
GRU Lighting Programs
October 2013
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100 YEARS of SERVICE | 1912-2012

Lighting Programs

GRU Offers 2 Lighting Programs

- **Rental Lighting - offered to residential / commercial customers and private roadway applications**
- **Public Roadway Lighting - offered to Public Agencies**


GRU Rental Light Program
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Rental Lighting

Rental lighting consist of 2 rate structures

- Standard rental rate. Rate includes equipment purchase, installation, maintenance and energy charges
- Contributed rental rate. Rate includes only maintenance and energy. Fixture purchase and installation cost paid for up front by others

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Rental Light Program

- Lights can be rented by any GRU residential or commercial customer within the Electric Service Territory
- Typical Applications
  - Commercial Endeavors
  - Apartment Complexes
  - Residential Properties
  - Private Roadways

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Rental Light Program

- Located on customers property
  - May be attached to an existing GRU distribution pole or roadway lighting pole (no additional cost)
  - May be attached to a dedicated standard or decorative pole at an additional cost

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Rental Light Program

<u>Types of Lights Installed:</u>

- Area Lights
- Flood Lights
- Decorative Lights
- Roadway Lights
- Pedestrian Scale Lights

Light sources

- HPS
- Metal Halide

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Rental Light Program

- Customer signs a 5 – year rental agreement
- Engineering meets with customer to determine location of light and / or pole
- Engineering and customer determine type of light to be rented *
- GRU installs and maintains light

* Any photometric requirements designed by professional engineer

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Rental Light Program

Quantities of Lights (August 2013)

Rental

Standard	13,535
Contributed	112
Total Rental Lights	13,647
Yearly Revenue	$2,030,073 *

*does not include fuel adjustment or pole rental charges

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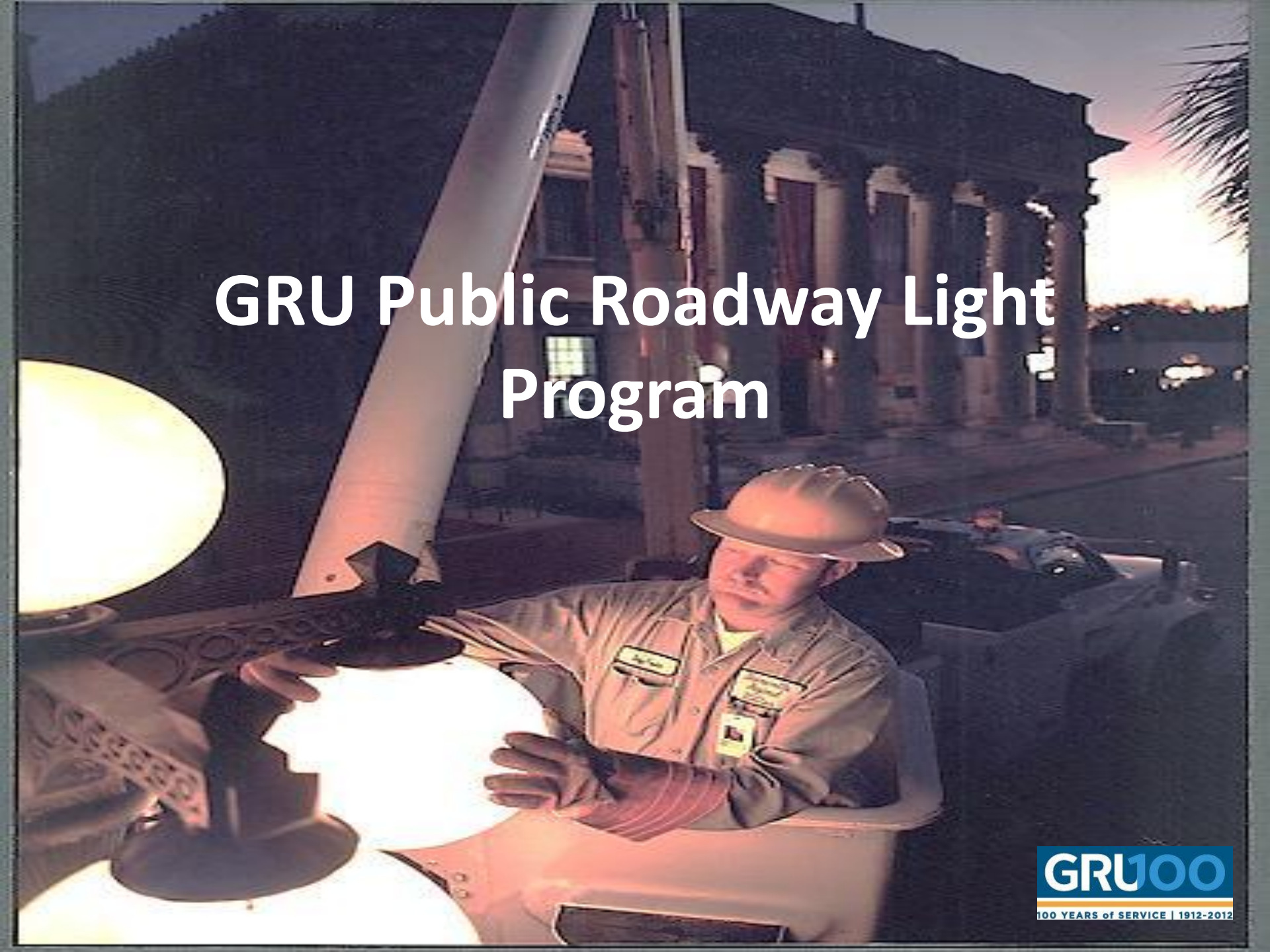
GRU Public Roadway Light Program
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Public Roadway Lighting

Public roadway lighting consist of 2 rate structures

- Public Standard Rate. Rate includes equipment purchase, installation, maintenance and energy charges.
- Public Contributed Rate. Rate includes only maintenance and energy. Fixture purchase and installation cost paid for up front by others.

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Public Light Program

Currently maintain 35 different High Intensity Discharge decorative and non decorative light fixtures

Types include:

- Pedestrian scale decorative lights
- Decorative lights
- roadway decorative fixtures
- Traditional roadway fixtures
- Flood Lights

Light Sources

- HPS
- Metal Halide

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Public Light Program

Light fixtures currently offered for roadway applications are

- High Pressure Sodium (Local and DOT roadways)
- Mercury Vapor and Metal Halide in the downtown area only - Area Lighting (mostly pedestrian scale decorative fixtures)

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Public Light Program

Quantities of Lights (August 2013)

City

Standard rate	11,642
Contributed rate	1,309
Total City Lights	12,951
Yearly Revenue	$1,496,073 *

*does not include fuel adjustment or pole rental charges

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Public Light Program

Quantities of Lights (August 2013)

County

Standard rate	4,801
Contributed rate	457
Total County Lights	5,258
Yearly Revenue	$522,222 *

*does not include fuel adjustment or pole rental charges

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Public Light Program

Quantities of roadway lights in City (August 2013)

	Contributed	Un-Contributed	Total
100 watt HPS	36	6416	6452
150 watt HPS	236	2326	2562
250 watt HPS	449	1883	2332
400 watt HPS	86	51	137
Grand Total	807	10,676	11,483

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LED Lighting
Discussion
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LED Lighting

Lighting rates are made up of 3 major components:

- Equipment installation and purchase
- Life cycle maintenance
- Energy consumption

Amortized over lifecycle of fixture (typical 15 years)

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LED Lighting

LED Lighting Considerations

- Cost of Equipment and Installation
- Life Expectancy
- Maintenance costs (cyclical and non cyclical)
- Heat (dissipation) , Corrosion (humidity) and Surge Suppression (withstand Lightning)
- Energy Consumption
- Light characteristics
- Lighting design requirements (IES / etc.)
- FDOT Requirements / Acceptance

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LED Lighting

<u>Installation and purchase cost</u> Fixture purchase

- Installation and Removal Cost (Labor and Equipment)
- Other Materials (photocell, wire, connectors, mounting brackets)

LED Lighting

<u>Cyclical Maintenance Cost</u>

- Routine maintenance photocell replacement, cleaning)

<u>Non Cyclical Cost</u>

- Non - Warranty failed fixture repair and replacement (5%)
- Warranty Fixture repair and replacement

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LED Lighting

Energy Usage (per month)

HPS Equivalent	HPS	LED	Diff
100 w	41	19.1	21.9 kwh
	$3.12	$1.45	$1.67
150 w	62	36.4	25.6 kwh
	$4.71	$2.77	$1.94
250 w	103	60.5	42.5 kwh
	$7.83	$4.60	$3.23
400 w	164	97.2	66.8 kwh
	$12.46	$7.39	$5.07

(GS1 service rate 7.6 cents / kwh)
(does not include fuel adjustment)

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LED Lighting

Assumptions 15 year life cycle (100 watt HPS Typical)

	HPS	LED	
Capital Construction			
Equipment and installation	$655	$ 834	
Life Cycle Maintenance Cost			
Cyclical Maintenance Cost	$.7208	$.2025	/month
Non Cyclical Maintenance Cost	incmp.	undetermined	
Energy Charge (per month)	$3.12	$ 1.46	

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LED Lighting

Ordinance Issues

- Luminaires shall consist of lighting at least energy and resource efficient as high performance LED lighting
- Controls all with battery backup or similar power
- Auto extinguishing lights no later than one hour after close of business or facility operation
- Maximum height of poles within 75 ft. of property line 15 ft. maximum
- Height of luminaires not to exceed 30 ft.
- Conversion of lights from light source to LED at 50% change out.
- Light trespass to not exceed .5 footcandles at any point on adjacent property

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Questions