

Frederick/Carroll County Renewable Waste-to-Energy Facility Update

Presentation to:

Washington Area Local Government
Energy Advisory Committee

December 13, 2012





History of Project

- * April 2005 Frederick County secured the services of R.W. Beck to complete an independent study of the County's long-term waste disposal options.
 - Among other things the Study concluded that: A 1,500 TPD regional WTE facility was projected to result in the lowest net present value cost to the County over the 30 year planning period evaluated.
- * Carroll County was also considering the development of a WTE as a part of its long-term waste management strategy.
- * In light of this, the NEA structured the RFP on the following size facilities:
 - 600 tons per day facility in Carroll County
 - 900 tons per day facility in Frederick County
 - 1500 tons per day facility in Frederick County serving both Counties
- * The Authority began the procurement process in 2006.

Technology Qualification

- * RFQ Issued for technology that would process solid waste into an energy product – electricity, steam, gas
- * Five technologies qualified as offered by ten vendors:
 - Mechanical biological processing
 - Westinghouse plasma gasification
 - Refuse derived fuel (RDF)
 - Mass burn, and
 - Modular starved air WTE

Qualified Vendors

Technologies Qualified

Thermoselect by IWT

VonRoll Grate by Wheelabrator & VonRoll

Martin by Covanta

Consumat Furnaces by Consutech

Pioneer Plus by Energy Answers

Process Refuse Fuel by Energy Answers

Stabilat by Herhof GmbH

Keppel Seghers Grate by Keppel Seghers

Steinmuller Grate by WRSI

Technologies Not Qualified

AirReal Grate by Barlow

Recovered Energy, Inc.

RFP Response

- * Three vendors responded – Two were deemed acceptable proposals
- * Proposals were used to develop preliminary life cycle cost evaluation
 - These initial results showed that a regional 1500 Ton Per Day (TPD) facility resulted in the lowest per ton disposal cost of the three sizes.
 - Public meetings were held with each of Carroll and Frederick Counties and both Counties together
 - Final site chosen

BAFO & Vendor Selection

- * Best and Final Offers (BAFO) were requested from the two vendors, which were:
 - Based on an alternative site
 - Required more stringent environmental performance guarantees
 - Required firm pricing
- * Wheelabrator Selected

Project Team

Frederick County MD
(Waste Supply 60%)

Carroll County MD
(Waste Supply 40%)

Northeast MD Waste
Disposal Authority (Owner
on behalf of Counties,
Finance)

Energy Sales

Wheelabrator
(Design Build Operate)

Recovered Metals Sales

Hitachi Zosen Inova
(Technology)
Whiting Turner
(Construction)

Facility Overview

- * Located in Frederick County's McKinney Industrial Park adjacent to the County's Ballenger-McKinney Wastewater Treatment Plant
- * Municipal solid waste -- Process 1,500 tons per day (average)
- * Sewage sludge -- Process up to 150 tons per day-- 10% of municipal solid waste
- * Scrap tires – Process up to 20,000 tons per year of scrap tires
- * Generate up to 51 megawatts (MW) of electricity/export approximately 45 MW for sale – enough power for approximately 45,000 homes
- * Recover approximately 15,000 tons per year of scrap metals not otherwise recycled

Co-combustion of Dewatered Sewage Sludge

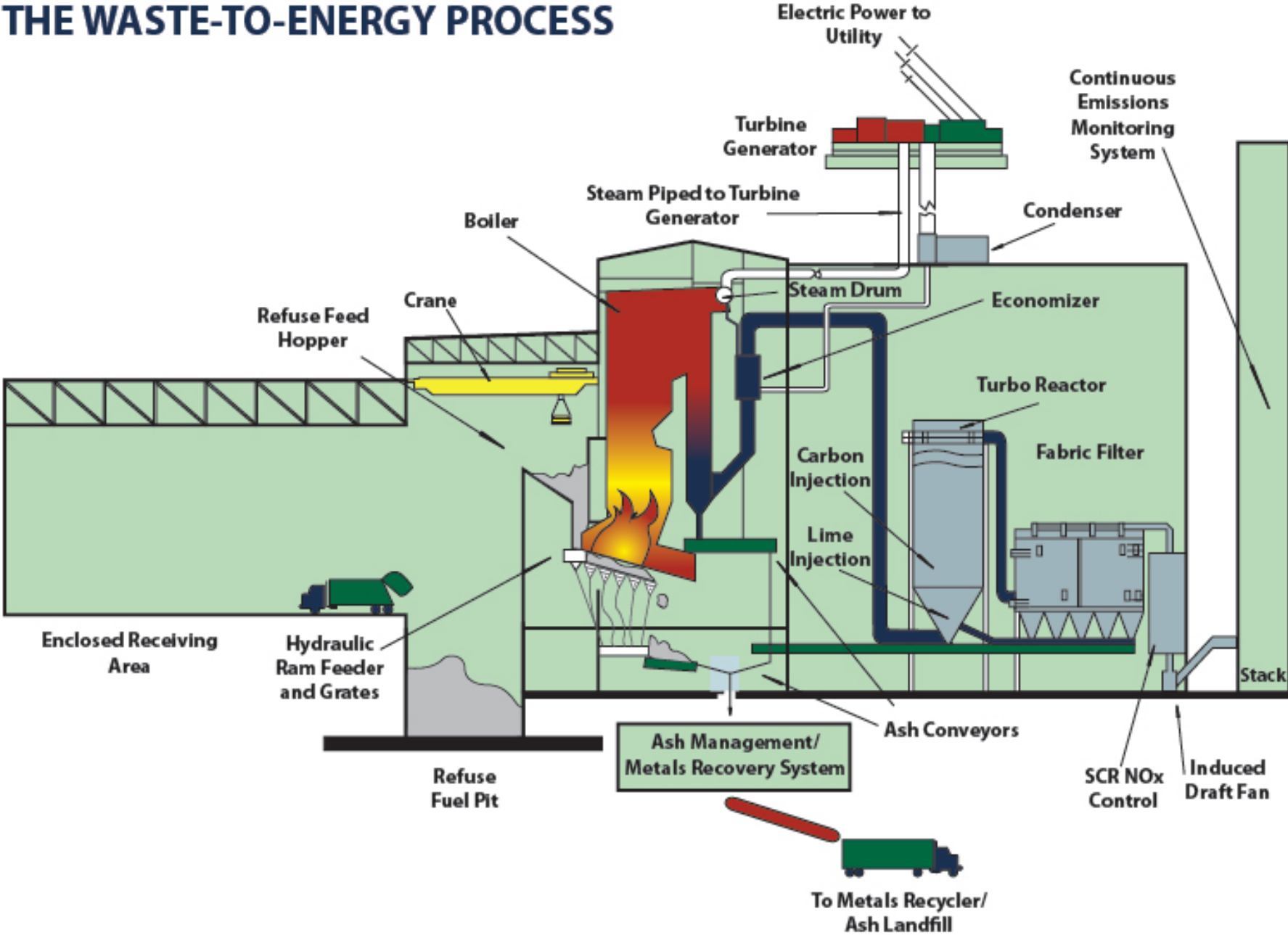


Co-combustion of dewatered sewage sludge from the County's WWTP (which is adjacent to the WTE Site) will eliminate the need to construct egg shaped anaerobic digesters.

- * The proposed WTE facility will also provide the County's Ballenger-McKinney WWTP a competitive stable long-term sludge disposal option, without the need to construct \$48 million of additional sludge processing infrastructure.



THE WASTE-TO-ENERGY PROCESS



Environmental Benefits

- * Environmentally safe
 - Advanced air quality controls
 - “the Facility will not have an adverse impact on human health.” From Human Health Risk Assessment for the Facility - April 2012
- * Meets EPA solid waste hierarchy
- * Reduce GHG emissions
- * RTI International report results show that the higher materials and energy recovery associated with the WTE alternative creates significant environmental benefits as compared to the landfill alternatives. (PM, NO_x, CO, SO_x, Pb, Carbon Equivalents)
- * 51 MW of clean Tier 1 renewable energy
 - State’s RPS projections assume 323 MW from WTE by 2020 – currently 128 MW

Financial Benefits

- * Long term stability for waste disposal system costs
- * Positive economic impact of \$260 million during construction and \$12 million/yr during operations
- * 1600 direct/indirect jobs during construction and 80 direct/indirect jobs during operations
- * Avoidance of Egg Shaped Digesters

Project Financing

- * Authority Financed
 - Tax-exempt bonds
 - Experienced - Financed 3 WTE facilities and 1 Sewage Sludge Compost Facility
- * Counties have AAA credit ratings by Fitch
- * Wheelabrator backed by guarantee from Waste Management
 - Fixed construction price, guaranteed construction period, known operating fee and performance guarantees
- * Financial advisor says project is financeable with investment grade bond rating
- * Economics don't depend on qualifying for PTCs or 1603 grants

Local Approvals Obtained

- * Project agreements between Counties and Authority – July 2009
- * Frederick County has leased a site to the project – July 2010
- * Frederick County Solid Waste Management Plan modified to allow waste-to-energy – September 2010
- * Frederick County Planning Commission site plan review completed– September 2011

State MDE Permit Status

- * Environmental Permit Applications submitted to MDE in early 2011
 - Air , solid waste/tire processing/sludge, water discharge
- * Environmental Permit Information Meetings held throughout 2011
 - Separate meetings for air, solid waste/tire processing/sludge, water discharge
- * Draft water discharge permit issued/public hearing held in August 2012
- * Draft air and solid waste permits expected in early December 2012
- * Combined air/solid waste public hearing in January 2013
- * Anticipate final MDE permits in spring 2013

Significant Progress Made on Project

- * County owned project site secured
- * Frederick County siting/planning approvals issued
- * Strong local political and business community support
- * Substantial waste (fuel) supply commitment
- * Draft MDE permits issued or about to be issued
- * Final MDE permits expected spring of 2013
- * PJM electric interconnection study underway
- * Working to secure long term energy contract

Future Activities

- * Receive Permits
- * Seek approval of Funding from Counties
- * Finance with Bonds
- * Construction is approximately 36 months

Questions?

- * Contact Information
- * Michael Marschner – Frederick County
 - mmarschner@frederickcountymd.gov
 - (301) 600-1133
- * Chris Skaggs - Northeast Authority
 - cskaggs@nmwda.org
 - (410) 333-2730