



## KERALA STATE ELECTRICITY BOARD LIMITED

(Incorporated under the Companies Act, 1956)

Registered Office : Vidyuthi Bhavanam, Pattom, Thiruvananthapuram -695004

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### ABSTRACT

Guideline in KSEBL to ensure strict adherence to Green Building Protocol – Granting in principle approval – Sanctioned – Orders issued

### Corporate Office (SBU- G/C)

B.O (DB) No.465/2023(CW/GNL/2023)

Dated 30.10.2023

Read: 1. Note No. CW/GNL/2023 dated 13.07.2023 of the Chairman & Managing Director, KSEB Ltd.  
2. Proceedings of the 73<sup>rd</sup> meeting of the Board of Directors held on 30.09.2023  
(Agenda Item No.12-09/2023).

### ORDER

When it comes to implementation of Green Building Concepts in KSEBL, even though the importance of green buildings has been fairly well understood, a comprehensive Green Building Protocol is conspicuous by its absence. This quite often than not, ends up in buildings and retrofitments which doesn't stand any merit due to the mere absence of an implementable Green Building Protocol. Most of the time, the initial costs overweigh the recurring/running & maintenance costs in the decision maker's mind, owing to lack of clear cut protocols - without which there could be adverse objections from an auditing point of view as well. .

It is against this backdrop that adherence to the principles of Environmental Social & Governance (ESG) in a cost effective manner in KSEBL gains importance. At the same time elaborate procedures and certifications are not only time consuming but will have their own cost overruns also - with diminishing marginal returns. Hence it is felt that the introduction of a Comprehensive Green Building Protocol in KSEBL to ensure that the low hanging fruits are reaped- which will not delay the construction while ensuring optimum budgets – is the need of the hour. The above protocol will have to cater to the new buildings as well as enabling retrofitment to the existing ones, to elicit tangible results.

Some of the representative aspects which will be covered while framing the Green Protocol for KSEBL are as follows:

#### Lighting

- Using appropriate LED tube/ bulb according to the room size.
- Using automatic lighting controllers like occupancy sensors, Proximity Infrared Sensors and day light controllers etc.
- Usage of Day lighting which involves controlled admission of natural light, direct sunlight, and diffused-skylight into a building to reduce the need for electric lighting and to save energy. By providing a direct link to the dynamic and perpetually evolving patterns of outdoor illumination, day lighting helps create a visually stimulating and productive environment for building occupants, while reducing as much as one-third of total building energy costs.

- Usage of Light Shelves which is a passive architectural element that serves the dual purpose of providing shade and reflecting light. The main component of the light shelf is a horizontal element that is positioned either on the exterior or interior side of window façade, or both.
- Selection of the power rating of lamp based on the room size and illumination requirements.
- Lamps with Luminous efficacy which is the total luminous flux emitted by the light source divided by the lamp wattage; expressed in lumens per watt (lm/W).
- The lighting power density of the offices shall be limit to 13W/sqm.
- Astronomical Timer or sensor based control for exterior lighting.

#### Ventilation

- Usage of BLDC fans.
- Remote type regulators may be used.
- Utilize maximum natural ventilations while designing the rooms.

#### Air conditioned Rooms

- Conditioning of the room with minimum air leakages.
- Using proper curtain/ blinds heat loss can be prevented.
- Applying low solar heat gain coefficient and high visual light transmittance type film on glass.
- Utilizing the high energy efficiency ratio air conditioners.

#### Plumbing

- Throttle the valve of wash basin to reduce water flow.
- Using sensors on wash basin/ Urinals.
- Using twin flushes.
- Recycle the water for gardening.

#### Building constructions

- Use of Proper Colour Schemes
- Apply light color paints on interior of walls.
- Better Fenestration with High wall window ratio.
- Adoption of Passive Design Principles. "Passive design" is an approach to building design that uses the building architecture to minimize energy consumption and improve thermal comfort. The building form and thermal performance of building elements (including architectural, structural, envelope and passive mechanical) are carefully considered and optimized for interaction with the local microclimate. The ultimate vision of passive design is to fully eliminate requirements for active mechanical systems (and associated fossil fuel-based energy consumption) and to maintain occupant comfort.

#### To Reduce Carbon Foot Print

- Encouraging Locally available materials
- Raw materials which use by-products like fly ash in Cement/ bricks etc.
- Use of Solar Energy for power & heating
- Fine finished smooth walls –reduce the surface area and the heat load.

- Using Cool roof - A cool roof is designed to reflect more sunlight and absorb less heat than a standard roof. A high solar reflectance-albedo is the most important characteristic of a cool roof.
- Under deck insulation
- Encouraging use of Stairs to avoid use of lifts

The Chairman & Managing Director recommended as per note read as 1<sup>st</sup> above that since the preparation of a Green Building Protocol for KSEBL is a novel concept, an in-principle approval of the Board of Directors is requested so as to take this initiative forward and to entrust the Consultancy Wing, KSEBL to bring out a Comprehensive Green Building Protocol for KSEBL for approval in the next Board of Directors meeting.

Having considered the matter in detail, the Board of Directors in the 73<sup>rd</sup> meeting held on 30.09.2023

Resolved to accord in-principle approval of Board of Directors of KSEBL for the preparation of a comprehensive Green Building Protocol for KSEBL and to entrust the task to the Consultancy Wing, KSEBL.

Orders are issued accordingly.

BY ORDER OF THE DIRECTOR BOARD

Sd/-

LEKHA. G

COMPANY SECRETARY IN CHARGE

Copy to:-

The Chief Internal Auditor/ Financial Adviser / The Chief Engineer (IT)

The TA to the Chairman & Managing Director / Director (Generation-Civil) / Director (Distribution, Safety, SCM & IT) / Director (Transmission, SO & Planning)/ Director (Generation - Electrical, REES, SOURA, Sports & Welfare)

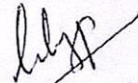
The PA to the Director (Finance & HRM) /Company Secretary

The Sr.CA to the Secretary (Administration)

The RCAO/ RAO

Stock File.

Forwarded/By Order



Assistant Executive Engineer(Civil)