Tender Ref: SNB/ENG/NIT/2012-13/04

Oct 2012

## S N BOSE NATIONAL CENTRE FOR BASIC SCIENCE

# 500 KVA DIESEL GENERATOR SET TENDER DOCUMENTS

DESIGN, MANUFACTURE, SUPPLY, ERECTION, TESTING & COMMISSIONING OF 500 kVA DIESEL GENERATOR SET AT SNBNCBS CAMPUS

## PART - I

#### 1 INVITATION TO TENDER

Sealed Tenders are invited from reliable, experienced & reputed Diesel Generator Set manufacturers / Manufacturer's authorised suppliers by S N Bose National Centre for Basic Sciences (SNBNCBS) for the work of "DESIGN, MANUFACTURE, SUPPLY, ERECTION, TESTING & COMMISSIONING OF 500 KVA DIESEL GENERATOR SET INCLUDING NECESSARY CABLING & CONSTRUCTION OF FOUNDATION AND POWERHOUSE AT SNBNCBS CAMPUS"

#### 1.1 Submission

1.1.1 Offers are to be submitted for the subject work in two bid system as explained herein. The sealed tender document, duly filled in, shall be submitted in the Tender Drop Box kept at the reception of S N Bose National Centre for Basic Sciences, Kolkata - 700098 ("the Centre" in short).

#### 1.2 Tender Documents

- 1.2.1 Tender Documents can be obtained from the Accounts Section of SNBNCBS during working hours against written request and on payment of Rs 500/- (Rupees five hundred only) in cash or by demand draft/Banker's cheque drawn in favour of "S. N. Bose National Centre for Basic Sciences, Kolkata 700098" and payable at Kolkata Branch of the bank.
- 1.2.2 Amendment of Tender Documents: The Centre may modify the Tender Documents before the last date for submission of tenders by issuing Addenda which shall be part of the Tender Documents.

## 1.3 Earnest Money

1.3.1 No Tender will be considered which is not made in the prescribed form and which is not accompanied by a deposit of Rupees One (1) lakh as Earnest Money. Earnest Money Deposit will be accepted only in the form of Crossed Account Payee Banker's Cheque or Demand Draft or Banker's Pay Order from Nationalised /schedule Banks payable at Kolkata and drawn in favour of "S N Bose National Centre for Basic Sciences, Kolkata - 700098" This shall be placed in an envelope, clearly super-scribed with Tender number, title and "Earnest Money Deposit" in bold letters. EMD in cash will not be accepted. The offer shall be submitted by the Tenderer in manner explained herein.

## 1.4 Validity

1.4.1 The Price Offer must be valid for 90 days from the date of opening of the Technical Cover of the Tender; otherwise the same will not be considered at all.

### 1.5 Due Date

1.5.1 The due date of Tender Submission is **09 Nov 12 (1400 hrs IST)** and the Technical Cover will be opened on the same day at 15-00 hours.

## 1.6 Rejection

1.6.1 If the offers are not received according to the instructions detailed herein, they shall be liable for rejection. The corrections and remarks shall be either typewritten or legibly written and signed.

**Acting Registrar** 

S N Bose National Centre for Basic Sciences Sector-III, Block-JD, Salt Lake Kolkata – 700098

#### 2 DESCRIPTION AND SCOPE OF WORK

## 2.1 Work requirements

- 2.1.1 The work included in this Tender comprises the following:
- 2.1.1.1 Design, Manufacture, Supply, Erection, Tests, Trials & Commissioning of 500 kVA Diesel Generator Set with all necessary peripherals including cabling and civil work for foundation and powerhouse and all necessary temporary and enabling works. The proposed DG set will serve as a standby source of power supply when state utility power supply through existing 11 kV sub-station will not be available. Hence, suitable cable termination at the change over switching needs to be provided.
- 2.1.1.2 Documentation for all the systems and equipment, including operation and maintenance manuals, spare part lists, licenses and certification by relevant authorities and other statutory bodies.
- 2.1.1.3 Training of the Centre's staff in operation, maintenance and defect diagnosis of the system.
- 2.1.1.4 Maintenance of the DG Set and peripherals supplied under the contract over a period of two years from the date of completion of Commissioning.
- 2.1.1.5 A Guarantee against damage or failure due to defects in design, material and workmanship for the duration of the **Defect Liability Period (24 calendar months).**
- 2.1.1.6 Full load testing shall be conducted at the supplier's works and delivery of equipment will be done only after satisfactory testing clearance and approval by the owner.

#### 2.2 Site Familiarisation

2.2.1 Before quoting, the Tenderer in his own interest shall carry out site visits to know the site conditions and full implications of the assignment. This will also help him in proper assessment of the work. Failure to do so will not absolve the contractor of his responsibility to carry out the work as specified in the Tender Documents. The cost of visiting the site shall be borne by the Tenderer and shall be at his own responsibility and risk.

#### 2.3 Tender Costs

2.3.1 The Centre will not reimburse any costs incurred by the Tenderer towards preparation and submission of the Tender.

#### 2.4 Site Consultations

2.4.1 The work shall be carried out in consultation with the Centre's Engineering Section.

#### **DETAILED SPECIFICATIONS FOR 500 KVA DIESEL GENERATOR SET**

#### 1. DIESEL ENGINE

Type: 4 stroke

No: of Cylinders: 12 cylinders

Cooling: water cooled and turbo charged intercooler, Diesel Engine Capacity: Minimum 645 BHP @ 1500 RPM under NTP conditions

Engine designed to run continuously, conforming to BS: 5514/ DIN-6271/ISO – 3046 with an overload capacity of 10% for one hour in any 12 hours continuous operation.

## 2. The engine shall be complete with the following accessories:

- a) Radiator Cooled
- b) Corrosion inhibitor coolant
- c) Paper element filters for fuel, lube oil and by-pass
- d) Flywheel to single bearing alternator with housing.
- e) Dry type air cleaners and vacuum indicators
- f) PT Self Adjusting direct fuel injection system
- g) Residential Silencer Hospital Type
- h) Stainless steel flexible exhaust bellows
- i) Electronic Control panel with digital governor suitable for synchronization.
- j) 24 V Electric Starter
- k) Battery charging alternator
- I) Electronic Instrument panel (Displaying the following):
  - i. Battery Voltage
  - ii. Coolant Water Temperature
  - iii. Lubricating Oil Pressure
  - iv. Engine Speed
  - v. Engine Hours
- m) Safety Control: High water temperature (HWT), Canopy Temperature (Trip & Indication for), Low lube oil pressure (LLOP), Over speed stop
- n) Air inlet system, Charging system, Control system, Exhaust system.

## 3. Fuel consumption: At 75% of rated load the Bench Mark - Fuel Consumption is 78.0 litres /hr.

The fuel consumption indicated by the supplier shall be guaranteed for first 600 hours of operation / first one year whichever is earlier. Suppliers offering equipment with higher fuel consumption shall be disqualified.

**4. Efficiency**: 90% or higher. Performance Guarantee Certificate (Specifically indicated from Authorized agency for Certification) to be provided by the supplier for Type approval and conformity of production testing of DG set.

#### 5. ALTERNATOR:

Alternator confirming to BS:5000/ IS:4722 with standard design with IP 23 Protection, suitably rated at 400 KW / 500 KVA at 0.8pf, 415 Volts, 3 phase, 4 Wires, 50 Hz., 1500 RPM, self excited (brushless excitation)and self regulated, Band of Voltage Regulation +/-1.5% of rated voltage (from no load to full load) and Class "H" Insulation. Alternator should be mounted on a common single base frame and coupled directly to the engine..

#### 6. BASE FRAME:

Sturdy, fabricated / welded construction, made out of high quality Steel section suitable for mounting the engine and alternator. The base frame shall be suitably designed to simplify transportation, handling, slinging, E&C. Shall have provision for levelling adjustments, as required during installation.

## 7. AMF CONTROL PANEL:

Cubicle type, floor mounting Control Panel, with dust and vermin proof for accommodating the following: a) Two Nos. ACB – Draw out Type – 800amps.

EAR Monitor with LCD displays indicating kWh, kW, kVA, pf, Volts, Amps. Hz

Indications - RPM, Hour, Oil Pressure, Oil Temperature, Coolant Temperature & Fuel Level

Protections – Short Circuit, Over Current, Over Speed, Over Load and Optional Reverse Power Relay, Single Phasing, Phase Sequence.

Safeties – Auto shut down, visual & audio alarm for LLOP, HCT, Low fuel level & Radiator Water Level. Apart from the above – MCCB of suitable rating, MCBs.

- **8. FUEL TANK:** Inbuilt Fuel Tank with Capacity: 850 liters (min) .
- **9. BATTERY:** Suitable Dry type Batteries of Standard Make with leads and Terminals shall be part of the equipment. The pack shall be suitably positioned and modular withdraw able to ease of servicing. The Battery pack shall be minimum 180 AH, Lower capacity battery pack will not be accepted.
- **10. NOISE LEVEL OUTSIDE the enclosure:** 75 dbA at a distance of 1metre under free field condition and adhere to the guide lines of MOEF (Ministry of Environment and Forest) and CPCB (Central Pollution and Control Board) norms.
- **11.** Provision to log essential parameters at 1minutes interval shall be provided along with Optional Data logger, to be quoted separately.
- **12.** Desirable maximum ambient temperature without derating: Base level 48 deg C but not less than 45 deg C, considering peak summer temperature.

- **13.** Lube oil System: Complete with cooling system, oil temperature monitor, filtration system up to 20 microns, level indicator and fume disposal system to be provided. Fuel system with primary and secondary fuel filter, fuel pump to be provided.
- **14.** The supplied DG set should be CPCB Compliant and certified by both FCRI and ARAI. The equipment parameters and Performance Guarantee should be certified by the competent testing authority.

## 15. Earthing System:

### For Generator Neutral Earthing: (02 Sets)

- A) Supply, Fixing and Laying of 600mmX600mmX6mm copper plate as per IS-3043.
- B) Supply, Fixing and Laying of 32mmX10mm copper strip partly underground and partly surface by necessary clamps etc. as required for earthing.
- C) Supply and fixing of PVC Sleeve suitable for 32mmX10mm copper strip.
- D) Supply and fixing of 450mmX450mm heavy duty C.I. Earth pit cover with hinged door, bituminous paint.
- E) Supply and fixing of 32mm dia, 5 Mtr. length G.I. pipe (ISI-Medium) for periodic treatment with G.I reducer.
- F) Supply and pouring of Salt and Charcoal as per requirement.

## For Generator Body Earthing: (02 Sets)

- A) Supply, Fixing and Laying of 600mmX600mmX6mm G.I. plate as per IS-3043.
- B) Supply, Fixing and Laying of 50mmX6mm G.I. strip partly underground and partly surface by necessary clamps etc. as required for earthing.
- C) Supply and fixing of PVC Sleeve suitable for 50mmX6mm copper strip.
- D) Supply and fixing of 450mmX450mm heavy duty C.I. Earth pit cover with hinged door, bituminous paint.
- E) Supply and fixing of 32mm dia, 5 Mtr. length G.I. pipe (ISI-Medium) for periodic treatment with G.I reducer.
- F) Supply and pouring of Salt and Charcoal as per requirement.

#### 3 INSTRUCTIONS TO TENDERER

#### 3.1 Tender Documents

Sealed Tenders are invited for the work of "DESIGN, MANUFACTURE, SUPPLY, ERECTION, TESTING & COMMISSIONING OF 500 KVA DIESEL GENERATOR SET AT SNBNCBS CAMPUS" in accordance with the attached Conditions of Contract, Form of Tender and Price Schedules. Tender means Tenderer's forwarding letter, making his offer against this Tender together with the return of Tender Documents duly filled and signed.

## 3.2 Earnest Money Deposit (EMD)

- 3.2.1 No bid will be considered which is not accompanied by a sum of Rupees 1 lakh as Earnest Money which is lodged on understanding that in the event of the bidder withdrawing the bid before the expiry of 150 days from the last date of submission of the bid, the bid shall be cancelled and the Earnest Money deposited shall be forfeited.
- 3.2.2 The EMD must be lodged by adopting following steps:
  - (A) Earnest Money will be accepted only in the form of Crossed Account Payee Banker's cheque or Demand Draft or Banker's Pay order from any Nationalised/ scheduled Bank payable at Kolkata. EMD in cash will not be accepted.
  - (B) The EMD shall be submitted as per the procedure laid down in the Tender notice.
  - (C) Bids if not accompanied by the requisite EMD shall be treated as invalid and shall not be opened. The Earnest Money will be returned to the unsuccessful bidders on their request without interest after the bids are settled. The Earnest Money will be retained in case of successful bidder and will form a part of the Initial Security Deposit.

#### 3.3 Return of Tender Forms

3.3.1 TENDERER MUST RETURN THE COMPLETE TENDER DOCUMENTS INCLUDING **FORM OF TENDER** WITH CONDITIONS OF CONTRACT, THE SPECIFICATIONS, SCHEDULES ETC. DULY SIGNED. ALTERATIONS TO THE CONDITIONS OF CONTRACT, SPECIFICATIONS, ETC. WILL NOT BE ENTERTAINED. ANY TENDER NOT SO SIGNED ON ALL THE DOCUMENTS IS LIABLE TO BE REJECTED.

#### 3.4 Completion Period

3.4.1 The time required for completion of the work from the date of award of the contract is **Six (6)** calendar months.

## 3.5 Filling in Contract Price Schedule

3.5.1 Tenderer must fill in the rates against all the items of works included in the schedule of quantities and rates and must extend the same indicating the rate applicable and the amount of taxes, duties, levies etc. and give the total figure.

## 3.6 Acceptance of the Tender

3.6.1 The Centre reserves its right to accept or reject any Tender in whole or in part without assigning any reasons thereof.

#### 3.7 Taxes and Duties

Tenderers rates and amounts are to be fully inclusive of all taxes and duties. The Centre can avail excise duty / custom duty exemption against exemption certificate.

#### 3.8 Tender Price

3.8.1 Tender price shall be inclusive of all charges for design, manufacture/repair, transport, handling, supply and delivery at site, receipt and storage of all material and equipment at site, construction, installation, trials, testing, commission, maintenance for Defect Liability Period, inspection, supervision and certification at all stages by the nominated inspecting agency, training of the Centre's staff, supply of spares and special tools, Defect Liability Period and all other incidental charges for the execution of the contract.

## 3.9 Cost of Stamps

3.9.1 The successful Tenderer shall bear the expenditure towards stamps and related expenditure involved in registering of the contract.

#### 3.10 Mode of Submission of Tender:

- 3.10.1 Tenders enclosed in a sealed cover as mentioned in the "Tender Notice" indicating on the envelope the Tender No. and due date and time and endorsed "DESIGN, MANUFACTURE, SUPPLY, ERECTION, TESTING & COMMISSIONING OF 500 KVA DIESEL GENERATOR SET AT SNBNCBS CAMPUS" and addressed to the Acting Registrar, SNBNCBS, will be dropped in the Tender Box kept at the reception area on or before the due date and time of the Tender submission. Outstation Tenders should be dispatched by post so as to reach SNBNCBS before 12-00 hours (I.S.T.) on the due date. The Tenderers should specifically note that their offer sent by post or by hand must reach this office on or before the due date and time. OFFERS RECEIVED LATE WILL NOT BE CONSIDERED EVEN THOUGH POSTED IN TIME.
- 3.10.2 All Tenders shall be submitted in duplicate in sealed covers separately as mentioned below:
- (i) The first cover shall contain only EMD in the prescribed manner and shall be sealed and super-scribed with Tender no. and title and EMD as shown below: "EARNEST MONEY DEPOSIT" "DESIGN, MANUFACTURE, SUPPLY, ERECTION, TESTING & COMMISSIONING OF 500 KVA DIESEL GENERATOR SET AT SNBNCBS CAMPUS" TENDER REF CLOSING DATE \_\_ AT HOURS The second cover shall contain Technical Offer (Part - I) along with all Conditions of 3.10.3 Contract, Specification, annexures/schedules, attachments etc. in original and shall be sealed and super-scribed as shown below: "TECHNICAL BID" "DESIGN, MANUFACTURE, SUPPLY, ERECTION, TESTING & COMMISSIONING OF 500 KVA DIESEL GENERATOR SET AT SNBNCBS CAMPUS" TENDER REF \_\_\_\_\_ CLOSING DATE \_\_\_\_\_AT\_\_\_HOURS

## Schedule of Attachments (as proof of technical compliance) to be completed by the Tenderer for the Technical Bid

to be completed by the Tenderer for the Technical Bid				
Item	Title	Attached? (Tenderer to initial)		
Conditions of Cor	ntract, Specification, Annexures and Schedules duly signed.			
Technical Subm	ission, to include:			
Tenderer				
Attachment Ref.	Subject			
	Only reputed and original manufacturer of complete 500 kVA DG			
	Set including Engine, Alternator and accessories or manufacturer's			
	authorised supplier/service provider of the same is eligible to			
Α	participate in the tender. Furnish sufficient and adequate proof in			
	support of the above.			
	Note: No assembler or reseller shall be considered. Combination of			
	different makes of Engine and Alternator is strictly not acceptable.			
	Credential of supply and installation of at least 5 nos. 500 kVA DG			
В	sets to Central, State, Defence, Public Sector or National Institutes			
Ъ	during last two (2) years ending 30 Jun 12. Furnish list supported by			
	copies of work order / completion certificate.			
С	Availability of authorised service Centre in Kolkata: Address and			
	contact details to be furnished.			
D	Furnish details of competent testing authority for certification of			
	equipment parameters and Performance Guarantee of the DG Set.			
_	Schedule of principal items which the Tenderer proposes to supply			
E	under the contract. Make, capacity, power requirements etc. should			
	be mentioned.			
F	Outline General Arrangement Drawing(s) of principal items.			
<u> </u>	Tenderer's Technical Proposals including compliance statement			
G	against each point of Technical Specification along with this offer.			

(III)	shall be sealed, super-scribed as shown below:			
	"PRICE OFFER"			
	"DESIGN, MANUFACTURE, SUPPLY, ERECTION, TESTING & COMMISSIONING OF 500 KVA DIESEL GENERATOR SET AT SNBNCBS CAMPUS"			
	TENDER REF			
	CLOSING DATEATHOURS			
(iv)	The fourth cover shall contain all the above three covers and shall be superscribed with Tender No. title and "Complete Offer" as shown below:			
	"COMPLETE OFFER"			
	"DESIGN, MANUFACTURE, SUPPLY, ERECTION, TESTING & COMMISSIONING OF 500 KVA DIESEL GENERATOR SET AT SNBNCBS CAMPUS"			
	TENDER NUMBER			
	CLOSING DATEATHOURS			

- 3.10.4 If the offers are not received according to the instructions detailed herein, they shall be liable for rejection.
- 3.10.5 The Tender will be opened in the presence of the Tenderers or their representatives who may wish to be present on scheduled date and time of opening the Tenders.
- 3.10.6 Evaluation of technical offers will be done first on the basis of criteria given in the Schedule of attachments. Price bids of technically qualified bidders only will be opened thereafter.

#### 4 CONDITIONS OF CONTRACT

### 4.1 Application

4.1.1 Unless otherwise provided for in the Contract Documents, these Conditions shall apply to the work of all sections of the Specifications attached herewith.

## 4.2 Definitions and Interpretation

4.2.1 Whenever the following words and expressions occur in the Contract Documents, they shall have the meanings herein assigned to them except where the context otherwise requires:

#### 4.2.1.1 Owner / Purchaser

The 'Owner' / 'Purchaser' means the S N Bose National Centre for Basic Sciences and referred to throughout in the Contract Documents by 'Owner' or 'Purchaser' or 'the Centre' having its premises at Sector-II, Block-JD, Salt Lake, Kolkata - 700 098. The word 'Owner' or 'the Centre' when used in conjunction with the words 'as directed', 'where directed', 'approved', 'subject to approval', 'satisfactory', 'accepted', 'equal to', 'proper', 'determined by' shall mean the Acting Registrar of SNBNCBS or any other official nominated by the Owner / Purchase from time to time.

#### 4.2.1.2 Contractor

The 'Contractor' and/or 'DG Set Contractor' is the successful Tenderer who is awarded the Contract by the Owner to perform the Works covered by this Contract and shall be deemed to include the Contractor's successors, heirs, executors, administrators, representatives or assigns approved by the Owner and will be referred to as if of masculine gender and singular number, throughout in these Documents.

## 4.2.1.3 Sub-Contractor

The term 'Sub-Contractor' used herein refers to a party or parties having a direct Contract with the Contractor to whom any part of the contract has been sublet by the Contractor with the consent in writing of the Owner.

#### 4.2.1.4 Work

'Work' means the work to be executed in accordance with the Contract and includes extra works and temporary works.

#### 4.2.1.5 The Contract

'The Contract' means and includes the documents listed in Schedule A of the Form of Agreement.

#### 4.2.1.6 Constructional Plant

'Constructional Plant' means all appliances or things of whatsoever nature required in or about the execution and completion of the works or temporary works and includes (without there by limiting the foregoing definition) all machinery and tools, but does not include materials or other things intended to form or forming part of the permanent work.

## 4.2.1.7 Contract Price

'Contract Price' means the sum agreed to and named in the Letter of Intent of Contract.

#### 4.2.1.8 Drawing

'Drawing' means all drawings, calculations and technical information of a like nature provided by the Owner to the Contractor under the Contract and all drawings, calculations and technical information of a like nature submitted by the Contractor and approved by the Owner.

#### 4.2.1.9 Site

'Site' means the lands and other places, on, under, in or through which the works are to be executed or carried out and any other lands or places provided by the Owner for the purpose of the Contract.

#### 4.2.1.10 Month and Week

'Month' means English Calendar month; 'week' means calendar week.

## 4.2.1.11 Excepted Risks

The 'Excepted Risks' are riot (in so far as it is uninsurable), war (whether war be declared or not), invasion, act of foreign enemies, hostilities, civil war, rebellion, revolution, insurrection or military or usurped power or acts of God such as earthquake, floods, cyclone, hurricane etc., or use or occupation by the Owner of any portion of the Works in respect of which a certificate of completion has been issued (all of which are herein collectively referred to as the `Excepted Risks').

#### 4.2.1.12 Commencement Date

'Commencement Date' means the date for the commencement of the contract as stated in the Letter of Intent (LOI) or the Letter of Award (LOA).

## 4.2.1.13 Letter of Intent (LOI) and Letter of Award (LOA)

'Letter of Intent' means a letter issued by the Owner to the successful Tenderer to notify him of intent to award him the contract; 'Letter of Award' means a letter issued by the Owner to the successful Tenderer to notify him that he is awarded the contract.

## 4.3 Drawings

4.3.1 The Contractor is to provide and make at his own expense working or progress drawings required by him or necessary for the proper carrying out of the works and shall furnish copies of the same free of cost to the Engineer for his acceptance and information.

#### 4.4 Contractor to Execute Contract Agreement

4.4.1 The Contractor shall after acceptance of Tender enter into and execute a Contract Agreement, within 15 days of issue of LOI/LOA, to be prepared as per FORM OF AGREEMENT. Until such Contract Agreement is executed the Conditions of Contract, Instruction to Tenderers, Scope of Work & Specifications, Price Schedule, Drawings and the Tender together with their acceptance thereof, shall be the construed as Contract between the Owner and the successful Tenderer. No payment will be made to the Contractor until the Agreement is signed by him. The Contractor shall prepare and finalise the Contract Agreement for signing the formal Contract Agreement. After signing, Contractor shall prepare and submit the full contract documents to Owner duly well bound in both original and copy.

#### 4.5 Contractor to Satisfy Himself on All Points

4.5.1 The Tenderer shall inspect and examine the Site and its surroundings and shall satisfy himself or shall be deemed to have satisfied himself before submitting his Tender as to the form and nature of the Site, ground and nature of the work, the means of access to the Site, the means of disposal of debris, the working space he may require, any other local conditions and in general shall himself obtain all necessary information as to risks, contingencies and any other circumstances which may influence or affect his Tender. No extra claim whatsoever shall be entertained on account of misunderstanding or otherwise of the prevailing conditions as well as scope of work.

## 4.6 Earnest Money and Security Deposit

- 4.6.1 Earnest Money, the amount of which is specified in the Invitation to Tender, deposited in the ways specified in the Instructions to Tenderer must accompany the Tender without which the Tender will not be considered at all.
- 4.6.2 Security Deposit shall be deducted from the progressive bills including final bill at ten per cent (10%) of each R.A. Bill/ Final bill value till such time the total deduction together with EMD already taken shall constitute ten percent (10%) of the total contract value.
- 4.6.3 Security Deposit which shall be converted to Performance Bond after completion of work and shall be refunded after completion of Defect Liability Period without interest and after deduction, if any, made there-from under the provision stated below, on due successful completion of the work.
- 4.6.4 If the Contractor fails to carry out the work or perform or observe any of the Conditions of Contract, the said Security Deposit may be liable to forfeiture at the option of the Owner. The Owner will also be at liberty to deduct from the Security Deposit or from any sum due or to become due or under any other Contract with the Contractor sums that may become due to the Centre by virtue of any of the terms hereof.

## 4.7 The Contract and General Obligations of the Contractor

- 4.7.1 Applicability of Laws on the Contract
- 4.7.1.1 The Contract documents shall be drawn-up in English language.
- 4.7.1.2 The contract shall be governed by acts as applicable only within the jurisdiction of the Kolkata High Court, India.
- 4.7.1.3 The Contract shall be governed by the following Indian Acts:
  - a) The Indian Contract Act, 1872.
  - b) The Workmen's Compensation Act, 1923.
  - c) The Minimum Wages Act, 1948.
  - d) The Contract Labour (Regulation & Abolition) Act, 1970.
  - e) The Arbitration and Conciliation Ordinance, 1996 (Ordinance No. 8 of 1996).
  - f) Payment of Wages Act, 1936.
  - g) The ESI Act, 1948.
  - h) Child Labour Act 1986
  - G) Factories Act 1948
    - H) Employees P.F. & Miscellaneous Provision Act 1952

- I) Any other Act as may be applicable under the statutes from time to time.
- 4.7.2 Unless otherwise stated in the Conditions of Contract:
  - a) the Owner shall have obtained (or shall obtain) the planning, zoning or similar permission for the Permanent Work, and any other permissions described in Specification as having been (or being) obtained by the Owner; and the Owner shall indemnify and hold the Contractor harmless from and against the consequences of any failure to do so; and
  - b) the Contractor shall give all notices, pay all taxes, duties and fees, and obtain all permits, licences and approvals, as required by the Laws in relation to the execution and completion of the Work and the remedying of any defects; and the Contractor shall indemnify and hold the Owner harmless from and against the consequences of any failure to do so.

## 4.7.3 Compensation to Workmen and Others

The Contractor shall at all times indemnify the Owner against all claims, damages or compensation under the provision of the Workmen's Compensation Act, 1923, or any other law for the time being in force as consequence of any accident or injury of any workmen, or other person whether in the employment of the Contractor or not, and also against all cost, expenses or charges of any suit, action or proceeding arising out of such accident or injury and against all sums or sums which may with the consent of the Contractor be paid to compromise any such claim suit or proceedings.

- 4.7.4 Labour Employed by the Contractor on Day Work Basis
- 4.7.4.1 Any labour supplied by the Contractor for the work on a day work basis either wholly or partly under the direct orders and control of the Contractor or his Representative, shall be still deemed to be person employed by the Contractor.
- 4.7.4.2 The Contractor shall employ no workmen below the age of 16 years on the work in construction of any nature.
- 4.7.4.3 The Contractor shall observe all the safety precautions as stipulated and necessary to ensure safety of his staff as well as material. Appropriate Personal Protective Equipment (PPE), and other necessary safety equipment is to be provided to staff while working and the staff are to be properly trained to use such safety equipment and to observe the safety norms.

#### 4.7.5 Discrepancies in Contract Documents

The several documents forming the Contract are to be taken as mutually explanatory of one another, but in case of ambiguities or discrepancies the same shall be explained by the Engineer who shall there upon issue to the Contractor instructions thereon and in such event, unless otherwise provided in the Contract, the priority of the documents forming the Contract shall be as follows:

- a) The Contract Agreement.
- b) The Letter of Intent.
- c) The Conditions of Contract.
- d) The Specification
- e) The Price Schedule / Bill of Quantities.
- f) The Description and Scope of Work
- g) The Instructions to Tenderers.
- h) The Drawings.
- i) The Tender.
- j) Any other document forming part of the Contract which is stamped, signed and dated by the competent representatives of the Owner and the Contractors. Except that, where expressly stated, particular documents shall have higher priority.

## 4.7.6 Subletting by Contractor

The Contractor shall not directly or indirectly transfer, assign or sublet the Contract or any part thereof without the written permission of the Engineer. Even if such permission be granted, the Contractor shall remain responsible (a) for the act, defaults and neglect of any Sub-Contractor, his agents, servants or workmen as fully as if these were the acts, defaults or neglects of the Contractor himself or his agents, servants or workmen, and (b) for his full and entire responsibility of the Contract and for active superintendence of the works by him despite being sublet, provided always that the provision of labourers on a "piece rate" basis shall not be deemed to be subletting under this clause. However, all lapses delays due to subcontractor will be treated as contractual failure solely on Contractor's part.

### 4.7.7 Contractor's Rates to be Fully Inclusive

Unless otherwise specified, the Contractor shall be deemed to have included in this Tender / Offer all his costs for supplying and providing all constructional plant, temporary work, materials both for temporary and permanent works, labour including supervision thereof, transporting to and from the Site and in and about the work, including loading, unloading, fencing, watching, lighting, payment of fees, taxes and duties to the appropriate authorities, Insurance and other things of every kind required of the construction, erection, completion and maintenance of the work including contractor's overhead and profit.

In case of any statutory or imposition of new taxes and duties after submission of the bid due to notification of Government of India during the contract period and if applicable to the end product, the same may only be considered by Owner against documentary evidence'.

## 4.7.8 Contractor to be Fully Responsible

- 4.7.8.1 The Contractor shall be solely responsible for the adequacy, stability and safety of all site operations and methods of construction, even if any prior approval thereto has been taken from the Engineer or his Representative. The Contractor shall be fully responsible for the correct implementation thereof, as also for any design and specification prepared / proposed / used by the Contractor.
- 4.7.8.2 The Contractor shall submit design of the civil works to the Owner within four (4) weeks from the Commencement Date for approval.
- 4.7.8.3 The Contractor shall submit detailed specifications, complete and detailed schedules of materials and components for the works to Owner within eight (4) weeks from the Commencement Date for review/acceptance.

## 4.7.9 Supervision by Contractor

The Contractor shall provide necessary and adequate supervision during the execution of the works and as long thereafter as the Owner or his Representative shall consider necessary during the Defect Liability Period.

The Contractor or his competent and authorised agent or representative shall be constantly at site and instructions given to him by the Owner or his Representative in writing shall be binding upon the Contractor. The Contractor shall inform the Owner in writing about such representative / agent of him at site. Replacement of any of the authorised agent of the Contractor during the currency of Contract shall only be with prior written approval of the Owner.

## 4.7.10 Contractor to Keep Qualified Personnel at Site

The Contractor shall employ in execution of the Contract only qualified, careful and experienced persons and the Owner shall be at liberty to direct the Contractor to stop deployment of any of his staff, workmen or official at Site and the Contractor shall within 48 hours from the receipt of instruction comply with such instruction without any demur, whenever the Owner shall feel that the deployment of the person concerned will not be conducive to the proper and timely completion of the work.

The Contractor shall maintain a 'Site Order Book' at the work site to keep record of the order/instructions issued by Owner and its compliance by the Contractor and a 'Hindrance Register' to record hindrances, if any, duly countersigned by Owner.

#### 4.7.11 Care of the Work

From the commencement of the works till issue of the completion certificate the Contractor shall take full responsibility for the care thereof. Save for the excepted risks, any damage, loss or injury to the work or any part thereof shall be made good by the Contractor at his own cost as per instruction and to the satisfaction of the Owner, failing which the Owner or his Representative may cause the same to be made good by any other agency and the expenses incurred and certified by the Owner, shall be recovered from the Contractor.

## 4.7.12 Safety

The Contractor shall strictly follow and maintain the safety measures while executing the work at site as per standard safety measures and rules.

#### 4.7.13 Performance Guarantee

The Contractor shall carry out the services in conformity with generally accepted norms and sound standards of engineering and safety. The Contractor shall be responsible for carrying out the works in compliance with the Specifications and Codes. In the event of any deficiency in these works, the Contractor shall promptly rectify the offending works for which the Centre shall not be required to pay any additional compensation.

## 4.7.14 The Centre's Rules & Regulations to be followed.

The Contractor and all his agents / employees at the Site or, in and about the work shall be controlled and governed by the rules and regulations of the Centre restricting the conduct of persons within the Campus.

The Contractor shall ensure that all persons employed by him in connection with this project work have understood and shall be under the purview of Indian Official Secret Act 1923 (XIX of 1923).

## 4.7.15 Accidents

The Contractor shall within 24 hours of the Occurrence of any accident at or about the Site or in connection with the execution of the work, report such accident to the Owner and shall take all steps as is required by the prevailing law.

#### 4.8 Tests on Completion

#### 4.8.1 Contractor's Obligations

The Contractor shall carry out the Tests on Completion in accordance with specification.

The Contractor shall give to the Owner 7 days' notice of the date after which the Contractor will be ready to carry out each of the Tests on Completion.

The Contractor shall submit a certified report of the results of these Tests to the Owner.

#### 4.9 Terms of Payment

4.9.1 All Interim Payments are advances.

## 4.9.2 Payment Schedule

The schedule of payment based on major milestones shall be as under in terms of percentage of the total price. This schedule shall be strictly adhered to and at no instance shall the contractor be due for any interim payments other than specified in this clause.

## a) Stage -I Payment:

**10%** (Ten percent) on completion of Generator Foundation and Powerhouse as per approved design and drawing.

## b) Stage -II Payment:

**60%** (Sixty percent) on delivery at site of the main components of the DG Set in ready to assemble form after inspection by the Owner / Purchaser at the works of the manufacturer.

## c) Stage - III Payment:

**25** % (Twenty Five percent) on erection, assembly of DG Set and completion of tests/trials, commissioning and certification by the Certification Agency.

## d) Stage -IV Payment:

- **5**% (Five percent) on completion of training to the Centre's staff and supply of documentation, as fitted drawings, Operation & Maintenance manual etc.
- 4.9.3 All payments shall be subject to deduction of income-tax at source as per Income Tax Act and Income Tax Rules.

## 4.10 Delay/ Extension of Completion Time / Liquidated Damage / Risk Purchase/ Termination of Contract

## 4.10.1 Extension of Completion Time

Should the quantum of additional work of any kind and/or for the reasons of 'Excepted Risks' cause delay in completion of the work, the Contractor shall apply to the Owner in writing for suitable extension of completion time within 7 days from the date of occurrence of the reason and the Owner shall there upon consider the stated reasons in the manner deemed necessary and shall either reject the application or determine and grant the extension period as he would deem proper for completion of the work, with or without the imposition of 'Liquidated Damage' on the Contractor. The decision of the Owner shall be binding on the Contract. If an extension of completion time is granted by the owner without imposition of Liquidated Damage, the Liquidated Damage shall apply from the date of expiry of the extended period, if the work were not completed with the extended time.

#### 4.10.2 Liquidated Damage or Other Compensation

4.10.2.1 If the Contractor fails to complete the work within the stipulated date as per Contract, the Contractor shall pay as compensation (Liquidated Damage) to the Owner and not as penalty at the rate of 1% (One percent) of the total value of work (Contract Price) as mentioned in the LOI or LOA, for every week of delay or part thereof provided always that the amount of such compensation shall not exceed 10% of the Contract Price.

#### 4.10.3 Risk Purchase

4.10.3.1 Without prejudice to any of his legal rights, the Owner shall have the power to recover the said amount of compensation / damage, from any amount due or likely to become due to the Contractor. The payment or deduction of such compensation / damage shall not relieve the Contract from his obligation to complete the work or from any of his other obligations / liabilities under the Contract and in case of the Contractor's failure and at the absolute discretion of the Engineer, the work may be ordered to be completed by some other agency or departmentally at the risk and expense of the Contractor, after a minimum 7 days notice in writing has been given to the Contractor by the Owner.

#### 4.10.4 Termination of Contract

Without being liable for any compensation to the Contractor, the Owner may, in his absolute discretion, terminate the Contract in part or as a whole after giving him a minimum 7 days notice in writing, due to occurrence of any of the following reasons and decision of the Owner in this respect shall be final and conclusive:

- a) The Contractor has abandoned the Contract.
- b) In the opinion of the Owner, either the progress of work is not satisfactory or the work is not likely to be completed within the agreed period on account of Contractor's lapses.
- c) The Contractor has failed to commence the works or has without any lawful excuse under these conditions, has kept the work suspended for at least 15 days despite receiving the Owner's written notice to proceed with the work.
- d) The Contractor has failed to remove materials from Site or to dismantle or demolish and replace work for 7 days after receiving from the Owner the written notice stating that the said materials or work where condemned and rejected by him under this conditions.
- e) The Contractor is not executing the works in accordance with the Contract or is persistently or flagrantly neglecting to carry out his obligations under the Contract.
- f) Any bribe, commission, gift or advantage is given, promised or offered by or on behalf of the Contractor to any officer, servant or representative of the Owner or to any person on his or their behalf in relation to the execution of the Contract.
- g) The Contractor is adjudged insolvent or enters in to composition with his creditors or being a company goes in to liquidation either compulsorily or voluntarily.
- 4.10.4.1 In all such cases of Termination of work, the Owner shall have the Power to complete the work through any other agency or departmentally at the Contractor's risk and expense and the Contractor shall be debited any sum or sums that may be expended in completing the work beyond the amount that would have been due to the Contractor, had he duly completed the whole of the work in accordance with the Contract.
- 4.10.4.2 The Owner shall have the power to retain all amounts due to the Contractor until the work is completed by other agency and the Contractor's liabilities to the Owner are known in all respect.

#### 4.11 Defect Liability and Refund of Performance Bond

#### 4.11.1 Contractor's Obligation for Defect Liability

The work including equipment or any component thereof are to be guaranteed for satisfactory performance for the period of **twenty four(24) Calendar months** from the date mentioned in the Completion Certificate to be issued by the Owner, unless otherwise agreed in writing by the OWNER will be deemed as the 'Defect Liability Period'. Any defect / fault, which may appear in the work during aforesaid guarantee period, arising, in the sole opinion of the Owner, from the

defective material and or due to improper design and or due to defective drawing or due to faulty workmanship, or not in accordance with the Contract and shall, upon the written notice of the Owner, be amended and made good by the Contractor at his own cost within seven days of the date of such notice, to the satisfaction of the Owner, failing which the Owner shall have the defects amended and made good through other agency or departmentally at the Contractor's risk and cost and all expenses, consequent thereon or incidental thereto, shall be recoverable from the Contractor in any manner deemed suitable by the Owner. During the above guarantee period, the contractor shall assume full responsibility for rectifications of any defective equipment or components thereof including all direct expenses relating to removal and repositioning of replacement/repaired equipment or component thereof and subsequent test and trial, incurred thereon without any financial implication to Owner.

## 4.11.2 Certificate of Final Completion

The Contract shall not be considered completed and the work shall not be treated as finally accepted by the Owner, until a Final Completion Certificate shall have been signed and issued by the Owner after all obligations under the Contract including that in the Defect Liability Period, if any, have been fulfilled by the Contractor.

#### 4.11.3 Refund of Performance Bond

On completion of the Contract in the manner aforesaid, the Contractor may apply for the refund of his Performance Bond by submitting to the Owner (a) The Receipts granted for the amount of Security held by the Owner, and (b) his 'No further claim' Certificates where upon the owner shall issue Certificate and within two months the Owner shall refund without interest the balance due against the Performance Bond to the Contractor, after making deduction there from in respect of any sum due to the Owner from the Contractor.

## 4.12 Removal of Defective Work

4.12.1 If the defect or damage cannot be remedied expeditiously on the Site and the Owner gives consent, the Contractor may remove from the Site for the purposes of repair such items of Plant as are defective or damaged.

#### 4.13 Right of Access

4.13.1 Until the Completion Certificate has been issued, the Contractor shall have such right of access to the Works as is reasonable required in order to comply with this Clause, except as may be inconsistent with the Owner's reasonable security restrictions.

#### 4.14 Contractor to Search

4.14.1 The Contractor shall, if required by the Owner, search for the cause of any defect, under the direction of the Owner.

## 4.15 Unfulfilled Obligations

4.15.1 After the Completion Certificate has been issued, each Party shall remain liable for the fulfilment of any obligation which remains unperformed at that time. For the purposes of determining the nature and extent of unperformed obligations, the Contract shall be deemed to remain in force.

## 4.16 Clearance of Site

4.16.1 Upon receiving the Completion Certificate, the Contractor shall remove any remaining Contractor's Equipment, surplus material, wreckage, rubbish and Temporary Works from the Site.

- 4.16.2 If all these items have not been removed within 15 days after the Owner issues Completion Certificate, the Owner may sell or otherwise dispose of any remaining items. The Owner shall be entitled to be paid the costs incurred in connection with, or attributable to, such sale or disposal and restoring the Site.
- 4.16.3 Any balance of the moneys from the sale shall be paid to the Contractor. If these moneys are less than the Owner's costs, the Contractor shall pay the out-standing balance to the Owner.

## 4.17 Settlement of Disputes

- 4.17.1 The Parties shall use their best efforts to settle amicably all disputes arising out of or in connection with this Contract or the interpretation thereof during the tenure of after expiration/termination of this Contract.
- 4.17.2 Any dispute between the Parties as to matters arising pursuant to this Contract which cannot be settled amicably within thirty (30) days after receipt by one Party of the other Party's request for such amicable settlement may be submitted by either Party to arbitration in accordance with the provisions of Clauses 4.17.3, 4.17.4 and 4.27.5 hereinafter.
- 4.17.3 Any dispute pursuant to Clause 4.17.2 submitted to arbitration shall be subject to the provisions of the Arbitration and Conciliation Act, 1996 including any modification or amendment thereof for the time being in force shall apply, subject to Arbitration proceedings being held in Kolkata, India.
- 4.17.4 The matter under dispute shall be referred to an arbitral tribunal of three arbitrators, one to be appointed by each Party by designation/name and the third by the arbitrators so appointed.
- 4.17.5 In any arbitration proceeding hereunder, proceedings shall be held in Kolkata, India; the English language shall be the official language for all purposes; the decision of the arbitral tribunal shall be final and binding and shall be enforceable in the court of competent jurisdiction, and the Parties hereby waive any objections to or claims of immunity in respect of such enforcement.
- 4.17.6 Cost of arbitration shall be borne equally by both parties.

#### ANNEXURES TO CONDITIONS OF CONTRACT

#### **ANNEXURE - A**

#### S N BOSE NATIONAL CENTRE FOR BASIC SCIENCES

## **FORM OF TENDER**

## DESIGN, MANUFACTURE, SUPPLY, ERECTION, TESTING AND COMMISSIONING OF 500 KVA DG SET

Date _	<del></del>
Invitatio	on for Bid No
Name o	of Work
To, The Ac SNBN	ting Registrar CBS
Sir,	
accepte Docum	I/We the undersigned having examined the Tender Documents and the Site of Works as above submit this Tender amounting to the sum as indicated in Envelope-2 and should the same beed hereby undertake to execute and complete all the relevant works as set forth in the Tender ents or in default thereof to forfeit and pay to S N Bose National Centre for Basic Sciences, the money mentioned in the aforesaid Documents.
	I/We agree to keep the Tender open for acceptance for the period of 150 days from the due submission of the same and in default agree that the amount of Earnest Money deposited along a Tender may be forfeited.
3.	(a )I/We undertake to complete and deliver the whole of the Works covered under this Tender within a period of six (6) calendar months from the Date of Commnecement.
	(b) My/our assessment of the work completion period is howevermonths based on our site observation and other relevant facts. We shall be able to explain the same during Technical Negotiation meeting and shall agree to such completion period as may be arrived at after the Technical negotiations.
	The Earnest Money as required in Invitation for Bid is being enclosed duly endorsed in favour of se National Centre for Basic Sciences, the full value of which may be retained by the Centre, in yment of the Security Deposit as called for and in case this Tender is accepted.
	I/We also undertake to enter into a Contract with the S N Bose National Centre for Basic es, by executing an Agreement in the prescribed Contract Agreement Form with such additions erations there to which may be necessary to give effect to the acceptance of the Tender.
	I/We hereby agree that until such Contract Agreement is executed, the said Tender Documents or with all correspondence, minutes of meeting, acceptance, etc. there of in writing by or on of the Garden Reach Shipbuilders & Engineers Ltd., shall be the Contract.
7.	My/our Sales Tax Registration no. is
8.	My/our Sales Tax Registration No. under Works Contract Tax is
9.	My/our Permanent Income Tax Account No. is

Ours is a company with limited liability and a copy of our memorandum and articles of association will be sent for perusal upon acceptance of our order.

Datedday of20	
	Signature of Tenderer
Witness	Name
Name	Designation
Address	Address
	Telephone No
	Fax No

## **ANNEXURE - B**

## **FORM OF AGREEMENT**

This AGREEMENT made this
PREAMBLE
1. In order to install a 500 kVA Diesel Generator Set, the Centre invited Tenders from reputed contractors for carrying out various activities of the work contained more fully in the said Tender vide NIT No dated20
2. The offer submitted by the Contractor vide their letter No dated for carrying out the aforesaid work was accepted by the Centre and a Letter of Award vide No.
dated was issued by the Centre duly entrusting the said Contractor to carry out the said work under the terms and conditions contained in the Tender Documents.
3. In the aforesaid premises, Agreement by and between the parties herein, which would reflect the true intent, and scope of the agreement hereinafter is called the "Contract".
NOW THEREFORE THIS DEED WITNESSES AS FOLLOWS:
Article 1.0: Award of Contract
1.1 The Centre has awarded the contract to Contractor for the entire scope of work as described in its Letter of Award No dated and also on the terms and conditions contained therein and under these presents. The award has taken effect or shall take effect from
Article 2.0: Contract
2.1 The Contract shall be performed strictly in accordance with the terms and conditions stipulated herein and in the following documents attached herewith (hereinafter referred to as "Contract")
2.2 The "Contract Documents" shall mean and include the documents described in the Schedule "A" hereto and also such other documents, minutes, correspondences, etc. forming mutual consent over issues relating to this Contract either inadvertently or otherwise not included in <b>Schedule "A"</b> hereto but forming integral part of this agreement.
2.3 The Letter of Award shall mean the Centre's letter No dated forming integral part of the Contract Documents and this agreement.
2.4 This agreement is subject to the terms and conditions and stipulations embodied in the relevant Tender enquiry, price-bid proposal and the Letter of Award (including any agreed alternations and/ or modification thereof and also other contract documents) and it shall supersede all such premises of the

contract documents as are repugnant to each other or amount to unilateral acts, conditions or stipulations inconsistent with the Tender enquiry or price-bid proposal (including any agreed variations and/ or modification thereof) made by either of the parties or have not been specifically agreed upon.

Article	3.0:	Scope	of	Work
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3.1 The Scope of Work under this agreement shall include and/ or cover the scope of work included and/ or embodied in Clause of the Letter of Award Nodated
3.2 The Scope of Work shall also include all such work which are not specifically mentioned in the contract documents, but which are imperative to achieve completeness in all respects for its safe, reliable, efficient and trouble free working/ operation.
Article 4.0: Time Schedule
4.1 The total time frame for completion, commissioning and handing over of the Project shall be months from the date of issue of LOA. The Contractor shall strictly maintain and/ or adhere to the Time Schedule annexed/ incorporated in the Letter of Award Nodated
Article 5.0: Contract Price
5.1 The Total Contract Price for the entire scope of work of this agreement as detailed in the Letter of Award No is Rs (Rupees in words).
5.2 The aforesaid price and the rates of work shall remain firm and fixed till completion/ commissioning

## **Article 7.0: Settlement of Disputes, Arbitration**

7.1 The provisions of the Arbitration and Conciliation Act, 1996 including any modification or amendment thereof for the time being in force shall apply, subject to Arbitration proceedings being held in Kolkata. India and in accordance with the terms of the contract.

of the project. No escalation in price or rates shall be allowed in any circumstances whatsoever.

#### Article 8.0: General Laws & Jurisdiction

- 8.1 The Contract shall be governed by the Indian Laws and Rules as amended from time to time and the principles of laws as applicable in this Contract.
- 8.2 Generally the Kolkata High Court shall have exclusive jurisdiction in all matters arising under this Contract.

#### Article 9.0: Notice of Default

9.1 Notice of Default given by either party to the other under this Contract shall be in writing and shall be deemed to have been duly and properly served upon the parties thereto if delivered at the addresses given hereinabove against acknowledgement or by registered mail with acknowledgement due.

## SCHEDULE - A

## **CONTRACT DOCUMENTS**

a) The Contract Agreement.

SIGNED, SEALED AND DELIVERED

- b) The Letter of Intent/ The Letter of Award
- c) The Tender Documents including Specification.
- d) Any other document forming part of the Contract which is stamped, signed and dated by the competent representatives of the Owner and the Contractors.

In witness whereof the parties have hereinto set their respective hands and Seals in day, month and year first above written.

FOR	FOR S N BOSE NATIONAL CENTRE FOR BASIC SCIENCES
Name	Name
Designation	Designation
Address	Address
Seal	Seal
IN PRESENCE OF	IN PRESENCE OF
Name	Name
Designation	Designation
Address	Address
Seal	Seal

## DESIGN, MANUFACTURE, SUPPLY, ERECTION, TESTING & COMMISSIONING OF 500 kVA DIESEL GENERATOR SET AT SNBNCBS CAMPUS

## **PRICE SCHEDULE**

SL.	DESCRIPTION OF ITEM	QTY.	UNIT	RATE	AMOUNT
NO				Rupees	Rupees
1.	Providing drawings of Foundation and Shed,	LS	LS		
	Electrical SLD, Equipment General				
	Arrangement, Quality Assurance Plan, Test				
	Certificates from authorised agency,				
	Operation & Maintenance Manual, Training to				
	personnel, Clearance from Statutory Authority like PCB.				
2.	Civil Work for foundation, deck (including	LS	LS		
۷.	supply of materials, labour tools and tackles)				
	and structural shed made of MS tubular				
	sections & colour-coated metal sheet				
	including necessary fasteners and synthetic				
	enamel painting all complete as per approved				
	drawing and design in accordance with				
	relevant Indian Code.				
3.	Supply, Erection, Testing & Commissioning of	1	Set		
	Outdoor, Silent Type 500 kVA Diesel				
	Generating Set as per technical specification				
	given in the tender including Mineral Wool				
	cladded exhaust pipe system, Cladded				
	Residential Silencer, Inspection Port for				
	exhaust gases, Earthing System and				
	necessary earth connections of suitable				
4.	design as per specification all complete.  Supply, Erection, Testing & Commissioning of	1	Set		
٠.	Auto Mains Failure (AMF) panel for 500 kVA	_	361		
	DG set and fixing of 02 Nos. 800 Amps.				
	MCCB, including necessary mounting				
	arrangement, cabling and civil work all				
	complete as per approved drawing and				
	specification.				
5.	Supply, laying and termination of 240 sq mm,	150	m		
	1100 Volt Grade, 3.5 core Aluminium				
	armoured XLPE cable (4 run) all complete in				
	accordance with approved drawing and				
	specification.		4-1		
		To	tai cont	ract price, Rs.	

In words:	
	Signature of Tenderer
Date: Place:	Name:
	Address:Company seal_
	Company Seal_