December 23, 2004

VIA OVERNIGHT MAIL

Hon. Jaclyn Brilling
Secretary
Public Service Commission
Three Empire State Plaza
Albany, New York 12223

Re: Case No. 03-E-0188 – Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard.

Dear Secretary Brilling:

Taylor Recycling Facility, LLC. ("Taylor Recycling" or "Taylor") respectfully submits the following comments on the Renewable Portfolio Standard ("RPS") Implementation Plan or SAPA Notice No. 03-E-0188A2 prepared in the RPS Proceeding as called for on page 81 of the Commission's Order Regarding Retail Renewable Portfolio Standard issued September 24, 2004. Please find an original and 25 copies enclosed. Active parties have been sent copies via the DPS listserve used in this proceeding.

Respectfully yours,

Tom Kacandes

Vice President

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STATE OF NEW YORK PUBLIC SERVICE COMMISSION

Comments on Notice of the Commission's	)	
Implementation Plan for Instituting a	)	
Retail Renewable Energy Portfolio Standard	)	SAPA No. 03-E-0188SA2

COMMENTS OF TAYLOR RECYCLING FACILITY, LLC.

Taylor Recycling Facility, LLC. (hereafter "Taylor Recycling" or "Taylor") is actively developing several renewable energy projects utilizing a thermochemical biomass gasification process that converts biomass to a synthesis gas using indirect heating of fuel in the absence of oxygen. This thermochemical process is therefore, by definition, not a combustion process. The process is included among the "RPS Main Tier Eligible Electric Generation Sources" under the category "Biogas" as "Biomass Thermochemical Gasification (syngas)" in the Commission's September 24, 2004 Order Regarding Retail Renewable Portfolio Standard (Order at Appendix B, page 1). Process conditions within the gasification plant allow a wide range of biomass fuels to be used, including biomass adulterated by non-biomass resins such as glues or plastics including laminates, with no increase in emissions. A feasibility study recently completed[1] by Taylor Recycling under contract with the New York State Energy Research and Development Authority (NYSERDA) to evaluate the economic and environmental performance of an electrical

[1] A draft final report for "Debris-derived Biomass Pyrolysis to Produce Renewable Electric Power", Agreement No. 7886 was submitted to NYSERDA December 15, 2004.

generating plant using this technology reports several important findings relevant to the Commission's implementation of the RPS, including the engineer's estimated annual emissions of less than six (6) tons of nitrogen oxides (NO_x), less than 2,000 lbs of particulate and virtually zero carbon monoxide, volatile organic compounds, and sulfur oxides (SO_x) from an 11.5 megawatt plant (net) producing approximately 95,000 megawatt hours (MWh) per year. This is less than 8% of the NO_x that would be expected from any existing biomass combustion, waste incineration, or landfill gas-to-energy plant on an equal output basis and within 1.5 tons of the theoretical minimum NO_x level using the appropriate selective catalytic reduction (SCR) equipment. While the Commission wisely chose not to impose biomass emissions requirements independent of the Department of Environmental Conservation (DEC), it seems likely that once this biogas technology is in operation, the generally accepted "minimum" levels of NO_x and other emissions from biomass technologies will be redefined and reduced. Taylor Recycling also anticipates that the first thermochemical biogas plant will also change the generally accepted premise we can expect nothing better than 40% reduction in the massive emissions of methane and hydrogen sulfide (or sulphur oxides) that inevitably result from landfill disposal of unrecyclable biomass.

The biogas "reference plant" analyzed in Taylor's study has these extremely low emissions and wide fuel flexibility as its main advantages. It is also small enough to be located in downstate New York (Zone G and south) load pockets in urban and suburban areas unlikely to attract any similar-scale renewable technologies, especially those providing base load power (over 90% availability). At this time, there are no plants using this thermochemical gasification technology operating anywhere and many barriers exist to the development of the first few plants. In this way, thermochemical gasification is most analogous to fuel cell technology: both offer emissions advantages and require fuel flexibility and support as they scale up and capital cost is reduced. In order to allow this very desirable resource to contribute to the achievement of the goals of the RPS and provide some diversity to larger scale generation of renewable electricity from plants located within New York State, Taylor Recycling's study concluded that the definition of eligible sources of biomass for this biogas technology only, must be

restated to clearly include the broader range of adulterated (and economically unrecyclable) biomass that the technology is capable of using while still meeting the Commission's standard of emissions comparable to that of biogas using only unadulterated sources as feedstock.[2] The Taylor study's new analysis shows that at this time the thermochemical biogas technology remains uncommercialized in part because it cannot successfully compete with higher-value recycling uses or much less-expensive-to-construct biomass combustion uses for unadulterated wood in New York.[3] This is true even when the plant's energy output is sold at Zone G prices with higher levels of RPS premium than projected in any analysis in the proceeding record.

This "supply risk" is the greatest source of risk to thermochemical biogas project developers. Even the "small" reference plant Taylor studied will require a minimum of 120,000 to 135,000 tons per year of fuel delivered to its site. The fuel is expensive to produce because its quality must be very high (minimal inorganic and no heavy metal contamination) and it must be highly processed (small particles, removal of virtually all nails and non-ferrous metals, etc.) in facilities that are themselves highly regulated by DEC. The gasifier itself cannot charge mixed waste disposal revenues (as waste-to-energy incinerators do) because it cannot accept mixed waste, only a refined mix of biomass with defined levels of non-biomass adulteration (no more than 20% by weight). The unadulterated wood fraction of this fuel stream would be approximately 8,000 – 10,000 tons per year and would serve a "make up" fuel purpose to level out seasonal fuel flows. Even at this level, Taylor would have to divert recyclable wood from higher paying recycling markets, in effect providing a non-RPS subsidy to the gasifier. The adulterated wood portion of this stream (allowable under the Order) would be another 10,000 tons per year at Taylor's present levels of construction debris recycling. Taylor Recycling could expand its waste recycling and biomass recovery operations at significant expense and this would increase the amount of adulterated wood economically available to the gasifier to 20,000 tons per year. The reference plant we studied is inarguably not viable if limited to unadulterated wood we should be recycling

[2] Order at Appendix B, page 4.

[3] While there are many issues at work in the continued non-operation of the FERCO gasification demonstration plant co-located at McNeil Station in Burlington, Vermont, the site-based limitation to unadulterated biomass on the fuel used appears to be a major reason the plant remains unused despite the large write-off of the plant's capital cost.

anyway and adulterated wood. Our analysis showed conclusively that the only way we can expect to limit our supply risk is to have RPS support for the use of the full range of non-wood renewable matter, including unrecyclable paper, paperboard boxes, textiles, food, leather, yard waste and leaves. Use of these materials is vital because they cannot be used by other technologies except for landfills producing biogas. Landfills represent powerful competition for biomass and already enjoy RPS support regardless of what source their biomass comes from, whether it was considered economically recyclable when it was disposed or what other forms of non-biomass it is commingled with. This situation as allowed by the present proposed implementation of the RPS creates a demonstrably un-level and unfair playing field that also directly contravenes New York State's solid waste policy, which in essence creates a hierarchy of disposal methods that prefers recycling where economically justifiable over energy recovery over landfill disposal (regardless of whether landfill gas if utilized) as the last resort. The proposed Taylor Recycling biogas reference plant would meet all aspects of state solid waste policy by providing for the economical recovery of additional recyclable metal, glass, stone/aggregate, plastics, and paper and textiles after source-separation, as well as direct use of unrecyclable biomass adulterated by a minor amount of fossil-derived synthetic coatings, glues and plastics. It is important to note that this last point is far less than the RPS grants to the comparable emerging base load technology, fuel cells, which are allowed 100% fossil derived fuel to count as "renewable".

The study showed that the second most important source of risk was the relatively high capital cost of the plant, which ranged widely (approximately $30 million to $54 million for 11.5 MW net) depending on assumed construction techniques. While there is very little technical risk to the technology, the supply risk and capital cost mean that Taylor will effectively be limited to those biomass materials that can be economically recovered from the mixed waste stream in order to procure fuel at a zero cost or slight negative cost and to have a broad enough supply to minimize the use of fuel imported long distances from outside the local area of the plant. This is consistent with all Taylor Recycling's previous submissions to this case, but the study made clear that there is no

way in the short term to reduce the capital cost of the technology enough to allow the plant to pay the cost of the fuel supply as presently limited in the RPS.

Procurement Models

Taylor Recycling encourages the Commission to use the Request for Proposals (RFP) model as described in the Implementation Plan (SAPA A2 at page 13) for smaller Main Tier projects. This approach will be particularly well suited to emerging technologies, such as thermochemical biogas, that have many features substantially different from the technology expected to make up the bulk of the Main Tier resources, namely wind power.

Conclusion

The thermochemical gasification process is included as an eligible technology in the Order. New information shows that it cannot be economically developed, even with RPS support, if the Order's "Definition of Eligible Sources of Biomass" (Order, Appendix B, page 4) is not restated in some way that effectively creates a new category of biomass, perhaps "Adulterated Biomass" which clearly defines the range of acceptable feedstock, for biogas or liquid biofuels only, to include all forms of biomass that allow a comparable level of emissions to unadulterated biomass feedstocks. Unlike biomass combustion, there was never a compelling reason presented in the record to limit the definition of "biomass" to mean "wood" for these technologies. This is especially true when the Order both acknowledges the ability of these new technologies to maintain excellent air emission using adulterated wood and agricultural residues and allows the main alternative biogas technology, being highly polluting landfills, to utilize all forms of recyclable and unrecyclable biomass mixed with all other forms of solid waste. Such a change would make the RPS more consistent with the Order's cited intent to reinforce state solid waste policy, not less. It will also significantly further the stated goals of the RPS, especially air emissions reductions, resource diversity, and resource development within load pockets and downstate New York generally.

Finally, Taylor Recycling encourages the Commission to utilize the Request for Proposal procurement method for renewable attributes from smaller-scale main tier technologies including the thermochemical biogas technology we intend to develop, whose various features and capabilities differ significantly from the majority intermittent technology, wind power.