ALIEN GROUP OF COMPANIES

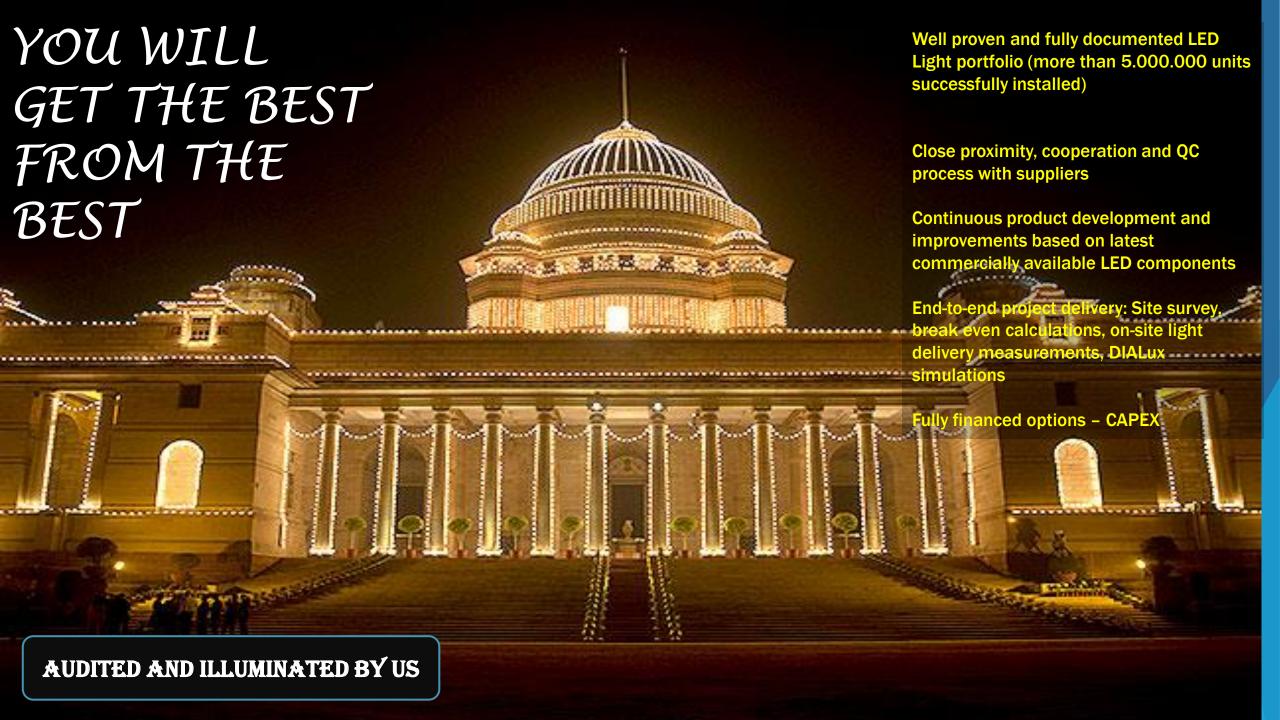


PRESENTED BY
AKASH JAIN
DIRECTOR
ALIEN GROUP OF COMPANIES
PRANAT ENGINEERS PVT LTD
ALIEN ENERGY PVT. LTD

ALIEN RDD CENTRE (AS PER BEE/GRIHA 5 STAR RATING)



- > Built-up area of 6000 sq. ft.
- > North East Facing (Vastu compliance).
- > Designed as per SAVGRIHA/BEE 5 star rating.
- > Using maximum natural light and minimum artificial light.
- > Doubled Glaze glass reduce the heat Loss inside the office.
- > Eco friendly products used inside the building.
- > Energy efficient lighting system and BEE 5 star Air-conditioning units used in the centre.
- Insulation used in wall and ceiling to transfer the heat.





BUSINESS AREAS

ENERGY AUDIT

ESCO

Alien Energy

LED LIGHTING RENEWABLE ENERGY











GRADE-1 ENERGY SERVICE COMPANY (ESCO) FOR 4TH YEAR IN A ROW



ऊर्जा दक्षता ब्यूरो

(भारत सरकार, विद्युत मंत्रालय)

BUREAU OF ENERGY EFFICIENCY

(Government of India, Ministry of Power) F.No.17/05/ESCO/SD/07 /6 7+6

October 13, 2017

Mr. Akash Jain Pranat Engineers Private Limited A- 16/6, Om Sai Complex Link Road, Site- IV, Sahibabad Industrial Area, Ghaziabad - 201 010, Uttar Pradesh

Sub: Empanelment of Energy Service Company (ESCO)

Sir,

This has reference to your application for re-empanelment/empanelment as an Energy Service Company with BEE in response to our advertisement for reempanelment and fresh empanelment of ESCOs in the month of January, 2017.

Consequent to scrutiny and evaluation of your documents by SEBI accredited agencies CRISIL/CARE /ICRA in terms of the approved parameters for evaluation, we are pleased to inform that your company 'Pranat Engineers Private Limited' has qualified for empanelment with BEE as a Grade 1 Energy Service Company (ESCO). This empanelment would be valid till 31stMarch, 2018.

Further, the list of all the empanelled ESCOs along with grading score assigned by CRISIL/CARE/ICRA is uploaded on its website (www.beeindia.gov.in) for use by State/Central government/Public Sector agencies as well as by any other agency interested in implementing energy efficiency projects on performance contracting mode. Please acknowledge your acceptance to this letter.

Yours faithfully,

(Saurabh Diddi) Director

T2 ILLUMINATED BY ULTRA ADVANCE ALIEN LED LIGHTS



AWARDED BY THE INDEPENDENT POWER PRODUCER ASSOCIATION OF INDIA'S FOR 'INNOVATION IN ENERGY EFFICIENCY-MANUFACTURE OF ENERGY EFFICIENT PRODUCTS'



AWARDED BY BEE (MOP) FOR THE BEST ESCO(2015)











INDUSTRIALSECTOR



BUILDING SECTOR



National Energy Consessation Shound

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STREET LIGHTING



National Energy Temperation Church

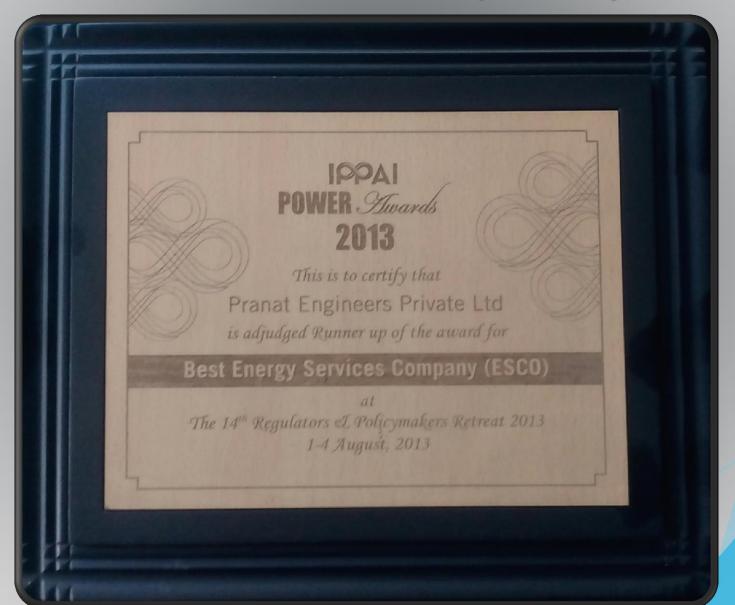
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AWARDED BY IPPAI FOR THE BEST ESCO (2013)



ENERGY AUDIT



SCOPE OF IGEA

Scope in IGEA which may include the following:

- Study of Electrical System
- Study of Electricity Bills
- Study of Fuel consumption
- Study of Lighting
- Study of DG Sets
- Study of Boiler
- Study of compressor like FAD test, Leakage test etc.
- Study of other systems having any electrical or thermal consumption

BENEFITS OF IGEA

- >IGEA helps to achieve SEC's targets of big industries given by BEE.
- > Minimize energy costs / waste without affecting production & quality
- > Minimize environmental effects.
- Detail study of complete Electrical system / thermal system / HVAC & Process.
- Enhance Energy efficiency in Electrical system, thermal system, HVAC & Process.
- > Reduce specific energy consumption.
- > Study of Waste Heat Recovery system in thermal system.
- > Reduce overall energy bill.
- To avail benefits of Carbon Credits.
- It is a complete bankable DPR for getting finance from Financial Institution.

INSTRUMENTS USED





















BEE STAR RATING



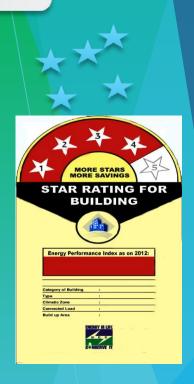
BEE's Star Rating for Commercial Buildings

BEE STAR rated qualified products and practices help you to save money and reduce greenhouse gas emissions by meeting strict energy efficiency guidelines set by the U.S. EPA and U.S. DOE. The ENERGY STAR label also designates superior energy performance in buildings.

While any of Pranat's energy audit and implementation can help you to achieve greater degrees of comfort and energy savings, the ENERGY STAR label is a permanent, recognized certification of energy efficiency in Office, Hotels, Hospital buildings. Pranat can help you to make you facility energy star and in upgrade of star rating.



Climate Zone	1 Star	2 Star	3 Star	4 Star	5 Star			
More than 50% air conditioned built up area								
Composite	190 -165	165 - 140	140 - 115	115 -90	Below 90			
Warm and Humid	200 - 175	175 - 150	150 - 125	125 - 100	Below 100			
Hot and Dry	180 - 155	155 -130	130 - 105	105 - 80	Below 80			
Less than 50% air conditioned built up area								
Composite	80 - 70	70 -60	60 -50	50 - 40	Below 40			
Warm and Humid	85 - 75	75 - 65	65 - 55	55 - 45	Below 45			
Hot and Dry	75 - 65	65 - 55	55 - 45	45 - 35	Below 35			



CURRENT PROJECTS



APPOINTED BY DELHI ELECTRICITY REGULATORY COMMISSION (DERC) AS CONSULTANT FOR ENERGY AUDIT OF NETWORK OF DISCOM IN BYPL, DELHI

WORKING WITH EESL FOR ENERGY AUDIT OF PUMPING STATIONS ALL OVER INDIA



SOME OF THE ICONIC BUILDINGS OF INDIA AUDITED/STAR UPGRADED BY US

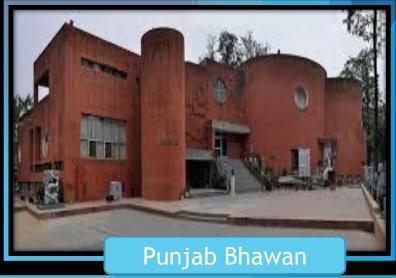












ICONIC BUILDINGS













INDUSTRIES













DEFENCE ESTABLISHMENTS













MEASUREMENT AND VERIFICATION

Measurement and Verification for Energy saving

- * 'OPTION A' of IPMVP should be considered to calculate energy savings
- * Key parameter will be 'W' (Watt)/Connected Load which should be measured once yearly to calculate KW saved/reduced
- * Monetary saving in Rupees will be on <u>DEEMED</u> basis which will be calculated considering working hours, no. of days and existing power tariff for the existing and energy efficient equipments

BENEFITS OF M&V

- Confirms Energy Savings
- * Document Financial Transactions
- * Arrange finance for efficiency projects
- * Improve engineering design and facility operations & maintenance
- Manage Energy Budgets
- * Enhance the value of emission-reduction credits
- * Support evaluation of regional efficiency program
- * Increase public understanding of energy management as a public policy tool
- Improve score in sustainability rating systems such as "LEED"

ESCO

What is ESCO?

"An Energy Service Company (ESCO), or Energy Services Provider (ESP) is business that develops, installs, and finances projects designed to improve energy efficiency and maintenance costs for facilities. ESCO acts as project developer for wide range of tasks and assumes technical and performance risk associated with the project."

EXPERIENCE IN ESCO

- We have 20 years experience in esco projects in India
- We are executing projects since 1994
- We have executed ESCO projects in municipal corporation, industries and buildings
- We have executed more than 100 projects in last two decades
- We have many success full case studies

Implementation of LED / EEM's

OUTRIGHT PURCHASE

Through Tender Negotiation quotation & DGS&D

ESCO ROUTE

Without Investment &

With Maintenance

ESCO Activities

Energy services include a wide range if activities, such as:

- Energy analysis and audits
- Energy Management
- * Project design and implementation
- Maintenance and operation
- Monitoring and evaluation of savings
- Energy and/or equipment supply

Energy Indices-As per sample survey in India

	Average kWh/m sq./Year							
	GOI Offices	Private Offices	ITES Complex	Hotel-5star	Academic Institution			
Min	109	49	370	290	30			
Max	249	150	584	360	58			

Improvement opportunity range from 30 to over 60%

There is an aggregate investment potential of \$
9.8 billion for energy savings in buildings

(WRI estimates)

There is a potential for 30% demand reduction through energy efficiency in buildings, appliances and lighting.

(Mckinsey's Analysis)

The real question is how we can achieve energy saving of these estimates

??

Why ESCO is challenging?

TAILOR MADE/RETROFIT PROJECTS to suit existing condition of the building

- * Requires highly experienced staff
- * Requires more time for execution
- * Requires more funds for installation
- * ESCO is a partial activity of the big system, slow in changes, not flexible
- Staff problem -Ground staff is not cooperative for the changes in the system

ESCO Baseline Issues...

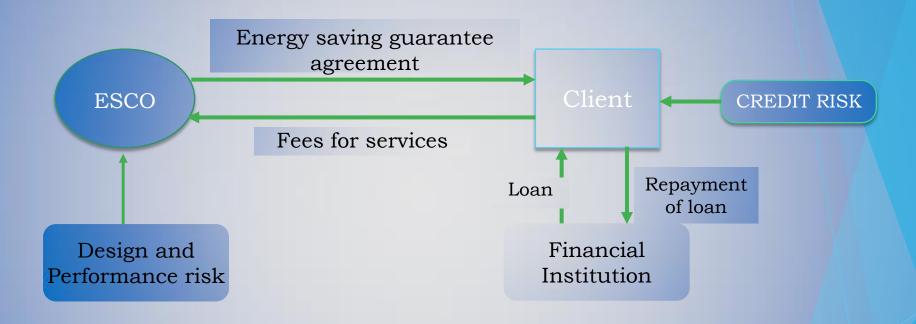
- Unknown Working Hours/Days of devices
- * Average Metering
- Addition/Reduction of Load
- Non-metering
- * TOD- Metering
- Availability Of Power
- Variation In Voltages
- Variation in temp. of weather
- * Theft

ESCO CONTRACT

Guaranteed Saving Contract

Shared Saving Contract

Guaranteed Saving Contract.....



Services:

- 1. Design
- 2. Detailed engineering
- 3. Specifications
- 4. Procurement assistance
- 5. Construction supervision or construction
- 6. Maintenance
- 7. Performance guarantee

Shared Saving Contract.....

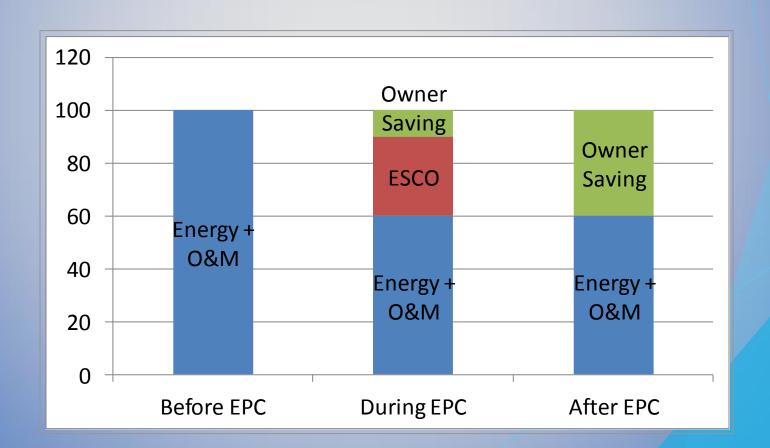


EPC Services

- 1. Financing
- 2. Design
- 3. Construction
- 4. Operation
- 5. Maintenance
- 5. Saving Guarantee

Energy Saving Performance Contract.....

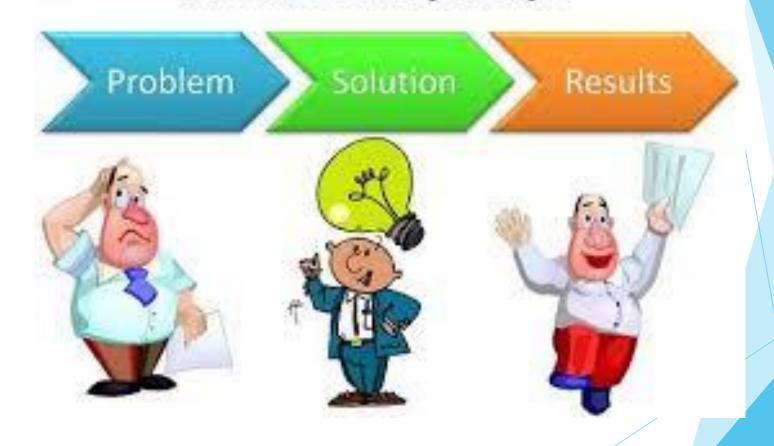
❖ Payments to ESCO < Total cost savings in energy & maintenance. Total Cash flow during ESPC is (supposed to be) less than before ESPC. Owner would enjoy 100% energy saving after the contract period .



BENEFITS OF ESCO.....WIN..WIN..FOR ALL

- More than 60 % Energy Savings Over Existing System
 Pay from reduction in energy and maintenance
- Best products....pay for performance
- Modernization at zero cost
- No Cap-ex/Investment/Budget !!
- No Op-ex/Zero Maintenance cost
- Reduction in electricity bill
- > No Purchase No Corruption
- Better services
- Warranty On Product Extended Over The ESCO Period
- No Hardware Cost Over The Period Of Proposal

The Case Study Recipe



SUCCESSFUL CASE STUDY OF ESCO IN MUNICIPLE CORPORATION OF HARYANA

Highlights of HUDA Panchkula Street Lighting ESCO project	
TOTAL NO OF STREET LIGHTS	5273
PERCENTAGE OF ENERGY SAVINGS	60%
SAVING SHARING % TO ESCO & OWNER	77% & 23 %
CONTRACT PERIOD	EIGHT YEARS
ANNUAL ENERGY SAVING (KWH)	21,20,182 KWH
ANNUAL MONETARY SAVING (RS)	RS. 96,04,428
ANNUAL PAYMENT TO ESCO (RS)	RS. 73,95,409
ANNUAL PAYMENT TO HUDA (RS)	RS 22,09,018
EXPECTED CER's	1100
TIME FOR COMPLETION	SIX MONTHS
DATE OF START	1/4/2009

TECHNOLOGY.....

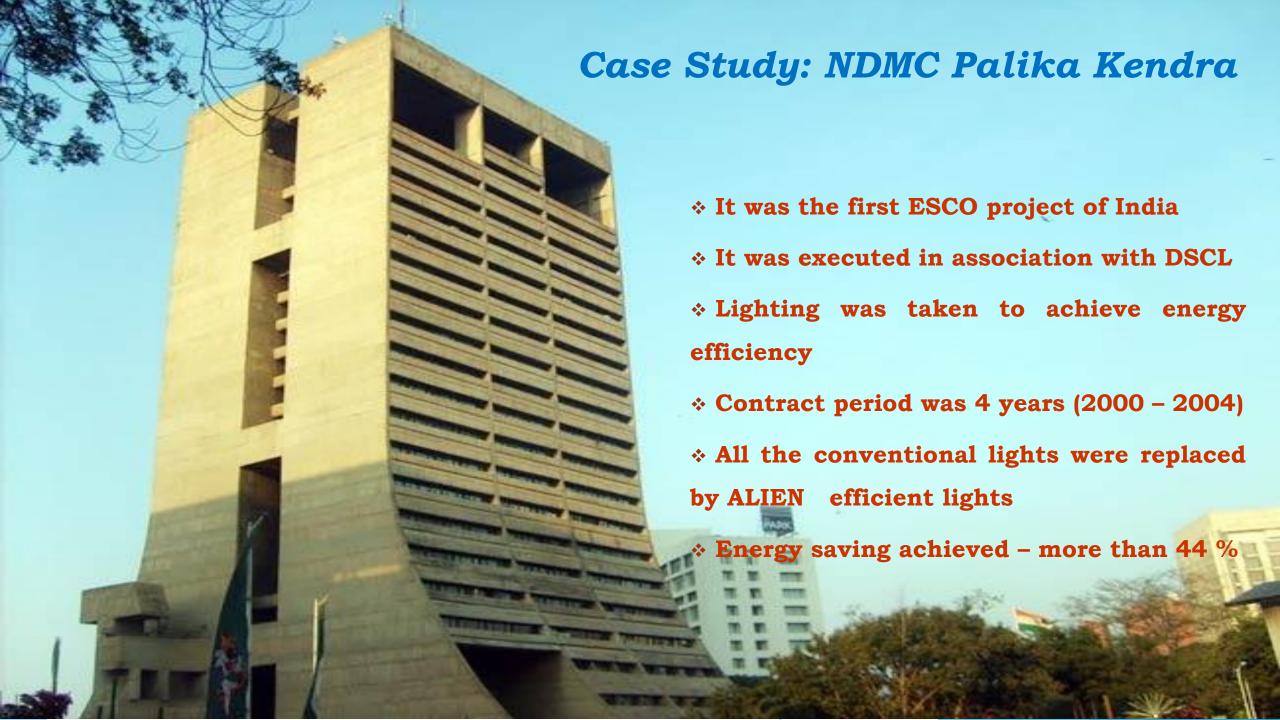
Replacement of Conventional Street Lights of Sodium, Mercury & Fluorescent with New generation Energy Efficient T - 5 Fittings. Installation of GSM based dimming panels to timely Switch ON & OFF Street light and to monitor energy consumption & faulty street lights by centralized server.

BENEFITS TO OWNER





- Modernization.
- Zero cost of maintenance
- Reduction in Electricity
 Bill
- Earning out of energy saving & carbon credits.



Star Up gradation Of NITI AAYOG Through Alien LED......

Before Implementation:

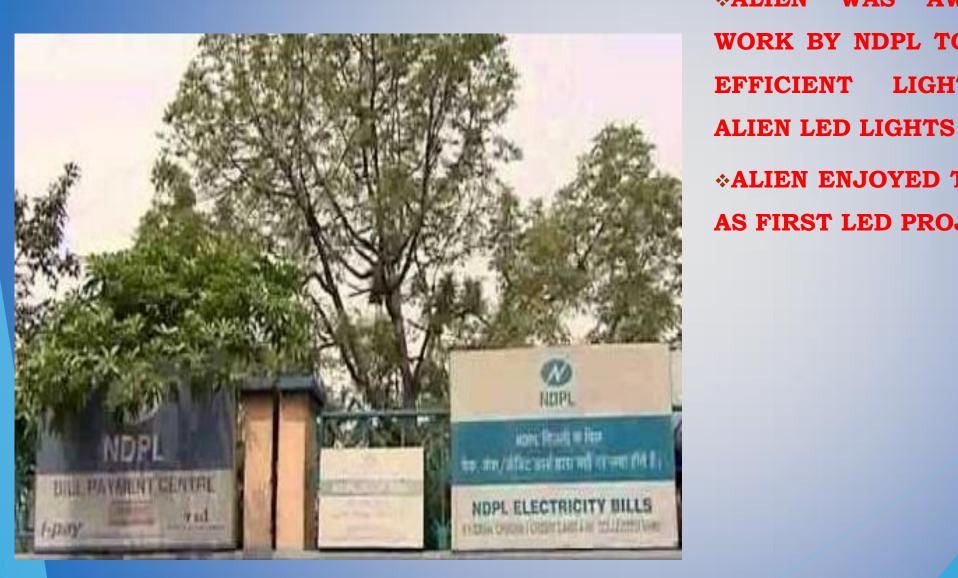
- Energy audit conducted
- Identified saving potential up to 30%
- ❖ EPI was 130 kWh/sq. m/year
- It was a 3 star building
- ❖ Decision was taken to upgrade from 3 star to 5 star
- * EESL was given to upgrade the building as a pilot project to do.

After Implementation & Result:

- All the lights were changed by Alien led lights
- All the fan were changed by five star rated fans
- Energy saver for A.C. were installed
- Saving was observed more than 50%
- EPI has gone down from 130 to 80 kWh/sq. m/year
- Building becomes five star NOW



\overline{NDPL}



WAS THE FIRST LED * IT PROJECT EXECUTE IN DEC-2010 ***ALIEN WAS AWARDED THE** WORK BY NDPL TO REPLACE IN EFFICIENT LIGHT THROUGH

***ALIEN ENJOYED THIS PROJECT** AS FIRST LED PROJECT



ESCO in Building At ITO Delhi.....

CLIENT: BUSINESS STANDARD



EXISTING LIGHTING	Qty.	Hrs/ Day	Days/ Year	Watt	Proposed EE Lighting	Watt
2*18W CFL Fixture	58	15	313	45	23W LED RETRO - FIXTURE	23
2*11W CFL fixture	88	15	313	35	12W LED RETRO-FIXTURE	15
1*18W CFL spot light	52	15	313	30	9W LED RETRO- FIXTURE	9
2*36W T-8	168	15	313	86	2*16W LED TL	36
1*36W T8	45	15	313	43	1*16W LED TL	18
3*11W CFL FIXTURE	65	15	313	55	20W LED RETRO-FIXTURE	20

Quantity : 476 Nos.

Load Reduction : 15.68 kW

Potential Electrical Saving: 73599 kWh

Annual Monetary Saving : Rs. 463968/year

Annually Payment to ESCO: Rs. 455998

Annually Saving to CLIENT: Rs. 7970

Contract Period : 4 years

ALIEN ENERGY ROD CENTER



MANUFACTURING FACILITY





