

2015 Achievement Awards Virginia Association of Counties

APPLICATION FORM

All applications must include the following information. Separate applications must be submitted for each eligible program. **Deadline: June 1, 2015.** Please include this application form with electronic entry.

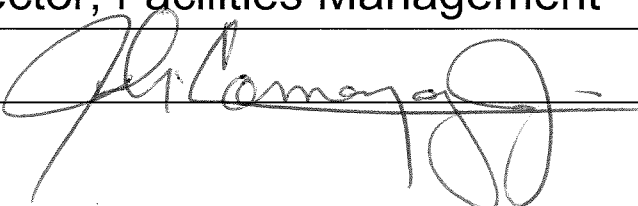
PROGRAM INFORMATION

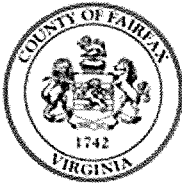
Locality: Fairfax County
Program Title: LED Lights in Parking Garage, Executive Offices & Cafeteria
Program Category: Environmental/ Health & Human Services

CONTACT INFORMATION

Name: Garrick Augustus
Title: Energy Coordinator
Department: Facilities Management & Office of County Executive
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E-mail: garrick.augustus@fairfaxcounty.gov

SIGNATURE OF COUNTY ADMINISTRATOR OR CHIEF ADMINISTRATIVE OFFICER

Name: Jose Comayagua
Title: Director, Facilities Management
Signature: 



2015 Achievement Awards, VACo

Fairfax County, Virginia

Subject: LED Lights in Parking Garage, Executive Offices & Cafeteria

Situation: The Fairfax County Government Center Parking garages were using Linear Fluorescent (LFL) lights on a conduit system that was as old as the building, and though connected to our GE controls, lights were kept on from 5:30 am through midnight, except on some weekends when the schedule would be adjusted. The wiring system on the second floor was flailing due to poor design, and building aging (settling) which generated fissures in the first floor (roof of the second floor) through which salt water from vehicles on the first floor penetrated and damaged the electrical conduits below. The (Facilities Management Department) FMD assessed this space and made it a project focus for improvement during the FY12/FY13 budget years.

Building on the success of the Parking garage, FMD has implemented LED lighting in all Executive Offices, as well as the building's cafeteria. All of these have resulted in reducing the building's energy and carbon footprint, respectively.

Statement of the Problem: Upgrade light quality, and energy efficiency of parking garage.

Actions:

1. The Board awarded Facilities Management Department funding for lighting upgrades in the parking garages. This funding was generated from savings earned through the County's new Natural Gas RFP championed by our new Energy Manager, which lowered the cost per dekatherm from \$10.20 to \$5.27.
2. LED Light fixtures were purchased to replace the older T8 Linear Fluorescent Fixtures.
3. All vertical walls in parking garages were painted white to enhance luminescence.
4. Light fixture count was reduced by 41%, from 924 to 521.
5. Occupancy (motion) Sensors were installed to trim lamp loads during off peak hours.

Results:

1. Saved 642,800 kWh per year, or \$45,000.
2. Extended lamp life, based on manufacturers' specs, by 455%, from 22000 hours to 100,000 hours.
3. Reduced maintenance labor on lamp replacement by nearly 100% per year for first 10 years. According to Mike Daugette, the Building's senior Electrician, these results exceeded their expectations:
 - a. "WE (FMD) have had to replace three of the LED lights in P1/P2 over approximately 1 year. Four were replaced by the installer due to installation errors. This represents a major improvement over fluorescent lamps, the number of which would be in the neighborhood of 50-100 lamps. Additionally, we no longer require ballast replacement, which represents substantial cost savings. We have not received any complaints in reference to the lights, quite the contrary; many county employees have discussed the feasibility and cost savings potential of having LED lamps in their homes/garages.
 - b. "We have achieved the same illumination (foot candles), for the garages utilizing less fixtures. As far as dark areas are concerned, we feel that they have been addressed, and



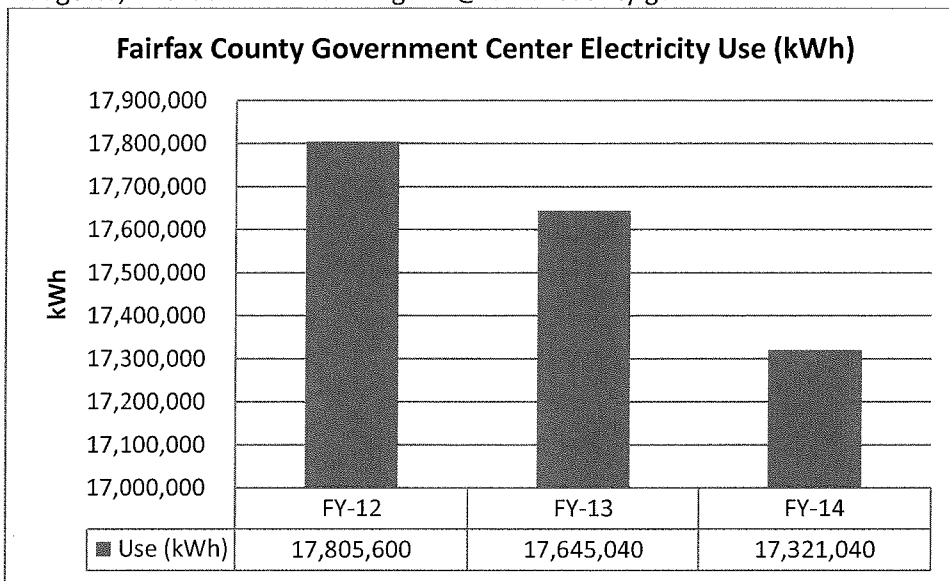
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Fairfax County, Virginia

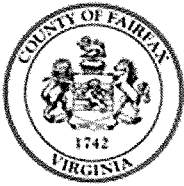
the P1/P2 parking garages are safely illuminated. Certainly if we receive a complaint concerning an unsafe area we would and do address it immediately... I failed to add that due to the installation of the LEDs, we now have a dimmable system with motion sensors for non-critical hours. Again, a cost saving device not available with fluorescent lighting.”

- 4. Improved light quality to an average of 10 Foot Candles (FC) in the darkest areas, which provides a higher sense of personal safety and security.

Daugette, Michael <michael.daugette@fairfaxcounty.gov>



The pictures illustrate actual conditions before and after the project completion. It is of interest to note that the vanishing points ending in darkness due to shadowing effect with the “before” pictures, whereas in the “after” ones the vanishing points terminate with light, as the shadows were significantly reduced.



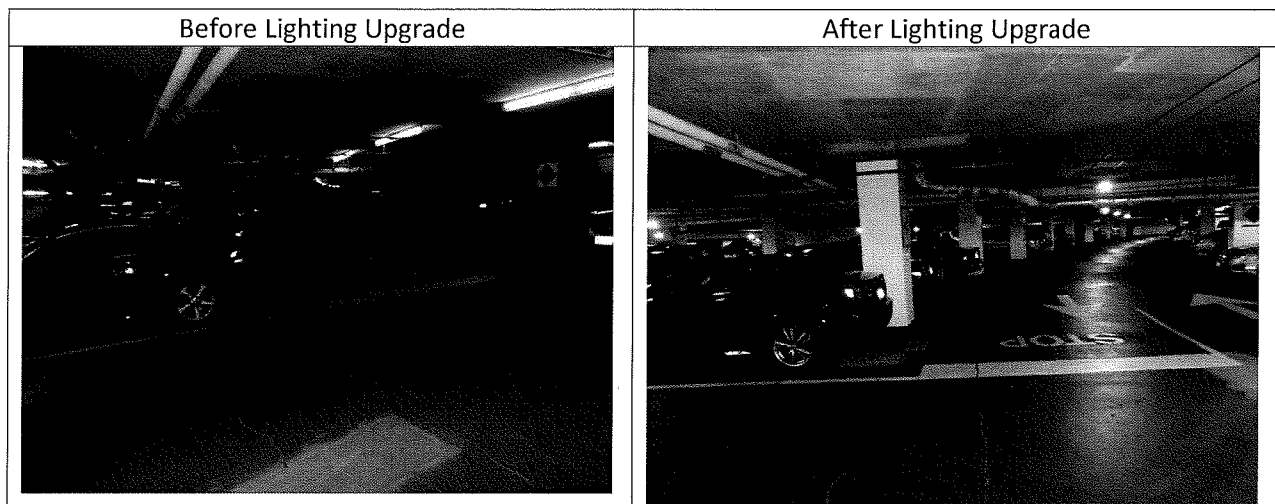
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The pictures above show the north parking garage entrance/exit on parking deck-1.

The pictures below show the north parking garage parking spaces and drive aisles on parking deck-1.



Key Participants: Garrick Augustus and Randy McConchie

Contact Information:

Garrick D. Augustus, **CEM, CEAM**



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Fairfax County, Virginia

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