

Memorandum of Understanding

on

COOPERATION FOR RESEARCH IN POWER AND ENERGY

BETWEEN

Bangladesh Energy and Power Research Council (EPRC)

AND

Institute of Energy Technology (IET)

Chittagong University of Engineering & Technology (CUET)

This Memorandum of Understanding (MOU) is made by and between the Bangladesh Energy and Power Research Council (EPRC), of Government of Bangladesh (GoB) and the Institute of Energy Technology (IET) of Chittagong University of Engineering & Technology (CUET).

Bangladesh Energy and Power Research Council (EPRC), enacted by a law passed by Bangladesh Parliament in February 2015, is a GoB run council under Power Division, Ministry of Power, Energy & Mineral Resources. It works with a vision to provide leadership to seek innovative solutions for efficient, cost-effective and environmentally sustainable development of power and energy infrastructure of Bangladesh. It will strengthen and mobilize research capabilities at universities, public/private research organizations, and industry practitioners as well as assist individual entrepreneurs to develop applicable technologies and systems for the development of the energy and power sector. The Energy and Power Research Council shall be hereafter referred to as "EPRC".

Chittagong University of Engineering & Technology (CUET) is one of the prestigious public universities in Bangladesh providing education in the discipline of engineering and technology. It is playing vital role for higher education, research and development in the engineering sector and applied sciences of Bangladesh. On August 28, 1962, Government of Pakistan decided to establish an Engineering College in Chittagong due to increasing demand of professional engineers for the development of the nation. On December 28, 1968, few years later college was started its journey by admitting 120 students in its first academic session under the faculty of Engineering, University of Chittagong. The college was declared as a self-degree-awarding institution and was renamed as "Bangladesh Institute of Technology" (BIT) on July 1, 1986. Finally the institution was converted into a university for enlarging the engineering education and was named as Chittagong University of Engineering & Technology (CUET) on September 1, 2003.

The Institute of Energy Technology (IET) has started in 2001 as a research center for addressing nation's energy issues scholarly. However, due to its manpower, resources and facilities, and research scopes, in 2003, the status of the center is elevated to a degree awarding institute in energy technology. The core objective of this institute is to make positive impact in nation's energy sustainability and preservation of bio-diversity. For which the mission of this institute is to accomplish relevant and suitable research projects independently as well as in cooperation with private and public organizations at home and abroad.

In this MOU, the "EPRC" and "IET-CUET" can be collectively referred to as the "Parties" and singularly as "Party".

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The Parties agree to establish research collaborations in areas of mutual interests and in accordance with the terms and conditions in this MOU. This MOU provides for cooperative participation between the Parties to select activities of mutual benefit regarding power and energy related research.

ARTICLE 1: BACKGROUND

Supply of reliable and quality electricity is the prerequisite for the economic development of a country. Bangladesh is one of the countries with the highest population density but low per capita electricity consumption. The government is determined to meet its goal "electricity to all" by the year 2020. The present installed generation capacity (as on 01 January 2017) has increased to 15,351 MW (13,151 MW grid +2,200 MW captive) though the firm capacity of the grid is around 9000 MW due to the ageing major generation units and lack of gas supply (primary fuel) at the requisite pressure. Besides this approximately 200 MW generation based on renewable sources is implemented in the off-grid remote sites of which the major share is from 4.5 million isolated solar home systems amounting to 175 MW. According to the power system master plan (PSMP) 2010, on the basis of 7% GDP growth, the forecasted peak demand will be around 25,000 MW by the year 2025 and more than 33,000 MW by the year 2030. To meet this growing demand with the requisite spinning reserve satisfying the frequency control requirements, GoB has concentrated on exploring all the avenues. These are coal based generation (10320 MW by 2021), nuclear power (2400 MW by 2024), import (around 2000 MW by 2021) from SAARC regional HVDC corridor, grid connection of several hundred MW planned photovoltaic power stations, and last of all promoting energy saving and efficiency improvement schemes at the demand side. Against this backdrop, the academic and research communities with their proven know-how need to be inducted in the process of ensuring electricity for all.

ARTICLE 2: OBJECTIVES

The objective of this Memorandum of Understanding (MoU) is to establish the basis for an institutional cooperation as follows but not limited to:

- (i) To promote innovative and applied research in the field of power generation, transmission, distribution, regional power grid, alternate and sustainable energy and energy efficiency.
- (ii) To address the emerging issues like smart grid, demand response, distributed energy resources, energy storage, smart appliances, energy conservation in commercial, industrial and residential sectors, cogeneration, etc. through research, continuing education, outreach programs, seminars, workshops etc.
- (iii) To arrange seminars, workshops, round-table discussions etc. to bridge between research potentials of academia and the industry needs in energy and power.
- (iv) To facilitate and encourage collaborative research between academia and the industry.
- (v) To build up the capacity of CUET for undertaking advance studies and research in the field of power and energy.
- (vi) To encourage undergraduate as well as graduate (Masters/PhD) students and facilitate for undertaking research and innovative projects and building up their career in the field of power and energy.

ARTICLE 3: RESPONSIBILITIES OF EPRC

The EPRC will

- (i) provide financial grants to CUET for undertaking researches and building up capacity in the field of power and energy in a way appropriate to the country;
- (ii) share with CUET the data and information in the field of power and energy; send supporting letters to any other organization where necessary so that CUET can collect data, conduct field surveys and experiments;
- (iii) involve CUET faculties in the major activities of EPRC such as policy formulation, project evaluation, project monitoring, survey and feasibility studies;
- (iv) encourage CUET students to come up with innovative as well as viable ideas, and support students for their placement as an intern in relevant research institutes and research wings of the local industries;
- (v) provide support to CUET to organize seminars, conferences, workshop, training, etc. in the field of power and energy.
- (vi) provide all kinds of support to CUET to protect the copyright of the projects or innovations or pilot studies done by the researchers and students.

ARTICLE 4: RESPONSIBILITIES OF CUET

The CUET will

- (i) encourage its faculties and students to take up research in the field of power and energy;
- (ii) provide existing laboratory facilities and will create new facilities for research in the field of power and energy. These facilities may also be used by researchers from other universities under CUET rules and regulations;
- (iii) share the research outcome with EPRC and disseminate information to any other entity approved by both the parties;
- (iv) provide supports and recommendations to EPRC on formulating appropriate guidelines or revising the existing guidelines for evaluating research project proposals and assist concerned EPRC personnel to monitor on-going research projects in the field of power and energy;
- (v) cooperate with EPRC to organize seminars, workshop, conferences, training, etc in the field of power and energy.

ARTICLE 5: TERMS AND CONDITIONS

The terms and conditions of this MOU are:

- (i) This Memorandum can be terminated by any party through mutual discussion and giving six months prior notice to the other party.
- (ii) This Memorandum may be modified in writing upon approval of both parties.
- (iii) This MOU represents non-contractual, non-binding statements of the objectives of the parties to engage in the activities outlined. This specific MOU is not binding or enforceable on either party by the other and creates no legal responsibilities or obligations.
- (iv) In the implementation of this MOU, all participating parties or institutions will remain subject to their own internal policies and requirements.

- (v) Any activity on the basis of distinct merits within the scope of this MOU will be undertaken through a separate agreement between EPRC and IET-CUET with mutually approved Terms and Conditions.

ARTICLE 6: VALIDITY

This Memorandum will become effective from the signature date of designated representatives of EPRC and CUET. It shall remain in effect for a period of 3 (Three) years from the date of inception unless otherwise terminated in accordance with its provisions in (i) of article 5. The MOU may be extended for another 3 (Three) years period upon the written consent of the Parties.

ARTICLE 7: COORDINATION CONTACT

The personnel designated below will serve as the focal points of contact in EPRC as First Party and IET-CUET as Second Party, and will perform necessary communication between two parties.

First Party

Secretary (Deputy Secretary),
Bangladesh Energy and Power Research Council
Bidyut Bhaban,
1 Abdul Goni Road
Dhaka -1000
Bangladesh
Signature: _____
Date: _____

Second Party

Director
Institute of Energy technology (IET)
Chittagong University of Engineering & Technology
Chittagong-4349, Bangladesh
Signature: _____
Date: _____

ARTICLE 8: ENDORSEMENT

All parties identified below endorse the provisions and terms of this MOU.

Md. Anwarul Islam Sikder, ndc,
Chairman
Bangladesh Energy and Power Research Council
Bidyut Bhaban, 1 Abdul Goni Road, Ramna
Dhaka -1000
Bangladesh
Signature: _____
Date: _____

Prof. Dr. Mohammad Rafiqul Alam
Vice Chancellor
Chittagong University of Engineering & Technology (CUET)
Chittagong-4349
Bangladesh

Signature: _____
Date: _____