27th Aug'19

OFFICE ORDER:24-A/2019

Formation of Environment & Energy Management (EEM) Cell & Appointment of Head - Environment & Energy Management (EEM) Cell

- 1. In support of varied National level campaigns promoting environmental safety/ eco-friendly measures that can be undertaken @ Institute level, AICTE notifications from time to time to support this noble cause, it has been decided to take requisite measures to implement the possible activities @ Institute level in a more methodical way and gradually convert/ move towards making the entire campus eco-friendly/Green Campus.
- 2. In view of this, an Environment & Energy Management (EEM) Cell @ Institute level comprising of a Head, members & Student Coordinators is hereby constituted who shall be taking care of divergent areas as identified viz. Energy Audit, Green Audit, Environmental Audit, Clean and Green campus and carrying out Environmental Promotion Activities (In and Outside campus) with an objective to support Institute's initiative towards methodical implementation of set targets as per Environment Management Plan (EMP) goals.
- 3. A well-structured doc. covering the Objectives, Scope, Structure of EEM Cell, roles & responsibilities of Members, Environment Management Plan (EMP) goals, Future targets etc. is attached for thorough understanding and clarity (Appendix-A).
- 4. Dr. Shailendra K Tiwary, Prof. & HoD CE is hereby appointed as Head-EEM Cell @ Institute level to carry out/plan activities w.r.t. EEM Cell so formulated. He shall plan activities as per Environment Management Plan (EMP) Goals/ ensure its implementation in close coordination with the Members of EEM Cell.
- 5. EEM Cell Members shall perform the above duties at paras 2 & 3 in addition to their regular academic/administrative engagement. Members-EEM Cell shall be responsible to Head-EEM Cell for their duties in their termed domains.
- 6. Head EEM Cell shall be performing the above duties in addition to his regular academic engagement. He shall be responsible to Director for this designated role.
- 7. Head-EEM Cell to share the progress report on quarterly basis to the Office of Director.

Dr. (Col) A Garg

Distribution:

Joint Director/ Deans / Principal-KSOP/ HODs (CS/IT/EC/EN/EI/CE/ME/AS/MCA/MBA/HS/CO/CSI) GM-TBI & Dean IEC, Head-CRPC, Head-CAM, Head-AEC, Head-IRCDC, Head – IC,Addl. Head IIPC, Chairperson-ICC, Manager-ITSS, Manager-IA, Manager-HR, Registrar, Admin Officer, Accts Officer, Librarian, Purchase Officer, Central Lab, KIETians

Copy to:

Head- EEM Cell & all concerned members

Environment & Energy Management (EEM) Cell



KIET Group of Institutions, Delhi-NCR, Ghaziabad-201206

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Environment & Energy Management (EEM) Cell

1. Mission:

The mission of Environment & Energy Management (EEM) Cell is to reduce the environmental impact of various day-to-day activities of the institute and make the campus eco-friendly. It will also lead to developing environmental consciousness in the minds of young professionals who graduate from the institute as well as faculty and staff members. Reactive approach is fast becoming redundant as environmental problems are becoming complex and multidimensional. What is needed in the present scenario is a professional and systematic Environmental Management System for achieving environmental sustainability.

The primary field of focus for the EEM Cell can be broadly identified as reduction of energy use/energy efficiency, waste management, pollution prevention, and resource and energy conservation. It also aims to maximize the 4R rules of waste management & energy conservation intra - campus for sustainable development and thus generate circular economy.

2. Objective:

- a) To recognize the initiative taken by the institute towards environment.
- b) To conserve water resources and reuse the recycled wastewater discharged from STP.
- To analyze, predict, evaluate, and access the existing solid waste associated problems in the campus.
- d) To identify & select existing innovative technologies, enable customization of technologies, or devise implementation method for reducing environmental pollution in the campus.
- e) To leverage the knowledge base of the institution to devise processes for effective implementation of various techniques to improve the ambient conditions related to environmental conservation and energy efficiency.
- f) To secure the environment and cut down the threats posed.

3. Environmental Policy

The institute aims to involve stakeholders in reducing the environmental impacts and integrate the environmental concern in all policies, plans and management systems. The institute acknowledges and understands its role in striving towards global environmental sustainability. It

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aims to set standards in terms of on-campus environmental performance through its continuous endeavors. In this regard, the institute shall:

- a) Comply with all requisite environmental legislation and government guideline, wherever applicable
- b) Ensure that there is optimum utilization of resources and waste generation is minimized
- c) Integrate environmental concerns in decision-making, e.g. purchasing policy
- d) Prepare and implement an Environmental Management Plan (EMP)
- e) Strive towards continual reduction in ecological footprint of the university as it grows.

4. Responsibility of Environment & Energy Management (EEM) Cell:

- a) To prepare and implement an Environmental Management Plan.
- b) To identify potential areas for improving the institute's environmental performance and give recommendations on how the goals of on-campus environmental sustainability can achieved.
- c) To raise environmental awareness among KIETians
- d) To recommend policies for adoption by the institute in order to promote conservation, energy efficiency and sustainable use of resources
- e) To assess the environmental and energy state of the institute on a regular basis
- f) To report quarterly about all activities/updates under any of the head to the Director office for kind perusal.
- g) To organize awareness activities in all sectors viz. energy, environment, Green campus among stakeholders
- To conduct internal environmental, green and energy audits quarterly and submission of reports and certification based on summary report.(Annexure -1)
- i) To get external audit conducted once in a year.

5. Scope:

In the present scenario, the two key areas of focus are energy conservation and waste management. Energy conservation has its potential to reduce overall energy demand, costs and consumption. Energy conservation also plays an important role in addressing climate change by lowering overall greenhouse gas emissions. It is often the most economical strategy to advance

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climate protection efforts and provides an environmentally safe alternative to increased energy production and consumption. Moreover, by lowering energy demand, energy conservation provides for greater flexibility in choosing preferred methods of energy production e.g., "green power" - renewable energy that is produced with no man-made greenhouse gas emissions.

However, waste management is the need of the hour because as per Solid Waste Management Rules, 2016 that suggests every residential institution with an area >5,000 sq. m should segregate waste at source in to valuable dry waste like plastic, tin, glass, paper, etc. and wet (biodegradable) waste. Therefore, through channelization of waste to energy and wealth could be implemented for generating circular economy and reverting its negative impact on ground water pollution, climate change and air pollution nuisance and un-aesthetic condition.

The Environment & Energy Management (EEM) Cell will recommend general efficiency techniques and methodologies that could be reasonably implemented in day-to-day functions within campus facilities that will have an immediate effect on energy savings and waste management leading to decline in cost benefit ratio. The various scope of the Environment & Energy Management (EEM) Cell are:-

a) To focus on balancing energy usage, conserve water resources, reuse of recycled wastewater, management of solid waste etc.

b) To reduce the carbon footprint of campus facilities and manage budgetary concerns and costs.

c) To continually seek ways to realize the full potential of current energy control systems as well as new equipment and upgrades and to accelerate the implementation process of behavioral and operational resource conservation measures.

d) To introduce cost-effective, energy-efficient technologies inside campus facilities and promote an energy conscious culture that encourages prudent decisions with regard to energy consumption.

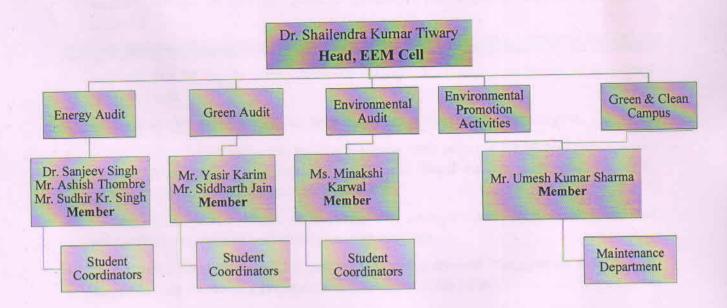
The EEM Cell shall review the attained objective periodically. The primary domains in consideration include energy, resources, waste (solid and hazardous). The operational mechanism behind the plan will be the department of facilities and maintenance working collaboratively with the Environment & Energy Management (EEM) Cell to have the improving environment through energy conservation, waste management and water conservation. Internal audits will be conducted on a regular quarterly at the institute. Besides routine internal audits, surprise checks will also be in place in order to ensure that there are no concern areas in implementation.

Whenever, need arises EEM Cell can take the help of the expertise from different departmental faculty members.

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6. Structure of Environment& Energy Management (EEM) Cell:



S.N	Name	Department	Appointment
1	Dr. Shailendra Kumar Tiwary, Professor & HoD	Civil Engineering	Head-Environment & Energy Management (EEM) Cell
2	Dr. Sanjeev Singh- Professor	Civil Engineering	Member- Energy Audit
3	Mr. Ashish D. ThombreAssoc. Prof.	Electrical & Member- Energy Audit Electronics Engineering	
4	Mr. Sudhir Kumar Singh Asst. Prof.		
5	Mr. Yasir Karim, Asst. Prof.	Civil Engineering	- Member- Green Audit
6	Mr. Siddharth Jain, Asst. Prof.	Civil Engineering	
7	Ms.MinakshiKarwal, Asst. Prof.	Applied Science	Member- Environmental Audit
8	Mr. Umesh Kumar Sharma, Administrative Officer	Administration	Member- Green & Clean campus and Environment Promotional Activities

7. Role and Responsibilities

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Head-Environment & Energy Management (EEM) Cell

- To monitor the overall functioning of the Environment & Energy Management (EEM) Cell.
- To prepare and implement an Environmental Management Plan.
- To ensure its continued utility, suitability and adequacy in promoting continual environmental improvement.
- To make sure that rules and regulations are taken care to avoid the interruptions in environment.

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 To identify potential areas for improving the institute's environmental performance and give recommendations on how the goals of on-campus environmental sustainability can be achieved.

Member- Energy Audit

- To ensure that the targets of Environmental Management Plan for environmental domain of energy are met.
- To document the progress made and keep the record of works done in this regard.
- To assess the energy state of the institute at regular basis and conduct internal energy audits quarterly and submit the reports and certification based on summary report to Head, Environment & Energy Management (EEM) Cell.
- To facilitate better communication and awareness amongst the stakeholders, supplemented with workshops, seminars and other interactive activities.
- To supervise the implementation activities of Environmental Management Plan and its integration into the existing administrative framework of the institute.
- To reduce energy consumption.
- To give preference to the most energy efficient and environmentally sound appliances.

Member- Green Audit

- To ensure that the targets of Environmental Management Plan for green campus are met.
- To document the progress made and keep the record of works done in this regard.
- To assess the environmental impact of institute, process, project, product etc.
- To assess the green campus state of the institute at regular basis and conduct internal green audits quarterly and submit the reports and certification based on summary report to Head, Environment & Energy Management (EEM) Cell.
- To facilitate better communication and awareness amongst the stakeholders, supplemented with workshops, seminars and other interactive activities.
- To supervise the implementation activities of Environmental Management Plan and its integration into the existing administrative framework of the institute.
- To establish the parameters for maintaining health and welfare of the community of the institute.
- To identify and control the impact of activities of institution on green campus state.

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- > To ensure that the natural resources are utilized properly as per statutory norms.
- > Use of Green chemistry/ Green synthesis using aqueous solvents as an alternative for organic solvents.
- To train all stakeholders of the organization and empower them to contribute and participate in the environmental protection and making campus a green campus.
- To make sure that rules and regulations are taken care to avoid the interruptions in environment.

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Member- Environmental Audit

- To ensure that the targets of Environmental Management Plan for protection of environment are met.
- To document the progress made and keep the record of works done in this regard.
- To assess the environmental state of the institute at regular basis, conduct internal environmental audits quarterly, and submit the reports and certification based on summary report to Head, Environment & Energy Management (EEM) Cell.
 - > To identify, evaluate and assess the impact of various activities on environment at KIET Group of Institutions through basic survey.
 - > To oversee environmental performance through developing, implementing and monitoring environmental strategies and schemes that promotes sustainable development.
 - To work for Accreditation of ISO 14001 and 9001 and NABET.
 - > To work for attaining status of Carbon Neutral Institute
 - > To work for Solid and Plastic Waste Management as per "Solid Waste Management Rule 2016"
 - > To facilitate better communication and awareness amongst the stakeholders, supplemented with other interactive activities.
 - Ground Water Quality Analysis
 - ➤ Air Pollution Tolerance Index
 - > Practical implementation of some innovative projects related to environment.
 - > Inviting Esteemed Speakers for expert/guest talks.
 - > Collaboration with national organizations
 - > To organize Awareness program on environmental conservation, climate change, global warming and environmental pollution, water conservation
 - > Awareness program on Plastic Pollution Mitigation
 - > To organize Plantation Drive
 - To supervise the implementation activities of Environmental Management Plan and its integration into the existing administrative framework of the institute.
 - To provide baseline information to enable institute to evaluate and manage environmental change, threat and risk.
 - To recognize, diagnose and resolve the environmental problems and suggest protective measures.
 - Environmental contamination prevention with residues of volatile organic impurities (VOCs) detection in trace levels in atmosphere, water (containing hydrocarbon impurity)etc.
 - To assess environmental performance and the effectiveness of the measures to achieve the defined objectives and targets.
 - To establish the parameters for maintaining health and welfare of the community of the institute.

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- To set the procedure for disposal of all types of harmful wastes.
- To develop skill among all the gardeners waste handling and management.
- To make sure that rules and regulations are taken care to avoid the interruptions in environment.

Member- Green & Clean campus and Environment Promotional Activities

- To implement the initiatives taken by organization towards environment.
- To create awareness about various rules and regulations among the stakeholders in the institute to improve the environmental performance.
- To ensure that the natural resources are utilized properly as per national policy of environment.
- To identify the risks of hazards and implement the policies for safety of stakeholders.
- To facilitate the stakeholders with different aspects of disaster management.
- To train all stakeholders of the organization and empower them to contribute and participate in the environmental protection.
- To make sure that rules and regulations are taken care to avoid the interruptions in environment.
- To ensure that the targets of Environmental Management Plan for green campus are met.
- To document the progress made and keep the record of works done in this regard.
- To assess the green campus state of the institute at regular basis and conduct internal green audits quarterly and submit the reports and certification based on summary report to Head, Environment & Energy Management (EEM) Cell.
- To facilitate better communication and awareness amongst the stakeholders.
- To supervise the implementation activities of Environmental Management Plan and its integration into the existing administrative framework of the institute.

Student Coordinators

Each department will **nominate two student Coordinators**. The nomination will be for **one year**. The student coordinators will be **associated with different verticals of EEM Cell**. The roles and responsibilities of student coordinators are mentioned as below:

- To help in accessing the energy state/green campus state/environmental state of the institute at regular basis and to help in conduct of internal energy audits/green audits/environmental audits.
- To help in implementation of initiatives taken by institute towards environment.
- To organize Awareness events/program on environmental conservation, climate change, global warming and environmental pollution, water conservation.
- To create awareness about reduction in energy consumption, amongst the stakeholders with the help of interactive activities.
- To contribute and participate in the environmental protection initiatives and making campus a green campus.
- To promote proper use of natural resources as per statutory norms.
- To work on innovative projects related to environment protection.

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8. Environmental Management Plan (EMP) Goals:

The Institute targets energy consumption reductions by 25% by December 2023. The institute has always put efforts for reduction in energy consumption but intense initiatives for energy consumption reduction were started from the year 2018-19 and it has been planned to maintain an annual energy consumption reduction rate of 5%.

The following represents the institute initiatives:

- a. Improve Building Operations by energy reduction of 5 percent
- b. Expand usage of Energy Performance contracting (ESPC)
- c. Purchase and application of Energy Star Products
- d. Ensure accountability in establishing the goals.
- e. To ensure optimum utilization of natural resources in the campus.

9. Future Targets:

Energy Conservation:

- Reduction of energy consumption by 5% for Year 2018-19, with an overall goal of reducing energy consumption by 25% by Year 2023.
- b. Reduction of energy consumption by 5% for Year 2019-20, with an overall goal of reducing energy consumption by 25% by Year 2023.
- c. Reduction of energy consumption by 5% for Year 2020-21, with an overall goal of reducing energy consumption by 25% by Year 2023.
- d. Reduction of energy consumption by 5% for Year 2021-22, with an overall goal of reducing energy consumption by 25% by Year 2023.
- e. Reduction of energy consumption by 5% for Year 2022-23, with an overall goal of reducing energy consumption by 25% by Year 2023.

Waste Management:

- Management of solid waste by 5% for Year 2018-19, with an overall goal of reducing produced solid waste by 25% by Year 2023.
- Management of solid waste by 5% for Year 2019-20, with an overall goal of reducing produced solid waste by 25% by Year 2023.
- c. Management of solid waste by 5% for Year 2020-21, with an overall goal of reducing producedsolid waste by 25% by Year 2023.
- d. Management of solid waste by 5% for Year 2021-22, with an overall goal of reducing produced solid waste by 25% by Year 2023.
- e. Management of solid waste by 5% for Year 2022-23, with an overall goal of reducing produced solid waste by 25% by Year 2023.

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Periodic Internal Audit:

- To ensure the successful implementation of Environmental Management Plan, internal audits will be conducted quarterly by the EEM Cell.
- · Audit will cover all sections of this plan.
- Audit results will be documented and reports will be submitted to the office of Director through Joint Director for perusal.
- · Once in a year, an external audit will be conducted.

Three main audits to be conducted: Environmental audits, Energy audits and Green audits (to verify whether the campus meets its stated and functional objectives, such as for water and electricity).

Quality Management: Quality management review to assess how processes are performing and ensuring objectives to achieve the Goal 2023.

<u>Continuous Improvement</u>: Continuous improvement would be assessed and accordingly modification in the processes would be done.

