

Meeting Summary

Following is a summary of issues discussed at the DGS Stat on August 24, 2011. Analysis is provided by StateStat.

Follow Up Items

- **Rockville Court House.** DGS was asked to provide a report on issues related to the newly constructed Rockville Court House.

Project Description:

This project consisted of demolishing the old Rockville Library building and constructing a new 162,000 square foot, six story District Court Building housing nine courtrooms, the Public Defenders Office, 24-hour commissioners office, and various building maintenance staff areas.

Background:

The District Court was designed with a curving facade that matched the contours of Jefferson St., the main street in the front of the building. The back of the building became a concave design with six (6) stories of energy efficient reflecting windows with a southern exposure. Upon completion of the installation of the six stories of reflecting glass windows on this southern exposure, a “Parabolic Ray” developed creating a magnified sun ray that extended across property to the Rockville City Hall Building and parking lot. This ray magnified the sunlight and created temperature differences that could be felt when passing through the ray. This situation is unique in that it has only been found in one other location in the United States.

The Department of General Services (DGS) requested that the Architectural Engineering firm that designed the building complete a Solar Reflection Study to determine the cause and to provide a mitigation plan that would eliminate the “Parabolic Ray”.

Solar Reflection Study Results:

The results of the Solar Reflection Study indicated that with the design of the building created a concave facing to the South creating the perfect conditions for producing the “Parabolic Ray”. This ray is created by the sun hitting the curvature of the reflecting windows, magnifying and collecting as one stream of light whose length of reflection is determined by the angle of the sun. The maximum length of the light beam is during the late fall and winter equinox. The beam is reflected closer to the building and onto the court building property during all other months.

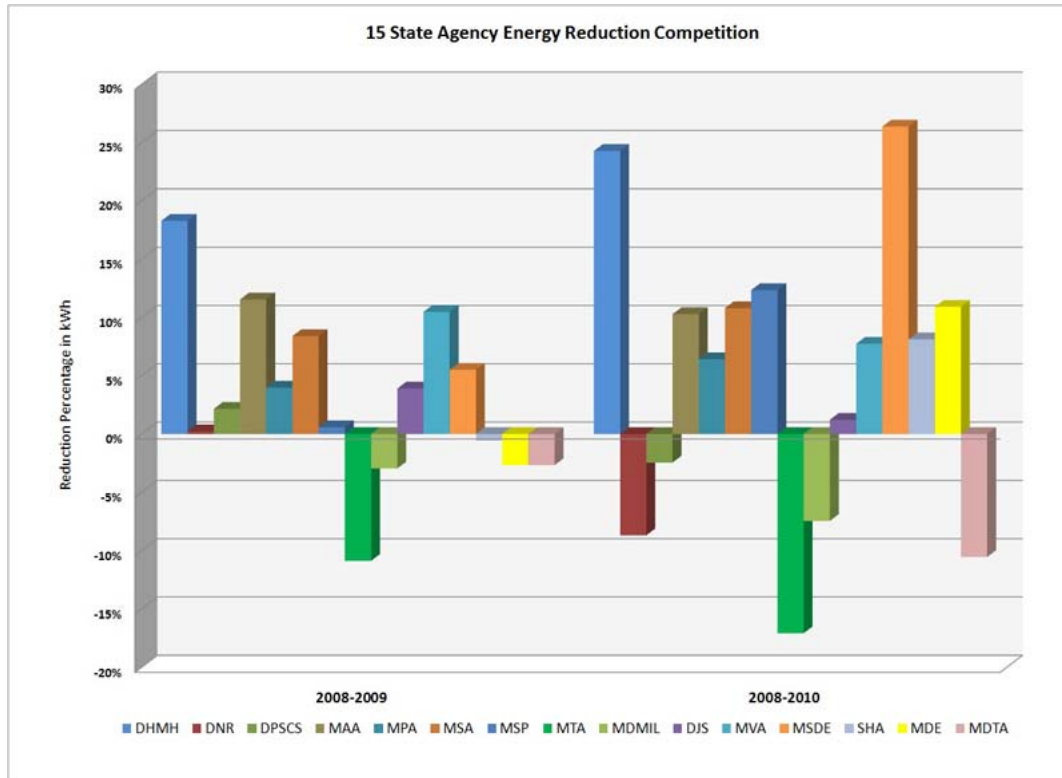
Corrective Solution Recommendations:

The A/E provided DGS with multiple options for mitigating the reflective ray. These ranged from installing vertical or horizontal fins, applying a film to the existing glass, installing landscaping, or installing an external shading mesh. These options were evaluated for effectiveness, warranty issues, practicality, and cost.

DGS reviewed all of the options and determined that the most effective course of action was to install an external mesh screening product that would reduce the reflective rays to less than 4% thereby eliminating

the “Parabolic Ray.” A mock-up was placed on one of the lower windows and was examined by DGS, judicial staff, and other building occupants. DGS has authorized the contractor to proceed with manufacturing the product and prepare the windows for installation. It is anticipated that this will be accomplished within the next 10 weeks.

- Energy Reduction Tracking.** DGS was tasked with coordinating the creation of several webpages related to the energy database. These included a public view of the Energy Database, a page comparing agency energy reductions, and an embedded version of the Energy Map. DGS is continuing to work with the Contractor to develop the sites.



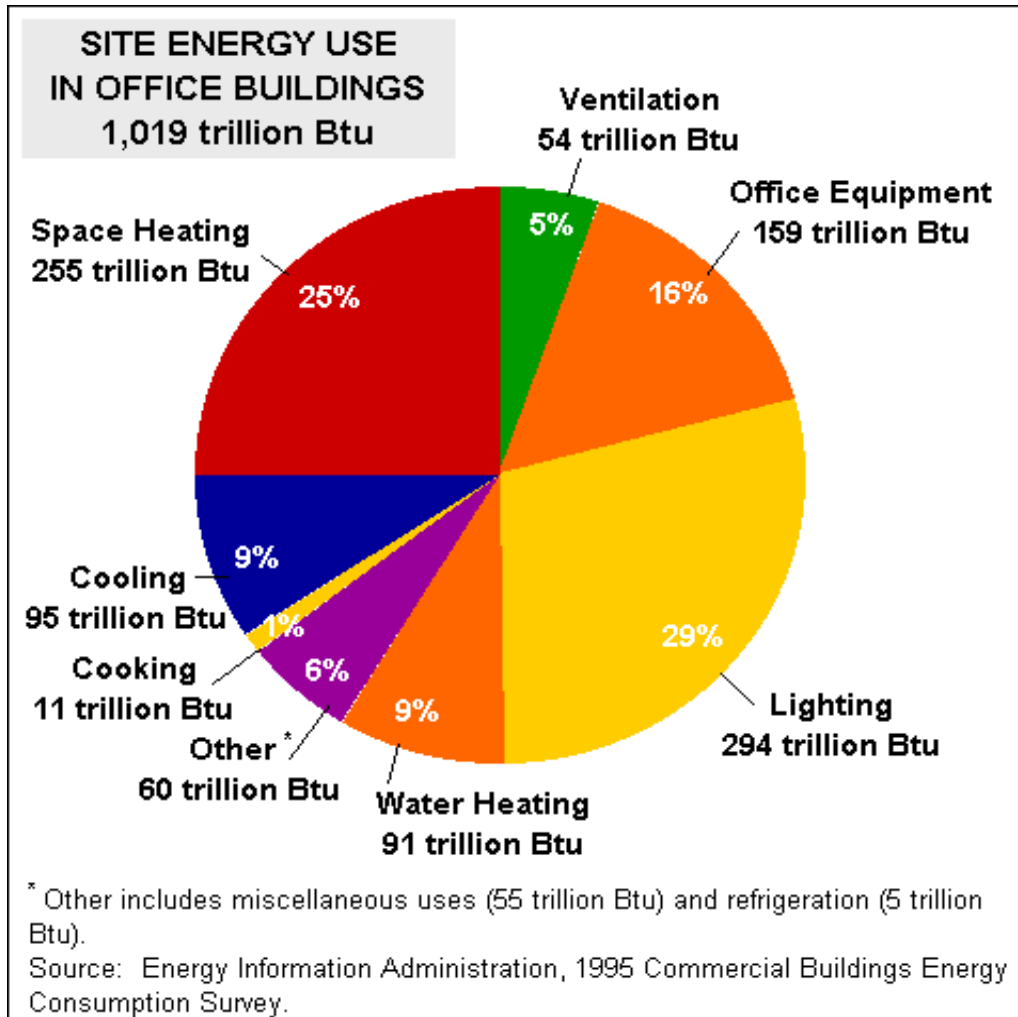
- Energy Reduction Actions on Leased Property.** Per discussions during the last DGS Stat, DGS worked to update its Leased Space Energy Reduction table. Last month, DGS inserted the percentage of anticipated reduction resulting from improvements made to the leased space. The updated table is located below.

Energy Initiatives FY2011

Agency	Location	Completion Date	Square Feet	Lease Type	Energy Efficient Modifications	Estimated Energy Savings
MEA	60 West Street Annapolis, Anne Arundel		9266	New	Leeds Gold Certification	
DLLR	Golden West Drive Hunt Valley Baltimore County	09/02/10	865	New	1. Lighting retrofitted from T-12 to T-8 with electronic ballast 2. Occupancy sensors installed to turn off lights when space is vacant	40% 25%
DNR Critical Area Comm	1804 West Street Annapolis, Anne Arundel	10/30/2010	5624	Renewal	1. Lighting retrofitted from T-12 to T-8 with electronic ballast	40%
DNR Licensing	1804 West Street Annapolis, Anne Arundel	10/30/2010	10412	Renewal	2. Lighting retrofitted from T-12 to T-8 with electronic balast	40%
DPSCS P&P	301 North Gay Street Baltimore City	12/01/10	10894	Renewal	1. Energy account switched from landlord to the state's energy provider	6%
MTA Police	4701 Mt. Hope Drive Baltimore City	04/19/11	4th	New	1. All new energy efficient Roof top HVAC units installed. 2. Digital programable thermostats 3. Occupancy censors installed. 4. Low flow toilets installed. 5. T-8 lamps installed	30% 25% 40%
MVA	5415-5445 Reisterstown Road Baltimore City	04/20/11	20000	New	1. Super low flow toilets and urinals 2. Continuous insulation around the building perimeter and the roof 3. TPO cool roof with solar reflective index greater than 78 4. 1" thick 1/4" glass double pane windows with Low-E, high-U and SHGC 5. Thermal brakes on the windows 6. High efficiency Aaron RTU 7. HVAC with 100% outside air economizers 8. Zone heating areas with digital thermostats	15% 48% 30%
MVA					9. Occupancy sensors that turn lights off when space is not occupied 10 T-8 lights with electronic ballasts	25% 40%
OAH	11101 Gilroy Road Hunt Valley Baltimore County		53041	Renewal	1. HVAC system rebalanced 2. Lighting retrofitted from T-12 to T-8 lamps with electronic ballast	40%
MSDE	41670 Court House drive Leonard town, MD	1-May-11	2597	Existing	1. Electricity account switched to the State's energy supplier	6%

1. The percent savings noted in the Estimated Energy Savings column above reflects the savings in that particular category and not the overall energy savings for the office. For example, lighting is typically 29 percent of the total energy cost in an office building; the conversion from T-12 lamps to T8 lamps and electronic ballast, the estimated savings is 40 percent of the 29 percent total lighting cost in a typical office building.
2. Information on energy savings was provided in conjunction with the Department of General Services Energy Projects and Services Division.

In conjunction with the added estimated energy savings column, DGS submitted the following background information on typical energy savings actions. These values are estimates for typical buildings. In order to translate these energy reductions, given in British Thermal units (Btu), values would need to be multiplied by the applicable utility rate. Savings based on occupancy sensors depend on how often the space is unoccupied and have the potential to vary greatly. The following is a typical use of energy in a commercial office building.



The following describes potential energy savings related to typical energy reduction measures.

Potential percentage of savings on lighting costs by replacing T-12 lamps to T-8 lamps and electronic ballast.

Replacing T12 lamps and ballasts with high efficiency electronic ballasts and T8 lamps; in many cases can provide energy savings greater than 40 percent while improving the quality of the lighting. These quality improvements include quiet operation, improved color rendering, and a reduction in HVAC costs due to less heat being generated by the lighting system.

Percentage of savings of lighting costs with occupancy sensors to turn off lights.

Typical range of savings from occupancy sensors are shown in the following table (actual savings may differ):

Type of room	Energy savings (%)
Private office	15 to 52
Open-plan office	22 to 30
Classroom	41 to 48
Conference room	20 to 70
Restroom	30 to 90
Corridors	40 to 85
Storage area/closet	45 to 80

Percentage of saving in Heating, Ventilation, and Air Conditioning (HVAC) costs by replacing single pane windows to double pain windows with low-E rating.

Replacing single-paned wood frame window with double-paned vinyl window reduces window heat loss by 48 percent

Percentage of energy saving by replacing a black roof with a white roof.

Any building with a dark colored roof, will consume more energy for air conditioning than a white roofs. White reflective membranes, white pigments coated metal roofs and planted or green roof can Create 15–30 percent savings on summertime air conditioning expenditures.

Percentage of energy saving by replacing 15 year old heat pump roof top units with new roof top heat pumps.

Today’s heat pumps are much more energy efficient than they were just 10 years ago. Replacing a 12- to 15-year-old unit with a new high-efficiency heat pump can save you up to 30 percent on your energy bill.

- **Tracking Leases:** Since it was reported that energy reductions efforts on leased property need to be carried out in association with lease renewals, DGS was tasked with looking at its lease renewal methodology and schedule.

The lease renewal methodology is based on managing the portfolio according to lease expirations, while also taking into account opportunities for early renewals that accomplish occupancy costs reductions in lease rates and operating costs. DGS reported that a broker report is submitted monthly that tracks lease renewals. In an effort to assess tracking energy savings in leased space, DGS proposes identifying several renewal properties of varying sizes and geographic locations in which the landlord performed energy conservation work as a condition of the renewal. DGS could use the year prior to the energy conservation work as the baseline and then compare several years into the future to determine if the savings estimates were accurate. It would be necessary to footnote unusually severe or extreme weather patterns such as the excessive heat this summer as a variable.

DGS was asked to give an overview of the MVA lease at Reisterstown Road, which is billed as an ideal lease. This leased space consists of a 20,000 net usable square foot building and approximately 3.26 acres of land in the heart of an urban renewal area of Baltimore City utilized as a full service MVA with test tracks and ample parking. The site previously housed a vacant movie theater and old run down strip shopping center. Following the lease negotiations, BPW approval, and the acquisitions and closing of the surrounding lands, the construction project took approximately 10 months to complete. This project generated transfer taxes for the real property; substantial short term employment – about 100 construction jobs; new tenants in the renovated strip shopping center adjacent to the MVA including 7-11, Wingstop, Little Caesar's and Subway which have created between 75 and 100 full and part time jobs. The new construction was designed as a LEED Silver building. All reports have been prepared and sent for the certification.

- **Energy Plans:** DGS had set a deadline of July 2nd for 14 agencies to submit their Energy Reduction Plans. DGS has reported that they have received Energy Reduction Plans from the following agencies:
 - Military Department
 - MD Stadium
 - MD Dept. Environment
 - Dept. Public Safety & Corrections
 - Health & Mental Hygiene
 - Dept. Natural Resources
 - MD Transportation Authority
 - MD Aviation
 - MVA
 - MSDE (received July 8th)

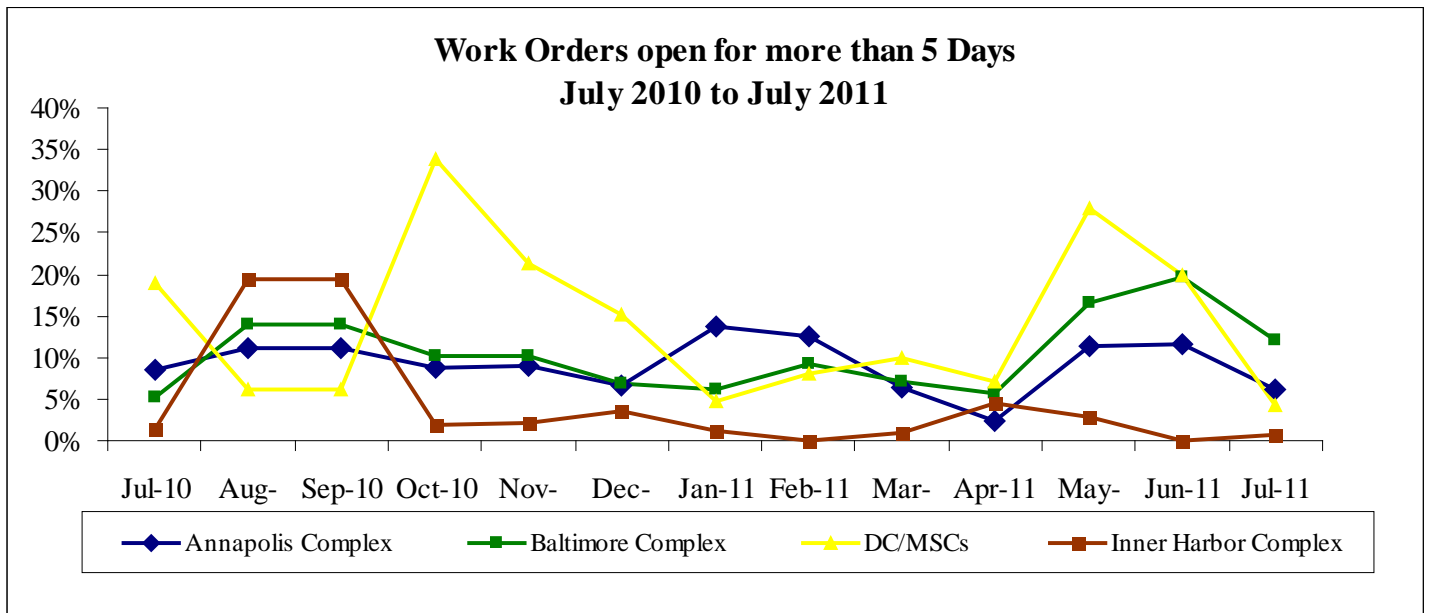
This leaves SHA, DJS, MSP, and MPA that still need to report their reduction plans.

- **Recycling:** In following up on efforts to combine recycling efforts with local governments, DGS submitted a list of County Recycling Coordinators contacted and their responses. This list is attached (Attachment 6a – Local Recycling). Ten counties responded that they would not be able or willing to share a county contract. The only County to reply that they could be interested in allowing the state to join its contract was

Prince Georges County. In addition, Kent County, while not being able to share a county contract, is checking on possible municipal partnerships.

In order to look at all possible opportunities to close recycling gaps, DGS submitted the following strategies.

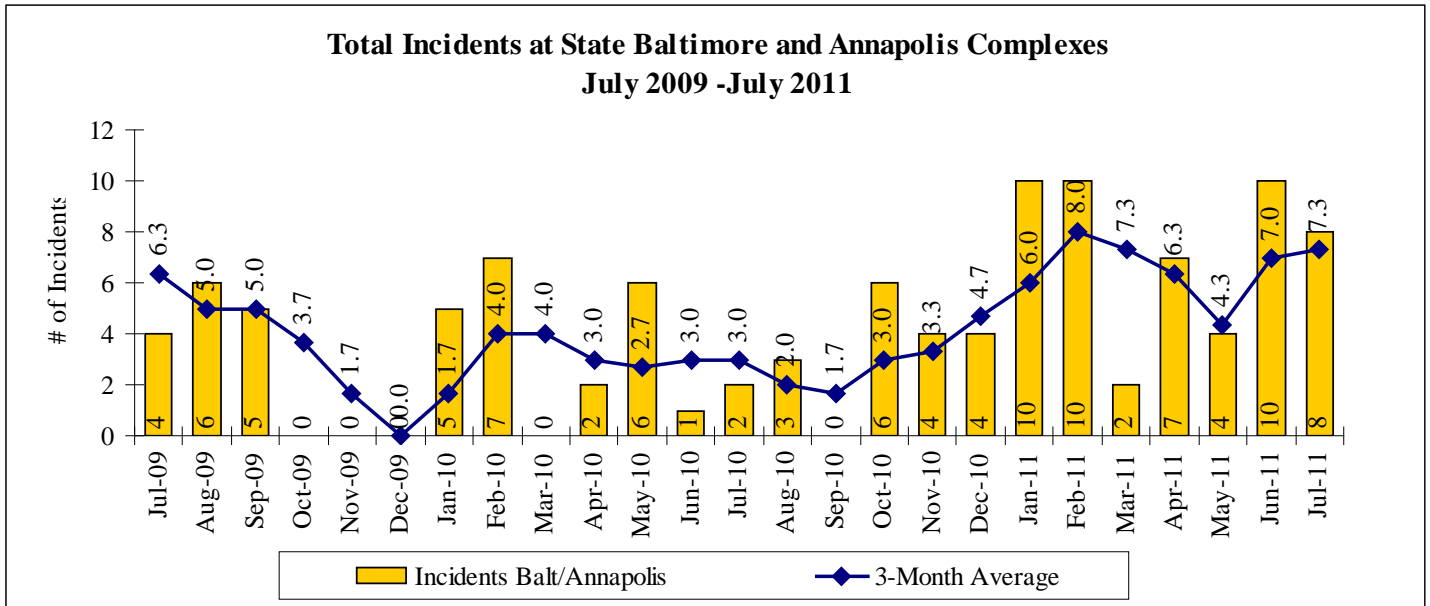
1. Contract for Recycling on a State-wide, regional or a per County basis.
 2. Compete Recycling contracts with trash removal services combined on a State-wide, regional or County basis.
 3. “Piggyback” on local contracts for Recycling exclusively, or where advantageous, and use State contracts for the remaining areas.
 4. Develop an MOU with Local Governments to pickup and process the State’s recycling exclusively, or where advantageous, and use State contracts for the remaining areas.
- **Work Orders.** Sam Cook has made arrangements for a representative from the vendor, SKIRE, to give a short presentation on the new work order reporting software which is being used in the pilot program in Annapolis. Statistics for work orders open for more than 5 days under the current reporting system is below.



DGS reported that the new system has been live at the Annapolis Complex since July 1st. The new system allows all work order data to be collected uniformly. It also sets up a baseline and tracks progress. All of the data collected is hosted by the contractor and is web based. DGS is planning meetings with superintendents of other buildings in the coming weeks to discuss further rollout. Although not currently employed, hand held devices could further streamline the process in the future.

Security

- Incidents at State Complexes.** While down from the previous months ten incidents, crimes remained elevated at eight between the two complexes. There were three incidents at the Annapolis Complex and five at the Baltimore Complex. Annapolis incidents involved three thefts. Baltimore incidents included four thefts and an assault.



Other

- Earthquake!!!** There was a 5.9 magnitude earthquake that struck in Virginia, 87 miles southwest of the District of Columbia. The quake was felt throughout Maryland. DGS reported that all buildings had been inspected and no major damage was reported at its facilities and no employees were injured.