

No: 202303039863



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## OTTOTRACTIONS

Energy-Engineering-Environment

# Environment Audit Certificate

This is to certify that the data collection has been carried out diligently and truthfully;

All data monitoring devices are in good working condition and have been calibrated or certified by approved agencies authorised and no tampering of such devices has occurred;

All reasonable professional skill, care and diligence had been taken in preparing the audit report and the contents thereof are a true representation of the facts; Adequate training provided to personnel involved in daily operations after implementation of recommendations; and

The Environment Audit for the year 2020-23 has been carried out in accordance with various rules and regulations in India.

This Certificate is issued to Sree Narayana College, Chengannur on their request.

Dated this 3rd day of March 2023.

SURESH BABU B V

ACCREDITED ENERGY AUDITOR AEA-33, BUREAUOF ENERGY EFFICIENCY **GOVERNMENT OF INDIA** 

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## **ENVIRONMENT AUDIT REPORT**

## **SREE NARAYANA COLLEGE**

#### **CHENGANNUR**





Environment Audit Report Sree Narayana College Chengannur

Report No: EA 986 2022- December

| Env   | Environment Audit Team |                                   |  |  |  |  |
|-------|------------------------|-----------------------------------|--|--|--|--|
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#### **About OTTOTRACTIONS**

**OTTOTRACTIONS** established in 2005, is an organization with proven track record and knowledge in the field of energy, engineering, and environmental services. They are the first Accredited Energy Auditor from Kerala for conducting Mandatory Energy Audits in Designated Consumers as per Energy Conservation Act-2001. Government of Kerala recognized and appreciated **OTTOTRACTIONS** by presenting its prestigious "**The Kerala State Energy Conservation Award 2009**" for the best performance as an Energy Auditor.

### **Acknowledgment**

We were privileged to work together with the administration and staff of Sree Narayana College, Chengannur for their timely help extended to complete the audit and bringing out this report.

With gratitude, we acknowledge the diligent effort and commitments of all those who have helped to bring out this report.

We also take this opportunity to thank the bona-fide efforts of team OTTOTRACTIONS for unstinted support in carrying out this audit.

We thank our consultants, engineers and backup staff for their dedication to bring this report.

Thank you.

B V Suresh Babu Accredited Energy Auditor AEA 33, Bureau of Energy Efficiency Government of India



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# INTRODUCTION

Ottotractions was asked by the **Sree Narayana College**, **Chengannur** to carry out an environment audit of their campus building.

Each section contains recommendations for improvements relating to environmental issues, which are consolidated in the action plan in section 4.



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## **BACKGROUND**

Sree Narayana College, Chengannur is a major centre for higher education offering educational opportunities to the rural community. The College is named after the great saint and social reformer Sree Narayana Gurudev. It stands as a monument that reminds us of the great doctrines of the Guru. The basic objective of the institution is to provide education to the marginalised section of the society. The college started functioning in 1981, and is a young growing college offering five under graduate courses and three post graduate courses. The college is situated in a beautiful place kms away from Chengannur. The college endeavours to mould a community of



students committed to the pursuit of truth and moral excellence upholding the high ideals of Sree Narayana Guru, our patron. It was His Holiness Narayana Guru's call to seek "Liberation through Education" which inspired the distinguished citizens of this backward area to start a new college. We aim at building up a humane and socially committed fraternity of young men and women through The motto of the college is "Enlightenment through Education". The college stands for academic excellence as well as development of the skill and character of students based on the Holy Guru's perspectives on humanism, secularism and universal brotherhood.



| Occupancy Details                   |     |     |     |  |  |  |
|-------------------------------------|-----|-----|-----|--|--|--|
| Particulars 2020-21 2021-22 2022-23 |     |     |     |  |  |  |
| Total Students                      | 549 | 534 | 326 |  |  |  |
| Staffs                              | 33  | 31  | 31  |  |  |  |
| Total Occupancy of the college      | 582 | 565 | 357 |  |  |  |

Total student strength of the campus is 326. For calculating per capita carbon emission estimation, the student strength is taken into account.





## **ENVIRONMENTAL ISSUES**

This section is broken down into the following different areas: waste, water, energy, resource and materials use and procurement. A final 'other' section is also included for any additional issues.

#### 1.1. Waste

The way communities generate and manage their waste plays an absolutely key role in their ability to use resources efficiently. All buildings contain bins for both general waste and mixed recyclables



(plastic bottles, card, cans and paper). On average each floor in the buildings areas has its own general waste bin and one recycling bin. When the bins are emptied by the cleaning staff. Bins are marked and kept in different colors for identification, however in some locations throughout the building it was unclear which bins were for which waste streams.



There are four basic ways in which campus can do plastic recycling collection services for plastic bottles and containers – curbside, drop-off, buy-back or deposit/refund programs. The first, and most widely accessible, collection method is curbside collection of recyclables. The campus is installed bins to collect plastic bottles and single use plastics. SGC has given a proper awareness on plastic waste problems and they are discouraging the students or teachers to carry plastics to the campus. The ECO club is very active in the campus and do a verity of programs to build awareness on waste management. The reports on different activities of the club is attached as technical supplement of this report.

The major concern of waste management will be focused on the solid waste produced by the campus. Solid wastes produced in the campus are mainly of three types, food waste, paper waste, and plastic waste. Food wastes produced in the campus are mainly by two means. The vegetable wastes produced in the kitchen during the food preparation. The food waste produced by the students and staffs of the campus after the consumption of meals.



| Degradable Waste Generation |               |      |       |  |  |  |
|-----------------------------|---------------|------|-------|--|--|--|
| Sree Narayana Co            | llege, Chenga | nnur |       |  |  |  |
| 2020-21 2021-22 2022-23     |               |      |       |  |  |  |
| Total Occupancy             | 582           | 565  | 357   |  |  |  |
| Waste generated in kg /day  | 11.64         | 11.3 | 7.14  |  |  |  |
| Waste generated in kg /Yr   | 1396.8        | 1356 | 856.8 |  |  |  |

Burning plastics shall be strictly restricted inside the campus. **Burning plastic** and other wastes releases dangerous substances such as heavy metals, Persistent Organic Pollutants, and other toxics into the air and ash waste residues. ... Such pollutants contribute to the development of asthma, cancer, endocrine disruption, and the global burden of disease.

| Solid non degradable Waste Generation |              |        |        |  |  |  |
|---------------------------------------|--------------|--------|--------|--|--|--|
| Sree Narayana College                 | e, Chengannu | r      |        |  |  |  |
| 2020-21 2021-22 2021-22               |              |        |        |  |  |  |
| Total Occupancy                       | 582          | 565    | 357    |  |  |  |
| Waste paper generated in kg /day      | 0.1164       | 0.113  | 0.0714 |  |  |  |
| Waste plastic generated in kg /day    | 0.1746       | 0.1695 | 0.1071 |  |  |  |
| Waste paper generated in kg /Yr       | 13.968       | 13.56  | 8.568  |  |  |  |
| Waste plastic generated in kg /Yr     | 20.95        | 20.34  | 12.85  |  |  |  |

|   | WASTE MINIMIZATION AND RECYCLING  |  |  |  |  |  |  |  |
|---|---|--|--|--|--|--|--|--|
| 1 | Does your institute generate any waste?   | Yes, Solid waste Canteen waste, paper, plastic, Horticulture Waste   |  |  |  |  |  |  |
|   | If so, what are they?   | etc  |  |  |  |  |  |  |
| 2 | What is the approximate amount of waste generated per day? (in Kilograms/month) (approx.) | Bio Non- Hazardous, Others<br>Degradable Biodegradable   |  |  |  |  |  |  |
| 3 | How is the waste generated in the institute managed? By                                   | Reuse of one side printed Paper for internal communication. Sewage water is discharged to public Sewer. Kitchen waste is used to generate manures. Two types of Waste bins are provided at campus for biodegradable and non-biodegradable waste. |  |  |  |  |  |  |



|   | 1   | Composting    | In-house  |
|---|---|---------------|---|
|   | 2   | Recycling     | In-house  |
|   | 3   | Reusing       | In-house  |
|   | 4   | Others        |   |
|   | (specify)   |               |   |
| 4 | Do you use recycled paper institute?  | er in         | Yes   |
| 5 | Do you use reused paper   | in institute? | Yes   |
| 6 | How would you spread to frecycling to othe community? Have you initiatives? If yes, please specify. | rs in the     | Number of awareness programs through ECO Club             |
| 7 | Can you achieve zero ga<br>your institute? If yes, how  |               | Not yet achieved. Possible through waste management plan. |

|   | Green Cover Audit                                    |                       |                |  |  |  |  |  |
|---|--|-----------------------|----------------|--|--|--|--|--|
| 1 | Is there a garden in your institute?                 | Yes                   |                |  |  |  |  |  |
| 2 | Do students spend time in the garden?                | Yes                   |                |  |  |  |  |  |
|   | Total number of Plants in                            | Plant type            | Approx. number |  |  |  |  |  |
| 3 | Campus   | Trees                 | 26             |  |  |  |  |  |
|   | Campas   | Ornamental            | Not estimated  |  |  |  |  |  |
| 4 | Number of Tree Plantation Drives organized by School | Yes, Through ECO club |                |  |  |  |  |  |
| 5 | Number of Trees Planted in Last FY.                  | 20                    |                |  |  |  |  |  |
| 5 | Survival Rate  | 50%                   |                |  |  |  |  |  |

All the activities including energy consumption and waste management have their equivalent carbon emission and they positively contribute to the carbon footprint of the campus. Carbon sequestration is the reverse process, at which the emitted carbon dioxide will get sequestrated according to the type of carbon sequestration employed. Even though there are many natural sequestration processes are involved in a campus, the major type of sequestration among them is the carbon sequestration by trees.

Trees sequestrate carbon dioxide through the biochemical process of photosynthesis and it is stored as carbon in their trunk, branches, leaves and roots. The amount of carbon sequestrated by a tree can be calculated by different methods. In this study,



the volumetric approach was taken into account, thus the details including CBH (Circumference at Breast Height), height, average age, and total number of the trees, are required. Details of the trees in the campus compound are given in the Table. Detailed table is included in the technical supplement.

| Carbon Sequestration                               |      |      |      |  |  |  |
|--|------|------|------|--|--|--|
| Particulars 2020-21 2021-22 2022-23                |      |      |      |  |  |  |
| Carbon sequestrated by trees in the campus (tCO2e) | 0.96 | 1.02 | 1.13 |  |  |  |

Carbon sequestrated by a tree can be found out by using different methods. Since this study is employed the volumetric approach, the calculation consists of five processes.

- Determining the total weight of the tree
- · Determining the dry weight of the tree
- Determining the weight of carbon in the tree
- Determining the weight of CO<sub>2</sub> sequestrated in the tree
- Determining the weight of CO<sub>2</sub> sequestrated in the tree per year

Carbon sequestrated by each species of trees in the campus compound is given in the Table. Detailed calculation results are listed out in the tables provided in the technical supplements of 'Carbon sequestration'.





#### **3.1.1 ENERGY**

#### a. Electricity

The total emission of the carbon dioxide per student is **-15.30** kg per year (2022). Emission reduction plans were prepared to bring the existing per capita carbon footprint to zero or below so as to bring the campus a carbon neutral or carbon negative campus. This can be achieved in many ways but, every alternate plan must be in such a way that, it must fulfill the actual purpose of each activity that is considered.

Here, three major methods are taken in to account as the plans for reducing the carbon emission of the campus.

- Resource optimization
- Energy efficiency
- Renewable energy
- Electricity Consumption

|   | Base Line Energy Data               |         |         |         |  |  |  |  |
|---|-------------------------------------|---------|---------|---------|--|--|--|--|
|   | Sree Narayana College, Chengannur   |         |         |         |  |  |  |  |
|   |                                     | 2020-21 | 2021-22 | 2022-23 |  |  |  |  |
| 1 | Electricity KSEB (kWh)              | 6988.5  | 10347   | 16257   |  |  |  |  |
| 2 | Electricity Solar Consumption (kWh) | 1278    | 1278    | 1278    |  |  |  |  |
| 3 | Electricity (KSEB + Solar) kWh      | 8266    | 11625   | 17535   |  |  |  |  |
| 4 | Electricity Solar Export (kWh)      | 0       | 0       | 0       |  |  |  |  |
| 5 | Diesel (L)                          | 0.00    | 0.00    | 0.00    |  |  |  |  |
| 6 | LPG (kg) 0 0 0                      |         |         |         |  |  |  |  |
| 7 | Biogas (m <sup>3</sup> )            | 3500.00 | 3500.00 | 3500.00 |  |  |  |  |



|      | Sree Narayana College, Chengannur |                            |    |    |    |     |     |    |   |        |   |
|------|-----------------------------------|----------------------------|----|----|----|-----|-----|----|---|--------|---|
|      |                                   |                            |    |    |    |     |     |    |   |        |   |
| SI.N | Block                             | Location                   | T  | T1 | CF | LED | LED | C  | E | Printe | Р |
| 0    | District                          |                            | 8  | 2  | L  | В   | T   | F  | F | r      | С |
| 1    |                                   | Class                      |    |    |    |     | 6   | 6  |   |        |   |
|      |                                   | rooms*3                    |    |    |    |     | 4   | 4  |   |        |   |
| 2    |                                   | Lab *2                     |    |    |    |     | 4   | 4  |   |        |   |
| 3    |                                   | Physics<br>Lab             | 4  | 1  |    |     | 2   | 7  |   |        |   |
| 4    |                                   | Physics<br>Dept            |    |    |    |     | 1   | 1  |   |        |   |
| 5    |                                   | Principal                  | 1  |    |    | 2   |     | 2  |   |        |   |
| 6    | Block                             | Office                     |    |    |    |     | 4   | 5  |   | 2      | 4 |
| 7    | A                                 | Chemistry<br>Dept.         | 1  |    |    |     |     | 2  |   |        |   |
| 8    |                                   | B Sc<br>Chemistry<br>Lab-1 | 1  |    | 2  |     |     | 1  |   |        |   |
| 9    |                                   | M Sc<br>Chemistry<br>Lab   | 3  |    | 1  |     |     |    |   |        |   |
| 10   |                                   | Chemistry<br>Lab -2        | 4  |    |    |     | 2   | 1  |   |        |   |
| 11   |                                   | Library                    | 4  | 2  |    |     |     | 2  |   |        |   |
| 12   |                                   | Reading room               |    |    |    |     | 1   | 2  |   |        |   |
| 13   | Librar<br>y                       | Class<br>rooms*2           |    |    |    |     | 4   | 4  |   |        |   |
| 14   |                                   | Class<br>room-1            |    |    |    |     | 4   | 6  |   |        |   |
| 15   | Block<br>B                        | Class<br>room*2            |    |    |    |     | 4   | 4  |   |        |   |
| 16   | Block<br>C                        | Class<br>room*3            |    |    |    |     | 6   | 12 |   |        |   |
| 17   | Block<br>D                        | Maths<br>Dept.             | 2  |    |    |     | 2   | 2  |   |        |   |
| 18   |                                   | Economic s Dept.           | 1  |    |    |     | 2   | 2  |   |        |   |
| 19   |                                   | Auditoriu<br>m             |    |    |    |     | 2   | 6  |   |        |   |
| 20   | Hostel                            | Rooms<br>*11               |    |    |    |     | 22  | 11 |   |        |   |
|      | TOTA                              |                            | 21 | 3  | 3  | 2   | 66  | 80 | 0 | 2      | 4 |



During the energy audit filed studies, 211 Numbers T8, Lamps were identified, which is considered as inefficient. 66 LED tubes were found during the audit. The detailed energy efficiency projects are given in the respective chapters of this report.

|       | Sree Narayana College, Chengannur |                      |         |  |  |
|-------|-----------------------------------|----------------------|---------|--|--|
| SI.No | Block                             | Location             | Lux Avg |  |  |
| 1     |                                   | Class rooms          | 73      |  |  |
| 3     |                                   | Physics Lab          | 67      |  |  |
| 4     |                                   | Physics Dept         | 68      |  |  |
| 5     |                                   | Principal            | 73      |  |  |
| 6     | Block A                           | Office               | 76      |  |  |
| 7     |                                   | Chemistry Dept.      | 81      |  |  |
| 8     |                                   | B Sc Chemistry Lab-1 | 73      |  |  |
| 9     |                                   | M Sc Chemistry Lab   | 87      |  |  |
| 10    |                                   | Chemistry Lab -2     | 56      |  |  |
| 11    |                                   | Library              | 67      |  |  |
| 12    | Libroni                           | Reading room         | 66      |  |  |
| 13    | Library                           | Class rooms          | 76      |  |  |
| 14    |                                   | Class room-1         | 64      |  |  |
| 15    | Block B                           | Class room           | 98      |  |  |
| 16    | Block C                           | Class room           | 71      |  |  |
| 17    | Block D                           | Maths Dept.          | 67      |  |  |
| 18    |                                   | Economics Dept.      | 65      |  |  |
| 19    | ]                                 | Auditorium           | 67      |  |  |

#### RESOURCE OPTIMISATION

The effective use of resources can limit its unnecessary wastage. Optimal usage of the resources (such as fuels) can save the fuel and can also reduce the carbon emission due to its consumption. This technique can be effectively implemented in the 'transportation' and 'waste' sectors of the campus.

#### **WASTE MINIMISATION**

Optimal utilization of paper and plastic stationaries can reduce the frequency of purchase of items. This can reduce the unnecessary wastage of money as well as the excess production of waste. In the case of food, proper food habits and housekeeping practices can optimize its usage.



Currently, they taking an appreciable effort to reduce the unnecessary production of wastes. But the campus still has opportunities to reduce the generation of waste and can improve much more. Resource optimization can be effectively implemented in all type of waste generated in the campus and the campus can expect about 50% reduction the total waste produced.

#### **ENERGY EFFICIENCY**

Energy efficiency is the practice of reducing the energy requirements while achieving the required energy output. Energy efficiency can be effectively implemented in all the sectors of the campus.

#### **FUELS FOR COOKING**

The campus can install a solar water heater to rise the water temperature to a much higher level, then it has to consume only very less amount of thermal energy for preparing the same amount of food. This can make a positive benefit to the campus by saving money, energy and can reduce the carbon emission of the campus due to thermal energy consumed for cooking.





#### **TRANSPORTATION**

Energy efficiency of the transportation sector is mainly depended on the fuel efficiency of the vehicles used. Here mileage of the vehicle (kmpl - Kilometers per Litre) is calculated to assess the fuel efficiency of the vehicle. Percentage of closeness is the ratio of actual mileage of the vehicle to its expected mileage. If the percentage of closeness of mileages of each vehicle is greater than that of its average, then the efficiency status of the vehicle is considered as 'Above average' and else, it is considered as 'Below average'

#### **Renewable Energy**

After analyzing the historical and measured data the following projects are proposed to make the campus carbon neutral. The projects are from energy efficiency and renewable energy. The further additions in the green cover increase will also give positive impact in the carbon mitigation.

| Solar Power Plant       |         |  |  |  |  |  |  |  |  |
|-------------------------|---------|--|--|--|--|--|--|--|--|
| Particulars             | Remarks |  |  |  |  |  |  |  |  |
| Capacity kWp            | 1       |  |  |  |  |  |  |  |  |
| Annual generation (kWh) | 1278    |  |  |  |  |  |  |  |  |
| Average Demand          | 31.42   |  |  |  |  |  |  |  |  |
| Total kWh Exported      | 0       |  |  |  |  |  |  |  |  |
| Total kWh Consumed      | 1278    |  |  |  |  |  |  |  |  |



|  |   |            |                  |        | 1               |  |  |  |  |  |  |
|--|---|------------|------------------|--------|-----------------|--|--|--|--|--|--|
|  | Executive Summary   |            |                  |        |                 |  |  |  |  |  |  |
| Consolidated Cost Benefit Analysis of Energy Efficiency Improvement Projects |   |            |                  |        |                 |  |  |  |  |  |  |
|  | Sree Narayana College, Chengannur   |            |                  |        |                 |  |  |  |  |  |  |
| SI   | Draioeta  | Investment | Cost saving      | SPB    | Energy<br>saved |  |  |  |  |  |  |
| No   | Projects  | (Lakhs Rs) | (Lakhs<br>Rs)/Yr | Months | kWh/Yr          |  |  |  |  |  |  |
| 1  | Energy Saving in Lighting by replacing existing 21 No's T8 (40W) Lamps to 18W LED Tube                              | 0.05       | 0.027            | 23.56  | 297             |  |  |  |  |  |  |
| 2  | Energy Saving by replacing existing 80No's in-efficient ceiling fans with Energy Efficient Five star fans/BLDC Fans | 2.00       | 0.180            | 133.36 | 2168            |  |  |  |  |  |  |
|  | Total   | 2.05       | 0.21             | 78.46  | 2465            |  |  |  |  |  |  |

(The saving are projected as per the assumed operation time observed based in the discussions with the plant officials. The data of saving percentages are taken from BEE guide books and field measurements.)

| Water Conservation Activities  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|
|  | Basic use of water in campus:                                  |  |  |  |  |  |  |  |  |
|  | Drinking – Ground Water  |  |  |  |  |  |  |  |  |
| List four uses of water in your institute  | 2. Gardening – Rain water                                      |  |  |  |  |  |  |  |  |
|  | 3. Kitchen and Toilets –                                       |  |  |  |  |  |  |  |  |
|  | 4. Others –  |  |  |  |  |  |  |  |  |
| How does your institute store water?   | Overhead Water Tanks and Sumps installed for storage of water. |  |  |  |  |  |  |  |  |
| Are there any water saving techniques followed in your institute?                      | Water conservation are in place                                |  |  |  |  |  |  |  |  |
| If there is water wastage, specify why and How can the wastage be prevented / stopped? | No   |  |  |  |  |  |  |  |  |



| Record water use from the institute water meter for six months (record at the same time of each day). At the end of the period, compile a table to show how many liters of water have been used. | No logbooks are available |
|--|---------------------------|
| Does your institute harvest rain water?  | Yes                       |
| Is there any water recycling system?   | No                        |

#### Rain water harvesting



| General Environmental Awareness Questione   | r   |
|---|-----|
| Are you aware of any environmental Laws pertaining to different aspects of environmental management?  | Yes |
| Does your institute have any rules to protect the environment? List possible rules you could include. | Yes |
| Dose Environmental Ambient Air Quality Monitoring conducted by the Institute?                         | Yes |
| Dose Environmental Water and Wastewater Quality monitoring conducted by the Institute?                | Yes |
| Dose stack monitoring of DG sets conducted by the Institute?  | NA  |
| Is any warning notice, letter issued by state government bodies?                                      | No  |
| Dose any Hazardous waste generated by the Institute? If yes explain its category and disposal method  | No  |
| Are you aware of any environmental Laws pertaining to different aspects of environmental management?  | Yes |



| Does your institute have any rules to protect the environment?  List possible rules you could include.  | Yes |
|---|-----|
| Does housekeeping schedule in your campus?  | Yes |
| Are students and faculties aware of environmental cleanliness ways? If Yes Explain                      | Yes |
| Dose Important Days Like World Environment Day, Earth Day, and Ozone Day etc. eminent in Campus?        | Yes |
| Dose Institute participated in National and Local Environmental Protection Movement?                    | Yes |
| Dose Institute has any Recognition/certification for environment friendliness?                          | Yes |
| Dose Institute using renewable energy?  | Yes |
| Dose Institution conducts a green/environmental audit of its campus?                                    | Yes |
| Has the institution been audited / accredited by any other agency such as NABL, NABET, TQPM, NAAC etc.? | Yes |



| Best Practices and Initiatives  |     |  |  |  |
|---|-----|--|--|--|
| Renewable Energy  |     |  |  |  |
| Solar Power Plant   | Yes |  |  |  |
| Energy Audit and Green Audit Conducted                                    | res |  |  |  |
| Biogas Plant installed  |     |  |  |  |
| Biodiversity Conservation   | Yes |  |  |  |
| Green Cover   | res |  |  |  |
| Tree Plantation Drives  | Voc |  |  |  |
| ECO clubs   | Yes |  |  |  |
| Ground Water Recharge   | Yes |  |  |  |
| Rain Water Harvesting System.   | res |  |  |  |
| Pollution Reduction Public Transportation                                 | Yes |  |  |  |
| E Waste Management  | Yes |  |  |  |
| Connected to authorized recycler  | res |  |  |  |
| Solid Waste Management  |     |  |  |  |
| Lifting of garbage from campus on alternate day by Municipal Corporation. | Yes |  |  |  |
| Adoption of Village   | NIS |  |  |  |
| CSR   | No  |  |  |  |
| Water Conservation  | Yes |  |  |  |
| Energy Conservation   | Yes |  |  |  |





# RECOMMENDATIONS

- 1. Implement a utility monitoring program.
  - Allocate staff to carry out meter readings for electricity, waste and water on regular basis
  - Add monitoring data to spreadsheet so results can be viewed graphically
  - Compare with the utility bills meter readings in order to ensure accuracy;
- 2. Consider adopting and implementing a sustainable procurement policy which takes into account the whole life cycle of a product, and make sure environmental issues are written into tenders when contracting out.



- 3. Consider trialing recycled paper again many recycled brands today, such as Evolve, are just as good as virgin paper.
- 4. Trial the use of re-manufactured (i.e., refilled) ink and toner cartridges rather than purchasing new ones.
- 5. Consider producing some designated 'environmental' pages on the intranet to make it easier for staff to find environmental information. If possible, a discussion forum could be set up to allow easy internal communications and staff to make suggestions for environmental improvements.
- 6. Environmental training could be formalized and carried out for all staff. It does not have to be too long or onerous, providing it covers key points, particularly in relation to waste so all staff are aware of the legal requirements. At the very least, environmental information should be included in the induction pack.
- 7. It is strongly recommended that environmental information is also given to students and staff during induction. It is particularly important for them to be aware of what waste they can dispose on site and where they can dispose of it, and what waste streams they must take away with them.
- 8. Consider implementing an environmental management system to incorporate all improvements and monitoring requirements. It does not need to be a complex system certified to any particular standard, merely a way of ensuring that baselines are set and progress is measured. Formation of Environment Policy and communicated to all faculties and other staff.
- 9. Plan for Zero Waste Campus Project
- 10. E-waste monthly inventory be maintained at campus as per E waste rules 2016.
- 11. Water Meter should be installed at institute for monitoring of water consumption per capita.
- 12. Increase in Environmental promotional activities for spreading awareness at campus.
- 13. Environment/Green committee formation for regulating eco-friendly initiatives at campus premises and periphery.





## **CONCLUSION**

This audit involved extensive consultation with all the campus team, interactions with key personnel on wide range of issues related to Environmental aspects. The audit has identified several observations for making the campus premise more environmental friendly. The recommendations are also mentioned with observations for the team to initiate actions.

However, there is scope for further improvement, particularly in relation to waste minimization and energy monitoring. By implementing a basic environmental



management system, current good practice can be formalized and a framework can be set up for monitoring, implementation of action plans and continual improvement.

The audit team observed that the overall site is maintained well from environmental perspective. There is no major observations but few things are important to initiate urgently are waste management records by monthly inventory of hazardous waste, rainwater harvesting recharge; water balance cycle and periodic inspection of buildings; environment policy and initiation of composting at campus.

#### References

- The Environment [Protection] Act 1986 (Amended 1991) & Rules-1986 (Amended 2010)
- The Petroleum Act: 1934 The Petroleum Rules: 2002
- The Central Motor Vehicle Act: 1988 (Amended 2011) and The Central Motor Vehicle
- Rules:1989 (Amended in 2005)
- Energy Conservation Act 2010.
- The Water [Prevention & Control of Pollution] Act 1974 (Amended 1988)
   & the Water (Prevention & Control of Pollution) Rules 1975
- The Water [Prevention & Control of Pollution] Cess Act-1977 (Amended 2003) and Rules- 1978
- The Air [Prevention & Control of Pollution] Act 1981 (Amended 1987) The Air (Prevention
  - & Control of Pollution) Rules 1982
- The Gas Cylinders Rules 2016 (Replaces the Gas Cylinder Rules 1981
- E-waste management rules 2016
- Electrical Act 2003 (Amended 2001) / Rules 1956 (Amended 2006)
- The Hazardous Waste (Management and Handling and Trans-boundary Movement) Rules, 2008 (Amended 2016)
- The Noise Pollution Regulation & Control rules, 2000 (Amended 2010)
- The Batteries (Management and Handling) rules, 2001 (Amended 2010)
- Relevant Indian Standard Code practices



# TECHNICAL SUPPLEMENTS

#### KERALA STATE ELECTRICITY BOARD LIMITED **DEMAND CUM DISCONNECTION NOTICE**

(As per Regulation 122 & 123 of Kerala Electricity Supply Code 2014)

|                        |          |         | , - I            |          |    |  |                                  |                   | ,                   | ,              | ,           |            |                         |               |                 |  |
|------------------------|----------|---------|------------------|----------|----|--|----------------------------------|-------------------|---------------------|----------------|-------------|------------|-------------------------|---------------|-----------------|--|
| Section [              | 5533]-EI | lectric | al Section Ch    | engano   | or |  | Phone                            | #                 | 0479-2              | 452223         | 2223 Custor |            | ner Car                 | е             | 1912            |  |
| Consumer# 1            | 15533    | 1020    | 552              |          |    | Reg. Mob# 949xxxx517 Regular CC Bill KSEBL   |                                  |                   |                     |                |             | KSEBL      | GSTIN: 3                | 2AAECK2277NBZ |                 |  |
| Name & Mailing Address |          |         |                  |          |    | For redressin  | g comp                           | olaints/          | grievan             | се аррі        | roach tl    | ne con     | cerned                  | CGRF          |                 |  |
| PRINCIPAL              |          |         |                  |          |    | South: Chairperson,CGRF(South),KSEB Ltd, Vydythi Bhavanam,Kottarakkara-691506, Ph:0474-2060220 |                                  |                   |                     |                |             |            |                         |               |                 |  |
| SREE NARAYAN           | A COLLE  | GE, NE  | DUVARAMKOD       | U.P.O, C | HE | Central: Chairpe   | rson,CGR                         | F(Central         | ),KSEB Lt           | td, Power      | House Bu    | ıilding Eı | nakulam-                | 682018, I     | Ph:0484-2394288 |  |
| NGANNUR                |          |         |                  |          |    | North: Chairpers   | on,CGRF(                         | (North),KS        | SEB Ltd,G           | andhi Ro       | ad,Kozhik   | ode-32, I  | Ph:0495-2               | 367820        |                 |  |
|                        |          |         |                  |          |    | State Electricity O  | mbudsma                          | an, Pallikk       | avil Build          | ling,Mama      | angalam, l  | Edappall   | y, Kochi-6              | 82024 PI      | n:0484-2346488  |  |
| Bill#                  | ļ        | 5533    | 230108090        |          |    | Bill Area  |                                  | A01/12            |                     | DTR            |             |            | NEDUVAI                 | RAMCOE        | U FEDERAL BAN   |  |
| Billing Period         | ļ        | 1/2023  | B[Bi-Monthly]    |          |    | Tariff/Phase   |                                  | LT-6B/Three Pole# |                     |                |             | PN/112/16  |                         |               |                 |  |
| Bill Date              | ļ        | 12-01   | -2023            |          |    | Due Date   |                                  | 23-01-2           | 23-01-2023          |                | e           |            | 07-02-2                 | 2023          |                 |  |
| Contract Dema          | ınd (    | (Nil) ∨ | A [75% : 0KV, 13 | 0% : 0KV | /] | Connected Lo   | oad                              | 5040 W            | /atts               | Securit        | у           | sit        | Rs.156                  | 84.00         |                 |  |
| Meter#                 | (        | GIL00   | 00\$000451009    | 92       |    |  |                                  | A                 | verage              | consur         | nption(     | Month      | y)                      |               |                 |  |
| Meter Digits           | (        | 6.2     |                  |          |    | Power Unit/  | /Zone                            |                   |                     |                | CUI         | MULAT      | IVE                     |               |                 |  |
| Meter Type/Ow          | ner      | TOD/Ł   | KSEB             |          |    | KWH  |                                  |                   |                     |                | 7           | 709        |                         |               |                 |  |
| Last Billed            | Rdg. Da  | te      | Prev. Rdg.       | Date     | P  | rev. Meter Rd  | g. Statu                         | IS                | Prst                | rst. Rdg. Date |             |            | Prst. Meter Rdg. Status |               |                 |  |
| 12-11-2022 12-11-2022  |          |         |                  | Working  |    | 12-01-2023   |                                  | 3                 | v                   |                | orking      |            |                         |               |                 |  |
| Power Uni              | it       |         | Zone             | Tradi    | ng | Initial Readin   | eading(IR) Final Reading(FR) OMF |                   | nal Reading(FR) OMF |                | ) OMF       |            | Uni                     | ts*           |                 |  |
| KWH                    |          | Cı      | umulative        | Impor    | rt | 9410   | 0.00                             |                   | 11312               | 2.00           |             | 1          | 1 1902                  |               |                 |  |
| Remarks:               |          |         |                  |          |    |  | Bill Details                     |                   |                     |                |             | [11        | NR] Amount(Rs           |               |                 |  |

Last Paid Amount - Rs.16159.00 Last Payment Date - 07-02-2023

| ים וווי | ctalis                |                              | [INK] AIIIOUIII(KS |
|---------|-----------------------|------------------------------|--------------------|
| a)      | Fixed Charges         | Fixed Charge[FC]             | 1080.00            |
|         |                       | Sub Total                    | 1080.00            |
| b)      | Energy Charges        | Energy Charge[EC]            | 13599.30           |
|         |                       | Sub Total                    | 13599.30           |
| c)      | Other Charges         | Electricity Duty[ED]         | 1359.93            |
|         |                       | Meter Rent[MR]               | 30.00              |
|         |                       | Sub Total                    | 1389.93            |
| d)      | GST                   | MR-CGST                      | 2.70               |
|         |                       | MR-SGST                      | 2.70               |
|         |                       | Sub Total                    | 5.40               |
| e)      | Round Off             |                              | 0.37               |
| f)      | Total Amt.(Bill#55332 | <b>30108090)</b> (a+b+c+d+e) | 16075.00           |
| g)      | Surcharge             |                              | 84.00              |
| h)      | Reconnection Fee      |                              | 0.00               |
| i)      | Interim Bills         |                              | 0.00               |
| j)      | Arrears               |                              | 0.00               |
| k)      | Less paid/adj.        |                              | -16159.00          |
| I)      | Less Advance          |                              | -0.00              |
|         | Net Payable(f+g       | +h+i+j-k-l)                  | 0.00               |

Payment Options: Cash, Cheque, DD, MO. Online: www.kseb.in (Debit/Credit Cards, Net Banking). Other Platforms: BBPS, Friends, Akshaya, CSC, NACH

## KERALA STATE ELECTRICITY BOARD LIMITED DEMAND CUM DISCONNECTION NOTICE

(As per Regulation 122 & 123 of Kerala Electricity Supply Code 2014)

| 55331-                 |            |   |   |         |  |                            |                                    |  |  |  |  |  |                |          |                 |          |                       |          |               |          |                  |          |                   |   |                   |     |                     |  |                      |  |                     |  |                |  |                |  |                  |  |                   |  |                     |  |                      |  |                      |  |                   |  |                 |  |                  |  |             |  |               |  |   |       |
|------------------------|------------|---|---|---------|--|----------------------------|------------------------------------|--|--|--|--|--|----------------|----------|-----------------|----------|-----------------------|----------|---------------|----------|------------------|----------|-------------------|---|-------------------|-----|---------------------|--|----------------------|--|---------------------|--|----------------|--|----------------|--|------------------|--|-------------------|--|---------------------|--|----------------------|--|----------------------|--|-------------------|--|-----------------|--|------------------|--|-------------|--|---------------|--|---|-------|
| [3333]-1               | =lectric   | al Section Ch   | enganoc   | or      | Phone  | ne# 0479-2452223 <b>Cu</b> |                                    |  |  |  | Customer Care 1912   |  |                |          |                 |          |                       |          |               |          |                  |          |                   |   |                   |     |                     |  |                      |  |                     |  |                |  |                |  |                  |  |                   |  |                     |  |                      |  |                      |  |                   |  |                 |  |                  |  |             |  |               |  |   |       |
| 11553                  | 32001      | 1350  |   |         | Reg. Mob# 944xxxx311 Regular CC Bill KSEBL GSTIN:  |                            |                                    |  |  |  | : 32AAECK2277NB2   |  |                |          |                 |          |                       |          |               |          |                  |          |                   |   |                   |     |                     |  |                      |  |                     |  |                |  |                |  |                  |  |                   |  |                     |  |                      |  |                      |  |                   |  |                 |  |                  |  |             |  |               |  |   |       |
| Name & Mailing Address |            |   |   |         |  | olaints/g                  | grievan                            | се арр   | roach tl   | ne con   | cerned CGR   | <u>F</u>   |                |          |                 |          |                       |          |               |          |                  |          |                   |   |                   |     |                     |  |                      |  |                     |  |                |  |                |  |                  |  |                   |  |                     |  |                      |  |                      |  |                   |  |                 |  |                  |  |             |  |               |  |   |       |
|                        |            |   |   |         | South: Chairperson,CGRF(South),KSEB Ltd, Vydythi Bhavanam,Kottarakkara-691506, Ph:0474-2060220 |                            |                                    |  |  |  |  |  |                |          |                 |          |                       |          |               |          |                  |          |                   |   |                   |     |                     |  |                      |  |                     |  |                |  |                |  |                  |  |                   |  |                     |  |                      |  |                      |  |                   |  |                 |  |                  |  |             |  |               |  |   |       |
|                        |            |   |   |         | Central: Chairperson,CGF   | RF(Central                 | ),KSEB L                           | td, Power  | House Bu   | ilding Er  | nakulam-68201  | 3, Ph:0484-2394288   |                |          |                 |          |                       |          |               |          |                  |          |                   |   |                   |     |                     |  |                      |  |                     |  |                |  |                |  |                  |  |                   |  |                     |  |                      |  |                      |  |                   |  |                 |  |                  |  |             |  |               |  |   |       |
|                        |            |   |   |         | North: Chairperson,CGRF  | (North),KS                 | SEB Ltd,G                          | andhi Ro   | ad,Kozhik  | ode-32, I  | Ph:0495-236782   | )  |                |          |                 |          |                       |          |               |          |                  |          |                   |   |                   |     |                     |  |                      |  |                     |  |                |  |                |  |                  |  |                   |  |                     |  |                      |  |                      |  |                   |  |                 |  |                  |  |             |  |               |  |   |       |
|                        |            |   |   |         | State Electricity Ombudsm  | an, Pallikk                | avil Build                         | ding,Mama  | angalam, l   | Edappally  | y, Kochi-682024  | Ph:0484-2346488  |                |          |                 |          |                       |          |               |          |                  |          |                   |   |                   |     |                     |  |                      |  |                     |  |                |  |                |  |                  |  |                   |  |                     |  |                      |  |                      |  |                   |  |                 |  |                  |  |             |  |               |  |   |       |
|                        | 5533       | 230108085   |   |         | Bill Area  | A01/12                     | 2 DTR                              |  |  |  | NEDUVARAMCODU FEDERAL BAN                                    |  |                |          |                 |          |                       |          |               |          |                  |          |                   |   |                   |     |                     |  |                      |  |                     |  |                |  |                |  |                  |  |                   |  |                     |  |                      |  |                      |  |                   |  |                 |  |                  |  |             |  |               |  |   |       |
| d 1/2023[Bi-Monthly]   |            |   |   |         | Tariff/Phase   | LT-6A/                     | A/Three <b>Pole#</b>               |  |  |  | PN/112/14  |  |                |          |                 |          |                       |          |               |          |                  |          |                   |   |                   |     |                     |  |                      |  |                     |  |                |  |                |  |                  |  |                   |  |                     |  |                      |  |                      |  |                   |  |                 |  |                  |  |             |  |               |  |   |       |
|                        | 12-01      | -2023   |   |         | Due Date   | 23-01-2                    | 2023 DC Date                       |  |  | 07-02-2023   |  |  |                |          |                 |          |                       |          |               |          |                  |          |                   |   |                   |     |                     |  |                      |  |                     |  |                |  |                |  |                  |  |                   |  |                     |  |                      |  |                      |  |                   |  |                 |  |                  |  |             |  |               |  |   |       |
| and                    | (Nil) V    | A [75% : 0KV, 13  | 0% : 0KV]   |         | Connected Load   | 7500 W                     | 00 Watts Security Deposit          |  |  | sit  | Rs.4248.00   |  |                |          |                 |          |                       |          |               |          |                  |          |                   |   |                   |     |                     |  |                      |  |                     |  |                |  |                |  |                  |  |                   |  |                     |  |                      |  |                      |  |                   |  |                 |  |                  |  |             |  |               |  |   |       |
|                        | UEI55      | 33M00000136   | 68  |         | Average consumption(Monthly)   |                            |                                    |  |  |  |  |  |                |          |                 |          |                       |          |               |          |                  |          |                   |   |                   |     |                     |  |                      |  |                     |  |                |  |                |  |                  |  |                   |  |                     |  |                      |  |                      |  |                   |  |                 |  |                  |  |             |  |               |  |   |       |
|                        | 5.1        |   |   |         | Power Unit/Zone  |                            | CUMULATIVE                         |  |  |  |  |  |                |          |                 |          |                       |          |               |          |                  |          |                   |   |                   |     |                     |  |                      |  |                     |  |                |  |                |  |                  |  |                   |  |                     |  |                      |  |                      |  |                   |  |                 |  |                  |  |             |  |               |  |   |       |
| vner                   | Static     | /KSEB   |   |         | KWH  |                            |                                    |  | ,  | 89   |  |  |                |          |                 |          |                       |          |               |          |                  |          |                   |   |                   |     |                     |  |                      |  |                     |  |                |  |                |  |                  |  |                   |  |                     |  |                      |  |                      |  |                   |  |                 |  |                  |  |             |  |               |  |   |       |
| Rdg. D                 | ate        | Prev. Rdg.  | Date  | Р       | rev. Meter Rdg. Statı  | ıs                         | Prst                               | rst. Rdg. Date   |  |  | Prst. Meter Rdg. Status                                      |  |                |          |                 |          |                       |          |               |          |                  |          |                   |   |                   |     |                     |  |                      |  |                     |  |                |  |                |  |                  |  |                   |  |                     |  |                      |  |                      |  |                   |  |                 |  |                  |  |             |  |               |  |   |       |
| 2022                   | 12-11-2022 |   |   | Working | 12   |                            | 01-202                             | 3  | Working  |  | ng   |  |                |          |                 |          |                       |          |               |          |                  |          |                   |   |                   |     |                     |  |                      |  |                     |  |                |  |                |  |                  |  |                   |  |                     |  |                      |  |                      |  |                   |  |                 |  |                  |  |             |  |               |  |   |       |
| nit                    |            | Zone  | Tradin  | g       | Initial Reading(IR)  | Final R                    | Final Reading(                     |  | Final Reading(FR   |  | Final Reading(FR)  |  | Reading(FR) Of |          | Reading(FR) OMF |          | Final Reading(FR) OMF |          | Final Reading |          | Final Reading(FR |          | Final Reading(FR) |   | Final Reading(FR) |     | Final Reading(FR) O |  | Final Reading(FR) Of |  | Final Reading(FR) O |  | Final Reading( |  | Final Reading( |  | Final Reading(FF |  | Final Reading(FR) |  | Final Reading(FR) O |  | Final Reading(FR) ON |  | Final Reading(FR) ON |  | Final Reading(FR) |  | leading(FR) OMF |  | Final Reading(FF |  | ing(FR) OMF |  | ading(FR) OMF |  | U | nits* |
|                        | С          | umulative   | Import  |         | 30353.00   | 30907.00                   |                                    | 30907.00   |  | 30907.00   |  | 30907.00   |                | 30907.00 |                 | 30907.00 |                       | 30907.00 |               | 30907.00 |                  | 30907.00 |                   | 1 |                   | 554 |                     |  |                      |  |                     |  |                |  |                |  |                  |  |                   |  |                     |  |                      |  |                      |  |                   |  |                 |  |                  |  |             |  |               |  |   |       |
|                        | LA, CHE    | 5533 1/202: 12-01: Ind (Nii) V. UEI55 5.1 Iner Static. Rdg. Date 022 it | 5533230108085 1/2023[Bi-Monthly] 12-01-2023 Ind (Nil) VA [75% : 0KV, 13 UEI5533M00000136 5.1 Inner Static/KSEB Rdg. Date Prev. Rdg. 022 12-11-202 | S       | S  | South: Chairperson, CGRF   | South: Chairperson, CGRF(South), K | South: Chairperson, CGRF(South), KSEB Ltd, Central: Chairperson, CGRF(Central), KSEB Ltd, Central: Chairperson, CGRF(North), KSEB Ltd, Central: Chairperson, CGRF(South), KSEB Ltd, Central: Chairperson, CGRF(South), KSEB Ltd, Central: Chairperson, CGRF(North), KSEB Ltd, Chairperson, CGRF(North), CGRF(North), CGRF(North), CGRF(N | For redressing complaints/grievance appliants   South: Chairperson, CGRF(South), KSEB Ltd, Vydythi B Central: Chairperson, CGRF(Central), KSEB Ltd, Power North: Chairperson, CGRF(North), KSEB Ltd, Gandhi Ro State Electricity Ombudsman, Pallikkavil Building, Mama | For redressing complaints/grievance approach the South: Chairperson, CGRF(South), KSEB Ltd, Vydythi Bhavanam, LA, CHENGANNUR  Central: Chairperson, CGRF(Central), KSEB Ltd, Power House Buton North: Chairperson, CGRF(North), KSEB Ltd, Gandhi Road, Kozhik State Electricity Ombudsman, Pallikkavil Building, Mamangalam, Editor of State Sta | For redressing complaints/grievance approach the consolution | For redressing complaints/grievance approach the concerned CGR |                |          |                 |          |                       |          |               |          |                  |          |                   |   |                   |     |                     |  |                      |  |                     |  |                |  |                |  |                  |  |                   |  |                     |  |                      |  |                      |  |                   |  |                 |  |                  |  |             |  |               |  |   |       |

Remarks :

Last Paid Amount - Rs.4690.00 Last Payment Date - 13-01-2023

| ill D | etails                |                              | [INR] Amount(R |
|-------|-----------------------|------------------------------|----------------|
| a)    | Fixed Charges         | Fixed Charge[FC]             | 1120.00        |
|       |                       | Sub Total                    | 1120.00        |
| b)    | Energy Charges        | Energy Charge[EC]            | 3213.20        |
|       |                       | Sub Total                    | 3213.20        |
| c)    | Other Charges         | Electricity Duty[ED]         | 321.32         |
|       |                       | Meter Rent[MR]               | 30.00          |
|       |                       | Sub Total                    | 351.32         |
| d)    | GST                   | MR-CGST                      | 2.70           |
|       |                       | MR-SGST                      | 2.70           |
|       |                       | Sub Total                    | 5.40           |
| e)    | Round Off             |                              | 0.08           |
| f)    | Total Amt.(Bill#55332 | <b>30108085)</b> (a+b+c+d+e) | 4690.00        |
| g)    | Surcharge             |                              | 0.00           |
| h)    | Reconnection Fee      |                              | 0.00           |
| i)    | Interim Bills         |                              | 0.00           |
| j)    | Arrears               |                              | 0.00           |
| k)    | Less paid/adj.        |                              | -4690.00       |
| l)    | Less Advance          |                              | -0.00          |
|       | Net Payable(f+g-      | +h+i+j-k-l)                  | 0.00           |

E&OE Payment Options: Cash,Cheque,DD,MO. Online: www.kseb.in (Debit/Credit Cards,Net Banking). Other Platforms: BBPS,Friends,Akshaya,CSC,NACH

#### KERALA STATE ELECTRICITY BOARD LIMITED **DEMAND CUM DISCONNECTION NOTICE**

(As per Regulation 122 & 123 of Kerala Electricity Supply Code 2014)

|                |                    |                   | (A3 pc                | i itegui | ation i | ZZ G 125 OI Relaia L            | iccti icit                   | y oupp     | ny oout          | 2017)         |            |                         |              |           |
|----------------|--------------------|-------------------|-----------------------|----------|---------|---------------------------------|------------------------------|------------|------------------|---------------|------------|-------------------------|--------------|-----------|
| Section        | [5537]-E           | lectri            | cal Section Ko        | llakada  | vu      | Phone# 0479-2357251 Customer Ca |                              |            |                  |               | ner Care   | 1912                    | 2            |           |
| Consumer#      | 11553 <sup>°</sup> | 7201 <sup>-</sup> | 1780                  |          |         | Reg. Mob# 944xxxx412            |                              |            | Regula           | r CC Bil      | II         | KSEBL GS                | TIN: 32AAEC  | K2277NB   |
| Name & Mailing | Address            |                   |                       |          |         | For redressing comp             | olaints/o                    | grievan    | ce appr          | oach t        | he con     | cerned Co               | <u> SRF</u>  |           |
| PRASANNA M S   | 6                  |                   |                       |          |         | South: Chairperson,CGRF         | (South),K                    | SEB Ltd,   | Vydythi B        | havanam       | ı,Kottarak | kara-691506             | Ph:0474-20   | 60220     |
| S N COLLEGE, ( | CHERIYA            | NADU              |                       |          |         | Central: Chairperson,CGF        | RF(Central                   | ),KSEB L   | td, Power        | House B       | uilding E  | nakulam-682             | 018, Ph:048  | 4-2394288 |
|                |                    |                   |                       |          |         | North: Chairperson,CGRF         | (North),KS                   | SEB Ltd,G  | Sandhi Roa       | ıd,Kozhi      | kode-32,   | Ph:0495-2367            | 820          |           |
|                |                    |                   |                       |          |         | State Electricity Ombudsm       | <u>an,</u> Pallikk           | avil Build | ding,Mama        | ngalam,       | Edappall   | y, Kochi-6820           | )24 Ph:0484- | 2346488   |
| Bill#          |                    | 5537              | 230204056             |          |         | Bill Area                       | B01/7                        |            | DTR              |               |            | AMBEDKAR                | COLONY       |           |
| Billing Period |                    | 2/202             | <b>3</b> [Bi-Monthly] |          |         | Tariff/Phase                    | LT-6A/Three <b>Pole#</b>     |            |                  | Unknown_55378 |            |                         |              |           |
| Bill Date      |                    | 07-02             | -2023                 |          |         | Due Date 17-02-2023             |                              |            | 23 DC Date       |               |            | 06-03-2023              |              |           |
| Contract Dem   | and                | (Nil) ∨           | A [75% : 0KV, 13      | 0% : 0K\ | /]      | Connected Load                  | 11275 Watts Security Deposit |            | osit             | Rs.14724.00   |            |                         |              |           |
| Meter#         |                    | L&T0:             | 201600155879          | 13       |         |                                 | A                            | verage     | consun           | nption        | (Month     | <br> y)                 |              |           |
| Meter Digits   |                    | 6.2               |                       |          |         | Power Unit/Zone                 |                              |            |                  | CU            | MULAT      | IVE                     |              |           |
| Meter Type/O   | wner               | TOD/              | KSEB                  |          |         | KWH                             |                              |            |                  |               | 562        |                         |              |           |
| Last Billed    | Rdg. D             | ate               | Prev. Rdg.            | Date     | F       | Prev. Meter Rdg. Stati          | ıs                           | Prs        | t. Rdg. [        | ate           | F          | Prst. Meter Rdg. Status |              |           |
| 07-12-2022     |                    | 07-12-2022        |                       | Working  |         | 07-02-2023                      |                              | Worki      |                  | king          |            |                         |              |           |
| Power U        | nit                |                   | Zone                  | Tradi    | ng      | Initial Reading(IR)             | Final R                      | Reading    | g(FR) OMF Units* |               | Units*     |                         |              |           |
| KWH            |                    | С                 | umulative             | Impo     | rt      | 45131.00                        |                              | 4616       | 7.00             |               | 1          |                         |              | 1036      |
| Remarks :      | •                  |                   |                       |          |         | Bill De                         | tails                        |            | •                |               |            |                         | [INR] A      | mount(R   |

Remarks:

Last Paid Amount - Rs.9360.00 Last Payment Date - 10-02-2023

| tails                      |  | [INR] Amount(Rs.   |
|----------------------------|--|--|
| Fixed Charges              | Fixed Charge[FC]   | 1680.00  |
|                            | Sub Total  | 1680.00  |
| b) Energy Charges          | Energy Charge[EC]  | 6889.40  |
|                            | Fuel Surcharge[FS]   | 10.88  |
|                            | Sub Total  | 6900.28  |
| c) Other Charges           | Electricity Duty[ED]   | 688.94   |
|                            | Meter Rent[MR]   | 30.00  |
|                            | Sub Total  | 718.94   |
| d) GST                     | MR-CGST  | 2.70   |
|                            | MR-SGST  | 2.70   |
|                            | Sub Total  | 5.40   |
| Round Off                  |  | 0.38   |
| Total Amt.(Bill#55372      | <b>30204056)</b> (a+b+c+d+e)   | 9305.00  |
| Surcharge                  |  | 47.00  |
| Reconnection Fee           |  | 0.00   |
| Interim Bills              |  | 0.00   |
| Arrears                    |  | 0.00   |
| Less paid/adj.             |  | -9352.00   |
| Less Advance               |  | -8.00  |
| Net Payable(f+g+h+i+j-k-l) |  | 0.00   |
| for 2/2023 is Rupees       | Nine Thousand Three Hundred an   | d Five Only  |
|                            | Fixed Charges  Energy Charges  Other Charges  GST  Round Off  Total Amt.(Bill#55372  Surcharge  Reconnection Fee  Interim Bills  Arrears  Less paid/adj.  Less Advance  Net Payable(f+g- | Fixed Charges  Sub Total  Energy Charges  Energy Charge[EC]  Fuel Surcharge[FS]  Sub Total  Other Charges  Electricity Duty[ED]  Meter Rent[MR]  Sub Total  GST  MR-CGST  MR-SGST  Sub Total  Round Off  Total Amt.(Bill#5537230204056) (a+b+c+d+e)  Surcharge  Reconnection Fee  Interim Bills  Arrears  Less paid/adj.  Less Advance |

E&OE Payment Options: Cash, Cheque, DD, MO. Online: www.kseb.in (Debit/Credit Cards, Net Banking). Other Platforms: BBPS, Friends, Akshaya, CSC, NACH



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