

May 17, 2011

Jaclyn A. Brillling
Secretary to the Commission
New York State Public Service Commission
Agency Building 3
Empire State Plaza
Albany, NY 12223-1350

Re: Case 03-E-0188 Application by Covanta Energy Corporation for Waste-to-Energy
Incineration to be classified in the Main Tier of the Renewable Portfolio Standard Program

Dear Ms. Brillling:

We have read the Covanta Energy Corporation application and offer the following comments:

- 1) Waste-to-Energy incineration (WTE) is a robust, well-developed technology. It manages approximately 45% of Long Island's waste (accounting for approximately 60% of all waste disposal for Long Island), and has done so with no major problems for the past 20 years.
- 2) Municipal solid waste (MSW), the feedstock for WTE, is approximately 70-75% combustible. The MSW that is burned is mostly composed of materials that come from "new carbon" (biomass) fuel sources, such as paper, food, and wood. New carbon sources appear to compose on the order of 75% of the combustible elements in solid waste. "Old carbon" (fossil or non-renewable carbon) materials include plastics, rubber, and some textile materials, and these are currently 25% or less of the combustible elements of the waste stream. The proportions of these carbon sources in disposed MSW are unlikely to change greatly in the next 10 years or so.
- 3) The high proportion of biomass carbon in MSW means that the release of fossil carbon into the atmosphere from creating electricity through WTE is relatively low, so that WTE incineration increases the amount of CO₂ in the atmosphere by only a small amount per ton of waste. Most calculations show the increment in atmospheric carbon is less per MW than processes such as oil, natural gas, or coal combustion.
- 4) The presence of metals recovery systems in the ash-handling system of most WTE plants means that these plants can recover approximately 5% of all feedstock as recyclables.
- 5) WTE plants are not intermittent sources of electricity, like many renewable energy sources such as wind and solar. This means WTE plants can theoretically displace oil, gas, or coal-fired power plants in baseload electricity generation.
- 6) The combination of notes 3, 4 and 5 have lead some analysts to find that WTE operations actually reduce carbon releases. This is determined by factoring in that most carbon emissions are from biomass sources, carbon releases are less when recycled metals rather

than ores are used as feedstocks, and there are avoided emissions from not generating electricity at a fossil fuel-fired plant. In addition, it is very clear that WTE has a smaller greenhouse gas footprint than landfilling when considering effects from waste disposal, as landfills are generally assessed as substantial methane sources. Some analysts include more avoided impacts when considering WTE as a technology, therefore.

- 7) As with all combustion processes, WTE results in the release of air pollutants. These pollutant loads have been decreased from levels measured 20 years ago due to changes in MSW composition and process improvements in the WTE industry, but WTE remains a major source of anthropogenic mercury and dioxins-furans to the environment.
- 8) A goal of listing WTE in the Renewable Portfolio Standard Program is to promote the construction of new plants. The construction of a new WTE plant represents a continuing commitment to WTE for 20 or 30 years.
- 9) It is possible that different technologies that create electricity or energy products from MSW will be commercialized in the coming decades. Some may have advantages over WTE, and may have greater efficiency, create less pollution, and/or be operated at less expense.
- 10) Although more than 18 million tons of solid waste are generated each year in New York State, the energy potential from MSW and other organic waste products is not as large as might be imagined. A recent study conducted here at Stony Brook University found that if all available wastes in Nassau and Suffolk Counties (that is, those not currently being used to create energy) were used to create biogas, only 25% of the natural gas currently being used to create electricity on Long Island would be displaced. This means that available wastes have substantial energy potential, but are not a solution to our substantial energy needs.

On balance, describing WTE as a renewable energy source today appears to be accurate. WTE is strictly regulated, and its pollution impacts, while not trivial, are less than some other forms of energy production. It is a better means of disposing of MSW, in terms of greenhouse gas impacts, than landfilling. Therefore, its inclusion in the Main Tier of the Renewable Portfolio Standard Program seems warranted. However, because the composition of the MSW received by WTE plants will not necessarily be constant, if WTE were to receive this designation, its status should be subject to review – probably over a 10-year horizon.

Yours truly,



David J. Tonjes
Assistant Professor
Department of Technology and Society
Stony Brook University



R.L. Swanson
Director
Waste Reduction and Management Institute
School of Marine and Atmospheric Sciences
Stony Brook University

cc. J. Waffenschmidt, Covanta