Waste-to-Energy Baghouse Overview

Operating like a very efficient vacuum cleaner, a baghouse removes over 99.5 percent of the particulate matter from the combustion gases. There will be a separate baghouse for each boiler at the Camden Facility, following a circulating dry scrubber (CDS) system. Each baghouse will be made up of 6 modules, each containing 600 10-ft long bags (3,600 total bags per baghouse).

As air is drawn through the baghouse, particulate matter and fly ash are captured on the surface of the bags where they mix with various reagents in the CDS reactor and form a filter cake. This filter cake serves two important roles. First, it improves particulate matter removal as the accumulated cake acts as another filter layer. Second, it gives the unreacted activated carbon and lime in the filter cake additional time to act on the flue gases, further helping with acid gas, mercury, and dioxin / furan control.

Periodically, the bags are cleaned by pulsing them with strong jets of air which removes the particulate, fly ash, and unreacted carbon and lime reactants from the surface of the bags. Some of the collected material is recirculated to the CDS reactor and the remainder is combined with the bottom ash from the boiler. This combined ash is tested routinely to confirm that it is non-hazardous per U.S. EPA regulations. No ash from Covanta's U.S. WTE facilities has ever been determined to be a hazardous waste.

The baghouses proposed for the Camden Facility will use state-of-the-art design features including:

- A very **low air-to-cloth ratio** of 2.3 ft/min, conservatively low compared to baghouses in operation at other similar facilities
    - An **advanced filtration system,** in terms of bag type and material. The bags are made of PPS (generic 'Ryton') material, a more robust and effective material than fiberglass. They are also coated with a PTFE (e.g., generic 'Gore-Tex') laminate, which provides improved filtration for all particle sizes and facilitates cleaning of the filter bags
    - **On-line cleaning of the modules** under normal operation, reducing downtime and providing more stable combustion.
    - **Dust monitors on each module** to help detect bag breaks early

Waste-to-Energy Baghouse Overview

- **Side inlet introduction of the flue gas** into the baghouse modules to minimize the unintended release of collected particulate