



A BRIGHTER SOLUTION

371 BEL MARIN KEYS BLVD, #200  
NOVATO, CALIFORNIA 94949-5699  
PH: (415) 884.3000  
FX: (415) 884.4800  
WWW.REPUBLICITS.COM

## MEMORANDUM

**DATE:** August 17, 2011  
**TO:** Paul Berlant, Executive Officer, Marin General Services Authority  
**FROM:** Andrew Poster, Regional Manager  
**RE:** Streetlight Maintenance Services

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### Overview

At the request of the Marin General Services Authority (MGSA), Republic ITS has reviewed our streetlight maintenance program, considering the expected influx of new energy efficient streetlights, to develop a new rate structure providing a maintenance savings to MGSA agencies who utilize new Light Emitting Diode (LED) and Induction technology street light fixtures.

### Recommended Actions

- Approve the attached Rate Schedule for Street Light Maintenance.
- Extend the term of the existing Street Light Maintenance contract with Republic ITS for an additional four years.

### Discussion

The current street light maintenance contract with Republic ITS offers no provisions for maintaining LED or Induction street lights and expires on June 30, 2012. Section 16 of the contract allows the MGSA and Republic ITS to extend the term of the agreement for an additional four years upon mutual agreement of both parties. LED and Induction Technology streetlights have received significant public support and funding based on their estimated energy savings and anticipated maintenance savings. Energy savings have been documented and proven. Maintenance savings have yet to be documented, but are still anticipated. Republic ITS looks forward to helping the agencies realize these savings.

Some difficulties in calculating the potential maintenance savings for LED and Induction Streetlights are as follows:

- The technologies as applied to public agency streetlights are still relatively new and unproven.
- A national or federal maintenance standard for the fixtures does not yet exist.

- There are not enough agencies that have had these types of fixtures installed and operating for more than two years to determine maintenance and failure histories. There are many US and international manufacturers producing the fixtures, and it is unknown how each product and manufacturer will stand up to exterior seasonal and environmental conditions.
- The large majority of maintenance tasks such as photocell failures, ballast failures due to voltage spikes, dig-ins, knockowns, database management, nighttime inspections, rapid response to requests for service, etc. are still required.

Streetlight maintenance considerations for Marin County agencies are outlined in Attachment 1.

Current streetlight maintenance rates were based on the type of ballast technology (High Pressure Sodium, Mercury Vapor, Metal Halide, or Incandescent), lamp wattage and the input voltage (120V or 240V) as each of these parameters impacts the cost of maintaining the fixture. Due to the large number of combinations of wattages, voltage and ballast types, the rate schedule includes over 50 line items. The introduction of LED and Induction type fixtures would add a minimum of another 60 line items depending on fixture size, type, input voltage, ballast technology, etc. The quantity and complexity of line items could be increased further if we were to consider different manufacturers, the quality of their product, their likelihood of being in business in the future, etc. further complicating the rate schedule. In an effort to simplify the Rate Schedule, we are proposing a “blended” maintenance rate for the current ballast/wattage/voltage types and a separate rate for the LED/Induction fixtures.

The blended rate for the existing fixtures was calculated by dividing the total monthly cost to the sum of MGSA agencies by the total number of MGSA fixtures. Although the total monthly cost is virtually the same, various agencies monthly maintenance fees go up or down, based on the types of fixtures that make up their inventory. Blended rates are shown on Attachment 2.

Once the blended rates were calculated, a 4.37% CPI Increase was applied. Due to the downturn in the economy a number of agencies have requested that we temporarily hold off on requesting CPI increases. Although the contract allows us to make an annual CPI adjustment, we last adjusted the maintenance prices in April of 2009. Due to increases in equipment and labor costs, we can no longer offer to hold the maintenance rates constant. The CPI adjustment calculation is included as Attachment 3.

The projected maintenance savings and adjusted CPI rates were applied to the previous maintenance rates to create the new Street Light Rate Schedule. The Rate Schedule is included as Attachment 4.

Finally, to help each agency budget their future maintenance activities, we created a matrix showing each agency’s current monthly fees, the proposed monthly fee based on the new blended rate and CPI adjustment and then a projected monthly fee based on each Agency’s projected number of LED and Induction streetlights. This matrix is included as Attachment 5.

#### Attachments

1. Summary List of Maintenance Considerations for LED and Induction Fixtures
2. MGSA Street Light Maintenance Blended and LED/Induction Rates, Dated August 11, 2011
3. Consumer Price Index Adjustment Calculation
4. Street Light Maintenance Rate Schedule, Dated August 11, 2011
5. Street Light Maintenance Fees by Agency Summary matrix



# Attachment 1

## Maintenance Considerations for LED and Induction Street Light Fixtures in Marin County

### August 11, 2011

#### Maintenance Items claimed to be reduced:

- Lamp/LED failures

#### Experienced/Anticipated Failure Rates:

- Varies from approximately 0.5% to 2.0% over the first three years of service, with an expected accelerating annual failure rate.

#### Items that have changed:

- PG&E does not maintain LED or Induction Fixtures
- Fixture prices increased by over 400%
- Fixture components not as readily accessible
- Fixture components not interchangeable
- Required to stock more specialty items
- If fixtures last as long as claimed, recommend separate trip to clean glassware every 7-10 years
- Warranty tracking

#### Items that are still required:

- 24/7 Dispatch Center
- Streetlight repair within 7 days
- Unlimited response to reports of outages
- Database updates and management
- Maintenance Reports
- Maintenance History
- Real time Database access
- Monthly Nightchecks
- Failures due to voltage spikes
- Photocell repairs
- Glassware repairs
- Tree branch trimming (while at sight)
- Dig In response
- Knockdown response
- Pole numbering\*
- Pole painting\*
- USA response\*
- Stock inventory of standard and decorative poles
- Stock inventory of standard and decorative fixtures

\* Items with an asterisk are not included in monthly base rate, but may be desired services.



## **Attachment 2**

### **MGSA Street Light Maintenance Blended and LED/Induction Rates August 11, 2011**

Current Equivalent Rate for all HPS, MV, MH, Incandescent SL Fixtures at either voltage

Schedule 1 = \$1.68/month/SL

Schedule 2 = \$3.17/month/SL

Proposed Equivalent Rate for all HPS, MV, MH, Incandescent SL Fixtures at either voltage  
(includes 4.37% CPI Increase)

Schedule 1 = \$1.75/month/SL

Schedule 2 = \$3.31/month/SL

Proposed Savings per month per SL for Induction and LED Fixtures

Schedule 1 = \$0.40/month/SL

Schedule 2 = \$0.75/month/SL

Proposed Rate for Induction and LED Fixtures

Schedule 1 = \$1.35/month/SL

Schedule 2 = \$2.56/month/SL

*ATTACHMENT 3*

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## Consumer Price Index - All Urban Consumers

Series Id: CUURA422SA0  
 Not Seasonally Adjusted  
 Area: San Francisco-Oakland-San Jose, CA  
 Item: All items  
 Base Period: 1982-84=100

*233.646 / 223.854 = 4.37% Adjusted*

Download: .xls

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	HALF1	HALF2
2001		187.9		189.1		190.9		191.0		191.7		190.6	189.9	188.7	191.1
2002		191.3		193.0		193.2		193.5		194.3		193.2	193.0	192.3	193.7
2003		197.7		197.3		196.3		196.3		196.3		195.3	196.4	196.8	196.1
2004		198.1		198.3		199.0		198.7		200.3		199.5	198.8	198.2	199.5
2005		201.2		202.5		201.2		203.0		205.9		203.4	202.7	201.5	203.9
2006		207.1		208.9		209.1		210.7		211.0		210.4	209.2	207.9	210.6
2007		213.688		215.842		216.123		216.240		217.949		218.485	216.048	214.736	217.361
2008		219.612		222.074		225.181		225.411		225.824		218.528	222.767	221.730	223.804
2009		222.166		223.854		225.692		225.801		226.051		224.239	224.395	223.305	225.484
2010		226.145		227.697		228.110		227.954		228.107		227.658	227.469	226.994	227.944
2011		229.981		234.121		233.646								232.082	

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## Attachment 4

### Marin General Services Authority STREET LIGHT MAINTENANCE RATE SCHEDULE 15-Aug-11

Street Light Maintenance (Per Light Per Month)	Schedule 1	Schedule 2
<b>Fixture Type</b>		
HPS/MV/MH/Incandescent	\$1.75	\$3.31
LED/Induction	\$1.35	\$2.56
<b>Item</b>		
	<b>Unit Price</b>	<b>Unit</b>
<b>Labor &amp; Equipment</b>		
Electrician (Regular Time)	\$94.09	Hr
Electrician (Overtime)	\$132.84	Hr
Electrician (Premium)	\$171.58	Hr
Service Truck	\$27.67	Hr
Mobile Crane	\$75.00	Hr
<b>Tasks</b>		
Visual Pole Inspection - Schedule 1 Agency	\$13.36	Each
Visual Pole Inspection - Schedule 2 Agency	\$0.00	Each
Remove Metricom Radio Unit while at the specified location for a standard outage call	\$48.27	Each
Remove Metricom Radio Unit via separate trip	\$78.80	Each
	<b>1-9 Units</b>	<b>10 or more Units</b>
Paint 14 foot or shorter Pole/Fixture	\$678.41	\$574.04
Paint 15 foot - 30 foot Pole/Fixture	\$991.52	\$834.96
Dig out buried pole and build small pressure treated wood retaining wall at base of pole	\$1,085.45	\$913.24
Remove and Replace Type 15 Single Pole with Cobra Head Fixture	\$3,026.73	\$2,765.81
Remove and Replace Type 15 Double Pole with Cobra Head Fixtures	\$3,966.06	\$3,652.95
Remove and Replace Spun Aluminum Pole		
- with Town & Country Fixture	\$2,400.51	\$1,983.03
- with Style King Fixture	\$2,400.51	\$2,139.59
Remove and Replace Charleston Pole with Granville Fixture	\$3,131.10	\$2,922.36

Rate schedules apply to maintenance on streetlight systems owned by public agencies. Two classes of service are available on a per lamp per month basis. See individual schedules for details.

# MGSA Street Light Maintenance Fees by Agency

# Attachment 5

As of June 2011 Maintenance Invoice

## Projected Fee with a 4.37% CPI Increase

Agency	Current No. of Fixtures	Schedule	Current Monthly Fee	Equivalent Blended Monthly Rate for Standard (HPS, MV, MH, Inc. ) Fixtures with CPI*	Proposed Monthly Invoice	Difference Between Current and Proposed Monthly Fee	Projected No. of Energy Efficiency Lights**	Proposed Monthly Rate for Energy Efficiency (LED, Induction) Fixtures ***	Projected Monthly Maintenance Savings due to use of Energy Efficiency Fixtures	Projected Monthly Fee
Bel Marin Keys CSD	144	1	\$231.84	\$1.75	\$252.00	\$20.16	0	\$1.35	\$0.00	\$252.00
Belvedere, City of	157	1	\$252.77	\$1.75	\$274.75	\$21.98	102	\$1.35	\$40.80	\$233.95
Corte Madera, Town of	760	1	\$1,223.60	\$1.75	\$1,330.00	\$106.40	0	\$1.35	\$0.00	\$1,330.00
Fairfax	599	1	\$964.39	\$1.75	\$1,048.25	\$83.86	0	\$1.35	\$0.00	\$1,048.25
Larkspur, City of	781	1	\$1,267.09	\$1.75	\$1,366.75	\$99.66	445	\$1.35	\$178.00	\$1,188.75
Marin Center	110	2	\$350.54	\$3.31	\$364.10	\$13.56	0	\$2.56	\$0.00	\$364.10
Marin Civic Center	223	2	\$713.95	\$3.31	\$738.13	\$24.18	0	\$2.56	\$0.00	\$738.13
Marin, County of	1718	2	\$5,453.62	\$3.31	\$5,686.58	\$232.96	688	\$2.56	\$516.00	\$5,170.58
Marinwood CSD	291	1	\$468.51	\$1.75	\$509.25	\$40.74	0	\$1.35	\$0.00	\$509.25
Mill Valley, City of	810	1	\$1,304.10	\$1.75	\$1,417.50	\$113.40	120	\$1.35	\$48.00	\$1,369.50
Novato, City of	3905	1	\$6,348.88	\$1.75	\$6,833.75	\$484.87	940	\$1.35	\$376.00	\$6,457.75
San Anselmo, Town of	654	2	\$2,105.78	\$3.31	\$2,164.74	\$58.96	402	\$2.56	\$301.50	\$1,863.24
San Rafael, City of	4022	1	\$6,490.84	\$1.75	\$7,038.50	\$547.66	816	\$1.35	\$326.40	\$6,712.10
San Rafael, City of (Community Services)	108	1	\$192.16	\$1.75	\$189.00	-\$3.16	0	\$1.35	\$0.00	\$189.00
San Rafael, City of (Parking Lot)	225	1	\$362.25	\$1.75	\$393.75	\$31.50	0	\$1.35	\$0.00	\$393.75
Sausalito, City of	650	1	\$1,762.82	\$1.75	\$1,137.50	-\$625.32	141	\$1.35	\$56.40	\$1,081.10
Tiburon, Town of	277	2	\$872.29	\$3.31	\$916.87	\$44.58	129	\$2.56	\$96.75	\$820.12
<b>Total</b>	<b>15434</b>		<b>\$30,365.43</b>		<b>\$31,661.42</b>	<b>\$1,295.99</b>	<b>3783</b>		<b>\$1,939.85</b>	<b>\$29,721.57</b>

Notes:

\* Current rates vary based on size and type of ballast and service voltage

\*\* Based on handouts provided at Energy Efficiency Streetlight Conversion Meeting, hosted by City of Novato on July 13, 2011

\*\*\* Includes savings of \$0.40 /month/SL for Schedule 1 and \$0.75/month/SL for Schedule 2