

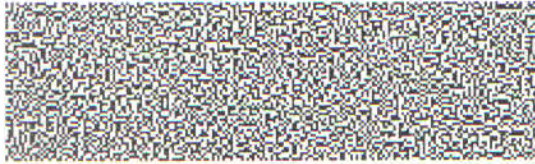


INDIA NON JUDICIAL

Government of Karnataka

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Certificate Issued Date : 25-Jul-2025 12:56 PM
Account Reference : NONACC (FI)/ kagcs108/ PANATHUR1/ KA-GN
Unique Doc. Reference : SUBIN-KAKAGCSL0815059666925070X
Purchased by : NHCE
Description of Document : Article 5(J) Agreement (in any other cases)
Property Description : MOU
Consideration Price (Rs.) : 0
(Zero)
First Party : BESCOM
Second Party : NHCE
Stamp Duty Paid By : NHCE
Stamp Duty Amount(Rs.) : 500
(Five Hundred only)



Please write or type below this line

Memorandum of Understanding (MoU)

This Memorandum of Understanding is being executed on 07. 08. 2025 between **BANGALORE ELECTRICITY SUPPLY COMPANY LIMITED (BESCOM)** and **New Horizon College of Engineering (NHCE) Bengaluru** and shall be effective from 07. 08. 2025

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General Manager (Ele.)
DAS & SG, BESCOM
BEC-1, HSR Layout,
Bangalore - 560 102

Principal
New Horizon College of Engineering
Ring Road, Bellandur Post, Near Marathalli
Bangalore - 560 103

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3. In case of any discrepancy please inform the Competent Authority

BANGALORE ELECTRICITY SUPPLY COMPANY LIMITED (BESCOM), Bengaluru incorporated under the companies act 1956 and having its registered office at Corporate Office, BESCOM, K.R. Circle, Bangalore-560001, acting through its authorized signatory

The General Manager (DAS,SG & TIC), BESCOM (herein after referred to as BESCOM), whose expression shall, unless repugnant to the context in which the same shall be used, mean and include its successors' interest and the permitted assigns) of the first part

AND

New Horizon College of Engineering, New Horizon Knowledge Park, Belandur, Bengaluru-560103, represented by Principal Dr. Manjunatha B duly authorized Signatory, (herein after referred to as NHCE) which expression shall, unless repugnant to the context or meaning thereof, include its successors-in-interest and permitted assigns) of the second Part.

BESCOM and NHCE, shall be individually referred to as Party and collectively as Parties.

Whereas BESCOM is an Electricity Distribution Company, responsible for Power distribution in Eight districts of Karnataka (Bangalore Urban, Bangalore Rural, Chikkaballapura, Kolar, Davanagere, Tumkur, Chitradurga and Ramanagara)

Whereas, NHCE one of the premier institutions in India, employing highly qualified, trained and established faculty members with knowledge & expertise in various technical areas.

Whereas, the parties desirous to share utility challenges and come out with solutions by undertaking activities jointly such as imparting classroom cum hands-on training.

For the said purpose, the Parties have agreed to enter into this MOU on the terms and conditions set out in this MOU

NOW, THEREFORE, IN CONSIDERATION OF THE MUTUAL COVENANTS AND MoUS HEREINAFTER SET FORTH, THE PARTIES AGREE AS FOLLOWS:

1. Objective:

The main objective of this MoU is to embark upon collaboration between BESCOM and NHCE in various areas of education, business and organization development by exchanging intellectual resource and infrastructure of both the organizations.

2. Activities for the benefits of BESCOM Officers/ Employees :

Parties are going to undertake jointly the following activities:

- a. Conducting short term training sessions lasting for not more than 2 days or as agreed by the parties
- b. Conducting Long term training sessions for 5 days or as agreed by the parties
- c. Imparting Credit based courses for competency development (leading to an award of a Degree/ Post graduate Degree)
- d. Conducting vital studies on new technologies with respect to regulatory decisions, technology up-gradation and other such policy matters;


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Area of Study:

1) Electric Vehicle to the Grid

- a) Impact of EV's on the grid when energy is fed from the EV's to grid
- b) Energy Management --- Mitigation of Power supply issues
- c) Regulations, tariff to be imposed
- d) Rebate based on ToU/ToD
- e) Impact of EV's on the environment
- f) Two-way interaction between vehicles and the grid.
- g) Battery Management system – online coupled with a Digital twin for EV under IoT
- h) Rapid Charging
- i) Recyclability of the materials used for all aspects related to EV --- develop methodology to re-cycle and re-use

2) Cyber Security

Risk assessment methodology, Development of security architecture, High level security requirements, Assessment of smart grid standards

3) Hackathon

Provide an alternative approach to solve the real world problems in an innovative way keeping in mind the basic requirements of the user.

4) Protocol Standardization/ Interoperability

- a) Communication standards to realize open infrastructure and device interoperability
- b) Advantages and risks in using standardized communication protocols
- c) Reliable use of communication standards --- from initiation to operational use
- d) Work on standards/compatible technologies suitable for the organization
- e) Interoperability is one of the key aspects related to the construction of large object-oriented systems --- Testing of various systems available for their functionalities when interacted with other

5) Active Grid Management

- a) Real-time monitoring and control of infrastructure to achieve situational awareness
- b) Framing procedures/methods for real time monitoring of the grid
- c) Impact on consumers/grid
- d) Effect on the infrastructure
- e) Technology/architecture to monitor and control grid
- f) Impact on the energy generated
- g) Impact of DER, EV, Storage on the active grid
- h) Interoperability of the existing and new devices
- i) Building models capable of forecasting the risk of failure of grid assets
- j) Improving the Maintenance procedures
- k) Real time co-ordination of the consumer energy resources with the grid and market frameworks.

6) Machine Learning with IoT

- a) Energy demand prediction
- b) Customer operations
- c) Outage management


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- d) Infrastructure and asset management
- e) Supply chain management

7) Virtual Power Plants

- a) Components/Classification of virtual power plants
- b) Address issues in case of power failure.
- c) Process in availing supply from VPPs
- d) Issues if any related to trading or selling power
- e) Demand side management using VPPs
- f) Energy forecast
- g) Reliability/Efficiency of the control system

8) Power system analysis and stability studies

- a) Load flow analysis
- b) Short circuit studies
- c) Stability Studies
- d) Concepts like maintaining correct voltage using automatic voltage regulators and capacitor/reactance banks, maintaining correct frequency by load frequency control, selecting generators optimally, distribution line design.
- e) Reactive power losses and possible solutions to compensate the reactive power losses
- f) Mitigation of Harmonics

9) Demand Response

10) Protection of Distribution Systems

11) Studies relevant to Distribution Operation of BESCOM.

12) Exchange programs :

- a) Knowledge sharing --- Conduct joint studies on new technologies, problem statements, organizing technical seminars, workshop, awareness programs, Field visits --- related to technology, safety, security, Internship & Projects.
- b) Exploring new frontiers and business models
- c) Research and analysis on improvement in power quality, higher PF, Demand response, etc.

3. Confidential Information:

- 3.1 All Confidential Information disclosed by the Party orally, or in any tangible form during the subsistence of this MOU shall be kept in strict confidence regardless of whether such information has been marked as confidential or not. Except as otherwise provided herein, for a period of five (5) years following the date of expiration or termination of this MoU, the confidentiality obligations shall continue to bind the parties.
- 3.2 In the event of non-renewal of this agreement NHCE shall return all data/ material received from BESCOM and undertake that the data/ material given by the BESCOM may not be used.


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3.3 Exceptions to confidential information:

During the course of the MoU either Party ("**Disclosing Party**") may disclose to the other Party ("**Receiving Party**") certain information that is not in the public domain ("**Confidential Information**") and in the event of disclosure, a Non-Disclosure Agreement (NDA) to be executed prior sharing of any confidential information/Data.

Further, this MOU does not apply to Confidential information that:

- a. is in the public domain at the time of disclosure or later becomes part of the public domain through no fault of the Receiving Party;
- b. was known to the Receiving Party at the time of disclosure or was independently developed by the Receiving Party, provided there is adequate documentation to confirm such prior knowledge or independent development;
- c. is disclosed to the Receiving Party by a third party and Receiving Party was not aware that the third party had a duty of confidentiality to Disclosing Party in respect of the information;
- d. is used or disclosed by the Receiving Party with Disclosing Party's prior written approval;
- e. is required to be disclosed by law or directions from a Court of Law or Government/ Government Authorities, provided that Receiving Party makes its best effort to give Disclosing Party prior notice and the opportunity to obtain an order to prevent or restrict any such disclosure.

3.3 The Receiving Party must use a reasonable degree of care to prevent the inadvertent, accidental, unauthorized or mistaken disclosure or use by its employees of Confidential Information disclosed hereunder.

3.4 Not with-standing the foregoing, NHCE shall have the right to use any Confidential Information provided by BESCOM for research and other educational purposes after suitably anonymizing the data (but shall be disclosed prior to use).

4. Intellectual Property(IP):

4.1 Ownership:

Any IP generated including invention or discovery, software, designs, algorithms, process, products made or conceived in the performance of the Activities under this MoU, or any patent, copyright, industrial design granted on such invention(s) or other IP, shall be owned by BESCOM and NHCE on a mutually agreed basis on a case-to-case basis in accordance with its IP Policy.

4.2 Commercialization of IP:

- a. In the event, NHCE, decides to secure 100% rights in the IP generated, will make diligent efforts to commercialize the IP in accordance with its IP policy on a case to case basis and without accounting to BESCOM, agrees to share 50% of the revenue received by it from the said commercialization of the IP with BESCOM after the


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deduction and repayment of any documented, but previously unreimbursed, out-of-pocket IP and licensing related expenses incurred.

- b. NHCE, hereby grants to BESCOM a royalty free, non-sub-licensable, reversible, nonexclusive license to use the IP generated pursuant to the MoU for internal and commercial use for the duration of protection of IP rights.

5. Funding and Taxes:

All Project related payments will be as per mutual agreement. Financial arrangements related to Intellectual Property Rights sharing have been indicated herein this Agreement. All amounts payable to NHCE, under this Agreement are exclusive of applicable taxes which the BESCOM will be obliged to pay at the rate from time to time prescribed by Law.

6. Title:

BESCOM and NHCE shall retain the title jointly of any equipment purchased under this Agreement.

7. Publications:

NHCE shall furnish BESCOM with a copy of any proposed publication date and grant BESCOM thirty (30) days from the date of furnishing, for review and comment to ascertain whether BESCOM's Confidential Information would be disclosed by the publication or to allow protection of IP.


Within this period, BESCOM may request, in writing, to delay of such publication for a maximum of a further period of thirty (30) days in order to protect the potential IP, including the patentability of any invention, and will comply with any such request so long as it is reasonable, however, NHCE shall have the final authority to determine the scope and content of any publications. Such delay shall not, however, be imposed on the submission of any student thesis or dissertation. If no response is received from BESCOM within 30 days of having been in receipt of the proposed Publication, the publication shall be deemed accepted.

8. Address of the Parties and Communication:

All notices and other communications required or permitted under this MOU shall be deemed to be proper when given in writing and sent by registered post acknowledgement due or by facsimile and confirmed by mail, postage prepaid or through a reputed courier with proof of delivery, to the designated Party at the addresses set below, or at such other address as the Addressee-Party may in writing designate from time to time for these purposes. Any Party may by notice in writing to the other parties change the addresses and/or address to which such notices are to be delivered or mailed.

If to BESCOM:	The General Manager, DAS, SG & TIC, BESCOM, BICC-1, 24 th Main, 17 TH Cross, 2 nd Sector, HSR Layout, Bangalore-560102
If to: NHCE	The Principal, New Horizon College of Engineering, New Horizon Knowledge Park, Bellandur, Bengaluru- 560103


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9. Settlement of Disputes:

- a. In the event of any dispute or difference between the Parties hereto, arising out of or in relation to this research MOU, such difference or dispute shall be resolved amicably by mutual consultation or through the good offices of the NHCE, or his nominee, who shall represent the interests of NHCE and the Managing Director, BESCOM, or a person nominated by BESCOM, in the said context at the relevant point of time.
If such a resolution is not possible, then, only the unresolved portion of the dispute or difference shall be referred for arbitration as per the provisions of the Arbitration and Conciliation Act 1996 as amended from time-to-time, or any enactment in place thereof by a Sole Arbitrator to be agreed by both Parties. The considered decision of the Sole Arbitrator shall be final and binding upon the Parties.
- b. The seat of arbitration shall be Bengaluru, India.
- c. The language to be used in the arbitration proceedings shall be English.
- d. This MOU shall be construed, interpreted and governed by the Laws of India and to the extent applicable, the laws of the State of Karnataka. The Courts in Bengaluru City, alone shall have jurisdiction in connection with this MOU.

10. Review: The parties have mutually agreed, that for successful execution of this MoU, there shall be an Advisory Board consisting of two senior level executives as nominated by BESCOM and two Executives as nominated by NHCE who will undertake periodic review of the progress of various activities undertaken in pursuance of this MoU. The Advisory Board shall also monitor the qualitative aspects of various program and deal with all issues related to coordination between two organizations and provide necessary advice from time to time in this regard. The meetings of the Advisory Board shall be held on mutually agreed date and venue.


11. Term and Termination

This MOU shall remain in effect for a period of five (5) year (Term) from the Effective Date which may be further renewed by the parties mutually in writing unless otherwise terminated by either Party giving prior written notice of 30 days to the other of its desire to terminate this MOU or unless extended upon the mutual consent of the Parties by a new MOU or by amendment hereto expressed in writing.

12. General:


- a. **Entire MOU.** This MOU sets forth the complete MOU of the parties concerning the subject matter hereof. No claimed oral MOU in respect thereto shall be considered as any part hereof. No amendment or change in any of the terms hereof subsequent to the execution hereof shall have any force or effect unless agreed to in writing by duly authorized representatives of the parties.
- b. **Waiver.** No waiver of any provision of this MOU shall be effective unless executed in writing agreed and signed by both the parties. No waiver shall be deemed to be, or shall constitute, a waiver of a breach of any other provision of this MOU, whether or not similar,



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nor shall such waiver constitute a continuing waiver of such breach unless otherwise expressly provided in such waiver.

- c. **Headings.** The headings and subheadings in this MOU are inserted for convenience of reference only and will not be used in interpreting or construing the provisions of this MOU.
- d. **Amendment.** No amendment or variation to this MOU will operate to change or vary the terms, obligations or conditions hereof except upon mutual MOU by both Parties signed by an authorized representative of each Party.
- e. **Use of Name:** A Party must not use the name, trademarks or logos of the other Party without that other Party's prior written consent. Any consent required may be given, withheld or made subject to conditions in the relevant Party's sole and unfettered discretion. If seeking consent under this clause, the Party must provide written details of the proposed use of the other Party's name, trademarks or corporate logos to the other Party.
- f. **Severability:** Each provision contained in this MOU is declared to be constituted a separate and distinct covenant and provision and to be severable from all other separate, distinct covenants and provisions. Covenants and provisions, if such clause, condition or term, or any part thereof, contained in this MOU be unenforceable or prohibited by law or by any present or future legislation then:
 - i. if such clause, condition, term or part thereof, shall be amended, and is hereby amended, so as to be in compliance therewith the legislation or law;
 - ii. if such clause, condition or term, or part thereof, cannot be amended so as to be in compliance with the legislation or law, then such clause, condition, term or part thereof shall be severed from this MOU and all the rest of the clauses, terms and conditions or parts thereof contained in this MOU shall remain unimpaired.
- g. **Independent Contractor:** For the purposes of this MOU and all services to be provided hereunder, each Party shall be, and shall be deemed to be, an independent contractor and not an agent or employee of the other Party. Neither Party shall have authority to make any statements, representations nor make commitments of any kind, or to take any action, which shall be binding on the other Party, except as be explicitly provided for herein or authorized by the other Party in writing.
- h. **Force Majeure.** Neither Party shall lose any rights hereunder or be liable to the other Party for damages or losses (except for payment obligations) on account of failure of performance by the defaulting Party if the failure is occasioned by war, strike, fire, Act of God, earthquake, flood, lockout, embargo, governmental acts or orders or restrictions, failure of suppliers, proven illness or death of PI or any other reason where failure to perform is beyond the reasonable control and not caused by the negligence or intentional conduct or misconduct of the nonperforming Party, and such Party has exerted all reasonable efforts to avoid or remedy such force majeure; provided, however, that in no event shall a Party be required to settle any labour dispute or disturbance.








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- i. **Indemnity** Each Party to this MOU shall be responsible for its own acts and/or omissions and those of its Officers, employees and agents.
- j. **MOU in Duplicate** This MOU is executed in duplicate and one copy will remain with each of the Parties hereto and each such copy shall be deemed to be original.

This MoU shall come into force as soon as it is signed for all purposes and intent and shall, unless earlier terminated by mutual consent, remain in full force.

IN WITNESS WHEREOF, THE PARTIES THROUGH THEIR AUTHORISED REPRESENTATIVES HAVE EXECUTED THIS MEMORANDUM OF UNDERSTANDING AT BANGALORE ON THE DAY, MONTH & YEAR MENTIONED ABOVE.

For and on behalf of BESCOM			For and on behalf of NHCE		
Signature			Signature		
Name	General Manager (Elec.) DAS & SG, BESCOM BICC-1, HSR Layout, Bangalore - 560102		Name	Principal New Horizon College of Engineering Ring Road, Bellur, Marathalli Bangalore - 560103	
Designation	General Manager (DAS, SG & TIC)		Designation	PRINCIPAL	
<u>Witness:</u>			<u>Witness:</u>		
1	Signature		1	Signature	
	Name	DGM - TIC BESCOM K. BALAJI		Name	A.N. SURYA PRAKASH
	Designation	DGM (TIC & SG)		Designation	REGISTRAR
2	Signature		2	Signature	
	Name	Revathy R		Name	Dr. S. SUJITHA
	Designation	Manager TIC		Designation	Head / EEE

