



GOVERNMENT OF ASSAM

STATE PROJECT MANAGEMENT UNIT, NEER NIRMAL PARIYOJANA, ASSAM

RWSSP-LIS, World Bank Project, 5th Floor, Redstone Building, G.S Road, Dispur, Guwahati – 781006

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No. SPMU/PROC/POWER BACK UP/214/2017-18/3835

Date: 17 October 2017

INVITATION FOR QUOTATIONS

FOR

PROCUREMENT OF POWER BACKUP SYSTEM FOR EXTENSION PART OF SPMU, NNP-ASSAM OFFICE – 1 NO. 40 kVA SALIENT DIESEL GENSET WITH AUTOMATIC CHANGING OVER/ SWITCH OVER FACILITY WITH ACCESSORIES AND RCC FOUNDATION

To:

Subject: Invitation for Quotations for “Procurement of Power Backup System for Extension Part of SPMU, NNP-Assam Office – 1 no. 40 kVA Salient Diesel Genset with Automatic Changing Over/ Switch Over Facility with Accessories and RCC Foundation”

1. You are invited to submit your most competitive quotation for the following goods:

Brief Description of the Goods	Specifications	Quantity in No.	Delivery Period	Place of Delivery	Installation Requirement if any
40kVA Diesel Generating Set	1. Supply, installation, testing and commissioning of factory assembled standard type Diesel Generator set of reputed make as mentioned in the Annexure 1 of IFQ Documents. The generating set rating should be 40 kVA, 32 kW, 50 Hz, 56 BHP 0.8 PF, 1500 RPM with acoustic enclosure and standard control panel as per Central Pollution Control Board/Assam Pollution Control Board norms consisting of the following: (i) water cooled diesel engine with electric starting equipment, batteries with leads etc., complete with accessories as detailed in technical specifications; (ii) common bed with 'Cushy foot' anti-vibration mounting as required; and (iii) alternator of suitable capacity suitably coupled to the engine as per detailed technical	1	30 days from the date of issue of Supply Order	State Project Management Unit, Neer Nirmal Pariyojana, Assam, 5th Floor, Redstone Building, G.S. Road, Dispur, Guwahati – 781006	Installation and Demonstration are required.



Brief Description of the Goods	Specifications	Quantity in No.	Delivery Period	Place of Delivery	Installation Requirement if any
	<p>specifications.</p> <p>– 1 job</p> <p>2. Providing earth pits with G.I. medium pipe 3.0 m long and 40 mm dia including accessories 250x50x6 mm GI clamp with 12 mm bolt, nut and washer for connecting earth wire, RRC ring enclosure and cover plate complete as required.</p> <p>– 4 set</p> <p>3. Supply and laying of 4x50 sq mm aluminum armoured UG cable from generating set to control panel, metering panel to control panel and control panel to distribution.</p> <p>– 65.0 m</p> <p>4. Supply and fixing of safety equipment comprising of 2 no. of CO₂ type fire extinguisher, 4 no. of fire buckets with stand and rubber mat of size 1.0x2.0 m</p> <p>– 1 job</p> <p>5. Supply and running of 25x3 mm copper flat in ground at a depth of 300 mm and connecting with earth electrode for neutral & body earth.</p> <p>– 40 m</p> <p>6. Supply and making end termination of 4x50 sq mm aluminum armoured cable with brass compression gland and aluminum lugs.</p> <p>– 8 set</p> <p>7. Supply & fixing of 100A , 4 pole Change over switch</p> <p>– 1 no.</p> <p>8. Service charges towards erection and commissioning of generating set with acoustic enclosure including supply and fixing of friction pads and positioning for installation of generating set, initial filling of lube oil diesel testing the generating set on load capacity and obtaining of Central Electricity Authority approval for running the generating set.</p> <p>– 1 job</p> <p>9. Foundation of generating set (including excavation, filling of sand, concreting, masonry brick work, flooring, plastering, steel reinforcement etc.) as per requirements.</p> <p>– 1 job</p>				

2. Government of India has received a credit from the International Development Association equivalent to US\$500 billion towards the cost of the Rural Water Supply and Sanitation Project for



Low Income States, now renamed as Neer Nirmal Pariyojana. The State Project Management Unit, Neer Nirmal Pariyona, Assam (SPMU, NNP-Assam), an implementing agency, intends to apply a part of the proceeds of this credit to eligible payments under the contract for which this Invitation for Quotations is issued.

3. Bidding will be conducted under Shopping procurement method, specified in the World Bank's "Guidelines - Procurement of Goods, Works and Non-Consulting Services under IBRD Loans and IDA Credits and Grants by World Bank's Borrowers" and is open to all eligible Bidders.

4. Bid Price:

- (a) The contract shall be for the full quantity as described above. Corrections, if any, shall be made by crossing out, initialing, dating and re-writing.
- (b) Goods and Services Tax (GST) shall be shown separately.
- (c) The rates quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
- (d) The Prices shall be quoted in Indian Rupees only.

5. Each bidder shall submit only one quotation. Bidder shall not contact other bidders in matters relating to this quotation.

6. The bidder shall submit the quotation as per format attached at **Section 4**. The quotation in the attached format should be sealed in an envelope and addressed to and delivered to the address given below. The envelope shall be prominently marked on top with "Procurement of Power Backup System for Extension Part of SPMU, NNP-Assam Office – 1 no. 40 kVA Salient Diesel Genset with Automatic Changing Over/ Switch Over Facility with Accessories and RCC Foundation"

7. Incomplete or conditional quotation shall not be entertained. No quotation shall be accepted after closing date and time.

8. All the bidders participating in the bidding process must submit:

- (a) Authorized Letter in support of their Dealership /Distributorship from reputed Brands for which quotations are submitted by them;
- (b) Power of Attorney to sign the quotation;
- (c) photocopy of Trade Licence;
- (d) photocopy of GST Registration Certificate;
- (e) photocopy of PAN Card;
- (f) documents in support of existence and experience of the Firm / Agency for a minimum of 3 years;
- (g) provision of After/Post Sale Service facilities;
- (h) a Certificate to the effect that the firm/organization is not blacklisted by any government department/semi-government/public sector organization; and
- (i) copy of all pages of Invitation for quotations signed by the authorized signatory.

9. A bidder should quote price for a single Make/Brand for the item. In case, if the bidder quote price for multiple Make /Brands for the same item, then such quotations may be cancelled without further communication. Conditional quotation shall not be accepted.

10. Any firm/organization blacklisted by a government department/semi-government/public sector organization shall not be considered for this quotation process and the quotation will be rejected straightway.



11. **Validity of Quotation:** Quotation shall remain valid for a period not less than 45 days after the deadline date specified for submission and no request for any variation in quoted rates and/withdrawal of quotation on any ground by successful bidder shall be entertained during the validity period.

12. **Evaluation of Quotations:** The Client will evaluate and compare the quotations determined to be substantially responsive i.e. which

- (a) are properly signed ; and
- (b) conform to the terms and conditions, and specifications.

12.1. The quotations would be evaluated as a single job.

12.2. GST shall not be taken into account in evaluation.

12.3. In evaluating the quotations, the Client will determine the evaluated price for each proposal by adjusting the price quotation to correct any arithmetical errors as follows:

- (a) where there is a discrepancy between unit rates in figures and in words, the rates in words will govern; and
- (b) if a Bidder refuses to accept the correction, his quotation will be rejected.

12.4. To assist in the analysis, evaluation and computation of the bids, the SPMU-Assam may ask bidders individually for clarification of their bids. The request for clarification and the response shall be in writing.

12.5. The SPMU-Assam may invite the lowest evaluated bidder for negotiations.

13. **Award of contract:** The Client will award the contract to the bidder whose quotation has been determined to be substantially responsive and who has offered the lowest evaluated quotation price.

13.1. Notwithstanding the above, the Client reserves the right to accept or reject any of the quotations and to cancel the bidding process and reject all quotations at any time prior to the award of contract.

13.2. The bidder whose bid is accepted will be notified of the award of contract by the Client prior to expiration of the quotation validity period. The terms of the accepted offer shall be incorporated in the supply order (as attached at **Sections 1, 2, 3 and Annexure 1**).

14. Payment shall be made within 25 days after supply of the goods in good / acceptable conditions and receipt of the Invoice from the Bidder.

15. Normal commercial warranty/ guarantee shall be applicable to the supplied goods.

16. You are requested to provide your offer latest by **15.00 hours on 31 October 2017**. Quotations will be opened immediately after deadline for submission of quotations in the presence of the bidders or their authorized representatives, who choose to attend.

17. We look forward to receiving your quotations and thank you for your interest in this project.

Project Director
State Project Management Unit
Neer Nirmal Pariyojana, Assam
5th Floor, Redstone Building, G.S Road, Dispur, Guwahati – 781006



SECTION 1

GENERAL TERMS AND CONDITIONS

1.1. **Scope:** This section covers the general terms and conditions of this contract, "Power backup system for extension part of SPMU, NNP-Assam office - 1 no. 40 kVA salient diesel genset with automatic changing over/ switch over facility with accessories and RCC foundation"

1.2. **Visit of site by contractor:** The bidder is advised to visit the site to acquaint himself with the site conditions and all other relevant information required for bidding before submitting his quotation.

1.3. **Quotation Clarification:** The bidder shall note that if any clarification regarding specifications, conditions of contract, schedule of quantities or scope of supply required, the bidder should contact office of the State Project Management Unit, Neer Nirmal Pariyojana, Assam, 5th Floor, Redstone Building, G.S Road, Dispur, Guwahati – 781006. No claim on account of any ambiguity in any respect will be entertained.

1.4. **Completeness of the contract:** Any fittings or accessories which may not have been specifically mentioned in the specifications but which are usual or necessary in the equipment of similar plant or for efficient working of the plant shall be deemed to be included in the contract and shall be provided by the contractor with no extra charges. All plant and apparatus shall be completed in all details whether such details are mentioned in the specifications or not.

1.5. The bidder shall submit the drawing of the diesel generator set complete with dimensions and clearances, technical specification for diesel generator set and acoustic canopy of manufacturer and also for AMF panel in full shape and guaranteed technical particulars in **Schedule A** along with the quotation.

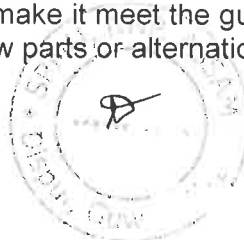
1.6. **Eligibility for Bidder:** The bidder should be a Manufacturer/Authorised dealer for the diesel generator set to be supplied. The Firm / Agency should be in existence for a minimum of 3 years. The bidder should produce necessary documentary evidence for the above.

1.7. **Standard:** Unless otherwise specified, all the materials/equipment and the work shall comply in all respects with the requirements of the specifications under **Sections 2, III & IV** and **Annexure 1** attached with this quotation documents.

1.8. Wherever necessary, the successful bidder will have to submit the design/drawings/test reports in respect of installation of the diesel generator set to the Project Director, SPMU, NNP-Assam of the department for approval before taking up the same for execution.

1.9. **Place of manufacture & Inspection:** The bidder shall state in his quotation the places of manufacture, testing and inspection of the various portions of the diesel generator set included in the contract.

1.10. **Failure to meet Guarantees and Requirements of the specifications:** Should the factory tests or the operation of any piece of apparatus under service/conditions show that it does not meet the guarantees and/or the requirements of this specifications, it shall be options with the Client to accept or reject the apparatus, and direct the contractor to at once proceed to furnish such new parts as may be necessary to make it meet the guarantees and requirements. All expenses of furnishing and of installing new parts or alternations to existing



parts and all test made necessary by failure of the apparatus to the guarantees and other requirements of the specifications shall be borne by the contractor.

1.11. **Co-ordination:** In the event of the bidder offering items manufactured by different manufactures, it will be his responsibility to fully co-ordinate the activities of each manufacturer in such a way that the complete equipment contract is supplied in accordance with the contract. No extra charges shall be paid for these services.

1.12. **Deviations:** Any deviations from the specifications, found necessary by the bidder, shall be clearly set forth in the **Schedule B** giving valid basis for such deviations. The advantages claim, if any due to such deviation shall be clearly indicated.



SECTION 2

TECHNICAL - GENERAL REQUIREMENTS

1. SCOPE

1.1. This section covers the general technical requirements to be complied with in respect of this contract.

2. APPLICABLE RULES AND REGULATIONS

2.1. Installation shall be carried out in conformity with I.S.S. wiring regulations for electrical equipment and the installation shall also comply with the requirements to Indian Electricity ACT 2003 and Central Electrical Authority (Measures relating to safety and electric supply regulations 2010) as amended upto date and any revision there of that may be issued during the currency of the contract. Where not specified otherwise, installation shall generally follow the Indian standard codes of practice.

3. COMPLETENESS OF QUOTATION

3.1. All fittings, unit assemblies, accessories, hardware foundation bolts, terminal lugs for electrical connections, cable glands and miscellaneous materials or accessories or items of work which are useful and necessary for efficient assembly and working of the equipment shall be deemed to be included in the quotation within the overall cost quoted. The equipment shall be completed in all details whether such details have been mentioned or not.

4. TEST CERTIFICATES

4.1. Copies of all documents like routine and type test certificate of the equipment for the tests carried out at manufactures premises shall be furnished, as required.

5. PAINTING

5.1. The quoted rate shall include cost of painting of entire iron works complete in the completed installation. All iron works bearing the contact areas of moving parts shall be painted before dispatch to the site at the shop with two coats of anti-corrosive primer paint. Final finishing and painting shall be invariably done at site. One coat of final finishing of approved colour may be done at the factory before dispatch, if considered necessary by the bidder, on such components which will not need removal of such paints at site during assembly work. After completing the installation and assembling, a final coat of painting of approved colour shall be done, at site.

6. STANDARDS

6.1. The bidder shall clearly state in his/her offer standards adopted for the design and manufacture of the equipment. All equipment shall conform to latest Indian Electricity Regulations and relevant safety, earthing and other provisions specified therein for installation and operation of the electrical plant. The entire work shall also conform to the relevant parts of CPWD specifications for electrical works as applicable and amended up to date in general and to detailed requirements under this specification, in particular. Any deviation made by the bidder should be clearly brought out under "SCHEDULE OF DEPARTURE" giving reasons for the deviation as well as explaining how the deviations would add to an improved performance.

7. GENERAL WORKMANSHIP

7.1. All manufactured/fabricated items shall conform to first class workmanship and shall comply



with the best commercial standards for ruggedness of construction.

8. DATA & DRAWING TO BE FURNISHED BY THE BIDDER

8.1. **Alongwith Quotation:** The bidder shall furnish along with the quotation detailed guaranteed technical particulars as scheduled, manufacturer technical specifications along with complete accessories required for performance of the diesel generator literatures, pamphlets, performance data etc.

8.2. **After Award of Bid:** The successful bidder shall also be required to submit the following data and drawings in triplicate within 10 days for approval, before commencement of work:

- (i) general arrangement drawing of the equipment including layout drawing complete with dimensions;
- (ii) details of foundations and building details etc. that will be required for the equipment;
- (iii) weight of the assembled equipment;
- (iv) electrical control schematic diagram;
- (v) operation and maintenance manual and maintenance schedule; and
- (vi) Illustrated spare parts manuals.



SECTION 3

TECHNICAL SPECIFICATIONS FOR DIESEL GENERATOR SET

1. SCOPE

1.1. These specifications covers the design, manufacture test, supply, installation, testing and commissioning of 40kVA water cooled Diesel Generating set complete with all accessories like, starting batteries, standard control panel, interconnecting cable, tank, fuel/coolant/ exhaust pipes, silencer, anti vibration mountings, foundation etc.

2. STANDARD

2.1. The generating set shall be designed, manufactured and tested in accordance with the latest revision of Indian standards:

IS 10002:1981	Performance Requirements for Constant Speed Compression Ignition (Diesel) Engines for General Purposes (Above 20 kW)
IS 4722:2001	Rotating Electrical Machines –Specification

3. GENERAL

3.1. The generating sets shall be robust in construction, factory tested and assembled to ensure perfect alignment of Engine and Alternator on a common base frame. The base frame shall be fabricated out of adequate thickness rolled steel sections. The set shall be mounted on anti-vibration mounting to prevent transfer of vibration to the foundation and structures. The equipment shall be suitable for operating at weather condition of Assam.

4. DIESEL ENGINE

4.1. The engine shall be multi-cylinders, vertical, 4 stroke, Direct Injection, water cooled type, developing the rated Horsepower at a speed of 1500 rpm. The engine shall be provided with an Hour meter to record the hours of operation. Suitable engine heaters shall be provided to ensure quick starting of the engine after prolonged shut off where necessary.

4.2. **Starting:** The engine starting shall be by means of totally enclosed axial type electric starter suitable for 12 volts DC. The DC supply shall be derived from a heavy duty 12 volts maintenance free battery.

4.3. **Cooling:** In case of water cooled engine, an engine driven centrifugal pump shall be employed to circulate the coolant through a cooling radiator with an axial blower fan. A temperature gauge shall be provided with contacts for stopping the engine on high temperature.

4.4. **Lubrication:** Pressure lubricating oil system with an engine driven pump shall be provided to cover to complete engine, with built in oil coolant heat exchangers. Full foam filters removable elements shall be provided and these shall be located at easily accessible location for ease of maintenance. The supply shall include first filling of lubricating oil. An oil pressure gauge shall be provided to monitor the lubrication oil pressure. The gauge shall be provided with contacts for stopping the engine on failure of lubricating oil flow.

4.5. **Governor:** The governor shall be of mechanical type suitable for monitoring constant engine speed within the specified limits for auto parallel and auto load sharing operation.



4.6. **Exhaust:** The exhaust piping system shall be supplied with a residential silencer. The exhaust piping and the silencer shall be wrapped with rock wool and/or calcium silicate. The outside shall be neatly wrapped with aluminum cladding. The exhaust line shall be extended beyond the height of the utility building roof as required by pollution control norms.

4.7. **Daily Service Tank:** The bidder shall supply and install Daily Service Tank of sufficient capacity minimum 100 litres to enable running of the generator set for 12 hours continuous run. The Daily Service Tank shall be fitted with necessary fuel gauge with shut off cocks.

4.8. **Pipe works:** All necessary pipes and accessories for cooling water, lubricating oil, fuel, oil and exhaust shall be designed and supplied to suit the standard arrangement for a system, mounted on anti-vibration mountings.

4.9. **Foundation and Anti-Vibration Footing:** The generating set shall be mounted on standard size cement concrete foundation with required number of anti-vibration footings to prevent transfer of vibration to the foundation and structure.

5. ALTERNATOR

5.1. The alternator shall be 40 kVA 3 phase 0.8 PF 415V, 4 wire 1500 rpm, housed in screen protected drip proof enclosure. The alternator shall be capable of delivering rated output at rated power factor with:

- (i) Terminal voltage differing from the rated value by not more than +/- 5%.
- (ii) Frequency differing from the rated value by not more than +/- 0.5%.
- (iii) Short circuit capacity of 300% for 10 seconds.
- (iv) Over load capacity of 110% for one hour.

5.2. **Insulation:** The insulation shall be class H and shall be fully impregnated for use in hot, humid, tropical climate conditions, with an ambient temperature of 50C Degree Celsius. The stator and rotor windings of the alternator and the exciter shall be provided with acid resistant varnish finish.

5.3. **Bearings:** The alternator shall be provided with single bearing or two sleeves to ensure perfect alignment under all conditions. The bearing shall be self-lubricating type. Close coupling of single bearing alternator is preferable.

5.4. **Voltage Regulator:** A rapid response voltage regulator shall be provided to regulate the generated voltage. The overall regulations from no load to full load, including cold to hot variation and load power factor of 0.8 lag to unity shall be within 2% of the normal voltage. The excitation system shall be designed to promote rapid voltage recovery following sudden application and disconnection of load.

6. ACOUSTIC ENCLOSURE

6.1. The acoustic enclosure should be supplied along with generating set from the manufacturer outlet itself as per Central Pollution Control Board/Assam Pollution Control Board norm.

6.2. **Construction:** Acoustic enclosure shall be of powder coated and fabricated out of 16 SWG CRCA MS sheet. Powder coating shall be done after seven tank surface preparation process of sheet metal. The canopy shall have four hinged doors, one door with glass window to view proper parameters on the control panel. The canopy and doors shall have inside lining of fire retardant foam/glasswool as acoustic materials.



6.3. The base frame shall be fabricated in ISMC channel or in sheet metal, with lifting hooks for convenient lifting of complete set ie along with canopy, engine and alternator.

6.4. The sound level shall have less than 75 db (A) at a distance of 1 meter. The allowable temperature raise inside the canopy is 5 to 7 deg. Celsius. The measurement of noise will be as per ISO 3744/ ISO 8528 (Part 10) standard.

6.5. **Salient features:** The canopy shall have the following features:

- (i) open air installation;
- (ii) lockable doors;
- (iii) external accessible emergency stop button;
- (iv) provision for taking out exhaust gases through suitable pipes to prevent any leak pressure on the engine; and
- (v) provision for the second residential / hospital silencer to reduce the noise level as specified.

7. DRAWING AND MANUALS

7.1. Technical data and all the drawings and calculation shall be submitted for approval and statutory approval of Central Electricity Authority shall be obtained for commissioning of the Diesel Generator set.

8. TESTS

8.1. **Factory Test:** Complete tests at full load and 10% over load shall be carried out at the manufacture's works to determine the performance and operating characteristics of the assembled generating set and accessories to determine whether or not the guarantees have been met. Unless otherwise specified, all routine tests shall be carried out in accordance with the standards. Manufacturer test certificate with manual in triplicate shall be supplied by the successful bidder.

8.2. **Site Test:** After installation at site, the set should be tested for full load for eight hours.

9. TOOLS AND SPARES

9.1. The successful bidder shall supply all tools, normal and specials required for operation and maintenance of the generating set at free of cost as listed.

(i)	Double End Spanner set (12 no.)	1 set
(ii)	Adjustable Spanner 300 mm	1 no.
(iii)	Screw Driver 30 mm	1 no.
(iv)	Screw Driver 12 mm	1 no.
(v)	Ball Pin Hammer 230 gram	1 no.
(vi)	Cutting Pliers 175 mm	1 no.
(vii)	440V Danger Board fixed on wall	1 no.
(viii)	First Aid Box	1 no.
(ix)	Safety Chart and First Aid Chart for electric shock in wooden frame with glass	1 set
(x)	35-litre Plastic Cane	3 no.
(xi)	Hand Pump Set for lifting oil	1 set



10. OTHER APPLICABLE STANDARDS

10.1. The following are the other BIS standards with the latest revisions to be followed:

- | | | |
|-------|---------------------------------|---|
| (i) | IS 3043:1987 | Code of Practice for Earthing |
| (ii) | IS 4412:1981 | Copper Wires for General Engineering Purposes |
| (iii) | IS 5216 (Part I & Part II):1982 | Guide for Safety Procedure and Practice in Electrical Work. |
| (iv) | IS 2551:1982 | Danger Notice Plates |

11. MAINTENANCE / SERVICE AFTER SALES

11.1. **During Warranty Period:** The schedule for servicing of the generating set should be strictly adhered to after the installation of the generating set till the warranty period as per the schedule prescribed by the manufacturer.

11.2. **Attending Breakdown / Rectification Works:** Any break down calls so received from the concerned Officers through FAX/ Telephonic message should be taken care of in arranging to attend them within six hours from the time of receipt of such intimation.

11.3. The name of the servicing personnel available nearer to the installed site should be mentioned along with contact number for any emergency / exigency services. These personnel should be instructed accordingly.



ANNEXURE 1

ALL INSTALLATIONS SHOULD BE WITH A REPUTED MAKE/BRAND AS BELOW:

EQUIPMENT	MAKE LIKE
1. DIESEL ENGINE	KIRLOSKAR, CUMMINES, CATERPILLER, MAHINDRA & MAHINDRA
2. ALTERNATORS	TAMFORD/KIRLOSKAR / CROMPTION GREAVES ,LEROYSOMER / MECCALTE
3. AIR CIRCUIT BREAKER	ABB/L&T/SIEMENS ETC.
4. PROTECTION RELAYS	SIEMENS/ABB/ALSTHOM/L&T ETC.
5. AUXILIARY RELAYS	ALSTHOM/SIEMENS/ALLEN BRADLEY/L& T ETC.
6. INSTRUMENTS	RISHAB/ENERGON/MECO ETC.
7. CT / PT	KAYCEE/SILKAANS/INSTRANS/AE ETC.
8. CONTROL SWITCH/INDICATION LAMP PUSH BUTTON ETC.	SIEMENS/TEKNIC/KAYCEE/L&T ETC.
9. MCB	LEGRAND/SIEMENS/L&T ETC.
10. BATTERIES	AMCO/EXIDE/AMARON ETC.
11. XLPE INSULATED PVC SHEATHED	HAVELLS/GLOSTER/UNIVERSAL ALUMINUM CONDUCTOR FINOLEX/ POLYCAB
12. ARMOURED UG CABLE (ISI MARKED)	



SECTION 4

(To be submitted by the bidder in their official letter head)

FORMAT OF RATE SCHEDULE

Name of the work: Procurement of Power backup system for extension part of SPMU, NNP-Assam office - 1 no. 40 kVA salient diesel genset with automatic changing over/ switch over facility with accessories and RCC foundation.

Description	Quantity	Quoted Rate in INR	
		in Figure	In Words
<p>1. Supply, installation, testing and commissioning of factory assembled standard type Diesel Generator set of reputed make as mentioned in the Annexure 1 of IFQ Documents. The generating set rating should be 40 kVA, 32 kW, 50 Hz, 56 BHP 0.8 PF, 1500 RPM with acoustic enclosure and standard control panel as per Central Pollution Control Board/Assam Pollution Control Board norms consisting of the following:</p> <p>(i) water cooled diesel engine with electric starting equipment, batteries with leads etc., complete with accessories as detailed in technical specifications;</p> <p>(ii) common bed with 'Cushy foot' anti-vibration mounting as required; and</p> <p>(iii) alternator of suitable capacity suitably coupled to the engine as per detailed technical specifications.</p> <p>– 1 job</p> <p>2. Providing earth pits with G.I. medium pipe 3.0 m long and 40 mm dia including accessories 250x50x6 mm GI clamp with 12 mm bolt, nut and washer for connecting earth wire, RRC ring enclosure and cover plate complete as required.</p> <p>– 4 set</p> <p>3. Supply and laying of 4x50 sq mm aluminum armoured UG cable from generating set to control panel, metering panel to control panel and control panel to distribution.</p> <p>– 65.0 m</p> <p>4. Supply and fixing of safety equipment comprising of 2 no. of CO₂ type fire extinguisher, 4 no. of fire buckets with stand and rubber mat of size 1.0x2.0 m</p> <p>– 1 job</p> <p>5. Supply and running of 25x3 mm copper flat in ground at a depth of 300 mm and connecting with earth electrode for neutral & body earth.</p> <p>– 40 m</p> <p>6. Supply and making end termination of 4x50 sq mm aluminum armoured cable with brass compression gland and aluminum lugs.</p> <p>– 8 set</p> <p>7. Supply & fixing of 100A , 4 pole Change over switch</p> <p>– 1 no.</p> <p>8. Service charges towards erection and</p>	1 Job		



Description	Quantity	Quoted Rate in INR	
		in Figure	In Words
commissioning of generating set with acoustic enclosure including supply and fixing of friction pads and positioning for installation of generating set, initial filling of lube oil diesel testing the generating set on load capacity and obtaining of Central Electricity Authority approval for running the generating set. – 1 job 9. Foundation of generating set (including excavation, filling of sand, concreting, masonry brick work, flooring, plastering, steel reinforcement etc.) as per requirements. – 1 job			
GST as applicable			
Gross Total			

We agree to supply the above goods in accordance with the technical specifications for a total contract price of INR (amount in figures) (INDIAN RUPEES.....(amount in words)) within the period specified in the Invitation for Quotations.

We also confirm that the normal commercial warrantee/guarantee of months shall apply to the offered goods.

We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in bribery or collusive agreements with competitors.

Signature of Bidder



SCHEDULE A

SCHEDULE OF GUARANTEED TECHNICAL PARTICULARS

S. No.	Particulars	Remarks
1	Engine	
(i)	Make	
(ii)	Model No.	
(iii)	Type	
(iv)	No. of Cylinders	
(v)	Arrangement of Cylinders	
(vi)	Bore and Stroke	
(vii)	RPM	
(viii)	Method of Starting	
(ix)	Fuel Injection Type	
(x)	Aspiration Method	
(xi)	Lubricating Oil System	
(xii)	Time Required for Starting from Cold	
(xiii)	Type of Governor	
(xiv)	Fuel Oil Recommended	
(xv)	Lubricating Oil Recommended	
(xvi)	LMP at Site at Output Shaft/Coupling	
(xvii)	Over Load Capability	
(a)	Full Load	
(b)	Half Load	
(c)	No Load	
(xviii)	Mechanical efficiency	
(xix)	Fuel Consumption Per Hour	



S. No.	Particulars	Remarks
(a)	Full Load	
(b)	% Load	
(c)	Half Load	
(d)	No Load	
(xx)	Standard Mounting Accessories on Engine (Furnished Details as Annexure)	
(xxi)	Safety Shut Downs Provided	
(xxii)	Direction of Rotation	
(xxiii)	Type of Cooling and Sump Capacity	
(xxiv)	Oil (type & Quantity)	
(xxv)	Any other data	
2	ALTERNATOR	
(i)	Make	
(ii)	Model No.	
(iii)	Type	
(iv)	Governing Specifications	
(v)(a)	Full load output in kVA	
(v)(b)	Full load output in kW (at 0.8 PF)	
(vi)	Enclosure	
(vii)	Speed/Frequency	
(viii)	No. of Phases	
(ix)	Is Neutral Brought Out	
(x)	Voltage between Phase/Neutral	
(xi)	Regulated Band of Voltages	
(xii)	Current Carrying Capacity of Winding	
(xiii)	Percentage Imbalance Permissible	



S. No.	Particulars	Remarks
(xiv)	Permitted Overload Capacity (Maximum)	
(xv)	Short Time Overload	
(xvi)	Efficiency	
(xvii)	Temporary Overload after Full Load Run for 12 hours	
(xviii)	Excitation Method	
(xix)	Excitation Amps at Full Load	
(xx)	Excitation Voltage	
(xxi)	Air gap between stator and rotor	
(xxii)	Exciter type	
3	GENERAL	
(i)	Length (overall) & Width (overall) of Set	
(ii)	Weight of Set (overall)	
(iii)	Head Room needed for Lifting/Servicing	
(iv)	Weight of Alternator	
(v)	Weight of Engine	
(vi)	Direction of Rotation	
(vii)	Standard Accessories	
(viii)	Radiator (Make and Type)	
(ix)	Fan dia	
(x)	CFM of Fan and Static Pressure	
(xi)	RPM of Fan/Type of Drive	
(xii)	HP Absorbed by Fan	
(xiii)	Capacity of Daily Service Tank	
(xiv)	Size of Service Tank	
4	SOUND PROOF ACOUSTIC ENCLOSURE	



S. No.	Particulars	Remarks
(i)	Overall Dimensions	
(ii)	Material / Composition of the panels	
(iii)	Thickness Top/ Bottom/Side	
(iv)	Panel Dimensions	
(v)	Door Dimensions	



SCHEDULE B: SCHEDULE OF DEPARTURE FROM SPECIFICATION

S. No.	Description of Departure	Reference clause of the Specification	Reasons of Departure and Advantages
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"Barring the departure listed out in the schedule of departure we certify that our offer complies with requirement of your quotation specifications fully"

Place:

(Signature of Bidder)

Date:

