NOTICE INVITING TENDER

No: Elect/229/PGG/2022/136 **Dated 21.02.2023**

Ref: A. Tender Reference No. Elect/229/PGG/2022/111
B. Tender ID: 2023_ICD_29449_1

Assam Gas Company Limited, Duliajan invites bids under two bid systems (Part-I, i.e. Techno-commercial bid and Part-II, i.e. Price bid) from OEM of Engine/ Alternator/ Generator Set or Authorized distributors/ Authorized Dealers/ Indian Companies of OEM of Engine/Alternator/ Generator set dealing with Generator installation works fulfilling related Regulatory & Statutory norms**.**

- Validity: 180 Days (One Hundred and Eighty Days) from the schedule date of Techno-Commercial bid Opening.
- **Tender Documents are available at E-procurement portal www.assamtenders.gov.in and should be submitted online only.**

1) NAME AND SCOPE OF WORK: Supply, Installation, Testing and Commissioning of captive power plant (CPP) comprising of three numbers of brand new 250 KVA, 415V, 50 Hz Natural Gas Engine Driven Generator Set(s) with synchronization arrangement and common power supply panel at Assam Gas Company Limited, Duliajan in the State of Assam.

2) TENDER PROCESSING FEE: Rs 5000.00 (Rupees Five Thousand only) to be paid through RTGS/ NEFT/ internet banking in Assam Government e-Procurement System.

3) EARNEST MONEY: An amount of Rs. Rs 5,00,000.00 (Rupees Five lakh only) to be paid through RTGS/ NEFT/ internet banking in Assam Government e-Procurement System.

4) Time of completion: Supply & Delivery of Materials at AGCL Duliajan with all accessories: 120 (One hundred and twenty) days from the date of issue of W.O. by Fax/Email etc

Installation, Testing & Commissioning etc. at site: 30 (Thirty) days from the date of acceptance of materials by AGCL at Duliajan or formal handing over of site whichever is earlier.

5) Assam Gas Company Limited reserves the right to accept or reject any or all tenders without assigning any reason thereof.

Sd/-

Managing Director
Assam Gas Company Limited

ASSAM GAS COMPANY LTD
P.O. Duliajan Dist: Dibrugarh
Assam 786602

No. Elect/229/PGG/2022/111 Date: 31.01.2023

NOTICE INVITING TENDER (e-Tender)

Supply, Installation, Testing and Commissioning of captive power plant (CPP) comprising of three numbers of brand new 250 KVA, 415V, 50 Hz Natural Gas Engine Driven Generator Set(s) with synchronization arrangement and common power supply panel at Assam Gas Company Limited, Duliajan in the State of Assam.

1.0 BRIEF DESCRIPTION OF THE WORK: Scope of work of the bidder will be Supply, Installation, Testing and Commissioning of 3 X 250 KVA, 415V, 50 Hz Natural Gas Engine Driven Generator Set(s) with synchronization arrangement (both automatic and manual mode), common power supply panel (for power evacuation) and related accessories in AGCL, Duliajan Dist. Dibrugarh, Assam-786602 including supply of commissioning spares, commissioning consumables etc., loading at factory, transportation, unloading at site, installation and commissioning including termination of power and control cables from generators to synchronization panel and common power supply panel with all necessary wiring etc. All civil related works such as construction of generator foundation, cable trench shall be under AGCL scope.

Details of Bid Document:

1.	Bid Document Number & Date	**Elect/229/PGG/2022/111 Dated :31 .01.2023**
2.	Bid Due Date (Techno – Commercial & Price Bid)	1400 hours on 13.03.2023
3.	Bid Submission at	Assam Government eProcurement System www.assamtenders.gov.in
4.	Opening of Technical - Commercial Bids	1430 hours on 13.03.2023
5.	Pre bid meeting date and venue	On 03.03.2023 at 1030 hrs at AGCL's office in Duliajan
6.	Earnest Money Deposit	Rs 5,00,000.00 (Rupees Five Lakh only) to be paid through RTGS/ NEFT/ internet banking in Assam Government eProcurement System www.assamtenders.gov.in
7.	Tender Processing Fees	Rs 5,000.00 (Rupees Five Thousand only) to be paid through RTGS/ NEFT/ internet banking in Assam Government eProcurement System www.assamtenders.gov.in
8.	Bid Validity	180 days from the scheduled date of opening of Techno-Commercial bid
9.	Completion Period	Supply & Delivery of Materials at AGCL Duliajan with all accessories: 120 (One hundred and twenty) days from the date of issue of W.O. by Fax/Email etc. Installation, Testing & Commissioning etc. at site: 30 (Thirty) days from the date of acceptance of materials by AGCL at Duliajan or formal handing over of site whichever is earlier.

Special Notes:

1. The tender will be governed by the Company's General Terms & Conditions.

2. Please ensure that the Annexure- I, II, IV, V, VI, VII, VIII, IX are properly filled up and submitted along with Techno-commercial bid.

3. Bidders are requested to examine all instructions, forms, terms and specifications in the bid. Failure to furnish all information required as per the bid or submission of offers not substantially responsive to the bid in every respect will be at the bidders risk and may result in the rejection of its offer without seeking any clarifications.

2.0 INTENT

2.1 Assam Gas Company Limited, Duliajan invites bids under two bid systems (Part-I, i.e. Techno-commercial bid and Part-II, i.e. Price bid) from Original Equipment Manufacturer or Authorized distributors/ Authorized Dealers/ Indian Companies having similar experience and dealing with Gas Generator set installation works fulfilling the other qualifying requirements stated hereunder.

2.2 e-TENDER with 180 (One Hundred and Eighty) days validity from the scheduled date of techno-commercial bid opening under the single stage two bid system must be submitted on or before 28.02.2023 at 2:00 P.M. and Technical Bids likely to be opened at 2:30 P.M. (IST) on the same day. The sealed Priced Bids shall be opened only for technically qualified tenderers on a later date after evaluation of Technical Bids.

2.3 The Company reserves the right to accept or reject any or all the Tenders without assigning any reason thereof. Tender submitted without the documents as mentioned will be rejected outright.

2.4 **All amendments, clarifications, corrigenda, addenda, Time extension etc. to the tender will be hosted on the company's website and in the e-tender portal only. No separate notice will be issued in the press. Prospective bidders are requested to regularly visit the website and e-portal to keep themselves updated.**

2.5 For any clarifications, bidders may forward their queries to Senior Manager (Electrical), Department of Power & Utility, AGCL, Duliajan at least two weeks in advance of scheduled date of submission of bid. The company shall not be held responsible for postal delays / transit loss, etc.

For any assistance you may please contact

Parag Kumar Das
Sr. Manager (Elect)
Email: agcl_pnu@agclgas.com

2.6 In case the bid opening date happens to be a bandh/holiday, the same will be deferred to the same time of the next full working day (except Saturday/ Sunday).

3.0 TENDER PREPARATION

3.1 A statement that Bidder agrees to be bound by all contract terms and conditions stated in this Tender and as may be revised by Addendum issued before the closing date.

3.2 Pricing Information shall NOT be included in this part of the Tender. Bidders shall ensure that no pricing information of any type is shown in their technical Tender. The inclusion of pricing in any place other than the Pricing Tender will result in rejection of the Tender.

3.3 All pages of the Tender document must be numbered and sealed & signed by the authorized signatory.

3.4 At any time prior to the deadline for submission of tenders, Assam Gas Company Ltd. for any reason, whether at its own initiative or in response to a clarification required by a prospective bidder, may modify the tender documents by issuance of amendments/ corrigendum. Such amendments shall be part of the tender documents pursuant to relevant Clause and will be notified in AGCL Website assamgas.org or assamtenders.gov.in. The same will be binding on all bidders. Managing Director, Assam Gas Company Ltd. may, at his discretion, may extend the deadline for the submission of the tenders if required.

3.5 Assam Gas Company Limited, Duliajan reserves the right to accept or reject any or all tenders without assigning any reasons thereof.

3.6 All the documents and information along with proposed forms to be included in the offer shall be uploaded in the e-TENDER portal. All the papers of the tender should be signed, stamped and uploaded by the tenderer.

3.7 Assam Gas Company Limited, Duliajan does not bind itself to accept the lowest tender and reserve the right to accept /reject/split any or all the tender without assigning any reason whatsoever.

4.0 BID SUBMISSION:

PART-I: TECHNO – COMMERCIAL BID

1) EMD amounting Rs. 5,00,000.00 (Rupees Five Lakh only) to be paid through RTGS/ NEFT/ internet banking in Assam Government eProcurement System www.assamtenders.gov.in
2) Tender processing fees of Rs 5,000.00 (Rupees Five Thousand only) to be paid through RTGS/ NEFT/ internet banking in Assam Government eProcurement System www.assamtenders.gov.in
3) Technical Submission containing all relevant documentation as per Qualification criteria (Minimum Bid Evaluation Criteria). Certification in regard to Technical Compliance & Past Performance, Technical Catalogues etc.
4) Commercial Terms
5) Technical Bid Compliance Statement.
6) Commercial Bid Compliance Statement.
7) List of operation and maintenance spare.
8) Engine Data Sheet
9) Manufacturer's product catalogue
10) Sizing of the engine generator set. Bidder to furnish calculation of Engine BHP for matching with alternator capacity. Calculation shall be approved by the Gen Set manufacturer. Calculation sheet from the Gen Set manufacturer for determining the size of the engine with respect to the genset rating.
11) Acoustic Enclosure Dimensions indicating height etc.
12) Transient response of frequency and voltage for the generator set.
13) Auxiliary Equipment - Specification or data sheets, including switchgear, spring type vibration isolators.
14) Drawings- General dimensions drawings showing overall generator set measurements, mounting location, and interconnect points for load leads, fuel, exhaust, cooling and drain lines.
15) Wiring Diagrams – Electrical Wiring diagrams, schematics of Generator, control panel and synchronization panel
16) Warranty Statements
17) Standard Engine Shop Manual (Engine Rebuilding Manual) from Engine OEM: The bidder shall submit, in their technical bid, undertaking for supply of the Standard Engine Shop Manual from OEM in the event of order placed upon it.
18) CPCB compliance certificates for emission and noise level.
19) Undertaking (in original on OEM's letter head) from:
a) OEM of Engine and
b) OEM of Alternator
shall be submitted by the bidder along with technical bid, guaranteeing uninterrupted supply of spares and availability of service for at least 10 years with effect from delivery of the Item / product for the item / product to be supplied under the Tender / Order, in the event of placement of order.
20) Dimensional drawings of Acoustic enclosure/Engine-alternator set and electrical control panel.
21) Technical literature of alternator
22) GA and schematic drawings of Generator set and control panel including synchronization panel.
23) Confirmation that the party agrees to all the points mentioned under electrical specification of generating set. Any deviation from the electrical specifications of the tender shall be specifically mentioned by the party with proper justification. Acceptance of deviations shall be at the discretion of AGCL .
24) Catalogues of bought out items like- ACB, relays, MCCB, MCB, Measuring Instruments etc.
25) Any other submittals as mentioned in the tender document.

PART-II: PRICE BID

1) Priced offer in prescribed format to be uploaded.

**The price bid shall be opened only for technically qualified bidders.

PART-I:: TECHNO-COMMERCIAL BID

PART-A

GENERAL TERMS & CONDITIONS OF BID

1.0 INTERPRETATION OF BID DOCUMENT

1.1 Should there be any doubt or ambiguity in the interpretations of the bid documents or error, omission or contradiction therein or in any of them, the Bidder shall apply in writing to the Engineer-in-charge for his decision for resolution of the doubt, ambiguity or contradiction or correction of the error or omission, as the case may be.

1.2 The decision of the Engineer-in-charge on any application under sub-clause 1.1 hereof shall be in writing and shall be final and binding upon the Bidder and shall form part of the Bid document, with the intent that the Bid documents shall be read as though the said decision is and was at all times incorporated therein.

1.3 Any work shown, indicated or included in the job Description, plans, drawing, specification and / or schedule of rates shall be deemed to form part of the work, notwithstanding failure to show, indicate or include such work in any other or other among the documents aforesaid with the intent that the indication or inclusion of the work within any one of the said documents shall be deemed to be sufficient indication of inclusion of the work within the work covered by the Bid.

1.4 No verbal agreement, assurances or understanding given by any employee or the officer of the Company or so understood by the Bidder, whether given or understood before or after the issue of the bid document, shall in any form bind the Company or alter the Bid document unless specifically given in writing and signed by the Officer on behalf of the Company and given as an agreed variation to the relative term(s) in the Bid document.

1.5 Notwithstanding the sub-division of the documents, into these separate sections and volumes, every part of each shall be deemed to be supplementary to and complementary of every other part and shall be read with and into the contract in so far as it may be practicable to do so.

2.0 VALIDITY OF BID DOCUMENT

All bid documents shall be valid for a period of 180 days from the schedule date of techno commercial bid opening date.

3.0 BIDDER QUALIFYING CRITERIA

3.1 ELIGIBLE BIDDERS

3.1.1 The bid should be from OEM (Original Equipment Manufacturer) of the Engine/ Alternator/ Generator set. A copy of the Certificate of Incorporation shall be submitted with the bid.

3.1.2 The bids from Authorized distributors/ Authorized Dealers/ Indian Companies of OEM of Engine/ Alternator/ Generator set may also be considered, provided such bids are accompanied with valid authorization letter and relevant certificates from the Original Equipment Manufacturer who have authorized them to market their product, provided further that such an authority letter is valid at the time of bidding and shall remain valid till the scheduled execution period of the order. Offers without back-up authority in writing from manufacturer will not be considered. Required warranty cover of the manufacturers for the product will be provided by such bidder.

3.2 BIDDER'S EXPERIENCE

3.2.1 In case the bidder is OEM, Minimum 05 (five) years of experience of manufacturing Gas engine driven Generating Sets (of capacity 125 KVA or above) and for this purpose the five year period shall be reckoned prior to the scheduled date of opening of Techno-commercial bid as specified in NIT.

3.2.2 In case the bidder is not a MANUFACTURER, but is an Authorized distributors/ Authorized Dealers/ Indian Companies having requisite experience, then the bidder is required to obtain and submit documentary evidence in respect of clause 3.2.1 from the concerned OEM and submit the same along with the techno-commercial bid. The Authorized distributors/ Authorized Dealers/ Indian Companies must have an existing valid authorization certificate from the manufacturer as on date of tender.

3.2.3. The OEM or Authorized distributors/ Authorized Dealers/ Indian Companies must have supplied atleast one gas engine driven generator of 125 KVA or above to any Government/Semi Government bodies/ Public Limited Company/ Private organization in India during the last five years and the period of five years will be reckoned preceding the schedule date of opening of Techno-commercial bid as specified in NIT:

3.2.3.1 Gas engine driven Generating Sets (of capacity 125 kVA or above) of value not less than INR 200.00 Lakh (Rupees Two hundred lakhs only) in a single order.

OR

3.2.3.2 Gas engine driven Generating Sets (of capacity 125 kVA or above) of value not less than INR 125.00 Lakh (Rupees One hundred and twenty five lakhs only) in each of two individual orders.

OR

3.2.3.3 Gas engine driven Generating Sets (of capacity 125 kVA or above) of value not less than INR 100.00 Lakh (Rupees One hundred lakhs only) in each of three individual orders.

3.2.4 Documentary evidence in respect of manufacturing & supply, either from the OEM/ Bidder should be submitted with the techno-commercial bid, in the form of copies of relevant signed Purchase Orders along with copies of any of the following documents in respect of satisfactory execution of the Purchase Order failing which the bid will be summarily ejected.
(a) Signed & sealed satisfactory supply/ completion/ installation report (in original on user's letter head) (OR)
(b) Bill of Lading (OR)
(c) Consignee delivery receipt/ challan (OR)
(d) Central Excise Gate Pass/ Tax Invoice issued

A list comprising of Reference Number of Purchase Order, Name, address, contact details including email id/mobile number of customers, description of packages, value of the contract/ work order, year of installation, scheduled and actual time of completion for similar Gas engine driven generating sets delivered to other clients shall be submitted.

3.2.5 The Bidder will also have to upload the scan copy of following:
3.2.5.1 GSTIN Registration details.
3.2.5.2 Govt. registration/ Partnership deed/Articles of Memorandum of Association etc as applicable
3.2.5.3 Last three years audited balance sheet.
3.2.5.4 Income tax clearance certificate.
3.2.5.5 Bid Security/ Earnest Money deposit acknowledgment copy.
3.2.5.6 Any other relevant documents.

3.2.6 Bidders should have the required facilities for testing the quoted Gas engine driven generator sets with synchronization facility and common power supply panel as per standards at their premises in India. The bidders should confirm acceptance for inspection as under:
The materials should be inspected by any reputed third party inspection agency given below at bidder's cost and inspection report shall be enclosed along with shipping/ dispatch documents
a) DNV
b) LLOYDS
In case the bidder is not the manufacturer, a certificate from the manufacturer to the effect that the manufacturer possesses the required facilities for testing of the equipment /material in India and that they agree for the AGCL inspection, should be enclosed along with the techno-commercial bid. AGCL

may at its discretion conduct FAT at its own cost prior to dispatch at the bidder/manufacturer's premises in addition to the third party inspection done by the bidder.

3.2.7 **The offered gas genset engine model should have proven track record of not less than 2400 running hours in one single unit in products supplied in India**. Documentary evidence such as supply/purchase order copy and satisfactory performance certificates from the owner/user with the Make and Model of the genset clearly appearing in the body of the above documents should be enclosed with the technical bid.

3.3 NET WORTH OF BIDDER

3.3.1 The annual turnover in any one of the last three proceeding years i.e. 2019-20, 2020-21 and 2021-22 should not be less than 100.00 (One Hundred) Lakhs. Net Worth of the bidder should be positive for the financial/accounting year just preceding to the original bid closing date of the tender.

3.3.2 Proof of annual turnover shall be submitted in form of Annual Accounts statement (Balance Sheet, Profit & Loss Account) for last three proceeding year's i.e. 2019-20, 2020-21 and 2021-22 duly audited by a Chartered Accountant indicating the code number.

3.4 REJECTION CRITERIA

3.4.1 TECHNICAL REJECTION CRITERIA

3.4.1.1 Bid should be complete in all aspects covering entire scope of job of Supply, Installation Testing & Commissioning and should conform to the technical specifications indicated in the bid document, duly supported with technical catalogues/ literatures, wherever applicable. Incomplete and non-conforming bids will be rejected outright.

3.4.1.2 Bidder should submit duly filled submittals as mentioned in this tender document.

3.4.2 COMMERCIAL REJECTION CRITERIA

3.4.2.1 Acceptance of terms and conditions: The bidder must submit an unconditional undertaking along with their techno commercial bid that all the conditions as mentioned in the tender document are acceptable to them.

3.4.2.2 Offers with techno commercial bid containing prices shall be rejected outright**.** The offers of the bidders indicating /disclosing prices in techno commercial (Unpriced bid) or at any stage before opening of price bid shall be straight away rejected.

3.5 BIDDER'S OBLIGATION

Bidder shall in accordance with and subject to the terms and conditions of this Bid document:

3.5.1 All bidder who submit a Tender in response to this tender shall understand, acknowledge and agree that the AGCL is not obligated thereby to enter into an agreement or contract with any Bidder and, further, has absolutely no financial obligation to any Bidder.

3.5.2 A Tender uploaded in response to this notice shall be considered a binding offer. Acknowledgement of this condition shall be indicated by signature of an officer of the Tenderer legally authorized to execute contractual obligations and shall be conveyed by submitting a signed Form of Tender as per the prescribed format in Annexure-VIII.

3.5.3 Bidder shall perform the work and all other obligations which are required by the terms of this Bid document or which reasonably can be implied from such terms as being necessary for the successful and timely completion of the work.

3.5.4 The Bidder shall supply all materials including consumable, labour, supervisor, tools, tackles, instrument, equipment and other necessary materials to complete the works within the time schedule and in accordance with the specification.

3.5.5 The Bidder shall provide and will be responsible for wages, salaries, vacation, transportation, bonus, medical charges, insurance, food, accommodation, termination payments, income and other taxes and any other obligations including payments arising out of any legal requirement at no extra charge to the Company for all the personnel deployed by the Bidder.

3.6 BIDDER'S PERSONNEL

3.6.1 Bidder shall only engage working personnel/ technicians who possess necessary certificates/ licence from competent authority to undertake such installation works at site. AGCL shall not be liable whatsoever for any lapse in engagement of such competent person(s).

3.6.2 Bidder shall provide competent, qualified and sufficiently experienced personnel to perform the work correctly and efficiently and shall ensure that such personnel observe applicable Company and statutory safety requirements. Upon Company's written request, Bidder, at his own expense shall remove immediately but not later than 7 (seven) days from the date of issuance of such request, any Bidder's personnel determined by the Company to be unsuitable and shall promptly replace such personnel to the satisfaction of the Company.

3.6.3 The Bidder shall provide all labours / equipments as may be required to perform the work. The recruitment of labours has to be according to the rates prevailing at the time of employment, which can be obtained from district authorities of the area. The facilities to be given to the labours should conform to provisions of labour laws as per Contract Labour Act 1970 and such other applicable statutory rules and regulations.

3.6.4 The Bidder shall be solely responsible throughout the period of the contract for providing all requirements of their personnel including their transportation, boarding, fooding & lodging. Company shall have no responsibility or liability in this regard.

4.0 INSPECTION AND TESTING OF WORKS

4.1 In case of material supply, AGCL may at its discretion at any time carry out inspection of the material prior to despatch at its own cost. Inspection call letter should be sent at least 15(fifteen) days prior to commencement of final inspection. AGCL’s representative will carry out inspection of the material in the presence of bidder's representative and a joint inspection report shall be prepared. The bidder shall extend full cooperation and help to AGCL's personnel during the inspection. Apart from above AGCL's representative may carry out stage inspection of the material to see the progress, workmanship and conformity of the job with the laid down specifications. All the tests/inspection shall be properly recorded, certified by manufacturer, documented, and submitted to AGCL.

4.2 The Bidder shall always ensure highest standards of workmanship relative to the work and to the satisfaction of the Engineer in charge of AGCL. The Engineer in charge shall have power to inspect the work at any and all time up to completion of the work.

4.3 The Bidder shall provide all facilities, instruments, materials, lab etc. as required for testing the quality of the work performed and shall offer to the site Engineer all necessary assistance required to conduct the tests.

4.4 Should the Engineer in charge on inspection or test be not satisfied with the quality of workmanship of the work (the decision of the Engineer in charge being final in this behalf), the Bidder shall re-perform such works at no extra cost to AGCL.

5.0 WARRANTY AND REMEDY OF DEFECTS

5.1 The bidder warrants that he shall perform the work in a first class, workmanlike and professional manner and that all work shall be performed in accordance with highest quality, efficiency, and with all

specifications, standard and drawings set forth or referred to in the Specifications, and with instructions and guidance which Company may, from time to time, furnish to the Bidder. In case of default on part of the Bidder to comply with the foregoing or to conform to the provisions of this specification, the Company shall invoke the performance bank guarantee and the security deposit will be forfeited.

5.2 The guaranty/warranty period / defect liability period of minimum of 18 (Eighteen) months from date of delivery OR 12 (Twelve) months from date of commissioning shall commence from the date of acceptance of equipment in full at site or issuance of work completion certificate respectively whichever is earlier. Should Company discover at any time during the term of the contract or within one year after issuance of work completion certificate that the work does not conform to the guaranty/warranty, bidder shall after receipt of notice from Company, promptly perform all corrective work required to make the work conform to the guaranty/warranty. Such corrective work shall be performed entirely at Bidder's expense. Company, at its option, may have such remedial work performed by others and charge the actual cost thereof to the Bidder, which the Bidder must pay promptly failing which the performance bank guarantee will be forfeited.

5.3 Materials shall be guaranteed/ warranted against manufacturing defects, materials, workmanship and design for a period of minimum 12 months from the date of commissioning or 18 months from the date of delivery whichever is earlier.

5.4 Warranty/ guaranty for replacement of material/accessories should be provided free of charges at our premises. The above guarantee/warranty will be without prejudice to the certificate of inspection or material receipt note issued by us in respect of the materials.

5.5 All the materials including components and sub contracted items should be guaranteed/ warranted by the vendor within the guaranty /warranty period mentioned above. In the event of any defect in the material, the vendor will replace / repair the material at AGCL's concerned location at vendor's risk and cost on due notice.

5.6 In case, vendor does not replace / repair the material on due notice, rejected material will be sent to the vendor on "Freight to pay" basis for free replacement. Material after rectification of defects shall be dispatched by the vendor on "Freight Paid" basis. Alternatively, AGCL reserves the right to have the material repaired / replaced at the locations concerned, at the vendor's risk, cost and responsibility.

5.7 The Vendor shall provide similar warrantee on the parts, components, fittings, accessories etc. so repaired and / or replaced.

5.8 In case of accessory /component supplied by other manufacturers the bidder shall furnish a guarantee/warrantee from the manufacturer for the same before the generator set is taken over.

5.9 The nature of after sales service, which can be provided by the bidder, during initial erection and commissioning as also subsequent operation shall be clearly stated in the quotation.

5.10 **The manufacturer shall have a local authorized dealer within North East India who can provide factory trained servicemen, the required stock of replacement parts, technical assistance, and warranty administration. Documentary evidence in respect of the above must be submitted along with the bid document.**

5.11 The manufacturer's authorized dealer shall have sufficient parts inventory to maintain over the counter availability of at least 90% of any normal wear and tear parts. (Belts, hoses, filters, turbines, pumps, safeties, regulators, injectors, gaskets).

5.12 The manufacturer's authorized dealer shall have factory trained service representatives and tooling necessary to install and commission all provided equipment.

5.13 The warranty coverage shall include repair parts, labor, reasonable travel expense necessary for repairs at the jobsite, and expendables (lubricating oil, filters, antifreeze, and other service items made unusable by the defect) used during the course of repair or any defects in the engine or alternator during warranty period shall be replaced by the party at his cost without any extra charge to AGCL.

5.14 Running hours shall not be a limiting factor for the warranty coverage by either the manufacturer or the authorized dealer.

5.15 Offer received without written warranties as specified shall be rejected in their entirety.

6.0 LIABILITY AND INDEMNITY

6.1 Except as otherwise expressly provided, neither the Company nor its servants, agents, nominees, contractors or sub-contractors shall have any liability or responsibility whatsoever to whomsoever for loss of or damage to the equipment and/or loss of or damage to the property of the Bidder and/or its servants, employees, irrespective of how such loss or damage is caused and even if caused by the negligence of Company and/or its servants, agents nominees, assignees, contractors and sub-contractors. The Bidder shall protect, defend, indemnify and hold harmless the Company from and against such loss or damage and any suit, claim or expense resulting there from.

6.2 Neither the Company nor its servants, agents, nominees, assignees, contractors, sub-contractors shall have any liability or responsibility whatsoever to whom so ever for injury to, illness or death of any employee and/or servant of the Bidder, irrespective of how such injury, illness or death is caused and even if caused by the negligence of Company and/or its servants, agents, nominees, assignees, contractors and sub-contractors. The Bidder shall protect, defend, indemnify and hold harmless the Company from and against such abilities damage and any suit, claim or expense resulting there from.

6.3 Except as otherwise expressly provided, neither the Bidder nor its servants, employees shall have any liability or responsibility whatsoever to whomsoever for loss of or damage to the equipment and/or loss or damage to the property of Company and/or its contractors or sub-contractors irrespective of how such loss or damage is caused and even if caused by the negligence of the Bidder and/or its servants, employees. The Company shall protect, defend, indemnify and hold harmless the Bidder from and against such loss or damage and any suit, claim or expense resulting there from.

6.4 Neither the Bidder nor its servants, employees shall have any liability or responsibility whatsoever to whomsoever for injury to, illness, or death of any employee of the Company and/or of its Contractors or sub-contractors irrespective of how such injury, illness or death is caused and even if caused by the negligence of the Bidder and/or its servants, employees. The Company shall protect, defend indemnify and hold harmless the Bidder from and against such liabilities and any suit, claim or expense resulting there from.

7.0 INSURANCE

7.1 The Bidder shall at all times indemnify and keep indemnified the Company and its officers, servants and agents from and against all third party claims whatsoever (including but not limited to property loss and damage, personal accident, injury or death of /to property or person of any servants and/or employee of the Bidder) and the Bidder shall at his own cost and initiative at all times up to the successful completion of the work take out and maintain insurance policies in respect of all insurable liabilities under this clause including but not limited to third party insurance and liabilities under the Motor Vehicles Act, Workmen's Compensation Act, Fatal Accidents Act, Public Liability Act 1991, Personal Injuries Insurance Act, Emergency Risk Insurance Act, and or other industrial legislation in force in India with Insurance Company(ies) approved by the Company, and such policy(ies) shall be of not lesser limit than the limits hereunder specified with reference to matters hereunder specified namely :

a) Workmen's compensation Insurance - the limit to which compensation may be payable under the laws of the Republic of India.

b) General public liability insurance covering liabilities including contractual liability for bodily injury, including death of persons, and liabilities for damage to property as provided for in Public Liability Act 1991 as per applicable Act.

Provided that the limits specified above shall operate only as a specification of minimum limits for insurance purposes, but shall not any way limit the Bidder's liability in terms of this clause to the limit (s) specified.

7.2 Should the Bidder fail to take out and/or keep afoot insurance as provided for in the foregoing sub clause, the Company shall be entitled (but without obligation to do so) take out and/or keep afoot such insurance at the cost and expense of the Bidder and without prejudice to any other rights or remedies of the Company in this behalf to deduct the sum(s) incurred thereof from the dues of the Bidder.

7.3 All insurances taken out by the Bidder shall be endorsed to provide that the under writers waive their rights of recourse on Company.

7.4 Transit Risk Insurance of the entire consignment will be in bidder's scope.

7.5 The bidder will be responsible for insurance of the entire consignment/package till formal commissioning at site.

8.0 ASSIGNMENT

Bidder shall not sub-contract or assign, in whole or in part, its obligations to perform under this Bid.

9.0 APPLICABLE LAW / SAFETY

The Bidder shall comply with and ensure strict compliance by his employees, servants of all applicable central, State, Municipal and local laws and regulations of any Central, State or Local bodies and authorities and undertakes to indemnify the Company from and against all levies, damages, penalties, any payments whatsoever as may be imposed by reason of any breach or violation of any law, rule or regulations whatsoever and all actions, claims and demands arising there from and/ or relative thereto. The Bidder shall take and follow all safety precautions necessary and abide by the relevant rules of safety including explosive rules and regulations. The Bidder shall also take such other additional safety / security measures as may be directed from time to time by the Engineer-in-charge / Site Engineer/ Safety Officer. The Bidder shall also provide all necessary Safety gadgets for working personnel.

PART-B

TECHNICAL SPECIFICATION AND SCHEDULE OF REQUIREMENTS

1.0 SCOPE

1.1 The scope of work includes Supply, Installation and Commissioning of Captive Power Plant (CPP) comprising of three numbers of 250 KVA, 50 Hz, 415V Natural Gas Engine Driven Generator sets (GEGs) with synchronization arrangement (both automatic and manual mode) and common power supply panel at Industrial Area, Assam Gas Company Limited with installation and commissioning, field testing and reliability run.

1.2 The GEG sets of rating and output specified herein shall be all new and be housed inside weather-proof acoustic enclosure. Also, it shall be complete with all accessories including electrical control panel (inside the acoustic enclosure), safety devices and shall be mounted on base frame. Synchronization cum common power supply panel shall be floor mounted with bottom entry of armoured cables.

1.3 Rating and output of Generator Set: 250 kVA (200 kWe), 415 Volts, 3 phase, 0.8 pf (lag), 50Hertz, prime duty as per ISO8528 standard with 10% overload capacity.

1.4 All civil related works such as construction of generator foundation, underground cable trench etc. shall be carried out by AGCL. However, successful bidder is required to submit the design of generator foundation, cable trench as required within thirty days of award of work order.

1.5 For easy understanding of the overall project/requirement/scope of supply please refer to the Conceptual Electrical Single Line Diagram (Drawing No. AGCL/Elect/GEG/001).

SECTION-A: TECHNICAL SPECIFICATION OF GAS ENGINE

1.0 SCOPE OF SUPPLY

1.1 Supply, install, testing and commissioning of three numbers 250 KVA, 415V, 50Hz Natural Gas Engine Driven Generator (GEG) Sets complete with accessories, auxiliaries and acoustic enclosure.

1.2 Bidder shall submit detailed engineering and developments of all the engineering drawings before manufacturing / fabrication / assembling.

1.3 The three GEGs shall be synchronized and shall be equipped with both Manual Synchronization and Auto Synchronization facility (Through Common synchronization Panel) for parallel operation of all the three nos. GEG Sets.

1.4 Common Power Supply Panel (switchgear) for parallel operation of the GEG sets and power evacuation.

1.5 Successful bidder shall supply all essential accessories, auxiliary systems, cables etc. as necessary for successful commissioning of the Captive Power Plant (CPP) at the site.

1.6 Installation and Commissioning of the CPP complete with facility for parallel operation of the GEGs, having Automatic & Manual synchronization panel and common power supply panel (as per attached SLD) at AGCL, Duliajan with field testing and reliability run.

1.7 The GEG sets of rating and output specified herein shall be all new and be housed inside weather-proof acoustic enclosure. Also, it shall be complete with all accessories including electrical control panel (inside the acoustic enclosure), safety devices etc.

2.0 GENERAL REQUIREMENTS

2.1 The generator set shall be sturdy, rugged, proven and extremely reliable and durable.

2.2 Electrical loads shall be utilities, motors and UPS.

2.3 The components of the complete generator set shall be of such design so as to satisfactorily function under all conditions of operation.

2.4 The entire work of manufacture/fabrication, assembly and installation shall conform to sound engineering practice. The entire installation shall be such as to cause minimum transmission of noise and vibration to the site.

2.5 All equipment and materials to be used in work shall be manufactured in factories of good repute having excellent track record of quality manufacturing, performance and proper after sales service.

2.6 Bidder shall provide all related components and auxiliaries of generating set as part of the package.

2.7 Bidder shall furnish all relevant data of complete package as per ANNEXURE-V (Data Sheet).

3.0 CODES & STANDARDS

All equipment in the offer shall conform to the following, but not limited to them, latest edition of relevant codes & standards.

3.1 ISO 3046/1 or equivalent Indian/ International Standard: Specification for reciprocating internal combustion engines.
3.2 ISO 8528 or equivalent Indian Standard: Rotating electrical machine.
3.3 IS: 10000 (Part-iv) (or) (ISO: 3046) (Latest edition): Declaration of power, efficiency, fuel (NG) and lube oil consumption for gas engine.
3.4 IS: 10002: Specification for performance requirement for constant Speed Engines (above 20 kW).
3.5 IS: 12065 Noise limit.
3.6 IS: 13364 Specification of Alternator coupled with IC Engines
3.7 IS: 12075 Vibration
3.8 IS: 4691 Enclosure Protection
3.9 IS: 6362 Cooling
3.10 IS: 2253 Mounting
3.11 In case of bidder's inability to use the mentioned codes and standards, the bidder/manufacturer shall indicate his proposed codes and standards defining in detail for using the same. AGCL may review the bidder's proposed codes and standards for approval of the same.

4.0 SITE CONDITION
The ambient condition of the generator sets shall be:

Maximum Ambient Temperature	: 40°C
Minimum Ambient Temperature	: 05°C
Maximum Humidity at 21°C	: 100 %
Maximum Humidity at 35°C	: 95 %
Maximum Humidity at 41°C	: 70 %
Maximum Altitude above sea level	:150 Meter

5.0 COMPOSITION OF FUEL GAS AT SITES & GAS PURIFICATION

5.1 The composition supplied gas is furnished below.

5.2 The composition of the gas supplied as fuel is broadly as under:

Sl. NO.	Constituents	Percentage
1	Methane	97.45
2	Ethane	1.44
3	Propane	0.39

4	Nitrogen	0.01
5	Carbon Dioxide	0.47
6	Iso-Butane	0.05
7	N-Butane	0.08
8	Iso-Pentane	0.02
9	N-Pentane	0.02
10	Hexane	0.07
11	Gravity	0.5745
13	Gross calorific value	9188.9
14	Net Calorific value	8279.9

The bidders shall consider above composition while selecting engine and its configuration with sufficient cushioning to accommodate variation in the aforesaid values. The engine shall work trouble free without knocking or pre-ignition and without having to de-rate on ground of gas quality.

6.0 GAS ENGINE AND GENERATOR SET RATING/ CAPACITY:

6.1 Each generator set shall be rated for a prime power duty of capacity 250 KVA (200 kWe) at 0.8-PF (lag) with an output of 348 amperes (minimum) while generating 415 Volt AC, 3-phase, 50 Hz power (at 1500 RPM) along with facility for parallel operation, and the rated output shall be available at the generator output terminals with the given gas composition as engine fuel.

6.2 The generating set shall meet the latest CPCB norms as per Government of India notifications for Genset run on dedicated Natural Gas (NG).

6.3 Generator set shall be ready to use type and suitable to operate on the given gas composition. It shall be configured to accept aggressive raw natural gas/field gas or well head gas.

6.4 The engine should have user friendly engine control display with metering, monitoring, diagnosing and protecting features all integrated with the controller of the engine.

6.5 Engine and alternator shall bear Name Plate revealing in it details of ratings published by the OEM of the engine and alternator.

The following clause nos. 6.6 to 6.10 shall be certified by the engine manufacturer:

6.6 Engine rating/ output (w.r.t. compression ratio and rpm) and block load capability, pertaining to the engine with the offer. The bidder shall provide chart of the same.

6.7 The gas engine shall have in-cylinder design to meet the latest CPCB emission norms.

6.8 The engine shall be standard design of the original manufacturer designed primarily for generator set application in accordance with ISO 3046/BS5514/ ISO8528 standards and with high tolerance for variable quality of gaseous fuels (field gas).

6.9 The engine shall be a four-stroke, spark-ignited, radiator cooled/ individual closed coupled radiator system, naturally aspirated or turbocharged in-line engine with mechanical governing/ Electronic Engine Control Unit (ECU) controller capable of meeting the rated output and duty of the generator set with 1500 RPM as speed, compression ratio not exceeding 12:1 and power of the engine shall be suitable to meet the rated output of the genset. It shall also be capable to operate without any external ventilation system and shall be configured to accept aggressive raw natural gas/field gas or well head gas.

6.10 Engine BHP with natural gas calorific value 970BTU/CFT as engine fuel and at 1500 RPM and Compression Ratio not exceeding 12:1.

Note: The specification for electrical items in SECTION B shall have over-riding value and shall be followed for that particular item/work, wherever they differ from specifications given in other annexures.

Engine & Alternator shall be supplied with independent lifting hooks / eye bolts for safe Handling

7.0 GAS ENGINE FEATURES, COMPONENTS AND ACCESSORIES:

The specifications given hereunder are general in nature and shall be subject to the standard practice of the engine manufacturer. However, the ignition and governor with the engine shall be as per the given specification provided under in the respective subsection here under. Bidder/ manufacturer shall be responsible for providing gas engine driven generating set as per standard practice with the specified technical requirements suitable for Prime Rated Power (PRP) Operation.

7.1 Starting System- Electrical start complete with batteries. The engine starting system shall include 12 volt/24 volt DC starting motor(s), starter relay, and automatic reset circuit breaker to protect against butt engagement. Batteries shall be maintenance free, lead acid type/ gel based, mounted near the starting motor. Corrosion resistant or coated steel battery rack shall be provided. Required cables shall be furnished and sized to satisfy circuit requirements. Necessary Battery Box to be provided made of electrically insulating material.

7.2 Charging System- Suitable independent standard battery charging system (compatible with the battery type) as per OEM design for charging of batteries as used in above starting of the engine shall be provided.

7.3 Air Intake System- Shall include dry type paper filters element, silencer and vacuum indicator for servicing air cleaner as per manufacturer standard. Maximum air intake restrictions with clean and choked filters shall be within prescribed limit of the OEM/ manufacturer recommendation for the particular model of the engine. Air cleaners shall be either medium or heavy as per manufacturer standard for gen set application.

7.4 Lubrication System- Forced feed pressure lubrication system with lubrication oil filters with replaceable elements as per manufacturer standard. Oil pump for lubricating oil, oil coolers, priming of engine bearing as per manufacturer recommendations. The sump shall have adequate capacity to continue operation of minimum 500 Hrs. without Lub Oil Change.

7.5 Fuel System- Fuel system shall comprise isolation valve, gas filter, gas pressure reducer, solenoid valves etc. Gas shall be available at around 20-30 PSIG pressure at gas train inlet. Gas engine shall be suitable to operate at this pressure.

7.6 Ignition System- The ignition system shall be a high energy digital, capacitor-discharge system (preferably Altronic type) or as per Manufacturer's standard design.

7.7 Governor - The governor (electronic/ mechanical) shall be compatible with the ignition system specified in clause no. 7.6 above and capable of isochronous frequency regulation from no load to full rated load. It shall control engine speed and transient load response to meet ISO 8528 G2/G3 performances and tolerances. It shall be selected, installed, and tested by the engine manufacturer.

7.8 Engine Exhaust System- Exhaust system with smooth bends to create minimum back pressure, with suitable residential grade silencer (at optimum location) to reduce the noise level upto 75 dB and inbuilt Spark Arrestor. The silencer shall have an end inlet and end outlet with its horizontal tail end with 45 degree downward cut to avoid rain water entry or with rain cap vertical end. The exhaust flexible shall have it's free length when it is installed. **The exhaust shall be terminated above the building/enclosure at a minimum height of 6 meters from the floor level**. Exhaust piping shall be of MS pipe (Schedule B) conforming to relevant IS. The runs forming part of the factory assembly on the engine flexible connections upto the exhaust silencer shall be exclusive of exhaust piping item. Mattress/mineral wool/Rockwool, density not less than 120kg/sq. meter and adequate thick aluminium shall be used for cladding work. Load or stress shall be prevented on the turbocharger by providing extra pipe/support if necessary. (extra pipe should be provided for any necessary exhaust modification work)

7.9 Noise and Emission Compliance: Test certificates towards compliance of noise and emission norms as per latest CPCB II guidelines for gas engine and generator set shall be furnished along with the technical bid. **The bid will liable to be rejected in the event of non-submission of the CPCB compliance certificates.**

7.10 Cooling System- System shall be designed for ambient temperature of 40 Deg C. It shall have closed coupled radiator.

7.11 Accessories: The engine shall be fitted with the following accessories subjected to the design of the manufacturer:
7.11.1 Engine over speed protection.
7.11.2 Vibration dampers.
7.11.3 Non sparking guard for coupling
7.11.4 Dynamically balanced Flywheel
7.11.5 Necessary flexible coupling and guard for alternator and engine
7.11.6 Rain Cap for vertical Exhaust Emission

7.12 Instrumentation & Controls: Engine shall be provided with the following instruments and controls for the efficient operation and safety. It shall be simple and easy to operate and maintain. **All controls shall operate in fail- safe mode.**
7.12.1 Start/ Stop Switch
7.12.2 Battery Charging Indication
7.12.3 Lube oil pressure indication, alarm and shut down
7.12.4 Low lube oil trip indication
7.12.5 Water temperature indication
7.12.6 High water temperature indication, alarm and shut down
7.12.7 RPM indication
7.12.8 Over-speed indication, alarm and shut down
7.12.9 Engine hours indication
7.12.10 Engine Fail System: Engine Stop function shall be possible by two independent devices: (a) Automatic cutting off the gas fuel supply and (b) or as per manufacturer's standard.

8.0 ONLINE GAS MONITORING SYSTEM

Continuous On-Line Gas Monitoring System, as specified here under, shall be installed inside the Acoustic Enclosure preferably separate from the main Electric Control Panel.

8.1 Detector/Gas Sensor: Actual Nos. of Sensors to be decided based on locations where there are possibilities of gas leakage inside the acoustic enclosure. **Minimum 02 nos. of sensors shall be provided.**

8.2 Type: IR (Infrared), suitable for detection of Natural Gas (By Volume CH4: 89.538 %, N2: 1.004 %, CO2: 0.543 %, C2H6: 4.132 %, C3H8: 2.491 %, Others: 2.292 %).

8.3 Range: 0 to 100 % LEL

8.4 Operating Temperature: 0 to 50 Deg C

8.5 Display: 4 digits LCD Display

8.6 Alarm Setting: Variable

8.7 Shut down setting: Variable

8.8 Control system: Suitable control system to be provided for alarm and safety shut down of the engine.

8.9 Sensor calibration: Adjustment of Zero & Span on-site Non-Intrusive one- man calibration shall have facility to calibrate the instrument on spot without disconnecting from power supply by using any portable hand held intrinsically safe calibrator.

8.10 Detectors must be suitable for hazardous environment i.e., Zone 1 & Zone 2 hazardous area Gas Group IIA & IIB.

8.11 Copy of Test Certificates from any NABL accredited test laboratories for the quoted Detector / Sensors, tested and approved as per relevant Indian/International Standard must be submitted along with the supply, as per OMR 2017.

9.0 SKID

9.1 Engine and Alternator shall be directly coupled or coupled by means of flexoplate/ flexible coupling as per manufacturer standard design and both units shall be mounted on a suitable designed common bed plate together with all auxiliaries to ensure perfect alignment of engine and alternator with minimum vibrations. The bed plate shall be suitable for installation on suitable anti-vibration mounting system.

10.0 PAINTING & PACKING

10.1 Painting shall be green colour and shall be done as per standard practice of manufacturer.

10.2 The packing shall be roadworthy for transportation up to site, sufficiently robust to withstand rough handling.

10.3 Boxes/packing cases containing electrical equipment shall be water proof lined.

10.4 All the matters on the control panel shall be packed separately for mounting at site or mounted in such a manner to prevent transit damage.

10.5 All manuals, books, digital items (discs) shall be separately packed and contained in rigid plastic pouches. All manuals, drawings, documents and digital items of engine shall be packed in one separate container and the container shall be separately handed over to AGCL at delivery of the Gen sets.

11.0 EQUIPMENT DATA SHEET AND NAME PLATE

11.1 EQUIPMENT DATA SHEET: Refer ANNEXURE-V for details of technical data sought

11.2 NAME PLATE: The following data shall be engraved on the name plate:
11.2.1 For Gas Engine

Gas Engine make:
Manufacture's Name
Model, Sl. No. & Year of Manufacture,
Rated BHP,
Rated RPM,
Weight in Kg.,
AGCL Order No.

11.2.2 For Alternator

Alternator make:
Manufacturer's Name:
Sl. No: Type & Frame Ref:
Rated Output in kVA & kW:
Type of Duty:
Rated Power Factor:
Frequency:
Rated Voltage:
No: of Phases & Type of Connection:
Rated Speed (RPM):
Class of Insulation:
Excitation Current & Voltage at Rated Output:
Year of Manufacture:
Weight in Kg:
AGCL's Order No.:

12.0 SPARE PARTS

The following spare parts required for two-year operation and maintenance of the engine shall be supplied along with the Order.

12.1 Gas Engine spares:

a) Spark Plug: 1 Set, complete (1 X No. of cylinders), Per Engine
b) Ignition Transformer: Over all 2 Set, complete (2 X No. of cylinders)
c) Set of Lub Oil Filter Elements: 4 Set Per Engine
d) Set of Air Filter Elements: 4 Set Per Engine
e) Gas filter element (of gas train): 04 nos. per engine
f) Set of Vee Belts: 1 Set Per Engine
g) Tappet cover gasket: 1 complete set per engine
h) Gas Pressure Regulator: Over all 01 additional set

The bidder has to note that the above-mentioned spares are mandatory maintenance spares and are to be supplied along with the order.

13.0 SUBMITTALS

13.1 The following document shall be submitted along with the technical bid:

13.1.1 Certificate/ declaration from the Engine Manufacturer against clause nos. from 6.6 to 6.10.
13.1.2 GA drawing of Generator Set and Control Panel; layout of Engine, Alternator and accessories.
13.1.3 Engine Data Sheet
13.1.4 Manufacturer's product catalogues
13.1.5 Sizing of the engine generator set. Furnish calculation of Engine BHP for matching with alternator capacity. Calculation shall be approved by the Gen Set manufacturer. Calculation sheet from the Gen Set manufacturer for determining the size of the engine with respect to the genset rating.
13.1.6 Acoustic Enclosure Dimensions indicating height etc.
13.1.7 Exhaust piping arrangement including height of exhaust.
13.1.8 Transient response of frequency and voltage for the generator set.
13.1.9 Auxiliary Equipment - Specification or data sheets, including switchgear, spring type vibration isolators.
13.1.10 Drawings- General dimensions drawings showing overall generator set measurements, mounting location, and interconnect points for load leads, fuel, exhaust, cooling and drain lines.
13.1.11 Wiring Diagrams – Electrical Wiring diagrams, schematics of Generator & control panel
13.1.12 Warranty Statements
13.1.13 Standard Engine Shop Manual (Engine Rebuilding Manual) from Engine OEM: The bidder shall submit, in their technical bid, undertaking for supply of the Standard Engine Shop Manual from OEM in the event of order placed upon it.
13.1.14 CPCB compliance certificates for emission and noise level.
13.1.15 Undertaking (in original on OEM's letter head) from:
13.1.15.1 OEM of Engine and
13.1.15.2 OEM of Alternator
shall be submitted by the bidder along with technical bid, guaranteeing uninterrupted supply of spares and availability of service for at least 10 years with effect from delivery of the Item / product for the item / product to be supplied under the Tender / Order, in the event of placement of order.

13.2 Drawings for approval on award of the order:

The following drawings shall be submitted to AGCL within twenty one days of placement of the purchase order/ work order (Minimum 2 sets of hard copies). The bidder shall get them approved from AGCL before start of the manufacturing works. The approval of drawings however does not absolve the contractor not to supply the equipment/ materials as per agreement, if there is any contradiction between the approved drawings and agreement.

13.2.1 Layout drawings of the equipment to be installed including control cables, fuel/lube oil pipes and supports/structure for exhaust piping, chimney and bus ducts/cable trays.
13.2.2 Layout drawing of Generator Set and Control Panel; layout of Engine, Alternator and accessories.
13.2.3 Drawings including section, showing the details of erection of equipment.
13.2.4 Electrical wiring diagrams from engine-alternator set to electrical control panel, including the sizes and capacities of the various electrical/control cables and equipment.
13.2.5 Dimensional drawings of Acoustic enclosure/ Engine-alternator set and electrical control panel.
13.2.6 Drawings showing details of supports for pipes, chimney cable trays, ducts etc.
13.2.7 Any other drawings relevant to the work.
13.2.8 Equipment data sheet
13.2.9 Foundation drawing of the complete Generator set indicating the static and dynamic load of the package.

13.3 Documents for submission before the pre-dispatch inspection:
13.3.1 Two copies of the Integrated Operation & Maintenance Manual for the complete Generator Set including operating instructions with description and illustration of all switch gear controls & indicators, all generator controls and all engine controls.

13.4 As built, PNID Drawings/Documents to be furnished on completion of installation & commissioning (Quantity of Drawings and Documents to be submitted: 3 set + 1 set x Number of Generating Sets to be supplied):
13.4.1 Generator set installation drawings giving complete details of all the equipment, including their foundations.
13.4.2 Line diagram and layout of all electrical control panels giving switchgear ratings and their disposition, cable feeder sizes and their layout.
13.4.3 Control wiring drawings with all control components and sequence of operations to explain the operation of control circuits.
13.4.4 Manufacturer's technical catalogues of all equipment and accessories.
13.4.5 Integrated Operation & Maintenance Manual for the complete Generator Set including operating instructions with description and illustration of all switch gear controls & indicators, all generator controls and all engine controls.
13.4.6 Engine Shop Manual (Engine Rebuilding Manual): Only 2(two) Copies for the entire order quantity.
13.4.7 Parts Books - that illustrates and list all assemblies, subassemblies and components, except standard fastening hardware (nuts, bolts, washers, etc.).
13.4.8 Routine Test Procedures - for all electronic and electrical circuits and for the main AC generator.
13.4.9 Troubleshooting Chart - covering the complete generator set showing description of trouble, probable cause and suggested remedy.
13.4.10 Wiring Diagrams and Schematics - showing function of all electrical components.
13.4.11 Alternator Operation, Maintenance & Spare Part Manual.
13.4.12 Generator Set Test Certificate.
13.4.13 Certificate that the item has been designed, manufactured and tested conforming to the requirements & specifications
13.4.14 OEMs test certificates for individuals sub-assemblies(if any).
13.4.15 Warranty Certificate
13.4.16 Complete step-by-step Safe Operating Procedure (SOP) for the complete generating set.

14.0 STAGE INSPECTION AND TESTING

14.1 AGCL as purchaser may at its discretion carry out stage inspection and shop visit to inspect the manufacturing progress but such inspection shall not relieve the bidder of his responsibility to ensure that the equipment supplied is free from all manufacturing and other defects and conform to correct specifications.

15.0 PRE-DISPATCH INSPECTION

15.1 Pre-delivery inspection shall be performed by AGCL to insure all generating set components, controls, and switchgear are included as specified herein, free from any defects and carry full load tests on every generating sets prior to delivery and acceptance. The manufacturer or its representative shall give a

notice in advance of minimum two weeks for carrying out pre-delivery inspection and shall arrange staff/fuel/POL and any other consumables for test run at his cost. AGCL shall witness such inspection & testing at mutually agreed date.

15.2 All major items/equipment i.e. engine, alternator and associated electrical control panels etc. shall be offered for inspection and testing assembled as unit.

15.3 Gen Sets shall be tested on load banks for the rated KW rating. Testing shall be upto 110% load as per approved Quality Assurance Plan.

15.4 During testing all controls/ operations safeties shall be checked and proper record shall be maintained by the manufacturer's representative. Any defect/ abnormality noticed during testing shall be rectified. The testing shall be declared successful only when no abnormality/ failure are noticed during the testing.

15.5 Any defects which become evident during the test shall be corrected by the bidder at his own expense prior to shipment to the jobsite.

15.6 The Genset shall be cleared for dispatch to site only when the testing is declared successful by AGCL. A copy of the test results shall be submitted to the AGCL at the end of the inspection. Test results shall show manufacturer's tolerances as well as actual parameters recorded.

16.0 DISPATCH/SHIPMENT TO SITE: The items shall be dispatched only after AGCL's satisfactory inspection and advice for dispatch.

17.0 INSTALLATION AND COMMISSIONING AT SITE:

17.1 The civil foundation works required for the installation of the generating sets will be done by AGCL. Gas fuel and water supply point will be made available nearest to the generating sets from which points onward the bidder shall extend the lines as per requirement.

17.2 Installation and Commissioning of the generating set complete with synchronization arrangement and common power supply panel and shall be carried out by the bidder at site.

17.3 The installation shall be performed in strict accordance with shop drawings, specifications, and the manufacturer's instructions and as per tender specifications.

17.4 All materials required for installation and commissioning shall be in the scope of the bidder. This includes piping required for extension of engine exhaust.

17.5 The bidder shall provide all tools and equipment, all safety gadgets for safe work, labor, appliances, apparatus etc. at his cost required to carry-out the installation and commissioning work.

17.5 The bidder shall be responsible for safety of its personnel and equipment during the installation and commissioning work.

17.6 During the installation & commissioning job, the bidder shall strictly ensure that all the cut ends of cables, packing materials, leftover items are removed from site after completion of work. No environmental damage shall be done while carrying out the job.

17.7 All equipment manufacturers/representative shall furnish the services of factory-trained personnel as required during installation and through the warranty period to inspect the installation, supervise startup of equipment installed, and repair the equipment when required. Service requests shall be answered and acted upon promptly.

17.8 The responsibility for performance to the specifications shall not be divided among individual component manufacturers, but must be assumed solely by the bidder(supplier). This includes generating system design, manufacture, test, and having a local supplier responsible for service, parts and warranty for the total system.

17.9 Bidders should confirm in the technical bid that installation & commissioning is included in their offer.

17.10 Cost of Installation & commissioning charges should be quoted separately. These charges should include amongst others to and from fares, fooding, boarding/ lodging, local transport at Duliajan and other expenses of the service personnel during their stay at site.

18.0 TRIAL RUN AND HANDING OVER TO AGCL

18.1 The generating sets shall be put under trial run for a period of 72 hours following their installation and commissioning. During this period, the generating set should run trouble free from any major/minor troubles and meet the performance standards. Representative of the bidder should be based in Duliajan with no cost to AGCL during the trial run period to monitor the performance of the generating sets.
During the reliability run, no outage shall be allowable. This run will also be carried out at any available load.

18.2 The generator set will be said to have successfully completed the trial run, if no breakdown or abnormal /premature failure of any component of the entire generator set occurs during this period.

18.3 Following the successful run-in period, the genset shall be taken over by AGCL subject to guarantee/warrantee clause of the tender. This date of taking over of the generator set shall be the date of acceptance /taking over.

19.0 SERVICE AND WARRANTY

19.1 The supplier shall ensure adequate and prompt after sales service free of cost during warrantee/guarantee period. In case of accessory /component supplied by other manufacturers the bidder shall furnish a guarantee/warrantee from the manufacturer for the same before the generator set is taken over.

19.2 The nature of after sales service, which can be provided by the bidder, during initial erection and commissioning as also subsequent operation shall be clearly stated in the quotation.

19.3 The manufacturer shall have a local authorized dealer in North east India who can provide factory trained servicemen, the required stock of replacement parts, technical assistance, and warranty administration.

19.4 The manufacturer's authorized dealer shall have sufficient parts inventory to maintain over the counter availability of at least 90% of any normal wear and tear parts. (Belts, hoses, filters, turbines, pumps, safeties, regulators, injectors, gaskets).

19.5 The manufacturer's authorized dealer shall have factory trained service representatives and tooling necessary to install and commission all provided equipment.

19.6 The warranty coverage shall include repair parts, labor, reasonable travel expense necessary for repairs at the jobsite, and expendables (lubricating oil, filters, antifreeze, and other service items made unusable by the defect) used during the course of repair or any defects in the engine or alternator during warranty period shall be replaced by the party at his cost without any extra charge to AGCL.

19.7 Running hours shall not be a limiting factor for the warranty coverage by either the manufacturer or the authorized dealer.

19.8 **Offer received without written warranties as specified shall be rejected in their entirety.**

20.0 ORIENTATION

The bidder shall provide a complete orientation for AGCL's generator set operating personnel. Orientation program shall be of minimum 3 days duration and shall include both classroom and hands-on training at the location of installation of the Generating sets in Duliajan. Topics covered shall include control

operation, schematics, troubleshooting, wiring and diagrams, meters, indicators, warning lights, shutdown system and routine maintenance.

21.0 GENERAL NOTES TO TECHNICAL SPECIFICATION

21.1 All sundry equipment, fittings, assemblies, accessories, hardware items, foundation bolts, supports, termination lugs etc. for electrical connections, cable glands, junction boxes and all other sundry items for proper assembly and installation of the various equipment and components of the generator sets are deemed to have included in the tender, irrespective of the fact that whether such items are specifically mentioned in the tender documents or not.

21.2 In their offer the bidder must mention their detailed comments point-wise against each point of tender specifications. Any deviation from the tender specification shall be specifically mentioned. Specific type and make of equipment shall be mentioned. All the information required as per tender specifications must be submitted.

21.3 The bidders shall provide overall dimensions of the Gen set, Acoustic Enclosure and foundation/installation diagram of the Gen set.

21.4 In the event of order, the bidder shall submit to AGCL within one month of placement of order all documents and drawings as required against each item.

21.5 The manufacture of the equipment is to be started only after written approval of the drawings / documents by AGCL as mentioned in tender against all equipment.

21.6 Bidder must confirm in the Technical Bid that the major equipment such as Gas Engine and Alternator shall have manufacturer's Test Report and Warranty Certificate and the same shall be provided during inspection of the Generator set by AGCL

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22.0 GENERAL NOTES FOR BIDDERS

22.1 Materials shall be brand new, unused & of prime quality.

22.2 Pre-dispatch/Shipment Inspection & testing charges, if any, must be included in the total price of each genset. To and fro fares, boarding/ lodging and other en-route expenses of AGCL's Inspection team for carrying our inspection shall be borne by AGCL.

SECTION-B: TECHNICAL SPECIFICATIONS OF ALTERNATOR AND COMMON POWER SUPPLY PANEL

1.0 SCOPE OF ELECTRICAL SUPPLY & WORKS

1.1 SUPPLY

1.1.1 Three Nos. 250 kVA, 415V, 50 Hz Alternators coupled with the Gas Engine.

1.1.2 Generator Local Control Panel.

1.1.3 Common Synchronization Panel for parallel operation of the GEG. Both Automatic and Manual Synchronization Facilities must be provided.

1.1.4 Common power supply panel for parallel operation and evacuation of power from the GEG units.

1.1.5 Facilities for power supply to the GEG auxiliaries including motor starter etc. as required.

1.1.6 Power supply cables, electrical control cable and instrumentation cables as required for the project shall be supplied by the vendor. Common synchronization panel and common power supply panel will be

placed inside the same building/shed. However, maximum 50m distance shall be considered between generator terminals and common power supply panel.
Accordingly, tentative cable requirement:
1.1.6.1 Power cable to bring generator output to common power supply panel: Total 300 meters
Connection between alternator terminals and generator breaker in the common power supply panel shall be through double run 3.5C X 240 sqmm XLPE Aluminium Armoured Cable(Cable make: Havells/ Finolex/ Polycab).
1.1.6.2 Power cables to feed GEG auxiliaries from common power supply panel: as required for the project.
1.1.6.3 Other control cables and instrumentation cables: as required for the project.

1.1.7 Motor starter, power feeder as required for the GEG Auxiliaries may be included in the common power supply panel.

1.1.8 Each GEG Unit shall be self-sufficient for independent operation in island mode.

1.1.9 Spare as per spares list.

1.2 Scope of works:

1.2.1 Installation and commissioning of the captive power plant including all the electrical works.

1.2.2 Termination & glanding of all power and control cables in Alternator, Generator Control Panel, Common Synchronization cum generator power panel and auxiliary motors.

1.2.3 Site testing and commissioning.

2.0 SPECIFICATION OF ALTERNATOR

2.1 Make of the Alternator shall be within the following: KIRLOSKAR/NGEF/STAMFORD/ CROMPTONGREAVES/ CATERPILLAR/ KATO/ GENERAL ELECTRIC, USA/ LEROY SOMER
2.2 Rated Output: 250 KVA, 0.8 power factor at Specified ambient conditions for utility and motor loads
2.3 Rated Voltage: 415 Volts ± 5%
2.4 Armature Winding: 3 Phase, 4 wire type
2.5 Rated Frequency: 50 Hz ± 3%
2.6 Power factor: 0.8 lagging
2.7 Class of insulation: Class F/H but temp rise limited to class B
2.8 RPM: As per engine rated speed
2.9 Phase sequence: UVW - phase sequence and direction of rotation shall be clearly marked on the alternator.
2.10 Duty/load: Continuous duty rated Alternator.
2.11 Winding Connection: Y connected. Separate neutral terminal required
2.12 Ambient : Min: 5 ºC Max: 40 ºC, RH 95% max
2.13 Alternators Enclosure Protection : IP 23
2.14 Alternators Terminal Box Protection : IP 54
2.15 Excitation system: Brush less, self-excited, self-regulated with solid state AVR. Voltage characteristics- VG3 as per Table-1, IS-13364 (Part-2)
2.16 Mounting: Foot mounted on Gen set skid that should be mounted on anti- vibration pad.
2.17 Permissible voltage variation: As per Table-1, IS-13364 (Part-2)
2.18 Permissible frequency variation: As per IS-13364(P-2)
2.19 Frame size: Bidder to confirm
2.20 Waveform deviation: As per IS-13364 (Part-2)
2.21 Unbalanced current: As per IS-13364 (Part-2)
2.22 Short circuit current: As per IS-13364 (Part-2)
2.23 Cooling : Air cooled by integral fan
2.24 The brush less alternator shall have exciter and rotating rectifier-bridge mounted on shaft complete with diodes and surge suppressor, main field windings and stator windings. PIV of exciter diodes must be 800 Volts or 8 times the maximum exciter armature operating voltage, whichever is higher. At nominal speed the excitation system must produce sufficient residual voltage in order to ensure self-excitation.

2.25 All windings shall be made from electrolytic grade copper of high purity.
2.26 Voltage swing (Transient response): As per IS-13364 (Part-2).
2.27 The alternator shall be capable of sustaining a 10 % over load for one hour in any 12 hours operation.
2.28 Total voltage harmonic distortion shall be less than 3 % between phases at no load.
2.29 The alternator shall be capable of withstanding 1.2 times the rated speed for two minutes without any damage.
2.30 Alternator stator winding terminals are to be connected to 4 nos. of suitably rated tinned copper terminals, supported on SMC/GRP supports inside the alternator terminal box.
2.31 The alternator terminal box shall be of suitable size and shall be suitable for terminating power cables of alternator.
2.32 Two nos. of earth points are to be provided on both sides of the alternator.
2.33 Lifting hooks are to be provided for lifting the alternator.
2.34 AVR shall be suitable for motor loads, VG3 regulation.
2.35 Alternator windings and AVR shall be suitable for humid atmosphere as per ambient conditions mentioned in the enquiry.
2.36 Bidder to mention the following information in offer:
2.36.1 Unbalanced current carrying capacity
2.36.2 Efficiency of the alternator at 25 %, 50 %, 75 % and 100 % load.
2.36.3 Power factor of the alternator at 25 %, 50 %, 75 % and 100 % load.
2.36.4 Dimensional drawings.
2.37 Alternator frame and enclosure shall be made from MS or Cast steel.
2.38 The permissible vibration of the alternator shall be as per IS-12075.
2.39 The alternator shall conform to the following standards: Latest publications of all IS Standards shall be referred.
IS: 12065 Noise limit
IS: 12075 Vibration
IS: 4691 Enclosure Protection
IS: 6362 Cooling
IS: 2253 Mounting
IS: 13364 Specification of Alternator coupled with IC Engines

3.0 SPECIFICATION OF GENERATOR CONTROL PANEL (LOCAL CONTROL PANEL)

3.1 An electrical control panel (Local Control Panel) shall be incorporated & installed inside the genset house (acoustic enclosure) with switches/relays, metering, controls as required for running/testing of GEG unit.

3.2 Design of Genset Control Panel shall be compatible for running the generator in both the following conditions. Exact use at site would be at AGCL's discretion.
3.2.1 Generator Neutral solidly grounded without Neutral Grounding Resistor (NGR).

3.3 Local Control Panel shall be sheet steel clad, self-supporting, floor mounting, cubicle type, dust and vermin proof generating set control panel made of 2mm thick MS CRCA sheet and built upon rigid framework of channels, beams as required, having front and rear hinged doors with danger plate fitted on both sides, lifting lugs on top, ventilation louvers on both sides, bottom detachable gland plates, double earthing studs on two sides, complete with suitably sized zinc passivated hardware with heavy plain and spring washers.

3.4 The panel doors shall have neoprene rubber gasket.

3.5 The panel enclosure shall be as per IP54 except for the open part of cooling louvers at bottom and top of the panel sides. Suitable wire mesh shall be provided on the inner side of the louvers to prevent entry of insects.

3.6 The metal surface of the panel shall be given seven tanks anti corrosion treatment and then powder coated in DA grey colour (Min. 50-micron thick paint).

3.7 The frame shall be able to withstand the stress and vibration during transportation and operation.

3.8 All cable entry shall be from bottom side. Removable gland plates shall be provided for all cables. Height of electrical panel from skid/ floor shall be sufficient for entry of the electrical cable with proper bending radius.

3.9 Genset shall be supplied in ready to use condition, complete with all interconnections like connection between generator terminals to generator breaker etc.

3.10 The detail description of the components of the electrical control panel is as described below:

3.10.1 Generator Control Section: The power supply for this section shall be tapped from the generator terminal through a suitably rated control transformer. This section shall have:

3.10.1.1 Meters:
a) 1 No. Three phase Digital Voltmeter with selector switch, Size- 96 X 96 mm2, Class of accuracy 1.0, 0 - 500 V, Auxiliary power supply -230VAC (Make: AE/ Conzerv/ L&T).
b) 1 No. Three phase Digital ammeter with selector switch, Size- 96 X 96mm2, 0-500 Amps, C.T. operated, Auxiliary power supply 230V AC, class of accuracy -1.0 (Make: AEI/ Conzerv/ L&T)
c) 1 No. Digital frequency meter, scaled 0-100 Hz, suitable for 240 V AC operation, (Make: AEI/ Conzerv/ L&T)
d) Suitably rated CTs, CT ratio 400/5, class I for ammeter, kW meter and PF meter (Make: Kappa / Conzerv/ L&T.)
e) All meters shall be mounted at the front door of the panel.

3.10.1.2 Indications: Following are to be provided:
a. “Engine running”
b. Power supply “ON” for R, Y & B phases
c. Engine fault
d. Set on load
e. All indication lamps shall be of LED type (Make: Binay/ Technic/ L&T) and shall be mounted in front of the panel.
f. A separate annunciator window (multi-window) with audible alarm for showing engine and alternator faults, gas alarm, Lube Oil Temperature High, Engine Temperature High etc. shall also be provided.
g. Push buttons for acknowledging/ resetting alarms, checking healthiness of trip circuits etc. shall also be provided

3.10.1.3 Fuses: All meters, indication lamps shall be protected by adequate nos. of HRC instrument fuses / MCBs of suitable rating.

3.10.2 Engine Control Section:
3.10.2.1 This section shall have:
a) Digital RPM meter - 1 No.
b) Engine alarm and trip condition monitoring
c) Engine start/stop controls
d) Battery charger circuit
e) Emergency stop switch (mushroom head type)

3.10.2.2 The following engine conditions shall give alarm indication:
a) Low lube oil pressure (at low set point)
b) High water temp. (at low set point)
c) Engine over speed (at low set point)
d) Low battery voltage

3.10.2.3 In addition, engine shall be stopped with the help of heavy-duty 24V D.C. fuel solenoid on following trip conditions.
a) Low lube oil pressure
b) High water temp.
c) Engine over speed

d) High Vibration

3.10.2.4 Push buttons shall be provided for:
a)Accept fault
b) Reset alarm
c) Engine start/ stop
d) Lamp test

3.10.2.5 Indication of each of the trips shall be provided in the front multi- annunciator window of the Engine control section. Suitable relay/ timer arrangement shall be provided wherever required.

3.10.2.6 Hooter/alarm to indicate Engine trip on fault.

3.10.2.7 All indication/metering/controls shall be mounted in front of the panel.

3.10.3 MOTOR STARTER SECTION

3.10.3.1 The power supply to this section shall be brought from the Common power supply panel (downstream of Generator Breaker). Suitably rated MCCB shall be provided as incomer for the section.

3.10.3.2 Starters for all auxiliary motors shall be incorporated within this control panel only.

3.10.3.3 Starter of induction motors up to 20 HP rating shall be MPCB

3.10.3.4 Each auxiliary motor shall have its own suitably rated MPCB and overload protection.

3.10.3.5 Any motor greater than or equal to 2kW shall be provided with earth leakage protection as per Regulation 42 of CEAR-2010.

3.10.3.6 Indication lamp to indicate ON/OFF status of each motor shall be provided.

3.10.3.7 Each motor starter shall have an Auto / Manual Selector switch.

3.10.3.8 All the auxiliary motors shall be installed inside the respective GEG Package/Enclosure.

4.0 COMMON POWER SUPPLY CUM SYNCHRONIZATION PANEL

4.1 The 'Common Power Supply cum Synchronization panel' shall be common to all the 3 Gas Engine Generator Units and shall have separate compartment for the following electrical switchgear and control:

4.1.1 3 nos. Generator Incomer Breakers (each rated 630A)
4.1.2 2 nos. Outgoing feeders (each rated 800A)
4.1.3 Common Synchronization Panel
4.1.4 Power Supply Feeders for GEG auxiliaries as required for the 3 nos. GEGs
4.1.5 Motor Starters for GEG auxiliaries as required for the 3 nos. GEGs.

4.2 Basic Design Data:

4.2.1 No. of Phases: 3phase + Neutral
4.2.2 Rated Operational Voltage: 415 V
4.2.3 Rated Frequency: 50Hz
4.2.4 Max Ambient Temperature: 40deg C
4.2.5 Min Ambient Temperature: 5deg C
4.2.6 Ingress Protection: Minimum IP 52
4.2.7 Max. Humidity: 98%
4.2.8 Altitude: 150 mtrs. above MSL

4.3 Busbar Details:

4.3.1 Material: Aluminium
4.3.2 Rating: 1200A
4.3.3 Busbar Short Circuit Capacity: 50kA for 1sec
4.3.4 The busbar shall be covered with insulation sleeve and colour coded. The insulating supports shall be strategically fixed.
4.3.5 Sufficient clearance shall be maintained in the bus chamber between individual buses and between the bus and side walls as per standards.
4.3.6 The clearance and creepage shall not be the lesser than values specified below
Phase to phase: 26mm
Phase to earth: 19mm
Phase to neutral: 19mm
Neutral to earth: 19mm
Minimum creepage distance: 28mm
Rated insulation voltage: 660V
4.3.7 The panel including the busbar shall be suitable for future horizontal expansion on both sides. Busbars and cubicles/side walls of the panel shall be manufactured accordingly.

4.4 Incomer Details:

4.4.1 Type: Microprocessor based 4 pole motorised MCCB, Suitable for automatic/manual synchronisation of the GEG units.
4.4.2 Number: 4 nos (one spare).
4.4.3 Ratings:
Ue = 415V
Uimp = 8kV (min)
In = 630A
Ics = Icu = 50kA (min)
Frequency = 50Hz
4.4.4 MCCB Make : Schneider / ABB / Siemens / L&T / Legrand
4.4.5 Metering and Indication (In each incoming feeder):
4.4.5.1 One no. three phase Digital Voltmeter with selector switch (to indicate the corresponding generator voltage)
4.4.5.2 One no. three phase digital Ammeter (to indicate the corresponding generator current)
4.4.5.3 One Digital multifunction meter
The multi function meter shall have the following minimum features.
Ammeter
Voltmeter
Frequency Meter
Power Factor Meter
KW Meter
KWH Meter
KVA Meter
KVAR Meter
Harmonics (Current and Voltage THD)
30 min or 15 min Maximum Demand Meter
Maximum Demand Meter
Make- Schneider / ABB / Siemens / L&T / Legrand

4.4.5.4 Indications: Incomer ON, OFF, TRIP and R, Y, B phase healthy.
4.4.6 Protection: each incomer shall have a suitable 'Generator protection relay' (numerical type) Minimum electrical protection requirement for each alternator:
i) Earth / Ground fault (both 51G and 50G)
ii) Overcurrent protection (both 51 and 50)
iii) Negative phase sequence
iv) Reverse Power Protection
v) Overvoltage
vi) Under and over frequency
vii) Earth-leakage protection either through in-built earth leakage module or through separate CBCT & ELR. EL current Range: 0-3A, adjustable in preferred steps of 50/100mA.

vii) The relay must have indication LEDs for trip indication, test push button and reset push button.
viii)Numerical type Generator Protection Relay Make: Schneider / Micom / ABB / Siemens / Alstom

4.5 Outgoing Feeder Details:

4.5.1 Type: Microprocessor based 4 pole MCCB.
4.5.2 Number: 2 nos.
4.5.3 Ratings:
Ue = 415V
Uimp = 8kV (min)
In = 800A
Ics = Icu = 50kA (min)
Frequency = 50Hz
4.5.4 MCCB Make : Schneider / ABB / Siemens / L&T / Legrand
4.5.5 Metering and Indication (in each outgoing feeder):
4.5.5.1 One no. three phase 0-500V digital Voltmeter (to indicate outgoing feeder voltage)
4.5.5.2 One no. three phase 0-800 A digital Ammeter (to indicate outgoing feeder current)
iii) 1 Digital multifunction meter
The multi function meter shall have the following minimum features.
Ammeter
Voltmeter
Frequency Meter
Power Factor Meter
KW Meter
KWH Meter
KVA Meter
KVAR Meter
Harmonics (Current and Voltage THD)
30 min or 15 min Maximum Demand Meter
Maximum Demand Meter
Make- Schneider / ABB / Siemens / L&T / Legrand
iv) Indication: MCCB ON, OFF, TRIP and R, Y, B phase healthy.
4.5.6 Protection: Shall have inbuilt electronic trip unit with adjustable current and time setting (preferably knob/adjustable screw type) for:
i) Overload protection, Ir : 0.4-1.0 X In
ii) Ground Fault protection Ig: 0.2–1.0 X In
iii) Instantaneous Short Circuit protection, Ii: 1.5-10 X In
iv) Neutral Protection against Overload and Short-circuit: 0%, 50% or 100%.
v) Earth-leakage protection either through in-built earth leakage module or through separate CBCT & ELR. EL current Range: 0-3A, adjustable in preferred steps of 50/100mA
vi) Trip Time Range: 0-5s, adjustable in preferred steps of 50/100ms.
vii) The relay must have indication LEDs for trip indication, test push button and reset push button

4.6 GEG Auxiliary Motor Power supply Feeder Details:

4.6.1 Type: Microprocessor based MCCB
4.6.2 Number of feeders: As per GEG OEM's Design/ Actual Requirement with provision for spare feeders.
4.6.3 Rating: to be decided by OEM/supplier of GEG units.
4.6.4 Protection: Each MCCB shall have inbuilt trip unit for LSIG protection and for earth leakage protection either the MCCB shall have in-built earth leakage module or through separate CBCT & ELR.
4.6.5 Indication: MCCB ON, OFF and TRIP

4.7 Motor Starters for GEG auxiliaries (as required for motors installed outside GEG package):

4.7.1 Number of feeders: As per GEG OEM's Design/ Actual Requirement with provision for spare feeders.
4.7.2 Rating: to be decided by OEM/ supplier of GEG units.

4.7.3 For motor rating less than 20HP, suitably rated MPCB with overload protection and contactors shall be provided as starter and for motor rating more than 20HP the starter shall be star-delta type with suitably rated MCCB, overload relay and contactors.
4.7.4 Both local and remote start stop facilities shall be provided.
4.7.5 Indication: Power ON, Motor ON, OFF & TRIP.

4.8 Synchronisation Section:

4.8.1 The section / compartment shall have a dedicated & common section for synchronisation of the 3 GEG sets.
4.8.2 The synchronising panel shall have all the controls of the GEG units (ex-voltage raise/lower, speed raise/lower, automatic reactive power transfer, frequency raise/lower etc.) which are essential for synchronization of alternators along with essential metering like synchroscope, voltmeters, frequency meters etc.
4.8.3 Synchronization panel shall be designed for both manual and automatic synchronization of the GEG units. All facilities for manual and automatic synchronization of the GEG unis in any order shall be provided.
4.8.4 All indication and display of all necessary parameters of the GEG shall also be provided in this section.
4.8.5 Dead bus synchronisation facility is required for starting of any GEG unit from blackout condition.
4.8.6 Breaker closing command from the synchronisation panel shall operate respective generator breaker.

4.9 Construction:

4.9.1 The Common Power Supply and synchronisation Panel (LT Switchgear) shall conform to the latest version of **IS/IEC 61439 and shall be TTA type**.

4.9.2 The Panel shall be indoor type, single-front, sheet steel clad, cubicle type, self-supporting and floor mounted with integral base channel, dust and vermin protected.

4.9.3 All the cables entry and exit shall be from the bottom.

4.9.4 The panel must be with sheet steel clad made of 2mm thick MS CRCA sheets and built upon suitably sized MS angle iron framework.

4.9.5 Gland plates for cable entry/exit shall be 3mm thick MS CRCA sheets.

4.9.6 Internal barriers shall be provided between cubicles to provide Form-4 separation as per IEC for the incomer and outgoings and form – 3 for the GEG Control Panel and Auxiliary Motor feeders.

4.9.7 The entire metal work must be treated with seven tank (minimum) treatment as per IS and then powder coated in **RAL7032 (Siemens Grey).** Coating (dry film) thickness shall be 50 micron minimum as per IS: 13871-2006. The finish shall be glossy.

4.9.8 Special non-deteriorating Neoprene rubber gaskets must be provided at all joints as necessitated.

4.9.9 Danger plates (415 VAC) shall be fixed on both front and rear of panel including the busbar chambers.

4.9.10 Component layout shall be designed for maximum heat dissipation. Suitably rated brought out terminals shall be provided both for incomers and outgoings for cable connection.

4.9.11 The brought-out terminals shall be of Aluminium bars.

4.9.12 Legend plates of the feeders and starters shall be provided in the front as well as at back of each feeder.

4.9.13 A main name plate shall be affixed in a prominent position on the front of each panel giving the following information:

Synchronization cum Common Power Supply Panel
Manufacturer's Name
Distribution Board Tag Number and Name
System Voltage, Phase, Wires and Frequency
Year of manufacture
Danger Plate

4.9.13.1 Label shall be affixed by screws or rivets and not adhesives.

4.9.13.2 Each distribution board shall have fitted a circuit directly within a clear protective cover located on the inside of the outgoing circuit compartment door.

4.9.14 Adequate nos. of lifting lugs must be provided on top.

5.0 DOCUMENTS

5.1 The following Documents / drawings shall be submitted with the offer:

5.1.1 GA and schematic drawings of alternator generator control panel and common power supply cum synchronization panel.
5.1.2 Technical literature of alternator
5.1.3 Confirmation that the party agrees to all the points mentioned under electrical specification of generating set. Any deviation from the electrical specifications of the tender shall be specifically mentioned by the party with proper justification. Acceptance of deviations shall be at the discretion of AGCL.
5.1.4 Declaration stating that 'Common Power Supply cum Synchronisation Panel' offered by the bidder shall be conforming to IS/IEC 61439. And all the necessary test certificates will be provided for AGCL's scrutiny before manufacturing, in case of order placement of order.
5.1.5 The bidder shall also specifically confirm even if there is no deviation in their offer from technical specifications.

5.2 The successful bidder shall obtain approval for the following drawings / documents prior to manufacturing of alternator & control panel within 30 days of placement of order.
5.2.1 GA drawing
5.2.2 Documentary evidence from the manufacturer of generator confirming that the alternator to be supplied shall meet all specifications as mentioned in the order. Technical catalogue of the generator.
5.2.3 Detailed power & control wiring diagram, detail enclosure drawings for generator control panel, common power supply cum synchronization panel, earthing scheme.
5.2.4 Layout plan of the unit showing all parts, cable routes.
5.2.5 Details of power cables, control cable and their routes.
5.2.6 Bill of materials.
5.2.7 Type test certificate of the common power supply cum synchronization panel if not submitted with the tender.

5.3 Minimum Two sets of following as built drawings/documents per genset shall be submitted in bound form:
5.3.1 GA drawing
5.3.2 Detailed power & control wiring diagram, detailed enclosure drawings for generator control panel, common power supply cum synchronization panel, earthing scheme.
5.3.3 Scheme, layout plan of the unit showing all parts.
5.3.4 Details of power cables, control cable and their routes.
5.3.5 Bill of materials of all components.
5.3.6 Technical literature of alternator.
5.3.7 O&M manual for Alternator and main components of control panel.
5.3.8 Catalogues of various components.
5.3.9 All test certificates for tests done at manufacturer's works for alternator, control panel and complete unit.
5.3.10 Tests done during commissioning.

5.3.11 Guarantee certificate for alternator and control panel. Guarantee shall be for 12 months after commissioning of Gen set or 18 months after supply, whichever is earlier.
5.3.12 List of recommended spares with cat nos./part nos. & description for two years' O&M.

6.0 Electrical Spares:

The following spares shall be supplied by the party along with package.

6.1 AVR Unit for Alternator: One No. per alternator
6.2 Rotating rectifier assembly fitted with complete set of forward and reverse diodes: One Set.
6.3 PMG (if equipped): 1 Set
6.4 One number 630A MCCB complete with the motorised drive assembly, spreader links, operating handle etc.
6.5 One number 800 A MCCB complete with the spreader links, operating handle etc.
6.6 One set of all the relays, controllers, actuators etc. used in synchronisation panel, which are critical for O&M of the plant. Actual list will be finalised after preparation of final BOM of the synchronisation panel.
6.7 Synchroscope: 1 No.
6.8 Multi-Function Meter: 1 No.
6.9 LED Indication Lamp: 2 nos. against each colour
6.10 Numerical Generator Protection Relay: 1 No.

7.0 Inspection And Testing For Alternator And Control Panel Including Starter Panel, As Applicable:

All the routine tests as per IS and load tests of the alternator and the control panel shall be witnessed by AGCL's Engineer at respective manufacturer's works.

7.1 The routine test of the alternator shall include the following minimum tests/ measurements:
7.1.1 Measurement of winding resistances for generator armature, field, exciter armature and exciter field
7.1.2 Measurement of insulation resistance (before and after HV tests) for generator armature and field, exciter armature and field
7.1.3 High voltage (HV) test
7.1.4 Phase sequence test
7.1.5 Voltage regulation test
7.1.6 Vibration measurement
7.1.7 Measurement of noise level
7.1.8 Overload test
7.1.9 Measurement of open circuit and short circuit characteristics.

7.2 All the routine tests and load tests of the control panel, common power supply panel panel and starter panel (if provided) shall be witnessed by AGCL engineers at manufacturer's works. The routine test of the panels shall include the following minimum tests/measurements:
7.2.1 Physical checks & Operation check of all components
7.2.2 HV tests
7.2.3 Insulation tests (before and after HV tests)

8.0 Commissioning Of Electrical Part Of The Unit

8.1 Installation and Commissioning of the CPP, GEG sets with control panels, Auxiliary Motors, if provided, shall be carried out by the bidder as per NEC, ISI, CEA Regulations 2010 etc. at AGCL's field area around Duliajan, Assam (India). Services of qualified and competent personnel of bidder are essential during commissioning of the generating sets.

8.2 All tools, instruments, test kits, drill machine, vice, hardware, clamps etc. required for the job shall be provided by the bidder. Operational tests of all devices, their settings, shall also be carried out during commissioning job by the bidder.

8.3 Accommodation and travel to site for bidder's all persons shall be arranged by bidder.

8.4 Bidder shall carry out all earth connections including Generator Neutral & package earthing to earth electrodes / earthing grid available at site. Supply of required GI earthing strips, construction of earthpits etc. would be under bidder's scope. Earthing shall be carried out as per IS 3043 and its latest amendment.

8.5 Any other item required for successful commissioning of the genset but not specified in the specification shall be supplied by bidder without any cost to AGCL.

8.6 All protective devices shall be tested for proper operation and setting done during commissioning by the commissioning person of the successful bidder. **Persons engaged for electrical works at site by bidder shall possess valid electrical license issued by Electrical Licensing Board, Assam.**

8.7 The Gen set shall be treated as successfully commissioned from electrical side after successful load test (reliability run) of the unit at AGCL.

SECTION-C: TECHNICAL SPECIFICATIONS OF ACOUSTIC ENCLOSURE

1.0 ACOUSTIC ENCLOSURE:

1.1 The Acoustic enclosure shall be designed and manufactured conforming to relevant standards suitable for outdoor installation exposed to weather conditions, and to limit overall noise level to 75dB(A) at a distance of 1 meter from the enclosure as per latest CPCB norms under free field conditions.

1.2 The construction shall be such that it prevents entry of rain water splashing into the enclosure and allows free & quick flow of rain water to the ground in the event of heavy rain. The detailed construction shall conform to the details as under:

1.2.1 The enclosure shall be fabricated out of the CRCA sheet of thickness not less than 1.6mm on the outside.

1.2.2 The hinged door shall be made from not less than 16SWG (1.6mm) thick CRCA sheet and shall be made air tight with neoprene rubber gasket and heavy-duty locks.

1.2.3 Ventilation fans shall be provided, exhaust piping inside the enclosure must be lagged (except below).

1.2.4 Temperature rise inside the enclosure shall not be more than 5 Deg C for maximum ambient above 40 Deg C and it shall be below 10 Deg C for ambient below 40 Deg C.

1.2.5 There shall be provision for oil, coolant drain and fill.

1.2.6 The batteries shall be accommodated in the enclosure in electrically insulated battery box.

1.2.7 The canopy shall be provided with high enclosure temperature safety device.

1.2.8 The acoustic lining shall be made up of high-quality insulation material i.e. rockwool/glass/mineral wool/PU foam of appropriate thickness and density for sound absorption as per standard design of manufacturers to reduce the sound level as per CPCB norms. The insulation material shall be covered with fine glass fibre cloth and would be supported by perforated MS sheet duly powder coated/GI sheet/ aluminium sheet.

1.2.9 The enclosure shall be provided with suitable size & no. of hinged doors along the length of the enclosure on each side for easy access inside the acoustic enclosure for inspection, operation and maintenance purpose. Sufficient space shall be provided inside the enclosure on all sides of the genset for inspection, easy maintenance and repairs.

1.2.10 The canopy shall have a good aesthetic look.

1.2.11 The complete enclosure shall be of modular construction.

1.2.12 The forced enclosure shall be as per manufacturer design using either engine radiator fan or additional blower fan(s). If the acoustic enclosure is to be provided with forced ventilation then suitable size of axial flow exhaust fan to take the hot air from the enclosure complete with necessary motors and auto start arrangement shall be provided.

1.2.13 The acoustic enclosure shall be suitable for cable connection/connection through bus-trunking. Such arrangements on acoustic enclosure shall be water proof and dust proof conforming to IP-65 protection.

1.2.14 The inside of the enclosure shall be provided with at least two nos. 28W fluorescent/LED tube light luminaire controlled by a 5A switch for adequate lighting during servicing etc. of the gen set. The power supply to this luminaire shall be from the load side of the panel so that it can remain energized under all conditions.

1.2.15 The control panel for the Generating set shall be installed separately inside the acoustic enclosure.

1.2.16 A high temperature trip system (to shut down the engine by cutting off fuel supply to the engine through the solenoid valve) with variable setting connected to a thermostatically controlled blower must be provided for eliminating excessive heat dissipated by the engine within the acoustic enclosure.

1.2.17 Suitable continuous on-line Temperature Monitoring and Control System with Alarm and Shut Down Mechanism shall be provided.

1.2.18 When the concentration of gas inside the acoustic enclosure reaches 10% of LEL of gas, audio visual alarm shall activate and automatic preventive measure shall activate to reduce the concentration of leakage gas. These preventive measures include switching on heavy duty exhaust fan to disperse leakage gas or stoppage of gas leakage itself.

1.2.19 When the concentration of gas inside the acoustic enclosure reaches 15% of LEL of gas (or any other suitable rating), the alternator main circuit breaker shall trip automatically and subsequently the engine shall be shut down instantaneously by automatic device (i.e., cutting off power supply to the fuel solenoid valve.)

1.2.20 There shall be a provision of emergency shutdown of the generating set (Prime Mover) from outside the enclosure.

1.2.21 The enclosure shall be complete with power and control wiring between control panel and alternator and other components like blowers etc with proper size copper cable. The cables shall be terminated using gland and tinned copper crimped type lugs and sockets. The connection from the alternator and control panel shall be carried out with 3.5 cores 120 sq. mm PVC insulated, PVC sheathed armoured copper cable. All control and power cabling inside the enclosure shall be well protected from mechanical damage by incorporation of MS cable duct/covered cable trays. Suitable cut out with guard gasket shall be provided in the enclosure for safe entry/exit of all cables.

2.0 SERVICE ACCESSIBILITY:

2.1 Genset /engine control panel shall be visible from outside the enclosure.

2.2 Routine/periodical check on engine/alternator (filter replacement and tappet setting etc) shall be possible without dismantling acoustic enclosure.

2.3 For major repairs/overhaul, it may be required to dismantle the acoustic enclosure.

2.4 Sufficient space shall be available around the genset for inspection and service.

3.0 ENCLOSURE ILLUMINATION

3.1 A separate circuit shall be provided for lighting of the acoustic part of the enclosure. Minimum 2 Nos. LED lamps shall be fitted in wall mounted type/ bulkhead light fittings. LED luminaries, switch, junction box etc. installed inside acoustic enclosure shall be flameproof type.

3.2 Light shall be switched from one switch, 6 amp, mounted on control panel cover.

4.0 ENCLOSURE EARTHING ARRANGEMENT:

4.1 Two nos. of 50 x 6 mm GI straps (earth bus) shall be provided inside the enclosure on both sides and fixed on the skid floor. The earth loops from alternator, control panel, changeover panel, auxiliary motors (if provided) shall be connected to these straps with two distinct and independent GI earth straps of sufficient size as per IS 3043.

4.2 Earth leads and earthing jobs as per IS-3043.

4.3 Suitable studs with fastener arrangement shall be provided on the earth buses for connection of earth straps to outside earth electrodes.

PART-C

COMMERCIAL TERMS AND CONDITIONS:

1.0 EARNEST MONEY AND TENDER FEES

1.1 Earnest Money of an amount of Rs 5,00,000.00 (Rupees Five Lakh only) and tender fees of Rs 5000.00 (Rupees five thousand only) to be paid through RTGS/ NEFT/ internet banking in Assam Government eProcurement System www.assamtenders.gov.in. Scan copy of the acknowledgment of Bid Security/ EMD deposit is to be uploaded along with the techno-commercial bid documents in the online portal and the hard copy is to be submitted to "The Sr. Manager (Elect), C/o Assam Gas Co. Ltd., Duliajan, Assam-786602" within 7 days from bid closing date.

1.2 **Bidders which are registered as Micro/ Small Companies/ Industries under MSME Act 2006 or registered as N.S.I.C. in relevant area shall be exempted from submission of Tender Fees and EMD. Such bidders must furnish valid document along with bid to avail the exemption. Bid submitted without valid document shall be summarily rejected.**

2.0 PAYMENT

2.1 SCHEDULE OF PAYMENT

2.1.1 80% of the total equipment value (three generators along with common power supply panel and related accessories) shall be released after delivery and acceptance of the total package at Duliajan within 30 days from the date of submission of invoice in triplicate.

2.1.2 10% of the total equipment value (three generators along with common power supply panel and related accessories) shall be released after successful commissioning of the package or 2 (two) months from the date of receipt of equipment at site whichever is earlier.

2.1.3 100 % of Installation, Testing & Commissioning charges will be released within 30 (Thirty) days after successful commissioning and handing over of the three generators with synchronization and common power supply panel including all accessories to AGCL. All the three generators with synchronization and common power supply panel including all related accessories shall have to be installed for payment and part installation of the same shall not be accepted.

2.1.4 10% of total equipment value (three generators along with common power supply panel and related accessories) shall be retained as security deposit and shall be released after submission of bank guarantee of equivalent amount for the warranty period.

2.1.5 The Company shall make endeavor to make payment within 30 days from the date of receipt of bill by Company.

2.1.6 Deviation in the payment terms will not be entertained and may lead to rejection of the offer.

2.2 PAYMENT OF GST

2.2.1 Payment of GST as applicable on the closing date of tender will be to bidder's / Contractor's account. Any statutory deviation (both plus and minus) in the rate of GST after the closing date of tender, as the case may be, as indicated above but within the contractual delivery/completion period will be to the account of AGCL.

2.2.2 Any increase in GST during extended period of the contract / supply order will be to bidder's / contractor's account where such an extension in delivery of the material / completion of the project is due to, and / or was on the request of bidder / contractor. However, any decrease in GST etc during extended period of the contract/ supply order will be to the account of AGCL.

3.0 PERFORMANCE SECURITY / PERFORMANCE BOND

3.1 The successful Bidder, within 15 (fifteen) days of the receipt of Work Order/ Award of Contract (AOC), will be required to submit Performance Security Bond for 10% of the contract value in the form of Bank Guarantee from a nationalized / scheduled Bank in favour of the purchaser valid for 60 days beyond scheduled completion period.

3.2. AGCL shall not be liable to pay any bank charges, commissions or interest on the amount of Performance Security/ Performance Bond. The Performance Guarantee will be returned on completion of contract in all respect/delivery period as per contract / supply order to the bidder after completion of supplies/after satisfactory execution of the order.

3.3 In the event of non performance of the contract, if the losses suffered by AGCL are more than the value of the Performance Security/ Performance bond, AGCL in addition to forfeiting the performance security/ performance bond, reserves the right to claim the balance amount of damages/losses suffered by AGCL.

3.4 The performance security/ performance bond shall remain at the entire disposal of AGCL as a security till the satisfactory completion of the entire work in accordance with the conditions of the contract. The proforma of performance bond is enclosed at Annexure-III.

4.0 COMPLETION TIME:

4.1 Supply & Delivery of three generators with common power supply panel and related accessories at AGCL Duliajan with all related accessories: **120 (One hundred and twenty) days from the date of issue of WO /Award of Contract** by Fax/Email etc.

4.2 Installation, Testing & Commissioning etc: **30 (Thirty) days from the date of acceptance of materials by AGCL at Duliajan OR formal handing over of site for installation of three generators with common power supply panel and related accessories whichever is later.**

5.0 LIQUIDATED DAMAGES

Time and date of delivery shall be the essence of the contract. If the contractor/bidder fails to deliver the stores, within the period fixed for such delivery in the schedule or at any time repudiates the contract before the expiry of such period, the purchaser may, without prejudice to any other right or remedy, available to him, recover damages for breach of the contract.

5.1 Recover from the Contractor/ bidder as agreed liquidated damages and not by way of penalty, a sum equivalent to 1/2% (half percent) of the total contract value per week for such delay or part thereof (this is an agreed, genuine pre-estimate of damages duly agreed by the parties) which the contractor has failed to deliver/ supply the materials in full within the period fixed for supply/ delivery in the schedule, where delivery thereof is accepted after expiry of the aforesaid period. It may be noted that such recovery of liquidated damages may be upto a ceiling of 5% of the total contract order price of the whole unit of stores which the contractor/ bidder has failed to deliver within the period fixed for delivery.

5.2 After the supply/ delivery of the whole unit of stores, recover from the Contractor/ bidder as agreed liquidated damages and not by way of penalty, a sum equivalent to 1/2% (half percent) of the total installation, testing and commissioning charge per week for such delay or part thereof (this is an agreed, genuine pre-estimate of damages duly agreed by the parties) which the contractor has failed to install, test and commission the three generators with synchronization and common power supply panel and related accessories in full within the period fixed for install, test and commission in the schedule, where commissioning thereof is accepted after expiry of the aforesaid period. It may be noted that such recovery of liquidated damages may be upto a ceiling of 5% of the installation, testing and commissioning charge which the contractor/ bidder has failed to install, test and commission within the period fixed for delivery.

5.3 In case of delay of more than 10 (ten) months in delivery of whole unit of stores at site from the date of receipt of work order, AGCL may cancel the contract/supply order thereof by serving prior notice to the contractor/ bidder and bank guarantee shall be forfeited.

5.4 Notwithstanding anything stated above, equipment and materials will be deemed to have been delivered only when all its components and parts are also delivered. If certain components are not delivered in time the equipment and material will be considered as delayed until such time all the missing parts are also delivered.

5.5 Liquidated damages will be calculated on the basis of contract/ supply order price of services/ materials excluding GST, where such GST have been shown separately in contract/supply order.

5.6 When the extension of time is required due to any delay on the part of AGCL, extension of delivery time for the period of such delay involved may be granted provided the firm produces documentary evidence of the delay.

6.0 AFTER SALES SERVICE & SUPPORT

Bidders shall give detail descriptions about the after sale service arrangement. Bidders shall provide details of servicing station along with name of key contact persons and telephone numbers.

7.0 LANGUAGE OF BID

The bid prepared by the bidder, as well as, all correspondence /drawings and documents relating to the bid exchanged by the bidder and the Purchaser shall be in English language only.

8.0 EVALUATION / COMPARISION & AWARDS

8.1 Assam Gas Company Ltd will evaluate and compare the bids which have been determined to be substantially responsive.

8.2 The destination (Assam Gas Company Limited, Duliajan, Assam-786602) prices shall be evaluated to arrive at the lowest bidder.

8.3 The Purchaser will place the order on the successful Bidder whose bid has been determined to be the lowest evaluated bid.

9.0 QUOTED PRICE

9.1 The price quoted by the Bidder in his Price-Bid shall be treated as the total price for the entire works covered and in accordance with all terms, conditions, stipulations, specifications, requirements and other contents of the Bid document. Wherever it is mentioned in the specifications that the Bidder shall perform certain works or provide certain facilities, it is understood that the Bidder shall do so at his cost and that the quoted price shall be deemed to have included cost of such performances and provisions, so mentioned.

9.2 The quoted price shall be deemed to include all taxes, duties, tools, tackles, consumable, mobilization, labour, transportation, loading-unloading equipment, accessories, materials carriage, cartage, hoisting, setting, fitting and fixing in position of all materials and equipment, disposal of wastage (including de-watering, de-sludging and allied operations at any stage of work) and all other labours and operations necessary whether specifically stated/implied or not, for the full and entire execution and completion of the relative works in all respects according to the contract, of all equipment with related accessories. GST must be shown separately.

9.3 The prices and amounts entered in the schedule of prices shall represent the Bidder's offer in accordance with the requirement.

10.0 OFFER PRICE

Basic Price quoted by the bidder shall be firm and remain fixed during the bidder's performance of the contract and not subject to variation on any account. All corrections and alterations in the entries shall be signed full by the bidder with date. No erasures or over-writing are permissible.

11.0 RESOLUTION OF DISPUTES / ARBITRATION

The Purchaser and the seller shall make every effort to resolve amicably any disagreement or dispute arising between them under or in connection with the contract. The rules of procedure for arbitration shall be as per Indian Arbitration and Conciliation Act 1996 or as amended. The Bidder shall comply with all local laws at their own cost and purchaser will not be indemnified. The Order shall be governed and interpreted in accordance with the applicable laws of India and Dibrugarh Courts in the State of Assam shall have exclusive jurisdiction.

12.0 FORCE MAJEURE

In the event of either bidder hereto being rendered unable, wholly or in part, by Force Majeure to carry out its obligations under contract, then on such bidder giving notice and full particulars of such Force Majeure in writing or by fax/email to AGCL as soon as possible after the occurrence of the cause unable as aforesaid but for no longer period and such cause shall as possible be remedied or obviated with all reasonable dispatch.
The term FORCE MAJEURE as employed herein shall mean any riots, strikes, lockouts, political disturbances, bandhs, wars, fires, floods, rain, storms, pandemic, lockdown or other Acts of God, inevitable accident or any other cause beyond control of and not reasonably foreseen by such bidder.

13.0 TRAINING

The offer shall contain free of cost training on the captive power plants to be supplied by the system manufacturer's OEM or authorized dealer to AGCL's generator set operating staff. Orientation program shall be of minimum 3 days duration and shall include both classroom and hands-on training at the location of installation of the Generating sets in Duliajan. Topics covered shall include control operation, schematics, troubleshooting, wiring and diagrams, meters, indicators, warning lights, shutdown system and routine maintenance.

14. PREBID MEETING

14.1 The bidder(s) or his representatives who intend to bid are invited to attend a pre bid meeting which will take place on date specified in the tender document. Bidder(s) queries if any, must reach AGCL office at least two days prior to pre bid meeting date. Queries may be mailed to agcl_pnu@agclgas.com

14.2 Non-attendance of the pre-bid meeting will not be a cause for disqualification of the bidder.

15.0 LOCATION OF INSTALLATION OF THREE GENERATORS AND COMMON POWER SUPPLY PANEL

AGCL Industrial area, P.O Duliajan, in the district of Dibrugarh, Assam. Pin-786602

16.0 The Company reserves the right of rejecting any or all bids accepting any bid in part, without assigning any reason.

Sd/-
Managing Director
Assam Gas Company Limited

PART-II::PRICE BID

Tender No: Elect/229/PGG/2022/111 Dated: 31.01.2023

JOB NAME: Supply, Installation, Testing and Commissioning of brand new 3 X 250 KVA, 415V, 50 Hz Natural Gas Engine Driven Generator Set(s) with synchronization arrangement and common power supply panel at Assam Gas Company Limited, Duliajan in the State of Assam.

Sl No	Item Description	Quantity	Unit	Unit Rate (In Rs)	GST (In Rs)	Total Amount (In Rs)
1	Supply of three numbers 250 KVA, 415V, 50 Hz natural gas operating genset with synchronization arrangement as per technical specifications mentioned in Part-B and single line diagram (Drawing no AGCL/Elect/GEG/001) **Ex Duliajan**	03	No			
2	Supply of common power supply panel with related accessories as per technical specifications mentioned in Part-B and single line diagram (Drawing no AGCL/Elect/GEG/001) **Ex Duliajan**	01	No			
3	Installation, Testing and Commissioning charge of three genset with synchronization arrangement including common power supply panel and related accessories at AGCL, Duliajan as per single line diagram(Drawing no AGCL/Elect/GEG/001)	01	Job			
					TOTAL (In figure)	
TOTAL (In words):						

NOTE: The prices quoted shall be firm and must include all charges as mentioned under 9.2 of PART-C of Techno-Commercial Bid. GST must be shown separately.

Sd/-
Managing Director
Assam Gas Company Limited

ANNEXURE-I

Tender No: Elect/229/PGG/2022/111 Dated: 31.01.2023

JOB NAME: Supply, Installation, Testing and Commissioning of brand new 3 X 250 KVA, 415V, 50 Hz Natural Gas Engine Driven Generator Set(s) with synchronization arrangement and common power supply panel at Assam Gas Company Limited, Duliajan in the State of Assam.

TECHNICAL CHECK LIST

THE CHECK LIST MUST BE COMPLETED AND RETURNED WITH YOUR OFFER. PLEASE ENSURE THAT ALL THESE POINTS ARE COVERED IN YOUR OFFER. THESE WILL ENSURE THAT YOUR OFFER IS PROPERLY EVALUATED. PLEASE TICK MARK 'YES' OR 'NO' TO THE FOLLOWING QUESTIONS, IN THE RIGHT HAND COLUMN.

SL NO	DESCRIPTION	COMMENT	REMARKS
1	Whether quoted as OEM of Engine and whether documentary evidence submitted?	YES/NO	
2	Whether quoted as OEM of Alternator & whether documentary evidence submitted?	YES/NO	
3	Whether quoted as OEM of Genset & whether documentary evidence submitted?	YES/NO	
4	Whether quoted as Authorized Dealer of OEM (Engine/Alternator/ Genset) andwhether documentary evidence submitted?	YES/NO	
5	Whether After-sale Service Centre for the engine offered located in India?	YES/NO	
6	Whether detail specification of engine with manufacturer's technicalliterature/catalogue enclosed?	YES/NO	
7	Whether detail specification of Alternator with manufacturer's technicalliterature/catalogue enclosed?	YES/NO	
8	Whether test certificate of Alternator and Control Panel shall be submitted?	YES/NO	
9	Whether power and Wiring diagram of Alternator Control Panel submitted?	YES/NO	
10	Whether bill of Materials of Control Panel submitted?	YES/NO	
11	Whether confirmed that control panel drawing shall be approved by AGCL before manufacturing in the event of placement of order?	YES/NO	
12	Whether offered engine is as per NIT specifications?	YES/NO	
13	Whether quoted for supply, installation, commissioning & Test run at site of generator set?	YES/NO	
14	Whether the Generator Set is rated in the 250 kVA at 0.8PF, 415Volts AC 3 Phase50Hertz Prime Duty?	YES/NO	
15	Whether the engine and the Gen set design is as per ISO 3046/BS5514/ISO8528standards?	YES/NO	
16	Whether documentary evidence i.e. (i) Purchase Order Copies, (ii) Invoices, (iii)Satisfactory supply/ completion / Installation report for the supplies made against the past orders for the specified engine driven generator sets submitted with the technical bid?	YES/NO	
17	Whether undertaking and confirmation from OEM that the equipment to be supplied are not going to become obsolete for the next 10 years and whether spare parts for 10 years shall continue to be supplied at the least?	YES/NO	
18	Whether undertaking/ certificate from the engine	YES/NO	

	OEM/Generator Set OEM certifying the block load capability of the engine/generator submitted with the technical bid?		
19	Whether undertaking/ certificate from the engine OEM certifying the rated outputvis-a-vis compression ratio and RPM of the engine submitted with the technical bid?	YES/NO	
20	Whether undertaking/ certificate from the engine manufacturer in support of theengine rating and output is submitted?	YES/NO	
21	Whether Composite Operation Manual for the Generator Set Complete and Trouble Shooting Chart shall be supplied along with the Order?	YES/NO	
22	Whether Engine Shop Manual (Engine Rebuilding Manual) and Parts Manual shall besupplied with the Order?	YES/NO	
23	Whether spare parts of engine, gas train etc for two years operation and maintenance shall be supplied along with the order and list of such spares submitted with the technical bid?	YES/NO	
24	Whether the content of this Check List is read and responded?	YES/NO	
25	Whether price of mandatory spares considered	YES/NO	

Signature of Bidder/ Authorized Person:

Seal of the company:

ANNEXURE-II

Tender No: Elect/229/PGG/2022/111 Dated: 31.01.2023

JOB NAME: Supply, Installation, Testing and Commissioning of brand new 3 X 250 KVA, 415V, 50 Hz Natural Gas Engine Driven Generator Set(s) with synchronization arrangement and common power supply panel at Assam Gas Company Limited, Duliajan in the State of Assam.

COMMERCIAL CHECK LIST

THE CHECK LIST MUST BE COMPLETED AND RETURNED WITH YOUR OFFER. PLEASE ENSURE THAT ALL THESE POINTS ARE COVERED IN YOUR OFFER. THESE WILL ENSURE THAT YOUR OFFER IS PROPERLY EVALUATED. PLEASE SELECT "Yes" OR "No" TO THE FOLLOWING QUESTIONS, IN THE RIGHT HAND COLUMN.

1.0	Whether bid submitted under Single Stage Two Bid System?	YES/NO	REMARKS
2.0	Whether quoted as from competent and Original Equipment Manufacturers (OEM) or Authorized distributors/ Authorized Dealers/ Indian Companies/Authorized Contractor of Appropriate class having similar experience in Govt. organization	YES/NO	
3.0	Whether offered firm prices?	YES/NO	
4.0	Whether confirmed acceptance of tender Payment Terms?	YES/NO	
5.0	Whether Price submitted as per Price Schedule?	YES/NO	
6.0	Whether quoted as per NIT (without any deviations)?	YES/NO	
7.0	Whether quoted any deviation?	YES/NO	
8.0	Whether deviation separately highlighted?	YES/NO	

Signature of Bidder/ Authorized Person:

Seal of the company:

ANNEXURE-III

PROFORMA OF BANK GUARANTEE FOR CONTRACT PERFORMANCE GUARANTEE (On non – judicial paper of appropriate value)

To,
Assam Gas Company Limited,
P.O. Duliajan
Dist: Dibrugarh
Assam: 786602

Dear Sir (s),

M/s…… have been awarded the work of …….....
For Assam Gas Company Limited, P.O. Duliajan, Dist. Dibrugarh, Assam – 786602.

The Contracts conditions provide that the CONTRACTOR shall pay a sum of Rs……..

(as full Contract Performance Guarantee in the Form therein mentioned. The form of payment of Contract Performance Guarantee includes guarantee executed by nationalized bank, undertaking full responsibility to indemnify Assam Gas Company Limited, in case of default.

The said ……has approached us and at their request and in consideration of the premises we having our office at…….....
Have agreed to give such guarantee as hereinafter mentioned.

1. We…….. here by undertake and agree with you that if default shall be made by M/s…….. …….. in performing any of the terms and conditions of the tender or in payment of any money payable to Assam Gas Company Limited, We shall on demand pay without any recourse to the contractor to you in such manner as you may direct the said amount of ……..only or such portion thereof not exceeding the said sum as you may from time to time require.

2. You will have the full liberty without reference to us and without affecting this guarantee, postpone for any time or from time to time the exercise of any of the power and rights conferred on you under the contract with the said ……..and to enforce or to forbear from endorsing any powers or rights or by reason of time being given to the said…… which under law relating to the sureties would but for provision have the effect of releasing us.
3. Your right to recover the said sum of Rs ……(……) from us in manner aforesaid will not be affected or suspended by reason of the fact that any dispute or disputes have been raised by the said M/s……and / or that any dispute or disputes are pending before any officer, tribunal or court.

4. The guarantee herein contained shall not be determined affected by the liquidation or winding up dissolution or changes of constitution or insolvency of the said but shall in all respects and for all purposed be binding and operative until payment of all money due to you in respect of such liabilities is paid.

5. This guarantee shall be irrevocable and shall remain valid up to ……., if any further extension of this guarantee is required, the same shall be extended to such require period on receiving instruction from M/s……..on whose behalf this guarantee is issued.

6. The Bank Guarantees payment of an amount is payable on demand and in any case within 48 hours of the presentation of the letter or invocation of Bank Guarantee should the banker fail to release payment on demand, penal interest of 18% per annum shall become payable immediately and any dispute arising out of or in relation to the said Bank Guarantee shall be subject to the jurisdiction of Dibrugarh Courts.

7. We have power to issue this guarantee in your favour under Memorandum and Article of Association and the undersigned has full power to do under the power of Attorney dated…… granted to him by the Bank.

Yours faithfully,

…… Bank

By its Constituted Attorney

Signature of a person duly authorized
to Sign on behalf of the bank

ANNEXURE-IV

FORMAT FOR EXEMPTIONS AND DEVIATIONS

Tender No: Elect/229/PGG/2022/111 Dated: 31.01.2023

JOB NAME: Supply, Installation, Testing and Commissioning of brand new 3 X 250 KVA, 415V, 50 Hz Natural Gas Engine Driven Generator Set(s) with synchronization arrangement and common power supply panel at Assam Gas Company Limited, Duliajan in the State of Assam.

Bidder is required to comply with the requirements of the Bid Document (including corrigendum(s) / addendum(s) etc. if any), and not to stipulate any exceptions or deviation.

In case it is unavoidable, Bidder may stipulate exceptions and deviations to bid requirements only as per the format below and enclose this with Part – I : TECHNO COMMERCIAL BID

Sl. No.	Bid Document Preference		Subject	Deviation
	Page No.	Clause No.		

(SIGNATURE OF BIDDER)

ANNEXURE-V

Tender No: Elect/229/PGG/2022/111 Dated: 31.01.2023

JOB NAME: Supply, Installation, Testing and Commissioning of brand new 3 X 250 KVA, 415V, 50 Hz Natural Gas Engine Driven Generator Set(s) with synchronization arrangement and common power supply panel at Assam Gas Company Limited, Duliajan in the State of Assam.

TECHNICAL DATASHEET

SL. NO.	DESCRIPTION	BIDDER'S OFFER
1	Make & Model of offered Generating Set	
2	Typical Maximum Prime Power Rating at 50Hz(0.8 P.F.), kW:	
3	Output Voltage and Frequency:	
4	Power Factor:	
5	No. of Phases:	
6	Over all Dimensions, MM:	
7	Dry Weight:	
8	Performance in 40^0C air, 150 MSL, Prime power rating at 0.8 power factor (KW)/ kVArating:	
9	Fuel consumption at standard conditions for: 50%, 75% and 100% load	
10	Exhaust gas components; % NOX, % SO, Tons particulate/yr/mo at 50%, 100% load	
11	Verification of 10% overload capability	
	ENGINE	
1	Make/Model:	
2	No. of cylinders:	
3	Aspiration:	
4	Bore:	
5	Stroke:	
6	Displacement, Litre:	
7	Engine Output Prime, kWH (Max):	
8	Piston Speed, m/s:	
9	Brake Mean Effective Pressure(BMEP), kPa:	
10	Engine Rating (BHP) at 1500RPM and Piston Compression Ratio:	
11	Natural Gas Consumption for Gas Calorific Value:(970BTU/CFT or 8632kCal/M3) SCM/Hr.	
12	Exhaust Temperature (Stack)^{0}C	
13	Maximum Exhaust backpressure value for operation	
14	Energy Input, kW:	
15	Energy Output, kW:	
16	Heat Rejected to Jacket Water, kW:	
17	Heat Rejected to After-cooler LTA Circuit, kW:	
18	Heat Rejected to Exhaust, kW:	
19	Heat Rejected to Ambient+ Unaccounted, kW:	
20	Air Flow in Litre/sec:	
21	Exhaust Gas Flow, Litre/sec:	
22	Exhaust System Permissible Back Pressure, mm Hg:	
23	Engine Water Flow, Litre/Min:	
24	After Cooler Circulating Water Flow, Litre/Min:	
25	Main Line Pipe size, MM:	
26	Main Line Gas Pressure, Kg/CM2	
27	Engine Dimension, L x B x H:	
28	Dry Weight of the Engine without Cooling System:	
29	Governing system	

30	Type of governor	
31	Accuracy	
32	Engine protection details	
33	Method of starting	
	RADIATOR	
1	Model/Type	
2	Coolant Capacity	
3	Horsepower required to run the radiator fan	
	ALTERNATOR	
1	Make's name	
2	Rated KVA	
3	Power factor	
4	Rated voltage	
5	Rated current	
6	Speed in rpm	
7	Frequency	
8	No. Of phase	
9	Overload capacity	
10	Class Of insulation	
11	Type of enclosure	
12	Voltage regulation	
13	Direction of rotation	
14	Type of bearing	
15	RTD's provided (no)	
16	Model	
17	Frame	
18	Insulation class	
19	Number of Leads	
20	Weight, total	
21	Weight, rotor	
22	Air Flow	
23	At rated voltage:	
24	Efficiency at 0.8 power factor for: 50% load, 75% load, 100% load	
25	Fault current, 3 phase symmetrical	
26	Decrement curve	

(SIGNATURE OF BIDDER)

ANNEXURE-VI

BLACKLISTING/ HOLIDAY LISTING

Bidders who are on holiday list by any Govt. Organization/ PSU will not be considered. Accordingly, the bidder shall submit a self-declaration as per format below. It may be noted that if this declaration is found to be false, AGCL shall have the right to reject bidder's offer, and if the bid has resulted in a contract, the contract is liable to be terminated.

PRO-FORMA FOR SELF DECLARATION OF BLACK LISTING / HOLIDAY LISTING

Tender No: Elect/229/PGG/2022/111 Dated: 31.01.2023

JOB NAME: Supply, Installation, Testing and Commissioning of brand new 3 X 250 KVA, 415V, 50 Hz Natural Gas Engine Driven Generator Set(s) with synchronization arrangement and common power supply panel at Assam Gas Company Limited, Duliajan in the State of Assam.

We hereby declared that we are not currently serving any holiday listing orders issued by Govt. Organization/ PSU Companies debarring us from carrying on business dealings with Govt. Organization/ PSU.

It is understood that any wrong declaration in this context shall make my agency / company liable for action as deemed by AGCL.

Signature of Bidder/ Authorized Person:

Seal of the company:

ANNEXURE-VII

Tender No: Elect/229/PGG/2022/111 Dated: 31.01.2023

JOB NAME: Supply, Installation, Testing and Commissioning of brand new 3 X 250 KVA, 415V, 50 Hz Natural Gas Engine Driven Generator Set(s) with synchronization arrangement and common power supply panel at Assam Gas Company Limited, Duliajan in the State of Assam.

AGREED TERMS AND CONDITIONS

NAME OF THE BIDDER:

BID REFERENCE NO WITH DATE:

AUTHORIZED CONTACT PERSON:

Email id: Mobile No.

Duly filled, signed & stamped copies of this "questionnaire" shall be enclosed with techno-commercial. Failure on the part of bidder in not returning this duly filled-up questionnaire with unpriced quotation and/or submitting incomplete replies may lead to rejection of bidder's quotation.

Sl. No.	DESCRIPTION	BIDDER'S CONFIRMATION
01.	CPCB-II compliance certificates submitted for emission and noise level.	
02.	Evaluation will be done on "OVERALL LOWEST OFFER BASIS" and items are NOT SPLITABLE.	
03.	For supply of materials please confirm that you have quoted price on FOR AGCL, Duliajan site basis; separately indicating Price of Generators, Panel (Ex-Duliajan) and GST (in %) in the "BoQ/Priced Bid" in "XLS" format. For installation and commissioning part, please confirm that the price quoted shall be collectively for all the three gensets with synchronization arrangement and common power supply panel at AGCL Duliajan; separately indicating Price of installation and commissioning (Ex-Duliajan) and GST (in %) in the "BoQ/Priced Bid" in "XLS" format.	
04.	Where any field in the online priced bid (BoQ) is left blank or =0, the charge, tax or duty shall be considered as either inclusive, nil or not applicable. Charges quoted elsewhere may be ignored in priced bid evaluation and shall not be borne by AGCL. Bidders are strictly advised not to submit any additional offer documents mentioning commercial terms and conditions beyond the documents and forms published along with this tender. No subsequent revision in the BoQ is possible after final submission. Any services, charges, taxes and duties left unquoted shall be deemed to be inclusive in the quoted price. Ambiguity/contradiction/lack of clarity may lead to rejection at any stage of the tender without further notice.	

05.	Benefits To Micro And Small Enterprises (MSE)- Applicable	
06.	Arrangement of Transportation up to AGCL, Duliajan site and Transit Risk Insurance and insurance of the materials till formal commissioning at site are in bidder's scope.	
07.	It will be the sole responsibility of the bidder to arrange for third party and AGCL testing and submit the testing certificate along with dispatch documents. No time extension shall be allowed by AGCL for any delay/lapse in this regard.	
08.	GST Implication (As per clause no 2.2 of PART-C of Commercial Terms & Conditions)	
09.	PAYMENT TERMS (As per clause no 2.1 of PART-C of Commercial Terms & Conditions) 1. 80% of the total equipment value (three generators along with common power supply panel and related accessories) shall be released after inspection of the total package at Duliajan within 30 days. 2. 10% of the total equipment value (three generators along with common power supply panel and related accessories) shall be released after successful commissioning of the package or 2 (two) months from the date of receipt of equipment at site whichever is earlier. 3. 100 % of Installation, Testing & Commissioning charges will be released within 30 (Thirty) days after successful commissioning and handing over of the three generators with synchronization and common power supply panel including all accessories to AGCL and submission of invoices in triplicate. All the three generators with synchronization and common power supply panel including all related accessories shall have to be installed for payment and part installation of the same shall not be accepted. 4. 10% of total equipment value (three generators along with common power supply panel and related accessories) shall be retained as security deposit and shall be released after submission of bank guarantee of equivalent amount for the warranty period. Note: Deviation to payment term may lead to rejection of offer.	
10.	COMPLETION TIME (As per clause no 4.0 of PART-C of Commercial Terms & Conditions): 1. Supply & Delivery of three generators with common power supply panel and related accessories at AGCL Duliajan with all related accessories: **120 (One hundred and twenty) days from the date of issue of WO /Award of Contract** by Fax/Email etc. 2. Installation, Testing & Commissioning etc: **30 (Thirty) days from the date of acceptance of materials by AGCL at Duliajan OR formal handing over of site for installation of three generators with common power supply panel and related accessories whichever is later.**	
11.	TECHNICAL TERMS & CONDITIONS: For detailed specifications of items, technical terms & conditions, refer PART-B of Techno Commercial Bid. For conceptual drawing of the captive power plant, refer drawing no. AGCL/ Elect/ GEG/001 Bidders are requested to read carefully all the Technical Specification and quote accordingly.	

12.	PBG of 10% of the order value shall be submitted within 15 (fifteen) days upon receipt of work order as per Annexure-III format. The PBG or the equivalent withheld amount shall be released after issue of "Final Job Completion Certificate"	
13	Liquidated damage clause for delay in delivery/ installation and commissioning (As per clause no 5.0 of PART-C of the Commercial Terms & Conditions).	
14.	Bid shall remain valid for periods of 180 days from the date of techno-commercial bid opening.	
15.	Quoted prices shall remain firm and fixed till complete execution of the order.	
16.	Vendor shall guarantee/ warranty AGCL against any and all defects in design, workmanship of material and performance for a period of 12 months from the date of commissioning or 18 months from the date of delivery, whichever expires first. Should any defects develop during the guarantee/ warranty period, it should be remedied promptly free of cost by the vendor and all expenses for transportation of goods necessitated for such repairs or replacement shall be borne by the vendor. The guarantee/warranty period for such repaired/replaced goods shall again be 12 months from the date of commissioning/installation	
17.	Please indicate your GST registration no.	
18.	Printed terms and conditions, if any, submitted with the quotation shall be ignored and shall not be applicable in the event of order. In case of contradiction between the confirmations given above and terms & conditions mentioned elsewhere in the offer, the confirmation given herein above shall prevail.	
19.	Any increase/ decrease in price submitted by bidder after submission of offer without any query will be treated as unsolicited No price implication shall be permitted against technical / commercial queries, which are clarificatory in nature without involving any change in scope / specifications. In case any vendor gives price increase, the bidder shall be advised to withdraw such price increase, and if the vendor does not accept to withdraw price increase, his bid for corresponding item will be rejected. In case of unsolicited price decrease, the bidder offer shall be compared as per originally quoted prices and if the bidder happens to be the recommended bidder, the decrease in prices shall be taken into account for ordering.	
20.	Bidder should upload all the pages of tender document with seal & signed.	
21.	Conditions not covered above shall be as per AGCL's Tender Document	
22.	Please indicate the following: a. Despatch Point of the goods (Location): b. Mode of despatch of goods (Rail/ Road/ any other means):	a. b.
23.	All the material supplied by the vendor shall be brand new, unused and of recent manufacture.	

24.	Vendor warrants that all goods, Materials covered by this order have been produced, sold, dispatched, delivered and furnished in strict compliance with all applicable laws, regulations, labour agreement, working condition and technical codes and statutory requirements as applicable from time to time. The vendor shall ensure compliance with the above and shall indemnify owner against any actions, damages, costs and expenses of any failure to comply as aforesaid.	
25.	Vendor must quote for all the items as per BOQ. Part proposal will not be accepted. In any case, partial order shall not be placed. The vendor who is technically and commercially suitable for the items mentioned in this bid shall only be considered. Priced offer shall be opened for only technically & commercially acceptable offers. Bidder who is overall lowest for all the items as per tender / BOQ shall be considered for placement of order.	

NAME OF BIDDER:

SIGNATURE OF BIDDER/ AUTHORIZED PERSON WITH DATE:

COMPANY SEAL:

NOTE: Bidders are to write CONFIRM/ NOT CONFIRM/ NOTED in the above table as applicable.

ANNEXURE-VIII

Tender No: Elect/229/PGG/2022/111 Dated: 31.01.2023

JOB NAME: Supply, Installation, Testing and Commissioning of brand new 3 X 250 KVA, 415V, 50 Hz Natural Gas Engine Driven Generator Set(s) with synchronization arrangement and common power supply panel at Assam Gas Company Limited, Duliajan in the State of Assam.

DECLARATION LIST

I/We, ... Certify that all the above submitted data and information pertaining to this proposal are correct and are true representation of the offer covered by our formal Proposal No. ..... dated..... Against your Tender No ……..Date: ……

I/We, hereby certify that I/We am/are duly authorised representative/s of the Bidder whose name/s appears above my/our Signature.

Bidder's Name	.....
Authorised Representative's Signature/s	.....
Authorised Representative's Name/s	.....
Bidder's Intent	The Bidder hereby agrees fully to comply with the requirements and intent of this specification.
Authorised Representative's Signature/s	.....

SEAL OF THE COMPANY

Signature/s .....

Name/s .....

Designation/s .....

NB: This letter of authority shall be on printed letter head of the Bidder and shall be signed by a person competent and having the power of attorney (power of attorney shall be annexed) to bind such Bidder.

ANNEXURE-IX

Tender No: Elect/229/PGG/2022/111 Dated: 31.01.2023

JOB NAME: Supply, Installation, Testing and Commissioning of brand new 3 X 250 KVA, 415V, 50 Hz Natural Gas Engine Driven Generator Set(s) with synchronization arrangement and common power supply panel at Assam Gas Company Limited, Duliajan in the State of Assam.

EXPERIENCE LIST

The Bidder shall tabulate below a list of his experience with as much details as possible, name of Customer, year of execution of works and cost and other information. Bidder shall follow this format and shall be included in the Bid Evaluation Criteria part.

NAME OF CUSTOMER	CUSTOMER ADDRESS AND CONTACT DETAILS WITH PHONE NUMBER	WORK ORDER. NO & DATE	TYPE OF WORK AND FINANCIAL VALUE	COMPLETION DATE	REMARKS

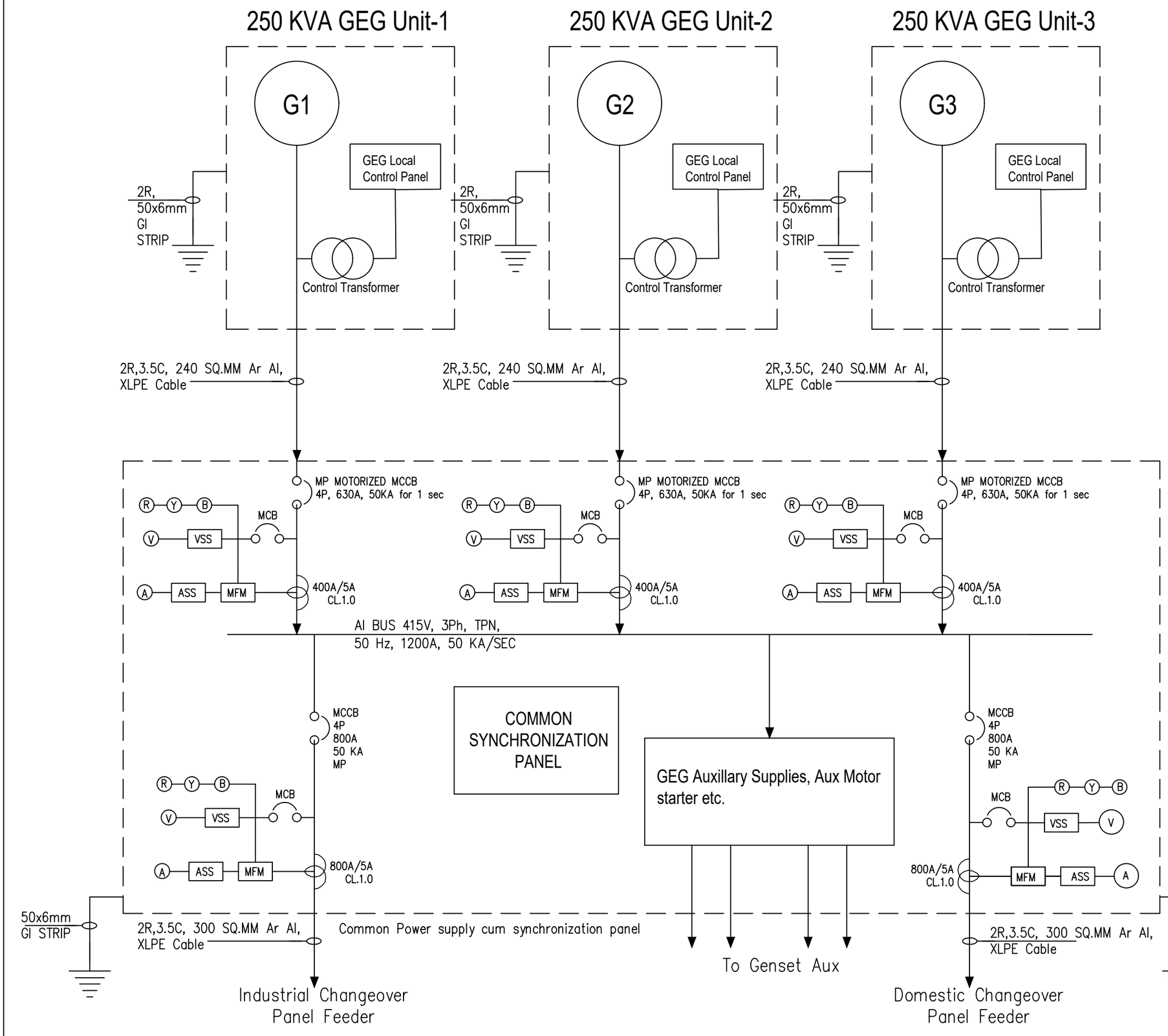
SEAL OF THE COMPANY

Signature

Name

Designation

NB: Documentary evidence in support of the above should be submitted at the time of bid submission.



LEGENDS	
SYMBOL	DESCRIPTION
	MOLDED CASE CIRCUIT BREAKER/ MINIATURE CIRCUIT BREAKER
MFM	MULTI FUNCTIONAL METER
VSS	VOLTAGE SELECTOR SWITCH
ASS	AMPERE SELECTOR SWITCH
V	VOLTMETER
A	AMMETER
	CURRENT TRANSFORMER
R Y B	PHASE INDICATOR
MP	MICROPROCESSOR RELEASE

IMPORTANT NOTE :

1. ELECTRICAL PROTECTION REQUIREMENTS IN EACH ALTERNATOR- EARTH FAULT, OVER CURRENT OR SHORT CIRCUIT, NEGATIVE SEQUENCE, REVERSE POWER PROTECTION, OVER VOLTAGE, UNDER & OVER FREQUENCY THROUGH A SUITABLE GENERATOR PROTECTION RELAY.
2. COMMON POWER SUPPLY PANEL SHALL CONFORM TO IS/IEC 61439
3. SYNCHRONIZATION PANEL SHALL HAVE ALL THE CONTROL OF GEG UNITS(EG. VOLTAGE RAISE/ LOWER, SPEED RAISE/LOWER, AUTOMATIC REACTIVE POWER TRANSFER, FREQUENCY RAISE/ LOWER ETC.) WHICH ARE ESSENTIAL FOR SYNCHRONIZATION OF ALTERNATORS, ALONG WITH ESSENTIAL METERINGS LIKE SYNCHRONOSCOPE, VOLTMETER, FREQUENCY METER ETC.
4. ALL MCCBs MUST HAVE O/L, S/C, E/F (LSING) PROTECTION WITH MICROPROCESSOR RELEASE CONFORMING TO IS/IEC 60947-2.
5. ALL KA RATING MENTIONED ARE AT 415V AC.
6. CABLE GLAND, LUG ETC. SHALL BE PROVIDED BY BIDDER AS PER CABLE SIZE MENTIONED

NOTE: IT IS A CONCEPTUAL DRAWING ONLY. ACTUAL DRAWING TO BE DEVELOPED DURING DETAILED ENGINEERING. ALL THE REQUIREMENTS MENTIONED IN THIS DRAWING MUST BE INCORPORATED IN THE ACTUAL DESIGN

ASSAM GAS COMPANY LTD

DRAWING DESCRIPTION : SLD 3 X 250 KVA CAPTIVE POWER PLANT

TENDER NO: Elect/229/PGG/2022/111 Dated: 31.01.2023

DRAWING NO: AGCL/ Elect/ GEG/001

DRAWN BY: SAH	APPROVED BY: PKD