Energy Efficient Street Lighting System Project through PPP In Agartala City
Introduction

• Agartala Municipal Corporation executed an agreement with the Energy Efficiency Services Limited (A JV company of PSUs of Ministry of Power, Government of India) on Public Public Partnership (PPP) mode to convert 32216 HPSV and CFL street lights under Agartala City into LED Lights in order to bring efficiency and economy and better illumination in the sector of Street Lighting in Agartala City.

• The scope of this project involves all the responsibility with EESL for installation, operation and maintenance of LED street lights supplied by EESL during project period of 10 years.

• Entire capital cost has been borne by the EESL as per the agreement.

• EESL will operate and maintain the street lighting for 10 years from the savings of annual electric bill as on today.
Situation before the initiative

• Agartala Municipal Corporation had decided to beautify Agartala City and to reduce electricity consumption bill by implementing the L.E.D. street light project in Agartala Municipal Corporation areas.

• High electric bill for street lighting and for Operation and maintenance to the tune of R. 6.00 Crores per year before the project.

• If LED based lights are promoted, the agreed demand will not only spur domestic manufacturing but will also drive down costs, making projects more attractive. Use of LED technology is being implemented across advanced countries & some cities in India. It has the potential to provide most efficient energy outcome as it allows highest efficiency gains from retrofits as well as additional energy savings due to optimized operational performance.
Economics – *(SAVINGS IN TERMS OF ENERGY AS WELL AS AMOUNT)*:-

• Total amount bill per annum of Agartala Municipal Corporation for street lighting in Agartala City was approximate Rs. 6.00 crore. After the LED Project is implemented successfully, electric expenditure will be reduced at 50% of the previous bill. The maintenance job will be done by the PPP operator namely Energy Efficiency Services Limited (EESL), thus O&M expenditure of AMC will also be nil.
Economics: *(SAVINGS IN TERMS OF ENERGY AS WELL AS AMOUNT):-*

- **TOTAL ENERGY SAVINGS** = 875 kW. PER DAY
- **TOTAL AMOUNT SAVINGS** = \((Rs.10,98,800.00 + Rs.5,67,142.00)\) = Rs.16,65,942.00 (Per Month)

**TOTAL AMOUNT SAVES PER ANNUM:**

- From Consumption Bill = Rs.16,65,942.00 \times 12\) Months = Rs.1,99,91,304.00
- Material Cost = Rs.74,00,000.00
- Operation & Maintenance cost = Rs.28,00,000.00

Total Saving per year = Rs. 3,01,91,304.00
Best Practice Initiatives

• Public Participation though discussion at various community and ULB levels.

• Decision was taken up in the highest executive body of Agartala Municipal Corporation i.e. Mayor In Council to take up pilot project on VIP road in Agartala first. In this pilot project, on demonstration basis 474 numbers of HPSV conventional lights were replaced from the Governor House to Agartala AIR Port (V.I.P. Road).

• After the initial success, decision was taken by Mayor in Council of Agartala Municipal Corporation to implement this project in entire Agartala City to convert all the 33816 street lamps in Agartala City into LED fixtures.

• The prior consent of the State Government was also obtained before formal implementation of this LED Street Light Project within Agartala Municipal Corporation area.
Best Practice Initiatives

- Hon’ble Mayor with members of Mayor-in-council had taken the initiative and the Municipal Commissioner of Agartala Municipal Corporation assumed the leadership.
- During implementation of the project Agartala Municipal Corporation faced lot of natural problems like heavy rainfall, cyclonic winds, hot & humid temperature etc. However Agartala Municipal Corporation has overcome all the said natural problems in coordination with the Energy Efficiency Services Limited (EESL).
- Special emphasis is being given by Agartala Municipal Corporation to keep in order the LED fixtures.
Results achieved

• Power consumption bill will be reduced significantly as calculated below.

• TOTAL ENERGY SAVINGS = 875 kW. PER DAY

• TOTAL AMOUNT SAVINGS:-(Rs.10,98,800.00+Rs.5,67,142.00) = Rs.16,65,942.00 (Per Month) in addition earlier maintenance cost was Rs 1.00 crore approx. This has been reduced to Zero. As EESL has agreed to maintain the LED fixture for 10 years.

• Yes, Better coordination with the EESL achieved.

• Better illumination as well as beautification of city achieved.

• No, there was no better option than implementation of LED project.

• LED street lighting project has taken advantage of National Mission for Enhanced Energy Efficiency (NMEE). EEE.

• Energy savings, financial savings and proper illumination and beautification.

• People are happy and pleased with this initiative.
Lessons learned

To save energy and to inculcate economy and efficiency in the system
Hon’ble Power Minister, Tripura inaugurating the LED pilot project
Spectators in Inauguration Ceremony
Welcome gate of Agartala
BEFORE

AFTER

NEAR DAINIK SAMBAD, VIP ROAD
Some photographs of LED STREET LIGHT Project

Secretariat Entrance Road.
120 watt LED
46.23 lux

NEW SECRETARIAT ENTRANCE ROAD
LICHU BAGAN, IN FRONT OF WAR MEMORIAL
IN FRONT OF M.E.S.
SOUTH SIDE OF TRIPURA HIGH COURT
NEAR ENTRANCE ROAD OF HERITAGE PARK
NEAR NEHERU PARK
NH 44 AT RESHAM BAGAN
LENIN SARANI
OLD SECRETARIAT ROAD
BIDUR KARTA TO COLONEL CHOWMUHANI
NEAR DAINIK SAMBAD, AIRPORT ROAD
USHA BAZAR, NEAR SCHOOL
THANKS