



**KSEB**  
കേരളാ വൈദ്യുതി ബോർഡ്



**KERALA STATE ELECTRICITY BOARD LTD.**

(Incorporated under the Companies Act, 1956)

Reg. Office: Vydyuthi Bhavanam, Pattom, Thiruvananthapuram-695004

Email: [ceit@kseb.in](mailto:ceit@kseb.in)

Phone: 91(471) 251 4610, 4274, 4624

Website: [www.kseb.in](http://www.kseb.in) CIN: U40100KL2011SGC027424

**ABSTRACT**

Implementation of projects under Smart Power Quality Centre (SPQC) for Distribution Grid – Executing Memorandum of Understanding between KSEBL and CDAC – Sanctioned -Orders Issued.

**CORPORATE OFFICE (IT, CR & CAPs)**

BO (FTD) No 726/2020 (CE-IT / RITU/CDAC/20-21)Tvpm, Dtd. 01.12.2020

- Read:
1. Office Order(CMD) No.CE/RITU/ SMART GRID/CDAC/2019 dated 19.09.2019.
  2. Letter D.O.No.25(12)/2019-ESDA-Vol-II Dated 13.03.2020 from the R&D in Electronics, Ministry of Electronics & Information Technology, Govt. of India
  3. Minutes of meeting dated 25.05.2020 convened by the Secretary, Power Department, Govt. of Kerala.
  4. Letter No. CDAC(T)/PEG/KSEB/2019 dated 04.06.2020 of the Senior Director & Head, PEG, CDAC, Trivandrum.
  5. Note dated 10.08.2020 of the Legal Adviser & Disciplinary Enquiry Officer
  6. Remarks of the Finance Adviser, KSEBL dated 12.08.2020.
  7. Letter No CDAC(T)/PEG/KSEB/2020 dated 19.09.2020 of CDAC
  8. Letter No CDAC(T)/PEG/KSEB/2020 dated 12.10.2020 of the Senior Director CDAC.
  9. Note No CE-IT/RITU/CDAC/2020-21/281 Dated 23.10.2020 & 316 dated 16.11.2020 submitted to the Full Time Directors (Agenda 82/11/20).

**ORDER**

The National Mission on Power Electronics Technology (NaMPET) is a mission programme of Ministry of Electronics and Information Technology (MeitY) Government of India. The C-DAC Trivandrum is the nodal agency of NaMPET programme. C-DAC(T) proposed a project 'Smart Power Quality Centre (SPQC) in Distribution Grid' to be funded by NaMPET Phase III programme, for the implementation of Smartgrid technologies in electric distribution network. This scheme includes projects such as Implementation of digital substation architecture, Advanced Metering Infrastructure (AMI) Solutions, Implementation of Battery Energy Storage System (BESS), Installation of Solid State Transformer, Power Quality Devices and Intelligent Sensor network for Distribution system Monitoring & Control. The overall budget outlay is Rs. 15.00 Crores. The project components & overall Schedule of the Project is given below:

Sl. No	Technology components	6 M	12 M	18 M	24 M	30 M	36 M	42 M
1	Implementation of a Digital Substation Architecture for a Smart Power Quality Centre							
2	Advanced Metering Infrastructure Solutions for Power Quality Centre							
3	Development and Implementation of Battery Energy Storage System for Power Quality Centre							
4	Development of Solid State Transformer and Solid State Switch solutions for Smart Power Quality Centre							
5	Power Quality Devices for Smart Distribution Grid							
6	Intelligent Sensor network for Distribution systems Monitoring and Control							

KSEBL as per order read as 1<sup>st</sup> above accorded sanction to issue an in principle approval for technology collaboration with CDAC. The MeitY, GoI, as per letter read as 2<sup>nd</sup> above conveyed that a MoU between KSEBL and CDAC, Thiruvananthapuram could be executed covering mutually agreeable terms & conditions. In this regard, a meeting was convened by the Secretary (Power), Government of Kerala, in the presence of the Director, C-DAC and the Director (Distr., IT & HRM). As per the MoM read as 3<sup>rd</sup> above the Secretary (Power) requested the project partners to agree on the MoU of the project at the earliest and refer it to the Government so that the Power Department can also take up the matter with Government of India.

C-DAC as per letter read as 4<sup>th</sup> above forwarded the draft MoU to be executed with KSEBL for setting up of the projects at a total cost of Rs. 15 Crores, funded by Ministry of Electronics & IT, Government of India. The KSEBL's contribution for the project is to provide existing infrastructure, spares, communication facilities, man power support for testing & monitoring, etc. and the above in-kind contribution value is quantified as Rs. 147 lakhs. The value of in-kind contribution from KSEBL as envisaged in the MoU for 'Smart Power Quality Centre In Distribution Grid' is as follows:

**Table -1**

Sl. No	Item	In-kind contribution Value (Rs. Lakhs)
1.	Sensors (CTs, PTs), tapping and signal terminations, control cable routing involved in different projects	15.00
2.	Communication infrastructure for data communication requirements in different sub projects of SPQC	10.00
3.	Commercial, DLMS compatible smart meters with accessories to test interoperability	15.00
	Installation associated with mounting and securing of various	

	power electronic systems	
6.	Protective relays and switchgears	15.00
7.	Control room facilities for deployment of MDMS and SCADA Systems.	12.00
8.	KSEBL manpower involved for support, testing, deployment, monitoring etc.	30.00
	<b>Total</b>	<b>147.00</b>

The draft MoU was referred to the LA & DEO and the Financial Advisor for remarks and the legal opinion/remarks were obtained as per papers read as 5<sup>th</sup> & 6<sup>th</sup> above. The remarks put forth by the LA & DEO and Financial Advisor were forwarded to CDAC. CDAC as per letter read as 7<sup>th</sup> above submitted the revised MoU in accordance with the opinions put forth by KSEBL. Further, CDAC as per letter read as 8<sup>th</sup> above informed that all the systems/units will be deployed at the site provided by KSEBL, within 3 years. After the deployment of systems, C-DAC (T) will conduct the field trials for a period of 1 year. After the successful field trials and evaluation, i.e. after 4 years, KSEBL will take over and retain those systems/units which are evaluated to be beneficial for KSEBL by payment of a nominal material cost. C-DAC will take care of service, maintenance and spares for a further period of 1 year, free of cost. After the period of 5 years, KSEBL will have to take care of those systems taken over by KSEBL. C-DAC (T) will provide the support for the same through paid AMC (i.e. after 5 years) with mutually agreed terms and conditions.

As KSEBL is looking for implementation of Smart grid components like digital substation, Battery energy storage system, Advanced Metering Infrastructure (AMI), Solid state Transformers, network sensing devices, distribution grid monitoring, etc, the project is highly beneficial to KSEBL. Hence the Chief Engineer (IT, CR & CAPs) as per note read as 9<sup>th</sup> above, recommended to approve the draft MoU to be executed with CDAC and the matter was placed before the FTD.

Having considered the matter in detail, the Full Time Directors in the meeting held on 20.11.2020:

1. Resolved to approve the draft MoU (*appended as Annexure*) to be executed with C-DAC, Thiruvananthapuram for the implementation of projects under Smart

Power Quality Centre (SPQC) in Distribution Grid, at a budget outlay of Rs.15 Crores, to be funded by Ministry of Electronics & IT, Government of India.

2. Further resolved to authorize the Chief Engineer (IT, CR & CAPS) to sign the MoU on behalf of KSEBL.
3. Further resolved to provide the existing facilities & spares as per Table-1 above, as in-kind contribution from KSEBL.

Orders are issued accordingly.

By Order of the Full Time Directors,

S/d

LEKHA G,  
COMPANY SECRETARY (I/c)

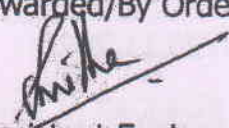
To

The Chief Engineer (IT, CR & CAPS).

Copy to:

1. The Chief Engineer, Distribution – South/The Chief Engineer, Transmission – South/ The Deputy Chief Engineer, Transmission Circle, Thiruvananthapuram/ The Deputy Chief Engineer, Electrical Circle, Thiruvananthapuram/ The Deputy Chief Engineer, System Operation Circle, Thiruvananthapuram.
2. The T.A. to Chairman & Managing Director / Director (D, IT & HRM) / Director (Trans, SO & REES) / Director (GE & SCM)/ Director (GC).
3. The P.A. to Director (Finance)/ Senior CA to Secretary (Admn.)
4. The Financial Adviser/ Chief Internal Auditor.
5. The Fair Copy Superintendent/ Library/ Stock File,

Forwarded/By Order

  
Assistant Engineer

2

**MEMORANDUM OF UNDERSTANDING**

This Memorandum of Understanding is made and executed on this day \_\_<sup>th</sup> of September, Two Thousand and Twenty, at \_\_\_\_\_

**BETWEEN**

**Centre for Development of Advanced Computing(C-DAC)**, through a constituent Unit of C-DAC situated at Vellayambalam, Thiruvananthapuram - 695 033, a Scientific Society of the Ministry of Electronics and Information Technology(MeitY), Government of India, registered under the Societies Registration Act of 1860, having its registered office at Pune, (hereinafter referred to as 'C-DAC(T)', which expression shall, unless it be repugnant to or inconsistent with subject or context thereof, include and be deemed to include their heirs, executors, successors or administrators and assigns) of the **ONE PART**

**AND**

**Kerala State Electricity Board Ltd., Vidyuthi Bhavanam, Pattom, Thiruvananthapuram, PIN - 695004**, a company formed and incorporated under Companies Act, 1956, having its registered office at Vidyuthi Bhavanam, Pattam, Thiruvananthapuram, hereinafter referred to as "KSEBL", which expression shall include and be deemed to include their heirs, executors, successors or administrators and assigns of the **OTHER PART**

Hereinafter collectively referred to as the "Parties" or individually as the "Party"

**WHEREAS,**

C-DAC (T) is a premier R&D organization in the field of Information Technologies and Electronics in the country working on strengthening national technological capabilities in

the context of global developments in the field and responding to change in the market need in selected foundation areas. C-DAC (T) is the nodal centre of National Mission on Power Electronics Technology (NaMPET), a mission programme of Ministry of Electronics and Information Technology (MeitY), Govt. of India. NaMPET is a National level R&D programme facilitating Research, Development, Deployment and Commercialization of Power Electronics Technology, by enhancing the indigenous R&D expertise and infrastructure in the country with active participation from Academic Institutions, user agencies and Industries. C-DAC(T), through projects funded by NaMPET has already undertaken research, development and deployment projects in the area of renewable energy, power quality systems, smart meters, power system wide area monitoring, energy storage systems, microgrids etc.

**WHEREAS,**

KSEBL is the successor entity of Kerala State Electricity Board which was constituted by the Government of Kerala for carrying out the business of Generation, Transmission and Distribution of electricity in the state of Kerala.

C-DAC(T) and KSEBL has been associating in many technology development and demonstration projects associated with technology enhancement in power sector. KSEBL has supported many of C-DAC(T)'s development projects by extending field implementation support.

**WHEREAS,**

C-DAC (T) proposes to implement a 'Smart Power Quality Centre in Distribution Grid' through the funding from NaMPET Phase III programme, which aims to develop, deploy, validate and demonstrate various technology components associated with smart distribution grid. The major objective of the project is to indigenously develop and deploy a spectrum of technology to seamlessly convert a segment of electric distribution network and a substation to a new entity which can address future smart grid requirements of the electricity utility companies. Different technology components of proposed Smart Power Quality Centre will be developed and deployed in the distribution network of KSEBL through six sub projects which are listed below

1. Implementation of a Digital Substation Architecture for a Smart Power Quality Centre
2. Advanced Metering Infrastructure Solutions for Power Quality Center
3. Development and Implementation of Battery Energy Storage System for Power Quality Centre
4. Power Quality Devices for Smart Distribution Grid
5. Development of Solid State Transformer and Solid State Switch solutions for Smart Power Quality Centre
6. Intelligent Sensor network for Distribution systems Monitoring and Control

The objective, technical details and scope of each sub project are summarized in Annexure A section 1 to 3

Since the project needs to be implemented on a working distribution grid for the technology validation, support from user agency / utility like KSEBL is highly essential. On the other hand, the proposed development activities will help KSEBL to strengthen the technical know-how for undertaking large scale grid modernization projects in future. The proposed qualitative and quantitative benefits for the utility is elaborated in Annexure A, section 1

KSEBL, after a number of technical discussions and evaluation of the proposal, has accepted to partner in the project as end user [vide letter no. CE/RITU/SMARTGRID/CDAC/2019-20/249 dated-12/11/2019 (Annexure B)]

**WHEREAS,**

C-DAC (T) submitted the proposal titled 'Smart Power Quality Centre in Distribution Grid' to NaMPET Phase III Programme with an objective of development of smartgrid technology components of distribution grid and deployment of the same in KSEBL's distribution network for technology validation and demonstration. The proposal has been approved by the National Steering Committee of NaMPET, constituted by the Ministry of Electronics and Information Technology (MeitY) for funding.

**WHEREAS,**

MeitY has been consistently supporting various R&D institutions to strengthen the in-house technology capability required in various domains including smartgrid technology. Through this project, MeitY is supporting to the tune of Rs. 15 Crore for design, development, implementation, deployment, technology validation and commercialization of various technology components for smart distribution grid. Being an end user, KSEBL's active participation in the project is identified as a critical element for the successful development and sustainability of the new technologies proposed. This has been formally communicated by MeitY to KSEBL and it is advised that a formal MoU may be exercised between CDAC and KSEBL addressing roles, responsibilities, in kind contribution and plans for take over and sustenance [vide MeitY D.O.No.25/12 2019-ESDA-Vol-II Dated 13-3-2020]. In response to the above request, CDAC and KSEBL have finalised this MoU through mutual discussions.

**A. Scope of the MoU**

This MoU details the modalities and general conditions for collaboration of C-DAC(T) as development agency and KSEBL as end user agency for an indigenous technology development and deployment project titled 'Smart Power Quality Centre in Distribution Grid' funded by MeitY, Govt. of India through NaMPET Phase III programme.

**B. General Terms and Conditions**

1. C-DAC (T) agrees to develop the technology as per the specifications and technical requirements as summarized in Annexure A, section 3 through six sub projects addressing different technology components of smart distribution grid
2. C-DAC(T) agrees to develop the technology in consultation with KSEBL to suit the utility's requirements in distribution grid

3. C-DAC(T) will carry out the design of the technology proto-units to be deployed at site with all necessary protections and in compliance with the relevant standards
4. C-DAC(T) agrees to conduct the tests and field trials at KSEBL site with active involvement of KSEBL, with required precautions for safety of the systems and personnel involved. C-DAC(T) will take care of repair of any of the associated KSEBL systems, if it gets damaged due to unforeseen errors during commissioning and testing of the systems.
5. C-DAC(T) agrees to provide the required technical support for the trials, monitoring and long term sustenance of the systems
6. KSEBL agrees to provide a distribution segment and sub-systems for deployment, testing, technology validation and demonstration of various technology components of smart distribution grid as listed in Annexure A, section 6
7. KSEBL agrees to provide all necessary technical details and data to support indigenous design and implementation of technology components of Smart Power Quality Centre as detailed in individual project description in Annexure A
8. KSEBL agrees to ensure the active involvement of technical manpower at different stages of the project as described in Annexure A, section 7
9. KSEBL agrees to provide support system for project implementation, field trials, system evaluation, long term sustenance and technology demonstration
10. KSEBL agrees to actively support technology proliferation and will consider replication and enhancements with the support of C-DAC(T)

### **C. Project Deliverables**

Various proto-units developed through the project will be delivered to the site by C-DAC(T) and will be deployed in a selected segment of the distribution grid allotted by KSEBL with active involvement and contribution of KSEBL. KSEBL will provide various subsystems as listed in Annexure A, section 5 and 6 to complete the field deployment activities. Summary of deliverable are as follows.

- Digital substation technology to be implemented on an existing substation
- Indigenous Advanced Metering Infrastructure (AMI) technology to be implemented on a selected region of the distribution feeder
- Battery Energy Storage System to be implemented on the distribution feeder
- Solid State Transformer technology development and integration of the same in distribution grid
- Power Quality Devices to be deployed in a distributed manner
- Intelligent sensor network for distribution system monitoring

Summary specifications of the technology proto-units of different sub projects and individual deliverables/contribution from C-DAC(T) and KSEBL are given in Annexure A, section 3



#### **D. Roles and responsibilities**

C-DAC (T) will be responsible for:

- Design and development of various technology proto-units
- Involving suitable industries in fabrication and commissioning so as to make ToTs possible
- Testing and validation of the proto-unit at lab
- Preparation of field deployment and test plans in consultation with KSEBL
- Deployment of proto units at field with active involvement of KSEBL
- Testing, commissioning, field trial and technology validation with active involvement of KSEBL
- Technology demonstration to prospective industries for transfer of technology with the support of KSEBL
- Preparation and consolidation of technology documents
- Training of KSEBL personnel for extended field trials and up keeping of the installed systems
- C-DAC(T) will ensure by design that the inclusion or exclusion of the SPQC systems can be carried out with minimum disturbance and downtime of the electrical distribution network

KSEBL will actively involve in the project as end user. KSEBL shall extend technical support to the project in all phases of design, development and deployment. KSEBL will be responsible for

- KSEBL shall provide a segment of distribution grid and subsystems for the field implementation and technology evaluation of 'Smart Power Quality Centre in Distribution Grid'
- KSEBL, in consultation with C-DAC(T), will identify an appropriate substation and distribution segment of KSEBL in and around Thiruvananthapuram, where all the technology proposed in the project can be deployed and demonstrated. KSEBL shall permit C-DAC(T) to initiate the project related activities in the selected substation and distribution segment soon after the signing of the MOU.
- KSEBL shall share its technical know-how, data, and associate its technical manpower for preparing the deployment and field trial plans
- KSEBL shall ensure technical support for the field deployment activities and will provide necessary space, subsystems and approvals associated with installation and interconnection of various systems as part of the project
- KSEBL shall permit access of C-DAC(T) personnel to their systems in the selected distribution segment for activities related to measurements, field commissioning of developed systems, testing and monitoring etc. associated with the project. KSEBL shall ensure guidance and involvement of its technical team in all such activities. Prior intimation to KSEBL will be ensured by C-DAC(T) for all activities requiring access to KSEBL systems.

- KSEBL shall establish a point of contact for matters associated with the proposed project and for support activities during project review meetings
- KSEBL shall actively involve in continuous field monitoring of the system
- KSEBL will showcase the system to other prospective industries/utility companies for propagation of the merits and benefits of the technology. KSEBL also will support in dissemination of successful technologies through reports and publications
- KSEBL will assign its technical manpower at different stages of the project to support the execution of various activities related to the individual projects as detailed in Annexure A section 7
- On successful completion of the implementation and field trial, KSEBL shall initiate strategy for large scale deployment of smart grid technologies in their network
- On successful completion of technology development and deployment, KSEBL will take over the systems deployed through the project for long term sustenance with the support of C-DAC (T).

The roles, contributions and responsibilities of C-DAC(T) and KSEBL in the individual projects are detailed in Annexure A

#### **E. Budget**

The project involves applied research, development and deployment of smartgrid technology for distribution grid as detailed in Annexure A. The development activities will be executed with the funding from MeitY through NaMPET Phase III and the overall budget outlay is Rs. 15.00 Cr. In addition to this, KSEBL will provide in kind contribution towards providing the implementation sites, control rooms with adequate facilities, field trial facilities, support for field implementation, technology validation and long term sustenance, technical manpower for carrying out different activities related to the project implementation, additional cabling required for the installations, civil works, sharing of sub systems like sensors and switchgears etc. The details of in kind contribution by KSEBL for individual projects are given in Annexure A section 5 and 6

The cost of in kind contribution by KSEBL is estimated to be approximately 10% of the project funding by MeitY.

#### **F. Project Review**

The project will be reviewed time to time by Project Review Committee(PRC) and National Steering Committee (NSC) of NaMPET Phase III programme. C-DAC (T) will coordinate the review related activities and prepare the progress reports for the review meeting. KSEBL shall provide necessary technical inputs and depute concerned officer of KSEBL to take part in the review meetings to update the progress of the project.

KSEBL shall also nominate an officer as a member of the PRC who also may be invited to NSC as and when required.

C-DAC (T) and KSEBL will conduct periodic meetings in order to monitor the progress of the project and to plan corrective measures for the timely execution of the project.

#### **G. Acceptance Criteria**

- After deployment of different systems developed through the project, C-DAC(T) will carry out site level tests and verification with the support of KSEBL. The compliance of the systems to the specifications in Annexure A, section 3 will be evaluated and reported at this stage
- After successful commissioning, the system will be put under trials for a period of 6 months
- During the trials, various performance aspects of the systems will be monitored by KSEBL with the technical support of C-DAC(T)
- C-DAC(T) and KSEBL will regularly review the performance of various systems and decide on required corrective actions, if any
- On completion of the trials, test reports will be prepared jointly by C-DAC(T) and KSEBL
- C-DAC(T) will also provide user manuals, troubleshooting guidelines and O&M manual to the end user
- During the site trials, KSEBL will involve their technical manpower to get trained for future operations and up-keeping of the systems
- After the field trial, C-DAC(T) and KSEBL will jointly prepare report on qualitative and quantitative benefits achieved through the deployment of new technologies through the project. After successful completion of the field trial, KSEBL will take over the system and operate system on their own with the technical support of C-DAC(T)

#### **H. Post Takeover plan**

- After takeover KSEBL will evaluate the performance of the system for a period of 6 more months from takeover. Based on the above evaluation and reports and endorsement of the competent authority, KSEBL may consider sustenance of the whole system or those systems which KSEBL considers to be more beneficial for long term operation by payment of material cost. Otherwise, the systems will be taken back by C-DAC(T) for further technical enhancements and experimentations
- The transfer of ownership of systems developed and deployed by C-DAC(T) through the project to KSEBL will be subject to the decision and approval of NSC and MeitY
- C-DAC(T) will take care of the spare support and maintenance of the deployed systems system in the form of warranty for a period of one year after the transfer of ownership of the system.
- During the long term operations by KSEBL, after the above warranty period of one year, C-DAC(T) will extend technical and required spare support through AMC.

- KSEBL may consider to replicate systems those are beneficial for the grid at other sites. KSEBL may consider procurement of such systems from the industry based on C-DAC(T) technology deployed and proven at KSEBL's site through this project

#### **I. Project Schedule**

The schedule for the activities associated with the project 'Smart Power Quality Centre in Distribution Grid' is given in Annexure A, section 1.2. The project execution is proposed to be completed in 42 months. The deliverables shall be brought out and implemented in field in a phased manner during this period. The schedule of individual projects is given in Annexure A, section 7.

#### **J. Intellectual Property**

- All prior information, design and data existing with either party before the start of this project (pre-existing IP) shall be the sole property of that party.
- The right of the design know how of Smart Power Quality Centre will be held by C-DAC(T). The rights of data generated through the project shall be held jointly by C-DAC(T) and KSEBL

#### **K. Confidentiality**

C-DAC(T) and KSEBL agree to maintain strict confidentiality in all the inputs ("Confidential Information") exchanged between them as required for the project execution covered under this MoU. Both parties will not disclose the information received by them to a third party other than for the purposes of the MoU without the prior written consent unless such Confidential information

- a) is in the public domain at the time it is acquired or divulged;
- b) becomes part of the public domain after it is acquired other than by a breach by the recipient of this sub-clause;
- c) is already in the possession of the recipient without limitation or restriction against subsequent use or disclosure;
- d) is independently received from a third party having the full right to disclose.

Disclosure by any Party of any such Confidential Information to any subsidiary, associated or parent company of either Party shall be permitted provided that any such recipient agrees in writing to be bound by the terms of this clause as if it was a Party hereto.

Any Party breaching the obligation of confidentiality may be required by the other Party to withdraw from the Project and take appropriate action for breach of confidentiality subject to the conditions of this MoU.

#### **L. Validity**

Validity of this contract is for 5 years, from the date of signing of this MoU

#### **M. Extension and Amendments**

This MoU may be amended suitably in writing on mutual consent for any extension of the project activities or/and changes in project objectives for any reason whatsoever subject to specific approval thereof by the NSC of NaMPET Phase III programme

#### **N. Termination**

If during the deployment phase, due to any reasonable technical problems, which jeopardises or necessitates shelving of the project, this MoU can be terminated by mutual consent and terms and conditions of both parties with a prior notice period of three months. This shall be executed after intimation to MeitY and with specific approval of the National Steering Committee of NaMPET Phase III programme.

Since the Project involves development and deployment of multiple technologies in a phased manner, a competent committee may be formed with representatives from C-DAC(T) and KSEB with due approval of MeitY, to chart out continuation of field trials of successful subsystem implementations and technology promotion of matured technology brought out through the project at the time of termination.

#### **O. Force Majeure**

Neither party shall be liable to the other for any delay or failure on their part in performing any of their obligations under this MoU, resulting from any cause beyond their control including, but not limited to strikes, fires, floods, earthquakes, explosions, riots, acts of God, acts of Governments, epidemics, pandemics, war, enemy action, political changes etc.

#### **P. Settlement of disputes**

The Parties shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the MoU. If the parties fail to resolve such a dispute (The date of commencement of the dispute shall be taken from the date when this clause reference is quoted by either party in a formal communication clearly mentioning existence of dispute or as mutually agreed) or difference by mutual consultation within twenty eight (28) days from the commencement of such consultation, either party may require that the dispute be referred for resolution to the formal mechanisms for legal solution.

#### **Q. Jurisdiction of Court**

The parties to this MoU hereby declare that the Courts in Thiruvananthapuram alone are competent to deal with disputes arising out of this MoU, if the same are beyond the ambit of Arbitration

#### **R. Severability**

If any part of this agreement is found by a court of competent jurisdiction or other competent authority to be invalid, unlawful or unenforceable, then such part will be severed from the remainder of this agreement which will continue to be valid and enforceable to the *fullest extent permitted by law.*

#### **S. Insurance**

Both Parties will ensure accident insurance coverage for its men and material involved in project during the course of execution.

**T. Communication**

Any notice, request, demand, approval, comment or other communication provided or permitted hereunder shall be in writing and given by personal delivery or sent by post or by fax/ email address to the party for which it is intended as the following address:

For C-DAC(T)	For KSEBL
Head, Power Electronics Group CDAC, Vellayambalam, Thiruvananthapuram-33 Ph - Fax- Email:	

In acceptance to the above, we herewith append our signatures below on this the \_\_th day of September, Two Thousand and Twenty

For C-DAC(T)	For KSEBL
Executive Director C-DAC Vellayamabalam Thiruvananthapuram - 695 043	The Chief Engineer (IT,CR & CAPs) KSEBL Vydyuthi Bhavanam, Pattom, Thiruvananthapuram-695 004
Witness	Witness