

Maryland Hospitals for a Healthy Environment

Monthly News Roundup

Former western Maryland hospital provides recycled materials for county buildings, schools

In 2009 the new Western Maryland Regional Medical Center opened in Cumberland, Maryland, resulting in the closing of two older hospitals: Memorial Hospital and the Western Maryland Hospital System Braddock Campus (formerly Sacred Heart).

Architects submitted a [final plan for demolition](#) for Sacred Heart Hospital last month, bringing the date for razing of the site even closer (ownership was transferred to The Board of Education of Allegany County in 2012). This will be the site of the new Allegany High School, slated to open in Fall 2017.

But, even in the twilight years and months of this century old hospital, as it awaits deconstruction, it continues to provide a community benefit and environmental consideration by recycling furniture and building materials and keeping demolition waste out of the landfills.

After it closed, in 2009, Sacred Heart conducted a public auction at the site, selling most of the furnishings and equipment that occupied the space.

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Combined heat and power system at Upper Chesapeake Medical Center developed under power purchase agreement

In Spring, 2014 a new 2.0 MW on-site Combined Heat and Power (CHP) system will be operational at Upper Chesapeake Medical Center (UCMC) in Bel Air, Md, a member of the University of Maryland Medical System (UMMS). This new system will significantly improve the electrical efficiency of the hospital. According to a report from the American Council of Energy-Efficient Economy (ACEEE), the combined thermal and electric efficiency of CHP systems usually exceeds 70 percent, whereas the separate generation of electricity in the US centralized grid system usually averages less than 40 percent. The improved energy efficiency of CHP systems stem from their design to reuse exhaust heat to simultaneously generate electrical and thermal energy. By using this system to produce energy on the campus of UCMC it's the equivalent of taking over 2,200 cars off the road!

The CHP system will serve as the primary power source for the hospital's electrical load, working in parallel with the local electrical utility. Furthermore, the CHP at UCMC will greatly increase the hospital's ability to provide essential services during an emergency including providing significant back-up power for non-critical care loads during prolonged grid outages. During a prolonged grid outage, the CHP and the existing hospital emergency generator can maintain more than 60 percent of the UCMC healthcare loads.

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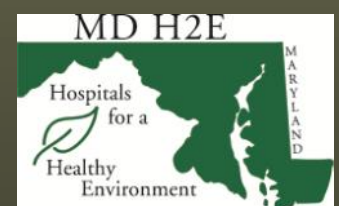
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Eco Jeopardy, the 2014 edition, inside on Page 2!

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The system was custom designed to meet the electrical and thermal base loads of the hospital. The system consists of one 2.0 MW natural gas fired generator, one 350 ton absorption chiller, one 67 boiler horsepower heat recovery steam generator (HRSG), a cooling tower and associated pumps, heat exchangers and auxiliary equipment and controls. Waste heat from the exhaust of the engine will be captured and converted to steam via the heat recovery steam boiler. The steam generated will be utilized in the absorption chiller, building steam loop and at times converted for use in other hydronic systems, thereby eliminating the need to purchase additional electricity for operation.

Upper Chesapeake Medical Center (UCMC) is obtaining this system through a partnership with Energy and Structured Finance (ESF), a part of the Clark Construction Group, LLC. UCMC was able to obtain this system with no upfront capital expenditures and is expected to save millions of

dollars on their energy costs over the life of the system. Furthermore, UCMC was able to transfer significant cost and operational risk to ESF by using a power purchase agreement (PPA) structure. Under this PPA contract, ESF provides the hospital with performance guarantees and the hospital commits to purchase all the electricity produced by this system.



ESF is the owner of the system, designed by TMR Engineering of Arlington, VA, and the hospital has options to purchase the project from ESF. Through this arrangement, ESF is able to bring tax and other incentives into the project capital structure that would otherwise not be available to non-profit organizations such as UCMC. The UCMC project was

the first recipient of the EmPower Maryland CHP incentive program, receiving \$1.5 million of funds under this program.

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California Hospital System Will Divert 110 Tons of Packaging Material from Landfill Annually

The Healthcare Plastics Recycling Council and Stanford Hospital and Clinics in Palo Alto, California recently concluded a six-month long pilot plastics recycling study. The study analyzed data on types of materials, volumes and flow through nine hospital departments, including operating room, ambulatory surgery, pre- and post-anesthesia, radiology, catheter-angiography and pharmacy. To date, the program will redirect more than 110 tons of noninfectious material from landfills, annually. In addition, Stanford has seen a strong financial benefit in the form of 75% savings, as recycling is much less expensive than waste collection.

According to HPRC director Tod Christenson, "...we now have detailed insight and process recommendations for efficient, high-quality and cost-effective recycling of plastics." The pilot study will provide crucial informative data for other hospitals looking to establish a plastics recycling program in a clinical arena.

For more information, visit www.hprc.org. This article originally appeared at FacilityCare.com.