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- 17. Charts Summarizing Bids
- 18. ABE's Response to GPA Request for Clarification

Further, Appellant may use additional exhibits if needed in rebuttal after Appellee's case in chief.

- 19. Specification No. E-043, Revision 5

Respectfully submitted this 16th day of June, 2017.

BROOKS CONCEPCION LAW, P.C.

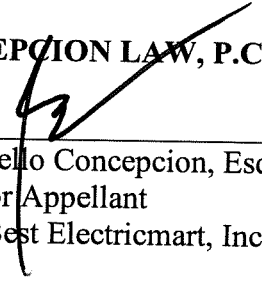
By: 
Georgette Bello Concepcion, Esq.
Attorneys for Appellant
America's Best Electricmart, Inc.

EXHIBIT 1



JOSEPH T. DUENAS
CCU Chairman



JOHN M. BENAVENTE, P.E.
General Manager

Telephone Nos. (671) 648-3054/55 or Facsimile (671) 648-3165

Accountability	Impartiality	Competence	Openness	Value
INVITATION FOR BID (IFB) NO.: GPA-005-17				
DESCRIPTION: LED Luminaire Units and Photo Electric Controls				

SPECIAL REMINDERS TO PROSPECTIVE BIDDERS

Bidders are reminded to read the Sealed Bid Solicitation and Instructions, and General Terms and Conditions attached to the IFB to ascertain that all of the following requirements checked below are submitted in the bid envelope, one (1) original, in duplicate, at the date and time for bid opening.

- (XX) BID GUARANTEE (no less than 15% of total bid) May be in the form of;
(NOTE: Cashier's Check or Certified Check Refunds will be ONLY be made out to the name of the Bidder.)

Reference #11 on the General Terms and Conditions

- a. Cashier's Check or Certified Check
- b. Letter of Credit or
- c. Surety Bond - Valid only if accompanied by:
 1. Current Certificate of Authority issued by the Insurance Commissioner;
 2. Power of Attorney issued by the Surety to the Resident General Agent;
 3. Power of Attorney issued by two (2) major officers of the Surety to whomsoever is signing on their behalf.

() STATEMENT OF QUALIFICATION;

() SAMPLES;

(XX) BROCHURES/DESCRIPTIVE LITERATURE; (Shall provide detailed literature on items offered.)

(XX) AFFIDAVIT OF DISCLOSURE OF MAJOR SHAREHOLDERS

(XX) NON-COLLUSION AFFIDAVIT;

(XX) NO GRATUITIES OR KICKBACKS AFFIDAVIT;

(XX) ETHICAL STANDARDS AFFIDAVIT;

(XX) WAGE DETERMINATION AFFIDAVIT;

(XX) RESTRICTIONS AGAINST SEX OFFENDERS AFFIDAVIT;

Note: The above Affidavits must comply with the following requirements:

- a. The affidavit must be signed within 60 days of the date the bid is due;
- b. Date of signature of the person authorized to sign the bid and the notary date must be the same.
- c. First time affidavit must be an original - If copy, indicate Bid Number/Agency where original can be obtained.

(XX) OTHER REQUIREMENTS:

A Guam Business License and/or Contractor's License with proof of Employer Identification Number (EIN) is not required in order to provide a proposal for this engagement, but is a pre-condition for entering into a contract with the Authority. Bidders MUST comply with PL 26-111 dated June 18, 2002, PL 28-165 dated January 04, 2007 and Wage Determination under the Service Contract Act (www.wdol.gov). Additionally, upon award the successful bidder must provide to GPA the most recently issued Wage Determination by the US Dept. of Labor.

The reminder must be signed and returned in the bid envelope together with the bid. Failure to comply with the above requirements will mean a disqualification and rejection of the bid.

On this 7 day of November 2016, I, David Hicks, authorized representative of America's Best Electric, Inc acknowledge receipt of this special reminder to prospective bidders with the above referenced IFB.

Bidder Representative's Signature

INVITATION FOR BID

ISSUING OFFICE:
Guam Power Authority
Procurement Management Materials Supply
GPA Central Office, 1st. Floor
Gloria B. Nelson Public Service Building
688 Route 15
Mangilao, Guam 96913


JOHN M. BENAVENTE, P.E. DATE
General Manager

DATE ISSUED: 10/20/2016 BID INVITATION NO.: GPA-005-17
BID FOR: LED Luminaire Units and Photo Electric Controls
SPECIFICATION: See Attached
DESTINATION: GPA Dededo Warehouse
REQUIRED DATE: (See Attached)

INSTRUCTIONS TO BIDDERS:
INDICATE WHETHER: INDIVIDUAL PARTNERSHIP CORPORATION
INCORPORATED IN: Guam

This bid shall be submitted in duplicate and sealed to the issuing office above no later than (Time) 2:00 P.M.
Date: 11/03/2016 and shall be publicly opened. Bid submitted after the time and date specified above
shall be rejected. See attached General Terms and Conditions and Sealed Bid Solicitation for details.

The undersigned offers and agrees to furnish within the time specified, the articles and services at the price stated opposite
the respective items listed on the schedule provided, unless otherwise specified by the bidder. In consideration to the
expense of the Government in opening, tabulating, and evaluating this and other bids, and other considerations, the
undersigned agrees that this bid remain firm and irrevocable within one hundred twenty (120) calendar days from the date
opening to supply any or all of the items which prices are quoted.

NAME AND ADDRESS OF BIDDER: America's Best Electricmart, Inc
129 W Harmon Industrial Park Rd. Unit D
Tamuning GU 96913
SIGNATURE AND TITLE OF PERSON
AUTHORIZED TO SIGN THIS BID:
David Hicks Vice President

AWARD: CONTRACT NO.: _____ AMOUNT: _____ DATE: _____

ITEM NO(S). AWARDED: _____

CONTRACTING OFFICER:

JOHN M. BENAVENTE, P.E. DATE
General Manager

NAME AND ADDRESS OF CONTRACTOR: _____ SIGNATURE AND TITLE OF PERSON _____

INVITATION FOR BID NO.: GPA-005-17

Requisition No.: 29950

NO.	DESCRIPTION	QTY.	U/R	U/P:	T/P:
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1.0	Led Luminaire Units, 150 Watt HPS Equivalent, 120 Volts, 1-1/4" to 2" Mast Arm Compatible, 80W Max, 2800K<CCT<4800K, CRI<65, 6400 Lumens Min. At Proposed CCT As Per GPA Specification: E-043, Revision 3 GPA Index No.: SSOL0936 Ref.: Mfr.: General Electric or Approved Equal Ref.: Part No.: ERL1007B140AGRAY APPROVED EQUAL OR BETTER	8830	Each	\$ _____	\$ _____
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Marking Requirements:
Stencil 1" GPA Index No./Purchase Order No./Quantity Per Box.

DELIVERY REQUIREMENT:
5,000 Each Initial Delivery 8 Weeks ARO.
3,830 Each April 28, 2017.

Any delivery extension for this specific bid shall not be granted due to on-going and/or scheduled projects.

NOTE:
Notwithstanding the fact that this contract was written by one (1) party, it will be construed that it was written by two (2) parties.

Specification Reviewed by:
 10/18/16
Reuben C. Ulloa Date

TO BE COMPLETED BY BIDDER:

MANUFACTURED BY: _____

BRAND NAME: _____

PLACE OF ORIGIN: _____

EXPORT ABROAD: _____

TIME OF DELIVERY AFTER RECEIPT OF PURCHASE ORDER: _____

EXPORT ABROAD: _____

TIME OF DELIVERY AFTER RECEIPT OF PURCHASE ORDER: _____

INVITATION FOR BID NO.: GPA-005-17

Requisition No.: 29950

NO.	DESCRIPTION	QTY.	U/I	U/P:	T/P:
-----	-------------	------	-----	------	------

2.0	Led Luminaire Units, 250 Watt HPS Equivalent, 120 Volts, 1-1/4" to 2" Mast Arm Compatible, 100W Max, 3800K<CCT<4800K, CRI<65, 10,000 Lumens Min. At Proposed CCT As Per GPA Specification: E-043, Revision 3 GPA Index No.: SSOL0937 Ref.: Mfr.: General Electric or Approval Equal Ref.: Part No.: ERL010E140AGRAY APPROVED EQUAL OR BETTER	648	Each	\$ _____	\$ _____
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Marking Requirements:

Stencil 1" GPA Index No./Purchase Order No./Quantity Per Box.

DELIVERY REQUIREMENT:

400 Each Initial Delivery 8 Weeks ARO.
248 Each April 28, 2017.

Any delivery extension for this specific bid shall not be granted due to on-going and/or scheduled projects.

NOTE:

Notwithstanding the fact that this contract was written by one (1) party, it will be construed that it was written by two (2) parties.

Specification Reviewed by:

Reuben C. Ulloa 10/18/16
Reuben C. Ulloa Date

TO BE COMPLETED BY BIDDER:

MANUFACTURED BY: _____

BRAND NAME: _____

PLACE OF ORIGIN: _____

EXPORT ABROAD: _____

TIME OF DELIVERY AFTER RECEIPT OF PURCHASE ORDER: _____

INVITATION FOR BID NO.: GPA-005-17

Requisition No.: 29950

NO.	DESCRIPTION	QTY.	U/I	U/P:	T/P:
3.0	Photo Electric Control, Locking Type, three terminal polarized twist lock plug series P high impact plastic housing, Standard E.E.I.-NANA 2-3/4" I.D., locking base glass to metal hermetically sealed light sensitive element, standard turn-on, 1/5 candle turn-off ration, inrush current rating 40F to 170 F. Photo Electric Control unit shall carry a two year Guarantee against defect in materials or workmanship. Must Be LED Compatible.	9,478	Each	\$ 5.42	\$ 51,370.76

OFFER:
- CAT# 2007B

As Per GPA Specification: E-005, Revision 4
GPA Index No.: SSOL1010
Ref.: Mfr.: Precision or Approval Equal
Ref.: Part No.: EDVT-AP-TD
APPROVED EQUAL OR BETTER

Marking Requirements:

Stencil 1" GPA Index No./Purchase Order No./Quantity Per Box.

NOTE:

Photo Electric Control shall comply with GPA Specification E-005, Revision 4, Section 5.6.3 The photoelectric control shall come equipped with a scratch pad feature for tracking installation date, removal date and shall be marked with purchase order number.

DELIVERY REQUIREMENT:

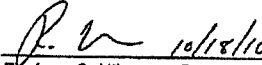
5,400 Each Initial Delivery 8 Weeks ARO.
4,078 Each April 28, 2017.

Any delivery extension for this specific bid shall not be granted due to on-going and/or scheduled projects.

NOTE:


Notwithstanding the fact that this contract was written by one (1) party, it will be construed that it was written by two (2) parties.

Specification Reviewed by:


Reuben C. Ulloa Date

TO BE COMPLETED BY BIDDER:MANUFACTURED BY: NSI INDUSTRIESBRAND NAME: NSI INDUSTRIESPLACE OF ORIGIN: ChinaEXPORT ABROAD: OKAY TO EXPORT TO GUAM

TIME OF DELIVERY AFTER RECEIPT OF
PURCHASE ORDER: AS SPECIFIED

 <p>GUAM POWER AUTHORITY AGANA, GUAM</p>	SPECIFICATION No. E-043	REVISION: 3 July 28, 2016
PREPARED BY THE ENGINEERING DEPT.		

GUAM POWER AUTHORITY
P.O. BOX 2977
AGANA, GUAM 96932


TRANSMISSION & DISTRIBUTION SPECIFICATION

SPECIFICATION NO. E-043

FOR

LIGHT EMITTING DIODE (LED) STREET LIGHT
LUMINAIRES

EFFECTIVE DATE: 7/29/16	ISSUED: [Signature]	APPROVED: [Signature]
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 GUAM POWER AUTHORITY AGANA, GUAM	SPECIFICATION No. E-043	PAGE 1 OF 8
		REVISION: 3 July 28, 2016
PREPARED BY THE ENGINEERING DEPT.		

LIGHT EMITTING DIODE (LED) STREET LIGHT LUMINAIRES

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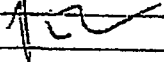


EFFECTIVE DATE: 7/29/16	ISSUED: 	APPROVED: 
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EXHIBIT 2

	GUAM POWER AUTHORITY AGANA, GUAM	SPECIFICATION No. E-043	PAGE 2 OF 8
PREPARED BY THE ENGINEERING DEPT.			REVISION: 3 July 28, 2016

1.0 SCOPE

- 1.1 This specification covers GPA requirements for Light Emitting Diode (LED) streetlight luminaires used to replace the existing High Pressure Sodium (HPS) lights for street lighting and private outdoor lighting.
- 1.2 The streetlights are intended for use in tropical weather conditions with a corrosive sea air atmosphere and subject to moderate to severe earthquakes.

2.0 APPLICABLE PUBLICATIONS

The equipment covered by this specification shall be designed, manufactured, assembled, and tested in accordance with the standards listed below:

2.1 IESNA (ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA)

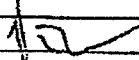

- LM-63-02 ANSI APPROVED STANDARD FILE FORMAT FOR ELECTRONIC TRANSFER OF PHOTOMETRIC DATA AND RELATED INFORMATION
- LM-79-08 APPROVED METHOD FOR ELECTRICAL AND PHOTOMETRIC MEASUREMENTS OF SOLID STATE LIGHTING PRODUCTS
- LM-80-08 APPROVED METHOD FOR MEASURING LUMEN MAINTENANCE OF LED LIGHT SOURCES


2.2 ANSI (AMERICAN NATIONAL STANDARDS INSTITUTE)

- C78.377 SPECIFICATIONS FOR THE CHROMATICITY OF SOLID STATE LIGHTING PRODUCTS
- C82.SSL1 POWER SUPPLY
- C82.77 HARMONIC EMISSION LIMITS - RELATED POWER QUALITY

2.3 UL (UNDERWRITERS LABORATORIES)

- UL 1598 THE STANDARD FOR SAFETY OF LUMINAIRES
- UL 8750 THE STANDARD FOR SAFETY OF LIGHT EMITTING DIODE (LED) EQUIPMENT FOR USE IN LIGHTING PRODUCTS
- ~~24~~ ENERGY STAR PROGRAM REQUIREMENTS FOR SOLID STATE LIGHTING LUMINAIRES

EFFECTIVE DATE: 7/29/16	ISSUED: 	APPROVED: 
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 GUAM POWER AUTHORITY AGANA, GUAM	SPECIFICATION No. E-043	PAGE 3 OF 8
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3.0 DEVIATIONS AND NON-CONFORMANCE REQUIREMENTS


- 3.1 Deviations from this specification or changes in the material or design after the purchase order has been placed must be approved by the GPA Engineering department and acknowledged by a Purchase Order Amendment issued by GPA.
- 3.2 Units received with deviations or non-conformances that are not acknowledged per Section 3.1 are subject to rejection. The Supplier of rejected units is responsible for any corrective action including but not limited to materials, labor and transportation necessary to dispose of or make the units conform to the specification.
- 3.3 Notification of defective units discovered before or after installation that are believed to be inherent to manufacturing problems or workmanship shall be made and forwarded to the Supplier. The description of the item, documentation of the problem and the described information, disposition and/or follow-up (as appropriate) that GPA expects from the Supplier will be specified. The Supplier's response shall be made within thirty (30) days unless an extension is acknowledged and approved in writing by the GPA Manager of Engineering.

4.0 RATINGS

- 4.1 All photometric data must be collected via absolute photometry which tests the LED light when installed in the applicable luminaire. Ratings of the LED light shall be as specified Table 1. Appendices A and B shall follow the requirements stated in Table 1.

	150W HPS replacement LED	250W HPS replacement LED
Input Voltage	120V	120V
Nominal Rating (Light + driver)	80 W max	100 W max
Burning Position	Horizontal	Horizontal
Off-state power	zero	zero
Power Factor	>0.9	>0.9
THD	<20%	<20%
Initial Lumens	6400 lm min. at CCT	10,000 lm min. at CCT
CCT	3800 - 4800K	3800 - 4800K
CRI	> 65	> 65
Lamp Lumens per Watt	> 90 lm/W	> 90 lm/W
IES Classification	Type II, III or equivalent	Type III, IV or equivalent
Longitudinal classification	Long	Long
Shielding	Non-shielded	Non-shielded
Rated Life for outdoor temp of 25° C	50,000 Hours min.	50,000 Hours min.
Weight	<20 lbs	<25 lbs

Table 1

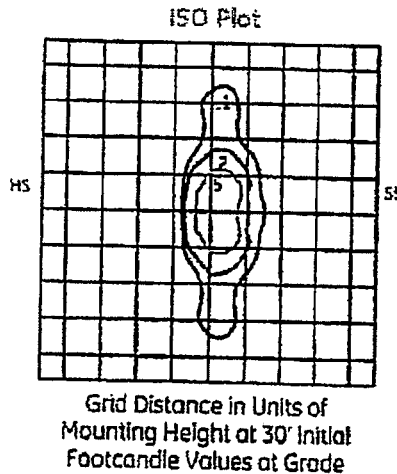
EFFECTIVE DATE: 7/29/16 ISSUED:  APPROVED: 

	<p>GUAM POWER AUTHORITY AGANA, GUAM</p>	<p>SPECIFICATION No. E-043</p>	<p>PAGE 4 OF 8</p>
<p>PREPARED BY THE ENGINEERING DEPT.</p>			<p>REVISION: 3 July 28, 2016</p>

5.0 REQUIRED DOCUMENTS

The required documents stated in this section are outlined in Appendices A and B for the respective lights. Appendix A and B must be filled out. Failure to do so may result in the disqualification of the proposed luminaires.

- 5.1 Luminaires must come with wiring diagrams and all necessary equipment and hardware for installation.
- 5.2 The manufacturer shall furnish completed Appendices A and B as applicable providing manufacturer information, electrical information, photometric information, weight, and dimensions. The information provided in the appendices must be specific to the model proposed.
- 5.3 Provide an LM-79-08 report.
- 5.4 Provide isometric plots for each luminaire at 25 foot and 30 foot mounting heights like the graph shown below




6.0 NAMEPLATE AND EXTERIOR WATTAGE LABEL

The manufacturer shall furnish with each luminaire a nameplate attached to the light. The nameplate shall include the following data:

- a. Manufacturer's name

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	<p>GUAM POWER AUTHORITY AGANA, GUAM</p>	<p>SPECIFICATION No. E-043</p>	<p>PAGE 5 OF 8</p>
<p>PREPARED BY THE ENGINEERING DEPT.</p>			<p>REVISION: 3 July 28, 2016</p>

- b. Catalog number
- c. Lamp Type
- d. Wattage
- e. Voltage
- f. Frequency
- g. Connection diagram
- h. Serial number – The serial number shall be specified in the as P.O.# - manufacturer #.
Example: (Serial number: 27567-12345678)

Each light shall come with an exterior wattage label showing the light type i.e. "LED100". The wattage shown shall be based on the total power of the luminaire, LED plus driver.


7.0 COMPATIBILITY AND INSTALLATION

- 7.1 Luminaires shall be compatible with the existing NEMA standard 3-terminal twist lock type photoelectric control device (ECDV-AP-TD) or have a built in photoelectric cell that is covered under the warranty.
- 7.2 The Luminaire mounting bolts and tilt adjustment mechanism must be easily accessible. Full vertical clearance is necessary to allow the use of an impact gun.
- 7.3 Luminaires must be compatible with 1-1/4" I.P.S (1-5/8" O.D.) to 2" O.D. mast arms.
- 7.4 The luminaire shall provide an effective method of preventing bird entrance to the luminaire.
- 7.5 Terminal blocks shall accept a two (2) wire 120VAC input ranging from #14 awg to #10 awg.
- 7.6 Terminal blocks shall accept no smaller than a #2 screwdriver.
- 7.7 Installation of the luminaire shall only require the use of a screwdriver and standard hex head sockets.
- 7.8 Termination of the light shall not require splicing and/or the use of wire nuts.

8.0 QUALITY CONTROL

- 8.1 The Supplier shall have a quality control program to ensure compliance with the requirements of this specification. The program shall be documented and available for GPA's review if requested.

EFFECTIVE DATE: 7/29/26	ISSUED: [Signature]	APPROVED: [Signature]
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	<p>GUAM POWER AUTHORITY AGANA, GUAM</p>	<p>SPECIFICATION No. E-043</p>	<p>PAGE 6 OF 8 REVISION: 3 July 28, 2016</p>
<p>PREPARED BY THE ENGINEERING DEPT.</p>			

8.2 Documentation of the quality control program shall indicate where in the production and manufacturing process the quality checks are taken, describe the purpose of the checks, and describe the nature of the check, e.g. if check is visual only or if electrical or mechanical testing is used.

9.0 WARRANTY

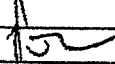

All products shall come with a minimum five (5) year warranty on all parts and labor associated with the product. At time of bid, Vendor shall submit with his/her bid the contact information for warranty implementation complete with a copy of any forms required to fulfill warranty requirements.


10.0 PACKING AND SHIPPING

9.1 The equipment shall be placed and crated with suitable material to prevent damage and injury during shipment and handling operations.

9.2 The equipment shall be securely blocked to prevent shifting during transit.

9.3 Instructions for handling, shipping, packaging, and storing shall be provided by the manufacturer to prevent damage, loss, deterioration, and substitution of the luminaires.

<p>EFFECTIVE DATE: 7/29/16</p>	<p>ISSUED: </p>	<p>APPROVED: </p>
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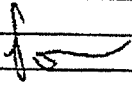
 <p>GUAM POWER AUTHORITY AGANA, GUAM</p>	<p>SPECIFICATION No. E-043</p>	<p>PAGE 7 OF 8</p> <p>REVISION: 3 July 28, 2016</p>
<p>PREPARED BY THE ENGINEERING DEPT.</p>		


Appendix A
150 Watt HPS replacement LED Streetlight Luminaire Information Sheet

NOTE: Please complete the product information and provide the required documents. Incomplete information shall be cause for rejection.

Product Information			
1.	NEMA Standard 3-terminal twist lock type PEC receptacle or PEC supplied with light that is covered with the luminaire warranty.	Yes	No
2.	Mounting, Horizontal Tenon, 1-1/4" I.P.S (1-5/8" O.D.) to 2" O.D. I.P.S. pipe	Yes	No
3.	Voltage (120VAC)	Yes	No
4.	Frequency (60Hz)	Yes	No
5.	Manufacturer's Name		
6.	Brand Name		
7.	Model # (Full detail with numbering logic sheet)		
8.	Weight (<25lbs)		
9.	Luminaire Wattage to include driver (<80W)		
10.	Luminaire leveling adjustment (degrees)		
11.	Initial Lumens (>6,400 lm)		
12.	Drive Current		
13.	Light Distribution		
14.	Correlated Color Temperature (CCT) (3800-4800K)		
15.	Color Rendering Index (CRI) (>65)		
16.	Specify tools required for entry		
17.	Specify tools require for mounting		
18.	Specify tools required for termination of wires.		
19.	Applicable Accessories & Description (Provide Attachment if more space is needed)		

Required Documents			
1.	Product Literature (Product sheet for only the specified luminaires showing the electrical, photometric, and physical characteristics of only the light specified in this appendix.)	Yes	No
2.	Warranty	Yes	No
3.	Isometric plots at 25 foot and 30 foot mounting heights as specified in section 5.7.	Yes	No

EFFECTIVE DATE: 7/25/16	ISSUED: 	APPROVED:
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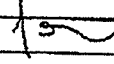

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PREPARED BY THE ENGINEERING DEPT.		

Appendix B
250 Watt HPS replacement LED Streetlight Luminaire Information Sheet

NOTE: Please complete the product information and provide the required documents. Incomplete information shall be cause for rejection.

Product Information			
1.	NEMA Standard 3-terminal twist lock type PEC receptacle or PEC supplied with light that is covered with the luminaire warranty.	Yes	No
2.	Mounting, Horizontal Tenon, 1-1/4" I.P.S (1-5/8" O.D.) to 2" O.D. I.P.S. pipe	Yes	No
3.	Voltage (120VAC)	Yes	No
4.	Frequency (60Hz)	Yes	No
5.	Manufacturer's Name		
6.	Brand Name		
7.	Model # (Full detail with numbering logic sheet)		
8.	Weight (<30lbs)		
9.	Luminaire Wattage to include driver (<100W)		
10.	Luminaire leveling adjustment (degrees)		
11.	Initial Lumens (>10,000 lm)		
12.	Drive Current		
13.	Light Distribution		
14.	Correlated Color Temperature (CCT) (3800-4800K)		
15.	Color Rendering Index (CRI) (>65)		
16.	Specify tools required for entry.		
17.	Specify tools required for mounting.		
18.	Specify tools required for termination of wires.		
19.	Applicable Accessories & Description (Provide Attachment if more space is needed)		

Required Documents			
1.	Product Literature (Product sheet for only the specified luminaires showing the electrical, photometric, and physical characteristics of only the light specified in this appendix.)	Yes	No
2.	Warranty	Yes	No
3.	Isometric plots at 25 foot and 30 foot mounting heights as specified in section 5.7.	Yes	No

EFFECTIVE DATE: 7/29/16	ISSUED: 	APPROVED: 
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GUAM POWER AUTHORITY
AGANA, GUAM

SPECIFICATION No. E-005

REVISION: 4
July 28, 2009

PREPARED BY THE ENGINEERING DEPT.

GUAM POWER AUTHORITY
P.O. BOX 2977
AGANA, GUAM 96932

TRANSMISSION & DISTRIBUTION SPECIFICATION

SPECIFICATION NO. E-005

FOR

HIGH PRESSURE SODIUM LUMINAIRES
AND MAST ARMS


EFFECTIVE DATE: 8/17/09

ISSUED:

A handwritten signature in black ink, appearing to be 'P. S.', is written over the 'ISSUED:' label.

APPROVED:

A handwritten signature in black ink, appearing to be 'A. M. M.', is written over the 'APPROVED:' label.


 <p>GUAM POWER AUTHORITY AGANA, GUAM</p>	SPECIFICATION No. E-005	PAGE 1 OF 8 REVISION: 4 July 28, 2009
PREPARED BY THE ENGINEERING DEPT.		

**HIGH PRESSURE SODIUM LUMINAIRES
AND MAST ARMS**

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EFFECTIVE DATE: 8/17/09 ISSUED: *[Signature]* APPROVED: *[Signature]*

	GUAM POWER AUTHORITY AGANA, GUAM	SPECIFICATION No. E-005	PAGE 2 OF 8
PREPARED BY THE ENGINEERING DEPT.		REVISION: 4 July 28, 2009	

1.0 SCOPE

- 1.1 This specification covers GPA requirements for High Pressure Sodium (HPS) luminaires and mast arms used for street lighting and private outdoor lighting.
- 1.2 The High Pressure Sodium (HPS) luminaires and mast arms are intended for use in tropical weather conditions with a corrosive sea air atmosphere, sustained winds of 155 miles per hour with gusts to 180 miles per hour and subject to moderate to severe earthquakes.

2.0 APPLICABLE PUBLICATIONS

The equipment covered by this specification shall be designed, manufactured, assembled, and tested in accordance with ANSI-IESRP-8-1998, IES LM-31, ANSI C33.31, and NEMA SH-17-1998 standards.

3.0 DEVIATIONS AND NON-CONFORMANCE REQUIREMENTS


- 3.1 Deviations from this specification or changes in the material or design after the purchase order has been placed must be approved by the GPA Engineering department and acknowledged by a Purchase Order Amendment issued by GPA.
- 3.2 Units received with deviations or non-conformances that are not acknowledged per Section 3.1 are subject to rejection. The Supplier of rejected units is responsible for any corrective action including but not limited to materials, labor and transportation necessary to dispose of or make the units conform to the specification.
- 3.3 Notification of defective units discovered before or after installation that are believed to be inherent to manufacturing problems or workmanship shall be made and forwarded to the Supplier. The description of the item, documentation of the problem and the described information, disposition and/or follow-up (as appropriate) that GPA expects from the Supplier will be specified. The Supplier's response shall be made within thirty (30) days unless an extension is acknowledged and approved in writing by the GPA Manager of Engineering.

4.0 RATINGS

Ratings of the HPS luminaires and lamps shall be as specified in the following table:

	150 Watt HPS Luminaire	250 Watt HPS Luminaire
BASE	MOGUL	MOGUL
BULB COATING	Clear	Clear
NOMINAL RATING	150 Watts	250 Watts

EFFECTIVE DATE: 6/17/09 | ISSUED: [Signature] | APPROVED: [Signature]

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PREPARED BY THE ENGINEERING DEPT.		


	150 Watt HPS Luminaire	250 Watt HPS Luminaire
BURNING POSITION	Horizontal	Horizontal
INITIAL LUMENS	16,000	30,000
MEAN LUMENS	14,400	27,000
RATED LIFE	24,000 hours	24,000 hours
ARC TUBE VOLTAGE	55 Volts	100 Volts
BALLAST (Type)	HPF reactor	Autoregulator
BALLAST (Volts)	120 + 5%	120 + 10%
LIGHT TYPE	IES II	IES IV

5.0 DESIGN AND CONSTRUCTION

5.1 Luminaire Housing

- 5.1.1 Luminaire housings, both upper and lower (lens holder), shall be made of precision die-cast aluminum with weather-resistant baked-on enamel finish applied by an electrostatic process.
- 5.1.2 The upper housing shall include a slip-fitter capable of accepting 1 ¼ inch to 2 inch IPS pipe without the need for a separate attachment or for rearrangement of mounting parts. The slip-fitter shall be provided with an approved stop or method to prevent contact of the pipe with electrical components inside the luminaire.
- 5.1.3 The upper and lower housings shall be joined by means of hinging and latching. Hinging shall incorporate a safety device to prevent accidental disengagement of the lower housing. Latching and unlatching shall be designed for ease of operation without the need for tools. The lens holder shall automatically align to the upper housing.
- 5.1.4 The ballast assembly module shall be connected to the upper housing by means of hinges and an interlock device. Hinging shall have provisions to prevent accidental disengagement from upper housing. The locking device shall be stainless steel.
- 5.1.5 The upper housing shall have a receptacle for connecting the twist-lock photo-electric control unit.
- 5.1.6 The design shall provide for an effective method of preventing bird entrance to the luminaire.

EFFECTIVE DATE: 8/17/09	ISSUED: [Signature]	APPROVED: [Signature]
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<p>PREPARED BY THE ENGINEERING DEPT</p>		

5.2 Optical Assembly

- 5.2.1 The HPS luminaire shall include an enclosed optical assembly which provides the light distribution pattern as specified in Section 4.0, Light Type. The assembly shall consist of a reflector, refractor, gasket, and filter. The optical assembly shall be sealed and filtered. Breathing shall be only through the gasket.
- 5.2.2 The reflector shall be hard, highly polished anodic surfaced aluminum secured with spring latches for easy removal and accurate and easy positioning.
- 5.2.3 The refractor shall be prismatic borosilicate glass or polycarbonate with minimum transmittance of 90% and secured with spring latches.
- 5.2.4 The gasket shall be made of high temperature polyester fiber to filter air entering the optical assembly.

5.3 Lamp Socket

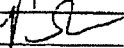
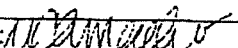
The lamp socket shall be porcelain enclosed multiple mogul-type. The lamp socket support shall be adjustable to permit changes in the light distribution pattern. The lamp socket and support shall be pre-set by the supplier to provide the light distribution pattern specified on the Purchase Order.


5.4 Lamp

- 5.4.1 The lamps shall be a 150 or 250 watt, 120V mogul base High Pressure Sodium vapor lamp as specified on the GPA Purchase Order.
- 5.4.2 The lamp shall come equipped with a scratch pad feature for tracking the installation date, removal date, and shall be marked with the purchase order number.

5.5 Ballast Assembly

- 5.5.1 The HPS luminaire shall include the ballast assembly module which may be attached to or detached from the upper housing with a screwdriver.
- 5.5.2 The ballast assembly shall be removable and replaceable by use of quick disconnect plugs.
- 5.5.3 Ballasts shall be pre-wired at the factory for 120-Volt AC operation, suitable for high ambient temperature and with a high power factor of 90%+.

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5.6 Photoelectric Control


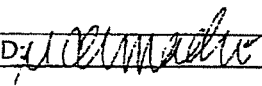
- 5.6.1 The receptacle connection for the twist lock external photoelectric control unit shall include rigid weatherproof electrical and mechanical connections.
- 5.6.2 The external photoelectric control shall be an EEI-NEMA standard three-terminal, polarized, twist lock type.
- 5.6.3 The photoelectric control shall come equipped with a scratch pad feature for tracking installation date, removal date, and shall be marked with the purchase order number.


5.7 Terminal Strip

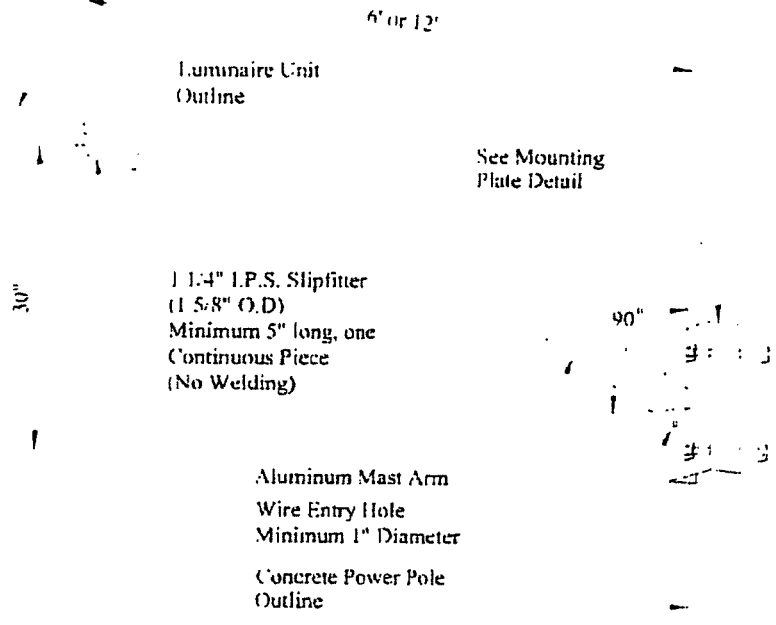
The terminal strip attached to the upper housing shall be connected so that the incoming conductors will not be in contact with the ballast assembly when the luminaire is in operation.

5.8 Mast Arm and Hardware

- 5.8.1 All hardware used shall be corrosion resistant.
- 5.8.2 The mast arm shall be a tapered oval type design using an aluminum extrusion "tongue and groove" locking system to maximize strength. The arm shall be designed to exceed the ANSI C136.13 standard specification for metal brackets for poles used in roadway lighting. (See Figure 1)

EFFECTIVE DATE: 8/17/05	ISSUED: 	APPROVED: 
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 <p>GUAM POWER AUTHORITY AGANA, GUAM</p> <p>PREPARED BY THE ENGINEERING DEPT</p>	<p>SPECIFICATION No. E-005</p>	<p>PAGE 6 OF 8</p> <p>REVISION: 4 July 28, 2009</p>
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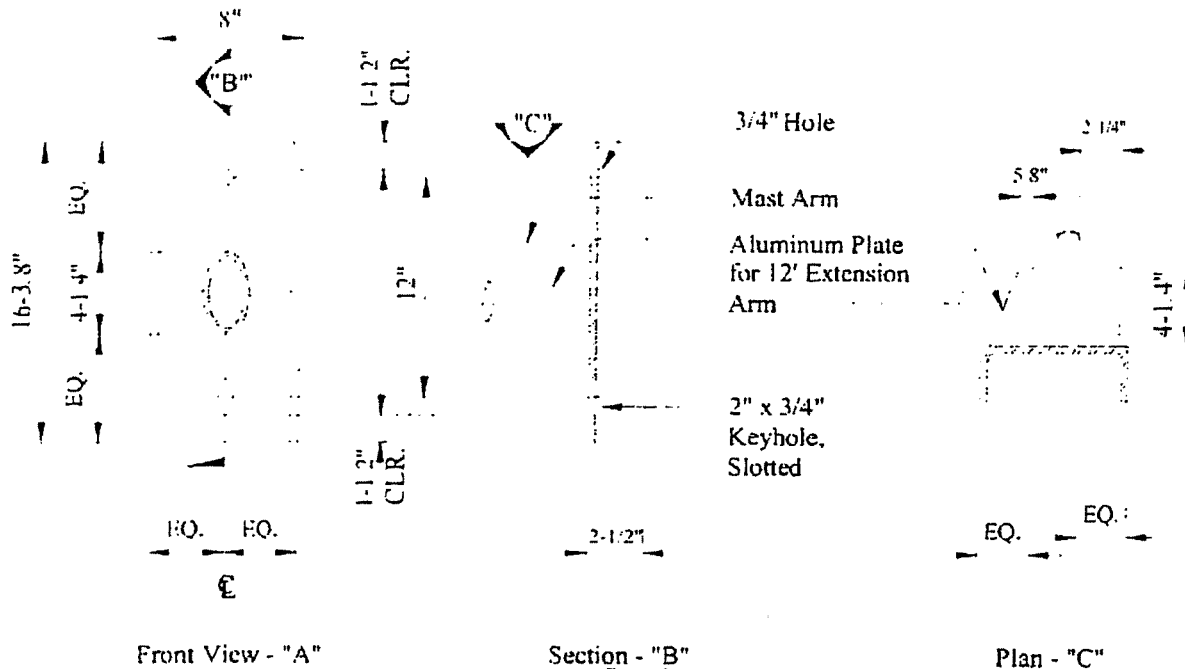


Mast Arm Elevation Detail
Figure 1

5.8.3 The mounting bracket shall be aluminum extrusion providing for maximum surface contact with the pole to increase vertical and horizontal stability. The plate shall have one 2" keyhole and one 3/4" hole for 5/8" machine bolts. (See Figure 2).

EFFECTIVE DATE: 8/17/09	ISSUED: [Signature]	APPROVED: [Signature]
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<p>PREPARED BY THE ENGINEERING DEPT.</p>		



Mounting Plate Detail
Figure 2

- 5.8.4 The mast arm shall be made of three 6063-T6 aluminum alloy extrusion. The mounting plate shall be made of one 6063-T6 aluminum extrusion. The finish shall be a natural aluminum finish.
- 5.8.5 The wire entry hole location shall be through the bottom of the arm two inches from the pole mounting plate. The edges of the hole must be rounded to protect the wire from damage.
- 5.8.6 All weld connections shall be full penetration.

EFFECTIVE DATE: 8/17/09	ISSUED: <i>[Signature]</i>	APPROVED: <i>[Signature]</i>
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PREPARED BY THE ENGINEERING DEPT.			

5.9 Nameplate

The manufacturer shall furnish with each luminaire a nameplate attached to and inside of the upper housing. The nameplate shall include the following data:

- a. Manufacturer's name
- b. Catalog number
- c. Lamp type and ANSI code
- d. Wattage
- e. Voltage
- f. Starting and running current
- g. Complete connection diagram

6.0 QUALITY CONTROL

The Supplier shall have a quality control program to ensure compliance with the requirements of this specification. The program shall be documented and available for GPA's review if requested.

Documentation of the quality control program shall indicate where in the production and manufacturing process the quality checks are taken, describe the purpose of the checks, and describe the nature of the check, e.g. if check is visual only or if electrical or mechanical testing is used.

7.0 PACKING AND SHIPPING

- 7.1 The equipment shall be placed and crated with suitable material to prevent damage and injury during shipment and handling operations.
- 7.2 The equipment shall be securely blocked to prevent shifting during transit.
- 7.3 Instructions for handling, shipping, packaging, and storing shall be provided by the manufacturer to prevent damage, loss, deterioration, and substitution of the units.

EFFECTIVE DATE:

5/17/09

ISSUED:

ASZ

APPROVED:

[Signature]

EXHIBIT 3



GUAM POWER AUTHORITY

ATURIDÁT ILEKTRESEDÁT GUAHAN
P.O. BOX 2977 • AGANA, GUAM U.S.A. 96932-2977

PLEASE ACKNOWLEDGE RECEIPT BY
SIGNING BELOW AND RETURN THIS FAX
TO VINCE BARCINAS. FAX. NO.: 648-3165.

November 04, 2016

PRINT/SIGNATURE

DATE

A.B.E

11/7/16

COMPANY

AMENDMENT NO.: II

TO

INVITATION FOR BID NO.: GPA-005-17

FOR

APPRECIATE YOUR IMMEDIATE RESPONSE.
THANK YOU.

GPA PROCUREMENT DIVISION
TEL.: (671) 648-3054/55

LED LUMINAIRE UNITS AND PHOTO ELECTRIC CONTROLS

Prospective Bidders are hereby notified of the following changes and response to inquiries received from JMI Edison dated 10/26/16, KOLTA Global PNB Inc. dated 10/31/2016, and Benson Guam Ent. Inc. dated 11/02/16.

CHANGES:

1. **REMOVE** Page 3 of 39 and **REPLACE** with Page 3a of 39 (see attached):

Refer to Table 1 of GPA Specification E-043, Revision 3 for CCT requirements.
Bid Description item 1.0 and 2.0 will be changed to reflect Table 1 requirements as shown in GPA Specification E-043, Revision 3.

2. **REMOVE** Page 4 of 39 and **REPLACE** with Page 4a of 39 (see attached):

Refer to Table 1 of GPA Specification E-043, Revision 3 for CCT requirements.
Bid Description item 1.0 and 2.0 will be changed to reflect Table 1 requirements as shown in GPA Specification E-043, Revision 3.

JMI Edison Inquiry dated 10/26/16:

QUESTION:

1. Given the speed that the LED technology is improving, it is very possible that bidders will be bidding on products that are much more efficient than what GPA's specifications call for. Therefore, we think it is in GPA's and Guam best interest to include lighting efficiency in the evaluation criteria, or possibly evaluate the bids based on the life-cycle cost of the fixtures.

ANSWER:

GPA Bid 005-17 will be awarded based on the lowest responsive bid, as outlined in GPA's General Terms and Conditions. This is found on page 35 of 39 of the bid package for GPA-005-17. Additionally, GPA Specification E-043 is updated periodically to reflect advances in LED Technology.

QUESTION:

2. Many good and established manufacturers of LED lighting fixtures with proven record of competitiveness and reliability are swamped with current orders such that their production schedule is set and not subject to much change. While the delivery requirement of GPA may be reasonable to new and smaller companies, bigger companies may have a hard time meeting it. Thus, we suggest as an example, a staggered delivery of possibly 1,000 fixtures per month, starting 8 weeks from award date.

ANSWER:

GPA's delivery requirements are specified in the bid documents. The required delivery time reflect anticipated installation schedules.

KOLTA Global PNB Inc. dated 10/31/16:**QUESTION:**

1. Page 3 of 39. 1.0 Led Luminaire Units, 150 Watt HPS Equivalent, 120 volts. Ref. Mfr., General Electric or Approved equal. General Electric is a brand/manufacturer. What is considered Approved equal? Does it have to be approved ahead of time prior to the Bidding Date? Who approves it?

ANSWER:

Approved equal indicates that a luminaire has been evaluated and approved by GPA to be in accordance with GPA Specification E-043. This evaluation is performed during the bid review.

QUESTION:

2. Page 4 of 39. 2.0 Led Luminaire Units, 250 Watt HPS Equivalent, 120 volts. Ref. Mfr., General Electric or Approved equal. General Electric is a brand/manufacturer. What is considered Approved equal? Does it have to be approved ahead of time prior to the Bidding Date? If so, who approves it?

ANSWER:

Approved equal indicates that Luminaire has been evaluated and approved by GPA to be in accordance with GPA Specification E-043. This evaluation is performed during the bid review.

QUESTION:

3. Page 5 of 30. 3.0. Photo Electric Control, Locking Type. Ref. Mfr.: Precision or Approved Equal. Precision is considered a Brand/Manufacturer. What is considered Approved equal? Does it have to be approved ahead of time prior to the Bidding Date? If so, who approves it?

ANSWER:

Approved equal indicates that a Photo Electric Control has been evaluated and approved by GPA to be in accordance with GPA Specification E-005. This evaluation is performed during the bid review.

QUESTION:

4. Specifications No. E-043. Pg. 6 of 8, 9.0 Warranty. Is the company liable for the cost associated with removal and replacing of the Fixtures on the Poles? If so, what is the cost?

ANSWER:

The company is not liable for the cost associated with removal of the damaged fixtures. The company will be responsible for providing a new working fixture.

Benson Guam Enterprises Inc. dated 11/02/16:**QUESTION:**

1. There is some minor inconsistency between the description of the items under your bid invitation and that of Specifications E-043, please advise which one to follow:

The bid description indicated 2800K<CCT<4800K for item 1, while your table 1 chart indicates 3600 - 4800K.

ANSWER:

Refer to **CHANGES** #1 above.

QUESTION:

2. The bid description indicated CRI of <65, while the specs on table 1 indicates >65.

ANSWER:

Refer to **CHANGES** #2 above.

All other Terms and Conditions in the bid package shall remain unchanged and in full force.

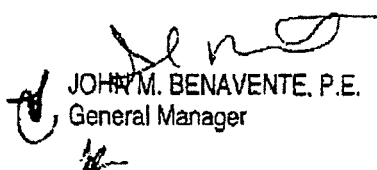

JOHN M. BENAVENTE, P.E.
General Manager

EXHIBIT 4

INVITATION FOR BID NO.: GPA-005-17

Requisition No.: 29950

NO.	DESCRIPTION	QTY.	U/I	U/P:	T/P:	
1.0	Led Luminaire Units, 150 Watt HFS Equivalent. 120 Volts, 1-1/4' to 2' Mast Arm Compatible	8830	Each	\$ 172.17	\$1,520,261.10	BASIC
	As Per GPA Specification: E-043, Revision 3 GPA Index No.. SSOL0936			127.97	1,129,975.10	ALTERNATE

APPROVED EQUAL OR BETTER

BASIC OFFER:

CAT# ATBS H MVOLT R2 NL C136.22 RFD225582

Marking Requirements:

Stencil 1" GPA Index No./Purchase Order No./Quantity Per Box.

ALTERNATE OFFER:

CAT# GCJ2-20H-MV-NW-*GY-900-WL

DELIVERY REQUIREMENT:

5,000 Each Initial Delivery 8 Weeks ARO


3,830 Each April 28, 2017.

Any delivery extension for this specific bid shall not be granted due to on-going and/or scheduled projects.

NOTE:

Notwithstanding the fact that this contract was written by one (1) party, it will be construed that it was written by two (2) parties.

Specification Reviewed by:

 11/1/16
Reuben C. Ulloa Date

BASIC

ALTERNATE

TO BE COMPLETED BY BIDDER:

MANUFACTURED BY: ACUITY
AMERICAN ELECTRIC LIGHTING/
BRAND NAME Lithonia

LEOTEK

LEOTEK

PLACE OF ORIGIN: USA

USA

EXPORT ABROAD: Okay to export to Guam

Okay to export to Guam

TIME OF DELIVERY AFTER RECEIPT OF
PURCHASE ORDER: As specified

As specified

EXPORT ABROAD: Okay to export to Guam

Okay to export to Guam

TIME OF DELIVERY AFTER RECEIPT OF
PURCHASE ORDER: As specified

As specified

INVITATION FOR BID NO. GPA-005-17

Requisition No.: 29950

NO.	DESCRIPTION	QTY.	U/H	U/P:	T/P:
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2.0	Led Luminaire Units, 250 Watt HPS Equivalent, 120 Volts, 1-1/4" to 2" Mast Arm Compatible	648	Each	\$ 237.91	\$ 154,165.68 BASIC
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198.28 128,485.44 ALTERNATE

As Per GPA Specification: E-043, Revision 3
GPA Index No.: SSOL0937

BASIC OFFER:

CAT# ATBS H MVOLT R2 NL C136.22 RFD225582

APPROVED EQUAL OR BETTER

ALTERNATE OFFER:

CAT# GCM2-40G-MV-NW-* -GY-700-WL

Marking Requirements:

Stencil 1" GPA Index No./Purchase Order No./Quantity Per Box

DELIVERY REQUIREMENT:

400 Each Initial Delivery 8 Weeks ARO.
248 Each April 28, 2017.

Any delivery extension for this specific bid shall not be granted due to on-going and/or scheduled projects.

NOTE:

Notwithstanding the fact that this contract was written by one (1) party, it will be construed that it was written by two (2) parties.

Specification Reviewed by

R. C. Ulloa 11/17/16
 Reuben C. Ulloa Date
ALTERNATE

BASIC

TO BE COMPLETED BY BIDDER:

MANUFACTURED BY: ACUITY
AMERICAN ELECTRIC LIGHTING/
BRAND NAME Lithonia

PLACE OF ORIGIN: USA

EXPORT ABROAD: Okay to export to Guam

TIME OF DELIVERY AFTER RECEIPT OF PURCHASE ORDER: As specified

LEOTEK

LEOTEK

USA

Okay to export to Guam

As specified

EXHIBIT 5



GUAM POWER AUTHORITY

ATURIDÁT ILEKTRESEDÁT GUAHAN
P.O. BOX 2977 • AGANA, GUAM U.S.A. 96932-2977

January 04, 2017

Dave Hicks
Vice President
America's Best Electricmart, Inc.
129 W. Harmon Industrial Park, Rd.
Tamuning, Guam 96913

RE: Invitation for Bid No.: GPA-005-17 for LED Luminaire Units and Photo Electric Controls

Dear Mr. Hicks,

In compliance with the New Streetlight Tariff, the Authority has determined this bid canceled.

A re-bid with the updated GPA Specification No. E-043, Revision 4 will therefore be issued.

GPA apologizes for any inconvenience this may have caused you.

Should you require any additional information, please feel free to contact Mrs. Jamie L.C. Pangelinan, Supply Management Administrator at Tel.: (671) 648-3054/55 or Fax: 648-3165.

Respectfully,

[Handwritten Signature]
per JOHN M. BENAVENTE, P.E.
General Manager

PLEASE ACKNOWLEDGE RECEIPT BY SIGNING BELOW AND RETURN THIS FAX TO VINCE BARCINAS. FAX. NO.: 648-3165.

PRINT/SIGNATURE _____ DATE _____

COMPANY _____

APPRECIATE YOUR IMMEDIATE RESPONSE. THANK YOU.

GPA PROCUREMENT DIVISION
TEL.: (671) 648-3054/55

EXHIBIT 6



AMERICA'S BEST ELECTRICMART, INC.
HARNESSING THE POWER OF SUPPLY.

January 6, 2017

Jamie Pangelinan
Supply Management Administrator
Guam Power Authority

RE: IFB: GPA-005-17

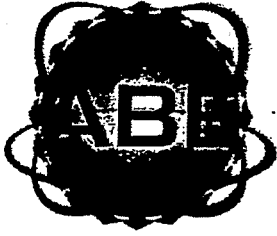
Dear Ms. Pangelinan,

I am in receipt of a Jan 04 2017 letter notifying me of the cancellation of IFB GPA-005-17. The letter states that the reason for the bid cancellation is to be in compliance with the New Streetlight Tariff. I'm not familiar with the compliance issue that this bid does not meet. Can you expand on what specific compliance issue of the New Streetlight Tariff was not met? Can I also get a copy of the New Streetlight Tariff?

Regards,

Dave Hicks

EXHIBIT 7



AMERICA'S BEST ELECTRICMART, INC.
HARNESSING THE POWER OF SUPPLY.

January 17, 2017

Jamie Pangelinan
Supply Management Administrator
Guam Power Authority

gn
PROCUREMENT
GPA
RECEIVED

RE: IFB: GPA-005-17

Dear Ms. Pangelinan,

Please consider this an official protest of the bid cancellation and re-bid for GPA's Invitation to Bid # GPA-005-17.

The reasons for this protest are as follows:

- The reason for the cancellation is not specific and does not appear to have anything to do with the specific LED streetlight specifications. The reason given was that in order to be in compliance with the New Streetlight Tariff the Authority determined this bid cancelled. America's Best Electricmart, Inc sent a letter requesting clarification (dated 1/6/2017) on the specific compliance concern. To date, no response has been given.

The CCU resolution 2016-003 authorizing GPA to petition the PUC for approval to implement an interim or new streetlight tariff does not discuss or even address a new or updated LED streetlight specification. The resolution does not list any requirement that would require a change of specification for the actual LED streetlight. Thereby negating GPA's reasoning for cancelling this bid.

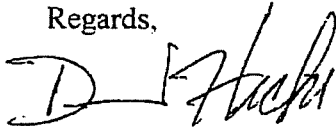
- Cancelling and re-bidding GPA-005-17 for issues unrelated to the technical specifications is unfair to the bidders who participated in this bid in good faith. GPA expressed in the cancellation notice that their intent was to issue a re-bid.
- Cancelling and re-bidding GPA-005-17 also goes against the timely implementation GPA's, the CCU's, and the PUC's specified intent to replace the remaining streetlights with energy efficient LED streetlights further delaying savings to be realized by GPA and the ratepayers.

- Cancelling and re-bidding GPA-005-17 further delays implementing the changes that GPA (through the bid itself) indicated were urgent. To that point, the initial delivery of 5400 streetlights was due in 8 weeks after award with the remaining balance of 4078 due by April 28th 2017.
- A re-bid of GPA-005-17 is unfair and harms the bidders of GPA-005-17 and more specifically the low-bidders. The prices offered by all bidders are now public providing re-bidders an advantage. In good faith America's Best Electricmart offered a price that was much lower than all other bidders in the initial bid .

In summary, America's Best Electric art, Inc is a locally owned and independently operated Guam company. Our owners and staff live and work on Guam. We participated in the Invitation for Bid GPA-005-17 in good faith and we offered a price that was significantly lower than the other qualified bidders. Based upon the information we have to-date cancelling this bid with the intent to rebid is unfair and is not the right and ethical thing to do.

I look forward to your favorable response on this matter and hope that it clears up concerns addressed in this protest.

Regards,



David Hicks

EXHIBIT 8



GUAM POWER AUTHORITY
ATURIDÁT ILEKTRESEDÁT GUAHAN
P.O. BOX 2977, HÁGATÑA, GUAM 96932-2977

DENIAL OF PROCUREMENT PROTEST

March 31, 2017

Mr. Dave Hicks
America's Best Electricmart, Inc.
129 W. Harmon Industrial Park, Unit D
Tamuning, Guam 96913

RE: Guam Power Authority's Response to America's Best Electricmart, Inc. Protest dated January 17, 2017, for IFB GPA-005-17, LED Luminaire Units and Photo Electric Controls

Dear Mr. Hicks:

I have reviewed your protest letter dated January 17, 2017, protesting Guam Power Authority's (GPA) letter to your company advising you that IFB-GPA-005-17 had been cancelled due to a change in technical specifications. Your Protest is hereby denied for the following reasons:

You indicated in your letter that you believe that the streetlight tariff had nothing to do with the change in specification. This is not correct, as the previous tariff reflected HPS lights, and this has now been changed to reflect LED lights with different standards. In addition, GPA engineering has changed the technical specifications to reflect a cost evaluation based on the total cost of ownership (TOC) computed by adding the initial purchase price plus the total life energy cost. The LED streetlight nominal power rating for the specified make, model, CCT, drive current, and IES classification will be utilized to calculate the GPA Total Cost of Ownership (TOC).

We appreciate your interest in this bid and look forward to your continued participation in the re-bid for IFB GPA-005-17.

America's Best Electricmart, Inc. is hereby ON NOTICE that this is the Guam Power Authority's final decision concerning America's Best Electricmart, Inc.'s January 17, 2017, protest for the above described IFB. You are hereby advised that America's Best Electricmart, Inc. has the right to seek judicial review.

Sincerely,



JOHN M. BENAVENTE, P.E.
General Manager

Fax: 647-6676
PLEASE ACKNOWLEDGE RECEIPT BY
SIGNING BELOW AND RETURN THIS FAX
TO VINCE BARCINAS. FAX. NO.: 648-3165.

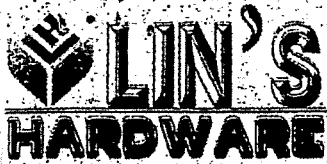
PRINT/SIGNATURE _____ DATE _____

COMPANY _____

APPRECIATE YOUR IMMEDIATE RESPONSE
THANK YOU.

GPA PROCUREMENT DIVISION
TEL.: (671) 648-3054/55

EXHIBIT 9



LIN'S HARDWARE

Page 248 of 582

P.O. Box 26478 Barrigada, Guam 96921
Tel : (671)648-3488 Fax : (671)648-3490

Store Location: 2149 San Miguel Building, Route 16, Suite#2, Dededo, Guam 96929
e-mail: linshardware@gmail.com

To: GPA General Manager, and
GPA Procurement Office

Hafa Adai Mr. John M. Benavente,

We have learned that the bid (GPA-005-17) for LED Luminaire Units and Photo Electric Controls was cancelled due to the New Streetlight Tariff. But there were no explanation which part of the bidding process did not meet this New Streetlight Tariff laws and what new requirements were in there. We would like to know the reasons so we can understand what caused this cancellation and be prepared for the future bidding solicitations.

The second concern is that the GPA told us that the approval process of the bid should take only two weeks. We had been following up with GPA in regard of the time when the bid would be open. No definite answer was given until the notice of the cancellation two month later!

Right now, we have a concern about our bidding bond of \$328,877.44 paid in by a cashier check. According to the bank, that cashier check was cleared through the bank and the money appears to be transferred out of our bank account. Based on our understanding, this bond deposit can be a bank promise and no cash outlay at the time of bidding until the bidder was awarded the contract. But our deposit seems to be cashed and deposited into your bank account! As a matter of fact, that was a drawn down from our bank credit line and the bank is charging us interest at 6.25%. We inquired about our cashier check and want it back after the cancelation of the bid. But they informed us that they had to go through some kind of process to approve returning our money! We finally had to go to GPA to pick up a GPA check for the re-turn of our funds last Friday (January 13th, 2017). So, we would like to ask GPA to reimburse this interest charged by the bank on our cashier check amount.

If you have any questions, please don't hesitate to contact us and hopefully, we can settle this amicably.

Sincerely,

Lin Yu Yao (President)

1/17/17



LIN'S HARDWARE

P.O. Box 26478 Barrigada, Guam 96921

Tel : (671)648-3488 Fax : (671)648-3490

Store Location: 2149 San Miguel Building, Route 16, Suite#2, Dededo, Guam 96929

e-mail: linshardware@gmail.com

To: GPA General Manager, and
GPA Procurement Office

Hafa Adai Mr. John M. Benavente,

We have learned that the bid (GPA-005-17) for LED Luminaire Units and Photo Electric Controls was cancelled due to the New Streetlight Tariff. But there were no explanation which part of the bidding process did not meet this New Streetlight Tariff laws and what new requirements were in there. We would like to know the reasons so we can understand what caused this cancellation and be prepared for the future bidding solicitations.

The second concern is that the GPA told us that the approval process of the bid should take only two weeks. We had been following up with GPA in regard of the time when the bid would be open. No definite answer was given until the notice of the cancellation two month later!

Right now, we have a concern about our bidding bond of \$328,877.44 paid in by a cashier check. According to the bank, that cashier check was cleared through the bank and the money appears to be transferred out of our bank account. Based on our understanding, this bond deposit can be a bank promise and no cash outlay at the time of bidding until the bidder was awarded the contract. But our deposit seems to be cashed and deposited into your bank account! As a matter of fact, that was a drawn down from our bank credit line and the bank is charging us interest at 6.25%. We inquired about our cashier check and want it back after the cancelation of the bid. But they informed us that they had to go through some kind of process to approve returning our money! We finally had to go to GPA to pick up a GPA check for the re-turn of our funds last Friday (January 13th, 2017). So, we would like to ask GPA to reimburse this interest charged by the bank on our cashier check amount.

If you have any questions, please don't hesitate to contact us and hopefully, we can settle this amicably.

Sincerely,

Lin Yu Yao (President)

EXHIBIT 10



GUAM POWER AUTHORITY

ATURIDÁT ILEKTRESEDÁT GUAHAN
P.O.BOX 2977 • AGANA, GUAM U.S.A. 96932-2977

FOR IMMEDIATE RELEASE FOR MORE INFORMATION CONTACT
ART S. PEREZ
COMMUNICATIONS MANAGER
PHONE NO.: 648-3000 ext. 7

4 November 2016

PUC APPROVES NEW LED STREETLIGHT TARIFF

The Guam Power Authority received approval from the Public Utilities Commission (PUC) of its petition to reduce the existing HPS streetlight tariff to the new LED streetlight tariff an average of 22 percent.

“We pleased with this latest order from the PUC,” stated John M. Benavente, P.E., GPA General Manager, “Existing High Pressure Sodium (HPS) streetlight system were the most efficient type of its time, but new LED streetlights today are much more efficient which provides GPA the opportunity to invest in a new system which reduces cost . . . there are approximately 10,360 HPS lights remaining to be changed over to the more efficient Light Emitting Diode (LED) technology out of a total of 16,000 streetlights installed islandwide.”

As of September 2016, a total of 5,675 LED replacements or change-outs have been completed. GPA estimates approximately \$5 million to change out the remaining public and private streetlights from HPS to LED with the program’s expected completion to be within one to two years.

“The decrease in fixture prices is effective 1 November 2016 for public & private streetlights while providing an opportunity to fund the program internally. Original estimate was around \$15M, however, funding required today is about \$5M,” remarked Benavente, “The planned source of funding is the line extension and internal CIP with annual maintenance costs to drop by about 80% saving nearly \$400K per year. The reduced tariff provides the Department of Public Works the opportunity to add additional streetlights in the villages by working alongside each village Mayor.”

#####

Editor’s Note:

EXHIBIT 11



GUAM POWER AUTHORITY

ATURIDÁT ILEKTRESEDÁT GUAHAN
P.O.BOX 2977 • AGANA, GUAM U.S.A. 96932-2977

December 27, 2016

MEMORANDUM

TO: General Manager

FROM: Manager, Engineering

SUBJECT: Cancellation of GPA Bid 005-17, LED Luminaire Units & Photo Electric Control


GPA's new streetlight tariff, Rate Schedule F, does not correspond with GPA's power requirements for LED street lights specified in GPA Specification E-043. Specifically, the new tariff specifies LED wattage levels at 67 and 120 Watts for 150 and 250 Watts streetlights respectively. To ensure GPA is not under collecting, GPA Specification E-043 has been updated to reflect the lower wattage requirements. Additionally, lumen levels have also been increased to reflect recent upgrades in LED technology.

In light of the above reasons, I am requesting cancellation of GPA Bid 005-17 for LED streetlight luminaires and photo electric controls.

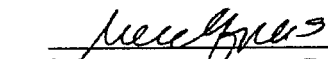

Joven G. Acosta, P.E.

Concurred by:

Approved by:


Melinda C. Mafnas, P.E.
AGMO

12/29/16
Date


John M. Benavente, P.E.
General Manager

12/29/16
Date

vjs/JGA

cc: Engineering Supervisor, Distribution
Engineer III

16

EXHIBIT 12



BEFORE THE GUAM PUBLIC UTILITIES COMMISSION

IN THE MATTER OF:) **GPA DOCKET 16-01**
)
)
TARIFF FOR LED) **ORDER**
STREETLIGHTS)
_____)

INTRODUCTION

This matter came before the Guam Public Utilities Commission (the “PUC”) pursuant to the PUC’s September 24, 2013 FY13 Rate Decision for Guam Power Authority (“GPA”) and GPA’s February 3, 2016 Petition to establish a tariff on LED Street Lighting.

DETERMINATIONS

In the PUC’s FY13 Rate Decision, the PUC ordered GPA to submit with the PUC a filing regarding “LED Street Lighting, which will include rates to be charged for LED street lights, and a position statement on the development of cost-based maintenance-only charges for LED street lights that are purchased directly by the customer or separately financed by the customer through GPA.”¹

On November 12, 2015, the PUC issued a reminder to GPA, indicating that GPA had not prepared a proposed tariff on LED Street Lighting, and that it must do so by December 30, 2015. On December 30, 2015, GPA requested an extension to file its proposed tariff, which the PUC granted. On February 3, 2016, GPA submitted its proposed tariff for LEDs for private outdoor lighting and street lighting, in the form of

¹ FY13 Rate Decision, GPA Docket 11-09, p. 9 (Sept. 24, 2013).

amendments to rate schedules "F" and "H." In accordance with the Ratepayers Bill of Rights, on October 18, 19, and 20, 2016, public hearings were held in the villages of Hagåtña, Asan, and Dededo, to receive testimony related to GPA's proposed tariff.

On October 26, 2016, the Administrative Law Judge of the PUC, Joephet R. Alcantara (the "ALJ") filed a report regarding review of the subject Petition, which included his findings and recommendations based on the administrative record before the PUC. The ALJ made the following findings.

A. GPA's February 3, 2016 Petition

In its February 3, 2016 Petition, GPA proposed amendments to rate Schedules "F" and "H." Specifically, GPA proposed to add to these schedules, rates for Light-Emitting Diode ("LED") street lamps. GPA's current streetlight rates indicated on Schedules "F" and "H" are "comprised on an energy charge, a fixture charge, and fuel recovery charge among other applicable surcharges which utilizes the established energy consumption of an HPS light."² GPA requested that the following LED items be added to Schedule F, Street Lighting, and Schedule H, Private Outdoor Lighting.

<u>Lamp Type</u>	<u>Wattage</u>	<u>kWh per month</u>	<u>Amount per lamp per month</u>
Light Emitting Diode (LED 250)	120	43.2	\$26.15
Light Emitting Diode (LED 150)	67	24.1	\$19.10

² Resolution No. 2016-03, issued by the Consolidated Commission on Utilities ("CCU"), p. 1 (Jan. 26, 2016).

However, “[t]he energy consumption of an LED light is significantly lower than that of a HPS light which is a 24 kWh for LED vs 67 kWh for HPS per month for 150 W equivalent lights and 43 kWh vs 108 kWh per month for 250 W equivalent lights.”³ Accordingly, the rates for the LED lamps reflected this reduction in energy consumption.

<u>Lamp Type</u>	<u>Wattage</u>	<u>kWh per month</u>	<u>Amount per lamp per month</u>
High Pressure Sodium	250	101	\$26.15
High Pressure Sodium	150	54	\$19.10
Light Emitting Diode (LED 250)	120	43.2	\$26.15
Light Emitting Diode (LED 150)	67	24.1	\$19.10

Furthermore, based on GPA’s Rate Study, GPA submitted that the cost of installation is \$973 for an LED 250 lamp, and \$953 for an LED 150 lamp; and that the annual cost of maintenance is \$72 for an LED 250 lamp, and \$68 for an LED 150 lamp. Based on these costs, GPA further submitted that the LED streetlights require an annual revenue requirement of \$225.13 for an LED 250 lamp, and \$194.44 for an LED 150 lamp. Based on the calculations prepared by GPA, the proposed rates would result in the following monthly revenues: \$35.34 for an LED 250 lamp; and \$24.23 for an LED 150 lamp, enough to cover the revenue requirements. Any additional revenue will be used “to fund the change out program”⁴

³ *Id.*

⁴ *Id.* at 2.

In addition, the proposed rates would also result in a savings for customers who currently pay the rates for the High Pressure Sodium ("HPS") streetlamps. The monthly revenue for HPS streetlights are as following: \$47.63 for an HPS 250 lamp; and \$30.59 for an HPS 150 lamp. Accordingly, it appeared that the proposed rates satisfy the revenue requirements, as well as result in a savings for the customers who currently pay the rates for the HPS lamps.

B. Public Hearings

At the October 18, 2016 public hearing in Hagåtña, GPA General Manager John Benavente gave a brief presentation concerning its LED streetlight program. The following are highlights from the presentation.

As indicated in its Petition, GPA proposed a \$26.15 fixture charge for an LED 250 lamp; and a \$19.10 fixture charge for an LED 150 lamp. The energy and fuel recovery charge is identical to the charges for the high pressure sodium lamps. However, GPA also proposed changes to energy usage to reflect the reduced energy consumption of LED lamps. Accordingly, the proposed KWHR is reduced by more than fifty-percent for less wattage. In the case of an LED 250 lamp, GPA set the KWHR per month at 43.2, and 24.1 for an LED 150 lamp. According to GPA, this results in a reduction of between 19% to almost 25%, depending on the LED lamp.

At present, LED lamps are much more affordable than they were two (2) years ago, which allows GPA to internally fund the LED replacement program. Additionally, GPA submitted that its annual maintenance cost for the LED lights should drop about 80%, resulting in a savings of \$400,000 per year.

Around 5,675 streetlights have been replaced with LED lamps. GPA estimated that it will cost about \$5 million to replace the remaining streetlights, and that such replacement should be completed within the next two (2) years.

At the Dededo and Asan public hearings, there were a few members of the public who attended, and who mainly had questions regarding the LED replacement program, as well as any effect it had on their bills. Representatives from GPA were present and answered these questions.

C. Conclusion and Recommendation

Based on the costs calculated by GPA, the LED streetlights require an annual revenue requirement of \$225.13 for an LED 250 lamp, and \$194.44 for an LED 150 lamp. Based on the calculations prepared by GPA, the proposed rates would result in the following monthly revenues: \$35.34 for an LED 250 lamp; and \$24.23 for an LED 150 lamp, which satisfy the monthly revenue requirement. Accordingly, approval of the LED tariff would allow GPA to meet its operating expenses with regard to its LED replacement program. In addition, the proposed rates would also result in a savings for customers who currently pay the rates for the HPS streetlights. Compared to the HPS rates, a customer could expect to save 57.8 KWHR per month for an LED 250 lamp, or 29.9 KWHR per month for an LED 150 lamp. Based on the study prepared by GPA, the proposed rates indicated in its Petition appeared just and reasonable.

Moreover, research indicates that upgrading to LED lamps can reduce energy usage by up to eighty percent (80%).⁵ Research also indicates that LEDs provide superior lighting inasmuch as they produce more light output per unit of energy than other forms of lighting.⁶ They also typically have longer lives, lasting between twelve (12) to twenty-three (23) years.⁷ Further, LEDs provide these additional advantages: provide even light distribution, resulting in fewer hotspots and dark areas, and therefore improve driver safety; provide instant illumination with no warm-up time, and can better withstand physical shocks that would normally shatter conventional lamps; last for decades; offer silent operation with no humming; and have no ultraviolet or infrared radiation, to list a few.⁸

Therefore, based on the record before the Commission, the ALJ recommended that the PUC approve the LED Streetlight Tariff rates, as proposed by GPA, and therefore approve the proposed amendments to GPA's Schedules "F" and "H."

The Commission hereby adopts the findings contained in the October 26, 2016 ALJ Report and, therefore, issues the following:

//

//

⁵ Tim Stearns, "A Guide to Municipal Street Lighting Upgrades," <http://www.energysmart.org/Media/Documents/Publications/Street%20Lighting%20Guide%20FINAL.pdf>, p. 1 (last accessed Oct. 25, 2016).

⁶ *Id.* at 2.

⁷ *Id.* at 2.

⁸ *Id.* at 3.

ORDERING PROVISIONS

After careful review and consideration of the above determinations, the October 26, 2016 ALJ Report, and the record herein, for good cause shown, on motion duly made, seconded and carried by the undersigned Commissioners, the Guam Public Utilities Commission hereby ORDERS the following:

1. That GPA's February 3, 2016 Petition to establish an LED Streetlight Tariff is GRANTED.

2. That GPA is therefore authorized to assess the new LED Streetlight Tariff rates, as indicated in the proposed amendments to Schedule F and Schedule H, filed with the PUC on February 3, 2016, effective November 1, 2016.

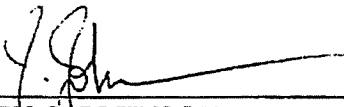
3. That GPA is ordered to pay the Commission's regulatory fees and expenses, including, without limitation, consulting and counsel fees and the fees and expenses associated with the instant proceeding. Assessment of the PUC's regulatory fees and expenses is authorized pursuant to 12 G.C.A. §§ 12002(b), 12024(b) (renumbered as 12 G.C.A. §§ 12103(b) and 12125(b)), and Rule 40 of the Rules of Practice and Procedure before the Public Utilities Commission.

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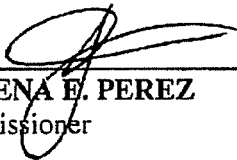
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SO ORDERED this 27th day of October, 2016.



JEFFREY C. JOHNSON
Chairman




ROWENA E. PEREZ
Commissioner




JOSEPH M. MCDONALD
Commissioner


FILOMENA M. CANTORIA
Commissioner



MICHAEL A. PANGELINAN
Commissioner



PETER MONTINOLA
Commissioner



ANDREW L. NIVEN
Commissioner

EXHIBIT 13



**CONSOLIDATED
COMMISSION ON UTILITIES**

Guam Power Authority • Guam Waterworks Authority
P.O. BOX 2977 • Agana, Guam 96932

Resolution No. 2016-03

**AUTHORIZING THE GUAM POWER AUTHORITY TO PETITION THE PUC FOR APPROVAL TO IMPLEMENT
AN INTERIM STREETLIGHT TARIFF FOR ENERGY EFFICIENT LED STREETLIGHTS
INSTALLED ON THE GPA POWER SYSTEM**

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8 **WHEREAS**, GPA is responsible for the installation and maintenance of streetlights installed and
9 operated on GPA power poles along public rights-of-way; and

10 **WHEREAS**, 16,413 streetlights are installed for public use to provide illumination of the
11 roadways, vehicles, and pedestrians at night and to safeguard and facilitate vehicular and pedestrian
12 traffic; and

13 **WHEREAS**, GPA has implemented an LED Streetlight Replacement program which will save on
14 operating and maintenance costs by upgrading the technology of existing streetlights from High
15 Pressure Sodium (HPS) to LED; and

16 **WHEREAS**, the total cost of replacing streetlights including, labor, materials, and equipment is
17 approximately \$5.5 million for 16,413 lights changed from HPS to LED; and

18 **WHEREAS**, GPA has changed out 3,495 lights in 2015 and will continue the program at a rate of
19 approximately 5,000 per year; and

20 **WHEREAS**, the current Rate Schedule F, for Public Streetlight and Rate Schedule H, Private
21 Outdoor Lighting are the applicable tariffs for the streetlights; and

22 **WHEREAS**, the tariffs for streetlights are comprised of an energy charge, fixture charge, and fuel
23 recovery charge among other applicable surcharges which utilizes the established energy consumption
24 of an HPS light; and

25 **WHEREAS**, the energy consumption of an LED light is significantly lower than that of a HPS light
26 which is a 24 kWh for LED vs 67 kWh for HPS per month for 150 W equivalent lights and 43 kWh vs 108
27 kWh per month for 250 W equivalent lights; and

28 **WHEREAS**, as the streetlight replacement program converts more lights from HPS to LED, the
29 savings in energy and fuel should be realized by the customer; and

30 **WHEREAS**, the customer may elect to install additional streetlights or reduce expenses with the
31 savings; and

32 **WHEREAS**, the fixture charge shall remain the same in the interim to provide additional capital
33 to fund the change out program and until a cost of service study can be conducted once the project is
34 completed; and

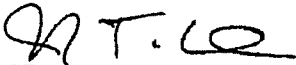
35 **WHEREAS**, GPA is seeking approval from the Consolidated Commission on Utilities to petition
36 the PUC for approval to implement an interim streetlight tariff as provided in Exhibit A to apply to LED
37 Streetlights installed on the GPA system; and

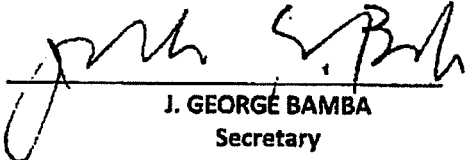
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39 **NOW, THEREFORE, BE IT RESOLVED**, by the Consolidated Commission on Utilities subject to the
40 review and approval of the Public Utilities Commission as follows:

- 41
- 42 1. GPA's request to establish interim streetlight tariffs to apply to LED streetlights installed
43 on the GPA system is reasonable, prudent, and necessary to save ratepayer costs and
44 improve operations and maintenance of the GPA Transmission & Distribution system.
 - 45
 - 46 2. The General Manager of the Guam Power Authority is authorized to implement the
47 interim streetlight tariffs as provided in Exhibit A.

48
49 **RESOLVED**, that the Chairman certifies and the Secretary attests the adoption of this Resolution.

50
51 **DULY and REGULARLY ADOPTED** this 26th day of January, 2016.

52
53 **Certified by:**
54
55 
56 _____
57 **JOSEPH T. DUENAS**
58 Chairman

59 **Attested by:**
60
61 
62 _____
63 **J. GEORGE BAMBA**
64 Secretary

Issued March 21, 1984
Revised ~~October 01, 2015~~ March 01, 2016
Effective with meters read
on and after ~~October 01, 2015~~ March 01, 2016

Rate Schedule "H"

Rules:

Service supplied under this rate shall be subject to the Service Rules of the Authority.

Riders:

Charges in addition to the above are applicable under certain conditions more specifically set forth and incorporated herein.

Schedule A - Accommodation Service Charges
Schedule B - Service Establishment Charges
Schedule C - Net Metering

Issued March 21, 1984
Revised ~~October 01, 2015~~ March 01, 2016
Effective with meters read
on and after ~~October 01, 2015~~ March 01, 2016

Rate Schedule "H"

SCHEDULE "H" (Continued)

Terms and Conditions:

1. **Determination of Energy:**

Standard service will be unmetered dusk to dawn service. The kilowatt-hours shall be the average kWh use per month by lamp type.

2. **Standard Equipment Furnished:**

Bracket or mast arm construction will be furnished and attached to existing wooden poles and secondary voltage.

3. **Other Than Standard Equipment:**

Where the customer requests the installation of other than the standard equipment be furnished by the Authority, including underground, and such requested equipment is acceptable to the Authority, the Authority will install the requested equipment provided the customer agrees to make a contribution of the estimated difference in cost installed between such equipment and standard equipment.

Contributions made for this purpose will not be refunded. Where the customer requests fixtures to be installed on electroliers or other ornamental standards that are acceptable to the Authority, in lieu of making the contribution, the customer may elect to pay added facilities charge of 2% per month of the added investment required for such facilities. Facilities installed in connection with such agreements become and remain the sole property of the utility.

4. **Replacement Cost:**

Where the customer requests an existing street lighting fixture or electrolier be replaced with another type within 60 months from the date of the original installation of the equipment to be replaced, the customer shall make contribution to the estimated cost of the new equipment installed plus the cost of the removal of the existing equipment.

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SECRETARY'S CERTIFICATE

I, J. George Bamba, Secretary for the Consolidated Commission on Utilities do hereby certify that the foregoing is a full, true, and correct copy of the resolution duly adopted at a regular meeting of the members of Guam's Consolidated Commission on Utilities, duly and legally held at the meeting place thereof on January 26, 2016, at which meeting of all said members had due notice and at which at least s majority thereof were present, and

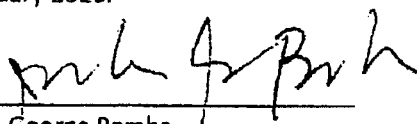
At said meeting said resolution was adopted by the following vote:

Ayes:	<u>4</u>
Nays:	<u>0</u>
Absent:	<u>1</u>
Abstain:	<u>0</u>

Said original resolution has not been amended, modified, or rescinded since the date of its adoption, and the same is now in full force and effect.

SO CERTIFIED this 26th day of January 2016.





J. George Bamba
Secretary
Consolidated Commission on Utilities

Issued March 21, 1984
 Revised ~~October 01, 2015~~ March 01, 2016
 Effective with meters read
 on and after ~~October 01, 2015~~ March 01, 2016

Rate Schedule "H"

GUAM POWER AUTHORITY

SCHEDULE "H"

Private Outdoor Lighting

Availability:

Applicable to private outdoor lighting service where the Authority owns, maintains and operates such facilities.

Rate:

Energy Charge:

All kilowatt-hours per month - per kWh \$0.10784

FIXTURE CHARGE: (To be added to the Energy Charge)

<u>Lamp Type</u>	<u>Wattage</u>	<u>kWh per month</u>	<u>Amount per lamp per month</u>
High-Intensity Discharge	400	163	\$29.50
High Pressure Sodium (Lucalox)	250	101	\$26.15
High Pressure Sodium (HPS)	150	54	\$19.10
Light Emitting Diode (LED 250)	120	43.2	\$26.15
Light Emitting Diode (LED 150)	67	24.1	\$19.10

Fuel Recovery Charge:

The Fuel Recovery Charge, as specified in Schedule "Z", will be added to each bill for service based on the above kWh.

Insurance Charge:

An insurance charge of \$0.00290 per kWh shall be billed monthly unless suspended by the Authority when Commission insurance reserve criteria have been met. The Authority may reinstate the insurance charge when Commission reinstatement criteria have been met. The insurance charge will be suspended or reinstated in conjunction with the Navy insurance charge.

Working Capital Fund Surcharge:

A Working Capital Fund (WCF) Surcharge of was established by the Public Utilities Commission (PUC) on June 20, 2011. The surcharge allows adjustments every six months to enable the Authority to recover increases or decreases in the Working Capital Fund Requirement caused by the increasing or decreasing price of fuel. GPA will petition the PUC in conjunction with its Levelized Energy Adjustment Clause filings every June 15 and December 15 for the increase or decrease required to ensure the Authority is able to meet this funding requirement.

Issued March 21, 1984
Revised ~~October 01, 2015~~ March 01, 2016
Effective with meters read
on and after ~~October 01, 2015~~ March 01, 2016

Rate Schedule "F"

SCHEDULE "F" (Continued)

Terms and Conditions:

1. Determination of Energy:

Standard service will be unmetered dusk to dawn service.
The kilowatt-hours shall be the average kWh use per month by lamp type.

2. Standard Equipment Furnished:

Bracket or mast arm construction will be furnished and attached to existing wooden poles and secondary voltage.

3. Other Than Standard Equipment:

Where the customer requests the installation of other than the standard equipment be furnished by the Authority, including underground, and such requested equipment is acceptable to the Authority, the Authority will install the requested equipment provided the customer agrees to make a contribution of the estimated difference in cost installed between such equipment and standard equipment.

Contributions made for this purpose will not be refunded. Where the customer requests fixtures to be installed on electroliers or other ornamental standards that are acceptable to the Authority, in lieu of making the contribution, the customer may elect to pay added facilities charge of 2% per month of the added investment required for such facilities. Facilities installed in connection with such agreements become and remain the sole property of the utility.

4. Replacement Cost:

Where the customer requests an existing street lighting fixture or electrolier be replaced with another type within 60 months from the date of the original installation of the equipment to be replaced, the customer shall make contribution to the estimated cost of the new equipment installed plus the cost of the removal of the existing equipment.

Rules:

Service supplied under this rate shall be subject to the Service Rules of the Authority.

Riders:

Charges in addition to the above are applicable under certain conditions more specifically set forth and incorporated herein.

Schedule A - Accommodation Service Charges
Schedule B - Service Establishment Charges
Schedule C - Net Metering

Issued March 21, 1984
Revised ~~October 01, 2015~~ March 01, 2016
Effective with meters read
on and after ~~October 01, 2015~~ March 01, 2016

Rate Schedule "F"

GUAM POWER AUTHORITY

SCHEDULE "F"

Streetlighting

Availability:

Applicable to public outdoor lighting service where the Authority owns, maintains and operates such facilities.

Rate:

Energy Charge:

All kilowatt-hours per month - per kWh \$0.05245

FIXTURE CHARGE: (To be added to the Energy Charge)

<u>Lamp Type</u>	<u>Wattage</u>	<u>kWh per month</u>	<u>Amount per lamp per month</u>
High-Intensity Discharge	400	163	\$29.50
High Pressure Sodium (Lucalox)	250	101	\$26.15
High Pressure Sodium (HPS)	150	54	\$19.10
Light Emitting Diode (LED 250)	120	43.2	\$26.15
Light Emitting Diode (LED 150)	67	24.1	\$19.10

Fuel Recovery Charge:

The fuel adjustment cost, as specified in Schedule "Z", will be added to each bill for service based on the above kWh.

Insurance Charge:

An insurance charge of \$0.00290 per kWh shall be billed monthly unless suspended by the Authority when Commission insurance reserve criteria have been met. The Authority may reinstate the insurance charge when Commission reinstatement criteria have been met. The insurance charge will be suspended or reinstated in conjunction with the Navy insurance charge.

Working Capital Fund Surcharge:

A Working Capital Fund (WCF) Surcharge of was established by the Public Utilities Commission (PUC) on June 20, 2011. The surcharge allows adjustments every six months to enable the Authority to recover increases or decreases in the Working Capital Fund Requirement caused by the increasing or decreasing price of fuel. GPA will petition the PUC in conjunction with its Levelized Energy Adjustment Clause filings every June 15 and December 15 for the increase or decrease required to ensure the Authority is able to meet this funding requirement.

EXHIBIT 14



GUAM POWER AUTHORITY

ATURIDÁT ILEKTRESEDÁT GUAHAN
P.O. BOX 2977 • AGANA, GUAM U.S.A. 96932-2977

Vinke B

Page 348 of 582

November 30, 2016

MEMORANDUM

To: Supply Management Administrator
From: Evaluation Committee
Subject: **GPA BID 005-17**
Luminaire Units and Photo Electric Control



The Evaluation Committee has reviewed the bid packages for **BID 005-17** and would like to request clarification concerning the following:

Lin's Hardware

For Item #1 – Provide IESNA testing reports for LM-80-08. Provide ANSI specifications for C78.377, C82.SSL1, and C82.77. Clarify IES classification, CCT, initial lumens, and CRI. Clarify wire connection. Will a terminal block be provided or will source wire need to be wired in the street light boom.

For Item #2 – Provide IESNA testing reports for LM-80-08. Provide ANSI specifications for C78.377, C82.SSL1, and C82.77. Clarify IES classification, CCT, initial lumens, and CRI. Clarify wire connection. Will a terminal block be provided or will source wire need to be wired in the street light boom.

For Item #3 – Provide documentation for Photoelectric Control showing rated voltages, frequency, and if the PEC is a NEMA standard 3-terminal twist lock type.

Benson

For Items #1 and #2 – Clarify tools needed for installation and connection of luminaire. Is a hex head socket used or an allen wrench and what is the standard or metric size needed. Clarify if the terminal block is included in the luminaire or comes separate and has to be assembled. Please provide a photograph/photographs showing the mounting bolts, terminal block location, and the tilt adjustment. Clarify if the tilt adjustment option is provided in the **bid price**. Provide photometric plots.

For Item #3 – Clarify if scratch pad provided.

Dawn notice

[Handwritten signature]
12/16/16

*Please prepare and have notice for my signature
at work on 12/16/16 (10:00am)*

Kolta Global PNB, Inc

For Items #1 and #2 – Clarify if photoelectric control receptacle is included. Clarify wire termination type (i.e. splice in luminaire, splice in boom, termination on a terminal block, etc.) and size of screw driver for the terminal block if provided. Terminal block only shown in catalog.

Canton Construction Corp

For Items #1 and 2 – Provide literature specific to each individual luminaire with model numbers and specified electrical and photometric information. Clarify if luminaires and associated hardware is UL listed. Provide diagrams for the luminaires showing all components, descriptions of components, dimensions, weight, and wire connection details. Provide IESNA testing reports for LM-79-08 and LM-80-08. Provide ANSI specifications for C78.377, C82.SSL1, and C82.77. Clarify IES classification, CCT, initial lumens, CRI, Voltage, and lumens/watt. Provide installation instructions. Provide photometric plots.


America's Best Electricmart


For **Alternate** Items #1 and #2 – Provide detailed cut sheets showing mounting, tools required with sizes, hardware, terminal block, and luminaire leveling/tilt adjustments. Clarify model # offered. Missing the light distribution pattern type in the model #. i.e. (GCJ2-20H-MV-NW-X-GY-900; what is value for "X".)


Samjin Wadaco, Inc

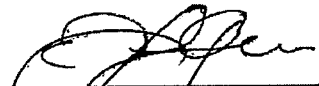
For Items #1 and #2 – Verify model # offered. Model number on bid incomplete. Clarify if tilt adjustment provided. Appendix showing a 5% tilt adjustment but specs show a separate tilt mechanism required. Clarify wire termination type (i.e. splice in luminaire, splice in boom, termination on a terminal block, etc.) and size of screw driver for the terminal block if provided. Clarify if photoelectric control receptacle is included. Clarify reference to CREE XLamp for LM-80-08. There is no other documents stating in catalog or test reports showing the luminaire is using CREE LED's.

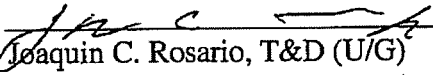
Thank you on behalf of the Committee Members.


Lewis C. Camacho, P.E., Engineering
Engineer III


Vincent J. Sablan, P.E. Engineering
Supervisor


Joey S. Arceo, T&D (O/H)
Line Electrician, Leader


Edward R Leon Guerrero, T&D (O/H)
Line Electrician, Supervisor


Joaquin C. Rosario, T&D (U/G)
HVCS Line Electrician, Supervisor



Romanchito Soriano, T&D (U/G)
HVCS Line Electrician, Leader

EXHIBIT 15

of Invitations Issued 14
 Number of Bids Received 8

PURCH STORES DIVISION
 GUAM POWER AUTHORITY
 ABSTRACT OF BIDS

Initiation Number OPA-005-
 Opening Date 11/10/16
 Opening Time 2:00 PM

ITEM NO.	QTY	UNIT	DE. LIVERY	DISCOUNT	ACCEPTANCE TIME (days)	DESCRIPTION OF SUPPLIES OR SERVICES	UNIT PRICE	TOTAL PRICE	REMARKS
1.0	3.0								
5.830	6.48	each							
8 WEEKS	5 weeks								
299.00	319.00								
293.40	359.50								

3) LIN'S HARDWARE STORE
 NO. 195-85-278; APTS. 301, 877-774
 AFFOS - ARCHITECTURE: ABAJILLON;
 NO. 195-85-278; APTS. 301, 877-774
 AFFOS - ARCHITECTURE: ABAJILLON;
 NO. 195-85-278; APTS. 301, 877-774
 AFFOS - ARCHITECTURE: ABAJILLON;
 NO. 195-85-278; APTS. 301, 877-774
 AFFOS - ARCHITECTURE: ABAJILLON;

4) BENSON RUPAN
 P.O. BOX NO. 458-2816-8; 15% OF D/T/R BID;
 CERT. OF ANTI-DUMPING; AFFOS - DRIS W/APPARATUS;
 ARCHITECTURE; ABAJILLON; NO. 195-85-278;
 AFFOS - ARCHITECTURE: ABAJILLON;
 NO. 195-85-278; APTS. 301, 877-774
 AFFOS - ARCHITECTURE: ABAJILLON;

APPROVAL OF AWARDS / BASIS FOR AWARD

Lowest Responsive Bidder
 Tie Bid
 Only Bid
 Other Than Lowest Responsive Bidder (See explanation on reverse hereof or attached)

Number of Awards (Contractors) _____

Signature: Jorge J. Ragan Date: 11/10/16

Number of Awards (Contractors) _____

I hereby certify that all bids received in response to this invitation were opened under my personal supervision, and that the name of all bidders have been entered herein.

of Invitations Issued: 14
 Number of Bids Received: 8

PURCH. STORES DIVISION
 GUAM POWER AUTHORITY
 ABSTRACT OF BIDS

Invitation Number: SPA-005-1
 Opening Time: 2:00 PM
 11/10/16

ITEM NO.	QTY	UNIT	DE. LIVERY	MFG	DISCOUNT	ASSEMBLY TIME (Days)	ASSEMBLY TIME (Days)	APPROVAL OF AWARDS
1.0	2.0	Each.	8 WHEELS	8 WHEELS				
2.0	648	Each.	8 WHEELS	8 WHEELS				
3.0	198.28	Each.	8 WHEELS	8 WHEELS				
4.0	198.28	Each.	8 WHEELS	8 WHEELS				
5.0	198.28	Each.	8 WHEELS	8 WHEELS				
6.0	198.28	Each.	8 WHEELS	8 WHEELS				

I hereby certify that all bids received in response to this invitation were opened under my personal supervision, and that the names of all bidders have been entered herein.

John J. [Signature]

TABLING BY: [Signature]
 Date: 11/10/16

APPROVAL OF AWARDS

Level Responsive Bids:
 To Bid:
 Only Bid:
 Selection on future basis or all bids:

Number of Awards (Restrictions):

APPROVAL OF AWARDS (Initials and Printed Name)

Invitation Number
 Opening Date
 Opening Time

PURCHA STORES DIVISION
 GUAM POWER AUTHORITY
 ABSTRACT OF BIDS

of Invitations Issued
 Number of Bids Received

Description of Supplies or Services	ITEM NO.	QTY	UNIT	PRICE	DISCOUNT	Acceptance Time (Days)	
						Acceptance Time	Days
LUMINAIRE UNITS AND PHOTO ELECTRIC CONTROLS	1-0	2-0	3-0				
	8-830	1-48	9-478				
	EACH	EACH	EACH				
	8 WEEKS	8 WEEKS	8 WEEKS				
	11/10/16	11/10/16	11/10/16				
	208.26	224.59	7.63				
	RECEIVING	RECEIVING	PRECISION				
	SYSTEM	SYSTEM	PLUMBING (W/PIPE)				
	ATS	ATS	ATS				
	193.99						
	RECEIVING						
	SYSTEM						
	1000						
	10 WEEKS						
	11,000						
	12 WEEKS						
	11,000						
	13 WEEKS						
	11,000						
	14 WEEKS						
	11,000						

APPROVAL OF AWARDS (Contractors and General Contractors)

APPROVAL OF AWARDS

BASIS FOR AWARD

Lowest Responsive Bidder
 Tie Bid
 Only Bid
 Other Than Lowest Responsive Bidder (see explanation on reverse hereof or attached)

Number of Awards (Contractors)

Signature: *Joni T. Ruyser*
 Date: 11/10/16

EXHIBIT 16



GUAM POWER AUTHORITY

ATURIDÁT ILEKTRESEDÁT GUAHAN
P.O. BOX 2877 • AGANA, GUAM U.S.A. 96932-2977

November 10, 2016

Victoria G. Borja
General Manager
Radio Com
129 Rojas St. Harmon Industrial Park
Tamuning, Guam 96913

SUBJECT: Extension Request for GPA-005-17 LED Luminaires Units and Photo Electric Controls

Dear Mrs. Borja:

This is in response to your letter dated November 09, 2016.

Due to the urgency and time constraints, the Authority, at this time is unable to grant the extension. Therefore, the closing date for GPA-005-17, remains as is, 2:00 P.M., November 10, 2016.

If you have any questions or concerns regarding this matter, you may contact me at 648-3054/55 or by fax at 648-3165.

Respectfully,

JAMIE L.C. PANGLINAN
Supply Management Administrator

PLEASE ACKNOWLEDGE RECEIPT BY SIGNING BELOW AND RETURN THIS FAX TO VINCE BARCINAS. FAX NO.: 648-3165.

VICTORIA G. BORJA 11/10/2016
 PRINT/SIGNATURE DATE

Radio Com
 COMPANY

APPRECIATE YOUR IMMEDIATE RESPONSE.
 THANK YOU.

GPA PROCUREMENT DIVISION
 TEL.: (671) 648-3054/55

EXHIBIT 17

250W HPS Replacement LED

PUC	GPA-005-17 Rebid Spec	120W 100W 120W	Nom. Rating	Init. Lumens	CT	CRI	Lamp lm/w	Longitudinal class	Weight	Total Life Energy Cost	Total Cost of Ownership (TOC)	Bid	Specs dated 7/28/2016		Specs dated 2/27/2017	
													3800-4800K	>65	>90 lm/w	Long
ABE-ALT		88	10100	4000K	>70	114.7727	Long	10lbs	\$949.48	\$1,147.76	\$198.28	Leotek				
JMI		90	10000	4000K	70	111.1111		15.15lbs	\$971.06	\$1,195.65	\$224.59	GE				
R&D Marketing		95	11690	4000K	>70	123.0526	Long	21lbs	\$1,025.01	\$1,237.53	\$212.52	AEL				
Samjin WADA		100	10500	4500K	80	105		14lbs	\$1,078.96	\$1,258.96	\$180.00	SAMJIN				
ABE-BASIC		95	11690	4000K	>70	123.0526	Long	21lbs	\$1,025.01	\$1,262.92	\$237.91	AEL				
Kolta Global		96.9							\$1,045.51	\$1,273.45	\$227.94			Appendix B not completed		
Lin's Hardware		90							\$971.06	\$1,290.06	\$319.00			Appendix B not completed		
Canton Cons.		100	>10000	4000K	>65	100		<30lbs	\$1,078.96	\$1,303.96	\$225.00			Model # not provided		
Benson		<100	<11000	4000K	<78			22lbs	#VALUE!	#VALUE!	\$359.50	SLG				

1. PUC Order and GPA LED Rate Schedule only mentions fixture wattage. The PUC wattage is higher than the then current GPA wattage requirement - All bidders met the PUC Wattage
2. Bid Amount and TOC do not include correction for Local Procurement Preference (15%).

150W HPS Replacement LED

Changed specifications	Nom. Rating	Init. Lumens	CCT	CRI	Lamp lm/w	Longitudinal class	Weight	Total Life Energy Cost	Total Cost of Ownership (TOC)	Bid Amount
	67W	6400	3800-4800K	>65	>90 lm/w	Long	<20lbs			
	80W	7000	4000K +/- 300K	>68	>101 lm/w		<22lbs	\$0.722		

PUC
 GPA-005-17 Spec
 Rebid Spec
 Specs dated 7/28/2016
 Specs dated 2/27/2017

	Nom. Rating	Init. Lumens	CCT	CRI	Lamp lm/w	Longitudinal class	Weight	Total Life Energy Cost	Total Cost of Ownership (TOC)	Bid Amount	
ABE Alternative	58	6630	4000K	>70	114.3103	Long	7lbs	\$625.79	\$753.76	\$127.97	Leotek
R&D Marketing	60	7194	4000K	>70	119.9		12lbs	\$647.37	\$795.92	\$148.55	AEL
Samjin WADA	60	7500	4500K	>80			9.7lbs	\$647.37	\$801.37	\$154.00	Samjin
ABE Basic	60	7194	4000K	>70	119.9	Long	12lbs	\$647.37	\$819.54	\$172.17	AEL
Kolta Global	58.8							\$634.43	\$844.38	\$209.95	Kolta
Lin's Hardware	60							\$647.37	\$866.37	\$219.00	Lin's
JMI	67	6800	4000K	70	101.4925		12.4lbs	\$722.90	\$931.16	\$208.26	GE
Canton Cons.	80	6400	4000K	>65	?		<25lbs	\$863.16	\$1,011.16	\$148.00	Yong Yuan
Benson	<80	<7600	4000K	<78			20lbs	#VALUE!	#VALUE!	\$293.40	SLG

1. PUC Order and GPA LED Rate Schedule only mentions fixture wattage.
 - For the most part bidders met the PUC Wattage
2. You can see from the minor changes in the GPA specs and from the products bid that the LED technology advancements did not change in a significant way between 7/28/2016 and 2/27/2017.
3. Bid Amount and TOC do not include correction for Local Procurement Preference (15%).
4. GPA cancellation appears to have been done without analysis as to whether or not current bids met GPA's concerns.

EXHIBIT 18



GUAM POWER AUTHORITY

ATURIDÁT ILEKTRESEDÁT GUAHAN
P.O.BOX 2977 • AGANA, GUAM U.S.A. 96932-2977

December 06, 2016

Dave Hicks
Vice President
America's Best Electricmart, Inc.
129 W. Harmon Industrial Park, Rd.
Tamuning, Guam 96913

SUBJECT: GPA-005-17 for LED Luminaire Units and Photo Electric Controls

Dear Mr. Hicks,

Upon review of your company's proposal, the Evaluation Committee requests clarification for the following:

Line Items 1.0 and 2.0 (Alternate Offer):

- Provide detailed cut sheets showing mounting, tools required with sizes, hardware, terminal block, and luminaire leveling/tilt adjustments.
- Clarify model # offered, missing the light distribution pattern type in the model #. I.e. (GCJ2-20H-MV-NW-X-GY-900; what is value for "X".)

Requesting your response no later than close of business Friday, December 09, 2016.

Sincerely,

[Handwritten Signature]
 JAMIE L.C. PANGELINAN
 Supply Management Administrator

PLEASE ACKNOWLEDGE RECEIPT BY
 SIGNING BELOW AND RETURN THIS FAX
 TO VINCE BARCHAS. FAX NO.: 648-3165.

Mila Duran *12/16*
 PRINT/SIGNATURE DATE

Abelectricmart, Inc.
 COMPANY

APPRECIATE YOUR IMMEDIATE RESPONSE.
 THANK YOU.

GPA PROCUREMENT DIVISION
 TEL: (671) 648-3054/55



Jamie,

In response to your request for clarification of our Alternate offer for GPA-005-17.

First bullet point: Provide detailed cut sheets showing mounting, tools required with sizes, hardware, terminal block, and luminaire level/tilt adjustments

See attached data sheets

See attached installation guide

As far as tools go, the only thing needed is a wrench and screw driver for the terminal blocks.

Second bullet point. Clarify model # offered, missing the light distribution type in the model #.

We can provide either Type 2 or Type 3 distribution and can aid in the selection by doing lighting layouts based on typical pole spacing, mounting height, roadway width, etc.

Regards,

Dave Hicks

America's Best Electricmart, Inc.

DUNS: 855024902 CAGE#: 1XCY6

(671)647-6674

(71)998-2041 ©

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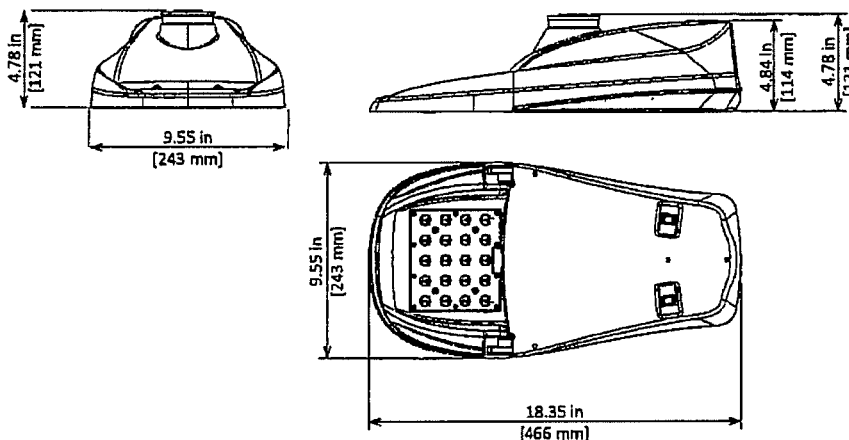


Project Guam GPA-005-17
 Type
 Catalog No. GCJ2-20H-MV-NW-X-GY-900

GreenCobra™ Jr. LED Street Light GCJ H-Series Specification Data Sheet

Luminaire Data

Weight 7 lbs [3.2 kg]
 EPA 0.39 ft²



Ordering Information

Sample Catalog No. GCJ1 20H MV NW 2R GY 580

Product	LED Code	Voltage	Color Temperature	Distribution	Finish	GCJ0 Drive Current Code ¹	Options
GCJ2	20H	MV 120-277V	WW 3000K NW 4000K CW 5000K	2R Type 2 3 Type 3 4 Type 4 5 Type 5	GY Gray DB Dark Bronze BK Black	300 390 490 590 700	FDC ² Fixed Drive Current LPCR Less Photocontrol Receptacle PCR5 ³ ANSI 5-wire Photocontrol Receptacle PCR7 ³ ANSI 7-wire Photocontrol Receptacle PCR5-CR ⁴ Control Ready 5-wire PC Receptacle PCR7-CR ⁴ Control Ready 7-wire PC Receptacle WL Utility Wattage Label 4B 4-Bolt Mounting Bracket DSC Door Safety Cable RWG Rubber Wildlife Guard
GCJ1	20H					GCJ1 Drive Current Code ¹ 350 450 530 580 680 700	
GCJ2	20H					GCJ2 Drive Current Code ¹ 700 830 900 1A	

Notes:

- 1 Factory set drive current, field adjustable standard. Refer to Performance Data Table. Consult factory if wattage limits require a special drive current.
 - 2 Non-field adjustable, fixed drive current. Specify required drive current code. Not available with PCR5-CR or PCR7-CR options.
 - 3 Field adjustable current selector included. Wireless node dimming is disabled, field changeable connectors included to enable dimming with PCR5/7.
 - 4 Control-ready wiring at factory for wireless node dimming. Default maximum drive current code (700 or 1A) must be specified.
 - 5 Flush mounted house side shield. Shield cuts light off at 1/2 mounting height behind luminaire.
 - 6 Flush mounted cul-de-sac shield. Shield cuts light off at 1/2 mounting height behind luminaire and 1-1/2 mounting height on either side of luminaire.
- Specify Color (GY, DB, BK)

Accessories ⁷	
HSS ⁵	House Side Shield, Snap-On*
CSS ⁵	Cul-De-Sac Side Shield, Snap-On*
SPB ⁷	Square Pole Horizontal Arm Bracket
RPB ⁷	Round Pole Horizontal Arm Bracket
PTB ⁷	Pole Top Tenon Horizontal Arm Bracket
WB ⁷	Wall Horizontal Arm Bracket
BSK	Bird Deterrent Spider Kit
PC	Twist Lock Photocontrol
LLPC	Long-Life Twist Lock Photocontrol
SC	Twist Lock Shorting Cap

*Accessories are ordered separately and not to be included in the catalog number. For factory installed HSS, CSS specify as option in luminaire catalog number.





GreenCobra™ Jr. LED Street Light GCJ H-Series Specification Data Sheet

Luminaire Specifications

Housing

Die cast aluminum housing with universal two-bolt slip fitter mounts to 1-1/4" to 2" (1-5/8" to 2-3/8" O.D.) diameter mast arm. One-piece aluminum housing provides passive heat-sinking of the LEDs and has upper surfaces that shed precipitation. Four-bolt mounting bracket is available. Mounting provisions meet 3G vibration per ANSI C136.31-2001 Normal Application, Bridge & Overpass. Mounting has leveling adjustment from ± 5° in 2.5° steps. Electrical components are accessed without tools via a high-strength, non-conductive polycarbonate door with quick-release latches. Polycarbonate material meets UL 746C for outdoor usage. Available rubber wildlife guard (RWG option) conforms to mast arm with no gaps.

Light Emitting Diodes

Hi-flux/Hi-power white LEDs produce a minimum of 90% of initial intensity at 100,000 hours of life based on IES TM-21. LEDs are tested in accordance with IES LM-80 testing procedures. LEDs have correlated color temperature of 3000K (WW), 4000K (NW), or 5000K (CW) and 70 CRI minimum. LEDs are 100% mercury and lead free.

Optical Systems

Micro-lens optical systems produce IESNA Type 2, Type 3, Type 4, or Type 5 distributions and are fully sealed to maintain an IP66 rating. Luminaire produces 0% total lumens above 90° (BUG Rating, U=0). Optional house side shield cuts light off at 1/2 mounting height behind luminaire. Cul-de-sac shield provides back and side light control for end of cul-de-sac applications. Both shields are field installable without tools.

Electrical

Rated life of electrical components is 100,000 hours. Uses isolated power supply that is 1-10V dimmable. Power supply is wired with quick-disconnect terminals. LED drive current can be changed in the field to adjust light output for local conditions (not available with PCR5-CR or PCR7-CR options). Power supply features a minimum power factor of .90 and <20% Total Harmonic Distortion (THD). EMC meets or exceeds FCC CFR Part 15. Terminal block accommodates 6 to 14 gauge wire. Surge protection complies with IEEE/ANSI C62.41 Category C High, 20kV/10kA.

Controls

3-Wire photocontrol receptacle is standard. ANSI C136.41 5-wire (PCR5) or 7-wire (PCR7) photocontrol receptacles are available. All photocontrol receptacles have tool-less rotatable bases. Wireless control module is provided by others.

Finish

Housing receives a durable, fade-resistant polyester powder coat finish. Finish tested to withstand 5000 hours in salt spray exposure per ASTM B117. Finish tested 500 hours in UV exposure per ASTM G154 and meets ASTM D523 gloss retention.

Listings/Ratings/Labels

Luminaires are UL listed for use in wet locations in the United States and Canada. DesignLights Consortium™ qualified 120-277V product. International Dark Sky Association listed. Luminaire is qualified to operate at ambient temperatures of -40°C to 40°C. Assembled in the U.S.A

Photometry

Luminaires photometrics are tested by certified independent testing laboratories in accordance with IES LM-79 testing procedures.

Warranty

10-year limited warranty is standard on luminaire and components.

Adjustable Drive Current Code Ranges

Field adjustable drive current selections can be made according to the table below. For GCJ0 and GCJ2, all drive current codes are selectable with all products. For GCJ1, the other selectable drive currents depend on if the product is specified with a drive current from Range 1 or Range 2 below.

GCJ0 Range	GCJ1		GCJ2 Range
	Range 1	Range 2	
300	350	450	700
390	580	530	830
490	700	680	900
590			1A
700			

GreenCobra™ Jr. LED Street Light GCJ H-Series Specification Data Sheet

Performance Data: 3000K (WW)

Consult factory for IES files or LM-79 reports.

Product	LED Code	Drive Current Code	System Wattage (W)	Delivered Lumens (lm) ¹	Efficacy (lm/W)
GCJ0	15H	300 ²	15	1810	121
		390 ²	19	2280	120
		490 ³	24	2840	118
		590	30	3410	114
		700	35	3910	112
GCJ1	20H	350 ³	25	3040	122
		450	29	3470	120
		530	34	3980	117
		580	39	4470	115
		680	44	4960	113
		700	46	5130	112
GCJ2	20H	700	45	5020	112
		830	54	5780	107
		900	58	6120	106
		1A	68	6960	102

Notes:

- 1 Nominal lumens. Normal tolerance $\pm 10\%$ due to factors including distribution type, LED bin variance, and ambient temperatures.
- 2 DLC Approved only at 120VAC.
- 3 DLC Approved at 120-240VAC.

Performance Data: 4000K (NW) and 5000K (CW)

Consult factory for IES files or LM-79 reports.

Product	LED Code	Drive Current Code	System Wattage (W)	Delivered Lumens (lm) ¹	Efficacy (lm/W)
GCJ0	15H	300 ²	15	2000	133
		390 ²	19	2490	131
		490 ³	24	3070	128
		590	30	3650	122
		700	35	4180	119
GCJ1	20H	350 ³	25	3240	130
		450	29	3720	128
		530	34	4320	127
		580	39	4850	124
		680	44	5370	122
		700	46	5510	120
GCJ2	20H	700	45	5430	121
		830	54	6210	115
		900	58	6630	114
		1A	68	7430	109

Notes:

- 1 Nominal lumens. Normal tolerance $\pm 10\%$ due to factors including distribution type, LED bin variance, and ambient temperatures.
- 2 DLC Approved only at 120VAC.
- 3 DLC Approved at 120-240VAC.

GreenCobra™ Jr. LED Street Light GCJ H-Series Specification Data Sheet

BUG Ratings: 3000K (WW)

All data nominal. IES files for all CCTs are available at leotek.com.

Product & LED Code	Drive Current Code	Type 2R	Type 3	Type 4	Type 5
		BUG Rating	BUG Rating	BUG Rating	BUG Rating
GCJ0 15H	300	B0 U0 G0	B1 U0 G1	B1 U0 G1	B1 U0 G0
	390	B1 U0 G0	B1 U0 G1	B1 U0 G1	B1 U0 G0
	490	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G0
	590	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G0
	700	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G1
GCJ1 20H	350	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G0
	450	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G0
	530	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G1
	580	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G1
	680	B1 U0 G1	B1 U0 G1	B2 U0 G1	B3 U0 G1
	700	B1 U0 G1	B2 U0 G1	B2 U0 G1	B3 U0 G1
GCJ2 20H	700	B1 U0 G1	B1 U0 G1	B2 U0 G1	B3 U0 G1
	830	B1 U0 G1	B2 U0 G2	B2 U0 G1	B3 U0 G1
	900	B1 U0 G1	B2 U0 G2	B2 U0 G1	B3 U0 G1
	1A	B1 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G1

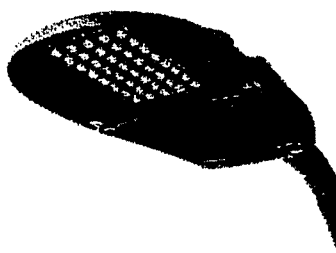
BUG Ratings: 4000K (NW) and 5000K (CW)

All data nominal. IES files for all CCTs are available at leotek.com.

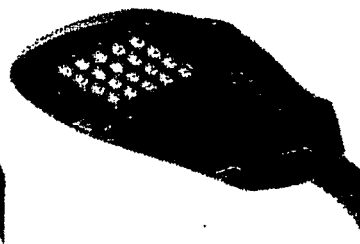
Product & LED Code	Drive Current Code	Type 2R	Type 3	Type 4	Type 5
		BUG Rating	BUG Rating	BUG Rating	BUG Rating
GCJ0 15H	300	B1 U0 G0	B1 U0 G1	B1 U0 G1	B1 U0 G0
	390	B1 U0 G0	B1 U0 G1	B1 U0 G1	B1 U0 G0
	490	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G0
	590	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G1
	700	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G1
GCJ1 20H	350	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G1
	450	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G1
	530	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G1
	580	B1 U0 G1	B1 U0 G1	B2 U0 G1	B3 U0 G1
	680	B1 U0 G1	B2 U0 G1	B2 U0 G1	B3 U0 G1
	700	B1 U0 G1	B2 U0 G1	B2 U0 G1	B3 U0 G1
GCJ2 20H	700	B1 U0 G1	B2 U0 G1	B2 U0 G1	B3 U0 G1
	830	B1 U0 G1	B2 U0 G2	B2 U0 G1	B3 U0 G1
	900	B1 U0 G1	B2 U0 G2	B2 U0 G2	B3 U0 G1
	1A	B1 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G1



GreenCobra™ LED Street Light 120-277 & 347-480 Vac GCJ/GCM Series



GCM1/GCM2



GCJ0/GCJ1/GCJ2

Installation Guide

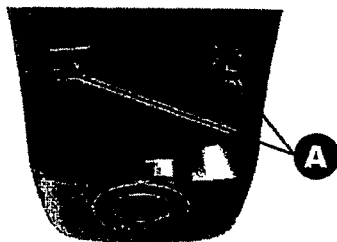
This procedure is designed as an installation aid. Skilled tradespeople that are familiar with general construction and electrical installation techniques should perform the installation. Licensed electricians should provide electrical installation connections. Installations and connections should be done in accordance with all national and local codes and permits. In no way is this document intended to construe warranty or fitness of use of the products described, nor is it intended to provide safety instruction for those installing the product.

WARNING

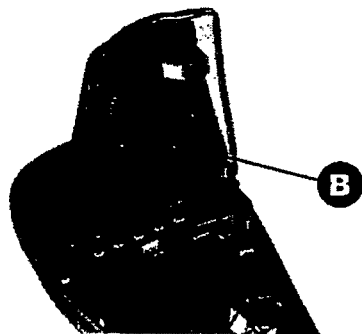
Before proceeding with installation or service maintenance of this product:

- Disconnect power to reduce electrical shock risk.
- Review the entire Installation Guide.
- Inspect this properly packaged product for any damage that may have occurred during transit.
- Verify product application complies with manufacturer design recommendations.
- Verify the availability of necessary tools and incidental material.
- Verify applicable code requirements. Field assembly and installation are subject to acceptance by local inspection authority.
- Appropriate safety equipment to be determined by end user, per applicable safety standards and precautions.

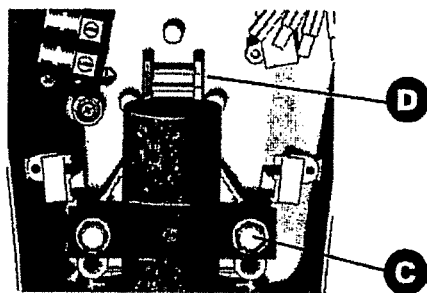
Installation Instructions: GreenCobra™ GCJ/GCM Series



Step 1 Unfasten the plastic latches. **A**

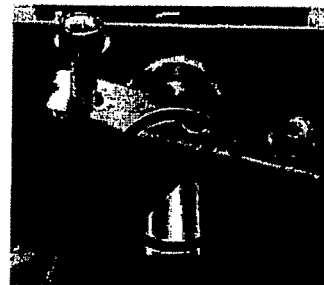


Step 2 Open the power door. **B**

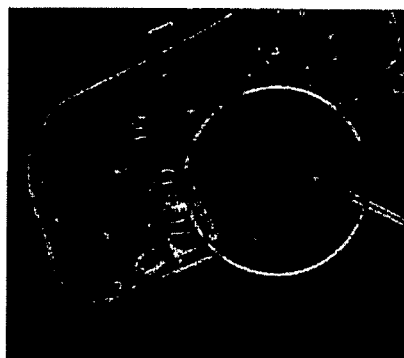


Step 3 Loosen the two slip-fitter bracket bolts **C** and insert the mounting arm. The maximum outside diameter for the mounting arm is 2-3/8" (60.3mm). The minimum outside diameter for the mounting arm is 1-5/8" (41.28mm). Mounting arm to be placed "stopped" against appropriate step required to achieve desired degree of tilt.* **D** Securely tighten the bolts per torque specification table.

* **Important:** see note below.

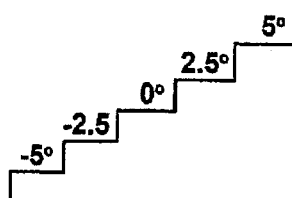


Warning! Tighten slip-fitter bracket bolts by alternating from bolt to bolt in equal, measured amounts. Refrain from unevenly tightening bolts, as it will cause cross-threading.



Tilt Angle Feature

***Note:** After installing the fixture on the mast arm, lay the mast arm against the appropriate step to achieve the desired degree of tilt. Options vary from from 0° to get no tilt to 5°/-5° to get maximum tilt.



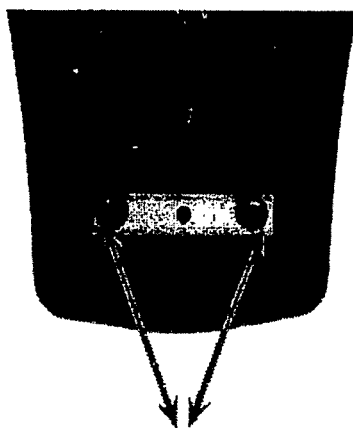


Installation Instructions: GreenCobra™ GCJ/GCM Series

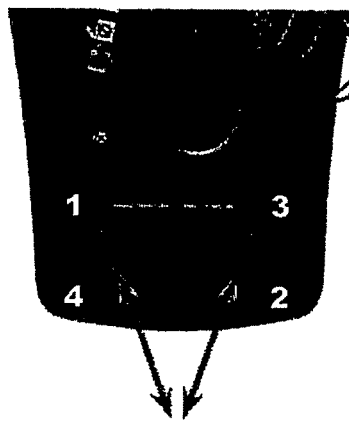
Torque Specification

Pipe Size	Pipe Position	Bolt Torque (ft-lbs)	Bolt Torque (N-m)
1.625in (1 1/8 in) (41.28mm)	+5.0 degrees tilt	25	35
	+2.5 degrees tilt	25	35
	0 degrees tilt	25	35
	-2.5 degrees tilt	25	35
	-5.0 degrees tilt	25	35
2.375in (2 3/8 in) (60.3mm)	+5.0 degrees tilt	25	35
	+2.5 degrees tilt	25	35
	0 degrees tilt	25	35
	-2.5 degrees tilt	25	35
	-5.0 degrees tilt	25	35

2 Bolts Standard / 4 Bolts Optional
Both Factory Installed

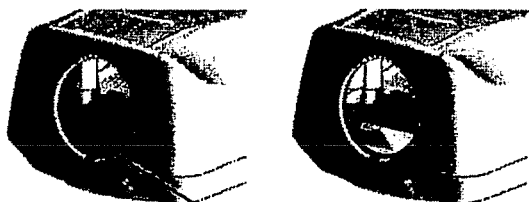


Standard 2 Bolts



Optional 4 Bolts

Recommended for tightening 4-bolt bracket: Tighten each bolt in order from 1-4 in 4 different passes each with 25% torque.



E

Wildlife Guard Specification

The default factory setting is shown here on the left for a pipe O.D. that is less than 1-1/2". If the O.D. of pipe is from 1-1/2" to 2-3/8", remove the insert. **E**



Installation Instructions: GreenCobra™ GCI/GCM Series

Current Selector
Blue / Gray 700mA
Red / Gray 1050mA



(Sample Diagram)

Step 4 - Adjust Drive Current*

Drive current should comport with designed illumination levels and circuit loading. Consult with design engineer before changing. Open the fast connector and change the connection according to the current selector diagram installed in the fixture. Note: If the FDC option was ordered, the drive current cannot be changed.

* Control Ready (CR) doesn't have field adjustable option

GCI G-Series Drive Current Table

GCM1	GCM2
350	
580	
700	700
	1A

GCI H-Series Drive Current Table

GCI0	GCI1		GCI2
	Option 1	Option 2	
300	350	450	700
390	580	530	830
490	700	680	900
590		700	1A
700			

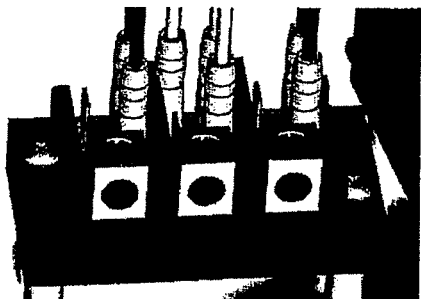
GCM F-Series Drive Current Table

GCM1	GCM2
350	
530	
700	700
	1A

GCM G-Series Drive Current Table

GCM1	GCM2
350	
530	
700	700

Electrical Wiring Connection



Standard Wiring Selections

	$120V$ $(120/220/277V)$	$120V$ $(347/480V)$
L	Hot 1	Hot 1
N	Neutral	Hot 2
	Hot 2 (208V/240V)	
G	Ground	Ground

Step 5 - Connect the green conductor to the ground chassis (shown to the right of the terminal block).

Step 6 - Connect the black conductor (Hot 1) to the input terminal marked "L".

Step 7 - Connect the white conductor (Neutral) or second black conductor (Hot 2) to the input terminal marked "N" according to Wiring Table.

Note 1: All Power Supplies are Auto-Sensing.

Note 2: GCJ does not have HV Option.




Step 8 Close the power door. **B**



Step 9 If luminaire is furnished with photocontrol receptacle, install the photocontrol **F** or shorting cap.

EXHIBIT 19

 <p>GUAM POWER AUTHORITY AGANA, GUAM</p> <p>PREPARED BY THE ENGINEERING DEPT.</p>	SPECIFICATION No. E-043	REVISION: 5 February 27, 2017
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GUAM POWER AUTHORITY
P.O. BOX 2977
AGANA, GUAM 96932


TRANSMISSION & DISTRIBUTION SPECIFICATION

SPECIFICATION NO. E-043

FOR

LIGHT EMITTING DIODE (LED) STREET LIGHT
LUMINAIRE

EFFECTIVE DATE: 2/27/17	ISSUED: <i>V.S.</i> GENERAL MANAGER	APPROVED: <i>[Signature]</i>
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 GUAM POWER AUTHORITY AGANA, GUAM	SPECIFICATION No. E-043	REVISION: 5
		February 27, 2017
PREPARED BY THE ENGINEERING DEPT.		

GUAM POWER AUTHORITY
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	GENERAL MANAGER	<i>[Signature]</i>


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		REVISION: 5 February 27, 2017
PREPARED BY THE ENGINEERING DEPT.		

**LIGHT EMITTING DIODE (LED) STREET LIGHT
LUMINAIRES**

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1.0 SCOPE


- 1.1 This specification covers GPA requirements for Light Emitting Diode (LED) streetlight luminaires used to replace the existing High Pressure Sodium (HPS) lights for street lighting and private outdoor lighting.
- 1.2 The streetlights are intended for use in tropical weather conditions with a corrosive sea air atmosphere and subject to moderate to severe earthquakes.

2.0 APPLICABLE PUBLICATIONS

The equipment covered by this specification shall be designed, manufactured, assembled, and tested in accordance with the standards listed below:

- 2.1 IESNA (ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA)
 - LM-63-02 ANSI APPROVED STANDARD FILE FORMAT FOR ELECTRONIC TRANSFER OF PHOTOMETRIC DATA AND RELATED INFORMATION
 - LM-79-08 APPROVED METHOD FOR ELECTRICAL AND PHOTOMETRIC MEASUREMENTS OF SOLID STATE LIGHTING PRODUCTS
 - LM-80-08 APPROVED METHOD FOR MEASURING LUMEN MAINTENANCE OF LED LIGHT SOURCES
- 2.2 ANSI (AMERICAN NATIONAL STANDARDS INSTITUTE)
 - C78.377 SPECIFICATIONS FOR THE CHROMATICITY OF SOLID STATE LIGHTING PRODUCTS
 - C82.SSL1 POWER SUPPLY
 - C82.77 HARMONIC EMISSION LIMITS - RELATED POWER QUALITY
 - C136.31-2010 FOR ROADWAY AND AREA LIGHTING EQUIPMENT - LUMINAIRE VIBRATION
- 2.3 UL (UNDERWRITERS LABORATORIES) - Luminaires must UL Listed. Vendor at time of bid must submit a copy of UL Certification.
 - UL 1598 THE STANDARD FOR SAFETY OF LUMINAIRES

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UL 8750 THE STANDARD FOR SAFETY OF LIGHT EMITTING DIODE (LED) EQUIPMENT FOR USE IN LIGHTING PRODUCTS


3.0 DEVIATIONS AND NON-CONFORMANCE REQUIREMENTS

- 3.1 All deviations from this specification must be specified in writing by the vendor and submitted as part of their bid submittal prior to bid opening. Failure to provide this information may be grounds for immediate bid rejection.
- 3.2 Deviations from this specification or changes in the material or design after the purchase order has been placed must be approved by the GPA Engineering department and acknowledged by a Purchase Order Amendment issued by GPA.
- 3.3 Units received with deviations or non-conformances that are not acknowledged per Section 3.1 are subject to rejection. The Supplier of rejected units is responsible for any corrective action including but not limited to materials, labor and transportation necessary to dispose of or make the units conform to the specification.
- 3.4 Notification of defective units discovered before or after installation that are believed to be inherent to manufacturing problems or workmanship shall be made and forwarded to the Supplier. The description of the item, documentation of the problem and the described information, disposition and/or follow-up (as appropriate) that GPA expects from the Supplier will be specified. The Supplier's response shall be made within thirty (30) days unless an extension is acknowledged and approved in writing by the GPA Manager of Engineering.

4.0 RATINGS

- 4.1 All photometric data must be collected via absolute photometry which tests the LED light when installed in the applicable luminaire. Ratings of the LED light shall be as specified Table 1. Appendices A and B shall follow the requirements stated in Table 1.

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
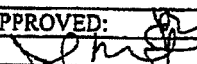
	150W HPS replacement LED	250W HPS replacement LED
Input Voltage	120V	120V
Nominal Rating (Light + driver)	67 W max	120 W max
Burning Position	Horizontal	Horizontal
Off-state power	zero	Zero
Power Factor	>0.9	>0.9
THD	<20%	<20%
Initial Lumens	7000 lm min. at CCT	11,500 lm min. at CCT
CCT	4000K ± 300K	4000K ± 300K
CRI	> 68	> 68
Lamp Lumens per Watt	> 101 lm/W	> 95 lm/W
IES Classification	Type II, III or equivalent	Type II, III or equivalent
Shielding	Non-shielded	Non-shielded
Rated Life for outdoor temp of 25° C	50,000 Hours min.	50,000 Hours min.
Weight	<22 lbs	<22 lbs


Table I

5.0 REQUIRED DOCUMENTS

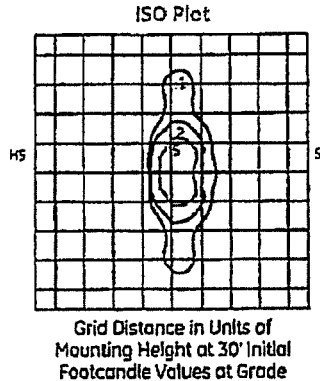
The required documents stated in this section are outlined in Appendices A and B for the respective lights. Appendix A and B must be filled out. Failure to do so may result in the disqualification of the proposed luminaires.

- 5.1 Luminaires must come with wiring diagrams and all necessary equipment and hardware for installation. Diagrams must show connection to terminal block. A picture of the luminaire showing the internal wire connections could be provided as well.
- 5.2 Streetlights must already be in production and not a prototype model. Manufacturer must submit documentation indicating production history.
- 5.3 The manufacturer shall furnish completed Appendices A and B as applicable providing manufacturer information, electrical information, photometric information, weight, and dimensions. The information provided in the appendices must be specific to the model proposed.
- 5.4 Provide an LM-79-08 report.
- 5.5 The Manufacturer shall provide certified laboratory test results to determine LED Streetlight nominal ratings and photometric data. The test reports shall be certified as true and correct by an independent testing firm and submitted to the Guam Power Authority prior to shipment of LED streetlights.

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5.6 Provide isometric plots for each luminaire at 25 foot and 30 foot mounting heights like the graph shown below



6.0 COST EVALUATION


6.1 During the bid evaluations, GPA will conduct a Cost evaluation to determine the equivalent cost for owning and operating the LED streetlight. The LED streetlight nominal power rating for the specified make, model, CCT, drive current, and IES classification will be utilized to calculate a projected GPA Total Cost of Ownership (TOC). The calculation is as follows:

$$\text{Total Life Energy Cost} = 50,000 \text{ hours} \times \text{Current GPA Rate Schedule H Energy Rate (\$/kWh)} \times \text{Nominal Power Rating (kW)}$$

$$\text{Total Cost of Ownership (TOC)} = \text{Initial Purchase Price} + \text{Total Life Energy Cost}$$

- 6.2 The LED Streetlight with the lowest Total Cost of Ownership (TOC) shall be considered the lowest bid.
- 6.3 GPA will review actual certified test reports of nominal ratings and photometric data.
- 6.4 GPA will test streetlights upon delivery to GPA for verification of nominal power ratings. In the event actual power ratings are greater than specified during the bid, GPA may reject the LED

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Streetlights or reduce the supplier's contract amount. The price reduction shall be the difference between the TOC using the tested power rating and the TOC as calculated during the bid.

7.0 NAMEPLATE AND EXTERIOR WATTAGE LABEL

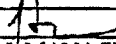

The manufacturer shall furnish with each luminaire a nameplate attached to the light. The nameplate shall include the following data:


- a. Manufacturer's name
- b. Catalog number
- c. Lamp Type
- d. Wattage
- e. Voltage
- f. Frequency
- g. Connection diagram
- h. Serial number – The serial number shall be specified in the as P.O.# - manufacturer #.
 Example: (Serial number: 27567-12345678)

Each light shall come with an exterior wattage label showing the light type i.e. "LED100". The wattage shown shall be based on the total power of the luminaire, LED plus driver.

8.0 COMPATIBILITY AND INSTALLATION

- 8.1 Luminaires shall be compatible with the existing NEMA standard 3-terminal twist lock type photoelectric control device (ECDV-AP-TD).
- 8.2 The Luminaire mounting bolts and tilt adjustment mechanism must be easily accessible. Full vertical clearance is necessary to allow the use of an impact gun.
- 8.3 Tilt adjustment mechanism must provide a minimum +/- 5 degree adjustment for leveling.
- 8.4 Luminaires must be compatible with 1-1/4" I.P.S (1-5/8" O.D.) to 2" O.D. mast arms.
- 8.5 The luminaire shall provide an effective method of preventing bird entrance to the luminaire.
- 8.6 Terminal blocks shall accept a two (2) wire 120VAC input ranging from #14 awg to #10 awg.
- 8.7 Terminal blocks shall accept no smaller than a #2 screwdriver.
- 8.8 Installation of the luminaire shall only require the use of a screwdriver and standard hex head sockets.

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8.9 Termination of the light shall not require splicing and/or the use of wire nuts.

8.10 Terminations must be made on a terminal block in the luminaire. GPA's booms are pre-wired with #12 wires coming out of the boom.

9.0 QUALITY CONTROL

9.1 The Supplier shall have a quality control program to ensure compliance with the requirements of this specification. The program shall be documented and available for GPA's review if requested.

9.2 Documentation of the quality control program shall indicate where in the production and manufacturing process the quality checks are taken, describe the purpose of the checks, and describe the nature of the check, e.g. if check is visual only or if electrical or mechanical testing is used.

10.0 WARRANTY

All products shall come with a minimum five (5) year warranty on all parts and labor associated with the product. At time of bid, Vendor shall submit with his/her bid the contact information for warranty implementation complete with a copy of any forms required to fulfill warranty requirements.


11.0 PACKING AND SHIPPING

9.1 The equipment shall be placed and crated with suitable material to prevent damage and injury during shipment and handling operations.

9.2 The equipment shall be securely blocked to prevent shifting during transit.

9.3 Instructions for handling, shipping, packaging, and storing shall be provided by the manufacturer to prevent damage, loss, deterioration, and substitution of the luminaires.

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Appendix A


150 Watt HPS replacement LED Streetlight Luminaire Information Sheet

NOTE: Please complete the product information and provide the required documents. Incomplete information shall be cause for rejection.

Product Information		
1.	NEMA Standard 3-terminal twist lock type PEC receptacle or PEC supplied with light that is covered with the luminaire warranty.	Yes No
2.	Mounting, Horizontal Tenon, 1-1/4" I.P.S (1-5/8" O.D.) to 2" O.D. L.P.S. pipe	Yes No
3.	Voltage (120VAC)	Yes No
4.	Frequency (60Hz)	Yes No
5.	UL Listed	Yes No
6.	Manufacturer's Name	
7.	Brand Name	
8.	Model # (Full detail with numbering logic sheet)	
9.	Weight (<22lbs)	
10.	Luminaire Wattage to include driver (<67W)	
11.	Luminaire leveling adjustment (degrees)	
12.	Initial Lumens (>7,000 lm)	
13.	Drive Current	
14.	Light Distribution	
15.	Correlated Color Temperature (CCT)	
16.	Color Rendering Index (CRI)	
17.	Specify tools required for entry; type and size	
18.	Specify tools require for mounting; type and size	
19.	Specify tools required for termination of wires; type and size	
20.	Applicable Accessories & Description (Provide Attachment if more space is needed)	

Required Documents		
1.	Product Literature (Product sheet for only the specified luminaires showing the electrical, photometric, and physical characteristics of only the light specified in this appendix.)	Yes No
2.	Warranty	Yes No
3.	Isometric plots at 25 foot and 30 foot mounting heights as specified in section 5.7.	Yes No
4.	Certified Laboratory Test Results of Nominal Ratings and Photometric Data	Yes No
5.	Statement of compliance to current GPA Spec E-043	Yes No

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Appendix B


250 Watt HPS replacement LED Streetlight Luminaire Information Sheet

NOTE: Please complete the product information and provide the required documents. Incomplete information shall be cause for rejection.

Product Information		
1.	NEMA Standard 3-terminal twist lock type PEC receptacle or PEC supplied with light that is covered with the luminaire warranty.	Yes No
2.	Mounting, Horizontal Tenon, 1-1/4" I.P.S (1-5/8" O.D.) to 2" O.D. I.P.S. pipe	Yes No
3.	Voltage (120VAC)	Yes No
4.	Frequency (60Hz)	Yes No
5.	UL Listed	Yes No
6.	Manufacturer's Name	
7.	Brand Name	
8.	Model # (Full detail with numbering logic sheet)	
9.	Weight (<22lbs)	
10.	Luminaire Wattage to include driver (<120W)	
11.	Luminaire leveling adjustment (degrees)	
12.	Initial Lumens (>11,500 lm)	
13.	Drive Current	
14.	Light Distribution	
15.	Correlated Color Temperature (CCT)	
16.	Color Rendering Index (CRI)	
17.	Specify tools required for entry; type and size	
18.	Specify tools require for mounting; type and size	
19.	Specify tools required for termination of wires; type and size	
20.	Applicable Accessories & Description (Provide Attachment if more space is needed)	

Required Documents		
1.	Product Literature (Product sheet for only the specified luminaires showing the electrical, photometric, and physical characteristics of only the light specified in this appendix.)	Yes No
2.	Warranty	Yes No
3.	Isometric plots at 25 foot and 30 foot mounting heights as specified in section 5.7.	Yes No
4.	Certified Laboratory Test Results of Nominal Ratings and Photometric Data	Yes No
5.	Statement of compliance to current GPA Spec E-043	Yes No


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GUAM POWER AUTHORITY
P.O. BOX 2977
AGANA, GUAM 96932

TRANSMISSION & DISTRIBUTION SPECIFICATION
SPECIFICATION NO. E-005
FOR
HIGH PRESSURE SODIUM LUMINAIRES
AND MAST ARMS

EFFECTIVE DATE: 8/17/09 | ISSUED: *AS* | APPROVED: *[Signature]*


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**HIGH PRESSURE SODIUM LUMINARES
AND MAST ARMS**

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1.0 SCOPE

- 1.1 This specification covers GPA requirements for High Pressure Sodium (HPS) luminaires and mast arms used for street lighting and private outdoor lighting.
- 1.2 The High Pressure Sodium (HPS) luminaires and mast arms are intended for use in tropical weather conditions with a corrosive sea air atmosphere, sustained winds of 155 miles per hour with gusts to 180 miles per hour and subject to moderate to severe earthquakes.

2.0 APPLICABLE PUBLICATIONS

The equipment covered by this specification shall be designed, manufactured, assembled, and tested in accordance with ANSI-IESRP-8-1998, IES LM-31, ANSI C33.31, and NEMA SH-17-1998 standards.

3.0 DEVIATIONS AND NON-CONFORMANCE REQUIREMENTS


- 3.1 Deviations from this specification or changes in the material or design after the purchase order has been placed must be approved by the GPA Engineering department and acknowledged by a Purchase Order Amendment issued by GPA.
- 3.2 Units received with deviations or non-conformances that are not acknowledged per Section 3.1 are subject to rejection. The Supplier of rejected units is responsible for any corrective action including but not limited to materials, labor and transportation necessary to dispose of or make the units conform to the specification.
- 3.3 Notification of defective units discovered before or after installation that are believed to be inherent to manufacturing problems or workmanship shall be made and forwarded to the Supplier. The description of the item, documentation of the problem and the described information, disposition and/or follow-up (as appropriate) that GPA expects from the Supplier will be specified. The Supplier's response shall be made within thirty (30) days unless an extension is acknowledged and approved in writing by the GPA Manager of Engineering.

4.0 RATINGS

Ratings of the HPS luminaires and lamps shall be as specified in the following table:

	150 Watt HPS Luminaire	250 Watt HPS Luminaire
BASE	MOGUL	MOGUL
BULB COATING	Clear	Clear
NOMINAL RATING	150 Watts	250 Watts

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	150 Watt HPS Luminaire	250 Watt HPS Luminaire
BURNING POSITION	Horizontal	Horizontal
INITIAL LUMENS	16,000	30,000
MEAN LUMENS	14,400	27,000
RATED LIFE	24,000 hours	24,000 hours
ARC TUBE VOLTAGE	55 Volts	100 Volts
BALLAST (Type)	HPF reactor	Autoregulator
BALLAST (Volts)	120 + 5%	120 + 10%
LIGHT TYPE	IES II	IES IV

5.0 DESIGN AND CONSTRUCTION

5.1 Luminaire Housing

- 5.1.1 Luminaire housings, both upper and lower (lens holder), shall be made of precision die-cast aluminum with weather-resistant baked-on enamel finish applied by an electrostatic process.
- 5.1.2 The upper housing shall include a slip-fitter capable of accepting 1 ¼ inch to 2 inch IPS pipe without the need for a separate attachment or for rearrangement of mounting parts. The slip-fitter shall be provided with an approved stop or method to prevent contact of the pipe with electrical components inside the luminaire.
- 5.1.3 The upper and lower housings shall be joined by means of hinging and latching. Hinging shall incorporate a safety device to prevent accidental disengagement of the lower housing. Latching and unlatching shall be designed for ease of operation without the need for tools. The lens holder shall automatically align to the upper housing.
- 5.1.4 The ballast assembly module shall be connected to the upper housing by means of hinges and an interlock device. Hinging shall have provisions to prevent accidental disengagement from upper housing. The locking device shall be stainless steel.
- 5.1.5 The upper housing shall have a receptacle for connecting the twist-lock photo-electric control unit.
- 5.1.6 The design shall provide for an effective method of preventing bird entrance to the luminaire.

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5.2 Optical Assembly

- 5.2.1 The HPS luminaire shall include an enclosed optical assembly which provides the light distribution pattern as specified in Section 4.0, Light Type. The assembly shall consist of a reflector, refractor, gasket, and filter. The optical assembly shall be sealed and filtered. Breathing shall be only through the gasket.
- 5.2.2 The reflector shall be hard, highly polished anodic surfaced aluminum secured with spring latches for easy removal and accurate and easy positioning.
- 5.2.3 The refractor shall be prismatic borosilicate glass or polycarbonate with minimum transmittance of 90% and secured with spring latches.
- 5.2.4 The gasket shall be made of high temperature polyester fiber to filter air entering the optical assembly.

5.3 Lamp Socket

The lamp socket shall be porcelain enclosed multiple mogul-type. The lamp socket support shall be adjustable to permit changes in the light distribution pattern. The lamp socket and support shall be pre-set by the supplier to provide the light distribution pattern specified on the Purchase Order.


5.4 Lamp

- 5.4.1 The lamps shall be a 150 or 250 watt, 120V mogul base High Pressure Sodium vapor lamp as specified on the GPA Purchase Order.
- 5.4.2 The lamp shall come equipped with a scratch pad feature for tracking the installation date, removal date, and shall be marked with the purchase order number.

5.5 Ballast Assembly

- 5.5.1 The HPS luminaire shall include the ballast assembly module which may be attached to or detached from the upper housing with a screwdriver.
- 5.5.2 The ballast assembly shall be removable and replaceable by use of quick disconnect plugs.
- 5.5.3 Ballasts shall be pre-wired at the factory for 120-Volt AC operation, suitable for high ambient temperature and with a high power factor of 90%+.

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5.6 Photoelectric Control

- 5.6.1 The receptacle connection for the twist lock external photoelectric control unit shall include rigid weatherproof electrical and mechanical connections.
- 5.6.2 The external photoelectric control shall be an EEL-NEMA standard three-terminal, polarized, twist lock type.
- 5.6.3 The photoelectric control shall come equipped with a scratch pad feature for tracking installation date, removal date, and shall be marked with the purchase order number.


5.7 Terminal Strip

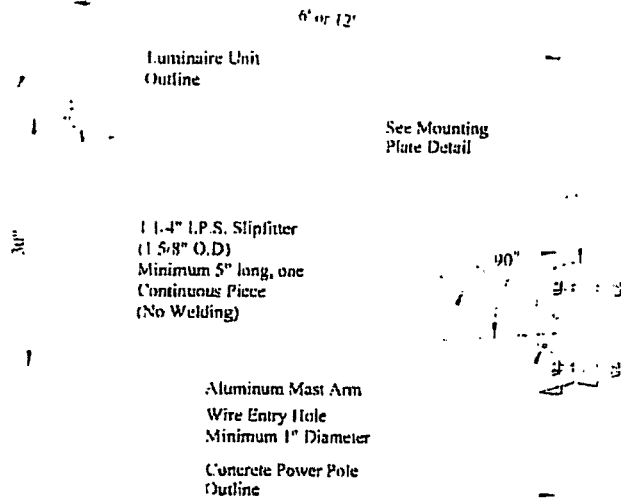
The terminal strip attached to the upper housing shall be connected so that the incoming conductors will not be in contact with the ballast assembly when the luminaire is in operation.

5.8 Mast Arm and Hardware

- 5.8.1 All hardware used shall be corrosion resistant.
- 5.8.2 The mast arm shall be a tapered oval type design using an aluminum extrusion "tongue and groove" locking system to maximize strength. The arm shall be designed to exceed the ANSI C136.13 standard specification for metal brackets for poles used in roadway lighting. (See Figure 1)

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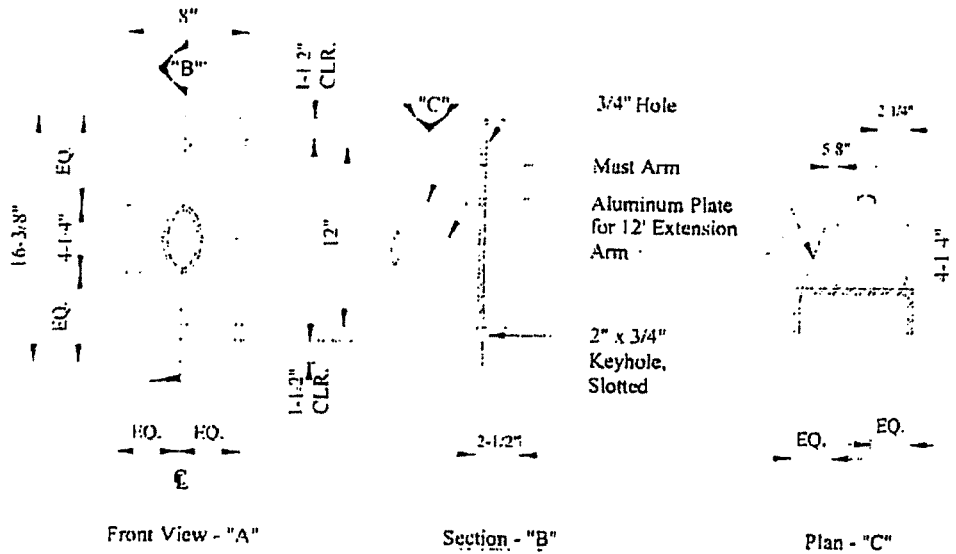


Mast Arm Elevation Detail
Figure 1

5.8.3 The mounting bracket shall be aluminum extrusion providing for maximum surface contact with the pole to increase vertical and horizontal stability. The plate shall have one 2" keyhole and one 3/4" hole for 5/8" machine bolts. (See Figure 2).

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Mounting Plate Detail
Figure 2

- 5.8.4 The mast arm shall be made of three 6063-T6 aluminum alloy extrusion. The mounting plate shall be made of one 6063-T6 aluminum extrusion. The finish shall be a natural aluminum finish.
- 5.8.5 The wire entry hole location shall be through the bottom of the arm two inches from the pole mounting plate. The edges of the hole must be rounded to protect the wire from damage.
- 5.8.6 All weld connections shall be full penetration.

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5.9 Nameplate

The manufacturer shall furnish with each luminaire a nameplate attached to and inside of the upper housing. The nameplate shall include the following data:

- a. Manufacturer's name
- b. Catalog number
- c. Lamp type and ANSI code
- d. Wattage
- e. Voltage
- f. Starting and running current
- g. Complete connection diagram


6.0 QUALITY CONTROL

The Supplier shall have a quality control program to ensure compliance with the requirements of this specification. The program shall be documented and available for GPA's review if requested.

Documentation of the quality control program shall indicate where in the production and manufacturing process the quality checks are taken, describe the purpose of the checks, and describe the nature of the check, e.g. if check is visual only or if electrical or mechanical testing is used.

7.0 PACKING AND SHIPPING

- 7.1 The equipment shall be placed and crated with suitable material to prevent damage and injury during shipment and handling operations.
- 7.2 The equipment shall be securely blocked to prevent shifting during transit.
- 7.3 Instructions for handling, shipping, packaging, and storing shall be provided by the manufacturer to prevent damage, loss, deterioration, and substitution of the units.

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