



ASHRAE ACTION

ROANOKE CHAPTER NEWSLETTER

(WWW.ASHRAEROANOKE.ORG)

MARCH 2012

MARCH MEETING

**PLEASE JOIN US FOR OUR SPECIAL JOINT MEETING
AT THE VALLEY VIEW HOLIDAY INN!**

Tuesday, March 13st
Valley View Holiday Inn
3315 Ordway Drive
Roanoke, VA 24017

TOPIC:

**"Green Design and Sustainability, -
Un-Definable Success in a Defined
World"**

SPEAKER:

Mitchell Swann, ASHRAE DL

AGENDA:

BOG: 5:00 PM
Dinner: 6:00 PM
Presentation: 6:15 PM

**RESERVATIONS MUST BE MADE BEFORE NOON
on March 5th!**

TO Rick Hughes:

E-mail: RoanokeASHRAEMeetings@gmail.com

Phone: 540-342-1816

PRESIDENT'S CORNER

Last Month Keith Dunnivant gave an informative presentation on different approaches for data center heat rejection. I learned a lot from the presentation and will be looking at some of the approaches for the next data center that I design. Thank you to everyone that came out.

This month we will be having ASHRAE Distinguished Lecturer Mitchell Swann come and present to us about Green Design and Sustainability. He has presented to the Roanoke Chapter before and he is an excellent speaker. This is also a joint meeting and we will be inviting the other area professional societies. I hope that we can have a big turnout from ASHRAE and make the other groups feel welcome at our meeting.

Hopefully the new email list serve and newsletter will be ready and unveiled in April.

-Kyle Longbrake
President
Roanoke Chapter

MARK YOUR CALENDERS:



April Meeting – Student Night
Valley View Holiday Inn
April 10, 2012 at 6 PM

"Variable Compressor Technology"

BOARD OF GOVERNORS MEETING @ HOLIDAY INN
APRIL 10, 5:00 PM

2011/2012 Meeting Schedule

September 13 th	Lunch	Blue-5
October 18 th	Dinner	VT Tour
November 8 th	Lunch	Blue-5
December 13 th	Lunch	Blue-5
January 10 th	Dinner	Staunton
February 21 st	Lunch	Blue-5
March 13 th	Dinner	Holiday Inn
April 10 th	Dinner	Holiday Inn
"Student Night"		
May 8 th	Lunch	Blue-5

CTTC Corner:

1. The 2012 ASHRAE webcast is fast approaching. The title of this year's presentation is "Dedicated Outdoor Air Systems: A path to balancing energy and IEQ." The chapter will be hosting a live webcast on April 19, 2012 from 1-4 pm. The location of the webcast has yet to be determined.
2. If you have an interesting article, something to share on a new emerging technology, or have a future meeting request please inform your CTTC chair (Wesley Southall, email: wesley.southall@aeom.com)
3. ASHRAE is always looking for innovative design for entry into the annual design awards. It is never too early to think about next year's competition.

New school in Staten Island's Rossville section is a study in technological advances

Published: Monday, February 06, 2012, 2:44 AM Updated: Monday, February 06, 2012, 7:46 AM

By Jillian Jorgensen



NYC School Construction Authority This artist's rendering shows PS 62 in Rossville, its roof covered with photovoltaic solar panels.

EDITOR'S NOTE: This is the second in a series about the three new public schools scheduled to open on Staten Island. Next Monday: PS 59 in New Brighton.

STATEN ISLAND, N.Y. -- A school being built in Rossville that will generate its own energy won't just be the first of its kind in Staten Island — it'll be something new for the entire East Coast, and one of the first of its kind in the nation.

"It will be the first net-zero energy public school in the northeast United States, and one of the very few in the country," said Bruce Barrett, vice president for architecture and engineering at the School Construction Authority.

The school is slated to cost between \$55 million and \$58 million, and will open in September 2015. One reason it will take so long is the cutting-edge technology involved is not just new to the SCA — it's new to the contractors, too.

"We're taking tremendous pains to make sure that the whole building is constructed as precisely according to details as possible"

PS 62 won't look like your average school. The "extremely high-tech" building will be partially covered in photovoltaic that will generate energy from the sun.

"What net-zero energy means is that the building will generate on site as much energy — at least as much energy — as the building will use on an annual basis," Ms. Barrett said.

The building will only generate energy when the sun is out — but students won't be skipping school for "cloud days." The building will also be hooked into the local energy grid, and will use that power when it isn't generating its own. But the school can also feed energy into the grid, Ms. Barrett said, powering neighboring homes.

So when it's sunny, the school will power itself and other buildings. When it's cloudy, or at night, the school will use the regular power grid.

"We will actually be producing, over the course of a year, more energy than we have used," Ms. Barrett said.

One way of accomplishing that is by reducing the amount of energy PS 62 will use, Ms. Barrett said. The building will have extra insulation and high-performance windows, to prevent heat or air conditioning from escaping.

"It turns out that lighting is an enormous user of electricity in buildings," Ms. Barrett said.

Every classroom in PS 62 will face either the north or south, so they can be lit by daylight without glare, Ms. Barrett said. Sensors will automatically turn the lights off when sunshine is streaming into classrooms, Ms. Barrett said. There will also be vacancy sensors.

"When you enter a room, you would have to manually turn on the lights. They don't automatically come on. You will have to say to yourself, 'I need light,'" she said. "But when you leave the room, they will automatically shut off."

After taking steps to reduce the energy use of the building, Ms. Barrett said, designers then consider how many photovoltaic panels it will take to run it.

"We may need up to 2,000 photovoltaic panels," Ms. Barrett said. "That fact actually drove the design of the outside of the building."

There will be two outdoor courtyards, including one off the second floor that will contain planting beds for a school garden. Inside, there will be a small greenhouse, so students can bring the plants they started outside inside for the winter.

A walking track will circle the entire site, with markers telling children how long they have walked. Six spots along the track will feature information about how the building works, with a bench and a sign.

WIND TURBINE

"We will also have a wind turbine on site," Ms. Barrett said. "This particular location is not great for wind, but we wanted to have that as another demonstration of energy production."

Kids will also be able to generate their own energy — on 10 stationary bicycles that will generate power.

"That's also a demonstration," Ms. Barrett said. "They expend energy to create energy."

Other sustainable aspects include solar thermal hot water heaters on the roof, open stairs allowing daylight to flow more freely, and the generation of heat from the ground under the building using a geothermal well field.

And if anyone doubts how much energy the school is creating, they can check out the daily progress on "dashboards" placed in classrooms throughout the school. There will be a larger display in the lobby giving a bigger idea of the school's progress to a net-zero year.

"It will be a graphic reporting, so if you can imagine the little battery icon on your cell phone or Blackberry, how it draws down," Ms. Barrett said. "That reporting will happen in every classroom."

In addition to being a state-of-the-art school, Ms. Barrett said it will serve as a pilot for others — while not every school can be covered in solar panels, plenty can use bits and pieces of the school's energy efficiency plans.

"This has really been, and was intended to be, a catalyst for improving across the board," Ms. Barrett said. "I'm sure the unique net-zero energy building, the outcomes and the lessons that we've learned from this, there are a lot of them that we will be able to apply."

In lower-tech features, the property will include parking for at least 25 cars. There will also be a drive-through road for dropping off and picking up students. Fences and exterior cameras will help protect the solar panels from vandalism, Ms. Barrett said.

High-tech school going up

PS 62, the city's first net-zero energy school. Over the course of a year, the building will generate more electricity than it uses.

Neighborhood - Rossville

Seats -- 444

Floors - 2

Opening - September 2015

Estimated construction cost - \$55 to \$58 million

Architectural highlights - Sustainable energy features, including displays to show how much energy has been saved; solar panels covering outside of building; greenhouse; garden; special sustainable lighting features

ELECTRONIC NEWSLETTER

Any member with material to submit for inclusion in the monthly newsletter may send the information to:

Rick Hughes
30 W Church Ave
Roanoke, VA 24011

E-mail: RoanokeASHRAEMeetings@gmail.com
Phone: 540.342-1816
Fax: 540.344-3410

This is your newsletter. We welcome your contributions and commentary.

Material can include letters to the editor, member news, upcoming events, comments on chapter programs or issues, etc.

ATTENTION MEMBERS!

INTERESTED IN SAVING MONEY?

STAR CARDS ARE AVAILABLE FOR PURCHASE. PAY NOW AND **SAVE** LATER!

\$50.00 STAR CARD – ADMISSION TO ANY THREE MEETINGS

\$100.00 STAR CARD – ADMISSION TO ANY SIX MEETINGS

WANT TO SAVE EVEN MORE MONEY?

IN SUPPORT OF THE SOCIETY GAME (GREENING ASHRAE MEETINGS AND EXPOSITIONS) PLAN, THE ROANOKE CHAPTER WILL OFFER DISCOUNTS ON MEMBERS WHO CARPOOL OR USE ALTERNATIVE TRANSPORTATION TO ATTEND MEETINGS.

\$2.00 DISCOUNT FOR DRIVING A CARPOOL.

\$1.00 DISCOUNT FOR ANY OF THE FOLLOWING:

- RIDING IN A CARPOOL
- WALKING
- BIKING
- RIDE PUBLIC TRANSPORTATION
- DRIVE HYBRID VEHICLES
- DRIVE ALTERNATIVE FUELED VEHICLES

BE SURE TO LET **PATRICK MACCORMAC** KNOW IF YOU QUALIFY FOR THE MEETING DISCOUNT WHEN YOU PAY FOR THE MEETING.

ROANOKE CHAPTER ASHRAE

2011– 2012 OFFICERS AND GOVERNORS

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THIS MONTH'S SPEAKER:

E. MITCHELL SWANN

Mr. Swann has over 20 years of experience in the areas of management, engineering and construction for a wide array of clients in diverse industries in the USA and abroad. Mr. Swann's career has included dispute resolution, consultation, forensic analysis, engineering design, construction, commissioning, validation and troubleshooting for complex mechanical, instrumentation, electrical and control systems for high-tech industrial, institutional and commercial clients. Mr. Swann's experience has included system design from concept development through construction, operations troubleshooting, master planning and expert witness consulting. He has served as liaison between the design and construction team during multiple projects and has been responsible for the successful field execution of the design intent, the start-up of critical building systems. He is well versed in the various types of project execution approaches from traditional bid/spec to design/build and has prepared proposals and scope documents for all types of projects.

Mr. Swann has authored several articles on issues in professional practice including the "Standard of Care and Consequential Damages" and is a co-author of the "ASHRAE Survival Guide to Design/Build." Mr. Swann is active in several Technical Committees within ASHRAE, including TC 1.7-General Business, Management and Legal Education, TC 2.8-Sustainable Design, TC 9.10-Laboratory Systems and TC 9.11-Clean Spaces where he served as Chair for two terms. He is also a member of ISPE and the ABA where he is vice-chair of the Alternative Dispute Resolution Section Committee on Construction.