



ASSAM ELECTRICITY GRID CORPORATION LIMITED

OFFICE OF THE MANAGING DIRECTOR

Regd. Office:(FIRST FLOOR), BIJULEE BHAWAN, PALTANBAZAR; GUWAHATI - 781001

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CORRIGENDUM-II

Bid Identification No.: AEGCL/MD/Tech-868/Amingaon GIS/2022/Retender/BID

IFB No.: AEGCL/MD/Tech-868/Amingaon GIS/2022/Retender/IFB, dtd 08.12.2022

NIT No.: AEGCL/MD/Tech-868/Amingaon GIS/2022/Retender/NIT, dtd 08.12.2022

Corrigendum-I No: AEGCL/MD/Tech-868/Amingaon GIS/2022/Retender/22, dtd 26.12.2022

Name of Work: "TURNKEY CONSTRUCTION OF 2X50 MVA, 132/33KV GIS (GAS INSULATED SUBSTATION) AT EXISTING 220/132KV AMINGAON GIS."

With reference to the aforementioned Bid Identification, IFB, NIT & Corrigendum-I No. the following points may kindly be noted:

1. The reply to bid queries submitted by bidders up to clarification end date of 29.12.2022 are attached as Annexure-I

2. The following may be noted with regard to the BOQ uploaded in the e-tender portal. (Annexure-II, for reference)

- The revised BOQ has been uploaded in the E-Portal as an excel file of name BOQ_44778 along with CORRIGENDUM-II. Bidder is requested to download this BOQ attached with CORRIGENDUM-II and submit the same as a part of their price bid.
- The earlier BOQ uploaded along with original bid shall remain in the system, but that should not be considered.
- **Bidders are requested to exercise caution and only use BOQ_44778 issued along with CORRIGENDUM-II.**
- If anyone has already submitted the bid which is inconsistent with the aforesaid corrigendum, may rectify the bid and resubmit the same complied the aforesaid corrigendum.

All other terms and conditions shall remain same.

Sd/-

Chief General Manager (PP&D)

Assam Electricity Grid Corporation Ltd

Bijulee Bhawan, Paltanbazar, Guwahati –1

Memo No. AEGCL/MD/Tech-868/Amingaon GIS/2022/Retender/27

Dated:03.01.2023

Copy to:

1. The AGM -IT, O/o the MD, AEGCL, for publication of the notice in AEGCL's Website.

SD/-

Chief General Manager (PP&D)

Assam Electricity Grid Corporation Ltd

Annexure-I

ELECTRICAL_Bid_Queries				
S.NO.	Name of the Document	CLAUSE	BIDDER's QUERIES	Response from AEGCL
1	Volume-II, Section-I Technical Specification	Clause 121.2, Type test reports	As per referred clause, Test reports to be acceptable must be related directly to the equipment offered i.e. it is fully identical in design, rating and construction with the equipment for which the type test certificates have been submitted. We request you to kindly accept "Type test reports applicability shall be decided based on IEC standards". Please confirm.	Not accepted. Shall be as per bid.
2	Volume-II, Section-I Technical Specification	Clause 121.3, Type test reports	As per referred clause, Type Test Reports older than ten (10) years on the date of technical bid opening shall not be accepted. We request you to kindly accept validity of extension for type test reports in line with CEA notification. Please confirm.	Accepted
3	Volume-II, Section-I Technical Specification	General	Fault duration of 3 second has been mentioned for 145kV system. For 3 second duration, we propose to offer equipment rated as per type tested design of equipment available with OEMs. Please confirm.	Fault duration shall be of 3 second. Other equipment ratings shall be as per bid. However, if any change in rating is required, then the same shall be taken up during detailed engineering with proper justification for the same.
4	Volume-II, Section-I Technical Specification	Clause ii), 4.4.0	No clause is available for dynamic effect of short circuit for 132kV class transformer.	Dynamic effect of short circuit test clause for 132kV will be included as corrigendum alongwith the bid document. Further, it is to mention that, the transformer to be procured under this project shall be in line with that of the reference transformer upon which the dynamic short circuit test has been conducted. Here the reference transformer means the transformer upon which the dynamic short circuit test has been conducted and the report of which will be submitted alongwith the tender. The similarity parameters of the procured and the reference transformer shall be as per Annexure-J of CEA guidelines "Standard specifications and technical parameters for transformers and reactors (66kV & above voltage class). Further, the reference transformer should have been successfully tested for dynamic short circuit withstand capability within last 5 years.
5	Volume-II, Section-I Technical Specification	Clause 4.6.1.0	"For the purpose of penalty computation, the test figures of the no-load and the total losses of each transformer will be compared with the corresponding guaranteed figures." We understand that penalty on losses on No load, Load and auxiliary losses shall be applicable inline with CBIP manual on transformers. Please confirm.	Transformer losses shall be as per latest version of CEA guideline, " Standard specifications and technical parameters for transformers and reactors (66kV & above voltage class)"
6	Volume-II, Section-I Technical Specification	Clause 1.6.0	Please confirm required creepage for scope substation is 25mm/kV.	Creepage distance shall be 31mm/kV
7	Volume-II-SECTION-10	6.3. Duty Requirements: Circuit breaker shall be C2 - M2- E2 class as per IEC 62271-100	As per IEC 62271-100, E2 Class is not applicable for circuit breakers above 52kV. Kindly accept.	Accepted
8	Volume-II, Section-1, Sub Clause-1.21.4	Tests are conducted in KEMA/NABL accredited laboratory, for GOOSE messaging etc. as per relevant IEC 61850 Standards.	We understand that type tests done in Accredited Labs outside India shall also be acceptable. Please confirm.	Accepted. However, proper accreditation certificates shall be furnished alongwith the tender document. However, IEC 61850 testing shall be done as per the directives issued by the Ministry of Power.

S.NO.	Name of the Document	CLAUSE	BIDDER's QUERIES	Response from AEGCL
9	Volume-II, Section-6, Sub Clause-6.15.2 k (iii)	Disturbance records - The relay shall have capacity to store disturbance records of at least 10 sec. duration and sampling rate per cycle shall be more than 15.	We propose to offer numerical relays with sampling rate of 15 per cycle, please confirm.	Not accepted. Shall be as per bid.
10	Tender specification	VFTO, Insulation co-ordination and selection of surge arrester	Kindly exclude the same from bidders scope.	VFTO study shall be in bidder's scope of work. Insulation coordination study is not required.
11	GIS Tender specification	CT Parameters	In tender specification following CT parameters are not mentioned . Knee point voltage, excitation current and secondary resistance(Rct). Please provide the same.	The primary side CT ratio is 600-300 A for this project, Hence, the knee point voltage for 600A ratio shall be minimum 600V and for 300A ratio shall be minimum 300V. Excitation current and secondary resistance values shall be as per CT design. However, CT sizing calculation shall be submitted during detailed engineering.
12	Illumination	Outdoor and Indoor lighting (except 33kV switchgear building)	As per tender drawings we understand that GIS hall , FFPH are existing so no illumination is envisaged under present scope, please confirm.	A lightning mast (LM-2, height 40 metres) is present near the proposed 33kV switchgear building in the existing switchyard. The bidder shall check whether lightning facility is present or not in the exiting LM. If the same is present, the bidder shall perform the lux calculation for the switchyard to be constructed under this project and if the existing illumination system is sufficient enough then no outdoor illumination is required for this project. If after calculation, sufficient illumination is not obtained for the entire area, then illumination system shall be designed accordingly for the switchyard and price for the same shall be quoted in the respective BoQ item. Indoor illumination for the 33kV switchgear room is required. No illumination is required in GIS hall and FFPH
13	DSLPL	Lightening Protection	As per tender drawings we understand that complete station must be covered under existing DSLP protection, so no item required in BOQ serial number 3.40. Kindly confirm.	DSLPL for 33kV switchgear building room shall be considered and the price for the same shall be quoted in serial no. 3.40
14	TS 33kV VCB Indoor Switchgear	TS 33kV VCB Indoor Switchgear	We understand that "Bus Sectionalizer" current rating shall be 1600A. Please confirm.	Confirmed
15	Volume-II	Availability of Sieyuan supervisor & Tools to operate existing Sieyuan GIS	We request customer to kindly make available Sieyuan supervisor at site for entire duration of coupling of present GIS to existing GIS. Also, the tools, consumables, required to open existing GIS shall be scope of customer/ Sieyuan. Any charges occurring on account of Sieyuan supervisor and tools shall be borne by purchaser. Please confirm.	As per Tender.
16	Volume-II, Section-10, Sub Clause 11.2	Insulation co-ordination and selection of surge arrester: The contractor shall be fully responsible for complete insulation co-ordination of switchyard including GIS.	We request you to kindly exclude/delete the clause for Insulation co-ordination and selection of surge arrester for bidder's scope of work. Please confirm.	Accepted.
17	BOQ Line Item no. 2.55 & 3.26 of BOQ 1 & BOQ 2	In line item 2.55, Complete Substation Automation for 2 nos. 132kV Transformer bays are required while 2.56, integration of existing SAS is mentioned. In Line Item 3.26, Complete Substation Automation of 11no. 33kV feeders are mentioned alongwith integration of existing SAS.	We understand that Complete Substation Automation is already there in the substation. So, only integration is required for both 132kV & 33kV system. Complete Automation System is not applicable. Please advice on our understanding.	The Item Dscription of Item Sl. No. 2.55 of BoQ1 may be read as:- Necessary Hardware, Software and License for Modification/ Upgradation of the existing SAS (including transmittal of telemetry data for HV & LV side of both the Transformer) for 132 kV System. The Item Dscription of Item Sl. No. 2.55 of BoQ1 may be read as:- Necessary Hardware, Software and License for Modification/ Upgradation of the existing SAS for 33kV System

S.NO.	Name of the Document	CLAUSE	BIDDER's QUERIES	Response from AEGCL
18	BOQ Item no. 1.10, 1.20, 1.30, 1.40	The short time current rating for GIS is mentioned as 40kA for 4 secs.	We do not envisage type test on adopter module used to connect the existing GIS to present GIS. The performance of adopter module shall be verified using simulation results which we will submit for AEGCL review during detailed engineering. Request acceptance of the point by AEGCL	Accepted
19	Type Test on adopter panel	Type Test on adopter panel	We do not envisage type test on adopter module used to connect the existing GIS to present GIS. The performance of adopter module shall be verified using simulation results which we will submit for AEGCL review during detailed engineering. Request acceptance of the point by AEGCL	Accepted
CIVIL_Bid_Queries				
20	BoQ4>>Sl. No. 1 Site development, PCC and Gravelling work	1.01 > Clearing and grubbing road land including uprooting wild vegetation, grass, bushes, shrubs, saplings and trees of girth upto 300 mm, removal of stumps of such trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned, upto a lead of 1000 m including removal and disposal of top organic soil not exceeding 150 mm in thickness as per Technical Specification Clause 201. (i) By Manual Means. (b) In area of thorny jungle.	We presume that any permission for tree cutting is not in bidder's scope. Please confirm.	If any kind of permission require, this will be under the scope of Contractor.
21	BoQ4>>Sl. No. 1 Site development, PCC and Gravelling work	1.03 > Excavating, supplying and filling of local earth (including royalty) by mechanical transport upto a lead of 5km also including ramming and watering of the earth in layers not exceeding 20 cm in trenches, plinth, sides of foundation etc. complete.(profile measurement to be taken and 12.5% deduction for shrinkage to be made from total quantity) etc. complete as directed and specified.	Deduction clause for shrinkage is not clear. Please clarify whether deduction is from theoretical volume as per profile or from actual quantity of local earth supplied.	The Item Dscription of Item Sl. No. 1.03 of BoQ4 may be read as:- Excavating, supplying and filling of local earth (including royalty) by mechanical transport upto a lead of 5km also including ramming and watering of the earth in layers not exceeding 20 cm in trenches, plinth, sides of foundation etc. complete. The Bill of Quantity for site development by Earthfilling shall be measured on fully compacted soil, therefore any shrinkage shall not be considered.
22	Bidding Document for Construction of 132/33 kV Amingaon GIS-Vol 2 >> SECTION-2 >> Cl. No. 2.1.5	"The drawings supplied for Control Room building are mainly related to structural part of the building. These drawings also include few minimum requirements inside the CRB. The Contractor will be required to design and develop drawings for other facilities inside the CRB, such as illumination system, air conditioning system etc. as per Specification and will submit those for approval of the Employer."	We could not find the mentioned drawings of 33kV CRB in tender documents. Please share the same.	Please refer the clause no 2.9.0 (Page No-66) of Volume-II of Bid document for dimension of Building. The Contractor has to Design and prepare Drawing including Electrification, Air-Conditioning and all services as per requirement.

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23	Bidding Document for Construction of 132/33 kV Amingaon GIS-Vol 2 >> SECTION-2 >> Cl. No. 2.1.6	"Only single line diagrams are supplied for bus bar and equipment support structures (excluding mounting structures for Circuit Breakers and Isolators). The Contractor will be required to develop the fabrication drawings based on these SLDs and will submit those for approval of the Employer. As far as Mounting Structures of Circuit Breakers and Isolators are concerned it is responsibility of the Contractor to design the same as per this technical specification."	We could not find the mentioned drawings in tender documents. Please share the same.	Gantry, Isolator, Lightning Mast & LA etc. structure shall be designed by the Contractor.
24	Bidding Document for Construction of 132/33 kV Amingaon GIS-Vol 2 >> SECTION-2 >> Cl. No. 2.2.3	"As per contour of the switchyard site, the Contractor shall have to prepare the site by earth cutting or filling as per site condition to arrive at the required F.G.L. Site preparation of the switchyard area shall be done extending 5.00 meter all around the	We could not find the security fencing item in civil BOQ. Please include the same in BOQ.	Security fencing is not in the scope of Contractor.
25	Bidding Document for Construction of 132/33 kV Amingaon GIS-Vol 2 >> SECTION-2 >> Cl. No. 2.2.4	"A base layer of PCC of 80 mm thickness with proportion of 1:3:6 shall be provided before spreading of crushed rocks. PCC base shall be done in panels of 4 m x 4 m with expansion gap of 25 mm between panels. The gap shall be filled with bitumen. Each panel shall be provided with four (4) numbers of PVC pipes (per panel) of 100 mm dia of length 450 mm for soaking of water. The pipes will be provided with	Civil BOQ item no. 1.06 calls for PTMT gratings, please confirm whether CP or PTMT material is required. Please also include item for bitumin filling in civil BOQ.	CP Grating to be used. Instead of betumen same grade of concrete shall be used for filling the gape after proper curing is done for PCC (Panel 4.00m x 4.00m)
26	Bidding Document for Construction of 132/33 kV Amingaon GIS-Vol 2 >> SECTION-2 >> Cl. No. 2.4.0	"SITE DRAINAGE"	Drainage item is missing in Civil BOQ. Please add the same in civil BOQ & share the layout & sections of existing drains. Please also confirm whether drains shall be brick masonry walls or PCC or RCC.	The site drainage/strom water drain shall be included with the switch-yard PCC.
27	Bidding Document for Construction of 132/33 kV Amingaon GIS-Vol 2 >> SECTION-2 >> Cl. No. 2.5.0	"ROADS, PAVEMENTS AND CULVERTS"	Civil BOQ item no. 1.54 is for PCC road only. Please share the drawing for the same. Please also include the items of Pavements & Culvert in Civil BOQ.	Revised drawing of Road is provided attached herewith. Design of Road-crossing culvert shall be in the scope of Contractor.
28	Bidding Document for Construction of 132/33 kV Amingaon GIS-Vol 2 >> SECTION-2 >> Cl. No. 2.7.1	"Construction of cable trenches with pre-cast removal R.C.C cover (with lifting arrangement) as per drawings supplied with the Bid Documents shall be carried out by the Contractor."	Since separate item is not available in Civil BOQ for pre-cast RCC, we assume that same will be paid in line item no. 1.12 itself. Please confirm.	Confirmed.
29	Bidding Document for Construction of 132/33 kV Amingaon GIS-Vol 2 >> SECTION-2 >> Cl. No. 2.7.5	"Cable trench inside the Control Room shall be covered with 6 mm thick chequered plates with lifting arrangement and rubber mat."	We propose that indoor trench shall be measured & paid alongwith external trench item no. 1.09 of civil BOQ. Please accept.	Indoor cable trench including checkered plate shall be included with Building.
30	Bidding Document for Construction of 132/33 kV Amingaon GIS-Vol 2 >> SECTION-2 >> Cl. No. 2.7.7	"Trenches shall be drained. Necessary sumps be constructed and sump pumps if necessary, shall be supplied. Cable trenches shall not be used as storm water drains."	We could not find the items sumps & sump pump in Civil BOQ. Please include.	Since, the sub-station is situated in high land so rain water drain shall be designed for natural drainage.

S.NO.	Name of the Document	CLAUSE	BIDDER's QUERIES	Response from AEGCL
31	Bidding Document for Construction of 132/33 kV Amingaon GIS-Vol 2 >> SECTION-2 >> Cl. No. 2.8.1.1	"Work covered under this Clause required to complete the work. For design of foundations, bidders shall refer to the Soil Investigation Report uploaded alongwith the Bidding Document."	We could not find soil investigation report with the bidding documents. Please share again.	As per the tender documents.
32	Bidding Document for Construction of 132/33 kV Amingaon GIS-Vol 2 >> SECTION-2 >> Cl. No. 2.8.1.2	"A minimum grade of M20 concrete shall be used for all structural/load bearing members and M25 for pile foundation as per latest IS 456."	Pile foundation is not part of civil BOQ. Please confirm that if required same shall be paid in amendment as extra item.	Pile foundation is not require.
33	Bidding Document for Construction of 132/33 kV Amingaon GIS-Vol 2 >> SECTION-2 >> Cl. No. 2.8.2.4	"RCC water retaining structures like storage tanks, etc., shall....."	We believe that RCC water storage tank is not part of the bidder's scope, since it is not in Civil BOQ. Please confirm.	RCC water storage is not require.
34	Bidding Document for Construction of 132/33 kV Amingaon GIS-Vol 2 >> SECTION-2 >> Cl. No. 2.8.2.12	".....water tank in pumps house, channels, sumps, trenches and other underground structures....."	We believe that construction of Fire Fighting pump house & Water tank is not part of the bidder's scope, since it is not in Civil BOQ. Please confirm.	Confirmed.
35	Bidding Document for Construction of 132/33 kV Amingaon GIS-Vol 2 >> SECTION-2 >> Cl. No. 2.9.14.3	"Deep Tube Well The Contractor shall provide a deep tube well of size 100 mm diameter at each substation site. After completion of boring, before installation of strainer/ pipe, the contractor shall submit the logging of the bore well for record and approval of the Employer. The location of the strainer will be as per approval of the Employer. The installation shall be complete with minimum 1 HP single phase submersible pump set with electrical panel board, piping to overhead water tank. The minimum discharge rate shall be 1500 litres per hour continuous. As required watertreatment plant shall be provided to make the water potable. Regarding portability of water, report shall be submitted to the Employer for approval."	Since this is a specific requirement, so we propose to include as separate line item in Civil BOQ if required. If existing Tube wells & water treatment plants are serving the pupose, then this would not be required. In that case, please delete the clause.	Not required.
36	Bidding Document for Construction of 132/33 kV Amingaon GIS-Vol 2 >> SECTION-2 >> Cl. No. 2.11.0	"SECURITY FENCING, GATES AND SECURITY BOOTH"	We believe that this item is not in bidder's scope, since it is not in civil BOQ. Please delete the clause.	Not required.
37	Bidding Document for Construction of 132/33 kV Amingaon GIS-Vol 2 >> SECTION-2 >> Cl. No. 2.28.7	"All stairs shall have maximum riser height of 150 mm and a minimum tread width of 300 mm. Minimum width of stairs shall be 1500 mm. Service ladder shall be provided for access to all roofs. RCC fire escape staircase shall be provided in control buildings."	Since sloped roof is required as per Cl. No 2.9.1, so RCC stair & Fire escape stair will not be applicable. Only service ladder shall be required. Please confirm.	Confirmed.

S.NO.	Name of the Document	CLAUSE	BIDDER's QUERIES	Response from AEGCL
38	Bidding Document for Construction of 132/33 kV Amingaon GIS-Vol 2 >> SECTION-2 >> Cl. No. 3.1.2	"Single Line Drawings of towers, beams and equipment support structures for standard Bus Bar support and equipment mounting structures are supplied with this bidding document except mounting structures for Circuit Breakers..."	Please share the reference drawings of Pipe structures for our estimation purpose.	The Structure shall be designed by the Contractor.
39	BoQ1>>Sl. No. 3.29	Bay steel structures except equipme mounting structures	Please share the drawings of C5 & C6 columns & B5 type beam.	Drawings of C5 & C6 columns & B5 type beam is provided and attached herewith.
40	BoQ1>>Sl. No. 3.40	"...Lightning masts...."	Please share the existing drawings of lightening mast, if same height is to be matched.	The Item Dscription of Item Sl. No. 3.40 of BoQ1, 3.40 of BoQ2 & 3.31 of BoQ3 may be read as:- Lightning protection (lightning spikes, shield wires, down conductors etc.)
41	Approach Road & Entry Culverts & Strengthening of existing roads.	Approach Road & Entry Culverts & Strengthening of existing roads.	We believe that these items are not in bidder's scope, since it is not in civil BOQ. Please confirm.	Confirmed.
42	Geotechnical investigation	Geotechnical investigation	We believe that these items are not in bidder's scope, since it is not in civil BOQ. Please confirm.	Confirmed.
43	Dismantling works	Dismantling works	We believe that dismantling works are not in bidder's scope, since it is not in civil BOQ. Please confirm.	Any dismantling work, removal and disposal are included in the site clearance.
44	Encumbrance free land	Encumbrance free land	We understands that encumbrance free land shall be provided to the bidder by M/s. AEGCL. Please confirm.	Confirmed.
45	Storage Space	Storage Space	We understands that space for open store shall be provided by customer adjacent to construction premises. Please confirm.	Within the AEGCL premises of this Sub-station's free spaces can be used for storing the Construction materials and equipments. Any damage found during the storage within AEGCL Premises, the Contractor shall be responsible for re-construct the same. If the store is required to arrange out-side the AEGCL Premises, Contractor has to arrange at their own cost.
46	Power & Water for Construction Work	Power & Water for Construction Work	We understand that power and water to a single point for construction work will be provided free of cost to successful bidder by M/s. AEGCL, please confirm.	No power and water supply shall be provided to the Contractor. It is to be arranged by the Contractor at their own cost.
Commercial Bid Queries				
47	BOCW Cess	BOCW Cess	We understand that BOCW @1% shall be applicable on Erection & Civil portion. Please confirm.	BOCW @1% shall be applicable on total contract value of the work.
48	Approved make list	Approved make list	Please provide the Approved make list of AEGCL.	AEGCL dose not mentain "approveed make list". But all equipment supplied much meet technical standard as per the bid stipulation.
49	SFMS Details	SFMS Details	Please provide the SFMS details for the preparation of EMD Bank Guarantee.	EMD has to be prepared in the name of Assam Electricity Grid Corporation Limited (AEGCL). Bank Details is attached herewith for your ready reference.
50	Section - 4, General Conditions of Supply and Erection of AEGCL	Page-55, This Section 'General Conditions of Supply and Erection of AEGCL' is supplied separately	The GCC is not available in tender documents, please provide the same.	GCC is provided in AEGCL official website. (Go to AEGCL website-then go to Documents-then go to Rules & Regulation-and Download the GCC)
51	7. Manufacturer's Authorization, [The Bidder, in pursuant to ECQ Clause 2.1.2 (if applicable)] (For items other than GIS as specified in Volume-II of the tender)	7. Manufacturer's Authorization, [The Bidder, in pursuant to ECQ Clause 2.1.2 (if applicable)]	As the Clause 2.1.2 is not available in tender documents, we understand that manufacturer's authorization is not required for the items other than GIS. Please confirm.	Manufacturer's authorization is required for items Specified in Sub Clause No. 2.5.1 of APPENDIX TO ITB - 2 Evaluation and Qualification Criteria (ECQ). (For items other than GIS, the MA format is provided in BIDDING FORMS no 7 (Page 40) and For GIS, the MA format is provided in BIDDING FORMS no 8 (Page 42))

S.NO.	Name of the Document	CLAUSE	BIDDER's QUERIES	Response from AEGCL
52	7. Manufacturer's Authorization, [The Bidder, in pursuant to ECQ Clause 2.1.2 (if applicable)] (For items other than GIS as specified in Volume-II of the tender)	We also hereby declare that; we will furnish the Performance Guarantee in accordance with SCC Clause 5.8.0.	We understand that Performance Guarantee shall be submitted by Bidder only. Please confirm.	Confirmed
53	Evaluation and Qualification Criteria (ECQ): Cl.no. 2.1.1: The Bidder who is not a manufacturer of equipment(s) as required for in this bid for execution of the works shall submit a certificate of being an authorised dealer/distributor/agent of the manufacturer. In case, the Bidder is an authorised dealer/distributor /agent, the bidder must submit with the bid, an undertaking using 'Form-MA' (Manufacturer's Authorisation), Section-2 (Bidding Form)	Evaluation and Qualification Criteria (ECQ): Cl.no. 2.1.1: The Bidder who is not a manufacturer of equipment(s) as required for in this bid for execution of the works shall submit a certificate of being an authorised dealer/distributor/agent of the manufacturer. In case, the Bidder is an authorised dealer/distributor /agent, the bidder must submit with the bid, an undertaking using 'Form-MA' (Manufacturer's Authorisation), Section-2 (Bidding Form)	We understand that the bidder who is not manufacturer of substation equipment can participate in this tender and not required to submit any undertaking in respect to the corresponding clause, although only Manufacturer's Authorisation for GIS shall be submitted. Please confirm.	The bid clause clearly states that "A bidder who is not a manufacturer must submit with the bid, an undertaking using 'Form-MA' (Manufacturer's Authorisation), Section-2 (Bidding Form)"
54	Price Adjustment BDS (ITB 1.3.7.5)	Price Adjustment	As the market has been highly volatile for the commodities, we request to provide provision for price variation for Power Transformer, XLPE Cables, Power & Control Cables without any ceiling limit. Please confirm.	The prices quoted by the Bidder shall be FIXED for entire period of the Contract
55	Cl.no. 5.9.3, SCC	The warranty shall remain valid for a period of sixty (60) months from the date of supply (the Goods having been delivered to and accepted at the final destination indicated in the Purchaser's Requirement) or 54 (fifty-four) months from the date of commissioning of the project, whichever is later	As per utilities standard, defect liability period (DLP) is one year from the date of commissioning of the project. We request you to kindly amend the DLP of 1 year from the date of commissioning of project. Please confirm.	As per Tender.
56	Terms of payment	No Advance Payment is applicable	We request you to kindly make provision for mobilization advance payment. Please confirm.	As per Tender.
57	Financial Resources/ cash flow	Cl.no. 2.3.3 Bidding Forms: Cash-flow statement must be submitted in the format prescribed by the ICAI	Please provide the ICAI format for Cash-flow statement.	The Sample ICAI format for Cash-flow statement is provided and attached herewith.
58	Evaluation of prices	Cl. 1.5.10.2., Section-I, ITB, Page-14 & Price schedule (BoQ-1, 2,3,4)	In evaluation of bid, it is mentioned that evaluation of prices shall be inclusive of taxes. However, in the Price schedule (BoQ-1, 2,3&4) excel sheet, prices are without taxes & Duties. We understand that GST@18% shall be considered/ loaded on basic quoted price in price schedule for evaluation of prices, please confirm. Further, please revise the BOQ.	Prices quoted on BoQ shall be ex work price(without Taxes). GST @18% will be applied at the time of price bid evaluation
59	Limitation of liability	Limitation of liability	We understand that limitation of liability shall be limited to 100% of contract price. Please confirm.	As per Tender.
60	Capitalization of Losses for Power Transformer during bidding stage	Capitalization of Losses for Power Transformer during bidding stage	We understand that no loss capitalization shall be applicable on 50MVA 132/33kV power transformer losses during bidding stage for the purpose of evaluation of bids. Please confirm.	Transformer losses shall be as per CEA guideline, " Standard specifications and technical parameters for transformers and reactors (66kV & above voltage class)"
61	Capitalization / Penalty of Losses for Power Transformer during detailed engineering	Cl. 4.6.1.2, Vol-II, Capitalization / Penalty of Losses for Power Transformer during detailed engineering	As per referred clause, penatly as per SECTION AA of CBIP Manual on Transformers, 2013 (Publication No. 317), shall be applicable in case of short fall from the guaranteed losses. Please note that as per CBIP provided formula, same value can not be calculated and to avoid any ambiguity, please provide the values for capitalized cost in INR/ kW for NLL, LL, Aux. Loss of Power transformer.	Transformer losses shall be as per CEA guideline, " Standard specifications and technical parameters for transformers and reactors (66kV & above voltage class)"
62	Contract Structure	Contract Structure	Please provide the contract issuing structure. Whether, the contract shall be issued in single part (Supply+ETC+Civil) or in two part (Supply+ETC & Civil) or in three part (Supply, ETC, Civil). Please confirm.	The contract shall be issued in single part. (Supply+ETC+Civil)
63	Consequential Damages	Consequential Damages	There is no clause mentioned for Consequential Damages. Please furnish.	As per Tender.

S.NO.	Name of the Document	CLAUSE	BIDDER's QUERIES	Response from AEGCL
64	TS Power Transformer	Cl.4.13.11.0 Core, TS Power Transformer, Vol-II: The magnetic circuit shall be core type. Each limb shall be joined with top and bottom yokes. The laminations shall be made from high grade non-ageing cold rolled grain oriented (CRGO) silicon alloy of HI -B grade steel (as per BIS / IEC). Indian transformer manufacturers shall use core material as per above specification with BIS certification. Only those bidders who directly imported CRGO either from the manufacturer or through their accredited marketing organization of repute (and not through any agent) shall be considered. In support of this requirement the bidder shall submit an undertaking in specified format (Annexure C) in the form of affidavit on Rs.100/- stamp paper, duly notarized.	In reference to the corresponding clause, we understand that undertaking/ affidavit shall be submitted during drawing approval, please confirm.	Confirmed
65	Clause No. 2.4.2 of ITB Specific Experience	"Having Experience as contractor (sole or partner in a JV), in contracts in India, for complete construction of: " Either, i.Minimum 2 (two) nos. of 132/33kV (or above voltage class) Gas Insulated Substation in all respect in India. Or, ii.Minimum 3(three) nos. of 33/11kV Gas Insulated Substation in all respect in India.	We completed construction of 2 nos. 33/11KV GIS substations and 1 no. 132/33KV GIS substation running satisfactorily for more than 2 years. Kindly consider the Experience of 2 nos. 33/11KV GIS substations and 1 no. 132/33KV GIS substation. Please Confirm.	The Experience is accepted as ii.Minimum 3(three) nos. of 33/11kV Gas Insulated Substation in all respect in India.

Annexure-II

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Item Rate BoQ

Tender Inviting Authority: CGM(PP&D), AEGCL

Name of Work: **Supply of 132/33 kV GIS Equipments for Amingaon GIS under NESIDS fund** [Schedule 1-Supply]

Contract No: Nil

Name of the Bidder/ Bidding Firm / Company :	
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PRICE SCHEDULE

(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevent columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)

NUMBER #	TEXT #	NUMBER #	TEXT #	NUMBER #	NUMBER #	TEXT #
Sl. No.	Item Description	Quantity	Units	Unit ExWorks (exclusive of taxes) In Figures To be entered by the Bidder in Rs. P	TOTAL AMOUNT (Without Taxes) in Rs. P	TOTAL AMOUNT In Words
1	2	4	5	13	53	55
1	Supply of 132kV GIS Equipments(Supply A)					
1.10	145kV, 3150A, 40kA for 4 second, SF6 gas-insulated metal enclosed Transformer bay module each set comprising of One (1) number 3-phase, 3150A, SF6 insulated circuit breaker complete with operating mechanism; Three (3) numbers 1-phase, 5-core, multi ratio,600-300/1-1-1-1-1A current transformers; Three (3) numbers 3-phase, 3150A, group operated isolators/disconnectors, complete with manual and motor driven operating mechanisms; One (1) number 3-phase, group operated safety grounding switches, complete with manual and motor driven operating mechanisms; Gas monitoring devices, barriers, pressure switches, UHF PD Sensors, support structure etc. as required; Local Bay control cubicle.(Stand Alone or Integrated)	2	Sets		0.00	INR Zero Only

1.20	Three phase, 3150A, 40kA for 4 second, SF6 gas-insulated metal enclosed bus bar of 145kV, each set comprising of Bus bars enclosures running from the existing Bus bar Module to interconnect each of the Transformer circuit breaker bay modules in Double Bus bar configuration; Gas monitoring devices, barriers, pressure switches, UHF PD Sensors, support structure, foundation bolt etc. as required	2	Sets		0.00	INR Zero Only
1.30	145kV, 3150A, 40 kA for 4 sec, 3- phase SF6 to air bushings along with termination module & support structure for outdoor connections to connect GIS with 145kV side of Power transformer.	2	Sets		0.00	INR Zero Only
1.40	145kV, 3150A, 40kA for 4 second, 3-Ph encapsulated, SF6 Gas Insulated Bus Duct (GIB) outside GIS hall including Bus Duct support structure and associated accessories along with jointing elements	75	RM		0.00	INR Zero Only
1.50	Erection Hardware for 145kV GIS Termination arrangement for Transformer bay Modules	2	Nos		0.00	INR Zero Only
2.00	Supply of outdoor bay equipments (Supply B)					
2.01	Transformer					
2.02	50 MVA, 132/33 kV, 3-Ph, YNyn0, Z=12.5 %, ONAN/ONAF with copper wound Power Transformer with OLTC(+5% to -15% in steps of 1.25%) , RTCC panel including all cabling, insulating oil for the transformer plus 10% spare oil, supplied with Bushing mounted NCT on HV & LV side & complete with all fittings and accessories to meet the technical specification including cost of all routine test including loading and unloading at site.The Transformer shall be suitable for 4" Aluminium Tubular Conductor termination on HV and LV side.	2	No		0.00	INR Zero Only
2.03	Online DGA	2	No		0.00	INR Zero Only
2.04	Online Insulating oil drying system	2	Sets		0.00	INR Zero Only
2.05	Lightning Arrester					

2.06	120 kV, 10 kA, Metal Oxide type, heavy duty, station class 3, Lightning Arrestor complete with Pipe Structures, Surge Counter, Hardware fittings and Clamps and Connectors as per specification	6	No		0.00	INR Zero Only
2.07	30 kV,10 kA, Metal Oxide type, heavy duty, station class Lightning Arrestor complete with Pipe Structures, Surge Counter, Hardware fittings and Clamps and Connectors as per specification	6	No		0.00	INR Zero Only
2.08	Supply of 33kV XLPE Cable and Termination Kit					
2.09	1000 sqmm, 33kV, 1-Core, XLPE Armoured Cu cable alongwith related accessories	200	Mtr		0.00	INR Zero Only
2.10	33kV Cable Termination Kit (both indoor and outdoor) along with its accessories.	4	Set		0.00	INR Zero Only
2.11	33kV Support Structure for Outdoor Cable Termination Kit	2	Nos		0.00	INR Zero Only
2.12	LT Power Cable (1.1kV grade)					
2.13	(i) 2C, 6 mm2	400	Mtr		0.00	INR Zero Only
2.14	(ii) 4C, 16 mm2	400	Mtr		0.00	INR Zero Only
2.15	(iii) 3½ C, 35 mm2	400	Mtr		0.00	INR Zero Only
2.16	(iv) 3½ C, 70 mm2	400	Mtr		0.00	INR Zero Only
2.17	(v) 3½ C, 300 mm2	400	Mtr		0.00	INR Zero Only
2.18	(vi) Cable Supports and fittings	1	LS		0.00	INR Zero Only
2.19	LT Control Cable					
2.20	(i) 4C, 2.5 mm2	250	Mtr		0.00	INR Zero Only
2.21	(ii) 7C, 1.5 mm2	250	Mtr		0.00	INR Zero Only
2.22	(iii) 12C, 1.5 mm2	250	Mtr		0.00	INR Zero Only
2.23	(iv) 19C, 1.5 mm2	250	Mtr		0.00	INR Zero Only
2.24	Earthing					

2.25	Main Earthing Conductor 40mm dia MS Rod	600	meter		0.00	INR Zero Only
2.26	Earthing Conductor: 40mm dia MS Rod For Riser From The Burial Earth Mat To Equipment,Structure Etc)	600	meter		0.00	INR Zero Only
2.27	Earthing Conductor: 75X12mm GI Flat For Equipment and Structure Earthing	300	meter		0.00	INR Zero Only
2.28	Earthing Conductor: 50X6 mm GI(HDG) Flat For Riser For Console Box,Lt Panels,Dc Panels,Marshalling Boxes, Cable Trenches Etc)	150	meter		0.00	INR Zero Only
2.29	Earthing Device & Associated Accessories (50 mm Heavy Duty GI Perforated Pipe 3 Mtrs Long For Treated Earth Pit)	6	Nos.		0.00	INR Zero Only
2.30	Earthing Device & Associated Accessories 40Mm Ms Rod 3 Mtrs Long For Non Treated Earth Pit)	60	Nos.		0.00	INR Zero Only
2.31	Separate Earthing For 145 Kv GIS Modules	1	JOB		0.00	INR Zero Only
2.32	Separate Earthing For 145 Kv GIS Building	1	JOB		0.00	INR Zero Only
2.33	Separate Earthing For 36 Kv Indoor AIS Equipment	1	JOB		0.00	INR Zero Only
2.34	Separate Earthing For 36 Kv Indoor AIS Building	1	JOB		0.00	INR Zero Only
2.35	Other Earthing Accessories	1	Lot		0.00	INR Zero Only
2.36	Fire Protection System for Transformer					
2.37	NIFPS					
2.38	N2 Fire Prevention and extinguishing System for transformer with complete accessories and related Civil and Electrical works.	2	No		0.00	INR Zero Only
2.39	HVWS					
2.40	HVW spray system, Hydrant System and complete U/G and O/G Piping and accessories etc and associated Civil Works for fire protection system for 2 nos 50 MVA 132/33kV Transformer	1	Set		0.00	INR Zero Only

2.41	HVWS System for 50 MVA ICT	2	Set		0.00	INR Zero Only
2.42	Portable/Wheel/ Trolley mounted Fire Extinguishers					
2.43	22.5 Kg capacity FE CO2 type, Trolley Mounted	4	Nos		0.00	INR Zero Only
2.44	25 Kg Capacity FE DCP type, Trolley Mounted	4	Nos		0.00	INR Zero Only
2.45	DCP 10 Kg Capacity, Wall mounted	6	Nos		0.00	INR Zero Only
2.46	FE CO2 6.5 Kg capacity, Wall mounted	4	Nos		0.00	INR Zero Only
2.47	DCP 5 Kg Capacity, Wall mounted	5	Nos		0.00	INR Zero Only
2.48	Foam Type 9 liter Capacity, Wall mounted	4	Nos		0.00	INR Zero Only
2.49	Water CO2 9 liter, Wall mounted	6	Nos		0.00	INR Zero Only
2.50	Fire Buckets (12 Nos. with stand in one set)	1	Set		0.00	INR Zero Only
2.51	Supply of indoor floor mounted, SIMPLEX type control and relay panels, with mimic & annunciation panel for 132kV system as per specification comprising of the C & R panels and shall be complete with Numerical Relays and SAMAST Compliant ABT meters as per the Technical specifications & shall be compatible for SCADA/SAS.					
2.52	132kV Panels					
2.53	Transformer Protection Panel	2	No		0.00	INR Zero Only
2.54	Substation Automation System					
2.55	Necessary Hardware, Software and License for Modification/ Upgradation of the existing SAS (including transmittal of telemetry data for HV & LV side of both the Transformer) for 132 kV System.	1	LS		0.00	INR Zero Only
2.57	Conductor / IPS Al Tube					
2.58	4" IPS Al Tube	80	Mtr		0.00	INR Zero Only
2.59	Lightning protection					
2.60	Lightning Mast (LM)- 40m	1	No		0.00	INR Zero Only

2.61	Illumination system for Outdoor Lighting (Switchyard and Street lighting)					
2.62	Lighting Panel					
2.63	Lighting Panel Type ACP-2	1	Nos		0.00	INR Zero Only
2.64	Sub lighting panel type SLP	2	Nos		0.00	INR Zero Only
2.65	lighting Fixtures and Receptacles including junction box, lighting wires and flexible conduit (if required) from junction box to lighting fixture, mounting arrangement and other accessories/ materials etc as required for complete installation and commissioning of lighting fixture					
2.66	Lighting Fixture Type SF1	4	Nos		0.00	INR Zero Only
2.67	Lighting Fixture Type SF2	2	Nos		0.00	INR Zero Only
2.68	Lighting Fixture Type SF4	2	Nos		0.00	INR Zero Only
2.69	Mandatory Spare Parts					
2.70	For 132/33KV,50MVA Transformers					
2.71	145kV H.V. Bushing with metal parts and Gaskets	2	No		0.00	INR Zero Only
2.72	HV side neutral bushing	2	No		0.00	INR Zero Only
2.73	36KV LV bushing	2	No		0.00	INR Zero Only
2.74	36kV Neutral Bushing with metal parts and gaskets	2	No		0.00	INR Zero Only
2.75	Local and remote winding temperature indicators with alarm and trip contacts and maximum reading pointer	2	Set		0.00	INR Zero Only
2.76	Oil temperature indicator with alarm and trip contacts and maximum reading pointer	2	Set		0.00	INR Zero Only
2.77	Pressure relief device for main tank	4	Set		0.00	INR Zero Only
2.78	Pressure relief device for OLTC	4	Set		0.00	INR Zero Only

2.79	Silica Gel/ Maintenance free breather assembly (one of each type) for Conservator and OLTC	2	Set		0.00	INR Zero Only
2.80	Magnetic oil level gauge with low oil level alarm contacts	2	Set		0.00	INR Zero Only
2.81	Oil Flow indicator with contacts	2	Set		0.00	INR Zero Only
2.82	Coller Pump with Motor	2	Set		0.00	INR Zero Only
2.83	Cooler fan with motor.	4	No		0.00	INR Zero Only
2.84	Buchholz relay.	4	No		0.00	INR Zero Only
2.85	Tap position Indicator (Local and remote)	2	No		0.00	INR Zero Only
2.86	Oil Sampling Bottle	4	No		0.00	INR Zero Only
2.87	Oil Surge Relay	4	No		0.00	INR Zero Only
2.88	Complete set of gasket (complete set for one transformer)	2	Set		0.00	INR Zero Only
2.89	Set of valves (complete set for one transformer)	2	Set		0.00	INR Zero Only
2.90	For 132KV Transformer Control and Relay Panel					
2.91	Differential relay	1	No		0.00	INR Zero Only
2.92	Master Trip relay	1	No		0.00	INR Zero Only
2.93	Trip Circuit Supervision relay	1	No		0.00	INR Zero Only
2.94	Testing Kit for Transformers					
2.95	Automatic Transformer Oil BDV Testing Kit	1	No		0.00	INR Zero Only
2.96	Stainless Steel Oil sampling bottle (One Litre Capacity)	2	No		0.00	INR Zero Only
2.97	Syringes for sampling oil (50ml capacity)	4	No		0.00	INR Zero Only
3.00	Supply of 33kV Equipments and Panels (Supply C)					

3.01	33kV,3 Phase, 13 Unit Panel (8 Line Bays, 2 Transformer incomer Bays, 1 Bus Sectionalizer Bay and 2 PT Bay) Indoor Drawn out type switchgear as per specification (Single bus with sectionalizer)	1	Set		0.00	INR Zero Only
3.02	30 kV,10 kA, Metal Oxide type, heavy duty, station class Lightning Arrestor complete with Pipe Structure, Surge Counter, Hardware fittings and Clamps and Connectors as per specification	24	No		0.00	INR Zero Only
3.03	Outdoor type 36 kV, 1250 A, 3-Ph gang operated, Double Break centre Post rotating outdoor type motor operated Disconnecter (Isolator) with solid core Post Insulator, Pipe Structures, Clamps and Connectors					
3.04	With one earth switch	8	Sets		0.00	INR Zero Only
3.05	Supply of 33kV XLPE Cable and Termination Kit					
3.06	300 sqmm, 33kV, 1-Core, XLPE Armoured Cu cable alongwith related accessories	900	Mtr		0.00	INR Zero Only
3.07	33kV Cable Termination Kit (both indoor and outdoor) along with its accessories and related structure for outdoor type.	16	Set		0.00	INR Zero Only
3.08	33kV Support Structure for Outdoor Cable Termination Kit	8	Nos		0.00	INR Zero Only
3.09	LT Power Cable (1.1kV grade)					
3.10	(i) 2C, 6 mm ²	400	Mtr		0.00	INR Zero Only
3.11	(ii) 4C, 16 mm ²	400	Mtr		0.00	INR Zero Only
3.12	(iii) 3½ C, 35 mm ²	400	Mtr		0.00	INR Zero Only
3.13	(iv) 3½ C, 70 mm ²	400	Mtr		0.00	INR Zero Only
3.14	(v) 3½ C, 300 mm ²	400	Mtr		0.00	INR Zero Only
3.15	LT Control Cable					
3.16	(i) 4C, 2.5 mm ²	250	Mtr		0.00	INR Zero Only
3.17	(ii) 7C, 1.5 mm ²	250	Mtr		0.00	INR Zero Only

3.18	(iii) 12C, 1.5 mm2	250	Mtr		0.00	INR Zero Only
3.19	(iv) 19C, 1.5 mm2	250	Mtr		0.00	INR Zero Only
3.20	Supply of Indoor floor mounted, SIMPLEX type control and relay panels, with mimic & annunciation panel with SAMAST Compliant ABT Meters for 33kV system as per specification					
3.21	33 kV Panels					
3.22	33KV Line Protection & Control Panel with LBB	8	Nos		0.00	INR Zero Only
3.23	33KV Transformer I/C Protection & Control Panel on 33 kV side of Power Transformer	2	Nos		0.00	INR Zero Only
3.24	33KV Protection & Control Panel for Bus Section	1	Nos		0.00	INR Zero Only
3.25	Substation Automation System and Integration with existing SAS					
3.26	Necessary Hardware, Software and License for Modification/ Upgradation of the existing SAS for 33kV System	1	LS		0.00	INR Zero Only
3.27	Conductor					
3.28	ACSR Panther	0.3	Km		0.00	INR Zero Only
3.29	Bay Steel Structures except equipment mounting structures					
3.30	COLUMNS					
3.31	Column Type 'C5'	3	Nos		0.00	INR Zero Only
3.32	Column Type 'C6'	6	Nos		0.00	INR Zero Only
3.33	BEAMS					
3.34	Beam Type 'B5'	8	Nos		0.00	INR Zero Only
3.35	Insulator and hardwares					
3.36	33 kV, 90kN Tension String insulators and hardwares suitable for Single Panther conductors	25	Sets		0.00	INR Zero Only
3.37	33 kV, 70kN Suspension String insulators and hardwares suitable for Single Panther conductors	25	Sets		0.00	INR Zero Only

3.38	Illumination System					
3.39	Indoor Illumination system for the 33kV Indoor Switchgear Room	1	LS		0.00	INR Zero Only
3.40	Lightning protection (lightning spikes, shield wires, down conductors etc.)	1	LS		0.00	INR Zero Only
Total in Figures					0.00	
Quoted Rate in Words		INR Zero Only				

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Item Rate BoQ

Tender Inviting Authority: CGM(PP&D), AEGCL

Name of Work: **Supply of 132/33 kV GIS Equipments for Amingaon GIS under NESIDS fund** [Schedule 1A-Freight & Insurance]

Contract No: Nil

Name of the Bidder/ Bidding Firm / Company :	
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PRICE SCHEDULE

(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevent columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)

NUMBER #	TEXT #	NUMBER #	TEXT #	NUMBER #	NUMBER #	TEXT #
Sl. No.	Item Description	Quantity	Units	Unit ExWorks (exclusive of taxes) In Figures To be entered by the Bidder in Rs. P	TOTAL AMOUNT (Without Taxes) in Rs. P	TOTAL AMOUNT In Words
1	2	4	5	13	53	55
1	Supply of 132kV GIS Equipments(F&I A)					
1.10	145kV,3150A, 40kA for 4 second, SF6 gas-insulated metal enclosed Transformer bay module each set comprising of One (1) number 3-phase, 3150A, SF6 insulated circuit breaker complete with operating mechanism; Three (3) numbers 1-phase, 5-core, multi ratio,600-300/1-1-1-1-1A current transformers; Three (3) numbers 3-phase, 3150A, group operated isolators/disconnectors, complete with manual and motor driven operating mechanisms; One (1) number 3-phase, group operated safety grounding switches, complete with manual and motor driven operating mechanisms; Gas monitoring devices, barriers, pressure switches, UHF PD Sensors, support structure etc. as required; Local Bay control cubicle.(Stand Alone or Integrated)	2	Sets		0.00	INR Zero Only

1.20	Three phase, 3150A, 40kA for 4 second, SF6 gas-insulated metal enclosed bus bar of 145kV, each set comprising of Bus bars enclosures running from the existing Bus bar Module to interconnect each of the Transformer circuit breaker bay modules in Double Bus bar configuration; Gas monitoring devices, barriers, pressure switches, UHF PD Sensors, support structure, foundation bolt etc. as required	2	Sets		0.00	INR Zero Only
1.30	145kV, 3150A, 40 kA for 4 sec, 3- phase SF6 to air bushings along with termination module & support structure for outdoor connections to connect GIS with 145kV side of Power transformer.	2	Sets		0.00	INR Zero Only
1.40	145kV, 3150A, 40kA for 4 second, 3-Ph encapsulated, SF6 Gas Insulated Bus Duct (GIB) outside GIS hall including Bus Duct support structure and associated accessories along with jointing elements	75	RM		0.00	INR Zero Only
1.50	Erection Hardware for 145kV GIS Termination arrangement for Transformer bay Modules	2	Nos		0.00	INR Zero Only
2.00	Supply of outdoor bay equipments (F&I B)					
2.01	Transformer					
2.02	50 MVA, 132/33 kV, 3-Ph, YNyn0, Z =12.5 %, ONAN/ONAF with copper wound Power Transformer with OLTC(+5% to -15% in steps of 1.25%) , RTCC panel including all cabling, insulating oil for the transformer plus 10% spare oil, supplied with Bushing mounted NCT on HV & LV side & complete with all fittings and accessories to meet the technical specification including cost of all routine test including loading and unloading at site.The Transformer shall be suitable for 4" Aluminium Tubular Conductor termination on HV and LV side.	2	No		0.00	INR Zero Only

2.03	Online DGA	2	No		0.00	INR Zero Only
2.04	Online Insulating oil drying system	2	Sets		0.00	INR Zero Only
2.05	Lightning Arrester					
2.06	120 kV, 10 kA, Metal Oxide type, heavy duty, station class 3, Lightning Arrestor complete with Pipe Structures, Surge Counter, Hardware fittings and Clamps and Connectors as per specification	6	No		0.00	INR Zero Only
2.07	30 kV, 10 kA, Metal Oxide type, heavy duty, station class Lightning Arrestor complete with Pipe Structures, Surge Counter, Hardware fittings and Clamps and Connectors as per specification	6	No		0.00	INR Zero Only
2.08	Supply of 33kV XLPE Cable and Termination Kit					
2.09	1000 sqmm, 33kV, 1-Core, XLPE Armoured Cu cable alongwith related accessories	200	Mtr		0.00	INR Zero Only
2.10	33kV Cable Termination Kit (both indoor and outdoor) along with its accessories.	4	Set		0.00	INR Zero Only
2.11	33kV Support Structure for Outdoor Cable Termination Kit	2	Nos		0.00	INR Zero Only
2.12	LT Power Cable (1.1kV grade)					
2.13	(i) 2C, 6 mm ²	400	Mtr		0.00	INR Zero Only
2.14	(ii) 4C, 16 mm ²	400	Mtr		0.00	INR Zero Only
2.15	(iii) 3½ C, 35 mm ²	400	Mtr		0.00	INR Zero Only
2.16	(iv) 3½ C, 70 mm ²	400	Mtr		0.00	INR Zero Only
2.17	(v) 3½ C, 300 mm ²	400	Mtr		0.00	INR Zero Only
2.18	(vi) Cable Supports and fittings	1	LS		0.00	INR Zero Only
2.19	LT Control Cable					
2.20	(i) 4C, 2.5 mm ²	250	Mtr		0.00	INR Zero Only
2.21	(ii) 7C, 1.5 mm ²	250	Mtr		0.00	INR Zero Only

2.22	(iii) 12C, 1.5 mm2	250	Mtr		0.00	INR Zero Only
2.23	(iv) 19C, 1.5 mm2	250	Mtr		0.00	INR Zero Only
2.24	Earthing					
2.25	Main Earthing Conductor 40mm dia MS Rod	600	meter		0.00	INR Zero Only
2.26	Earthing Conductor: 40mm dia MS Rod For Riser From The Burial Earth Mat To Equipment,Structure Etc)	600	meter		0.00	INR Zero Only
2.27	Earthing Conductor: 75X12mm GI Flat For Equipment and Structure Earthing	300	meter		0.00	INR Zero Only
2.28	Earthing Conductor: 50X6 mm GI(HDG) Flat For Riser For Console Box,Lt Panels,Dc Panels,Marshalling Boxes, Cable Trenches Etc)	150	meter		0.00	INR Zero Only
2.29	Earthing Device & Associated Accessories (50 mm Heavy Duty GI Perforated Pipe 3 Mtrs Long For Treated Earth Pit)	6	Nos.		0.00	INR Zero Only
2.30	Earthing Device & Associated Accessories 40Mm Ms Rod 3 Mtrs Long For Non Treated Earth Pit)	60	Nos.		0.00	INR Zero Only
2.31	Separate Earthing For 145 Kv GIS Modules	1	JOB		0.00	INR Zero Only
2.32	Separate Earthing For 145 Kv GIS Building	1	JOB		0.00	INR Zero Only
2.33	Separate Earthing For 36 Kv Indoor AIS Equipment	1	JOB		0.00	INR Zero Only
2.34	Separate Earthing For 36 Kv Indoor AIS Building	1	JOB		0.00	INR Zero Only
2.35	Other Earthing Accessories	1	Lot		0.00	INR Zero Only
2.36	Fire Protection System for Transformer					
2.37	NIFPS					
2.38	N2 Fire Prevention and extinguishing System for transformer with complete accessories and related Civil and Electrical works.	2	No		0.00	INR Zero Only
2.39	HVWS					

2.40	HVW spray system, Hydrant System and complete U/G and O/G Piping and accessories etc and associated Civil Works for fire protection system for 2 nos 50 MVA 132/33kV Transformer	1	Set		0.00	INR Zero Only
2.41	HVWS System for 50 MVA ICT	2	Set		0.00	INR Zero Only
2.42	Portable/Wheel/ Trolley mounted Fire Extinguishers					
2.43	22.5 Kg capacity FE CO2 type, Trolley Mounted	4	Nos		0.00	INR Zero Only
2.44	25 Kg Capacity FE DCP type, Trolley Mounted	4	Nos		0.00	INR Zero Only
2.45	DCP 10 Kg Capacity, Wall mounted	6	Nos		0.00	INR Zero Only
2.46	FE CO2 6.5 Kg capacity, Wall mounted	4	Nos		0.00	INR Zero Only
2.47	DCP 5 Kg Capacity, Wall mounted	5	Nos		0.00	INR Zero Only
2.48	Foam Type 9 liter Capacity, Wall mounted	4	Nos		0.00	INR Zero Only
2.49	Water CO2 9 liter, Wall mounted	6	Nos		0.00	INR Zero Only
2.50	Fire Buckets (12 Nos. with stand in one set)	1	Set		0.00	INR Zero Only
2.51	Supply of Indoor floor mounted, SIMPLEX type Control and Relay Panels, with mimic & annunciation panel for 132kV system as per specification comprising of the C & R Panels and shall be complete with Numerical Relays and SAMAST Compliant ABT Meters as per the Technical specifications & shall be compatible for SCADA/ SAS .					
2.52	132kV Panels					
2.53	Transformer Protection Panel	2	No		0.00	INR Zero Only
2.54	Substation Automation System					
2.55	Necessary Hardware, Software and License for Modification/ Upgradation of the existing SAS (including transmittal of telemetry data for HV & LV side of both the Transformer) for 132 kV System.	1	LS		0.00	INR Zero Only
2.57	Conductor / IPS Al Tube					
2.58	4" IPS Al Tube	80	Mtr		0.00	INR Zero Only

2.59	Lightning protection					
2.60	Lightning Mast (LM)- 40m	1	No		0.00	INR Zero Only
2.61	Illumination system for Outdoor Lighting (Switchyard and Street lighting)					
2.62	Lighting Panel					
2.63	Lighting Panel Type ACP-2	1	Nos		0.00	INR Zero Only
2.64	Sub lighting panel type SLP	2	Nos		0.00	INR Zero Only
2.65	lighting Fixtures and Receptacles including junction box, lighting wires and flexible conduit (if required) from junction box to lighting fixture, mounting arrangement and other accessories/ materials etc as required for complete installation and commissioning of lighting fixture					
2.66	Lighting Fixture Type SF1	4	Nos		0.00	INR Zero Only
2.67	Lighting Fixture Type SF2	2	Nos		0.00	INR Zero Only
2.68	Lighting Fixture Type SF4	2	Nos		0.00	INR Zero Only
2.69	Mandatory Spare Parts					
2.70	For 132/33KV,50MVA Transformers					
2.71	145kV H.V. Bushing with metal parts and Gaskets	2	No		0.00	INR Zero Only
2.72	HV side neutral bushing	2	No		0.00	INR Zero Only
2.73	36KV LV bushing	2	No		0.00	INR Zero Only
2.74	36kV Neutral Bushing with metal parts and gaskets	2	No		0.00	INR Zero Only
2.75	Local and remote winding temperature indicators with alarm and trip contacts and maximum reading pointer	2	Set		0.00	INR Zero Only
2.76	Oil temperature indicator with alarm and trip contacts and maximum reading pointer	2	Set		0.00	INR Zero Only
2.77	Pressure relief device for main tank	4	Set		0.00	INR Zero Only

2.78	Pressure relief device for OLTC	4	Set		0.00	INR Zero Only
2.79	Silica Gel/ Maintenance free breather assembly (one of each type) for Conservator and OLTC	2	Set		0.00	INR Zero Only
2.80	Magnetic oil level gauge with low oil level alarm contacts	2	Set		0.00	INR Zero Only
2.81	Oil Flow indicator with contacts	2	Set		0.00	INR Zero Only
2.82	Coller Pump with Motor	2	Set		0.00	INR Zero Only
2.83	Cooler fan with motor.	4	No		0.00	INR Zero Only
2.84	Buchholz relay.	4	No		0.00	INR Zero Only
2.85	Tap position Indicator (Local and remote)	2	No		0.00	INR Zero Only
2.86	Oil Sampling Bottle	4	No		0.00	INR Zero Only
2.87	Oil Surge Relay	4	No		0.00	INR Zero Only
2.88	Complete set of gasket (complete set for one transformer)	2	Set		0.00	INR Zero Only
2.89	Set of valves (complete set for one transformer)	2	Set		0.00	INR Zero Only
2.90	For 132KV Transformer Control and Relay Panel					
2.91	Differential relay	1	No		0.00	INR Zero Only
2.92	Master Trip relay	1	No		0.00	INR Zero Only
2.93	Trip Circuit Supervision relay	1	No		0.00	INR Zero Only
2.94	Testing Kit for Transformers					
2.95	Automatic Transformer Oil BDV Testing Kit	1	No		0.00	INR Zero Only
2.96	Stainless Steel Oil sampling bottle (One Litre Capacity)	4	No		0.00	INR Zero Only
2.97	Syringes for sampling oil (50ml capacity)	4	No		0.00	INR Zero Only
3.00	Supply of 33kV Equipments and Panels (F&I C)					

3.01	33kV,3 Phase, 13 Unit Panel (8 Line Bays, 2 Transformer incomer Bays, 1 Bus Sectionalizer Bay and 2 PT Bay) Indoor Drawn out type switchgear as per specification (Single bus with sectionalizer)	1	Set		0.00	INR Zero Only
3.02	30 kV,10 kA, Metal Oxide type, heavy duty, station class Lightning Arrestor complete with Pipe Structure, Surge Counter, Hardware fittings and Clamps and Connectors as per specification	24	No		0.00	INR Zero Only
3.03	Outdoor type 36 kV, 1250 A, 3-Ph gang operated, Double Break centre Post rotating outdoor type motor operated Disconnecter (Isolator) with solid core Post Insulator, Pipe Structures, Clamps and Connectors					
3.04	With one earth switch	8	Sets		0.00	INR Zero Only
3.05	Supply of 33kV XLPE Cable and Termination Kit					
3.06	300 sqmm, 33kV, 1-Core, XLPE Armoured Cu cable alongwith related accessories	900	Mtr		0.00	INR Zero Only
3.07	33kV Cable Termination Kit (both indoor and outdoor) along with its accessories and related structure for outdoor type.	16	Set		0.00	INR Zero Only
3.08	33kV Support Structure for Outdoor Cable Termination Kit	8	Nos		0.00	INR Zero Only
3.09	LT Power Cable (1.1kV grade)					
3.10	(i) 2C, 6 mm ²	400	Mtr		0.00	INR Zero Only
3.11	(ii) 4C, 16 mm ²	400	Mtr		0.00	INR Zero Only
3.12	(iii) 3½ C, 35 mm ²	400	Mtr		0.00	INR Zero Only
3.13	(iv) 3½ C, 70 mm ²	400	Mtr		0.00	INR Zero Only
3.14	(v) 3½ C, 300 mm ²	400	Mtr		0.00	INR Zero Only
3.15	LT Control Cable					
3.16	(i) 4C, 2.5 mm ²	250	Mtr		0.00	INR Zero Only
3.17	(ii) 7C, 1.5 mm ²	250	Mtr		0.00	INR Zero Only
3.18	(iii) 12C, 1.5 mm ²	250	Mtr		0.00	INR Zero Only

3.19	(iv) 19C, 1.5 mm2	250	Mtr		0.00	INR Zero Only
3.20	Supply of Indoor floor mounted, SIMPLEX type control and relay panels, with mimic & annunciation panel with SAMAST Compliant ABT Meters for 33kV system as per specification					
3.21	33 kV Panels					
3.22	33KV Line Protection & Control Panel with LBB	8	Nos		0.00	INR Zero Only
3.23	33KV Transformer I/C Protection & Control Panel on 33 k V side of Power Transformer	2	Nos		0.00	INR Zero Only
3.24	33KV Protection & Control Panel for Bus Section	1	Nos		0.00	INR Zero Only
3.25	Substation Automation System and Integration with existing SAS					
3.26	Necessary Hardware, Software and License for Modification/ Upgradation of the existing SAS for 33kV System	1	LS		0.00	INR Zero Only
3.27	Conductor					
3.28	ACSR Panther	0.3	Km		0.00	INR Zero Only
3.29	Bay Steel Structures except equipment mounting structures					
3.30	COLUMNS					
3.31	Column Type 'C5'	3	Nos		0.00	INR Zero Only
3.32	Column Type 'C6'	6	Nos		0.00	INR Zero Only
3.33	BEAMS					
3.34	Beam Type 'B5'	8	Nos		0.00	INR Zero Only
3.35	Insulator and hardwares					
3.36	33 kV, 90kN Tension String insulators and hardwares suitable for Single Panther conductors	25	Sets		0.00	INR Zero Only
3.37	33 kV, 70kN Suspension String insulators and hardwares suitable for Single Panther conductors	25	Sets		0.00	INR Zero Only
3.38	Illumination System					

3.39	Indoor Illumination system for the 33kV Indoor Switchgear Room	1	LS		0.00	INR Zero Only
3.40	Lightning protection (lightning spikes, shield wires, down conductors etc.)	1	LS		0.00	INR Zero Only
Total in Figures					0.00	
Quoted Rate in Words		INR Zero Only				

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Tender Inviting Authority: CGM(PP&D), AEGCL

Name of Work: **Supply of 132/33 kV GIS Equipments for Amingaon GIS under NESIDS fund** [Schedule 1B-Erection, Testing and Commissioning]

Contract No: Nil

Name of the Bidder/ Bidding Firm / Company :	
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PRICE SCHEDULE

(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevent columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)

NUMBER #	TEXT #	NUMBER #	TEXT #	NUMBER #	NUMBER #	TEXT #
Sl. No.	Item Description	Quantity	Units	Unit ExWorks (exclusive of taxes) In Figures To be entered by the Bidder in Rs. P	TOTAL AMOUNT (Without Taxes) in Rs. P	TOTAL AMOUNT In Words
1	2	4	5	13	53	55
1	Erection, Testing & Commissioning of 132kV GIS Equipments(Erection A)					
1.10	145kV, 3150A, 40kA for 4 second, SF6 gas-insulated metal enclosed Transformer bay module each set comprising of One (1) number 3-phase, 3150A, SF6 insulated circuit breaker complete with operating mechanism; Three (3) numbers 1-phase, 5-core, multi ratio,600-300/1-1-1-1-1A current transformers; Three (3) numbers 3-phase, 3150A, group operated isolators/disconnectors, complete with manual and motor driven operating mechanisms; One (1) number 3-phase, group operated safety grounding switches, complete with manual and motor driven operating mechanisms;Gas monitoring devices, barriers, pressure switches, UHF PD Sensors, support structure etc. as required; Local Bay control cubicle.(Stand Alone or Integrated)	2	Sets		0.00	INR Zero Only

1.20	Three phase, 3150A, 40kA for 4 second, SF6 gas-insulated metal enclosed bus bar of 145kV, each set comprising of Bus bars enclosures running from the existing Bus bar Module to interconnect each of the Transformer circuit breaker bay modules in Double Bus bar configuration; Gas monitoring devices, barriers, pressure switches, UHF PD Sensors, support structure, foundation bolt, design & construction of foundation etc. as required	2	Sets		0.00	INR Zero Only
1.30	145kV, 3150A, 40 kA for 4 sec, 3- phase SF6 to air bushings along with termination module & support structure for outdoor connections to connect GIS with 145kV side of Power transformer.	2	Sets		0.00	INR Zero Only
1.40	145kV, 3150A, 40kA for 4 second, 3-Ph encapsulated, SF6 Gas Insulated Bus Duct (GIB) outside GIS hall including Bus Duct support structure and associated accessories along with jointing elements	75	RM		0.00	INR Zero Only
1.50	Erection Hardware for 145kV GIS Termination arrangement for Transformer bay Modules	2	Sets		0.00	INR Zero Only
2.00	Erection, Testing & Commissioning of outdoor bay equipments (Erection B)					
2.01	Transformer					
2.02	50 MVA, 132/33 kV, 3-Ph, YNyn0, Z =12.5 %, ONAN/ONAF with copper wound Power Transformer with OLTC(+5% to -15% in steps of 1.25%) , RTCC panel including all cabling, insulating oil for the transformer plus 10% spare oil, supplied with Bushing mounted NCT on HV & LV side & complete with all fittings and accessories to meet the technical specification including cost of all routine test including loading and unloading at site.The Transformer shall be suitable for 4" Aluminium Tubular Conductor termination on HV and LV side.	2	No		0.00	INR Zero Only
2.03	Online DGA	2	No		0.00	INR Zero Only
2.04	Online Insulating oil drying system	2	Sets		0.00	INR Zero Only

2.05	Lightning Arrester					
2.06	120 kV, 10 kA, Metal Oxide type, heavy duty, station class 3, Lightning Arrestor complete with Pipe Structures, Surge Counter, Hardware fittings and Clamps and Connectors as per specification	6	No		0.00	INR Zero Only
2.07	30 kV,10 kA, Metal Oxide type, heavy duty, station class Lightning Arrestor complete with Pipe Structures, Surge Counter, Hardware fittings and Clamps and Connectors as per specification	6	No		0.00	INR Zero Only
2.08	Erection of 33kV XLPE Cable and Termination Kit					
2.09	Laying of 1000 sqmm, 33kV, 1-Core, XLPE Armoured Cu cable alongwith related accessories in cable trenches and cable terminations including supply of cable end sealing boxes, construction of cable trenches etc	200	Mtr		0.00	INR Zero Only
2.10	33kV Cable Termination Kit (both indoor and outdoor) along with its accessories and related structure for outdoor type.	4	Set		0.00	INR Zero Only
2.11	33kV Support Structure for Outdoor Cable Termination Kit	2	Nos		0.00	INR Zero Only
2.12	Earthing					
2.13	Main Earthing Conductor 40mm dia MS Rod	600	meter		0.00	INR Zero Only
2.14	Earthing Conductor: 40mm dia MS Rod For Riser From The Burial Earth Mat To Equipment,Structure Etc)	600	meter		0.00	INR Zero Only
2.15	Earthing Conductor: 75X12mm GI Flat For Equipment and Structure Earthing	300	meter		0.00	INR Zero Only
2.16	Earthing Conductor: 50X6 mm GI(HDG) Flat For Riser For Console Box,Lt Panels,Dc Panels,Marshalling Boxes, Cable Trenches Etc)	150	meter		0.00	INR Zero Only
2.17	Earthing Device & Associated Accessories (50 mm Heavy Duty GI Perforated Pipe 3 Mtrs Long For Treated Earth Pit)	6	Nos.		0.00	INR Zero Only

2.18	Earthing Device & Associated Accessories 40Mm Ms Rod 3 Mtrs Long For Non Treated Earth Pit)	60	Nos.		0.00	INR Zero Only
2.19	Soil Resistivity Test And Soil Treatment As And When Required	1	JOB		0.00	INR Zero Only
2.20	Separate Earthing For 145 Kv GIS Modules	1	JOB		0.00	INR Zero Only
2.21	Separate Earthing For 145 Kv GIS Building	1	JOB		0.00	INR Zero Only
2.22	Separate Earthing For 36 Kv Indoor AIS Equipment	1	JOB		0.00	INR Zero Only
2.23	Separate Earthing For 36 Kv Indoor AIS Building	1	JOB		0.00	INR Zero Only
2.24	Other Earthing Accessories	1	Lot		0.00	INR Zero Only
2.25	Fire Protection System for Transformer					
2.26	NIFPS					
2.27	N2 Fire Prevention and extinguishing System for transformer with complete accessories and related Civil and Electrical works.	2	No		0.00	INR Zero Only
2.28	HVWS					
2.29	HVW spray system, Hydrant System and complete U/G and O/G Piping and accessories etc and associated Civil Works for fire protection system for 2 nos 50 MVA 132/33kV Transformer	1	Set		0.00	INR Zero Only
2.30	HVWS System for 50 MVA ICT	2	Set		0.00	INR Zero Only
2.31	Portable/Wheel/ Trolley mounted Fire Extinguishers					
2.32	22.5 Kg capacity FE CO2 type, Trolley Mounted	4	Nos		0.00	INR Zero Only
2.33	25 Kg Capacity FE DCP type, Trolley Mounted	4	Nos		0.00	INR Zero Only
2.34	DCP 10 Kg Capacity, Wall mounted	6	Nos		0.00	INR Zero Only
2.35	FE CO2 6.5 Kg capacity, Wall mounted	4	Nos		0.00	INR Zero Only
2.36	DCP 5 Kg Capacity, Wall mounted	5	Nos		0.00	INR Zero Only

2.37	Foam Type 9 liter Capacity, Wall mounted	4	Nos		0.00	INR Zero Only
2.38	Water CO2 9 liter, Wall mounted	6	Nos		0.00	INR Zero Only
2.39	Fire Buckets (12 Nos. with stand in one set)	1	Set		0.00	INR Zero Only
2.40	Erection of Indoor floor mounted, SIMPLEX type Control and Relay Panels, with mimic & annunciation panel for 132kV system as per specification comprising of the C & R Panels and shall be complete with Numerical Relays and SAMAST Compliant ABT Meters as per the Technical specifications & shall be compatible for SCADA/ SAS .					
2.41	132kV Panels					
2.42	Transformer Protection Panel	2	No		0.00	INR Zero Only
2.43	Substation Automation System					
2.44	Integration with Existing SAS (including transmittal of telemetry data for HV & LV side of both the Transformer) for 132 kV System.	1	LS		0.00	INR Zero Only
2.46	Conductor / IPS Al Tube					
2.47	4" IPS Al Tube	80	Mtr		0.00	INR Zero Only
2.48	Lightning protection					
2.49	Lightning Mast (LM)- 40m	1	No		0.00	INR Zero Only
2.50	Erection of mounting structures as required to complete the job					
2.51	132kV Equipments					
2.52	Lightning Arrester (1 Phase)	6	Nos		0.00	INR Zero Only
2.53	33kV Equipments					
2.54	Lightning Arrester (1 Phase)	6	Nos		0.00	INR Zero Only

2.55	Illumination system for Outdoor Lighting (Switchyard and Street lighting)					
2.56	Lighting Panel					
2.57	Lighting Panel Type ACP-2	1	Nos		0.00	INR Zero Only
2.58	Sub lighting panel type SLP	2	Nos		0.00	INR Zero Only
2.59	lighting Fixtures and Receptacles including junction box, lighting wires and flexible conduit (if required) from junction box to lighting fixture, mounting arrangement and other accessories/ materials etc as required for complete installation and commissioning of lighting fixture					
2.60	Lighting Fixture Type SF1	4	Nos		0.00	INR Zero Only
2.61	Lighting Fixture Type SF2	2	Nos		0.00	INR Zero Only
2.62	Lighting Fixture Type SF4	2	Nos		0.00	INR Zero Only
3.00	Erection, Testing & Commissioning of 33kV Equipments and Panels(Erection C)					
3.01	33kV,3 Phase, 13 Unit Panel (8 Line Bays, 2 Transformer incomer Bays, 1 Bus Sectionalizer Bay and 2 PT Bay) Indoor Drawn out type switchgear as per specification (Single bus with sectionalizer)	1	Set		0.00	INR Zero Only
3.02	30 kV,10 kA, Metal Oxide type, heavy duty, station class Lightning Arrestor complete with Surge Counter & copper connecting lead	24	No		0.00	INR Zero Only
3.03	Outdoor type 36 kV, 1250 A, 3-Ph gang operated, outdoor type, Double Break centre Post rotating outdoor type motor operated Disconnecter (Isolator) with solid core Post Insulator.					
3.04	With one earth switch	8	Sets		0.00	INR Zero Only

3.05	Supply of 33kV XLPE Cable and Termination Kit					
3.06	300 sqmm, 33kV, 1-Core, XLPE Armoured Cu cable alongwith related accessories	900	Mtr		0.00	INR Zero Only
3.07	33kV Cable Termination Kit (both indoor and outdoor) along with its accessories and related structure for outdoor type.	16	Set		0.00	INR Zero Only
3.08	33kV Support Structure for Outdoor Cable Termination Kit	8	Nos		0.00	INR Zero Only
3.09	Erection of Control, Relay & Protection Panel(Simplex Type) with mimic & annunciation panel with ABT Meters for 33kV system as per specification					
3.10	33 kV Panels					
3.11	33KV Line Protection & Control Panel	8	Nos		0.00	INR Zero Only
3.12	33KV Transformer I/C Protection & Control Panel on 33 kV side of Power Transformer	2	Nos		0.00	INR Zero Only
3.13	33KV Protection & Control Panel for Bus Section	1	Nos		0.00	INR Zero Only
3.14	Substation Automation System and Integration with existing SAS					
3.15	Integration with Existing SAS for 33kV System	1	LS		0.00	INR Zero Only
3.16	Bay Steel Structures except equipment mounting structures					
3.17	COLUMNS					
3.18	Column Type 'C5'	3	Nos		0.00	INR Zero Only
3.19	Column Type 'C6'	6	Nos		0.00	INR Zero Only
3.20	Construction of foundations for lattice steel columns including supply of all foundation materials and labour etc.	1	Lot		0.00	INR Zero Only
3.21	BEAMS					
3.22	Beam Type 'B5'	8	Nos		0.00	INR Zero Only

3.23	Erection of Foundation Bolts (including nuts, checknut and washers for lattice and pipe structures)	1	Lot		0.00	INR Zero Only
3.24	Erection of Fasteners (nuts, bolts and washers) including step bolts for lattice and pipe structures	1	Lot		0.00	INR Zero Only
3.25	Erection of mounting structures as required to complete the job.					
3.26	33kV Equipments					
3.27	Isolator	8	Sets		0.00	INR Zero Only
3.28	Lightning Arrester (1 Phase)	24	Nos		0.00	INR Zero Only
3.29	Illumination System					
3.30	Indoor Illumination system for the 33kV Indoor Switchgear Room	1	LS		0.00	INR Zero Only
3.31	Lightning protection (lightning spikes, shield wires, down conductors etc.)	1	LS		0.00	INR Zero Only
Total in Figures					0.00	
Quoted Rate in Words		INR Zero Only				

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Tender Inviting Authority: CGM(PP&D), AEGCL

Name of Work: Supply of 132/33 kV GIS Equipments for Amingaon GIS under NESIDS fund [Schedule 1C- Civil Works]

Contract No: Nil

Name of the Bidder/ Bidding Firm / Company :	
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PRICE SCHEDULE

(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevent columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)

NUMBER #	TEXT #	NUMBER #	TEXT #	NUMBER #	NUMBER #	TEXT #
Sl. No.	Item Description	Quantity	Units	Unit ExWorks (exclusive of taxes) In Figures To be entered by the Bidder in Rs. P	TOTAL AMOUNT (Without Taxes) in Rs. P	TOTAL AMOUNT In Words
1	2	4	5	13	53	55
1	Site development, PCC and Gravelling work					
1.01	Clearing and grubbing road land including uprooting wild vegetation, grass, bushes, shrubs, saplings and trees of girth upto 300 mm, removal of stumps of such trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned, upto a lead of 1000 m including removal and disposal of top organic soil not exceeding 150 mm in thickness as per Technical Specification Clause 201. (i) By Manual Means. (b) In area of thorny jungle.	0.40	Hectare		0.00	INR Zero Only

1.02	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-incharge. All kinds of soil.	5000.00	cum		0.00	INR Zero Only
1.03	Excavating, supplying and filling of local earth (including royalty) by mechanical transport upto a lead of 5km also including ramming and watering of the earth in layers not exceeding 20 cm in trenches, plinth, sides of foundation etc. complete. The Bill of Quantity for site development by Earthfilling shall be measured on fully compacted soil, therefore any shrinkage shall not be considered.	3500.00	Cum		0.00	INR Zero Only
1.04	Providing and laying in position ready mixed or site batched design mix cement concrete for plain cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana/Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; including the cost of centering, shuttering and finishing as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the minimum specified cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement. Concrete of M10 grade with minimum cement content of 220 kg /cum	350.00	Cum		0.00	INR Zero Only
1.05	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings This includes jointing of pipes & fittings with one step CPVC solvent cement, trenching, refilling & testing of joints complete as per direction of Engineer in Charge. 100 mm nominal dia Pipes	225.00	RM		0.00	INR Zero Only

1.06	Providing and fixing PTMT grating of approved quality and colour. Circular type 100 mm nominal dia	750.00	Each		0.00	INR Zero Only
1.07	Supplying and laying 100 mm thick machine crushed 25 mm stone aggregates in layers.	350.00	Cum		0.00	INR Zero Only
1.08	Cost of Haulage excluding loading and unloading. Surface road. 25-5=20KM @ Rs.16.00 Cum/KM=20X16=320	350.00	Cum		0.00	INR Zero Only
1.09	Trenches work					
1.1	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in-charge. All kinds of soil.	56.25	Cum		0.00	INR Zero Only
1.11	Providing and laying in position ready mixed or site batched design mix cement concrete for plain cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana/Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; including the cost of centering, shuttering and finishing as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the minimum specified cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement. Concrete of M10 grade with minimum cement content of 220 kg /cum	7.03	Cum		0.00	INR Zero Only

1.12	<p>Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; including the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete.</p> <p>Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 1.10 times of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.</p> <p>Concrete of M25 grade with minimum cement content of 330 kg /cum</p>	45.54	Cum		0.00	INR Zero Only
1.13	<p>Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level.</p> <p>Thermo-Mechanically Treated bars of grade Fe-500D or more.</p>	21,265.00	Kg		0.00	INR Zero Only
1.14	<p>Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.</p>	1,200.00	Kg		0.00	INR Zero Only
1.15	<p>Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes. 110 mm diameter.</p>	100.00	Rm		0.00	INR Zero Only
1.16	Boundary / Retaining wall					
1.17	<p>Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-incharge. All kinds of soil.</p>	924.00	cum		0.00	INR Zero Only

1.18	<p>Providing and laying in position ready mixed or site batched design mix cement concrete for plain cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana/Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; including the cost of centering, shuttering and finishing as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the minimum specified cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement. Concrete of M10 grade with minimum cement content of 220 kg /cum</p>	30.80	cum		0.00	INR Zero Only
1.19	<p>Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; including the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 1.10 times of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.</p>					

1.2	All works upto plinth level Concrete of M25 grade with minimum cement content of 330 kg /cum	93.10	cum		0.00	INR Zero Only
1.21	All works above plinth level upto floor V level Concrete of M25 grade with minimum cement content of 330 kg /cum	28.57	cum		0.00	INR Zero Only
1.22	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more.	1642.40	Kg		0.00	INR Zero Only
1.23	Coursed rubble masonry (first sort) with hard stone in foundation and plinth with : Cement mortar 1:6 (1 cement : 6 coarse sand)	980.00	cum		0.00	INR Zero Only
1.24	Tower foundations					
1.25	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-incharge. All kinds of soil.	159.08	cum		0.00	INR Zero Only
1.26	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more.	11135.00	Kg		0.00	INR Zero Only

1.27	<p>Providing and laying in position ready mixed or site batched design mix cement concrete for plain cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana/Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; including the cost of centering, shuttering and finishing as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the minimum specified cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement. Concrete of M10 grade with minimum cement content of 220 kg /cum</p>	7.58	cum		0.00	INR Zero Only
1.28	<p>Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; including the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 1.10 times of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement. All works upto plinth level Concrete of M25 grade with minimum cement content of 330 kg /cum</p>	58.54	cum		0.00	INR Zero Only
1.29	Equipment foundations					

1.3	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-incharge. All kinds of soil.	510.68	cum		0.00	INR Zero Only
1.31	<p>Providing and laying in position ready mixed or site batched design mix cement concrete for plain cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana/Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; including the cost of centering, shuttering and finishing as per direction of the engineer-in-charge; for the following grades of concrete.</p> <p>Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the minimum specified cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.</p> <p>Concrete of M10 grade with minimum cement content of 220 kg /cum</p>	23.17	cum		0.00	INR Zero Only

1.32	<p>Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; including the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 1.10 times of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.</p> <p>All works upto plinth level Concrete of M25 grade with minimum cement content of 330 kg /cum</p>	149.48	cum		0.00	INR Zero Only
1.33	<p>Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more.</p>	12333.00	Kg		0.00	INR Zero Only
1.34	50 MVA Power Transformer foundation-2 Nos					
1.35	<p>Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-incharge. All kinds of soil.</p>	313.96	cum		0.00	INR Zero Only

1.36	<p>Providing and laying in position ready mixed or site batched design mix cement concrete for plain cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana/Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; including the cost of centering, shuttering and finishing as per direction of the engineer-in-charge; for the following grades of concrete.</p> <p>Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the minimum specified cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement. Concrete of M10 grade with minimum cement content of 220 kg /cum</p>	20.96	cum		0.00	INR Zero Only
1.37	<p>Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; including the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete.</p> <p>Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 1.10 times of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.</p> <p>All works upto plinth level Concrete of M25 grade with minimum cement content of 330 kg /cum</p>	53.25	cum		0.00	INR Zero Only

1.38	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more.	6390.00	Kg		0.00	INR Zero Only
1.39	Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	18384.00	Kg		0.00	INR Zero Only
1.4	Fire Protection wall- 1 Nos					
1.41	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in-charge. All kinds of soil.	59.36	cum		0.00	INR Zero Only
1.42	Providing and laying in position ready mixed or site batched design mix cement concrete for plain cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana/Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; including the cost of centering, shuttering and finishing as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the minimum specified cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement. Concrete of M10 grade with minimum cement content of 220 kg /cum	1.54	cum		0.00	INR Zero Only

1.43	Brick on edge flooring with bricks of class designation 7.5 on a bed of 12 mm cement mortar, including filling the joints with same mortar, with common burnt clay non modular bricks: 1:6 (1cement : 6 coarse sand)	22.19	Sqm		0.00	INR Zero Only
1.44	5.33 Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; including the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 1.10 times of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.					
1.45	All works upto plinth level Concrete of M25 grade with minimum cement content of 330 kg /cum	8.81	cum		0.00	INR Zero Only
1.46	All works above plinth level upto floor V level Concrete of M25 grade with minimum cement content of 330 kg /cum	3.66	cum		0.00	INR Zero Only
1.47	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more.	929.000	kg		0.00	INR Zero Only

1.48	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in : Cement mortar 1:4 (1 cement : 4 coarse sand)	29.07	cum		0.00	INR Zero Only
1.49	15 mm cement plaster on the rough side of single or half brick wall of mix : (1 cement: 6 fine sand)	148.29	Sqm.		0.00	INR Zero Only
1.5	Applying one coat of water thinnable cement primer of approved brand and manufacture on wall surface : Water thinnable cement	148.29	Sqm.		0.00	INR Zero Only
1.51	Finishing walls with water proofing cement paint of required shade : New work (Two or more coats applied @ 3.84 kg/10 sqm)	148.29	Sqm.		0.00	INR Zero Only
1.52	VCB Building					
1.53	Design and Construction of VCB Building (Ht=6.00 meter) with all finishes, Sanitary System,Plumbing,Electrification,AIR Conditioning etc as per the drawing ,specification and direction of Engineer In Charge .Rate shall include supply of all material and labour.	175.00	SqMeter		0.00	INR Zero Only
1.54	PCC Road					
1.55	Brick on edge flooring with bricks of class designation 7.5 on a bed of 12 mm cement mortar, including filling the joints with same mortar, with common burnt clay non modular bricks: 1:6 (1cement : 6 coarse sand)	750.00	Sqm		0.00	INR Zero Only

1.56	Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement - All work up to plinth level : 1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)	112.50	Cum		0.00	INR Zero Only
Total in Figures					0.00	
Quoted Rate in Words		INR Zero Only				