



सत्यमेव जयते

**CHHABILENDRA ROUL**

**छबिलेन्द्र राउल**

**ADDITIONAL SECRETARY, DARE &  
SECRETARY, ICAR**

अपर सचिव, डेयर एवं सचिव, आई.सी.ए.आर,

भारत सरकार

कृषि एवं किसान कल्याण मंत्रालय

कृषि अनुसंधान एवं शिक्षा विभाग

कृषि भवन, नई दिल्ली -110001

GOVERNMENT OF INDIA

MINISTRY OF AGRICULTURE AND FARMERS WELFARE

DEPARTMENT OF AGRICULTURAL RESEARCH AND EDUCATION

KRISHI BHAWAN, NEW DELHI-110001

D.O. No. EC/3-11/2017

Dated the 13<sup>th</sup> December, 2017

Dear Director,

You are aware that the Hon'ble Prime Minister has launched, on 5<sup>th</sup> January, 2015, the National LED programme to facilitate rapid adoption of LED based home and street lighting across the country. This programme, along with Building Energy Efficiency Programme (BEEP), is being implemented by Energy Efficiency Service Limited (EESL), a joint venture company of four power sector Central PSUs. EESL works on Energy Services Company (ESCO) model wherein upfront investment is done by EESL and the investment is recouped on annuity basis with performance based guaranteed energy saving during the project period.

Pursuant to the above, the Central Government has taken a decision for mandatory installation of LED based lighting and energy efficiency equipment in all Government buildings. Usage of LED based lightings and energy efficient equipment in Government buildings will lead to economy in expenditure and savings in the long run through reduction in energy consumed.

Keeping in view the economy in expenditure and savings that will entail, and the directions of Government of India, all ICAR Institutes have to convert the existing lighting/equipment into LED based lightings and energy efficient equipment on priority.

In case budgetary support for replacement of above is not possible with the institute, the service of ESCO agency, i.e., Energy Efficiency Service Limited (EESL) may be taken by the institute.

In order to facilitate speedy implementation, the guidelines for implementation of above, along with model agreement to be signed by the ICAR Institutes and EESL, are being uploaded in the ICAR website [www.icar.org.in](http://www.icar.org.in). The same may be downloaded for your reference and for further action.

The action taken in this regard may be reported to Director (Works), ICAR by 31.12.2017. In case of any difficulty/constraints in implementing the above scheme, please feel free to bring the same to my notice immediately.

With regards,

Yours sincerely,

(Chhabilendra Roul)

To all Directors/Project Directors/National Research Centres/ATARI/ VC CAUS

# Energy Performance Agreement

between

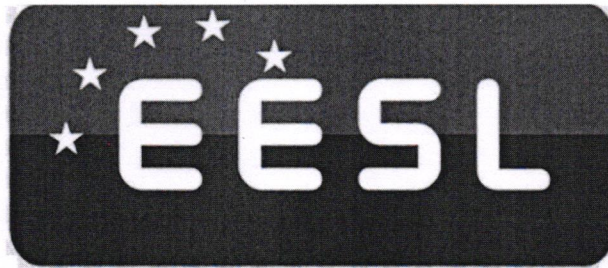


Indian Council of Agricultural Research (ICAR)/or ICAR-Institute

(Ministry of Agriculture and Farmers Welfare)

and

Energy Efficiency Services Ltd. (EESL)



(A JV Company of PSU's of Ministry of Power)

For

"Implementation of Energy Efficiency Measures at ICAR  
premises on deemed energy savings based ESCO model with  
100% financing by EESL"

## AGREEMENT

This agreement is made and executed on the ----- day of..... 2017.

### BETWEEN

Indian Council of Agricultural Research (ICAR)/ICAR-Institute (----name of ICAR institute) with its office at ----- represented by -----  
----- which expression shall, unless repugnant to the context or meaning thereof, include its successors, permitted assigns and substitutes

### AND

Energy Efficiency Services Limited (Hereafter referred to as EESL) a company in the public sector under the administrative control of Ministry of Power. Government of India incorporated under the provisions of the Companies Act, 1956 and having its registered office at 4<sup>th</sup> Floor Sewa Bhawan, R.K. Puram, New Delhi and corporate office at corporate office at 4th Floor, IWA Building A-13, Sector 1. Noida (UP) 201301 (hereinafter referred to as the 'EESL') represented by----- EESL, which expression shall, unless repugnant to the context or meaning thereof, include its successors, permitted assigns and substitutes: -

ICAR/ICAR-Institutes and EESL have agreed to enter into this Agreement for the execution of the "Implementation of Energy Efficiency Measures at ICAR/ICAR-Institute in(name of ICAR Institute)-  
-----on 100% financing Provision by EESL with deemed energy cost savings\* to be shared in the ratio as mentioned in Attachment-3 between EESL and ICAR/ICAR-Institutes respectively for subject to and on the terms & conditions set forth hereinafter for a period of 05 years.

*(\*)Deemed Energy Savings are pre-determined, validated estimates of energy savings attributable to energy efficiency measures.*

## **SECTION 1. ENERGY MANAGEMENT PLAN**

Inventory collection of the said building has been completed and mutually vetted by ICAR/or ICAR-Institutes

and EESL with EESL having accepted implementation of energy efficiency measures at the said building on deemed energy saving ESCO model. In this model, EESL will arrange the capital investment for project Implementation upfront and get repaid over a period of 05 years through equal annuity repayments apportioned in quarterly instalments as contained in this agreement for the building project. The summary of measures mutually agreed upon for ESCO implementation by EESL is indicated at **(Attachment –1 A)** in this agreement. The Bill of Quantity (BoQ) as agreed for project is listed at **(Attachment-4 )**

## **SECTION- 2. BASELINE PARAMETERS**

ICAR/or ICAR-Institutes and EESL have agreed to the following baseline parameters with regard to the building under the project wherein the ESCO project is to be implemented based on the usage and capacity factors:

- (a) Wattages of the present electrical installations as per (Attachment-1)
- (b) Usage of electrical installations as per (Attachment-1)
- (c) Energy Efficiency Measures to be implemented by EESL as per (Attachment-1 A)

This baseline has been mutually agreed upon as the basis for the project savings that shall accrue in post project implementation scenario and shall form the basis of repayment by ICAR/ICAR-Institutes to EESL without dispute.

## **SECTION-3. PROJECT IMPLEMENTATION SCHEDULE**

EESL, on signing of this agreement, will implement all the energy efficiency measures as per the time schedule. The completion date of implementation will be deemed effective when 90% of all equipment in the building have been installed by EESL,. However, issuance of completion certificate shall not be delayed beyond reasonable considerations by ICAR/or ICAR-INSTITUTE'S.

## **SECTION- 4 EQUIPMENT WARRANTIES**

EESL covenants and agrees that all equipment to be installed as part of this Agreement shall be new, in good and proper working condition and protected by appropriate written warranties covering all parts and equipment performance. EESL further agrees to deliver to ICAR/or ICAR-INSTITUTE for inspection and approval, all such written warranties of the equipment installed. The cost of any risk of damage or damage to the equipment and its performance, including damage to property and equipment of building under the project or their associated premises, due to EESL's failure to exercise its warranty rights shall be borne solely

by EESL. The warranties shall specify that only new, and not reconditioned parts, may be used and installed when repair is necessitated by malfunction.

#### **SECTION- 5 PERIOD OF AGREEMENT**

The term of this agreement shall be **05 years**, beginning with effective date when 100% of all type of inventory at each of the building has been successfully completed.

#### **SECTION 6. PERFORMANCE BY EESL**

**6.1** EESL shall perform all tasks under this Agreement including installation of the equipment as per BOQ. **(Attachment-4)** in such a manner or as not to harm the structural integrity of the buildings' premises and/or operating systems as per the installation schedule.

**6.2** EESL shall repair and restore to its original condition any structural damage caused by EESL's performance under this Agreement. ICAR/or ICAR-Institutes reserves the right to review the work performed by EESL and to direct EESL to take certain corrective action if, in the opinion of ICAR/ or ICAR-Institutes, the structural integrity of the Premises or its operating system is or may be harmed. All costs associated with such corrective action to the damage caused by EESL's performance or non-performance of the work shall be borne by EESL.

**6.3** EESL shall remain responsible for the professional and technical accuracy of all services performed including ensuring no compromise in existing illumination/air comfort and cooling level as per the agreed terms, including installation of equipment, whether by EESL or its subcontractors or others on its behalf, such as an experienced Project Management Consultant (PMC), throughout the term of this Agreement.

**6.4** The total project cost based on prevailing market rates and similar projects done by EESL is estimated to be Rs.----- Crores, inclusive of EESL's PMC fees, shall be capped at maximum 12% of project cost (inclusive of supply of material, and installation project feasibility check report charges, Agreement finalization, project implementation supervision), which may vary a bit due to reasons such as changes in final BOQ during implementation, change in rating/capacity of equipment due to reason beyond control or due to extra items not envisaged at this stage (such as extra drain pipe/ copper pipe for air-conditioner). EESL's PMC fees shall be utilized to meet the various obligations by EESL under this agreement for the contract period of 05 years.

**6.5** EESL, shall arrange buyback of the old inventory through competitive bidding process.

**NOTE: All applicable taxes shall be paid in actuals.**

#### **SECTION 7. OBLIGATION OF EESL**

**7.1** EESL shall follow the implementation schedule agreed to and as referred to in Section 3 of this agreement.

**7.2** EESL will provide equipment warranties as set forth in Section 4 of this agreement.

**7.3** EESL will ensure performance of its obligations as per Section 6 of this agreement and as listed in this section.

#### 7.4 MAJOR COMPLAINT RESOLUTION:

All major complaints related to the project equipment installed by EESL under this project shall be resolved in the least possible time as specified below from the time of intimation of the same either in written letter or mail.

- Major Complaint pertaining to Light (i.e. replacement of fixtures, etc.) & Air Conditioners - upto 72 hrs (in working days).

##### NOTE 1:

- The above timeline shall apply after due intimation of any equipment failure to EESL in writing/email on working day.

##### NOTE 2:

- In case the problem is reported near the fag end of the day and on a day preceding public holiday / weekly-off- day,..... shall coordinate for the rectification of faulty Equipment in partnership with EESL as regards, issuance of gate pass, availability of room for undertaking repairs/replacements, etc. For matters related to delay in resolution due to inaccessibility of site or delay of gate/material pass resolution period for complaints shall be extended after mutual discussions. Further, for the avoidance of doubt it is clarified, that EESL, will not be liable for any delay or non-conformity under the agreement not solely attributable to EESL.

- **PENALTY CLAUSE:** In case of failure by EESL to resolve complaints intimated by ICAR/ICAR-Institute in writing through mail/letter within the specified time limits as mentioned above as the penalty shall be deducted from the payment due to EESL as mentioned below

**Penalty Amount - Rs 20 per hour per point**

However, this is applicable for the complaints registered with EESL in writing on working day.

- ICAR/ or ICAR Institutes shall incur no cost during the contract period for Equipment service and repairs except for reasons attributable to the negligence or misconduct of any staff/labor/agent of ICAR/or ICAR-Institute at the premises of building covered under this agreement. EESL shall charge ICAR/or ICAR-Institute for the actual cost of the additional maintenance or repair insofar as such cost is not covered by any warranty or insurance proceeds. EESL will only be liable for the proper functioning and repair thereof as maybe required for only the items implemented by EESL for the contract period of 05 years and does not cover issues related to supply, wiring /cable faults, voltage surges/transients, etc. which shall be on account of----- only.

#### 7.5 MINOR COMPLAINT RESOLUTION

- In order to handle the local minor complaints related to LED lights the following is mutually agreed
  - ICAR/ or ICAR-institute shall deploy at least 1 technician per building for attending to local LED light complaints for the building where the project is envisaged
  - The said technicians shall maintain a daily register for noting date/time of complaints and nature of complaint - as in if minor or major and ensure speedy resolution in case of minor complaint and co-ordinate with EESL/equipment vendor for closure of complaint as per below timelines:-

- Minor complaints pertaining to lights - 2 hrs. (excluding travelling time)
- Major complaints pertaining to ACs - 4 hrs. (excluding travelling time)
- EESL will provide all necessary technical and operational information with regard to the new equipment to ICAR/ or ICAR-Institute, officials.
- EESL shall train the notified technical staff of ICAR/ or ICAR-Institute in the building to handle local minor complaints pertaining to LED and ensure same is done timely as also to handle new equipment.
- In order to expedite minor LED complaints' resolution, EESL shall maintain buffer stock and the buffer stock shall be replenished on monthly basis. Buffer stock shall be 3% or 10 numbers whichever is lower of each type of LED light/luminaire at respective site as buffer stock which shall be used.
- In order to expedite minor LED complaints' resolution, EESL shall maintain buffer stock and the buffer stock shall be replenished on monthly basis. Buffer stock shall be 3% or 10 numbers whichever is lower of each type of LED Light/luminaire at respective site. If the non-maintenance of required minimum buffer stock carries on for beyond 15 days a notional penalty at the rate of Rs 100/- per day shall be charged by ICAR/or ICAR-Institute from the payments due in each quarter to EESL from the date when replenishment was supposed to be done till the actual date of replenishment.

However, if reason for the delay is informed by EESL to ICAR/or ICAR-Institute in writing in mail or letter than the same shall not be applicable.

**7.6** EESL shall be liable to deliver and meet its obligations as stated in this agreement on its own or by engaging appropriate technical consultant, if required. It is also mutually agreed that EESL may deploy additional staff at its own cost at any/all of the respective project sites at any time during the course of the project, in case there are any issues related to smooth running of the project and/or handling of complaints, etc. The below mentioned reasons shall not qualify as reasons for failure on behalf of EESL

- Any voltage transient, surges or short-circuits that may damage EESL equipment.
- Theft or breakage due to reasons attributable to ICAR/ or ICAR-Institute.
- Any other reason beyond control of EESL.
- Any other reason not forming as part of EESL's services under the Agreement

## **SECTION 8. OBLIGATION OF ICAR/ or ICAR-Institute**

- 8.1**
- i. ICAR/or ICAR-Institute, shall provide sufficient rent free space within the building premises for the storage, installation and operation of the new equipment.
  - ii. ICAR/or ICAR-Institute, must nominate a nodal officer for total project coordination immediately after signing of agreement.
  - iii. ICAR/or ICAR-Institute, shall provide access to the Building premises for EESL and/or vendors/equipment installers/PMC to perform any function related to this Agreement during regular

business hours or such other reasonable hours as maybe requested by EESL and acceptable to ICAR/or ICAR-Institute administration.

- iv. ICAR/or ICAR-Institute, shall also provide as and when required one room with seating arrangement, and table having electricity connection for purpose of seating of EESL team within building premises free of rent/charge through-out the implementation period.
- v. ICAR/or ICAR-Institute shall also nominate a nodal officer for each and every building covered in the projects.
- vi. Nodal officer must coordinate with EESL/ its Vendors/ PMC for the smooth execution of the project and nodal officer of the building must sign the installation report on Weekly Monthly basis.

**Note:** The above points should be confirmed immediately after the signing of agreement.

- vii. Please ensure that the ICAR/or ICAR-Institute, must provide two independent storage free of cost for (EESL/ its Vendors/ PMC):
  - 1. for new equipment which is to be installed,
  - 2. for old dismantled items
  - 3. ICAR/ICAR-Institute shall take reasonable steps to protect such inventory from harm, theft and misuse.

viii. The installation will be started only after provision of above listed point.

**8.2** ICAR/or ICAR-institute shall deploy suitable staff at respective site and shall notify EESL/institute in writing through mail or letter immediately upon coming across the knowledge and occurrence of :

- (i) Any major complaint or malfunction in the operation of the Equipment or any pre-existing energy-related equipment that might materially impact upon the energy savings,
- (ii) Any interruption or alteration to the energy supply to the Premises, or
- (iii) Any alteration or modification in any energy-related equipment or its operation.

For the avoidance it is clarified that, for any infrastructural or operational change, which is not forming a part of EESL's scope of work, and if it results in to deviations of committed energy savings, EESL will not be liable.

**8.3** If required, ICAR/ or ICAR-Institute should provide payment security mechanism by way of an ESCROW account that shall be opened on the main collection account of ICAR/or ICAR-Institute wherein proceeds from various inflow streams are being deposited - such as plan funds, non-plan funds, revenues, etc. A tripartite ESCROW agreement to be signed between EESL, ICAR/or ICAR-Institute and leading bank of ICAR/or ICAR-Institute shall be executed and made part of this agreement separately to the effect that in case ICAR/or ICAR-Institute makes a default in repayment of EESL's dues in time, then the repayment amount will be deducted from the planned fund of ICAR/or ICAR-Institute and diverted to EESL

**8.4** ICAR/or ICAR-Institute shall not move, remove, modify, alter, or change in anyway the Equipment or any part thereof undertaken by EESL under this agreement without the prior written approval of EESL within project premises during the course of the contract. ICAR/or ICAR-Institute agrees to maintain the equipment installed and the concerned Premises in good condition and to protect and preserve all portions thereof which may in anyway affect the operation or maintenance of the Equipment.

**8.5** ICAR/or ICAR-Institute officials shall make sure that EESL/ its vendors/PMC obtain all necessary permits and approvals for installation of the equipment if required. The equipment and the operation of the equipment by EESL shall at all times conform to federal, state or local code requirements. EESL shall furnish copies of each permit or license which is required to perform the work before EESL commences the portion of the work requiring such permit or license.

**8.6** ICAR/ or ICAR-Institute and EESL shall coordinate the activities of EESL's equipment installers with those of the buildings' administration staff, its employees, and agents in a manner that will not affect the regular business of the building under the project. ICAR/or ICAR-Institute shall also provide ease of access to site for purpose of equipment installation and complaint handling thereof throughout the contract period by facilitating availability of premises for installation/resolution, entry to premises on authorized EESL vendor, gate/material pass, etc. during working hours and also during holidays, if required.

**8.7** The arrangement of gate pass for EESL officials/PMC Vendors will be the responsibility of the ICAR/ICAR-Institute's.

**NOTE:** The installation will start only once ICAR/or ICAR-Institute has provided gate pass for all the man power for speedy execution of the work and two independent storage spaces for EESL.

**8.8** ICAR/or ICAR-Institute shall provide timely to EESL and its vendors/PMC, all records relating to energy usage and energy-related maintenance as requested by EESL along-with other information that may be necessary for project implementation and maintenance.

**8.9** Old removed items shall be handed-over to staff of ICAR/or ICAR-Institute at the building and ICAR/ICAR-Institute must verify old removed items and buffer stock received from EESL/Vendor. EESL and/or its PMC or vendor will not be obligated to ensure safety on the same other than placing them in pre-defined room/location by ICAR/or ICAR-Institute within the building after displacement from the end usage points.

**8.10** ICAR/or ICAR-Institute shall ensure that the old items dismantled are not used in the same premises till the contract period.

**8.11** For LED lights that fail and are repaired by EESL/vendors, the failed equipment inventory shall be handed over by ICAR/or ICAR-Institute to EESL/vendor, than EESL will provide the new replacement item.

**8.12** If ICAR/Or ICAR-institute insists on hiring a technician for AMC for the entire contract period, then the cost of that technician shall be directly borne by ICAR/or ICAR-institute . A separate contract regarding this will be signed with ICAR/or ICAR-Institute which will not be a part of the ESCO agreement signed between EESL and ICAR/or ICAR-institute .

## SECTION 9, DETERMINATION OF ENERGY SAVINGS

**9.1** The energy savings will be done using deemed savings approach based on the furnished details. The energy savings will be determined based on the following:

Wattage of existing items (W1)	Wattage of new items (W2)	Annual usage (hrs)(H)	Annual Energy savings in kWh or KVAH ((W1)-(W2)*H/1000	Tariff (Rs/kWh or KVAH) (T)	Total Annual cost savings ES*T=CS	Ration as mentioned in attachment 3 of CS to be paid as EESL share quarterly.

**9.2** The EESL share shall be payable every calendar quarter.

**9.3** During the period of Agreement, any increase in the total cost savings due to either increased energy savings and/or increased tariff will be entirely credited to ICAR/or ICAR-Institute's share of energy cost savings. EESL will not have any right on the same except the quantum stated in the agreement. For the purpose of this agreement, the tariff rate considered is per kWh of energy savings for the building.

## SECTION 10. PROJECT MEASUREMENT AND VERIFICATION (PMV)

**10.1** If required EESL and ICAR /or ICAR-Institute agree to carry out a one-time joint project measurement and verification (during the total project contract period) at the sample building as per the Bureau of Energy Efficiency standards of Type A method of International Project measurement and verification protocol (IPMVP) Option A: retrofit isolation) which specifies annual operating usage for each type of equipment. The designated annual operating usage has already been agreed upon by EESL and ICAR/or ICAR Institutes.

**10.2** In the said PMV Option, EESL and ICAR/or ICAR-Institute agree to do sample power consumption testing of up to 5% or 10 numbers, whichever is less, of different capacity of each type of equipment inventory using a power analyzer wherein power consumption of each of different type of lights/ equipment, etc. shall be measured upon completion of the project and the resultant energy savings identified shall be assumed as firm and final for the entire project period based on which EESL repayment done by ICAR/or ICAR Institutes. The first PMV shall be done within the first 3 months of the implementation or various equipment's of the building and subsequent PMV shall be done after 12 months from the first PMV.

**10.3** The sample power consumption readings of each type/rating of the respective equipment tested shall be averaged out to arrive at new equipment wattage (W2 as specified in the table at section 9.1 and detailed at Attachment 3). In case the measured power consumption for each equipment type as measured (W2) is less than the respective values specified by EESL in the table at Attachment 3, EESL shall be paid as per Attachment 3. However, in case the measured W2 is more than the respective wattages of the new equipment as specified by EESL in the table at Attachment 3 by more than 5%, the actual wattages shall be used to make the repayments to EESL. The 5% band is considered to account for system related dynamics such as voltage or frequency fluctuations, possible effect of harmonics, temperature/occupancy/usage variation,

**10.4** In the event of substantive changes in baseline parameters as defined in section 2, committee chaired by authorized representative on behalf of ICAR/or ICAR-Institute, MD ,EESL& authorized person on behalf of Director General/Secretary- BEE will decide on the M&V plan & manner of resetting the baseline.

**10.5** In order to account for natural aging process of equipment, yearly tolerance of upto 1.5% per year is allowed in the wattage consumption for the various project items during the subsequent project years. For LED lights, annual lumen depreciation shall be in accordance and allowed as per applicable LM80 standards for the lights installed.

## **SECTION 11. PAYMENT SCHEDULE**

**11.1** Upon successful completion of the project as per the implementation schedule indicated in section 3, ICAR/or ICAR- Institutes will commence payment of EESL share of savings as determined in section 9.

**11.2** EESL will raise the quarterly invoice within 15 days of beginning of the 1st month of every project quarter for the contract period of 5 years (total 20 invoices)

**11.3** ICAR/or ICAR-INSTITUTE must make payments within 30 days of the receipt of the invoice.

**11.4** EESL reserves the right to raise invoices on commission of 98% of respective type of equipment (s) separately on pro-rata bases in proportion to captive cost incurred till date.

**11.5.** In case of ESCROW account, ICAR /or ICAR-INSTITUTE must have the account credited with the sum equal to 12 months eligible monthly payment for the entire year. Non-maintenance of such amount shall amount default on the part ICAR/or ICAR-INSTITUTE'S. Further, if the minimum amount is not maintained by ICAR /or ICAR-INSTITUTE in the ESCROW account, then EESL reserves the right to levy charges at the rate 0.5% of the shortfall amount till the date short fall is replenished. This right of EESL to levy charge under this clause shall be subject to the maximum limit of 10% of the contract value; and once the upper limit for levy of charge is reached, EESL reserves the right to terminate this Agreement. The right of charge, as mentioned under this clause, is without any prejudice to other available rights and remedies available to EESL

**11.6** If the payment of any amount under the Agreement is disputed by ICAR/or ICAR-INSTITUTE'S, then the entire undisputed element of that amount shall be paid and the disputed element shall be dealt in accordance with dispute mechanism under this Agreement. Further, ICAR/or ICAR-INSTITUTE shall notify the disputed portion or amount of the invoice in writing within 5 (five) days of receipt of the invoice. ICAR/ICAR-INSTITUTE shall identify the specific cause of the disagreement and shall pay the undisputed portion of the invoice. If no such dispute is raised within 5 (five) days from the receipt of invoice, then the entire invoice shall be deemed to be undisputed.

**NOTE:** If the projects involve multiple equipment types (Light/AC's/Fans) then EESL will have the right to raise the individual invoices subject to successful completion of supply installation of respective type of equipment.

If any project involves implementation of Energy efficiency measures at multiple building then EESL holds the right to raise invoices for individual building with individual type of items subject to the completion of work in the said building.

## **SECTION 12. OWNERSHIP**

**12.1.** Ownership of Existing Equipment. Ownership of equipment presently existing at the premises at the time of execution of this Agreement shall remain the property of ICAR/or ICAR-INSTITUTE'S. ICAR/or ICAR-INSTITUTE administration department shall be responsible for custody of same and designate the location and storage for any equipment and materials that are replaced.

**12.2.** Ownership of New Equipment. The new equipment under this project shall be property of EESL till the end of the Agreement period, On the conclusion of the Agreement, EESL shall transfer ownership rights to the ICAR/or ICAR-INSTITUTE without any cost to ICAR/or ICAR-INSTITUTE, along-with warranties as maybe available, if any. Additional warranties will be on account and cost of ICAR/or ICAR INSTITUTE.

## **SECTION 13. INSURANCE AND LIABILITY**

**13.1.** At all times during the term of this Agreement, EESL shall maintain in full force and effect, at its expense: (1) Workmen Compensation Insurance sufficient to cover all of the employees of (EESL) working to fulfill this Agreement and (2) Casualty and Liability Insurance on the Equipment and Liability Insurance for its employees and the possession, operation, and service of the Equipment.

**13.2** EESL shall be responsible for

- (i) Any damage to the Equipment or other property on the Premises, as per the scope of work and
- (ii) Any personal injury where such damage or injury occurs as a result of EESL's performance under this Agreement, but not liable for any indirect or consequential damages or any act of negligence on the part of ICAR/ or ICAR- institute or any damage resulting from any act which is line with instruction from ICAR/ or ICAR- institute .

## **SECTION14. (A)EVENTSOF DEFAULT**

**14.1.** Default by ICAR/or ICAR-INSTITUTE Each of the following events or conditions shall constitute an "Event of Default" by ICAR/or ICAR-INSTITUTE.

- i. Any failure by ICAR/or ICAR-INSTITUTE to pay EESL any sum due for a service and maintenance period of more than 45 (forty five) days after written notification by EESL. Further, EESL has the right to suspend the services or deliverables under the Agreement, if no response is received to EESL from ICAR/or ICAR-INSTITUTE after 30 days from the date of receipt of such notice for delay in payment to EESL; and such suspension of services will not be a default on the part EESL.

ii. Any other material failure by ICAR/or ICAR-INSTITUTE to perform or comply with the terms and conditions of this Agreement, including breach of any covenant contained herein, provided that such failure continues for 30 (thirty) days after notice to ICAR/or ICAR-INSTITUTE demanding.

iii. If ICAR/or ICAR-INSTITUTE is not able to provide installation completion certificate despite repeated reminders resulting in delay, then after 3 written reminders or one month the project must be short closed and the payment needs to be done by the ICAR/or ICAR-INSTITUTE on immediate basis by the ICAR/or ICAR-Institute for the already installed new equipment.

**14.2. Events of Default by EESL:** Each of the following events or conditions shall constitute an "Event of Default" by EESL:

i. Failure of EESL to properly install maintain, repair or adjust the Equipment except that such failure, if corrected or cured within 30 days after written notice by ICAR/or ICAR-Institute EESL.

ii. Any representation or warranty furnished by EESL in this Agreement is false or miss leading in any material respect when made and which will entail EESL to perform its obligations under the Agreement;

iii. Failure to furnish and install the Equipment and make it ready for use within the time specified, subject to cure period, by this Agreement, excluding reasonable delays thereof as per consensual agreement.

iv. Any failure by EESL to perform or comply with the terms and conditions of this Agreement, including breach of any covenant contained herein except that such failure, if corrected or cured within 45 (forty five) days after written notice by ICAR/or ICAR-INSTITUTE to EESL.

#### **(B) TERMINATION**

1. For Default. Either Party reserves the right to terminate this Agreement if the default is not cured within 45 (forty five) days from the date of receipt of such notice to the defaulted party by the aggrieved party.
2. For convenience: EESL may terminate this Agreement at any time without assigning any reason by giving 90 days notice period to ICAR/or ICAR-INSTITUTE'S.
3. Consequences of termination: EESL shall be paid for the work done or services rendered or for any cost incurred in good faith under the terms of the Agreement, whether for default or for convenience till the end date of termination.

#### **SECTION 15. ARBITRATION**

**15.1** In the event of any dispute or difference between ICAR/or ICAR-INSTITUTE and EESL, arising out of or in connection with this agreement such dispute or differences shall be referred to the sole arbitration of a person nominated by Director General , ICAR .the award of the arbitrator shall be final and binding on both the parties . Arbitration proceedings shall be governed by existing law on arbitration matters and seal of the Arbitration shall be at New Delhi .

## **SECTION 16. ASSIGNMENT**

**16.1** EESL acknowledges that ICAR/or ICAR Institutes induced to enter into this Agreement by, among other things, the professional qualifications of EESL. EESL agrees that neither this Agreement nor any right or obligations hereunder may be assigned in whole or in part to another firm without the prior written approval of the ICAR/or ICAR INSTITUTES .

**16.2** EESL may with prior written approval of ICAR/or ICAR-Institutes for which consent shall not be unreasonably withheld delegate its duties and performance under this Agreement, and/or utilize contractors, provided that any assignee(s), delegate(s), or contractor(s) shall fully comply with the terms of this Agreement. Notwithstanding the provisions of this paragraph. EESL shall remain jointly and severally liable with its sub-contractor(s) to ICAR/or ICAR INSTITUTES for all of its obligations under this Agreement to be performed at ICAR/or ICAR-INSTITUTE.

## **SECTION 17. REPRESENTATION AND WARRANTIES**

Each party warrants and represents to the other that:

- i. It has all requisite power authority licenses, perm it's and franchise corporate or otherwise, to execute and deliver this Agreement and perform its obligations hereunder;
- ii. its execution, delivery, and performance of this Agreement have been duly authorized by, or are in accordance with its organic instruments, and this Agreement has been duly executed and delivered for it by the signatories so authorized, and it constitutes its legal, valid, and binding obligation;
- iii. its execution delivery and performance of this Agreement will not breach or violate, or constitute a default under any Agreement, lease or instrument to which it is a party or by which it or its properties maybe bound or affected: or
- iv. it has not received any notice, nor to the best of its knowledge is there pending or threatened any notice, of any violation of any applicable laws ordinances regulation, rules, decrees, awards permits or orders which would materially and adversely affect its ability to perform hereunder.
- v. EESL hereby warrants, represents and promises that before commencing performance of this agreement it is permitted to do business in the State and has secured the requisite finances either through its own equity or debt required for the said project.
- vi. In case the ICAR/or ICAR Institutes requires any extra items then they have to send request written to EESL and give at least 25 days for the supply of the extra items

## **SECTION 18. COMPLIANCE WITH LAW AND STANDARD PRACTICES**

EESL shall perform its obligations hereunder in compliance with any and all applicable federal, state, and local laws rules, and regulation, in accordance with sound engineering and safety practices, and in compliance with any and all reasonable rules of statutory local rules relative to the premises.

## **SECTION 19. INDEPENDENT CAPACITY OF THE CONTRACTOR**

The parties hereto agree that EESL, and any agents and employees of EESL, in the performance of this agreement, shall act in an independent capacity and not as officers, employees, or agents of ICAR/ICAR-Institutes.

#### **SECTION 20. SEVERABILITY**

In the event that any clause or provision of this Agreement or any part thereof shall be declared invalid, void, or unenforceable by any court having jurisdiction, such invalidity shall not affect the validity or enforceability of the remaining portions of this Agreement unless the result would be manifestly inequitable or unconscionable.

#### **SECTION 21. COMPLETE AGREEMENT**

This Agreement, when executed, together with all Attachments attached hereto or to be attached hereto, as provided for by this Agreement shall constitute the entire Agreement between both parties and this Agreement may not be amended, modified or shared with 3rd party except by a written Agreement signed by the parties hereto.

#### **SECTION 22 . INDEMNITY AND LIMITATION OF LIABILITY**

EESL shall be excused and not be liable or responsible for any delay or failure to perform the service or failure of the Services or a EESL's deliverable under this agreement to the extent that such delay or failure is not solely attributable to EESL or has arisen as a result of any delay or failure by ICAR/or ICAR-Institute or its employees or agents or third party service providers to perform any of its duties and obligations as set out in this agreement. In the event that EESL is delayed or prevented from performing its obligations due to such failure or delay, EESL shall be allowed an additional period of time to perform its obligations and unless otherwise agreed, the additional period shall be equal to the amount of time for which ICAR/or ICAR-Institute is delayed or prevented from performing its obligations. Such failures or delays shall be brought to the notice of ICAR/or ICAR-Institute and subject to mutual agreement with the ICAR/or ICAR-Institute; EESL shall take such actions as may be necessary to correct or remedy the failures or delays. EESL shall be entitled to invoice the ICAR/or ICAR-Institute for any additional costs and expenses incurred, including idle time, resulting from the delay or failure.

Except for the express representations and warranties contained in this agreement, EESL makes no representations or warranties express or implied, with respect to any services or deliverable provided hereunder, including without limitations, any implied warranties of merchantability or fitness for a particular purpose. All such representations and warranties are hereby disclaimed.

In no event EESL be liable, for any (a) loss of profit, loss of revenue, anticipated savings, opportunity, data, goodwill, (b) special, indirect, incidental, consequential, punitive damages, whatsoever, whether in contract, tort (including negligence), strict liability or otherwise, in connection with or arising out of the furnishing, performance or use of the services or deliverables provided by EESL under the terms of the contract, even if such loss or damage was reasonably foreseeable. Further ICAR/or ICAR-Institute shall indemnify EESL for any loss or damage, including their party suit arising or relating to the service or deliverable performed under this Agreement.

Notwithstanding anything contained in the Agreement, in no event shall the total aggregate liability of EESL, whether in contract, tort (including negligence), strict liability or otherwise, shall exceed the amount of the service pay to EESL by ICAR/or ICAR-Institute during the previous 6 (six) months immediately preceding the claim first arose.

## SECTION 23: FORCE MAJEURE

Neither Party shall be liable for any failure or delay in the performance of its obligations under this Agreement to the extent such failure or delay or both is caused, directly or indirectly, without fault by such Party, by any reason beyond its reasonable control, including but not limited to, by fire flood, explosion, earthquake, elements of nature, drought or bad weather, lightning or acts of God, acts of state, strikes, acts of war (whether declared or not) hostilities terrorism, riots civil disorders or commotion lockouts, industrial disputes rebellions or revolutions, blockages quarantines embargoes and other similar governmental action (each a "Force Majeure Event"). Any Party so delayed in its performance will immediately notify the other by telephone or by the most timely means otherwise available (to be confirmed in writing within two Business Days of the inception of such delay) and describe in reasonable detail the circumstances causing such delay with relevant documentary supporting. However the party claiming such event shall take all necessary steps to mitigate the delay so caused in spite of such Force Majeure Event. If under this clause either party is excused performance of any obligations for a continuous period of thirty (30) days then the other party may at any time hereafter while such performance continues to be excused, terminate this Agreement, without liability by notice in writing to the other ICAR/or ICAR Institutes shall however, be liable to pay EESL for the services rendered pursuant to this Agreement. For the avoidance of doubt it is clarified that EESL will be paid separate for any new installation /services, if requested by the ICAR/or ICAR Institutes to cure the effects of Force Majeure event.

## SECTION 24. APPLICABLE LAW

This Agreement and the construction and enforceability thereof shall be interpreted under the laws applicable in the ICAR/or ICAR Institutes.

IN WITNESS WHEREOF, and intending to be legal bound the parties hereto subscribe their names to this Agreement by their duly authorized officers on the date first above written.

Executed for ICAR/ICAR Institutes  
For & on behalf of ICAR/ICAR Institutes

Executed for EESL  
For & on behalf of EESL

Executed for ICAR/ICAR Institutes  
By authorized representative

Executed for EESL  
By Authorized representative

Witness

Witness

I.

I.

Name:

Name:

Designation:

Designation:

All details give in the following attachments  
are indicative and are provided for illustration  
purpose only



Case No: - E181431 2017/20025 Section

11/80/05

All details given in the following attachments  
are indicative and are provided for  
illustration purpose only.

DRAFT

All results given in the following tables  
are indicative and are given only for  
illustrative purposes only.

### ATTACHMENT - 1(SAMPLE)

For the purpose of ESCO project at various Building owned building in CLIENT, the annual energy usage baselines of CLIENT as determined mutually during the walk through audits and sample measurements thereof are listed here-under: -

Sr. No.	Item Name	Watt, W	Quantity	Annual Use Days	Daily Use in hrs	Annual Baseline kWh
<b>Existing Fixtures</b>						
<b>Building-1</b>						
1	1x28W Tube Light	30	142	365	12	18659
2	4x14W Fitting (S/L)	60	89	365	12	23389
3	2x14W Fitting (T/L)	30	87	365	12	11432
4	1x14W Fitting (T/L)	15	54	365	12	3548
5	2x54W Fitting (S/L)	120	170	365	12	89352
6	2x2 Panel 2x36W	80	10	365	12	3504
7	1x15W CFL	16	43	365	12	3013
8	Ceiling Fans	65	128	240	20	39936
<b>TOTAL</b>						<b>192833</b>
<b>Building-2</b>						
1	1x14W Tube Light	15	40	365	12	2628
2	2x14W Tube Light	30	719	365	12	94477
3	2x28W Tube Light	60	14	365	12	3679
4	1x28W Tube Light	30	234	365	12	30748
5	1x18W CFL	20	5	365	12	438
6	2x36W Tube Light	80	9	365	12	3154
7	4x14W Panel	60	12	365	12	3154
8	4x14W Outdoor	60	24	365	12	6307
9	MH 150W	165	7	365	12	5059
10	Ceiling Fans	80	161	240	20	61824
<b>TOTAL</b>						<b>211467</b>
<b>Building-3</b>						
1	1x14W Tube Light	15	104	365	12	6833
2	2x14W Tube Light	30	202	365	12	26543
3	Ceiling Fans	60	138	240	20	39744
4	1x28W Tube Light	30	77	365	12	10118
<b>TOTAL</b>						<b>83237</b>
<b>Building-4</b>						
1	1x28W Tube Light	30	292	365	12	38369
2	2x28W Tube Light	60	11	365	12	2891
3	1x36W Tube Light	40	4	365	12	701
4	2x36W Tube Light	80	2	365	12	701



5	2x54W Tube Light	116	196	365	12	99584
6	4x14W Fitting (S/L)	60	24	365	12	6307
7	2x14W Fitting (T/L)	30	125	365	12	16425
8	2x2 Panel 2x36W	80	13	365	12	4555
9	2x2 Panel 3x36W	118	20	365	12	10337
10	2x2 Panel 4x14W	60	6	365	12	1577
11	Downlighter 2x11W	24	17	365	12	1787
12	1x15W CFL	16	16	365	12	1121
13	150W Outdoor	175	8	365	12	6132
14	400W Outdoor	440	7	365	12	13490
15	2x400W Outdoor	880	17	365	12	65525
16	Ceiling Fans	60	280	240	20	80640
17	1.5Tr Window AC	2230	1	180	10	4014
18	1.5Tr Split AC	2230	3	180	10	12042
<b>TOTAL</b>						<b>366197</b>

#### Building-5

1	1x28W Tube Light	30	328	365	12	43099
2	1x11W CFL	60	35	365	12	9198
3	2x36W CFL	80	62	365	12	21725
4	4x14W Fitting (S/L)	66	19	365	12	5493
5	2x14W Fitting (T/L)	30	1399	365	12	183829
6	1x70w MH (S/L)	77	9	365	12	3035
7	1x28W CFL	30	111	365	12	14585
8	1x15W CFL	16	24	365	12	1682
9	Ceiling Fans	60	372	240	20	107136
10	2.0 Tr Window AC (3 star)	2333	17	180	10	71390
11	1.5Tr Split AC (3 star)	1750	10	180	10	31500
<b>TOTAL</b>						<b>492672</b>

#### Building-6

1	2x36W Tube Light	80	140	250	10	28000
2	1x36W Tube Light	40	15	250	10	1500
3	2x28W Tube Light	60	132	250	10	19800
4	1x28W Tube Light	30	381	250	10	28575
5	2X54W Tube Light (T5)	120	5	250	10	1500
6	1x18/20W CFL	22	70	250	10	3850
7	1x8W CFL	10	8	250	10	200
8	2x2 Panel 4x14W	65	40	250	10	6500
9	2x2 Panel 2x36W	80	118	250	10	23600
10	2x2 Panel 3x36W	120	60	250	10	18000
11	2x18W Downlighter	40	14	250	10	1400
12	250W MH Outdoor Light	275	2	365	12	2409
13	150W MH Outdoor Light	165	8	365	12	5781.6
14	1.5Tr Window AC (3 Star)	1750	87	180	10	274050
15	Ceiling Fans	66	384	210	10	53222.4
<b>TOTAL</b>						<b>468388</b>

#### Building-7



1	2x28W Tube Light	60	30	260	10	4680
2	1x28W Tube Light	30	40	260	10	3120
3	2x2 Panel 2x36W	80	2140	260	10	445120
4	2x1 Panel 1x36W	40	95	260	10	9880
5	2x18W Downlighter	40	400	260	10	41600
6	1x18W Downlighter	20	150	260	10	7800
7	2x11W Garden Light (2 CFL)	25	72	365	12	7884
8	1x11W Garden Light (1 CFL)	13	20	365	12	1139
9	2x11W Mirror Light	25	260	260	10	16900
10	70W Outdoor Light	80	40	365	12	14016
11	150W Outdoor Light	165	50	365	12	36135
12	Ceiling Fans	66	850	210	11	129591
						<b>717865</b>
	<b>Grand Total of Old Energy consumption</b>					<b>2532659</b>
	<b>Tariff</b>					<b>7.5</b>
	<b>Old Annual Cost Estimation</b>					<b>18994942</b>



## ATTACHMENT – 1A(SAMPLE)

Summary of Energy savings for the building considered for implementation of Energy conservation measures as part of this agreement are listed here-under

Energy Conservation Measures At CLIENT					
Sr. No	Major Energy Conservation Proposal	Energy Savings kWh/yr	Monetary Benefit, Rs.	Investment needed in Rs.	Payback period in Months
1	Replacement of 2x54W Fitting (S/L) with 2x20W LED Tube Light	114908	861807	263410	4
2	Replacement of 2x28W Tube Light with 2x20W LED Tube Light	10445	78338	132770	20
3	Replacement of 1x28W Tube Light with 20W LED Tube Light	47955	359662	530370	18
4	Replacement of 2x36W Tube Light with 2x20W LED Tube Light	15034	112759	107210	11
5	Replacement of 1x36W Tube Light with 20W LED Tube Light	990	7428	6745	11
6	Replacement of 1x14W Tube Light with 10W Half LED Tube Light	3469	26017	74250	34
7	Replacement of 2x14W Tube Light with 2x10W Half LED Tube Light	88721	665410	1899000	34
8	Replacement of 4x14W Panel with 35W LED Panel	4934	37009	153700	50
9	Replacement of 4x14W Outdoor with 35W LED Outdoor	15781	118359	319800	32
10	Replacement of 2x11W Garden Light (2 CFL) with 9W LED Bulb	4730	35478	5760	2
11	Replacement of 1x11W Garden Light (1 CFL) with 7W LED Bulb	438	3285	1800	7
12	Replacement of 2x11W Mirror Light with 10W Half LED Tube Light	9464	70980	97500	16
13	Replacement of Downlighter 2x11W with LED Downlighter 10W	968	7260	10030	17
14	Replacement of 1x18W Downlighter with 10W LED Downlighter	3510	26325	88500	40
15	Replacement of 2x18W Downlighter with 18W LED Downlighter	21500	161250	621000	46
16	Replacement of 1x8W CFL with 5W LED Bulb	100	750	640	10
17	Replacement of 1x11W CFL with 7W LED bulb	7512	56338	3150	1
18	Replacement of 1x28W CFL with 12W LED bulb	8265	61988	14430	3
19	Replacement of 1x15W CFL with 7W LED bulb	3272	24539	7470	4
20	Replacement of 1x18W CFL with 9W LED bulb	2319	17393	6000	4
21	Replacement of 2x36W CFL with 35W LED Panel	11406	85541	164300	23
22	Replacement of 2x1 Panel 1x36W with 18W LED Panel	4940	37050	500000	162
23	Replacement of 2x2 Panel 2x36W with 35 W LED Panel Light	238591	1789433	6044650	41
24	Replacement of 2x2 Panel 3x36W with 50W LED Panel Light	16457	123426	280000	27
25	Replacement of Outdoor 400W with LED Outdoor 180W	7082	53118	88200	20
26	Replacement of Outdoor 2x400W with LED Outdoor 2x180W	34401	258004	428400	20
27	Replacement of 250W MH Outdoor Light with 120W LED Outdoor Light	1270	9527	15000	19
28	Replacement of MH 150W with 70W LED Outdoor	28558	214182	328500	18
29	Replacement of 1x70w MH (S/L) with 35W LED Outdoor	8896	66718	100450	18
30	Replacement of Ceiling Fans with Super Efficient Fans	218337	1637530	5780187	42
31	Replacement of 2.0 Tr Window AC (3 star) with Super Efficient Split AC 1.5 TR	39260	294449	935000	38
32	Replacement of 1.5Tr Split AC (3 star) with Super Efficient Split AC 1.5 TR	18972	142290	715000	60
33	Replacement of 1.5Tr Window AC with Super Efficient Split AC 1.5 TR	111744	838080	4840000	69



	AMR Meters for all building @ 30000 per building (7 x Rs.30000)			210000	
**	EESL's PMC fees for 5 years contract @ 9.25%			2272098	
	<b>Total</b>	<b>1104229</b>	<b>8281720</b>	<b>27045320</b>	<b>39</b>



## ATTACHMENT-2

### **Implementation or commissioning Schedule**

It is estimated that the project installation shall be commissioned in a period of 25 weeks(175 days) from the date of final agreement between CLIENT and EESL.

- Within 30 days from the date of agreement, EESL shall solicit relevant bids with appropriate technical specifications as per the bill of quantity to be implemented and tentative work plan (as per attachment 1 above)
- All the new energy efficient equipments/items to be installed by EESL will be of minimum 5 Star labels, whenever such labeled equipments/items are available. In case where BEE star rating is not applicable for the new equipments/items to be installed, other national (BIS) or international standards applicable for such equipments/items will be considered considering their life cycle costs basis and procurements done.
- For the purpose of successful installation and commissioning to be deemed effective, the date when 98% of all equipment types are installed shall be deemed as effective date of successful installation and commissioning post which project will enter the first contract period. EESL will ensure availability of at-least 98% of each inventory in workable condition at any given point in time through-out the contract period.

#### **However, the following will be the basis of effective project completion: -**

- Timely issuance of gate passes for material and manpower of 3<sup>rd</sup> party to be hired by EESL for project implementation.
- Availability of nodal officer from CLIENT
- Site level co-ordination between building maintenance team and implementing agencies for installation and commissioning of various items.
- EESL will not be obligated to rectify/change equipments that may fail due to poor wiring/supply issued but the same shall be done on additional cost to CLIENT and neither for custody of old items to be displaced from end usage points.
- CLIENT to ensure that no old equipments are re-used in the building throughout the contract period and further that any new addition to the building that impacts energy consumption shall be brought to the notice of EESL.
- For all equipment related complaints raised at fag end of the day or on a day preceding public holiday/weekly-off, CLIENT to ensure co-ordination with regard to site availability, gate/material pass for entry, etc.



Tentative work schedule to be adhered to by EESL for the ESCO project is listed below:-(SAMPLE)

ESTIMATED PROJECT SCHEDULE	Month 1						Month 2						Month 3						Month 4						Month 5																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
	Zero		W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W



(SAMPLE)  
**ATTACHMENT - 3**

**Tentative Payment Schedule**

Summary of Investment for CLIENT				
S.No	HEAD		UNIT	Values
1	Estimated Energy Savings		kWh	1104229
2	Fixed Tariff, Rs. per kWh		Rs. Per kWh	7.5
3	Estimated Annual Energy Cost Savings		Rs. Per year	8281720
4	Total Cost Savings (S.no 3 )		Rs. Per year	8281720
5	5(a)	Estimated Investment, Rs. in Capital Expenditure	Rs.	24563222
	5(b)	EESL PMC fee	Rs.	2272098
	5(c)	AMR Meters for allbuilding @ 30000 per building (7 x Rs.30000)	Rs.	210000
6	Total Estimated Capital Cost of the project (5(a)+5(b)+5(c))		Rs.	27045320
7	Contract Period		Years	5
8	8(a)	Equity Portion (20% of capital cost)	Rs.	5367064
	8(b)	Return on Equity 23.7% per annum	Rs.	3935146
	8(c)	Debt portion (80% Cost of capital)	Rs.	21468256
	8(d)	Debt Interest (11%per annum)	Rs.	6728895
9	Total Estimated Repayment to be made by NWR to EESL (8(a)+8(b)+8(c)+8(d))		Rs.	37499360
10	Payout to EESL annually (S.no 9 divided by S.no. 7)		Rs.	7,499,872
11	EESL Share (S.no.10 divided by S.no 4)		%	91%
12	EESL Quarterly repayment		RS.	1,874,968
13	No. of repayments		Quarterly	20

*- GST as applicable to be paid to EESL by CLIENT on actual basis*

**TOTAL ESTIMATED QUARTERLY REPAYMENT TO EESL = Rs1,874,968/- PER  
QUARTER FOR 20 QUARTERS**



Detailed calculations are enclosed below: (SAMPLE)

Sr. No.	Item Name	Watt, W	Quantity	Annual Use Days	Daily Use in hrs	Annual Baseline kWh	New Item	Per unit Watt, W	New Annual Energy, kWh	Annual Savings, kWh	Apportioned Monthly kWh Savings	Apportioned Monthly Cost savings, Rs.
Existing Fixtures						Proposed Fixture						
Building-1												
1	1x28W Tube Light	30	142	365	12	18659	20W LED Tube Light	22	13683	4976	415	3110
2	4x14W Fitting (S/L)	60	89	365	12	23389	35 W LED Outdoor	38	14813	8576	715	5360
3	2x14W Fitting (T/L)	30	87	365	12	11432	2x10W Half LED Tube Light	22	8383	3048	254	1905
4	1x14W Fitting (T/L)	15	54	365	12	3548	10W Half LED Tube Light	11	2602	946	79	591
5	2x54W Fitting (S/L)	120	170	365	12	89352	50W LED Outdoor Light	50	37230	52122	4344	32576
6	2x2 Panel 2x36W	80	10	365	12	3504	35W LED Panel Light	38	1664	1840	153	1150
7	1x15W CFL	16	43	365	12	3013	7W LED Bulbs	7	1318	1695	141	1059
8	Ceiling Fans	65	128	240	20	39936	Super Efficient Fans	38	23347	16389	1382	10368
TOTAL									103041	89792	7483	56120
Building-2												
1	1x14W Tube Light	15	40	365	12	2628	10W Half LED Tube Light	11	1927.2	701	58	438
2	2x14W Tube Light	30	719	365	12	94477	2x10W Half LED Tube Light	22	69282.84	25194	2099	15746
3	2x28W Tube Light	60	14	365	12	3679	2x20W LED Tube Light	22	1349.04	2330	194	1456
4	1x28W Tube Light	30	234	365	12	30748	20W W LED Tube Light	22	22548.24	8199	683	5125
5	1x18W CFL	20	5	365	12	438	9W LED bulb	10	219	219	18	137
6	2x36W Tube Light	80	9	365	12	3154	2x20W LED Tube-light	44	1734.48	1419	118	887
7	4x14W Panel	60	12	365	12	3154	35 W LED Panel	38	1997.28	1156	96	723
8	4x14W Outdoor	60	24	365	12	6307	35W LED Outdoor	38	3994.56	2313	193	1445
9	MII 150W	165	7	365	12	5059	70W LED Outdoor	77	2360.82	2698	225	1686
10	Ceiling Fans	80	161	240	20	61824	Super Efficient Fans	38	29366.4	32458	2705	20286



TOTAL														211467	134779.9	76687	6391	47929
Building-3																		
1	1x14W Tube Light	15	104	365	12	6833	10W Half LED Tube Light	11	5010.72	1822	152	1139						
2	2x14W Tube Light	30	202	365	12	26543	2x10W Half LED Tube Light	22	19464.72	7078	590	4424						
3	Ceiling Fans	60	138	240	20	39744	Super Efficient Fans	38	25171.2	14573	1214	9108						
4	1x28W Tube Light	30	77	365	12	10118	20W W LED Tube Light	22	7419.72	2698	225	1686						
TOTAL						83237			57066.36	26171	2181	16357						
Building-4																		
1	1x28W Tube Light	30	292	365	12	38369	20W LED Tube Light	22	28137	10232	853	6395						
2	2x28W Tube Light	60	11	365	12	2891	2X20W LED Tube Light	44	2120	771	64	482						
3	1x36W Tube Light	40	4	365	12	701	20W LED Tube Light	22	385	315	26	197						
4	2x36W Tube Light	80	2	365	12	701	2X20W LED Tube Light	44	385	315	26	197						
5	2x54W Tube Light	116	196	365	12	99584	2X20W LED Tube Light	44	37773	61811	5151	38632						
6	4x14W Fitting (S/L)	60	24	365	12	6307	35 W LED Outdoor	38	3995	2313	193	1445						
7	2x14W Fitting (T/L)	30	125	365	12	16425	2x10W Half LED Tube Light	22	12045	4380	365	2738						
8	2x2 Panel 2x36W	80	13	365	12	4555	35 W LED Panel Light	38	2164	2391	199	1495						
9	2x2 Panel 3x36W	118	20	365	12	10337	50W LED Panel Light	50	4380	5957	496	3723						
10	2x2 Panel 4x14W	60	6	365	12	1577	35 W LED Panel Light	38	999	578	48	361						
11	Downlighter 2x11W	24	17	365	12	1787	LED Downlighter 10W	11	819	968	81	605						
12	1x15W CFL	16	16	365	12	1121	7W LED Bulbs	7	491	631	53	394						
13	150W Outdoor	175	8	365	12	6132	LED Outdoor 70W	77	2698	3434	286	2146						
14	400W Outdoor	440	7	365	12	13490	LED Outdoor 180W	209	6408	7082	590	4427						
15	2x400W Outdoor	880	17	365	12	65525	LED Outdoor 2x180W	418	31124	34401	2867	21500						
16	Ceiling Fans	60	280	240	20	80640	Super Efficient Fans	38	51072	29568	2464	18480						
17	1.5Tr Window AC	2230	1	180	10	4014	Super Efficient Split AC 1.5 TR	1050	1890	2124	177	1328						
18	1.5Tr Split AC	2230	3	180	10	12042	Super Efficient Split AC 1.5 TR	1050	5670	6372	531	3983						
TOTAL						366197			192555	173643	14470	108527						
Building-5																		
1	1x28W Tube Light	30	328	365	12	43099	20W LED Tube Light	22	31606	11493	958	7183						



2	1x11W CFL	60	35	365	12	9198	7W LED Bulbs	11	1686	7512	626	4695
3	2x36W CFL	80	62	365	12	21725	35W LED Panel	38	10319	11406	950	7128
4	4x14W Fitting (S/L)	66	19	365	12	5493	35 W LED Outdoor	35	2913	2580	215	1612
5	2x14W Fitting (T/L)	30	1399	365	12	183829	2x10W Half LED Tube Light	22	134808	49021	4085	30638
6	1x70w MH (S/L)	77	9	365	12	3035	35 W LED Outdoor	38	1498	1537	128	961
7	1x28W CFL	30	111	365	12	14585	12W LED Bulbs	13	6320	8265	689	5166
8	1x15W CFL	16	24	365	12	1682	7W LED Bulbs	7	736	946	79	591
9	Ceiling Fans	60	372	240	20	107136	Super Efficient Fans	38	67853	39283	3274	24552
10	2.0 Tr Window AC (3 star)	2333	17	180	10	71390	Super Efficient Split AC 1.5 TR	1050	32130	39260	3272	24537
11	1.5Tr Split AC (3 star)	1750	10	180	10	31500	Super Efficient Split AC 1.5 TR	1050	18900	12600	1050	7875
<b>TOTAL</b>						<b>492672</b>			<b>308762</b>	<b>183903</b>	<b>15325</b>	<b>114939</b>
<b>Building-6</b>												
1	2x36W Tube Light	80	140	250	10	28000	2x20W LED Tube Light	42	14700	13300	1108	8312.5
2	1x36W Tube Light	40	15	250	10	1500	1x20W LED Tube Light	22	825	675	56	421.875
3	2x28W Tube Light	60	132	250	10	19800	2x20W LED Tube Light	42	13860	5940	495	3712.5
4	1x28W Tube Light	30	381	250	10	28575	1x20W LED Tube Light	20	19050	9525	794	5953.125
5	2x54W Tube Light (15)	120	5	250	10	1500	2x20W LED Tube Light	42	525	975	81	609.375
6	1x18/20W CFL	22	70	250	10	3850	9W LED Bulb	10	1750	2100	175	1312.5
7	1x8W CFL	10	8	250	10	200	5W LED Bulb	5	100	100	8	62.5
8	2x2 Panel 4x14W	65	40	250	10	6500	30W LED Panel	33	3300	3200	267	2000
9	2x2 Panel 2x36W	80	118	250	10	23600	2x2 LED Panel 1x36W	40	11800	11800	983	7375
10	2x2 Panel 3x36W	120	60	250	10	18000	45W LED Panel	50	7500	10500	875	6562.5
11	2x18W Downlighter	40	14	250	10	1400	18W LED Downlighter	20	700	700	58	437.5
12	250W MH Outdoor Light	275	2	365	12	2409	120W LED Outdoor Light	130	1138.8	1270	106	793.875
13	150W MH Outdoor Light	165	8	365	12	5781.6	70W LED Outdoor Light	75	2628	3154	263	1971
14	1.5Tr Window AC (3 Star)	1750	87	180	10	274050	Super Efficient Split AC 1.5 TR	1050	164430	109620	9135	68512.5
15	Ceiling Fans	66	384	210	10	53222.4	BEE Super Efficient Fans	35	28224	24998	2083	15624
<b>TOTAL</b>						<b>468388</b>	<b>TOTAL</b>		<b>270531</b>	<b>197857</b>	<b>16488</b>	<b>123661</b>



Building-7												
1	2x28W Tube Light	60	30	260	10	4680	2x20W LED Tube Light	42	3276	1404	117	878
2	1x28W Tube Light	30	40	260	10	3120	1x20W LED Tube Light	22	2288	832	69	520
3	2x2 Panel 2x36W	80	2140	260	10	445120	36W LED Panel	40	222560	222560	18547	139100
4	2x1 Panel 1x36W	40	95	260	10	9880	18W LED Panel	20	4940	4940	412	3088
5	2x18W Downlighter	40	400	260	10	41600	18W LED Downlighter	20	20800	20800	1733	13000
6	1x18W Downlighter	20	150	260	10	7800	10W LED Downlighter	11	4290	3510	293	2194
7	2x11W Garden Light (2 CFL)	25	72	365	12	7884	9W LED Bulb	10	3154	4730	394	2957
8	1x11W Garden Light (1 CFL)	13	20	365	12	1139	7W LED Bulb	8	701	438	37	274
9	2x11W Mirror Light	25	260	260	10	16900	10W LED Half Tube Light	11	7436	9464	789	5915
10	70W Outdoor Light	80	40	365	12	14016	35W LED Outdoor Light	38	6658	7358	613	4599
11	150W Outdoor Light	165	50	365	12	36135	70W LED Outdoor Light	77	16863	19272	1606	12045
12	Ceiling Fans	66	850	210	11	129591	BEE Super Efficient Fans	35	68723	60869	5072	38043
						717865			361688	356177	29681	222611
	Grand Total of Old Energy consumption					2532659	Grand Total of new Energy Consumption		1428430	1104229	92019	690143
	Tariff					7.5	Tariff		7.5			
	Old Annual Cost Estimation					18994942	New Annual Cost Estimation		10713222			

**TOTAL QUARTERLY REPAYMENT TO EESL IS AS PER CALENDAR QUARTER, FOR 20 YEARLY QUARTERS (Service Tax Extra)**

**NOTE:**

- In case there is any change in the bill of quantity as mentioned in the Attachment 4 due to reasons beyond control, the above parameters related to energy savings/investment/BOQ and EESL repayment shall be re-worked and intimated appropriately.
- In case there is variation in prices after finalization of bids and the estimated investment as stated above, the total repayment to EESL will be adjusted appropriately by changing the annuity amount payable to EESL and/or contract period after mutual consent between parties.
- Service tax is to be paid extra and over/above the amount mentioned above as per prevailing rates during the contract period.



#### ATTACHMENT 4 -- Illustrative BOQ

As discussed and finalized, the following is the bill of quantity. In case there is any change in the quantity, either due to change in the final quantity of items or change in capacity due to reasons beyond control at tendering stage/diversion of quantity from EESL National programs, or need for replacing additional items not mentioned in BOQ given below, the same shall be handled separately after due consultations with CLIENT and charged extra. In case of change in final BOQ, total project investment and repayment to EESL shall be revised suitably.

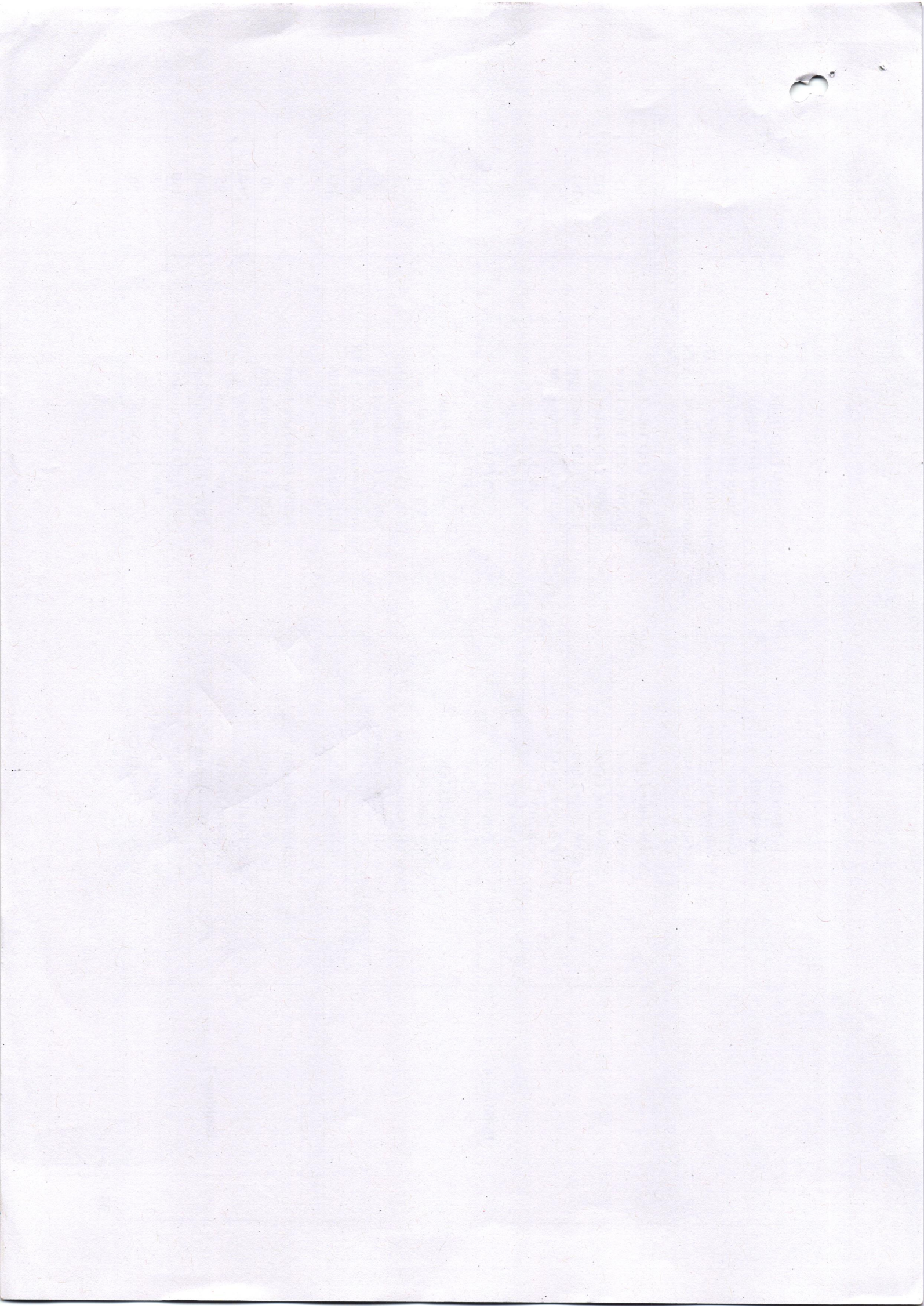
Functional Area	BOQ for CLIENT			Project size
	Existing fixture	Tube Lights / CFL / ICL / Fans / AC	Proposed fixture	
Building-1	1x28W Tube Light		20W LED Tube Light	142
	4x14W Fitting (S/L)		35 W LED Outdoor	89
	2x14W Fitting (T/L)		2x10W Half LED Tube Light	87
	1x14W Fitting (T/L)		10W Half LED Tube Light	54
	2x54W Fitting (S/L)		50W LED Outdoor Light	170
	2x2 Panel 2x36W		35W LED Panel Light	10
	1x15W CFL		7W LED Bulbs	43
	Ceiling Fans		Super-Efficient Fans	128
Building-2	1x14W Tube Light		10W Half LED Tube Light	40
	2x14W Tube Light		2x10W Half LED Tube Light	719
	2x28W Tube Light		2x20W LED Tube Light	14
	1x28W Tube Light		20W W LED Tube Light	234
	1x18W CFL		9W LED bulb	5
	2x36W Tube Light		2x20W LED Tube-light	9
	4x14W Panel		35 W LED Panel	12
	4x14W Outdoor		35W LED Outdoor	24
	MH150W		70W LED Outdoor	7
	Ceiling Fans		Super-Efficient Fans	161



Building-3	1x14W Tube Light	10W Half LED Tube Light	104
	2x14W Tube Light	2x10W Half LED Tube Light	202
	Ceiling Fans	Super-Efficient Fans	138
	1x28W Tube Light	20W W LED Tube Light	77
Building-4	1x28W Tube Light	20W LED Tube Light	292
	2x28W Tube Light	2X20W LED Tube Light	11
	1x36W Tube Light	20W LED Tube Light	4
	2x36W Tube Light	2X20W LED Tube Light	2
	2x54W Tube Light	2X20W LED Tube Light	196
	4x14W Fitting (S/L)	2X20W LED Tube Light	24
	2x14W Fitting (T/L)	35 W LED Outdoor	125
	2x2 Panel 2x36W	2x10W Half LED Tube Light	13
	2x2 Panel 3x36W	35 W LED Panel Light	20
	2x2 Panel 4x14W	50W LED Panel Light	6
	Downlighter 2x11W	35 W LED Panel Light	17
	1x15W CFL	LED Downlighter 10W	16
	150W Outdoor	7W LED Bulbs	8
	400W Outdoor	LED Outdoor 70W	7
	2x400W Outdoor	LED Outdoor 180W	17
Building-5	Ceiling Fans	LED Outdoor 2x180W	280
	1.5Tr Window AC	Super-Efficient Fans	1
	1.5Tr Split AC	Super-Efficient Split AC 1.5 TR	3
	1x28W Tube Light	Super-Efficient Split AC 1.5 TR	328
	1x11W CFL	20W LED Tube Light	35
	2x36W CFL	7W LED Bulbs	62
	4x14W Fitting (S/L)	35W LED Panel	19
	2x14W Fitting (T/L)	35 W LED Outdoor	1399
	1x70w MH (S/L)	2x10W Half LED Tube Light	9
		35 W LED Outdoor	



	1x28W CFL	12W LED Bulbs	111
	1x15W CFL	7W LED Bulbs	24
	Ceiling Fans	Super-Efficient Fans	372
	2.0 Tr Window AC (3 star)	Super-Efficient Split AC 1.5 TR	17
	1.5Tr Split AC (3 star)	Super-Efficient Split AC 1.5 TR	10
	2x36W Tube Light	2x20W LED Tube Light	140
	1x36W Tube Light	1x20W LED Tube Light	15
	2x28W Tube Light	2x20W LED Tube Light	132
	1x28W Tube Light	1x20W LED Tube Light	381
Building-6	2X54W Tube Light (T5)	2x20W LED Tube Light	5
	1x18/20W CFL	9W LED Bulb	70
	1x8W CFL	5W LED Bulb	8
	2x2 Panel 4x14W	30W LED Panel	40
	2x2 Panel 2x36W	2x2 LED Panel 1x36W	118
	2x2 Panel 3x36W	45W LED Panel	60
	2x18W Downlighter	18W LED Downlighter	14
	250W MH Outdoor Light	120W LED Outdoor Light	2
	150W MH Outdoor Light	70W LED Outdoor Light	8
	1.5Tr Window AC (3 Star)	Super Efficient Split AC 1.5 TR	87
	Ceiling Fans	BEE Super Efficient Fans	384
	2x28W Tube Light	2x20W LED Tube Light	30
	1x28W Tube Light	1x20W LED Tube Light	40
	2x2 Panel 2x36W	36W LED Panel	2140
	2x1 Panel 1x36W	18W LED Panel	95
Building-7	2x18W Downlighter	18W LED Downlighter	400
	1x18W Downlighter	10W LED Downlighter	150
	2x11W Garden Light (2 CFL)	9W LED Bulb	72
	1x11W Garden Light (1 CFL)	7W LED Bulb	20



	2x11W Mirror Light	10W LED Half Tube Light	260
	70W Outdoor Light	35W LED Outdoor Light	40
	150W Outdoor Light	70W LED Outdoor Light	50
	Ceiling Fans	BEE Super Efficient Fans	850

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