

Back River

AECOM

Wastewater Treatment Plant

COGENERATION PROJECT - BALTIMORE, MARYLAND

The electrical equipment is integral to the facility. Transformers increase the voltage to match the on-site distribution system voltage.



By generating steam from the engine exhaust, the steam can be used directly in the existing digester heating system, reducing the demand for digester gas for the steam boilers, increasing the system efficiency.



The engine generators are each capable of just over 1 MW of electricity production. The installation provides adequate room for equipment operation and maintenance.



The gas conditioning skid treats all of the digester gas for removal of moisture, hydrogen sulfide, and siloxanes. This not only protects the new engines, but significantly improves operations and reduces maintenance on other equipment throughout the site that uses digester gas.



Project Overview:

Each year, the City of Baltimore spends nearly \$40 million on energy, including electricity, steam and natural gas. The Back River Wastewater Cogeneration Project is now one of the city's most sustainable projects, generating nearly three megawatts of electricity per year. The success is achieved using the plant's digester gas to power the cogeneration plant reducing emissions and saving taxpayer dollars.

The gas conditioning building (at center) and engine/generator building (at right) were constructed to be both functional and aesthetically pleasing. The renowned egg shaped digesters can be seen in the background.



New facilities near completion of construction

2010 American Council of Engineering Companies of Wisconsin, Engineering Excellence Awards

Entrant:
AECOM,
Sheboygan, WI

Client:
Johnson Controls for City
of Baltimore