proof.
- xi. The technical details & specification of the foundation required for installing of DG set has to be furnished by the supplier.

6. GUARANTEE & WARRANTY:

- a. The DG Set shall be guaranteed against faulty workmanship / poor material quality and against failures due to the same, for minimum of **Two years OR 10000 Hrs.** of operation, whichever is earlier, from the date of commissioning. No compromise will be entertained on this clause. The warranty should be from manufacturer of the engine and alternator and not by assemblers or OEMs and any other agency.
- b. In order to ensure timely service backup in case of emergency, it is very essential that manufacturer service office is available in Bangalore to ensure timely service, apart from their respective Service Dealers. The tenderer should submit the toll-free number details in India for the engine manufacturer service center to ensure speedy service support. Non-compliance any of the above specs/ requirements should be clearly mentioned in the tender, point by point.

7. INSTALLATION:

- a. The DG set shall be installed over a cement concrete platform on flooring and shall be adequately isolated as per manufacturers' recommendations against transmission of vibrations to the building structure and Install the DG set on the foundation in proper orientation.

8. FIELD PERFORMANCE TEST:

- a. Follow checklist provided by DG set manufacturer before commissioning the set for the first time.
- b. Check the lube oil level in the sump and fuel level in fuel tank.
- c. Check that all power cables and control cables are connected properly.
- d. Check exhaust system from DG set to chimney is connected as per recommendation.
- e. Carry out the commissioning of the set as per following procedure:
 - Turn the engine over using the starter and verify the presence of the excitation voltage from the Permanent magnet Generator (PMG).
 - If sufficient residual magnetism is present, the phase rotation of the main generator connections to the incoming circuit breaker is verified.
 - Confirm the presence of engine speed feedback signals.
 - Start the engine and verify that voltage excitation build-up.
 - Confirm that voltage regulation is operational and stable.
 - Confirm that speed regulation is operational and stable.
 - Check emergency stops.
 - Check any relevant alarm functions.
 - During load tests, confirm that load sharing and regulation is within the requirements of the certifying authority.

9. MAKE AND MODELS OF THE EQUIPMENT:

It is mandatory to provide make and model no. of all equipment in their BOQ (Bill of Quantity) and their subcomponents as asked in the technical specification. The offer may not be evaluated and/or will be liable for rejection in case of non-submission or partial submission of make and model of the items offered. Please note that substituting this information by just brand name is not enough. All products quoted should be associated with specific model numbers and names and with printed literature describing configuration and functionality.

NCCS reserve the right to choose any of the mentioned approved brands in the tender. Equivalent material of any other specialized firms may be used, in case it is established that the brands specified above are not available in the market but only after approval of the alternate brand by the NCCS.

LIST OF APPROVED MAKES:

List of make of various major components must be considered by the supplier as detailed below:

DG Set	:	KIRLOSKAR/ CUMMINS/EQUIVALENT APPROVED BY NCCS
LT Cables (Power and control/armoured and unarmoured)	:	Havells/ Finolex/ KEI / RR Kabel/Belden/Polycab
LT 1.1 KV PVC Insulated / FR / FRLS Flexible Cables	:	Havells/ Finolex/ KEI / RR Kabel/Belden/Polycab
PVC Insulated / FR / FRLS Copper Wires	:	Havells/ Finolex/ KEI / RR Kabel/Belden/Polycab
Cable Lug	:	Dowell/Comet/Jainson/BRACO/Connectwell
Cable Glands	:	Dowell/Comet/Jainson/BRACO
Cable Tray	:	BEC/ OBO Bettermann/ Steelcraft/ MEM/ SLOTCO/ Legrand/ MK
Race ways / Floor trunking / wall channels/ DLP Trunking	:	MK / OBO Bettermann/ Legrand / MEM
DWC/HDPE Pipe	:	Dura-Line / Rex / Carlon/ Emtelle/ Gemini
Panel Accessories	:	
Potential Transformer	:	AE/Pragati/Gilbert & Maxwell/ Matrix/ Rishabh/ Kappa/KALPA / VOLTAMPS / PROK DEVICE
Current Transformer (Cast Resin)	:	AE/Pragati/Gilbert & Maxwell/ Matrix/ Rishabh/ Kappa/KALPA / VOLTAMPS / PROK DEVICE
Static Power Meter & Logger	:	Enercon System Pvt. Ltd. / CG Schlumberger / L&T
ACB	:	Schneider (MVS) / L & T (U-Power) / Siemens (CWL) / ABB (E-Max) /Legrand

Moulded Case Circuit Breaker (MCCB), Miniature Circuit Breakers (MCBs), MPCB, Earth- leakage Circuit Breakers, RCBO, SPD	: Schneider (NSX) / L&T (D Sine) / Siemens (3VL) / ABB (Tmax) /Legrand /Hager
Power/Aux. Contactor	: Schneider / L&T / Siemens / ABB / Legrand
Change Over Switch	: Schneider / L&T / Siemens / ABB Legrand
Protection Relay (Numeric Type)	: Areva/Siemens/L&T/Schneider
Overload Relays	: ABB / LEGRAND / SCHNEIDER/ SIEMENS/L&T
Earth-leakage Relays	: PROK DEVICES / VOLTAMP / L&T / ABB/ SIEMENS
Auxiliary relay	: ABB / SCHNEIDER / L&T / SIEMENS
TIMERS	: L & T/ Minilec/ Seimens / Ge/ Schneider/ Equivalent
ANNUNCIATOR	: Minilec / Equivalent
TERMINALS	: Elmex / Connectwell/ Wago/ Equivalent
PUSH BUTTON	: Tecknik / Equivalent
SELECTOR SWITCH	: Kaycee / Tecknik / Sulzer/ Equivalent
MS / PVC CONDUIT	: Precision/ Diamond/ Isi Mark
ATS with Controller	: Asco/Cummins/GE/Socomec/L&T
Indication lamp and push button	: GE/L&T/Siemens/Schneider /ABB/ Technic
Electronic meter and logger	: L&T/Conzerv/Siemens/Schneider
Selector Switch	: Siemens/ L&T/ Schneider/ABB
Single Phase Preventor	: ABB/ Siemens/ Emerson/ Legrand/OBO
Surge Protection System (SPD)	: ABB/ Siemens/ Emerson/ Legrand/OBO
Electronic Digital Meter	: Enercon System Pvt. Ltd. / CG Schlumberger / L&T / Rishabh /Ae/ Abb / C&S/ Meco/ Ae/ Conzerv/ Secure
Single Phase Preventor	: ABB/ Siemens/ Emerson/ Legrand/OBO
Surge Protection System (SPD)	: ABB/ Siemens/ Emerson/ Legrand/OBO
EARTHING SYSTEM	: Ashlok/ 3m/ Equivalent
Miscellaneous accessories	:
HUME/NP-2 pipe	: KK/Jain Spun/Daya Spun/Indian hume
GI Pipes	: TATA/Jindal-Hissar/SAIL
Batteries	: Exide/ Amaron/ Standard/ Panasonic
MS angle, channel, beams, flats, tees, insert plates	: TATA/Jindal /SAIL

10. ABBREVIATIONS

ACB	Air Circuit Breaker
ARAI	Automotive Research Association of India
DG	Diesel Generator
CPCB	Central Pollution control Board
CT	Current Transformer
FRLS	Fire Retardant Low Smoke
GI	Galvanized Iron
HRC	High Rupturing Capacity
IEC	International Electro Technical Commission
IP	Ingress protection
HP	Horsepower
KV	Kilo Volt
KW	Kilo Watts
LT	Low Tension
LV	Low Voltage
MCB	Miniature Circuit Breaker
MCC	Motor Control Centre
MCCB	Moulded Case Circuit Breaker
MOEF	Ministry Of Environment and Forests
MS	Mild Steel
NTP	Normal Temperature & Pressure
OEM	Original Equipment manufacturer
PCC	Power Control Centre
PLC	Programmable Logic Controller
PT	Potential Transformer
PVC	Poly Vinyl chloride
SMC	Sheet Molding Compound
SWG	Standard Wire Gauge
SMPS	Switch mode power supply

11. ANNEXURES:

DG SET TECHNICAL DATA SHEET - ANNEXURE-1 (ATTACHED SEPERATELY)

12. COMPREHENSIVE (CAMC) / NON- COMPREHENSIVE (AMC) MAINTENANCE SERVICES

SCOPE

The Contractor shall provide free Comprehensive Maintenance service for a period of **two** year from the date of handing over of the system to the NCCS. After expiry of this defect liability period, NCCS reserve right to enter into annual maintenance contract (either Comprehensive or non- Comprehensive) for next five years with the contractor as per rates finalized in the contract. The order will be issued on yearly basis. The contractor should submit equal amount of PBG within seven days after receipt of LOI to them. Payment will be made quarterly after rendering satisfactorily services.

The maintenance services rendered by the contractor (free maintenance for **two** year after handing over and as per CAMC/AMC if entered into for subsequent years) shall include routine and preventive maintenance as also breakdown maintenance if and when required. Maintenance services shall be provided with 24 hour emergency call out service.

BREAK DOWN MAINTENANCE

The Contractor shall also undertake to provide a comprehensive breakdown service whereby qualified technicians shall attend to each breakdown as soon as practicable after a breakdown is reported and carry out immediate remedial work at a reasonable speed according to the nature of the breakdown. Any faulty equipment or components shall be quickly replaced.

In circumstance such that the Contractor fails to attend the breakdown within 2 normal working hours after notification of the breakdown and where remedial work is interrupted during normal working hours for purposes other than obtaining replacement parts, the NCCS reserves the right to order such action as may be necessary to expedite completion of remedial work which shall be at the Contractors expense without abrogation of the Contractors responsibilities. The Contractor shall keep sufficient spare parts during the maintenance period to ensure that replacement work for defect can be carried out immediately.

A competent engineer shall be provided to investigate the fundamental cause of a fault temporary quick fix solution will not be accepted. The NCCS shall at his discretion, take action to recover all losses incurred rising from the failure of the contract to perform the duties either wholly or in part as detailed in this section.

9. FORMS AND ANNEXURES:

FORM –I

9.1. INFORMATION REGARDING ELIGIBILITY LETTER OF TRANSMITTAL

[Note: On the letterhead of the bidder including full postal address, email address, telephone no.]

From:

**To,
The Director
National Centre for Cell Science
Savitribai Phule Pune University Campus,
Ganeshkhind
Pune 411007.**

**SUBJECT: SUBMISSION OF BIDS FOR THE WORK SITC OF 380KVA DG SET AT
JIDNYASA BLDG., KOTHRUD, PUNE**

Ref.: NIT No. NCCS/MAINT/DG/454E/2023; DT. 01/11/2023.

Dear Sir,

Having examined the details given in press notice and bid document for the above work, I/we hereby submit the relevant information.

1. I/we hereby certify that all the statement made and information supplied in the enclosed forms/ Annexures and accompanying statement are true and correct.
2. I/we have furnished all information and details necessary for eligibility and have no further pertinent information to supply.
3. I/we also authorize Officer of NCCS to approach individuals, employers, firms and corporation to verify our competence and general reputation.
4. I/we submit the following certificates in support of our suitability, technical knowledge and capability for having successfully completed the following works:

Name of work :
Certificate from :
Enclosures :
Seal of bidder
Date of submission :

Seal and sign of the bidder

9.2. GENERAL INFORMATION

1	Name of firm	:	
2	Head office address	:	
3	Telephone No.	:	
4	Name of Contact Person	:	
5	Mobile No.	:	
6	E-mail No.	:	
7	Place of incorporation/ registration Year of incorporation/ registration	:	
8	OEM / Authorised Dealer certificate	:	
9	ISO Certification of DG Set MFG	:	

Seal and sign of the bidder

9.3. FINANCIAL CAPABILITIES/ INFORMATION

Financial Analysis – Details to be furnished duly supported by figures in balance sheet/ profit & loss account for the last three years duly certified by the Chartered Accountant, as submitted by the Bidder to the Income Tax Department (Copies to be attached).

Sr. No.	Details	Financial Year		
		2020-21	2021-22	2022-23
i.	Annual Turnover as per Audited Balance Sheet			
ii.	Net Profit			
iii.	Loss if any			

Note : The above data is to be supported by audited balance sheets.

Attach copies of audited balance sheets duly certified by the chartered accountant for all three years (2020-21,2021-22 & 2022-23). Audited Balance sheet should mention the membership number of chartered accountant issued by ICAI along with full address.

Signature of Chartered Accountant with Seal

FORM -IV**9.4. EXPERIENCE OF COMPLETION OF PROJECTS OF SIMILAR NATURE**

(During last seven years ending last day of month previous to the one in which applications are invited)

SR No	Name of work / project and location	Type of work, size and qty	Cost of Work (Rs.)	Date of Commencement	Stipulated date	Actual date	Name and Contact number of the Officer to whom reference may be made

Note: Please attach supporting documents (completion certificates along with order copies) for the above information.

FORM -V**SIMILAR WORKS IN HAND**

SR No	Name of work / project and location	Type of work, size and qty	Cost of Work (Rs.)	Date of Commencement	Stipulated date	Name and Contact number of the Officer to whom reference may be made

Note: Please attach supporting documents (order copies) for the above information.

9.5. DECLARATION FOR NOT BLACK LISTED

(Affidavit to be furnished on a “non-Judicial” stamp paper worth Rs.100/-)

Date

**To,
The Director
National Centre for Cell Science,
Savitribai Phule Pune University Campus,
Pune 411007.**

Dear Sir,

**SUBJECT: SUBMISSION OF BIDS FOR THE WORK SITC OF 380KVA DG SET AT
JIDNYASA BLDG., KOTHRUD, PUNE**

Ref.: NIT No. NCCS/MAINT/DG/454E/2023; DT. 01/11/2023.

I / We hereby confirm that our firm has not been banned or blacklisted by any government organization/Financial institution/Court /Public sector Unit /Central Government.

In case the above statement made by us are found to be false or incorrect, you have right to reject our bid at any stage including forfeiture of our EMD and / or PBG and / or cancel the award of contract.

Signature of Bidder :

Place :

Name :

Date :

Designation :

Seal

9.6. DETAILS OF TECHNICAL & ADMINISTRATIVE PERSONNEL

SR No	Name	Designation	Qualifications	Professional experience	How these would Be involved in this work
1	2	3	4	5	6

Seal and sign of the bidder**9.7. DETAILS OF PLANT AND EQUIPMENT**

Sr.No	Name of equipment	Qty	Capacity or Type	Remark
1	2	3	4	5

Seal and sign of the bidder

9.8. SOLVENCY CERTIFICATE FROM BANKERS

This is to certify that to the best of our knowledge and information M/s./Sri. _____ having marginally noted address _____, a customer of our Bank are / is respectable and can be treated as good for any engagement upto a limit of Rs. ____ (Rupees ____ only).

This certificate is without any guarantee or responsibility on the Bank or any of the officers and valid for one year from date of issue.

(Authorized Signature)

For the Bank

NOTE –

- (1) Banker's certificates should be on letter head of the Bank, sealed in cover addressed to tendering authority.*
- (2) In case of partnership firm, certificate should include names of all partners as recorded with the Bank.*

9.9. FORM OF BANK GUARANTEE

In consideration of the Director (herein after called "National Centre for Cell Science, Pune") having offered to accept the terms and conditions of the proposed agreement between_____ and _____ (Hereinafter called "the said Contractor(s)") for the work_____ (Hereafter called "the said agreement") having agreed to production of an irrevocable Bank Guarantee for Rs.____. (Rupees_____ only) as a security/guarantee from the contractor(s) for compliance of his obligations in accordance with the terms and conditions in the said agreement.

1. We____(Hereinafter referred to as "the Bank") hereby (Indicate the name of the Bank) undertake to pay to the National Centre for Cell Science, Pune an amount not exceeding Rs.____. (Rupees_____ only) on demand by the National Centre for Cell Science, Pune.
2. We____ do hereby undertake to pay the amounts due (indicate the name of the Bank) and payable under this Guarantee without any demure, merely on a demand from the National Centre for Cell Science, Pune stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor(s). Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs.____. (Rupees_____ only).
3. We, the said bank further undertake to pay to the National Centre for Cell Science, Pune any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) in any suit or proceeding pending before any court or Tribunal relating thereto, our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the contractor(s) shall have no claim against us for making such payment.
4. We ____further agree that the guarantee herein (indicate the name of the bank) contained shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of the National Centre for Cell Science, Pune under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged or till Engineer-in-Charge on behalf of the National Centre for Cell Science, Pune certified that the terms and conditions of the said agreement have been fully and properly carried out by the said contractor(s) and accordingly discharges this guarantee.

5. We__ further agree with the National Centre for Cell Science, Pune that (indicate the name of the bank) the National Centre for Cell Science, Pune shall have the fullest liberty without our consent and without effecting in any manner our obligations hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the National Centre for Cell Science, Pune against the said contractor(s) and to for bear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said contractor(s) or for any forbearance, act of omission on the part of the National Centre for Cell Science, Pune or any indulgence by the National Centre for Cell Science, Pune to the said Contractor or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.
6. This guarantee will not be discharged due to the change in the constitution of the Bank or the contractor(s).
7. We__ lastly undertake not to revoke this (indicate the name of the bank) guarantee except with the previous consent of the National Centre for Cell Science, Pune in writing.
8. This guarantee shall be valid upto__ unless extended on demand by National Centre for Cell Science, Pune. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs.__. (Rupees_____ only) and unless a claim in writing is lodged with us within six months of the date of expiry or the extended date of expiry of this guarantee all our liabilities under this guarantee shall stand discharged.

Dated the__ day of__ for__.

(Name of Bank)

9.10. ARTICLES OF AGREEMENT**(ON NON-JUDICIAL STAMP PAPER OF RS. 500/-)**

This Contract Agreement made on this____day of__20__ w.e.f.____ day of
____20__ for the work of _____dated____Between

M/s._____ (refer note) in the town of _____hereinafter called "THE
CONTRACTOR" (which term shall unless excluded by or repugnant to be subject or
context include its successors and permitted assigns) of the ONE PART

AND

National Centre for Cell Science, a society registered under the Societies Registration
Act and having its office at Savitribai Phule Pune University Campus, Ganeshkhind,
Pune 411007 hereinafter called the "NCCS" (which term shall unless excluded by or
repugnant to the subject or context include its successes and assigns) of the OTHER
PART.

WHEREAS

- a. The NCCS is desirous that the Works of _____NCCS, Pune (Tender Ref. No.
____dt.____) should be executed as mentioned, enumerated or referred to in
the tender including Press Notice Inviting Tender, Detailed NIT, General Conditions
of the Contract, Special Conditions of the Contract, Specifications, Drawings, Plans,
Time Schedule of completion of jobs, Schedule of Quantities and Rates, Agreed
Variations, other documents, Pre bid minutes, has called for Tender.
- b. The contractor has inspected the site and surroundings of the work specified in the
tender documents and has satisfied himself by carefully examination before
submitting his tender as to the nature of the surface, strata, soil, sub-soil and
grounds, the form and nature of the site and local conditions the quantities, nature
and magnitude of the work the availability of labour and materials necessary for the
execution of work, the means of access to site, the supply of power and water
thereto and the accommodation he may require and has made local and
independent enquiries and obtained complete information as to the matters and
things referred to or implied in the tender documents or having any connection
therewith, and has considered the nature and extent of all the probable and
possible situations, delays, hindrances or interferences to or with the execution and
completion of the work to be carried out under the contract, and has examined and
considered all other matters, conditions and things and probable and possible
contingencies, and generally all matters incidental thereto and ancillary thereof
affecting the execution and completion of the work and which might have influenced
him in making his tender.

- c. The tender documents including the NCCS's Press Notice Inviting Tender, Detailed NIT, General conditions of contract, Special Conditions of Contract, Schedule of Quantities and rates, General obligations, Specifications, Drawings, plan, time schedule for completion of work, Pre bid minutes, TCD Negotiation if any. Letter of Acceptance of tender, Work order, all correspondence related this work and any statement of agreed variations with its enclosures copies of which are hereto annexed form part of this contract though separately set out herein and are included in the expression Contract wherever herein used.
- d. Contractor shall not claim any escalation in contract rate for rise in prices of materials/labour etc. during the completion of work and shall complete the work at contracted rate which shall be valid for period ____ month from the date of issue of Work Order. In case of extension in the time period for execution of the contract beyond period ____ month, for any reasons of delay, he shall not be eligible for escalation and the NCCS decision in this respect shall be final and binding on the contractor.

AND WHEREAS

The NCCS accepted the tender of M/s.____ (refer note__) (CONTRACTOR) for the Works of____ at NCCS, Pune and issued work order letter Ref.No.____ dated ____ at the total cost of Rs.____ (Rupees ____) as rates stated in the Schedule of quantities for the work and accepted by the NCCS (hereinafter called the Schedule of Rates) upon the terms and subject to the conditions of the contract.

NOW THIS AGREEMENT WITNESSTH & IT IS HEREBY AGREED AND DECLARED AS FOLLOWS.

1. In consideration of the payment to be made to the contract for the work to be executed by him, the contractor hereby convenient with the NCCS that the contractor shall and will duly provide, execute, complete and maintain the said work and shall do and perform all other acts and things in the contract mentioned or described or which are to be implied and there from or may be reasonably necessary for the completion of the said works and at the said times and in the manner and subject to the terms and conditions or stipulations mentioned in the contract, AND
2. In consideration of the due provisions execution, completion and maintenance of the said work, the NCCS does hereby agree with the contractor that the NCCS will pay to contractor the respective amounts for the work actually done by him and approved by the NCCS at the Schedule or Rates and such other sum payable to the contractor under provision of the contract, such payment to be made at such time in such manner as prescribed for in the contract.
3. It is specifically and distinctly understood and agreed between the NCCS and the contractor that the contractor shall have no right, title or interest in the site made

available by the NCCS for execution of the works or in the building, structures or works executed on the said site by the contractor or in the goods, articles, materials, etc. brought on the said site (unless the same specifically belongs to the contractor) and the contractor shall not have or deemed to have any lien whatsoever charge for unpaid bills will not be entitled to assume or retain possession or control of the site or structures and the NCCS shall have an absolute and unfettered right to take full possession of site and to remove the contractor, their servants, agents and materials belonging to the contractor and lying on the site.

4. The dispute or difference if any, relating to this agreement or any document appended hereto shall be settled by arbitration under the provisions of Indian Arbitration & Conciliation Act, 1996 or any rules and regulations framed there under within the Jurisdiction of Pune and the Jurisdiction of Arbitration shall be the city of Pune only.

In Witness whereof the parties hereto have here-into set their respective hands and seals in the day and the year first above written.

Signed and delivered for and on behalf of
NCCS

Signature and delivered for and on behalf of
the contractor

NCCS, Pune

CONTRACTOR

Address :
Date :
Place :

Address :
Date :
Place :

In presence of following witnesses

1 Signature :
Name :

1. Signature :
Name :

2 Signature :
Name :

2. Signature :
Name :

{NOTE:

FOR PROPRIETARY CONCERN

Shri.....s/o.....r/o.....carrying on business under the name and style of.....at..... (Hereinafter called the said Contractor which expression shall unless the context requires otherwise include his heirs, executors, administrators and legal representatives).

FOR PARTNERSHIP CONCERN

M/sa partnership firm having its registered office at (Hereinafter called the said Contractor which expression shall unless the context requires otherwise include his heirs, executors, administrators and legal representatives). The partners of the firms are:

- i) Shris/o....., And
- ii) Shris/o.....etc.

FOR COMPANIES

M/sa company duly incorporated under the Indian Companies Act, 1956 and having its registered office atin the state of (Hereinafter called the said Contractor which expression shall unless the context requires otherwise include its successors and assign). }

9.11. INDEMNITY BOND**(ON NON-JUDICIAL STAMP PAPER OF Rs.500/-)**

This deed of Indemnity is made this _____ day of __20__ between

M/s._____, (hereinafter called "The Contractor" which expression shall unless repugnant to the context or meaning Thereof include its successors and assigns) of the FIRST PARTY and

Director, National Centre For Cell Science, Pune, an Institute having its Registered Office at Savitribai Phule Pune University Campus, Ganeshkhind, Pune 411007 (hereinafter called the "NCCS" which expression shall unless repugnant to the context or meaning thereof include its successors and assigns) of the SECOND PARTY.

WHEREAS the Contractor has, interalia, agreed with the Institute to execute the work _____ on the Terms & Conditions contained in the Notice Inviting Tender No: _____ between the Institute and the Contractor.

Whereas the Contractor has to furnish an Indemnity of the said Agreement. It is now agreed by and between the Parties hereto as follows:

1. In accordance with the said Agreement, on the Contractor furnishing this Indemnity, the Contractor hereby undertakes to indemnify the Institute and keep the Institute indemnified from time to time against any loss caused due to mishandling, mis-operating or improper maintenance etc. or damage caused to or suffered by the Institute by reason of any breach or breaches on the Contractor's art of any of the Terms & Conditions contained in the said Agreement and in the event the contractor shall make any default or defaults in carrying out any of the works under the said Agreement or otherwise in observance or performance of any of the Terms & Conditions relating thereto in accordance with the true intent and meaning thereof, the Contractor shall forthwith on demand and without demur pay to the Institute such sum or sums as may be claimed by the Institute as losses, damages, costs, charges or expenses by reason of such default or defaults on the Contractor's part.
2. Notwithstanding anything to the contrary in these presents or in the said Agreement The Institute's decision as to whether the Contractor has made any default or defaults or the amount or amounts to which the Institute is entitled by reason thereof will be binding on the Contractor for the purpose of this Indemnity and the Contractor shall not be entitled to ask the Institute to establish its claim or claims under this Indemnity but will pay the same on demand without any objection

provided always the mutual rights under the said Agreement shall not in any way be prejudiced by reason of such demand by the Institute and payment by the Contractor under this Indemnity and the claims under the said Agreement (which Shall be settled in accordance with the said Agreement) without prejudice to the Institute's rights to demand immediately under this Indemnity and the Contractor's liability to pay the same.

3. This Indemnity shall continue and hold good until it is released by the Institute in writing on the Contractor's application after expiry of relative Guarantee period of the said Agreement and after the contractor has discharged all his obligations under the said Agreement and submitted a "NO DEMAND CERTIFICATE" from the Institute under the said Agreement. The Indemnity Bond shall be valid for a minimum period of CONTRACT PERIOD and renewable thereof (Claim Period).
4. The Institute will have the fullest liberty from time to time to enforce or forbear to enforce any of the Terms & Conditions of the said Agreement and the Contractor shall not be released from his / their liability under this Indemnity by the exercise of the Institute 's liberty with reference to the matters aforesaid or by reason of any time being given to the Contractor or any forbearance, act or omission on the Institute's part or any indulgence by the Institute to the Contractor or by any variations or modifications of the said Agreement or any other act, matter or thing whatsoever on the Institute's part.
5. This Indemnity and the powers and provisions herein contained are in addition to and not by way of limitation or substitution for any other guarantee, indemnities hereto before given to the Institute by the Contractor and this indemnity does not revoke or limit such indemnities or guarantee.

IN WITNESS WHEREOF the Parties hereto have executed these presents the day the year First hereinabove written.

Name and sign of the Contractor

Engineer in Charge
N.C.C.S., Pune

In the presence of following Witness

1. _____

2. _____

10. TECHNICAL SPECIFICATION CHART FOR PRODUCT TO BE OFFERED:

I	Engine	
1	Make	
2	Model/ISS reference	
3	No. of cylinders	
4	Rated R.P.M	
5	Method of Starting	
6	Aspiration Method	
7	BHP	
8	Specific Fuel oil consumption (gm/BHP/hr.)	
9	Lub. Oil recommended	
10	Lub. Oil pressure	
11	Qty. of lub. oil required	
12	Time required for starting	
13	Lub. oil sump capacity	
14	Nos. of exhaust pipe required.	
15	Dia. of exhaust pipe	
16	Whether meets CPCB norms for Emission	
17	Fuel Consumption at full load	
18	Any other data.	
II	Alternator	
1	Make	
2	Enclosure Details	
3	Full Load output in KVA	
4	Full Load output in KW at 0.8 PF	
5	Designed over load capacity at max. ambient temp.	
6	Efficiency at full load	
7	Class of Insulation of rotor	
8	Class of Insulation stator	
III	General:	
1	Overall Length of DG set L x W x H	
2	Overall Weight of DG set	
3	Noise Level of DG Set at one Metre with Acoustic Enclosure	
IV	AMF Panel	
1	Make	

2	Type (Floor/Wall mounted)	
3	Overall dimensions (L x B x H)	
4	Finish	
V	Generator Control Panel:	
1	Make	
VI	Acoustic Enclosure:	
1	Make	
2	Size	
3	Details of Acoustic lining Material & Make	
VII	CPCB Norms	

11. CHECK LIST OF DOCUMENTS SUBMITTED:

Sr No.	Particulars	Submitted (Yes No)	Remark
1	TWO SEPARATE BIDS I.E. TECHNICAL AND COMMERCIAL SUBMITTED IN SINGLE ENVELOPE DULLY SEALED.		
2	EARNEST MONEY DEPOSIT (EMD)		
3	COPY OF REGISTRATION CERTIFICATE OF FIRM (SHOP ACT/ COMPANY REGISTRATION)		
4	COPY OF PAN CARD		
5	COPIES OF IT RETURN AND BALANCE SHEETS FOR LAST THREE YEARS		
6	COPY OF GST REGISTRATION.		
7	COPY OF OEM AUTHORIZATION CERTIFICATE		
8	COPY OF MANUFACTURER ISO CERTIFICATION		
9	COPIES OF SIMILAR SUPPORTING WORK ORDERS WITH COMPLETION CERTIFICATE		
10	LIST AND CLIENTS INDICATING QUANTUM OF WORK EXECUTED WITH THEM		
11	FORM- LETTER OF TRANSMITTAL		
12	FORMS / ANNEXURES		
13	TECHNICAL SPECIFICATION OF CHART OF EQUIPMENT TO BE OFFERED WITH OEM CATALOGUES, BROCHURES, DRAWINGS ETC.		
14	SEAL SIGNED COPY OF PRE-BID MEETING MINUTES		