

Ref No: CL20160139

January 10, 2017

**TENDER DOCUMENT FOR
ANNUAL MANNING, OPERATION &
MAINTENANCE CONTRACT
OF
HT< ELECTRICAL INDOOR SUBSTATIONS, DG
SETS, SHOP ELECTRICS AND ILLUMINATION AT ARCI**



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ARCI**

**INTERNATIONAL ADVANCED RESEARCH CENTRE FOR POWDER
METALLURGY AND NEW MATERIALS (ARC International)**

Balapur PO, R.R. District, Hyderabad – 500 005, India

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**INTERNATIONAL ADVANCED RESEARCH CENTRE FOR
POWDER METALLURGY AND NEW MATERIALS (ARCI)
Balapur PO, Hyderabad – 500 005, India**

**TENDER FOR MANNING, OPERATION & MAINTENANCE OF HT/LT ELECTRICAL
SUBSTATIONS - AMC**

M/s ARCI, an autonomous R&D Society of Department of Science and Technology, Govt. of India invites sealed tenders in two bid system from eligible/reputed companies for following work :

Name of Work: Annual contract for Manning, operation and maintenance of indoor HT/LT electrical substation, captive power plant (DG sets), shop electrics & illumination at ARCI, Hyderabad

Estimated Cost: Rs.1,06,28316.00/-

EMD: Rs.250000/- (Two lakhs fifty thousand only)

Eligibility Criteria:

Contractors who have successfully completed similar works for a prominent Govt./Semi Govt./Corporate Bodies or Public Sector Undertaking during last Three years ending 31st Dec, 2016 as detailed below shall only be considered (i.e. attach documentary proof)

Similar Works Means: Experience in operation, manning and maintenance of

(a). Indoor (HT 33KV & 11KV and LT 440V) switch gear

(b). HT & LT transformers – HT (2 Nos) & LT (4 Nos)

(c). HT & LT PCC - HT (2 Nos) & LT (3Nos)

(d). LT DG sets in parallel mode operation (Min Three DG Sets 2 x 500 + 1 x 1500KVA)

(e). Industrial production shop floors.

1. The contractor should have at least **two** contracts of similar nature currently on hand anywhere in India.
2. Possession of requisite statutory certificates / licenses essential for manning and operation of 33KV substations.
3. The contractor should be original equipment manufacturer (OEM) for any one of the electrical items existing in power system i.e. HT & LT transformers, HT & LT switch gear (vacuum circuit breakers & Air circuit breakers) and DG Sets.
4. The contractor should have executed similar nature of AMC works for last three years with minimum value as mentioned below
 - One similar nature of work costing not less than **Rs.85.00 Lakhs**
 - or**
 - Two similar nature of works costing not less than **Rs.53.14 Lakhs**
 - or**
 - Three similar nature of work costing not less than **Rs.42.50 Lakhs**

Note:-All above four clauses should be satisfied to qualify technically.

The eligible Companies/contractor conforming to eligibility criteria laid down in the tender document may submit the same in sealed envelope to the Director, ARC International, Balapur PO, Hyderabad-500005 Latest by **08th Feb 2017 up to 15.00Hrs.** Super scribing the envelope enclosing all requisite documents, with name of work and drop the envelop in the tender box kept at ARCI security. ARCI reserves the right to reject any or all tenders and to call off the process of finalizing of contractors, at any stage without assigning any reasons.

TENDER NOTICE

Ref No:- CL20160139

Date: 10th Jan 2017

Director, ARCI invites sealed tenders in two bid system (Technical and Price Bid) from contractors registered with state and central government agencies/departments or corporate house or MNC's for execution of the following works.

S.NO.	Tender Ref. No	Description of work	Tender Value (approx)	EMD
1.	CL20160139	Annual manning, operation & maintenance contract of HT/LT electrical substations, DG sets, shop electrics and illumination	Rs.106.28Lakhs	Rs.2.50Lakhs

Tender document should be downloaded from ARCI website: www.arci.res.in Tenderers should enclose DD for Rs.1500/- towards the tender document fee. Tenders not accompanied tender document fee will be rejected. Last date for submission of tenders is **08th Feb 2017, 15.00Hrs.**

Director, ARCI

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GENERAL INSTRUCTIONS

NOTICE FOR INVITATION OF TENDERS

Sealed tenders for manning and operation on rate basis are invited by International Advanced Research Centre for Powder Metallurgy and New Materials, (ARC International) - ARCI, an autonomous R&D Society of Department of Science and Technology, Govt. of India for Annual Manning, Operation & Maintenance Contract of HT/LT Electrical Substations DG sets and etc at ARCI, Hyderabad

- * Tender to be addressed & Deposited at : Director
: **ARC International**
RCI Road, Opp .Balapur village
Hyderabad– 500005.
Phone no-040-24452376, 24452476
Fax no-040-24442699

Tenders are to be deposited in a sealed envelope at security gate marked as **TENDER FOR ANNUAL CONTRACT FOR MANNING, OPERATION AND MAINTENANCE OF HT/LT ELECTRICAL SUBSTATION, CAPTIVE POWER PLANT (DG SETS) SHOP ELECTRICS AND ILLUMINATION**

- * Earnest Money Deposit (EMD): **Rs.2,50,000/-** (Two Lakhs fifty thousands only) in the form of a bankers cheque or demand draft in favour of Director ARCI payable at Hyderabad from any nationalized bank.
- * AMC / Contract Period : 01/05/2017 to 30/04/2018
:
- * Last Date and Time for receipt of Tenders : **08th Feb 2017 up to 15.00Hrs.**

The Director, ARCI is not be bound to accept the lowest tender and reserves the right to accept or reject any or all Tenders without assigning any reason whatsoever.

The blank tender documents with eligibility criteria terms and conditions are to be downloaded from ARCI website: www.arci.res.in. Contractor who downloaded the tender document are required to submit a DD of **Rs.1500/-** drawn infavour of Director ARCI Hyderabad along with the technical bid, towards tender document cost. Tender without DD of **Rs.1500/-** will be outright rejected.

INSTRUCTIONS TO TENDERERS

A: GENERAL INSTRUCTIONS

1. Scope of Tender

International Advanced Research Centre for Powder Metallurgy And New Materials (ARCI) invites Tenders for Manning, operation and maintenance of HT/LT electrical substations, captive power plant (DG sets), shop electrics and illumination at ARCI, Hyderabad.

2. Non Association / Relation:

Should a contractor or a tenderer have a relative, employed in ARCI or in case of partnership firm or company incorporated under the Indian company act, should a partner or relative of the partner or a share holder be employed in a responsible capacity in ARCI, the authority inviting the tender should be informed of the fact at the time of submission of tender, failing which the tender may be rejected. If such fact is suppressed at the time of tendering and comes to light at any time after acceptance of tender, the contract may be rescinded.

3. Eligibility Criteria:

Contractors who have successfully completed similar works for a prominent Govt./Semi Govt./Corporate Bodies or Public Sector Undertaking during last Three years ending 31st Dec, 2016 as detailed below shall be considered (i.e. attach documentary proof)

Similar Works Means: Experience in operation, manning and maintenance of

- (a). Indoor (HT 33KV & 11KV and LT 440V) switch gear
 - (b). HT & LT transformers
 - (c). HT & LT PCC
 - (d). LT DG sets in parallel mode operation (Min Three DG Sets)
 - (e). Industrial production shop floors.
5. The contractor should have at least **three** contracts of similar nature currently on hand anywhere in India.
 6. Possession of requisite statutory certificates / licenses essential for manning and operation of 33KV substations (A Grade Supervisory)
 7. The contractor should be original equipment manufacture (OEM) for any one of the electrical items existing in power system i.e. HT & LT transformers, HT & LT switch gear (vacuum circuit breakers & Air circuit breakers) and DG Sets.
 8. The contractor should have executed similar nature of AMC works for last three years with minimum value as mentioned below
 - One similar nature of work costing not less than **Rs.85.00 Lakhs**
 - or**
 - Two similar nature of works costing not less than **Rs.53.14 Lakhs**
 - or**
 - Three similar nature of work costing not less than **Rs.42.50 Lakhs**

Note: - All above four clauses should be satisfied to qualify technically.

4. Qualification of the tender

- 4.1 All tenderers shall provide forms duly filled and signed.
- 4.2 All Tenderers shall include the following information by producing relevant documents and certificate with their Tenders:
- 4.3 The tenderer must be registered for service tax & with other statutory Departments of Govt of Telangana State / India and should submit the registration certificates of VAT/W.C.T/ ST,ESI, PF, labour license etc.
- 4.4 The Tenderer should submit the IT PAN certificate.
- 4.5 Others:
 - a) Total tender document enclosed each page duly signed by the tenderer as token of acceptance. If any deviation is proposed by the tenderer the same must be clearly indicated and enclosed as deviation list but tenders with significant deviations list and merely enclosing tenderer's printed conditions or their own terms and conditions will make the tender liable for rejection.
 - b) Copy of the tenderer's price schedule but without prices.
 - c) Earnest money deposit as laid down in these instructions to tenderers.
 - d) Constitution of the tendering firm
 - e) List of last three years executed electrical similar AMC works for Government / corporate companies along with Xerox copies of work orders / purchase orders.
 - f) Statement showing the turn over during the past three years supported by balance sheets or income tax returns
 - g) Current original solvency certificate from any nationalized bank
 - h) Copies of APGST/VAT/W.C.T/Service tax registration certificates and PAN card.
 - i) Other State/Central Government agencies registration certificate
 - j) Firm registration certificate (In case of Firm)
 - k) Latest profile of the contractor.
 - l) List of qualified engineers employed by the contractor.
 - m) The contractor should have statutory government licenses i.e. supervisory 33kv and 33KV electrical work permit and 33KV operating licenses.
 - n) List of similar nature of AMC electrical works under taken by the tender presently.

5. Cost of Tendering

The Tenderer shall bear all costs associated with the preparation and submission of his Tender, and the Owner will in no case be responsible and liable for those costs. The Tenderer, at the Tenderer's own responsibility and risk is encouraged to visit and examine the Site of Works and its surroundings and obtain all information that may be necessary for preparing the Tender and entering into a contract for AMC work at ARCI, Hyderabad The costs of visiting the Site shall be at the Tenderer's own expense.

6. PREPARATION & SUBMISSION OF DOCUMENT

6.1. Earnest Money Deposit (EMD)

EMD amounting to **Rs. 2,50,000/-** (Two Lakhs fifty thousands only) in the form of a bankers cheque or demand draft in favour ARCI payable at Hyderabad must accompany each Tender. **Tenders not accompanying with EMD and unconditional acceptance letter will be summarily rejected.**

The EMD of the unsuccessful Tenderers will be discharged / returned within Six (6) weeks from the last date of tender submission. The EMD of the successful Tenderer shall be converted as Security deposit.

The EMD may be forfeited: If the Tenderer withdraws his Tender during the validity period of the Tender or in case of a successful Tenderer, if the Tenderer fails to sign the contract or furnish performance security.

6.2. Period of validity of Tender

The Tender shall remain valid for a period of 90 days after the last date of the submission of Tender. A Tender valid for a shorter period, may be rejected by the Owner as non-responsive and the EMD paid along with it will be forfeited.

The rates quoted by the Contractor will hold good for the entire period of work and no compensation / escalation will be paid in any circumstances on this account.

6.3. Language of Tender

The document shall be written in english language. The total amount should be written in the same language.

6.4. Document comprising the Tender

No page of this Tender document shall be removed and the set must be submitted as it is. Each page of the Tender document form is to be signed by the Contractor and must bear the Seal of the Company/Firm.

7. The Tender submitted by the Tenderer shall comprise the following:

Envelope-1; Technical Bid :Part-I

- a. Total tender document enclosed each page duly signed by the tenderer as token of acceptance. If any deviation is proposed by the tenderer the same must be clearly indicated and enclosed as deviation list, but tenders with significant deviations list and merely enclosing tenderer's printed conditions or their own terms and conditions will make the tender liable for rejection.
- b. Copy of the tenderer's price schedule but without prices.
- c. Earnest money deposit as laid down in this instructions to tenderers.
- d. Constitution of the tendering firm
- e. List of eligibility criteria documents last three years executed similar AMC works for government & cooperate firms along with Xerox copies of work orders /purchase orders

- f. Statement showing the turn over during the past three years supported by balance sheets or income tax returns.
- g. Current original solvency certificate from any nationalized bank for minimum 100 Lakhs.
- h. Copies of APGST/VAT/W.C.T/Service tax registration certificates and PAN card.
- i. Other State/Central Government agencies registration certificate.
- j. Firm registration certificate (In case of Firm).
- k. Latest profile of the contractor.
- l. List of qualified engineers employed by the contractor.
- m. The contractor should have statutory government licenses i.e. supervisory 33kv and 33KV electrical work permit licenses.

ARCI is not responsible for the loss of documents or for the delay transit

All the above documents forming PART – I of the tender shall be kept in one envelope which shall be SEALED and super-scribed with as technical bid PART – I, Technical bid -Name of work &Due date

Envelope-2; Price Bid :Part-II

Part two of the tender shall contain only the price schedule with prices (both in words and in figures) strictly in accordance with the price schedule format of the tender document. Departure from the price schedule format may render the tender liable for rejection. Price schedule format in PART I & PART II must be identical except that PART – I should not contain any price figures.

This price schedule forming the PART II of the tender shall be kept in another envelope which shall also be SEALED and super-scribed with as PART – II, Price bid-Name of work &Due date.

The above two sealed covers, (one containing the part-I, of the tender and the other containing the part-II of the tender) are to be placed in a single envelope. The envelope duly sealed & super-scribed with the name of work Ref No: CL20160167 should be addressed to

The Director

**International Advanced Research Center for Powder Metallurgy and New Materials,
Balapur PO, RR District
Hyderabad – 500 005**

Note: - *Based on the technical bid qualification the commercial bid will be opened.*

ANNEXURE – I

GENERAL & SPECIAL CONDITIONS OF CONTRACT

A. GENERAL CONDITIONS OF CONTRACT

1. Prices quoted should be valid for the contract period from the date of opening of your offer.
2. The prices quoted should be for the entire scope of work.
3. The rates quoted shall be inclusive of all statutory payments like PF, ESI, workmen's compensation policy, accidental insurance and any other statutory requirements from time to time as per Govt of India / Govt of AP labour acts etc for all employees employed by the contractor.
4. Payment shall be made through monthly running bills and on pro-rata basis.

5. Transport

- 5.1 The transport required within the complex for carrying items inside the ARCI complex for repairing work etc. shall be arranged by the contractor. The contractor may however seek the help of department to take permission to take heavy items for repair outside the ARCI complex if considered necessary. However for transportation of heavy items for outstation repair is in the scope of ARC-I.
- 5.2 Contractor's materials, transport, etc. shall normally be permitted to go out of the area between 9 AM to 5 PM only. Contractor may also be allowed to carry out the work beyond 5 PM and up to 9 AM (day and night) with special permission from the Director ARCI. However, no movement of materials and transport out of site of works shall be permitted during night or during holidays unless special permission obtained from the Director, ARCI.

6. Antecedents

The contractor shall employ only Indian Nationals as his representatives, servants, work men and verify their antecedents and loyalty before employing them on the works. He shall ensure that no person of notorious antecedents and nationality is in anyway associated with the works and if for reasons of technical collaboration or other consideration, the employment of any foreign national is unavoidable, the contractor shall furnish full particulars to this effect to the accepting officer at the time of submission of tender. The Director, ARCI shall have full powers and without giving any reasons to the contractor immediately cease to employ in connection with this contract, any representative agency, servant and workman or employee whose continuous employment in his opinion is undesirable. The contractor shall not be allowed any compensation on this account.

7. The term of agreement / purchase order / work order shall be initially for a period of one year. On expiry of the term the contract may be renewed on mutual consultation by both the parties on the terms and conditions mutually agreed to.
8. The waste paper shall not be transported outside the ARCI site but burnt out in the incinerators, provided within the premises.
9. The contractor shall maintain the installations clean and tidy inside as well as around the installations and buildings. No rags and waste etc. shall be thrown near the building. This shall be deposited in the dustbins provided nearby. If any substation and MSDS is found untidy a lump sum amount agreed by both the parties will be deducted from the contractor's bill. The amount quoted by the contractor shall provide manpower for such purpose at his own cost.

10. Security Pass

Immediately after acceptance of the contract, the contractor shall submit the list showing the names of the individuals, he wishes to employ in the work, with their particulars to the department for getting the police verification and arranging the temporary pass for them up to security gate only and subsequently to inside the technical area, the contractor shall provide security to the operator/helpers.

11. The scope of the work of this contract shall be as per **ANNEXURE-II**
12. The contractor shall demand the stores in writing to the department for arranging such items for issue and also keep record/account of all materials drawn from the Director, ARCI and produce for verification as and when demanded. Unserviceable items shall be returned to the ARCI.

13. Tools and Tackles:

- 13.1 All tools and tackles required for the work including testing equipment's shall be arranged by contractor. **Annexure - III**
- 13.2 The tenderer shall be fully responsible for arranging the supply of required tools and tackles.
- 13.3 ARC-I will provide aluminum (3 Nos.) ladders for maintenance works. The contractor should return this ladders to ARC-I at the end of this contract. A joint inspection to this effect for any damages to ladder before handing over the ladders the contractor and same will be carried out at the end of contract to ensure that contractor has returned the ladder in original taken over position.

14. Maintenance of records:

14.1 The contractor shall maintain all records such as log book, schedule of maintenance activity, complaint register, attendance register, test records for various tests conducted, material requisition book, gate pass and other statutory registers for manpower employed etc. such records are to be maintained as per the formats supplied by the owner. Records of major breakdown occurred during the period shall be maintained showing the cause of the defect and location and type of repairs carried out.

14.2 Following documents / records to be maintained at site

1. Daily Logbook
 2. Complaint slips book
 3. Energy meter reading register to monitor CMD
 4. Weekly Load inspection sheet and analysis with reports of actions taken
 5. Monthly inspection sheet and analysis with reports of actions taken
 6. Quarterly inspection sheet and analysis with reports of actions taken
 7. Half yearly inspection sheet and analysis with reports of actions taken
 8. Yearly inspection sheet and analysis with reports of actions taken
 9. Daily shop electrical complaints inspection sheet and analysis with reports of action taken
 10. Equipment history cards
 11. Energy meter calibration record
 12. Protection relay testing record
 13. Transformers oil testing records
 14. List of spares available in stock & List of spares to be procured on monthly basis
 15. Tools/Tackles certification record
 16. Trends of improvements
 17. Any other documents, records, which shall be required to be maintained to adhere to the ARCI systems like ISO etc.
 18. Keep track of PM and subsequently maintaining its record
 19. Temporary electrical connections permits as per ARCI format
 20. Upkeep of present SLDs and schematic drawings of equipments based on the modifications.
- Please note that the formats of various reports / documents will be finalized after joint discussions with ARCI Engineers. However, the formats may get changed to incorporate the improvements during the period of the contract.

14.3 The cost of stationary required for maintenance of the above record are under the scope of ARCI

15. The contractor shall employ the required number of personnel depending upon the requirement of ARCI on "as required basis" including technical and non-technical personnel. The contractor shall, during the progress of the

works, employ a whole time qualified, experienced and competent representative at the site for executing the work. For specialized work involving such as, calibration of relays, **HT & LT breakers calibration, DG sets - C Check, Transformers oil test & filtration** as per rate quoted in **BOQ**

16. The work shall be governed by ARCI's general conditions and security regulations of the contract.
17. The number and names of the contractor's personnel along with two photographs to be engaged shall be indicated/submitted in advance to meet the security regulations, etc.
18. The tenderer should sign in each page of tender document all the terms and conditions of the contract as a mark of his acceptance of contract. The signed tender copy has to be submitted to ARCI
19. The submission of tender by a tenderer implies that he has read this notice and the conditions of contract and has made himself aware of the scope and specifications of the work to be done and of the conditions and rates at which stores, tools and plant etc. will be issued to him and local conditions and other factors bearing on the execution of the work.
20. No foreign exchange and import license for import of technical know-how or equipment, components, spares or materials will be arranged or provided by the ARCI. In case the offered equipment involves any foreign exchange, this shall be clearly indicated together with a statement as to how this is being arranged by the tenderer.
21. The tenderer shall indicate the source of supply, the detailed specifications, furnish test certificates, such as guarantee/warranty etc. for all electrical bought out items.
22. The Director, ARCI or any one or more officers authorized by him shall have the right to visit contractor's/sub contractor's premises to check the physical progress of work, inspection, testing etc. of the contract items or any part thereof at any time during all stages of operation & maintenance. The contractor shall extend all necessary facilities for carrying out such inspection and check of progress of work.
23. **Deviations:** Any exclusion, deviation from specification shall be clearly spelt out and listed at one place only and tenderer shall substantiate the same with appropriate reasons. In absence of the same, it will be considered that tenderer has followed the specification fully in words and spirit.
24. **Faults, Repairs and Replacement:**

- 24.1 In case faults occur of such nature causing delay and becoming detrimental to the maintenance of services or any spare part of equipment not available with the Director, ARCI in stock, contractor would be ordered in writing by Director, ARCI for procurement of the same from the market for rectification/completion of the job. The payment will be regularized in the following RA bills.
- 24.2 In case of faults/repairs/damages, the Contractor should immediately submit a detailed fault analysis report, the details of repair/rectification schedule with details of probable completion. A format has to be submitted by the tenderer for repair/rectification schedule along with the tender which will be approved by the Director, ARCI.
- 24.3 On completion of replacement of spares but before energisation / operation of the system, the replacement shall be physically checked and properly tested. These checks and tests shall be conducted by the tenderer under the supervision of ARCI and tenderer shall furnish the final status and test result. Any defect observed during such check and tests shall be made good by the tenderer free of cost within the Contract completion period.

25. Specifications and Standards

The operation and maintenance shall be in conformity with relevant Indian Standard specification. National Electrical codes including provisions of these specifications. In the event of any conflict between the provisions/clause for a particular item in the above mentioned rules and specifications the most suited clause based on requirement shall be applicable.

26. Any work that the tenderer would normally off load to his sub-vendor or sub-contractor with the permission of ARCI, it is to be noted that the Director, ARC-I shall not have any obligations whatsoever towards the tenderer's sub-contractor / sub-vendor. Only the tenderer is responsible to the Director, ARCI and ARCI does not accept any liability for the sub-contractor or his work men.
27. It must be understood that the number of people indicated here would in any way bind the tenderer for any contractual obligations or delay in schedule of work etc. This information would be used only for tenderer evaluation and later on to assess tenderer's progress with regard to adequacy of manpower.
28. Any other information the tenderer feels necessary to understand the quotation in complete.
29. It is the responsibility of the successful tenderer to handover the entire system to the Director, ARCI on completion of the contract period subject to normal wear and tear. Any damages/replacement etc. should be done at free of cost with the knowledge of the Director, ARCI. The final taking over will be

done after detailed joint inspection by the Director, ARCI / or his authorized representative and the contractor on completion of the contract period.

30 The contractor shall not be entitled to any additional payment during the tenure of the contract due to increase in cost of manpower and the rates should be quoted accordingly.

31. Resolution of Disputes & Arbitration

This Contract shall be governed by, and construed in accordance with the laws of India. Any dispute which cannot be amicably settled by the parties may be submitted, by one of the parties, to the International Centre for Alternate Dispute Resolution (ICADR), New Delhi. The dispute will be settled following the provisions of Arbitration and Conciliation Act, 1996. Both Parties agree that the results and awards of any such arbitration shall be final and binding on both Parties. Venue of Arbitration shall be New Delhi.

32. The lump sum price offered by the contractor shall include the charges for any minor jobs mutually discussed and agreed upon of maintenance which are obviously fairly intended and which may not have been referred to in these documents but are essential for this work. In case of difference of opinion as to whether or not a certain item of work constitute minor details of maintenance or not included in contractors prices, the decision of Director, ARCI shall be final and binding.

33. If the contractor has to go in for subcontracting, he has to take prior written approval from the Director, ARCI for the same. But the prime contractor is held responsible for all the works. The Director, ARCI will in no way have contacts with the sub contractor so appointed by the prime contractor.

34. Risk Purchases:

The cost of repairs/rectification's necessitated due to negligence of contractors employee shall be recovered from the contractor as per assessment made by the Director, ARCI. If the contractor fails to repair/rectify the defects in installations within the time given to him, the same will be got repaired/rectified from other agency at the risk and cost of the Contractor. The decision of Director, ARCI shall be final and binding on both the parties.

35. If the attendance falls short of the contracted minimum number of persons the pro-rata amount shall be deducted from his bill. Similarly, if the work is found unsatisfactory and not up to the expected standards, an amount which the Director, ARCI determines, shall be deducted from the Contractor's bill. The amount so deducted shall be final.

36. Amendment of Tendering Documents

36.1 Before the deadline for submission of Tenders, the Owner may modify the Tender documents by issuing addenda.

36.2 Any addendum thus issued shall be part of the Tender documents and shall be

communicated in writing or by Fax to all the eligible contractors. The eligible contractors shall acknowledge receipt of each addendum by Fax to the Owner.

- 36.3 To give prospective Tenderers reasonable time in which to take an addendum into account in preparing their Tenders, the Owner may extend if necessary the deadline for submission of Tenders.

37. ELIGIBILITY CRITERIA AND INFORMATION CHECKLIST TO ACOMPANY THE TENDER

Sl. No.	Document to be Submitted	Description to be given	Scanned documents/ photocopy to be Submitted	Column 5
(1)	(2)	(3)	(4)	(5)
1.a)	Contractors registration under appropriate class with Govt./PSU / MNC.	Registration	Yes / No	
b)	Partnership deed in case of firms & Article of Association in case of companies			
2.	Copy of Permanent Account Number (PAN) card and copy of latest Income Tax returns submitted along with proof of receipt.	PAN & IT Returns	Yes / No	
3.	Work completion certificates In support of annual turnover in AMC works (Format at Statement-I)	Annual turnover	Yes / No	
4.	Work completion certificates in support of satisfactory completion of similar works (Format at Statement- II)	Similar work	Yes / No	
5.	Experience certificates in support of Annual manning, operation & maintenance contract of HT/LT electrical substation (Format at Statement-III)	Deployed manpower quantities	Yes / No	
6.	Statement of existing commitments and ongoing Govt. /PSU /MNC works along with supporting experience certificates as in Statement IVA	Existing commitments	Yes / No	
7.	Statement of works for which tenders are submitted as in Statement IV – B	Works awarded/likely to be awarded	Yes / No	
8.	Availability of equipment as in Statement –V	Equipment	Yes / No	
9.	Availability of key personnel as in Statement VI	Key personnel	Yes / No	
10.	Information of litigation history as in Statement VII	Litigation history	Yes / No	

Sl.No.	Document to be Submitted	Description to be given	Scanned documents/ photocopy to be Submitted	Column 5
(1)	(2)	(3)	(4)	(5)
11.	Declaration of testing equipment as in the statement – VIII	Testing equipment	Yes / No	
12.	Credit facilities/solvency certificates from banks	Credit facilities	Yes / No	
13.	E.M.D	EMD	Yes / No	
14.	VAT Registration with TIN & service tax registration Number	VAT & Service Registration	Yes / No	
15.	Cost of Tender document Rs 1500/-.	Yes / No	Yes / No	
16.	Annual turnover from AMC works only duly certified by a Chartered Accountant supported by profit and loss statement & TDS certificates for last Three Years		Yes / No	
17.	A Grade (Supervisory) Electrical License details as in the statement – IX	Registration Code and validity date	Yes / No	
18.	Proof of Equipment manufacturer as in the statement – X	Details of the Company	Yes / No	
19.	Proof of three similar nature of AMC works done as in the statement - XI	AMC works for year 2015 – 2016	Yes / No	

All experience certificates including those in support of existing commitments issued by an Officer not below the rank of Executive Engineer (or) Equivalent grade.

All the statements copies of the certificates, documents etc., enclosed to the Technical bid shall be given page numbers on the right corner of each certificate, which shall be indicated in column (5) against each item.

STATEMENT – I

Details of value of AMC works (Turnover) executed in each year during the last three financial years by the Tenderer.

Sl. No.	Financial Year	Value in Rs.
1.	2013-2014	
2.	2014-2015	
3.	2015-2016	

Attach certificate(s) issued by the Executive Engineer or concerned head of the department showing work wise / year wise value of work done in respect of all the works executed by the Tenderer during last three years

Signature of the Contractor

STATEMENT – II

Details of similar AMC works completed in the name of the Tenderer during the last five financial years.

Sl. No.	Name of the work	Address of Agt. Concluding Authority	Agreement No. & dated. With telephone number	Value of Contract	Stipulated period of completion	Actual date of completion
1	2	3	4	5	6	7

Value of work done year wise during the last 'five' years.					Total value of work done
1st Year	2nd Year	3rd Year	4th Year	5th Year	
8	9	10	11	12	13

Attach certificates issued by the Executive Engineer or concerned head of the department showing work wise / year wise value of work done and date of completion.

Signature of the Contractor

STATEMENT – III

Physical quantities executed by the Tenderer in the last five financial years. [Work wise / year wise]. In deployed of man power in AMC works.

SI No	Financial Year	Name of work	Agt. No	Deployed man power / Year wise.				Remarks
				Site Incharge	Supervisors	Electricians	DG Machnic	
1	2	3	4	5	6	7	8	
1	2011-2012							
2	2012-2013							
3	2013-2014							
4	2014-2015							
5	2015-2016							

Attach certificates in support of the above quantities issued by the Executive Engineer or concerned head of the department duly showing the quantities executed year wise.

Signature of the Contractor

STATEMENT – IV A

Details of Existing Commitments

Details of works on hand and, yet to be completed as on the date of submission of the Tender and works for which Tender s have been submitted are to be furnished.

S.No.	Name of work	Address of Agt. concluding authority	Agt No. & Date	Value of Contract	Stipulated period of completion	Value of work done so far	Balance value of works to be completed	Anticipated date of completion	Updated value of balanced work
1	2	3	4	5	6	7	8	9	10

Attach certificates issued by the Executive Engineer or concerned head of the department indicating the balance work to be done, and likely period of completion.

Signature of the Contractor

STATEMENT – IV B

Details of works for which Tenders are submitted [awarded / likely to be awarded]

S.No.	Name of work	Address of Agt. concluding authority	Estimated value of work	Stipulated period of completion	Date of which tender was submitted	Present stage of Tender
1	2	3	4	5	6	7

Signature of the Contractor

STATEMENT – V

Availability of Equipment for Testing & Commissioning

The tenderer should furnish the information required below, regarding the availability of the equipment, required for execution & commissioning.

Sl.No.	Details	Number	Number		
			Owned	Leased	To be procured
1	2	3	4	5	6

Signature of the Contractor

STATEMENT – VI

Availability of Key Personnel

Qualification and experience of Key Personnel proposed to be deployed for execution of the Contract					
Sl. No.	Name	Designation	Qualification	Total Experience	Working with the Tenderer since
1	2	3	4	5	6

Signature of the Contractor

STATEMENT – VII

Information on litigation history in which Tenderer is the Petitioner

Sl. No.	Case No. / No.	Year	Court where filed	Subject matter/prayer in the case	Details of respondents	Present Stage
1	2	3	4	5	6	7

Signature of the Contractor

A declaration regarding the testing equipment's owned shall be produced by the Tenderer as below;

STATEMENT – VIII

DECLARATION

“I, _____ do hereby solemnly affirm and declare that I /we own the following testing equipment for using on the subject work and also declare that I / We will abide by any action such as disqualification or determination of Contract or blacklisting or any action deemed fit, if the department detects at any stage that I/we do not possess the testing equipment listed below.

Sl. No	Details	No.	Year of Purchase	Capacity	Any other data	Is it in working condition?
1	2	3	4	5	6	7

Signature of the Contractor

STATEMENT – IX

DECLARATION

A Grade (Supervisory) Electrical License details:

Sl.No	Details (Category)	Year of Issue	Valid up to	Remarks

Signature of the Contractor

STATEMENT – X

DECLARATION

Original Equipment manufacturing details:

Sl.No	Equipment manufacture	Details of Company	Remarks
1	HT Transformers		
2	HT & LT switch gear (Vacuum Circuit Breakers & Air Circuit Breaker)		
3	DG Sets (LT)		

Signature of the Contractor

STATEMENT – XI

DECLARATION

AMC works executed details for the year 2015 - 2016:

Sl. No	Name of works	Address of Agt concluding authority	Agt No & Date	Value of work	Period of completion	Remarks
1						
2						
3						

Signature of the Contractor

B. SPECIAL CONDITIONS OF CONTRACT

1. Statutory Obligations

- 1.1 The contractor shall obtain a valid license under the contract labour (R&A) Act, 1970 and rules framed there under before the commencement of the work and continue to hold it till the completion of the contract.
- 1.2 The contractor shall maintain following statutory registers as per the Contract Labour (Regulation and Abolition) Act 1970 and rules.
 - a) Register of workmen .
 - b) Employment cards of workmen's.
 - c) Master Roll Register.
 - d) Register of Wages.
 - e) Any other documents as required under laws of the country.
- 1.3 The contractor shall comply with the provisions of the payment of Wages Act, 1936, Minimum Wages Act 1948, Employment Liability Act 1938, Workmen's compensation Act 1923, Industrial Disputes Act 1947, Maternity Benefits 1961 and Contract Labour (Regulation and Abolition) Act, 1970 or the modifications thereof and other laws relating thereto and the rules made there under from time to time.
- 1.4 The contractor when required to employ more than twenty workmen on the works under this contract, shall be bound by the contract labour (Regulation and Abolition) Act 1970 and rules framed there under. No Contractor can undertake or execute his work without a license issued by a licensing officer.
- 1.5 The Contractor shall submit the workmen's compensation policy in respect of all the workers deployed by him for ARCI work at the time of taking over of the contract and shall keep the same extended for the entire period of contract and also enclose the same for release of 1st RA bill
- 1.6 Notice showing rate of wages, hours of work etc. shall be submitted to the office of labour enforcement officer and the same be displayed on the notice board in the establishment/laboratory.
- 1.7 The tenderer shall at all time comply with such rules and regulations as stipulated in relevant Factory Acts, Latest Indian Electricity Rules, Telangana State Electricity Rules, Indian Petroleum Acts, Indian Explosives Act, Fire Adviser, etc. the tenderer shall obtain the necessary clearance for operation and maintenance of the plant and equipment from the above statutory bodies wherever applicable.

1.8 ARCI shall pay the amount of monthly bill by cheque in contractor's name and not to his personnel. As such the contractor shall own the full responsibility for regular payment of wages to his personnel. The disbursement of wages by the contractor shall be made inside the campus in the presence of representative of the Director, ARCI.

2. Validity

2.1 The initial period of the contract will be for 12 (TWELVE) months from the date of handing over of Site(s), which may be extended on further mutual discussions on either side.

2.2 The agreement shall be liable for termination on giving THREE MONTHS notice by either side. During the period of notice, both the parties shall continue to discharge their duties and obligations. In case of termination for convenience by Purchaser, Siemens Ltd shall be paid proportionate contract price for supply and services rendered and work/service in progress till the effective date of termination.

3. Security Checks

3.1 All personnel and their bag and baggage connected with the contract shall be liable to physical check both at the time of entry into the campus and passing out at Security Gate. Thorough search of all transport shall be carried out as many times as the gate is used for entry/exit in / out of the restricted area, as per Security Rules of the ARCI.

3.2 The contractor or his agent(s)/representatives, workmen etc. and their materials, cars, trucks or other means of transport etc., will be allowed to enter through and leave from only from such gate and at such times as the Director, ARCI or authorities incharge of the restricted areas may at their sole discretion permit to be used. The Contractor's authorized representative is required to be present at the place of entry and exit for the purpose of identifying his cars, trucks etc, to the personnel in-charge of the security of restricted area.

3.3 The contractor's personnel shall be in a neat uniform for which cost will be borne by the contractor. The contractor has to provide the identity cards to each of them workers engaged by him and they should always display the same while on duty in the premises of ARCI.

4. Inspection

4.1 Inspection will be carried out by owner as and when required. The log book for all the plants shall be submitted to department before submission of RA bill of every month for check and certification by the department.

- 4.2 In support of employment of staff, the attendance registers will be maintained at site of work. This is to ensure that the minimum number of personnel are employed as mutually agreed upon between the Director, ARCI and the contractor before award of contract.
- 4.3 The attendance register shall be initiated by the Engineer in-charge / or his authorized ARCI staff every day and the Director, ARCI shall carryout surprise checks on the attendance to ensure the deployment of minimum number of staff as specified.
- 4.4 In case of any shortage found during the inspection, recovery shall be made from the payment due to the contractor for the affected category at double the rates prevailing or decided by the Director, ARCI. In case of absence of any manpower the recovery proportionate to the quoted amount shall be made from the bill.

5. Recruitment, conduct and loss (if any) of the contractor's personnel:

- 5.1 The contractor shall provide necessary competent and experienced personnel to assist contractors representatives at site for supervising during the execution of the works and as long thereafter as the owner may consider necessary.
- 5.2 The contractor's employees shall be well qualified and well experienced in the trade for which employed. And they should be loyal and obedient to their employer. The contractor shall produce the certificate of qualification and experience in respect of his workmen, to the Director, ARCI at the time of starting of the contract. The Director, ARCI may reject any person employed by the contractor and shall advice the contractor to cease to employ such person forthwith. The decision of the Director, ARCI is final regarding removal or employment of a person, employee, workman or agency working under this contract, but the same shall be enforced only after mutual discussion and ARCI acceptance. Hence the contractor shall have regulations with his employees, workmen and agencies accordingly to implement the decision of the Director, ARCI. The Director, ARCI is not bound to give reasons for the decisions taken by him. No extra payment shall be paid to the contractor, on this account.
- 5.3 Any theft or damage caused by the contractor's personnel shall be made good by the contractor. Any damage done to the existing installation during the execution of work shall be made good by the contractor at his own cost and the site of work left clean and tidy on completion. Rectification/reinstallation/making good, etc, shall conform to the standard materials original used in the work and finished work shall match with existing work in all respects to the entire satisfaction of the Director, ARCI. In case of any dispute on this account, the matter shall be referred to the Director, ARCI whose decision in writing shall be final.

- 5.4 The contractor shall be wholly responsible for the conduct of his workmen, agents and representative.
- 5.5 The contractor will not allow or permit the employees to participate in any trade union activities or agitation in the premises of the ARCI.
- 5.6 It is the responsibility of the contractor to bring to the notice of his employees that they have no right whatsoever to claim employment in ARC by virtue of their employment under the contract.

5.7 Accident or injury to workman:

- 5.7.1 The Director, ARCI shall not be responsible for any injury or loss of any workers of the contractor / sub contractor / vendor that may take place while on executing work defined under our scope of work as per this contract. Any compensation or expenditure towards treatment for such injury or loss of life shall be the sole responsibility of the contractor. The contractor is solely responsible for any damage injury or accident that may occur to any of his personnel working under this contract. He will not claim any compensation from the Director, ARCI.

6. Payment Terms:

- 6.1 Income tax will be recoverable from the Contractors monthly bill as per rules.
- 6.2 Payment shall be made on monthly basis through R.A. Bills submitted by the Contractor.
- 6.3 The Contractor shall furnish the following documents along with the monthly Bills.
 - a) Copy of Attendance Sheet for each month duly signed by the Contractor and certified by Director, ARCI's representative.
 - b) Copy of wages / muster register paid for the month to the workers duly signed by the representative of ARCI.
 - c) A declaration that he has discharged all his obligations as Principal Employer, under various Labour Acts and submit the work men compensation insurance policy along with 1st RA bill.
 - d) Performance Certificate from the Director, ARCI's representative that the works for that month has been completed.
 - e) The contractor shall submit following month's duty roaster
 - f) Actual duty roaster for the preceding month shall be submitted with approval of ARCI's representative.

- g) Diary of events and major activities carried out during the preceding month along with relevant test and warranty/guaranty certificates.
- h) Spares available with the contractor and spares required for coming month operation/maintenance.
- i) Action points pending from ARC I side.
- j) Schedule of maintenance activity for current month and short fall of preceding month.
- k) Materials consumed in the preceding month.
- l) Copies of the PF challans paid in respect of workers deployed by him for the preceding month. A separate PF and ESI challan has to be deposited in respect of the workmen deployed at ARCI site indicating clearly on the challan also and submit the same along with the bill for the preceding month.
- m) For first RA bill: The contractor has to submit insurance policy to cover all employee of contractor i.e. CAR policy, Signing of agreement on Rs100/- bond paper, indemnity on Rs100/- bond paper and other all documents mentioned above for release of first RA bill.

- 6.4 The Director, ARCI shall deduct/recover such amounts towards penalty, if any, cost of items not returned to stores, etc. from the monthly bill.
- 6.5 TDS under IT Act, as applicable shall be deducted from the payment.
- 6.6 Mobilization advance (pro-rata)/such other recoveries shall be deducted from the monthly bill.
- 6.7 The net payment so arrived at shall be paid by crossed cheque payable to the Contractor.
- 6.8 The Director, ARCI reserves the right to adjust any excess/short payment, made in the earlier bills, at the time of making payment.
- 6.9 ARC I could not deliver the spares required, then with the permission of Director ARC I the contractor has to procure the required materials and utilize the same. The actual cost of materials after submission of bills will be regularized in monthly bills of contractor along with extra 10% handling charges. To this effect, a minimum amount of Rs 75,000/- per month should be available with the contractor representative at site.
- 6.10 If during the contract period central / state taxes / duties are revised, the total contract value also revised to that effect. For change like addition, deletion, modification in the scope, during contract currency, revision in contract value

and delivery schedule shall be mutually discussed and agreed upon before proceeding with works.

7. Performance Guarantee:

7.1 The tenderer shall produce relevant documental evidence to the Director, ARCI that he possesses the necessary technical experience and qualification and that he has at his disposal suitable modern facilities and staff of specialized employees to ensure that his contract work is of best quality and workmanship, according to the latest engineering practices. The tenderer shall furnish necessary particulars in this behalf with tender.

7.2 The Contractor will guarantee for the workmanship, materials (if rate contract is entered into with the Director, ARCI) and satisfactory performance for a period of twelve months of reliable regular working of the plant, commencing from the date of the unit going into operation. The Contractor shall be liable to replace any part/equipment that may fail or show signs of defects arising from faulty materials for workmanship or erection or from any act of omission of the Contractor. All such replacements of defective parts/equipment mentioned above shall be made free of cost at ARCI by the Contractor.

7.3 On successful replacement of spare parts/items/equipment's will be thoroughly inspected by the Director, ARCI for correctness and completeness of replacement.

7.4 To achieve trouble free operations, The site in charge and the supervisors should Possess a technical training course certificate from OEM on their HT Switch gear indoor panels of 33KV & 11KV grade. So that the panel board control Circuit and power circuit wiring are familiar to the main operating staff. At ARCI the following are OEM's of main electrical network system.

- 33KV & 11KV HT Switchgear Panels (M/S. Siemens make)
- 415V LT Switchgear panels (M/S. English Electric & M/s. L&T)
- HT & LT Transformers (M/S. Crompton Greaves Ltd)
- 500KVA + 500KVA + 1500KVA DG sets of cummins engine & Stamford alternator

8. Technical deliverables KPI (KCC Performance Indicators)

8.1 Should ensure plant availability above 99%

8.2 Reliability of work man ship above 99%

8.3 MTBF (Mean Time Between Failures) for transformer, HT & LT switchgear items and DG Sets as 24Hrs x 7 days.

8.4 Safety – LTI (Loss Time Injury) and statutory - compliance to statutory & safety requirements 100%

- 8.5 Zero fatality
- 8.6 Adherence to PPE
- 8.7 Adherence of preventive maintenance schedule 100%
- 8.8 PF: Maintaining monthly power factor as > 0.99 (lag)
- 8.9 Training (safety & Technical) – Adherence of training schedule to site team as 4hrs / man / month
- 8.10 Reports – Adherence to maintaining reports, hourly / daily / weekly / monthly / yearly
- 8.11 Attendance – Average of attendance percentage of all employees as per the tender documents schedule in a month should be above 95%.

9. EMD and Security Deposit

9.1 EMD: - The contractor shall provide a DD/Banker's cheque to the extent of Rs250000 (Rupees Two lakhs and fifty thousand only) in favour of Director, ARCI from any nationalized bank towards EMD and shall be enclosed along with technical bid. If EMD is not enclosed the tender will be rejected. EMD will be returned to unsuccessful contractors and successful contractors EMD will be encashed and adjusted towards security deposit amount.

9.2 The contractor shall provide a Bank Guarantee to the extent of Rs.10.00 lakhs (Rupees Ten lakhs only) towards security deposit from a Nationalized/Scheduled Bank towards standing security deposit favour of Director, ARCI payable at Hyderabad valid till the end of the contract. Director ARCI can encash the above amount if the contractor deviates any of the tender mentioned clauses during operation of the contract or the contractor fails to fulfill the contractual obligations as mentioned in the General terms & conditions and Special terms & conditions.

a) The security deposit will be returned after completion of 100% work and submission of no claim certificate from contractor.

10. Transportation of Men, Materials (AMC) etc. in and outside ARCI premises will be the responsibility of the Contractor. ARCI shall not render any transportation services.

11. It shall be the responsibility of the contractor to submit his demand in writing for any materials at least SEVEN DAYS in advance of his requirement.

12. Fire Precautions/High tension (electrical)/Electrical shock:

12.1 The contractor, his agents, representatives, workmen etc. shall strictly observe the orders pertaining to fire, HT / LT (ELECTRICAL) precautions prevailing within the restricted areas /electrical sub stations and etc.

12.2 Motor transport vehicles, if any allowed by authorities to enter the restricted area, must be fitted with serviceable fire extinguishers.

12.3 The contractor, his agents, representatives, workmen etc. shall be strictly adhering to the fire/electric shock precautionary measures while working near the explosive areas/HT/LT./ ELECT.SUB STATION areas. During such times the workmen should be headed by their Engineer-in charge as a precautionary measure.

13. The submission of tender by a tenderer implies that he has read this tender/notice and the conditions of contract and has made himself aware of the scope and specifications of the work to be done and of the conditions and rates at which stores, tools and plant etc.. will be issued to him and local conditions and other factors bearing on the execution of the work.

14. Man Power Deployment & their Holidays and Rules & Regulations:

14.1 The successful contractor has to make a duty roaster in consultation with ARCI staff and ensure workmen will get one holiday after every six working days at ARCI.

14.2 Contractor has to abide by latest contract labour act, of Govt. of India/Telangana state as 1976 contract labour act is applicable.

14.3 Contractor should consider (deemed to be included in his price) for every contract employee for every 20days of work, 1 paid leave is considered.

14.4 The contractor should ensure eligible leaves to be availed by the contract employee No compensation from ARCI.

14.5 Deduction will be made for short fall of minimum no of manpower deployment

14.6 The Contractor should deploy minimum 22nos per day including national Holidays of different categories.

14.7 The contractor should maintain minimum 29nos on their roles i.e. 7nos as leave reserve of different categories as mentioned in tender document

15. The Contractor shall provide all safety appliances to his personal at site like gloves, safety belt, gum boots, hard hats etc.

16. Any accident caused due to non – competence of safety rules, regulations and will entirely be the responsibility of the contractor.

17. Negligence/ malfunction of operator is noted which reflected in a monetary loss / material and etc. should be recovered from the contractor RA bills & encashment of security B.G will be taken by depending by the nature of fault and how depth the operated/ supervisor is neglect/is responsible/ careless. The recoverable amount is decided by the Director, ARCI, which will be final

and no correspondence, or communication will be entertained from the contractor.

18. ARCI will be supplying all the spares & consumables required for this AMC work.
19. Cotton waste, Grease, petroleum, jelly, acetone acid, WD-40, CTC, CRC log sheets as per ARCI FORMAT, stationery, cleaning items, cleaning cloth and any other regular running items required for AMC are also in the scope ARCI.
20. Specials tools and tackles, which are involved in the job to be brought by contractor only.
21. **Important Note:**
 - a. The contractor is required to visit the site of works and make himself thoroughly acquainted with the working condition and of the approaches/ accessibility to site availability of materials and all other relevant conditions affecting the completion of entire work. He is required to make himself fully acquainted with the nature and scope of the work before tendering. The contractor shall be deemed to have visited the site before submitted the tender irrespective of whether he does it or not.
 - b. In case of any faults/repairs/ damages, the owner will decide the time/rate of rectification of the faults/repairs damages. The contractor in any way has to abide by the owner's instructions, where in it is presumed that his motto is to ensure uninterrupted power supply though out his contract period. In any case the Contractor fails to complete the rectification job with in the stipulated time, giving reasons, which are unreasonable to the owner, the owner has got right to levy penalty as per clauses of Annexure I & II
 - c. If the articles "Free for Fixing only" are lost or damaged while under the custody of the contractors the recovery in respect of such article will be made double the market rate the market rate shall be decided by ARCI.
 - d. The contractor has to prepare a detailed maintenance schedule for each equipment, 12 months maintenance schedule as per OEM recommendation and get it approved by ARCI & adhere to same. This has to be completed before the submission of the first RA bill.
 - e. **Force Majeure:**

In the event of, stoppage of work in any establishment of ours/ ours vendors during the execution period owing to war hostilities, acts of the public enmity, civil commotion, riots, acts of terrorism, sabotage, fires, floods, power cuts, earthquake, tempests, explosions, epidemics or any acts of God, quarantine restrictions, strikes, lockouts, trade disputes, concerted action of workmen, breakdowns, accidents, etc. as well as transport embargoes, failures or delays in transportation, Governmental decree and / or causes beyond our

control, deliveries / services may be postponed partially or wholly cancelled by us. The effected party shall provide notice within 7 working days. During existence of Force Majeure events, if it is not possible to continue the services at site, for a shorter duration of less than one month the scope and contract value shall be mutually discussed and agreed for force majeure period.

22. The contractors are requested to quote for the BOQ items as per technical specifications. The quoted rates should be valid for till the end of the contract ARCI will intimate in writing for operation of BOQ items as per site requirements and supply payments will be regularized in subsequent regular RA bills of AMC. The contractor is not eligible to claim any payment for non-operation of any BOQ items during the contract period.
23. The successful contractor has to execute on
 - a) Agreement on Rs100/- bond paper as per ARCI agreement format .
 - b) An indemnity bond as per ARCI format on Rs100/- bond paper.

24. ARTICLES OF AGREEMENT

Made at This day of 2017. Between (hereinafter referred to as the Owner which expression shall include its heirs, Executors, Administrators & Assignees) of the one part and (Hereinafter referred to as the Contractor which expression shall include his heirs, Executors, Administrators & Assignees) of the other part

WHEREAS the Owner is desirous of carrying out ANNUAL CONTRACT FOR MANNING, OPERATION AND MAINTENANCE OF INDOOR HT/LT ELECTRICAL SUBSTATION, CAPTIVE POWER PLANT (DG SETS), SHOP ELECTRICS & ILLUMINATION AT ARCI HYDERABAD, the priced Schedule of quantities have been signed by or on behalf of the parties hereto and WHEREAS the Contractor has agreed to execute up to and subject to the conditions set forth herein (hereinafter referred to as "the AMC works" described in "Scope of works" and etc in Annexure – II the said "Priced Schedule of Quantities at the respective Rates mentioned in the Priced Schedule/ Purchase Order of Quantities attached.

And WHEREAS the Contractor has agreed to the submit the performance guarantee to ARCI for Rs. (Rupees..... Only) by him as performance guarantee for the due fulfillment of the contract to the satisfaction of the owner (ARCI)

NOW IT IS HEREBY AGREED AS FOLLOWS:

- (1) In consideration of the payments to be made to the Contractor as hereinafter provided he shall upon and subject to the conditions of contract execute and complete the works shown upon the said scope of works.
- (2) The Owner shall pay the Contractor such sums as shall become due and payable hereunder at the times and in the manner specified in the said conditions.
- (3) The tender agreement, documents and terms and conditions of NIT above mentioned shall form the basis of this Contract and the decision of the owner for the time being as mentioned in the Conditions of the Contract in reference to all matters of dispute as to the material, workmanship or account and as to the intended interpretation of the clauses of this agreement or any other document attached hereto shall be final and binding on both parties.
- (4) The said Contract comprises the work above mentioned and all subsidiary works connected there to within the same site as may be ordered to be done from time to time by the said owner.

- (5) Time shall be considered as essence of the agreement and the contractor hereby agrees to commence to work as soon as his tender is accepted by ARCI by issuing LOI/WO/PO
- (6) The said conditions shall be read and construed to be forming part of this agreement and the Parties hereto will respectively abide by and submit themselves to the conditions and stipulations and perform the agreement on their parts respectively in such conditions contained.
- (7) All disputes arising out of or in any way connected with this agreement shall be deemed to have arisen in Hyderabad and only the courts in Hyderabad alone shall have jurisdiction to determine the same.
- (8) The arbitrator for fulfilling the duties set forth in the arbitration clauses as defined with tender conditions of contract.
- (9) Arbitration: The Contract shall be governed by, and construed in accordance with the laws of India. Any dispute which cannot be amicably settled by the parties may be submitted, by the owners, to the International Center for Alternate Dispute Resolution (ICADR), Hyderabad. The dispute will be settled following the provisions of Arbitration and Conciliation Act, 2015. Both Parties agree that the results and awards of any such arbitration shall be binding on both Parties. Venue of Arbitration shall be Hyderabad.
- (10) The several parts of this contract have been read to us and fully understood by us.

As witness our hands this.....day of2016.....

.....
Signed by the said Owner

.....
in the presence of

.....
Signed by the said Contractor

.....
in the presence of

25. Indemnity Bond

The tenderers should submit Indemnity Bond at the time of the Agreement as specified below.

Name of work: _____

I _____ contractor S/o. _____ aged _____ Resident of _____ do hereby bind myself to pay all the claims may come (a) under Workmen's Compensation Act. 1933 with any statutory modification thereof and rules there under or otherwise for or in respect of any damage or compensation payable in connection with any accident or injury sustained (b) under Minimum wages Act 1948 (c) under payment of wages Act.1936 (d) under the Contractor labour (Regulation and Abolition) Act. 1970 by workmen engaged for the performance of the business relating to the above contract ie., failing such payment of claims of workmen engaged in the above work and any claim raised by statutory authorities for nonpayment of taxes and duties, I abide in accepting for the recovery of such claims, effected from any of my assets with the Corporation and with other Government Departments / Corporations.

26. FORM OF TENDER

(To be submitted by the Tenderer in letter head).

From

.....
.....
.....
.....

To

**International Advanced Research Centre
for Powder Metallurgy and New Materials (ARCI)**
Balapur, Hyderabad-500005

Dear Sir,

- 1.0 Having examined the Tender documents consisting of the Tender notice, General Instructions to Tenderers, General Conditions of Contract, Special Conditions of Contract, Drawings, Time Schedules, Form of Contract , form of tender, form of schedule Rates, Bill of quantity etc., and having understood the provisions of the said tender documents and also having thoroughly studied the requirements of International Advanced Research Centre for Powder Metallurgy And New Materials (ARCI), related to the work tendered for in connection with the Annual contract for manning, operation and maintenance of indoor HT / LT electrical substation, captive power plant (DG sets), shop electrics & illumination at ARCI, Hyderabad, and having conducted a thorough study of the job site involved, the site conditions, power, water, material and equipment availability, the transport and communication facility and the availability and suitability of borrow areas etc., we hereby submit our tender offer for the performance of proposed work in accordance with the terms and conditions and within the time mentioned in the tender documents at the rates included within the tender documents and based on application of the rates tendered in the accompanying schedule of rates to the relative quantities indicated in the form of schedule rates forming part of the tender documents.

- 2.0 If the work or any part thereof is awarded to me/us, I/we undertake to perform the work in accordance with the contract documents as defined in the form of contract forming part of the tender documents and accept the terms and conditions of contract as laid down therein and undertake that on receipt of acceptance of tender and on confirmation. I/We will deposit such sums as may be necessary under the terms of contract and abide by the terms of the tender. I/We will also sign the necessary contract and other documents to commence the work and execute the work as per the terms and conditions contained in the tender documents failing which International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI) shall be at liberty, without further reference to me/us and without prejudice to any of its rights to terminate the contract and or to forfeit the earnest money deposit and take further course of action.

- 3.0 I/We further undertake to keep our tender offer open for a period of not less than 90 days from the due date of submission of the tenders as specified in the General Instructions to tenderer forming part of the tender documents. `
- 4.0 I/We hereby undertake that the statements made herein/information above are true in all respects and that in the event of any such statement or information being found to be incorrect in particular, the same may be construed to be a misrepresentation entitling International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI) to avoid any resultant contract and take further action as may be justified. I/We confirm having deposited EMD of Rs. in the form of

Yours faithfully,

Signature of the tenderer

Name and designation of the Authorized person signaling the Tender on behalf of the Tenderer.

Name:

Designation:

Address:

Witness :

27. Fair Wage Clause:

- 27.1 The contractor shall pay not less than fair wages to labourers engaged by him on the work.
- 27.2 "Fair" wages means wages whether for time or piecework notified by the Government from time to time in the area in which the work is situated.
- 27.3 The contractor shall notwithstanding the revisions of any contract to the contrary cause to be paid to the labour, directly engaged on the work including any labour engaged by the sub-contractor in connection with the said work, as if the labourers had been directly employed by him.
- 27.4 In respect of labour directly or indirectly employed in the works for the purpose of the contract part of the agreement the contractor shall comply with the rules and regulations on the maintenance of suitable records prescribed for this purpose from time to time by the Government. He shall maintain his accounts and vouchers on the payment of wages to the labourers to the satisfaction of the Owner.
- 27.5 The Owner/Consultant shall have the right to call for such record as required to satisfy himself on the payment of fair wages to the labourers and shall have the right to deduct from the contract amount a suitable amount for making good the loss suffered by the worker or workers by reason of the "fair wages" clause to the workers.
- 27.6 The contractor shall be primarily liable for all payments to be made and for the observance of the regulations framed by the Govt., from time to time without prejudice to his right to claim indemnity from his sub-contractors.
- 27.7 As per contract labour (Regulation and abolition) Act. 1970 the contractor has to produce the license obtained from the licensing officers of the labour department along with the tender or at the time of agreement.
- 27.8 Any violation of the conditions above shall be deemed to be a breach of his contract.
- 27.9 Equal wages are to be paid for both men and women if the nature of work is same and similar.
- 27.10 The contractor shall arrange for the recruitment of skilled and unskilled labour local and imported to the extent necessary to complete the work within the agreed period as directed by the Owner/Consultant.

28. Safety Measures

- 28.1 The contractor shall take necessary precautions for safety of the workers and preserving their health while working in such jobs, which require special protection and precautions. The following are some of the measures listed but they are not exhaustive and contractor shall add to and augment these precautions on his own initiative where necessary and shall comply with directions issued by the Owner/Consultant or on his behalf from time to time and at all times.
- 28.2 Providing protective foot wear, Goggles, nose masks, electrical hand Gloves, helmet to the workers as per the site requirement.
- 28.3 Getting the workers in such jobs periodically examined for chest trouble due to too much breathing in to fine dust.
- 28.4 Taking such normal precautions like fencing and lighting in excavation of trenches, working at the heights during night times and etc. As per the site requirement.
- 28.5 Supply work men with safety proper belts, ropes etc., when working in precarious slopes and heights etc. As per the site requirement.
- 28.6 Avoiding un-insulated electrical wire etc., as they would electrocute the workers.
- 28.7 Taking necessary steps towards training (i.e. on particularly on safety, operation and technical details) the workers concerned on the machinery work spot before they are

allowed to handle them independently and taking all necessary precautions in and around the areas where machines hoists cable pulleys, rollers, hydraulic crimping tools and heat sink cable jointing kits and similar units are working.

- 28.8 The Contractor should isolate the work spot by providing safety barricades, Signage boards and etc.

29.0 Employment of Labour

- 29.1 The contractor shall comply with the requirement of statutory provisions and shall be solely responsible for fulfillment of all legal obligations under Contract Labour (reg. & abolition) Act, Inter State Migrant Workmen Registration of Employment and condition of Service Act, payment of Wages Act., Minimum Wages Act, Workmen's Compensation Act, Employee's Provident Fund & Miscellaneous Provisions Act, Payment of Bonus Act, Payment of Gratuity Act, Industrial Disputes Act and all other Industrial/Labour enactments and Rules made there under as applicable from time to time. In case Owner incurs any liability towards payment of any dues, compensation, cost of any other liability of any kind whatsoever, due to non fulfillment of statutory provisions under any industrial/labour laws by the contractor, the same shall be made good by the contractor and Owner shall have full right to recover and claim the same against the contractor from his outstanding bills or otherwise. No Labour to stay at site.
- 29.2 The contractor will be expected to employ on the work only his regular skilled employees with experience of this particular work. The permission of the Owner must be obtained before tradesmen are recruited locally for the work. This rule does not apply to unskilled labour. No female labour shall be employed in dark hours/ i.e. hours prohibited under the applicable law. No person below the age of eighteen years shall be employed at any point of time. The contractor shall pay, to each person, the wages as per minimum Wages Act of the State Government.
- 29.3 All traveling expenses including provision of all necessary transport to and fro, lodging allowances and other payments to the contractor's employees are his own responsibility.
- 29.4 The hours of work on the site shall be decided by the Owner and contractor shall adhere to the same.
- 29.5 All contractors' employees shall wear safety shoes, helmet, goggles, hand gloves, nose masks and any other required personal protection equipment such identifications marks as may be provided by contractor on work site and duly approved by Owner.
- 29.6 All notices displayed on the site and any instructions issued by the Owner shall be strictly adhered to by the Contractor's and/or his sub-contractors employees.
- 29.7 The contractor shall be required to maintain employment records as covered in relevant Acts and produce documentary evidence to the effect that he has discharged his obligations under the Employees Provident Fund Act 1952, and ESI Act, 1948, if applicable, Group Insurance and other Acts for the workmen working at site towards safety, statutory regulations and insurance aspects applicable as per latest government (central & state) acts.
- 29.8 Each employee is entitled for 8 paid holidays in a year & 52 weekly OFFs. The schedule to this effect is to be prepared in consultation with ARCI Engineer and ensure that a team of Electrical and Mechanical personnel is available at site at any time to attend the duties. However, the shift employees will attend the duties as per the abided rules.
- 29.9 ARCI reserves the right to call for services of these employees on any weekly off day or on paid Holiday, for which a compensatory OFF shall be provided to him, this will be in

consultation with ARCI Engineer.

- 29.10 When the employees of the contractor are called on any weekly off day or Paid Holiday, ARCI shall be not be liable for any extra payment in this regard.
- 29.11 ARCI reserves the right of imposition of penalty for non-performance or damage during emergency / routine work instructed to your mechanic / Engineers.

30.0 Insurance

- 30.1 The Contractor shall provide, in the joint names of the Owner and the Contractor, Insurance cover from the Start Date to the completion of work and handing over to the owner for the amounts and deductibles stated in the Contracted Amount for the following events which are due to the Contractor's risks and shall be covered under respective policies as under:
 - (a) Contractor's All Risk Policy;
 - (b) Third Party Insurance for four consecutive occurrences, the minimum cover for occurrence is Rs. 5.0 lac. Contractor will pay additional premium after each occurrence to make insurance valid for four occurrences always.
- 30.2 The contractor shall provide workmen compensation policy, obtained in his name.
- 30.3 Policies and certificates for insurance shall be delivered by the Contractor to the Owner for the Owner approval before the Date of Start of work i.e., date of execution of the contract. All such insurance shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred.
- 30.4 If the Contractor does not provide any of the policies and certificates required, the Owner may affect the insurance which the Contractor should have provided and recover the premiums the Owner has paid, from the contractor bills. Otherwise due to the Contractor or if no payment is due, the payment of the premiums shall be a debt due. The cost of premium will be deducted from the contractor's bill, if at any time the work remains uninsured, irrespective of whether the policy is obtained by the owner.
- 30.5 Alterations to the terms of the insurance shall not be made without the approval of the Owner or Consultants.
- 30.6 Both parties shall comply with the conditions in the insurance policy.
- 30.7 All policies in original shall be submitted to the owner before the release of the 1st RA bill.

31.0 Particular attention is drawn to the following

- In case of accident, the Owner shall be informed in writing forthwith and First-Aid, Hospitalization shall be provided by the Contractor. The contractor shall strictly follow regulations laid down by Govt. and State authorities in this regard and all cases are to be defended By the Contractor. The Owner shall not entertain any insurance claims.
- 31.1 Compliance with all electricity regulations should be ensured.
 - 31.2 Compliance with statutory requirements for inspection and test of all lifting appliances and auxiliary lifting gear is to be ensured.
 - 31.3 Staircase, doors or gangways shall not be obstructed in any way that will interfere with means of access of escape.
 - 31.4 Where it is necessary to provide and/or store petroleum products or petroleum mixtures and explosive, the contractor shall be responsible for carrying out such provision and/or storage in accordance with the rules and regulation laid down in Petroleum Act 1934. Explosive Act 1948 and Petroleum and Carbide of Calcium Manual Published by the Chief Inspector of Explosive of India. All such storage shall have prior approvals of the Owner/Consultants. In case any approval or clearance from

Chief Inspector of Explosive or any statutory authorities is required, the contractor shall be responsible for obtaining the same.

32.0 Working and Safety Regulations

- 32.1 The contractor shall observe all statutory, safety, and legal requirements / regulations issued by Central and State Governments applicable to the work as well as any local regulations applicable to the site.
- 32.2 The contractor has to fulfill the safety obligations at site and ensure that all safety equipment required for the execution of the work is available and used by the workmen at site.
- 32.3 Required safety signage and other requirement as per safety norms must be compiled as per the instructions of the Owner/Consultant.
- 32.4 A qualified person(i.e. shift incharge supervisor) is charge of safety should be at the site by the contractor to take care of the safety related issues during the execution period with regard to workmen and material.
- 32.5 The contractor shall be responsible for the provision of all safety notices safety equipments including the safety gadgets for his workmen required by both the relevant legislation and such as the Owner may deem necessary. While working at heights, safety belts, nets, and safety helmets shall necessarily be used.

ANNEXURE – II

**DETAILED SCOPE OF WORK FOR AMC OF
HT/LT ELECTRICAL SUBSTATIONS
AT
ARCI, HYD.**

C THE DETAILED SCOPE OF WORK INVOLVED IN THE ANNUAL MAINTENANCE CONTRACT:

1. Operation, manning and maintenance for 1 year on 24 hrs x 7days basis.
2. The basic objectives of the Annual Maintenance Contract is:
 - 2.1 To achieve ZERO breakdowns.
 - 2.2 Efficient utilization of assets and seeking for lowest life cycle cost.
 - 2.3 Continuous condition monitoring for all transformers, VCBs, ACBs, 33KV, 11KV, LT switch gear, DG sets, special tools & optimum spares inventory management.
 - 2.4 Reduction in overall running cost.
 - 2.5 Protecting Environment and maintaining Housekeeping.
 - 2.6 Safety of man & machinery.
3. All following Electrical items should maintained as per their respective O.E.M. maintenance schedules.
List of Equipments/ items for AMC

3.1 Main Step Down Substation (MSDS) – 33KV consisting of

- 3.1.1 33KV 2pole outdoor structure with equipment
- 3.1.2 Lighting Arrestor – 3nos
- 3.1.3 Disconnecting switch
- 3.1.4 Earth / grounding switch
- 3.1.5 Interlocks between earthing and grounding switch
- 3.1.6 33KV HTXLPE cables between DP to Incomer
- 3.1.7 4MVA, 33/11KV Power Transformer -2nos
- 3.1.8 33KV CTs & PTs
- 3.1.9 33KV Indoor Switchboard Panel consisting of 4nos VCBs
- 3.1.10 33KV HT XLPE cables between 33KV panel board and transformers.
- 3.1.11 11KV HT XLPE cables between transformer and 11KV panel
- 3.1.12 33/11KV Control Relay Panel consisting of different protection relays.
- 3.1.13 110V Battery Bank and float cum boost charger panel.
- 3.1.14 110V DC outgoing feeders - 12nos.
- 3.1.15 11KV Indoor Switchboard Panel consisting of 13nos VCBs
- 3.1.16 11KV CTs and PTs
- 3.1.17 415V PDB - – 1no
- 3.1.18 RTCC panel - 2nos.
- 3.1.19 Forced Ventilation System

3.2. LT Substation I – 11K/ 433V consisting of

- 3.2.1 11KV XLPE HT cables from 11KV panel (MSDS) to 11KV OFF Load Break Switches (2nos).
- 3.2.2 11KV XLPE HT cables from OLBS to Power Transformers (2nos).

- 3.2.3 11KV OLBS - 2nos
- 3.2.4 1MVA, 11KV/433V Power Transformer - 2nos
- 3.2.5 415V Bus Duct – 2nos
- 3.2.6 LTPCC consisting of 15nos 415V ACBs
- 3.2.7 DG MEDB Panel along with 2nos 415V ACBs & 415V out going feeders.
- 3.2.8 Forced Ventilation System.
- 3.2.9 415V LDB - 1no
- 3.2.10 415V PDB - 1no
- 3.2.11 415V FPB – 1no

- 3.3. L T Substation II – 11KV / 433V consisting of**
- 3.3.1 11KV XLPE HT cables from 11KV panel (MSDS) to OFF Load Break Switches (2nos).
- 3.3.2 11KV XLPE HT cables from OLBS to Power Transformers (2nos).
- 3.3.3 11KV OLBS - 2nos
- 3.3.4 1.6MVA, 11KV/433V Power Transformer- 2nos
- 3.3.5 415V Bus Duct-2Nos
- 3.3.6 LTPCC consisting of 23nos of 415V ACBs
- 3.3.7 MEDB panel along with 2nos ACBs and 415V out going feeders.
- 3.3.8 Forced Ventilation System
- 3.3.9 415V LDB - 1no
- 3.3.10 415V PDB - 1no
- 3.3.11 415V FPB - 1no

- 3.4 2500KVA CPP Plant consisting of**
- 3.4.1 500KVA DG Sets -2Nos (with parallel mode operation)
- 3.4.2 1500KVA DG Set-1No (with parallel mode operation)
- 3.4.3 82.5KVA DG Set -1No (with solo mode operation)
- 3.4.4 DBB PCC Panel consisting of 25nos 415V ACBs (outgoing feeders 20Nos, incomer feeders-4nos, bus coupler-1no)
- 3.4.5 DG Auto Synch. & Auto Load Sharing Power panel consisting of 4Nos 415V ACB's (DG incomer-3nos, DG outgoing-1no)
- 3.4.6 886+200 KVAR RTPFC Panel – 1no
- 3.4.7 DG Control & PLC (Siemens S7 – 300) Panel-1No
- 3.4.8 Remote ET200L PLC Panel – 3nos
- 3.4.9 Remote Control Desk (computerized) & manual synchronizing panel-1No
- 3.4.10 415V DG Auxiliary Panel-1no
- 3.4.11 415V PDB-1No
- 3.4.12 110V, 180 AH Battery charger cum battery bank
- 3.4.13 5no level transmitters / evaluators cum-monitors along with electrically operated solenoid valves and 8nos flow meters.
- 3.4.14 Acoustic enclosures 3nos, Ventilation fans (4nos) exhaust piping, Diesel pipelines along with diesel & oil pumps
- 3.4.15 415V power (total) cables, PLC incoming & outgoing cable, communication cables such as MODBUS, PROFIBUS, CAT cables, RS232/RS486

communication cables, KWH, Oil level transducer cables, I/O rack in & outgoing fiber optic cable laid in GI pipes cables.

- 3.4.16 40KL under ground diesel storage tank along with pumps (2nos), pipe line, day tanks (4nos), solenoid valves, level transmitters, flow meters, unloading of diesel oil from tanker / drums to main 40KL – Under Ground.

3.5 Shop Electrical

- 3.5.1 415V or 380V PDBs (approx.48nos) located at different shop floors at ARCI along with cable up to SFUs (i.e. up to equipment battery limit point).

- 3.5.2 Different capacities of 433V/380V dray type natural air cool transformers.

- 3.5.3 415V LTPCC along with out going cables up to SFU s of different capacities to industrial machinery.

- 3.5.4 Incoming cables along with main LTPCC/PDB panels located at ARCI's technology park and Solar Cell area.

- 3.5.5 Total maintenance of all outgoing cables of all the PDBs and LDBs located at the all buildings up to the incoming terminals of the equipment/auxiliaries/utilities.

- 3.6 Total illumination system (street lightings, building outside lightings, office lightings, industrial lightings) at ARCI premises.

4. Normal preventive maintenance once in four / six months.

5. Emergency breakdown and rectification and maintenance.

6. Preventive maintenance once in a year by a specialist engineer involving relay logic testing along with control logic / sequence / alarms checking - B D V testing of all trafo & OLTC oils - OLTC servicing by M/S CTR Pune - HT breakers calibration by OEM - D.G sets (3 nos) C-check servicing by OEM. – As desired by ARCI staff at extra cost.

7. The fault finding – A report should be submitted for break down, reasons for the fault and fault analysis report for the equipments mentioned in the scope of work.

8. The minimum maintenance schedule of above equipment are given below. However, the detailed maintenance schedule for each equipment will be submitted by the contractor to ARCI which be approved by Competent Authority in due course i.e. along with the first RA bill.

9. Daily, Weekly, Monthly & Quarterly Schedules

9.1 Daily Schedule

1. Monitor:

- a) The daily P. F. above 0.996, so that the monthly cumulative P. F. should not be less than 0.996 lag.
- b) Controlling contract maximum demand (KVA) by switching ON the DG sets.
- c) Conditioning monitoring of all substation equipments.
2. Note the peak hour readings from all substations as per schedule.
3. Note down energy meter readings for all substations for analysis and report the same to ARCI.
4. Cleaning of HT/LT substation rooms, transformer room, Battery room, CPP room etc as per schedule by deploying own sweeper.
5. Monitoring and recording of the all power transformer parameters such as
 - a) Winding temperature
 - b) Oil temperature
 - c) Oil level
 - d) Checking of oil leakage, if any, and take immediate action to stop leakage.
6. Cleaning of HT and LT substation panels externally.
7. Check auxiliary supply and control voltages.
8. Check condition of indication lamps provided on HT, LT panels.
9. Check condition of RTPFC panel for each substation for proper working.
10. Check the batteries and battery chargers for proper functioning.
11. Test annunciation reset, take corrective action whenever necessary.
12. Street lighting complaints
13. Check the condition of DG sets (Alternator Side) and DG House panels for proper working.
14. Operation of DG sets as and when required and ensure power duly synchronized, is available from all the installed DG sets at incomer breaker of DG Hse LT Panel (Single line diagram enclosed).
15. To carry out preventive maintenance of the DG set including the entire panels such as DG control panel, Relay metering, Control with Auto Sync & Auto Load sharing panel, Power panel, Neutral grounding panel and their allied accessories.
16. To carry out necessary repairs, adjustments of assemblies, sub assemblies, etc for keeping good health of the installation for 24 x 7 days working.
17. Replace parts, components and assembly, sub-assemblies as and when necessary from ARCI's stock.
18. Electrical and Mechanical repairs after any breakdown during the period of contract and keep all the set ready to start conditions.

9.2 Weekly Schedule

1. Carry out preventive maintenance as per the check – list, Equipment manuals and the instructions of ARCI Engineer.
2. Prepare list of spares and material required for carrying maintenance work and submit it to ARCI Engineer in advance for better material management.
3. Arrange for proper storage of material / spares. (Storing space provision will be provided by ARCI)
4. Operate the battery charger in float and boost mode as per schedule.
5. Check the specific gravity and battery voltage in all substations.

6. Rectify the faults / causes of faults.
7. Check earth pits for substations and water the earth pits as per schedule of preventive maintenance or as and when required. Submit a report.
8. Carry out battery and battery charger preventive maintenance as per schedule.

9.3 Monthly Schedule

1. Checking individual capacitor currents, checking of cable end terminations, and RTPFC panels.
2. Checking the discharge devices and fuses.
3. Carry out preventive maintenance of battery charger and load test for chargers in both Float and Boost mode.
4. Temperature measurement of various switchgears/equipments as specified points and take corrective actions in case of abnormality.
5. Monthly energy report and evaluation of power efficiency.
6. Preparing Breakdown from and upon certification of ARCI, submitting to concerned.
7. Monthly performance review report comprising – Records of PM done on rotary and static equipments, breakdowns occurred and subsequent root cause analysis, corrective and preventive measures. Safety initiatives and report. R& M expenses incurred. Analysis and action plan for next month.
8. Survey of street lighting as per the schedule.

9.4 Quarterly Schedule

1. Quarterly preventive maintenance of section PDB's SLDB's LDB's etc as per schedule.
2. Checking the overall condition of radiators and transformer main tank and cleaning the same if required.
3. To carry out mock drill operation for restoration of emergency power supply / change over procedures.

9.5 Half Yearly / Yearly Schedule

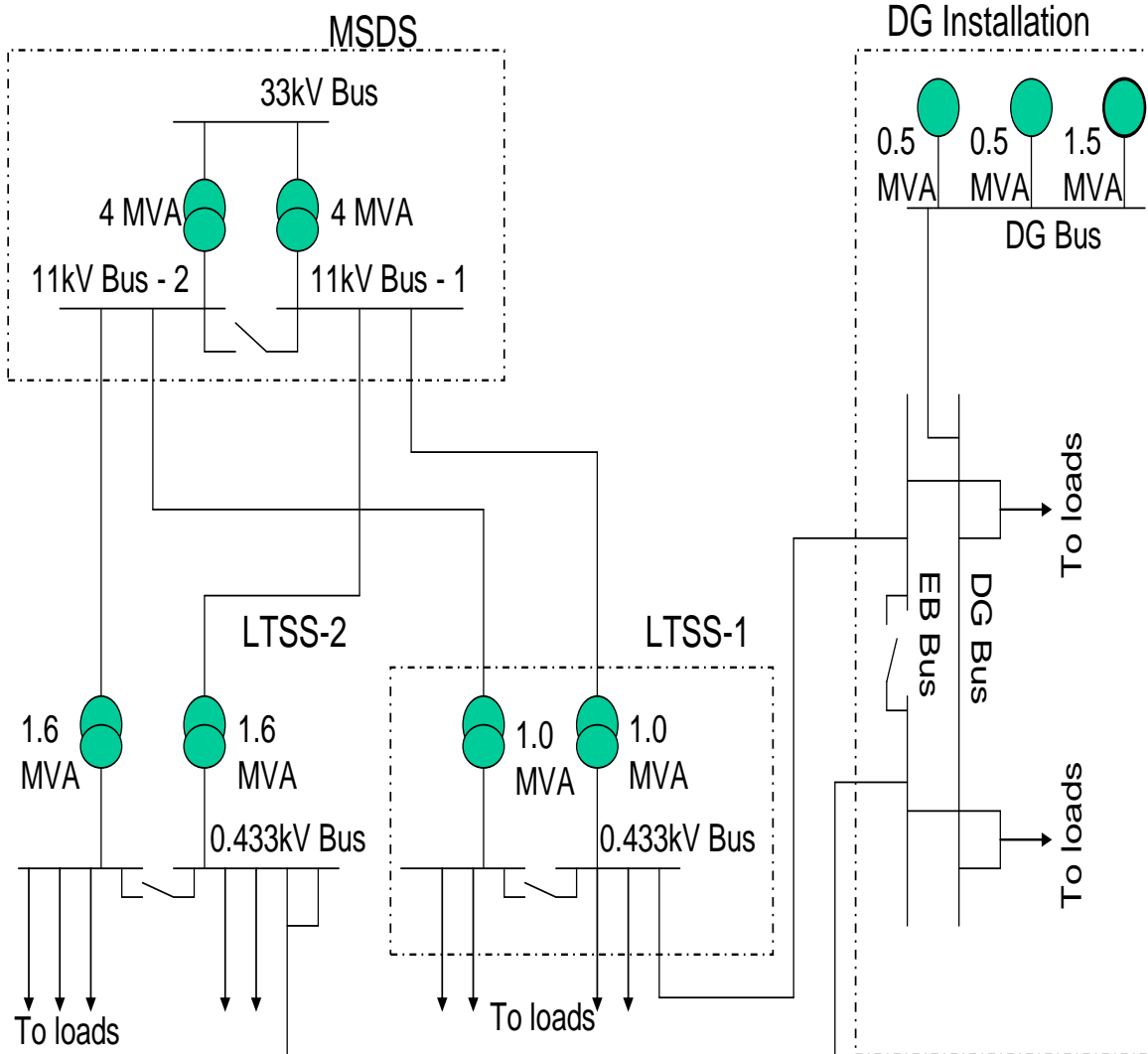
1. Implementation of Zero Accident Plant at site. To Safety Trainings for employees at site. Documentation and periodic safety audits as per requirements of OHSAS 18001.
2. Prepare schedule for carrying out relay testing and calibration and submit the schedule within 6 months from the date of contract.
3. Regular checking of transformer safeties such as Buchholz relay, winding temperature, oil temperature indication, oil gauges during routine preventive maintenance.
4. Transformer oil filtration & Testing will be done by us if separate PO issued from ARCI.
5. Earth resistance measuring for earth pits of general building, using own instruments and submits report for the same.

6. To submit half yearly & annual report to top management inclusive of Uptime, Reduction in breakdowns, Actions for ZERO BREAKDOWNS, Major overhauls, Consumption of spares, Manpower turnover & suggestions, if any.

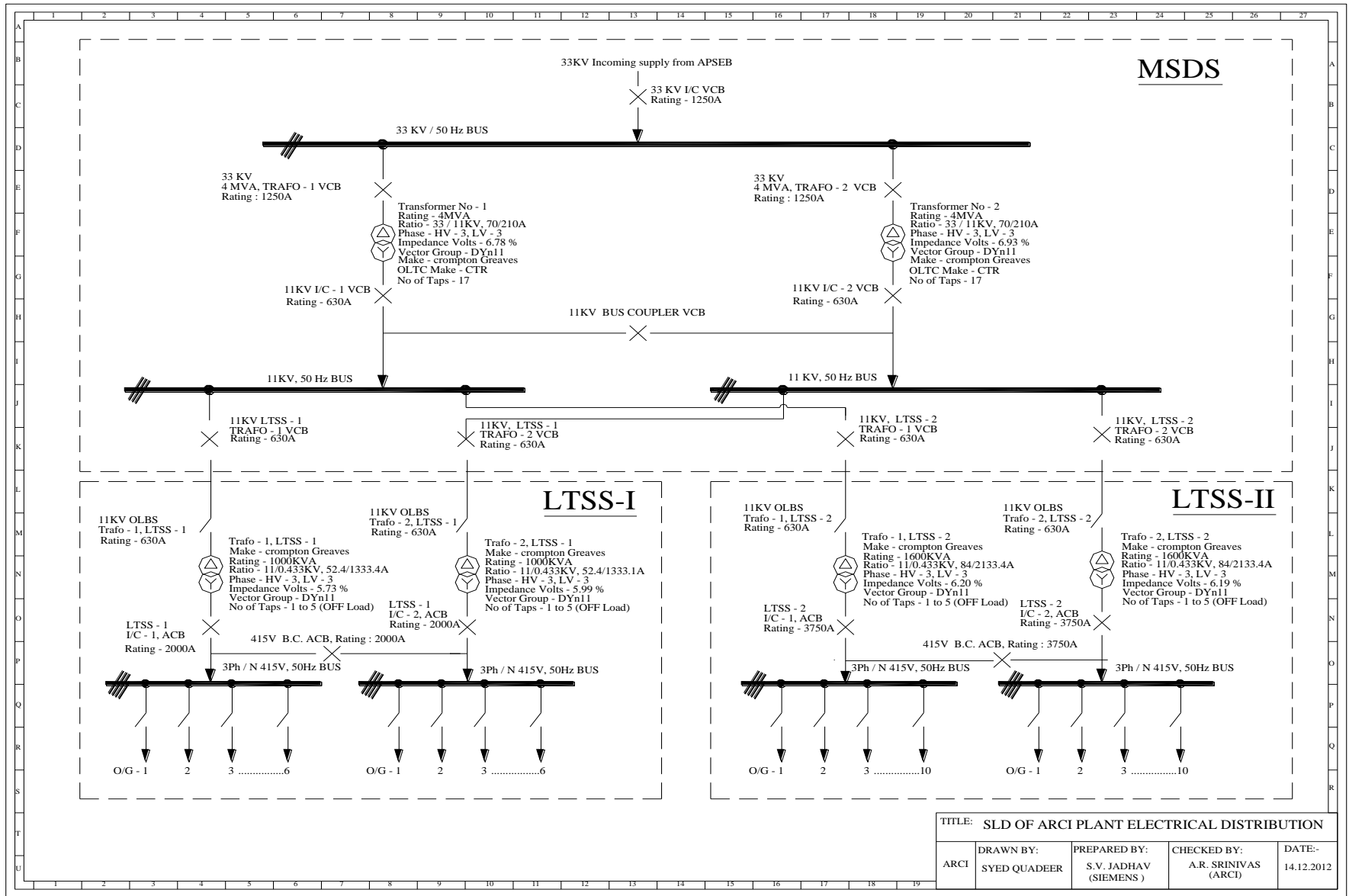
9.6 General

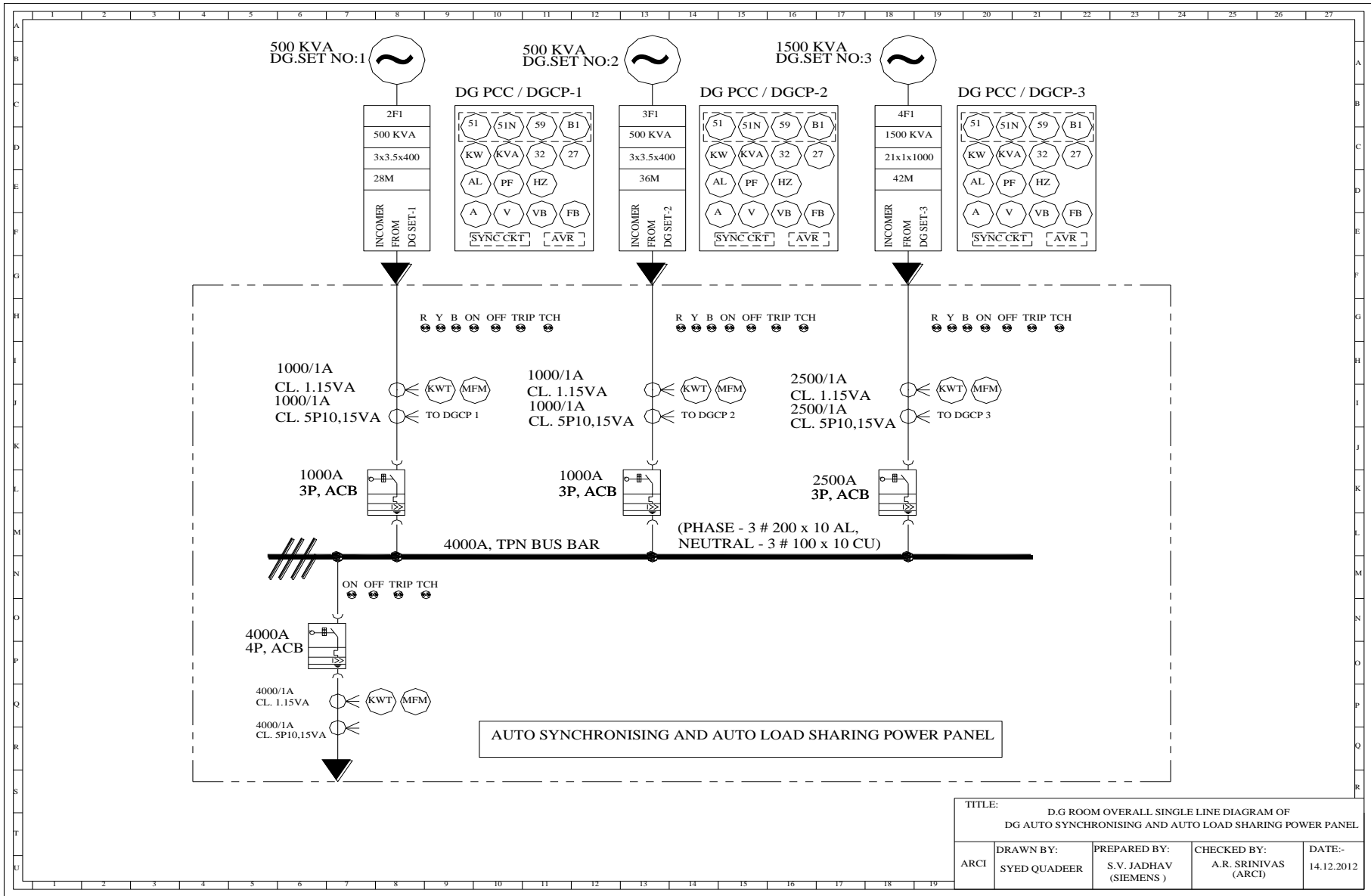
1. To carry out all such jobs to ensure proper health of installations and to ensure uninterrupted power supply.
2. To attend all electrical complaints related to shop electrics and illumination.
3. It is the responsibility of contractor to check all substations & outer area of substations inclusive of MSDS for maintaining cleanliness.
4. Primary injection testing for operation of the 11KV, 33KV breakers and relay coordination once in a year to be tested at extra cost as desired by ARCI staff.
5. Complete servicing of on load tap changer located at MSDS by original equipment manufacturer once in a year. At extra cost as desired by ARCI staff.
6. Calibration test reports of the equipment used for the testing of the system shall be submitted along with the test results, after completion of testing.
7. DG sets (3nos) C – check onwards the OEMs manpower along with tools & tackles should inspect the DG sets for their healthiness and repair / rectify any defects in the engine / alternator. At no time two DG sets should not be down / out of working conditions. Because, these DG set are meant for prime power source supply to production unit at extra cost.
8. Since the captive power plant is operated on sophisticated logic and controls. The deployed staff should be very careful during their presence's / on duty.
9. Negligence/ malfunction of operator is noted which reflected in a loss monetary/ material and etc. should be recovered from the contractor RA bills & encashment of security B.G will be taken by depending by the nature of fault and how depth the operated/ supervisor is neglect/is responsible/ careless. The recoverable amount is decided by the Director, ARCI, which will be final and no correspondence, or communication will be entertained from the contractor.
10. ARCI will be supplying all the spares & consumables required for AMC.
11. Cotton waste, Grease, petroleum jelly, acetone acid, CTC, CRC log sheets as per ARCI FORMAT, stationery, cleaning items, cleaning cloth and any other regular running items required for AMC are also in the scope ARCI.
12. 886 KVAR – RTPFC (M/s Cummins Ltd) panel calibration, testing by OEM at extra cost.
13. Single Line Diagram of MSDS, LTSS – I, LTSS – II & DG plant are enclosed.
14. Safety of men and material should be ensured during operations.

15.



ARCI's SLD





TITLE: D.G ROOM OVERALL SINGLE LINE DIAGRAM OF DG AUTO SYNCHRONISING AND AUTO LOAD SHARING POWER PANEL				
ARCI	DRAWN BY: SYED QUADEER	PREPARED BY: S.V. JADHAV (SIEMENS)	CHECKED BY: A.R. SRINIVAS (ARCI)	DATE:- 14.12.2012

D THE FOLLOWING WORKS ARE DEEMED TO BE INCLUDED BY THE CONTRACTOR IN HIS AMC WHILE QUOTING THE TENDER

Manning, operation, maintenance and repair of total power system as per OEM schedule.

1. Manning, operation and maintenance of 33KV & 11KV system including transformers, switchgears, incoming/outgoing cables, panel boards with all accessories.
2. Manning, operation and maintenance of generator sets (3nos) of 2500KVA capacitive plant in synchronizing mode & 82.5KVA DG set in solo mode.
3. Operation and maintenance of batteries, battery chargers, DC supply system and DC control system at MSDS & Captive Power Plant.
4. Operation and maintenance of LT PCC switch board, at substations and power distribution boards at industrial R&D area in ARCI.
5. Maintenance and repairing of HT underground cable, HT overhead lines (between four pole structure to ARC double pole structure).
6. Periodical testing of all equipments of power system as per OEM schedule.
7. Preventive maintenance of equipments as per the OEM schedule for all the equipments such as daily, weekly, monthly, quarterly and yearly.
8. Periodical testing, maintenance and repair of earthing and lighting arrestors and recording the results (including proper maintenance of earthing system and repairing of earth electrodes and lighting arrestors if required).
9. Recording of day-to-day reading and activities of manning, operation, maintenance, breakdown of all sub station equipments & DG sets as per OEM's standard practice.
10. The contractor on receiving any complain shall attend to it and complete the job immediately to the satisfaction of the ARCI.
11. The contractor personnel will be required to attend the duty round the clock on all day of the week as per duty chart prepared in consultation with concerned Engineer of the ARCI.
12. The maintenance to generator i.e. up to B – Check shall be responsibility of the contractor.

13. Tools and tackles, which are involved in the job are to be brought by contractor only.
14. If the articles "Free for Fixing only" are lost or damaged while under the custody of the contractors the recovery in respect of such article will be made double the market rate the market rate shall be decided by ARCI.
15. The contractor has to prepare a detailed maintenance schedule for each equipment, 12 months maintenance schedule and get it approved by ARCI & adhere to same. This has to be completed before the submission of the first RA bill.
16. All major repairs / overhauls to equipments is excluded from contractor scope, unless it is due to negligence of contractor.
17. Rewinding of Motors, Transformers and Generators is excluded from contractor scope, unless it is due to negligence of contractor.
18. Safety operating procedure for each and every equipment should be adhered during operations.

E TIME FRAME FOR MAINTENANCE (BOTH PREVENTIVE AND BREAK DOWN)

Breakdown rectification works shall be classified into following three categories

- a. Normal Breakdown -within 24hours from the time of breakdown
- b. Abnormal Breakdown -1week to 4 week from the date of break done
- c. Emergency Breakdown -Immediate without any break.

Note: - The contractor is presumed to be conversant with the system and be able to decide. The category under which the type of fault/breakdown falls. However, owner's decision shall be final.

Preventive Maintenance for every six months. Such maintenance shall not last for more than two to four days, generally.

Liquidated Damages Penalty:- In case the Contractor fails to repair/ rectify, the equipment (including replacement of spare parts) or fails to restore the supply, on war footing, without any intermediary break (like holidays) the owner reserves the right to levy penalty @ 0.5% of contract value, per week of delay or part there of, subject to a maximum 5% of contract value. The word Penalty under this contract shall be read as Liquidated Damages

However, where such delays are due to force majeure (i.e. beyond the contractor's control), no penalty shall be imposed.

The decision of Director, ARCI / competent authority, ARCI shall be final and binding.

F. MINIMUM QUALIFICATION OF MANPOWER TO BE EMPLOYED BY THE CONTRACTOR FOR AMC AND MINIMUM NO OF MANPOWER TO BE DEPUTED:

1. The operating personnel shall have thorough knowledge on safety precautions during emergency cases and also conversant with state electricity rules, regulations and Indian factory act rules and Indian explosive rules & regulations. The contractor shall provide and maintain first Aid box in each installation complete with necessary medicines etc.
2. The following are the qualification of staff to be employed by the contractor for efficient operation and maintenance of the system.

1. Site Engineer-in-charge:

1.a) A graduate electrical engineer having suitable technical qualification with minimum 12 years practical experience in Indoor HT (33KV) system and DG captive power plants i.e. DG sets running in paralleling & synchronization mode, S7 300 Siemens PLC automation & logics.

1. b) Should possess Siemens indoor HT Panels training certificate

2. Supervisor (Electrical):

1. a) Same as above but Diploma holder with 8 years practical experience in HT (33KV) power system and specialist in PLC logic operation / automation preferably siemens PLC system.

1. b) Should possess Siemens indoor HT Panels training certificate

3. Switch Board operator (SBO) / Electricians:

ITI certificate holder with suitable skilled licensee and experience in carrying out operation and maintenance of 33KV substations with 8 years practical experience in LTPCC/HTPCC.

4. Mechanics (Diesel):

Diploma / ITI certificate holders having minimum of 6 to 8 years experience in carrying out normal operation, routine maintenance and repairs of DG set.

5. PLC Operator:

PLC – Course holder having maximum 6 to 8 years hands on experience in PLC to check & related PLC related problems (Preferable Siemens PLC)

6. Manpower to be deputed per shift:

1. MSDS : 1no Supervisor + 1no Electrician

2. CPP : 1no Supervisor + 1no Diesel Mechanic

3. LTSS – 1 : 1 no Electrician

4. LTSS – 2 : 1 no Electrician

7. During General Shift: -1No. Site Engineer – In – charge+ 1no PLC technician to take care of PLC and PC's requirements+ 2nos. Electrician to take care of illuminations (Lighting requirements / Shop Electrical)

8. Relievers (manpower to take care of employees leaves and etc as per Govt. Statutory norms) : minimum 7nos (i.e. 2nos in supervisors + 3nos Technicians + 2nos DG mechanic)

NOTE:

1. The DG sets are operate automatically through PLC automation panel, hence highly efficient experienced qualified manpower to be deployed for operation of captive power plant.
2. The contractor shall employ only certificate holders as mentioned above proof of documentary Evidence for experience, qualification and antecedents should be submitted for approval of the Director, ARCI.
3. The deployment of manpower should not be less than as mentioned.
4. Adequate additional manpower in all categories to be considered to take care all eligible leaves for all contract employees as per contract labour act 1967 (amended time to time by Government of India and Govt. of Telangana)
5. For short fall of manpower penalty will be leaved by ARCI

TENTATIVE MINIMUM COMPETENT MAN POWER REQUIREMENT DURING CONTRACT

Position / Post	Qualification	Minimum Experience	Allocation of man power			
			1 st Shift	2 nd Shift	3 rd Shift	Gen Shift
Over all In-charge	B.E (Electrical)	12 years	---	---	---	1 no
Shift engineer for all three shifts	DEE	8 years	2nos	2nos	2nos	2no (Leave reserve)
Electrician	ITI Electrician / NCTVT	8 years	3nos	3nos	3nos	2nos+3nos (Leave reserve)
DG Operator	ITI (DG Mechanic)	5-7 year	1no	1no	1no	2no (Leave reserve)
PLC Operator	PLC	4 year				1no
TOTAL MANPOWER			29 nos			

ANNEXURE – III

TOOLS & TACKLES

G. TOOLS & TACKLES:

The contractor should keep the FOLLOWING minimum tools, tackles, furniture and calibrated instruments at site for carrying – out the, operation maintenance and other jobs as required.

I. INSTRUMENTS

- | | | |
|---|---|-----------------------|
| 1. Multimeter | - | 2Nos. |
| 2. Tong Tester (AC/DC) | - | 2Nos. |
| 3. L.T. Meggar – 1KV | - | 1No. |
| 4. H.T. Meggar – 5KV | - | 1No. |
| 5. Earth resistance tester | - | 1No. |
| 6. Phase sequence meter | - | 2Nos. |
| 7. Working computer & printer laser | - | 1Set. |
| 8. Mobile/Cell Phones – pre paid type – 2Nos, one with site in charge & one in MSDS – for emergency contact | | |
| 9. Taco meter | - | 1No. |
| 10. Vibration meter | - | 1No. |
| 11. Vacuum cleaner (Heavy duty) | - | 1No (Industrial type) |
| 12. Low voltage detector | - | 2Nos |
| 13. ELCB test kit | - | 1No |
| 14. Earth discharge rod | - | 2No |

II. Tools & Tackles

- | | | |
|--|---|-------|
| 11. Screwdriver set – all sizes | - | 4Nos. |
| 12. Cutting pliers set – all sizes | - | 4Nos. |
| 13. Nose pliers set – all sizes | - | 4Nos. |
| 14. Cutter – all sizes | - | 4No. |
| 15. Spanners set (DE, O.E & ring) | - | 4Nos. |
| 16. Crimping cable tool both manual & hydraulic type – 1Nos, each (total) from 4sqmm to 1000sqmm | | |
| 17. Torgue wrench | - | 1No. |
| 18. Drilling & hammering machine | - | 1No. |
| 19. Air blower – Industrial type | - | 1No. |
| 20. Working tables – 4Nos & Sitting chairs – 6Nos. | | |
| 21. Grease Gun | - | 1No. |
| 22. Pocket multimeter | - | 1No |
| 23. Torch lights (Big) – 4 cells type | - | 4Nos |
| 24. Lead and soldering iron | - | 1No |

25. Fuse puller	-	1No
26. DC tester to check Battery, Voltage-		1No
27. Hydrometer	-	1No
28. Tong tester to measure 4 to 20MA-		1No
29. Lead & soldering Iron	-	1set
30. Pocket multimeter	-	1No

III. Safety personal protective equipment (PPE)

Safety shoe, Helmets, Safety belts, Goggles, Gloves, Ear plug etc.

ANNEXURE – IV

**Bill of Quantities
With
Technical specifications for AMC
of HT/LT Electrical Substations
at
ARCI, Hyd**

H. Technical Specifications for Price schedule / BOQ

ITEM DESCRIPTION	
Name of the work: Annual Manning, Operation & Maintenance Contract of HT/LT Substations	
Annexure IV – Electrical BOQ – Technical	

Sl.no	Item Code	Technical Description
1.	305008015	<p>AMC (monthly O&M Charges):</p> <ol style="list-style-type: none"> 1. The contractor should quote the lump sum price per month for entire scope of work as per tender document for deploying competent following minimum manpower considering the following points <ol style="list-style-type: none"> a) Required competent manpower. b) Tools & tackles. c) Excluding consumables spares & accessories items, which will be supplied by ARCI. d) Taxes, duties, services charges, bonus for holiday working and all statutory payments(i.e. ESI, PF & Insurance should be shown separately). e) Paid leaves as per contract labour act 1976 i.e. every 20 working days one(1) paid leave for every contract employee. f) The contractor should ensure eligible leaves to be availed by contract employee as per Govt. contract labour act. No compensation from ARCI g) Adequate additional manpower in all categories to be considered to avail leaves i.e. statutory leaves, paid leaves and etc as per contract labour act.

		<p>2. Minimum competent manpower requirement during contract</p> <p>a) Total manpower: - 29 nos on 24Hrs x 7 days in a week (in a day three shifts + one general shift). Including leaves reserve(i.e. 7no in different categories)</p> <p>b) Manpower to be deputed per shift:</p> <ul style="list-style-type: none"> • MSDS : 1no Supervisor + 1no Helper • CPP : 1no Supervisor + 1no Diesel Mechanic • LTSS - 1 : 1 no Electrician • LTSS - 2 : 1 no Electrician • During General Shift:-1 No. Site Engineer - In - charge+ 1no PLC technician to take care of PLC and PC's requirements + 2nos. Electrician to take care of illuminations (Lighting requirements / Shop Electrical)
2	305008003	<p>HT cable jointer: HT Cable jointer i.e.33 / 11KV along with necessary tools and tackles for single termination or jointing</p>
3	305008004	<p>Service Engineer calibration: Service engineer calibration for Relays (English Electric make), HT (VCBs), LT (ACBs), Trivector meter , CTs, PTs along with complete associated instruments for calibration (primary and secondary injection kits) on 8.5hrs per day</p>
4	305008005	<p>Cable fault finding: Cable fault finding LT / HT with expert service engineer along with tools and tackles per fault per cable.</p>
5	305008006	<p>Faulty cable trench excavation: Faulty Cable trench excavation in existing cable trenches, (having HT & LT armoured</p>

		cables inside the earth trench), removal of cable & sand and after rectification relaying of the cable with new fine sand bed of 150mm thick below & above the cable cover with new brick and existing soil to the original condition. This includes cutting and reconditioning of the metal road, pavements, cobal stone and cemented areas - per running meter. The excavated portion should be remade to original condition / shape.
6	305008007	Cable trench excavation: Excavation of cable trench of size 300mm X 750mm depth in wet, dry and rocky conditions of the soil for cable laying on a fine sand bed of 150mm in the excavated trench after cable laying by 150mm sand, cover all size with red bricks and back filling. Stacking of removed earth from all along the trench on either side after back filling and reinstatement. The excavated / removed excess sand should be transported to designated place as per ARCI official.
7	305008008	Cable laying 3.5Cx50sqmm to 3.5Cx120sqmm: Laying & fixing of all types of cables from 3.5x50sqmm to 3.5x120sqmm in ground / walls / OH & UG trays / concrete beams / MS angles / RCC structures with required fixing GI materials including base materials (Anchor bolts / GI nut / GI bolts / GI clamps / GI base & holes should be made by use of drill machine) at every 500mm as directed by ARCI staff / officials and also required supports / scaffolding materials.
8	305008009	Cable laying 3.5Cx185sqmm to 3.5Cx400sqmm: Laying & fixing of all types of cables from 3.5x185sqmm to 3.5x400sqmm in ground / walls / OH & UG trays / concrete beams / MS angles / RCC structures with required fixing GI materials including base materials (Anchor bolts / GI nut / GI bolts / GI clamps / GI base & holes should be made by use of drill machine) at every 500mm as directed by ARCI staff / officials and also required supports / scaffolding materials.
9	305008010	Cable laying 1Cx1000sqmm: Laying & fixing of cables for 1Cx1000sqmm in ground / walls / OH & UG trays / concrete

		beams / MS angles / RCC structures with required fixing GI materials including base materials (Anchor bolts / GI nut / GI bolts / GI clamps / GI base & holes should be made by use of drill machine) at every 500mm as directed by ARCI staff / officials and also required supports / scaffolding materials.
10	305008011	Cable termination 3.5Cx50sqmm to 3.5Cx120sqmm: Supply, installation, testing & commissioning of cable termination (labour, material & equipments of the cable at one end using double compression gland (grip make), Aluminum or copper lugs (dowells make) for crimping including aluminum cable tag and making good as per IS code 3.5cx50sqmm to 3.5cx120sqmm.
11	305008012	Cable termination 3.5Cx185sqmm to 3.5Cx400sqmm: Supply, installation, testing & commissioning of cable termination (labour, material & equipments) of the cable at ONE end using double compression gland (Grip make), Aluminum or copper lugs (dowells make) for crimping including aluminum cable tag and making good as per IS code 3.5cx185sqmm to 3.5cx 400sqmm
12	305008013	Cable termination 1Cx1000sqmm: Supply, installation, testing & commissioning of cable termination (labour, material & equipments) of the cable at ONE end using double compression gland (Grip make), Aluminum or copper lugs (dowells make) for crimping including aluminum cable tag and making good as per IS code 1cX1000sqmm
13	305008014	Transformer oil testing and filtration: Transformer oil filtration and testing to achieve minimum BDV level along with BDV oil testing kit as per IS codes 1866-2000. qoute for per ltr

Note: No compensation will be paid for non operation of the above items during AMC period

1. The contractor should quote the lump sum price for entire scope of work for deploying.
 - a) Required competent manpower i.e. 29nos
 - b) Tools & tackles.
 - c) Excluding consumables items will be supplied by ARCI.
 - d) Taxes, duties, services charges, bonus for holiday working, leaves and all statutory payments i.e. ESI,PF & Insurance should be shown separately.

ANNEXURE – V

**Price Bid
for
Bill of Quantities
With out
Technical specifications for AMC
of HT/LT Electrical Substations
at
ARCI, Hyd**

I. PRICE BID FOR BILL OF QUANTITIES

BILL OF QUANTITIES						
Name of the work: Annual Manning, Operation & Maintenance Contract of HT/LT Substations						
Annexure V – Electrical BOQ – Price to be given here						
Sl. No	Item Code	Technical Description	Units	Qty	Rate(Rs)	Amount in Rs (Amount in words)
1	305008015	AMC (monthly O&M Charges)	Months	12		
2	305008003	HT cable jointer	No	1		
3	305008004	Service Engineer calibration	Day	1		
4	305008005	Cable fault finding	No	1		
5	305008006	Faulty cable trench excavation	Mtr	1		
6	305008007	Cable trench excavation	Mtr	1		
7	305008008	Cable laying 3.5Cx50sqmm to 3.5Cx120sqmm	Mtr	1		
8	305008009	Cable laying 3.5Cx185sqmm to 3.5Cx400sqmm	Mtr	1		

9	305008010	Cable laying 1Cx1000sqmm	Mtr	1		
10	305008011	Cable termination 3.5Cx50sqmm to 3.5Cx120sqmm	No	1		
11	305008012	Cable termination 3.5Cx185sqmm to 3.5Cx400sqmm	No	1		
12	305008013	Cable termination 1Cx1000sqmm	No	1		
13	305008014	Transformer oil testing and filtration	Ltr	1		

