



WM Renewable Energy L.L.C.

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February 16, 2011

Hon. Dan Gattis

Williamson County
701 Main Street

Georgetown, Texas 78626

Re: Landfill Gas Development Plan
Williamson County Landfill
Hutto, Texas

Dear Judge Gattis:

Waste Management is confirming its intent to develop a methane recovery facility at the Williamson County Landfill, in accordance with Section 4.8 of our landfill operation agreement. Our interest in this project is consistent with Waste Management's aggressive development of landfill gas projects in the past five years.

We evaluated several technologies for the utilization of the landfill gas at this site. Those technologies and Waste Management's conclusions are described below:

- **Direct gas sale** – The simplest technology utilizing landfill gas is the sale to a nearby industrial facility for use as a heating fuel in lieu of fossil fuel. This type of project consists of a compressor station at the landfill, minimal landfill gas clean-up, and a pipeline constructed from the landfill to the industrial facility. The typical maximum distance between the landfill and the gas buyer is 4 to 6 miles. We did not identify any potential end users within this distance, and eliminated direct sale as an option at this site.

- **High BTU processing** – Landfill gas can be processed into pipeline quality natural gas by removing the carbon dioxide, nitrogen, oxygen, and other contaminants in the landfill gas. WM has not pursued these projects, and does not currently own one, due to the market volatility and current oversupply of natural gas, the risk of out-of-spec product, incompatibility with landfill gas well field operations, high capital outlay, high power demand of the equipment, and the high volume of landfill gas required. The history of landfill gas development reflects this opinion, with only about 20 high btu projects developed in the last 25 years, out of almost 500 total landfill gas projects in the U.S. However, there have been recent improvements to the technology, and long-term contracts that pay a fixed premium for "renewable gas" have the potential for minimizing the commodity price risk. There is also an increasing interest in renewable CNG and LNG as transportation fuel. We will continue to monitor the viability of converting the landfill gas to renewable gas or transportation fuel as a potential option for project.

- **Leachate Evaporation** – Landfill gas can be used as fuel to evaporate or concentrate landfill leachate, reducing disposal cost. Leachate evaporators may be a financial benefit to a site where leachate volumes and costs are high, neither of which occurs at this site. Leachate evaporation was not considered a viable application at this site.

- **On-Site power plant** – By far the most common application for landfill gas is as fuel for on-site power plants. The technology is well-proven, access to markets is universal, the most favorable government incentives for landfill gas are targeted toward electricity production, and in deregulated markets there are alternatives for buyers. Electric power production is currently the most viable alternative for the landfill gas at this site.

- **Other Technologies** – WM has several research and pilot projects which involve testing other technologies for landfill gas. These technologies are still in the development phases, and have not been proven commercially viable at this time. For example, we have a pilot project in Oklahoma which converts LFG to synthetic diesel. We will continue to monitor the progress and viability of alternative technologies as potential options during the development of this project.

Waste Management has already evaluated and collected information for the development of an on-site landfill gas to energy plant at the County's landfill. The status of this evaluation is as follows:

- **Landfill Gas Quantity** – the landfill gas flow has recently reached about 900 scfm. The typical threshold for pursuing a project is 1,200 scfm, which is sufficient to power two 1.6-MW Caterpillar G3520 engines. The gas flow is projected to increase to this level in the next 1 to 2 years, especially with the planned installation of interior wells as the landfill permitted elevations are reached. Our current five year plan calls for a \$1,477,000 investment in the well field to maintain compliance and increase the available gas supply:

○ 2011	\$345,000,
○ 2012	\$350,000,
○ 2013	\$335,000,
○ 2014	\$215,000,
○ 2015	\$232,000

- **Landfill Gas Quality** – The current methane content is about 50%, and oxygen levels are 0.5%. These levels are compatible with high performance of the Caterpillar engines.
- **Siloxane** – Siloxane is a constituent in landfill gas that forms a silicon deposit on the engine heads and valves, causing increased maintenance and down time. The siloxane level at Williamson County is in the lower 25% of all of our sites, and is not considered to be a concern at this site.

- **Interconnect** – The site is in the Oncor power distribution system. Oncor completed an impact study for this site, and estimates an interconnect cost of \$302,000 $\pm$ 20%. This is a reasonable cost that does not represent a fatal flaw for this project.

The technical aspects of building an on-site power plant are all favorable for development. However, the viability of the project depends on the ability to generate sufficient revenue, and the current energy market presents substantial challenges. The market price of energy during the past year has averaged about \$35/mwh. This is substantially below the price needed to ensure value to the County and a return on investment to WM. In Texas, a premium is available for renewable energy in the form

of renewable energy credits ("REC"). Unfortunately, the supply of RECs exceeds the regulatory demand, and the value has dropped to less than \$1/mwh. The project will be eligible for federal Section 45 tax credits in the amount of \$11/mwh, which lowers the threshold of energy price needed, and will increase the value of the gas to the County, but the tax credit is not sufficient to offset the currently low energy prices.

There are at least two alternatives to market pricing that we will pursue for this project. First, it may be possible to wheel the power to a municipal utility or power cooperative which has a higher rate base than market pricing, and which is seeking reliable base load power and renewable energy. Second, we have been successful in several deregulated markets in selling the power to a large power user at fixed pricing. This transaction must be accomplished as a three-party transaction through a retail energy provider, using the Oncor distribution lines.

We will submit to the county a go-no go decision on a project no later than March 31, 2013. This decision may be made earlier than that date if the power market or alternative technologies develop sufficiently to support a project prior to that time. We will provide you with quarterly updates on our activities which will include the following:

1. Gas collection system construction and a record of gas flows.
2. Current market prices in Texas and the forward curve for pricing.
3. Our marketing efforts for alternative power buyers
4. The progress and viability of renewable gas, transportation fuel, and alternative technologies and whether they should be considered for this landfill.

We look forward to working with you on the development of this project, and the achievement of a successful project in the earliest possible time frame.

Sincerely,
WM Renewable Energy, LLC



Paul Pabor
Vice President

CC: Steve Jacobs
Dave Unger