

NOTICE INVITING EXPRESSION OF INTEREST
FOR
TRANSFER OF TECHNOLOGY FOR “HYBRID POWER CONDITIONING SYSTEM FOR MICROGRID”

EoI No: NaMPET-III/Microgrid/EoI/2022
EoI release date: 27/05/2022



Centre for Development of Advanced Computing (CDAC)
Thiruvananthapuram

1. Introduction

National Mission on Power Electronics Technology (NaMPET) is a programme launched by the Ministry of Electronics and Information Technology (MeitY), Govt. of India in 2004, with a vision to provide the country with capability to become a dominant player in Power Electronics Technology. Through this Programme, Research, Development, Deployment and Commercialization of Power Electronics Technology is envisaged by enhancing the indigenous R&D expertise and infrastructure in the country with active participation from academic institutions and industries. Centre for Development of Advanced Computing (CDAC), Thiruvananthapuram, a premier R&D organization under MeitY, is the Nodal Centre for coordinating the activities of NaMPET. Two phases of this National level program each with 5-year duration has been successfully completed. MeitY initiated the Third phase of NaMPET (NaMPET Phase-III) in January 2019 for five years aiming further strengthening of the power electronics technology base in the country, through this phase of NaMPET a green technology for powering houseboat hotel loads with battery banks has been successfully developed and commissioned. The project is well appreciated by state, central governments and media as it addresses a major environmental issue.

2. Microgrid system

Microgrid is a group of interconnected loads and distributed energy resources with clearly defined electrical boundaries that acts as a single controllable entity with respect to the grid and can connect and disconnect from the grid to enable it to operate in both grid-connected and islanded mode. CDAC(T) has been associated with successful development of power converter schemes and controller hardware configurations for various energy conversion systems for renewable energy integration and storage. Through NaMPET programme, CDAC has successfully developed and demonstrated the concept of microgrid with a couple of installations. This scheme incorporated a spectrum of technology that would aid the rural and underprivileged community for their sustainable development.

The Scheme of the typical microgrid system is depicted in Fig.1. The primary energy source for the microgrid is solar PV. Subsystems like LVDC, smart meters, solar PV based telecom power supply etc. may be included as add-on features to the Microgrid system. Battery bank and back up Diesel Generator of suitable capacity is to be incorporated to the system based on the specific requirements of the deployment site. The microgrid will be controlled with energy management and demand management functions. The Microgrid system is capable of operating in either grid connected or standalone modes. The Microgrid asset management is taken care by a multi-layered Intelligent Microgrid Manager.

2.1 Key features

- ✓ 30kW Hybrid Power Conditioning System with State of Art technology and power conversion modules for Integration of RE resources and Battery banks
 - DAB based DC-DC converters
 - 3 Phase 4 Leg Inverter for unbalance handling
 - Graphical user interface with Ethernet based communication module
- ✓ 360V, 300 Ah battery storage
- ✓ Intelligent Microgrid Manager for monitoring and control
- ✓ Low Voltage DC (LVDC) system for street light application with indigenous technology
- ✓ Indigenously developed Smart Energy meters

- ✓ Indigenously developed 3 kW Solar based charge controller units for telecom tower application
- ✓ Remote monitoring facility
- ✓ Back-up Diesel generator of suitable capacity
- ✓ Underground cable system for power distribution

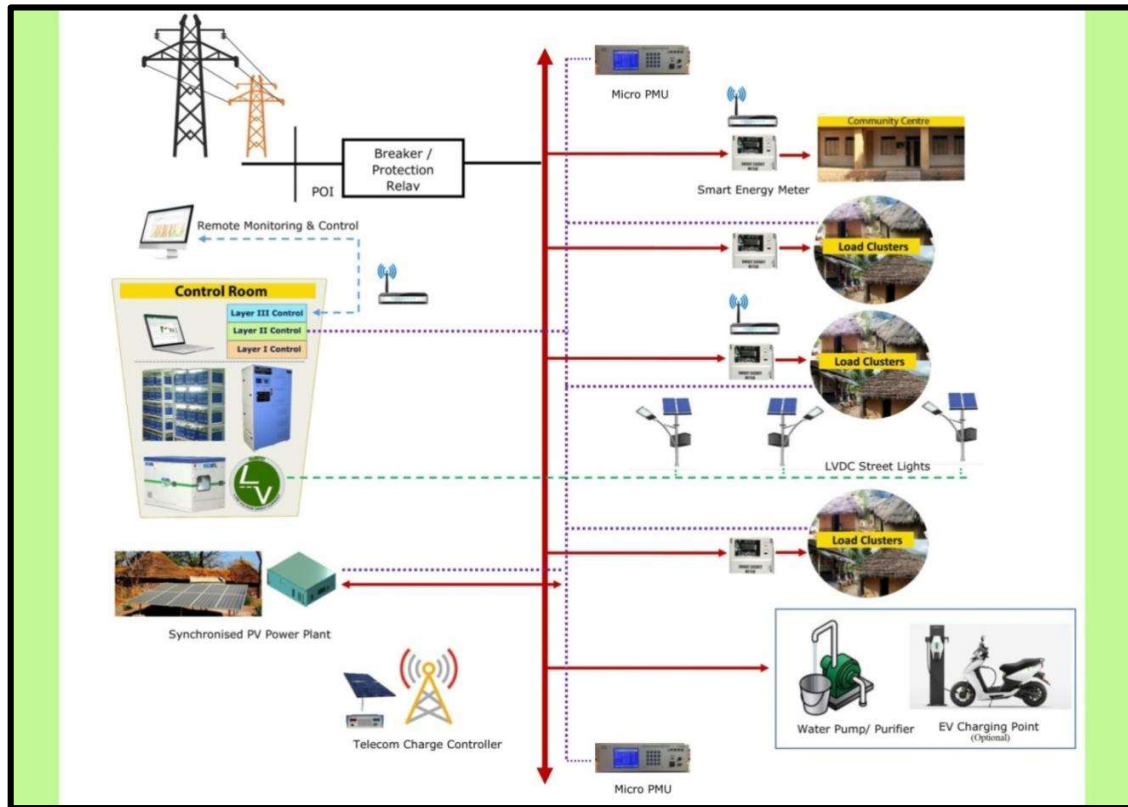


Fig.1. Microgrid Scheme

3. Application Areas

- Tribal electrification/ Remote forest establishments
- Campus microgrids
- Residential complexes
- Commercial Microgrids
- Defence Microgrids

4. Technology Transfer

The technology will be transferred on non-exclusive basis.

The ToT package contains the following

1. Document(s) for technology know-how and fabrication, schematics of the system
2. Installation guide
3. Training and user's manual
4. Technical support for a period of 6 months
5. Bill of Materials of the system

5. General terms and conditions

1. An expert committee constituted by MeitY/C-DAC will scrutinize the applications for follow-up action.
2. The applicants may be called for a presentation regarding their strengths and business proposals
3. All incidental expenditure incurred in preparation/ submission or presentation of the EoI shall be borne by the participating agency
4. Participation in this EoI does not guarantee any association with C-DAC unless notified by MeitY/C-DAC in writing.
5. MeitY/C-DAC reserves the right of rejecting any offer without assigning reasons.
6. There is neither a business guarantee nor any commitment for funding support from MeitY/C-DAC to the appointed/ empanelled agencies.
7. A Committee of experts constituted by MeitY/C-DAC will assess capabilities and strengths of the industry before finalizing the technology partners.
8. The industry willing to take technology for commercial production will be required to enter into a ToT agreement with C-DAC as per the terms and conditions approved by the competent authority in the MeitY in the prescribed format.

6. Eligibility

Companies/organizations with expertise in recreational vessel manufacturing/operating industry, especially houseboats and shikkars who are willing to take up the production and deployment of LVDC powered houseboat technology as per the ToT guideline agreement of C-DAC are eligible to apply. Industries with good experience in development & deployment of renewable power systems or power conversion systems can apply. Professionally managed companies, corporates and startups are also welcome to apply for the technology.

7. How to apply

Interested companies/industries may send expression of interest with their details by filling the EoI form as per Annexure – I to the following address.

Aby Joseph
Scientist G/Senior Director
Power Electronics Group CDAC
ThiruvananthapuramKerala
PIN: 695033
Ph: 0471-2723333-365 (extn)
Email: aby@cdac.in

Annexure-I

Details of Expression of Interest

(To be filled by the organization interested in technology transfer from C-DAC(T))

Sl No.	Description of Items	Details from Organisation
1	Name of the Organisation Address of registered office with telephone no. & fax	
2	Contact Details Name Designation Address for Comm. Email & Phone	
3	About Organisation Website if available	
4	Any Additional Technology development request	
5	Readiness level to take the technology	
6	Any other information request	
7	Feedback on the information shared by C-DAC(T)	
Declaration I/We hereby confirm that I/we are interested in the above technology and would productionise it as per terms and conditions. All the information provided above is genuine and accurate. Authorized Person's Signature. Name and Designation: Date of Signature:		