

JUSTIFICATION FOR SOLE SOURCE REQUEST

Date: 02-16-2011 Department/Division: PS/Eng Phone: 5291

Req. No.: Contact: Bart Mejia

Description of Services/Item/Supply Requested: Light Structure Green Sports Lighting System

Recommended Vendor: Musco Sports Lighting, LLC.

Address: 4 Jenner, Ste 100, Irvine, CA 92618 Phone: 949-754-0503

Check reasons for sole source request:

1. Sole Source: No other items are known to exist which perform the same function.
- Proprietary: The item is held under exclusive title, trademark or copyright by a private person or company; a proprietary distributorship would also apply.
- Standardization: The City requires the item(s) to standardize parts, design, quality, etc. (explain in more detail below)
2. Is the product or service available from other sources? Yes No
- If YES, list names of vendors:

If NO, explain why the product/service is available from only one source:

Musco's product has unique values and features that other sports lighting systems do not offer. These include:

- ✓ Energy Efficiency: Lower kW consumption per fixture. Musco's 1500W fixture draws on average 1.564kW. Compared to other fixtures which draw 1.62kW. Musco's advanced technology in fixture optics and housing and their Smart Lamp technology have resulted in more light on the field, and reduced energy consumption per fixture. This equates to fewer fixtures, over prior technology, necessary in the lighting of a facility.
- ✓ Musco's 'Z' lamp is manufactured by Phillips per Musco's specifications. These lamps are available in 1000W and 1500W with an offset arc tube. The combination of the offset arc tube and the geared leveling mechanism, allows for increase lumen output and longer lamp life. Coupled with Musco's Smart Lamp technology, the lamps have a useful life of 5,000 hours, compared to 3000 hours for a standard metal halide fixture used by other manufacturers.
- ✓ Musco is the only known supplier of the Smart lamp technology. Through timed power adjustments, Smart Lamp allows a constant light guarantee. Light levels are guaranteed to be with +/- 10% (per IESNA RP-601) through the 5000 hours of the lamp.
- ✓ Musco's revolutionary segmented reflector system, cast aluminum housing, "Z" lamp, and precise factory aiming per Musco engineers results in industry leading, superior spill and glare control for off field areas as well as spectators and players.
- ✓ Musco is the only sports lighting manufacturer that employs and trains field technicians to perform fine tune adjustments after installation to ensure maximum performance on-field and off-site. This is part of Musco's performance guarantee that ensures all photometrics and components of the system meet the customer's specifications.
- ✓ Musco's warranty is for 25 years and covers all parts and labor, as well as 2 group relamps, spot lamp outages, and guarantees the specified constant light levels and performance for the entire life of the system, for 25 years. The warranty is backed by Musco's in-house Field Service Department/staff.
- ✓ Musco's product is manufactured and shipped direct from the factory.
- ✓ The City is currently using Musco's Light Structure Green equipment and controls at the following facilities: Farm Sports Complex Fields 1 thru 6, TeWinkle Park Sports Complex, Volcom Skate Park, and Bark Park.

3. Can your requirements be modified so that competitive products or services may be used?

Yes

No

Please explain:



- ✓ The existing electrical service and switch gear have been designed utilizing Musco's Green product, which utilizes less kW consumption per fixture and uses fewer fixtures than other manufacturers. The additional fixtures required by other manufacturers to achieve the same lighting performance standards may result in overloading of the electrical system.
- ✓ The lighting performance standards currently specified should not be modified for playability and safety reasons.

4. How does recommended vendor's prices or fees compare to the general market?

Musco's pricing and product comes direct from the factory. When purchased directly, no sales commissions, contractor or wholesaler mark-ups or contract/agency fees are applied. Musco will ensure the pricing is fair and competitive in the market based on the values and features offered. Musco has also provided an 11% discount on this purchase.

Department/Division: _____

Department/Division Head Signature: _____

Date: _____

Purchasing Supervisor: _____

Date: _____

Purchasing Agent's Signature: _____

Date: _____

FOR PURCHASING DIVISION USE ONLY:

25-Year Life-Cycle Cost

Davis Field at Lions Park
 Costa Mesa, California
 Prepared for: Bart Mejia, City of Costa Mesa
 22-Feb-11

	Typical Floodlighting Equipment		MUSCO GREEN [™]	Your Savings
Hours	12500	12500		
Average kW	92.3	53.2		
Energy	\$92,340	\$53,176		\$39,164
Group Relamp	\$29,688	\$0		\$29,688
Lamp Maintenance	\$3,750	\$0		\$3,750
Controls - Energy	\$4,617	\$0		\$4,617
Controls - Labor	\$0	\$0		\$0
25-Year Life-Cycle Cost	\$130,395	\$53,176		\$77,219

Assumptions

Customer Provided Energy Data:

Energy Cost per kWh	\$0.080
Annual Operating Hours	500

Technology Specific Data:

Green Generation [™] Fixture Qty.	34
Average kW demand per fixture	1.564
Useful lamp life (hours)	5000
Typical Floodlighting Fixture Qty.	57
Average kW demand per fixture	1.62
Useful lamp life (hours)	3000

Controls Information:

Controls Energy Savings	5%
Labor Rate per Hour	\$0.00
# On/Off Cycles per Year	0
Labor Hours per Cycle	0

Lamp Maintenance Data:

Lamp replacement cost	\$125
including parts, equipment & labor	

NOTE:

Life-cycle costs are based upon the assumptions given by the customer above. Any variation in this data will change the life-cycle cost proportionately. Musco guarantees the average Green Generation system kW per hour and useful life of the lamp.



SOLE SOURCE - GENERAL INFORMATION

The following is a list of criteria that address most sole source agreement requirements.

QUALITY:

1) Single Manufacturer of entire system

Musco is the only manufacturer that produces entire lighting systems at their fabrication plant. Other lighting companies "outsource" their steel pole fabrication needs to third party manufacturers, thereby losing quality control of a major component in the sports lighting system.

2) Complete UL Listing as a system, not an assembly of UL Listed parts.

3) Welded steel cross arms

Musco is the only manufacturer that welds all crossarms to the steel pole top section. This provides the highest quality of construction as well as unsurpassed durability. All other manufacturers use bolt-on connections.

DURABILITY:

1) Pre-cast Concrete Base

This eliminates welded base plates with anchor bolts or direct burial steel, which are often associated with corrosion and potential failure issues. Musco is the sole manufacturer of this critical component in a quality lighting system.

2) Remote Electrical Component Enclosure ("ECE")

The ECE is constructed of aluminum, allowing the coolest operation possible of lighting ballasts located inside. All other manufacturers use a steel construction (either painted or galvanized). Musco employs a unique ballast mounting design which utilizes the inside walls of the ECE to efficiently transfer heat out of the enclosure. We also use a unique patented connection system to the steel pole allowing efficient transfer of enclosure weight to the pole as well as threadless hub wire way access into the pole. All other manufacturers use a bolt-on connection with threaded hub connections which gives corrosion a place to develop.

AVAILABILITY:

Standard delivery time of all Musco products is four weeks. For the Light Structure System, this includes everything from pre-cast concrete bases to factory wired and pre-aimed fixtures that are ready to install. Standard delivery time for steel pole production and delivery by other manufacturers is typically 12 to 14 weeks.

FITNESS FOR A PARTICULAR USE:

1) Lighting Performance/Spill & Glare Light Control

Musco is the industry leader in providing quality lighting on the field as well as being able to reduce spill light from off-site residential areas, this, in addition to the keeping unwanted glare from players and spectators is more of what separates Musco from other manufacturers. These Musco advantages, in part, are based on Musco's Sports Cluster Green (SCG) fixture and it's revolutionary reflector system. The SCG fixture c/w it's cast aluminum housing, it's segmented reflector system and the 1500 watt "Z" lamp all contribute to Musco's ability to control spill light and glare.

2) Reflector System

Musco's Sports Cluster Green (SCG) fixture and it's revolutionary reflector system produces more light on the field(s) and less off the field(s) while reducing glare both on and off the Field(s). The SCG fixture has a cast aluminum housing (other manufacturers use a spun aluminum reflector) and it's segmented reflector system give us the flexibility to direct light where we want to, contributing to Musco's ability to lead the industry in controlling unwanted spill light and glare.

3) "Z" Lamp

The lamps used in the SCG fixtures are a 1500 Watt Phillips "Z" lamp and have a rated life of 5,000 hours as compared to other manufacturers 3,000 hour lamps. The arc tube in this lamp has been offset by 30 degrees for increased lamp output and efficiency.

4) Energy Savings

Light Structure Green (LSG) using Musco's unparalleled photometric capabilities, Musco's "Z" lamp and "Smart Lamp" technology, translates into substantial energy savings. The "Smart Lamp" regulates the amount of power used by the lamp in order to maintain light levels on the field(s) while reducing energy consumption by as much as 40%.

ACCOUNTABILITY:

1) Post Installation System "Fine Tuning"

Musco Lighting is the only manufacturer that provides factory technicians and field sales/service representatives to perform any fine tune adjustments after installation to assure maximum performance on-field, and more importantly, off-site. This service is part of the Musco performance guarantee that ensures all components of the lighting system are to the customer's specifications.

2) Warranty

The 25 year (5000 hr) Warranty is a comprehensive warranty and maintenance program, providing all parts and labor, including one complete lamp replacement after 5000 hours of operation (entire lamp life). The Warranty guarantees specified light levels will be maintained for the entire life of the lamp.

If you require further specific information on any components of the Musco system, please contact our office.



SOLE SOURCE - CONTROL-LINK™

The following is a list of criteria that address most sole source agreement requirements.

TECHNICAL FEATURES:

Remote Equipment Controller

- 1) Entire assembly is UL916 listed, factory wired, programmed and tested.
- 2) Internal time clock has a battery for backup if power failure should occur.
- 3) Database memory is protected from power outages/fluctuations.
- 4) Up to 8 zones can be controlled per remote equipment controller.

Enclosures

- 1) NEMA Type 4X, 5052 H32
- 2) Powder-coat painted after fabrication
- 3) External mounting feet
- 4) Lockable, 3-point latching assembly
- 5) Door electrically bonded to enclosure

Manual Off/On/Auto Switches

- 1) Allows for emergency schedule override and onsite manual control.
- 2) Manual off-on-auto switch is keyed, maintain position.
- 3) Make-Before-Break contacts
- 4) Factory wired to terminal blocks
- 5) Legend plate clearly identifies zone and status
- 6) Switches Mounted to maintain NEMA Type 4X rating

OPERATIONAL FEATURES:

Flexible Control

- 1) Scheduling can be done via Internet, e-mail, phone or fax. All of these options are available to the customer for scheduling on the Control-Link system.
- 2) Password access can be provided to authorized users to prevent unauthorized use of lighting on sports fields.
- 3) Control-Link is designed to allow for both long-term scheduling and immediate On/Off controls.
- 4) Control-Link Central's team of trained operators are available 24/7 to monitor and ensure your schedules and transmit any last minute schedule changes.

Control-Link Central™

Control-Link Central provides two options for management and control of your facilities:

- 1) Direct control of the Control-Link Central computers and systems via an easy-to-use web site.
- 2) Contact Control-Link Central's team of trained operators 24 hours a day, 7 days a week to monitor and enter your schedules and transmit last minute schedule changes.
- 3) CLC systems provides effective tools to operate, manage, and analyze the extensive stored information.
- 4) CLC customer service is available to the customer via Internet, e-mail, phone or fax.

Communication Options

Control-Link's custom communication options allow customers flexibility based upon needs at the project location. Control-Link is able to communicate with the scheduling system via high-speed wireless, cellular telephone, Internet (T1, DSL, Cable Modem), fiber optic lines.

Solid Management Reporting

- 1) Reports can be retrieved from Control-Link Central via internet or hardcopy. Reports on usage by facility and/or end user are available.
- 2) Provide tools for efficient operations, allocation of costs, proactive maintenance and facility expansion planning.
- 3) Potential for better customer service and innovative uses of facilities, without adding staff.

Diagnostics

Control-Link Central can perform diagnostics testing on equipment connected to the remote equipment control unit. The diagnostic package provides CLC with real time status feedback to help maintain and prevent problems with the control system. It can go as far as telling the CLC operator what position the manual override switches are in.

Warranty

Musco warrants the lighting control equipment to be free from defects in materials and workmanship for a period of five years from the date of commencement. Labor and materials are covered under a 2-year warranty to replace defective parts or repair defects in workmanship. For the remainder of the warranty period, replacement materials will be provided at no charge. Warranty coverage can be upgraded to the warranty of any Musco Light-Structure 2 system, if purchased under the same agreement.

Field Service

A factory trained representative is available for warranty and/or repair service at the project site.



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Temporary Lighting

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Permanent Lighting

Light-Structure GREEN™

Outdoor Sports Lighting for Recreation and Athletic Facilities...
for a more energy conscious generation



Innovative photometric improvements of the luminaire result in substantially more efficient light control.

Guaranteed to make your sports-lighting projects fast, easy, and trouble-free, Light-Structure Green™ is offered with confidence earned and learned from 30 years of technology innovation.

For your budget:

Energy and maintenance costs significantly impact annual operating budgets. Light-Structure Green cuts those costs in half through improved reflector technology, a 25-year maintenance program, and Control-Link® automated scheduling system.

25-Year Life Cycle Cost

	Prior Technology	Light-Structure GREEN™	Your Savings
Hours	7500	7500	
Average kW	84.2	50.0	
Energy	\$56,862	\$33,782	\$23,080
Group Relamp	\$16,250	\$0	\$16,250
Lamp Maintenance	\$3,750	\$0	\$3,750
Controls -Energy	\$5,770	\$0	\$5,770
Controls - Labor	\$10,000	\$0	\$10,000
25-Year Life Cycle Costs	\$92,632	\$33,782	\$58,850

1. 300 hours per year, 7¢, per kilowatt hour
2. \$125 per luminaire for relamp labor and materials.
3. \$1,500 for 3 repairs at \$500 each
4. Switching on and off 20 minutes closer to actual usage time.

5. 15 minutes labor for turning on and for off at \$8 labor rate--2500 operations.

Reflector technology

- The dramatic improvement of photometric efficiency requires fewer fixtures to achieve desired light levels, reducing energy costs
- A series of timed power adjustments with the Smart Lamp™ operating system increases lamp life from 3,000 to 5,000 hours – a 66% increase in operating efficiency

Musco's *Constant 25*™ warranty and maintenance program guarantees

- Constant light levels and group lamp replacements at the end of rated lamp life
- Reduced energy consumption
- Monitoring, maintenance, and remote on/off control services
- System structural integrity

Musco Constant 25™

Musco's *Constant 25*™ warranty assures you won't have to touch your lighting system for 25 years, guaranteed.

Control-Link System

- Lights are on only when needed through an automated scheduling and monitoring system
- Control-Link Central™ staff provides 24/7 support, benefiting field users and neighbors

For the environment:



Tucson, AZ – This multi-field complex shows Light-Structure Green's dramatic light control capability. The outfield pole locations are only 100 feet apart. Light levels measure .5 footcandles between them.

Advancements in the reflector design reduce offsite spill light by 50% over our previous, industry-leading light control system. Effective light control allows facility planners more flexibility in site selection for new fields and

makes lighting an existing neighborhood park easier.

Effective light control addresses four areas of concern:

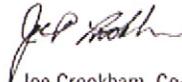
- Neighbors: Light-Structure Green custom fits light onto the field, keeping the light out of neighbors' windows
- Sky glow: The reflector reduces upward light, protecting the beauty of the dark skies
- Players and spectators: For multi-field complexes, it is important that light doesn't trespass onto adjoining fields, causing potential problems for players and spectators
- Aesthetics: Light-Structure Green's structural design and light clarity make the system aesthetically pleasing

Unequaled performance:

**"OFFERED WITH THE CONFIDENCE
EARNED AND LEARNED FROM
30 YEARS OF TECHNOLOGY INNOVATION."**



Myron Gordin, Co-founder



Joe Crookham, Co-founder

800/825-6030
(1) 641/673-0411

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