

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.

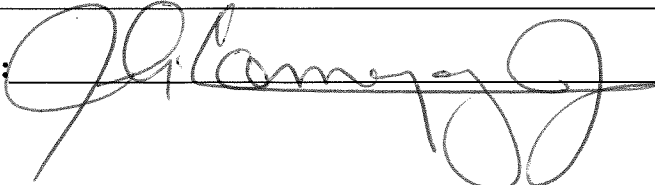
PROGRAM INFORMATION

Locality: Fairfax County
Program Title: Fire Station Bay Doors Interlock
Program Category: Environmental

CONTACT INFORMATION

Name: Garrick Augustus
Title: Energy Coordinator
Department: Facilities Management & Office of County Executive
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SIGNATURE OF COUNTY ADMINISTRATOR OR CHIEF ADMINISTRATIVE OFFICER

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



2015 Achievement Awards, VACo

Fairfax County, Virginia

Subject: Fire Station Bay Doors Interlock

Situation: The fire and rescue services have a proud tradition of always being ready and quick to respond, and the fire apparatus is just as important as the firefighters who staff them. To facilitate constant readiness and a rapid response from the “firehouse”, station design is concentrated around the apparatus bay. The bay area is where the firefighters assemble their personal protective gear, inspect and maintain all equipment, and generally spend much of their working day. The apparatus bay doors are sometimes opened, and left open, for extended periods of time to facilitate equipment maintenance and drills. Specifically in the winter, the challenge is to maintain the bay area at a livable temperature, and extended bay door opening causes heavy heating demands on our Heating system.

To improve Fire Fighter’s comfort and sense of homeliness, FMD studied the matter on how to leverage energy conservation with human comfort. This led to a solution which would offer our dependable Fire Fighters some of the comforts of home while maintaining the County’s energy efficiency goals. This led to the recommendation of interlocking the Bay doors to the HVAC system.

Statement of the Problem: Reducing energy loss through Fire Station Bay doors

Actions:

1. In 2012 FMD appropriated \$220k to install Bay Door Interlock devices on 19 of the County’s 40 Fire Stations.
2. Interlock devices were placed on each bay door.
3. Occupancy Controls installed and are indexed based on adjacent bay door position switches.
4. Rear main bay heaters are interlocked with main bay vehicle entry doors. Front main bay heaters are interlocked with main bay vehicle exit doors.
5. Associated heaters are indexed to “occupied” mode when any interlocked switch indicates all doors are closed, and to “unoccupied,” when any interlocked door is opened.
6. A Space Temperature Sensor is installed at the existing thermostat location.
7. A warmer/cooler set point scale permits local occupant set point offset adjustment. The range of adjustment was limited to the remotely adjustable off-set set point ($\pm 5^{\circ}\text{F}$ adjustable).
8. The nominal occupied heating space temperature set point is: $\pm 65^{\circ}\text{F}$ adjustable. The space sensor offset set point at: $\pm 5^{\circ}\text{F}$ adjustable.
9. The HVAC System is controlled in response to the space temperature sensor deviation from effective heating set point, for Winter and Summer conditions).
10. IR Heaters are programmed to turn off if bay doors are opened in excess of 2 minutes, and alarms Building Operations with an e-mail if door remains open in excess of 10 minutes.

Results:

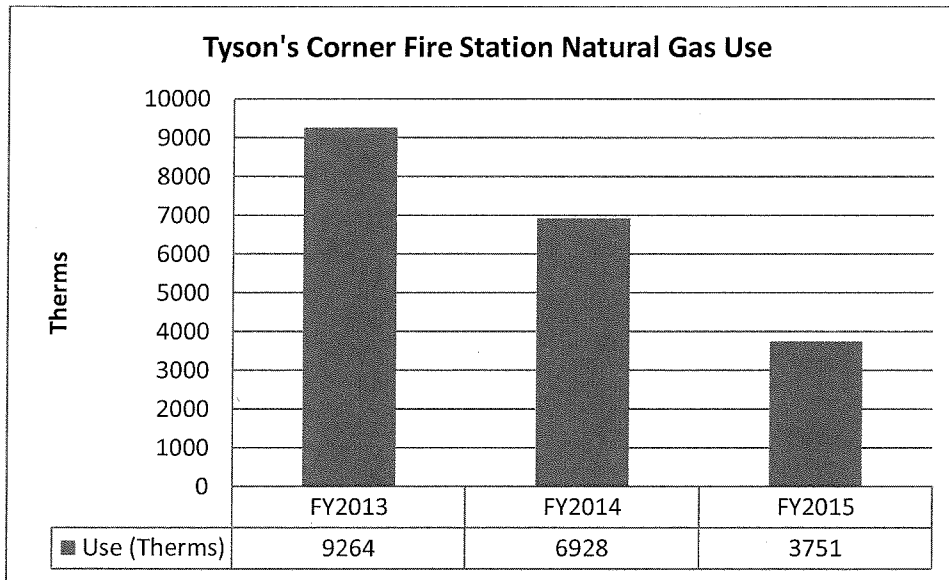
1. Natural Gas usage fell by 25% in the first year.
2. Director of Fire Service is requesting to have all additional 21 Fire Stations’ Bay doors interlocked to save energy.
3. Fire Fighters are happy with this energy-efficient technological solution.



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4. A sample Fire Station, the largest, will be shown below on the energy-effectiveness of the door interlock system.



Key Participants: Garrick Augustus

Contact Information:

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