

## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

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DIVISION OF AIR RESOURCE MANAGEMENT

**4APT-ATMB** 

Michael Cooke, Director Division of Air Resource Management FL Department of Environmental Protection Mail Station 5500 2600 Blair Stone Road Tallahassee, FL 32399-2400

Dear Mr. Cooke:

The purpose of this letter is to provide you with a determination regarding an applicability question posed in the enclosed letter from the Waste Management Company. In this letter, the company asked for a determination regarding whether the landfill gas processing operation at the Springhill Regional Landfill in Campbellton, Florida constitutes treatment under provisions in 40 CFR Part 60, Subpart WWW (Standards of Performance for Municipal Solid Waste Landfills). Based upon the process description provided in Waste Management's letter, we determined that the equipment used to filter, dewater, and compress landfill gas at the Springhill Regional Landfill qualifies as a treatment process under provisions in Subpart WWW. Therefore, the treated gas leaving this system is no longer subject to the control requirements in the rule. Details regarding Waste Management's request and the basis for our determination are provided in the remainder of this letter.

Waste Management requested a determination regarding whether the gas processing operation at the Springhill Regional Landfill is a treatment system because gas that has been treated is no longer subject to the control requirements in Subpart WWW. Under provisions in 40 CFR §60.752(b)(2)(iii), gas collected from landfills subject to Subpart WWW must be routed to either a flare, a control system that reduces nonmethane organic compound (NMOC) emissions by 98 weight-percent, an enclosed combustor, or a treatment system that processes the gas for subsequent sale or use. If an enclosed combustor is used, NMOC emissions must be reduced by either 98 weight-percent or to a concentration of less than 20 parts per million as hexane, corrected to three percent oxygen. Although landfill gas is no longer subject to the control requirements in Subpart WWW after it has been processed for subsequent sale or use, emissions from any atmospheric vents in the treatment system must be sent to a control system (flare, enclosed combustor, etc.) that complies with the removal efficiency standards in the rule.

According to the process description provided by Waste Management, gas collected at the Springhill Regional Landfill is dewatered, compressed to approximately six pounds per square inch (gauge), and passed through a filter with a maximum size of ten microns. Dewatering is accomplished through a number of mechanisms, including

the use of a mesh pad scrubber, post-compression cooling, and gas reheating downstream of the filter. According to several previous U.S. Environmental Protection Agency (EPA) determinations, a landfill gas processing operation that includes filtration to ten microns or less, dewatering, and compression constitutes treatment in accordance with provisions in 40 CFR §60.752(b)(2)(iii)(C). Since the gas processing operation at the Springhill Regional Landfill include all of the necessary steps cited in EPA's previous determinations, it qualifies as a treatment system for Subpart WWW purposes, and the treated gas leaving the system will no longer be subject to control requirements under the rule.

If you have any questions about the determination provided in this letter, please contact Mr. David McNeal of the EPA Region 4 staff at (404) 562-9102.

Sincerely,

Beverly H. Banister

Director

Air, Pesticides and Toxics Management Division

Enclosure – Waste Management determination request



**WASTE MANAGEMENT** 

4945 Hwy. 273 Campbellton, FL 32426 (850) 263-7100 (800) 723-2966 (850) 263-2721 Fax

January 31, 2005

Ms. Beverly Spragg, Chief United States Environmental Protection Agency – Region 4 Air Pesticides, and Toxics Management Division - Air Enforcement Branch Atlanta Federal Center, 61 Forsyth Street Atlanta, GA 30303

RE:

Waste Management of Leon County, Inc.

Springhill Regional Landfill

Campbellton, Jackson County, Florida

SUBJECT:

NSPS Applicability Determination - Treatment System

Permit No. 0630045-004-AV

Dear Ms. Spragg:

The Springhill Regional Landfill, operated by Waste Management of Leon County, Inc. (Waste Management) is subject to the New Source Performance Standards for Municipal Solid Waste Landfills (40 CFR 60 Subpart WWW). Collected landfill gas will be sent to an energy recovery plant, where the gas will be combusted in reciprocating internal combustion engines (IC engines) for beneficial use.

Waste Management is requesting an NSPS applicability determination on whether the processes that will occur at the landfill gas recovery plant prior to combustion of the gas in the IC engines will meet the requirements for a "treatment system" in 40 CFR 60.752(b)(2)(iii)(C). Should USEPA concur with this determination, the engines planned to combust the treated gas would not be subject to the control requirements of 40 CFR 60.752(b)(2)(iii)(B).

There have been several recent applicability determinations of a similar nature posted on the EPA's CAA Applicability Index web page, due to the EPA's proposed definition for "treatment system" contained in a May 23, 2002 Federal Register Notice of proposed rulemaking. [See 67 FR 36480]. Specifically, the EPA has proposed to add a definition for treatment system to the Landfill NSPS as follows:

"Treatment system means a system that filters, de-waters and compresses landfill gas."

In the preamble to the proposed regulations, the EPA includes the following statements about the proposed definition of "treatment system":

"At a minimum, the system must filter landfill gas using a dry filter or similar device (e.g., impaction, interception or diffusion device). The filter should reduce particulate matter in the gas stream. This will prolong the life of the combustion device and decrease the buildup of material on combustion device internals, which will support good combustion. Good combustion is essential to ensuring the proper destruction of NMOC. In addition, the system must de-water landfill gas using chillers or other dehydration equipment. The de-watering equipment should reduce moisture

content of the gas, which will maintain low water content in the gas and will prevent degradation of combustion efficiencies. Finally, the system must compress landfill gas using gas blowers or similar devices. Compression should further reduce the moisture content of the gas and raise gas pressure to the level required by the end use combustion device."

Waste Management believes that the treatment of the landfill gas in the plant prior to its combustion in the engines does indeed meet the EPA's proposed definition of "treatment system". The attached process flow diagram includes a complete layout and description of the gas recovery plant from the time the raw gas enters from the landfill, until its combustion in the engines. As indicated in the diagram and accompanying process description, the recovery plant does contain filtration, dewatering and compression equipment as described in the proposed NSPS rulemaking.

We would appreciate your expedited review and response to this applicability determination request. It is our understanding that if a gas recovery plant is indeed determined to meet the "treatment system" definition, the combustion devices burning the treated landfill gas would not be subject to either the NSPS or NESHAP requirements. The collection and treatment systems (and any flares burning untreated landfill gas) would still be required to have a Startup, Shutdown, Malfunction plan (SSM plan).

Please contact me at (850) 263-5950 if you have any questions regarding this applicability determination request.

Sincerely,

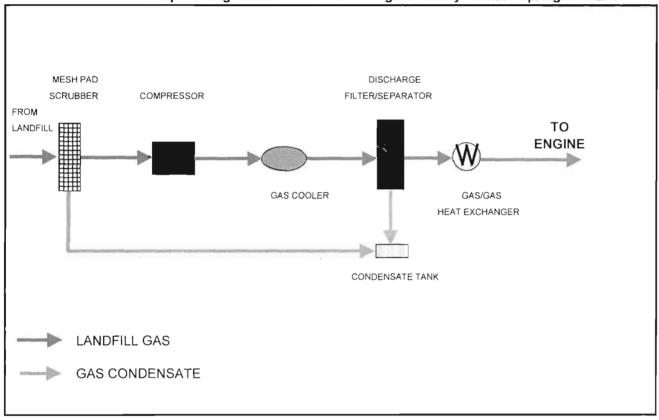
Waste Management of Leon County, Inc.

Achaya Kelapanda District Manager

Enclosure: As Noted

## FUEL GAS COMPRESSOR FLOW DIAGRAM

Reciprocating Internal Combustion Engine Facility - Future Springhill Plant



## PROCESS DESCRIPTION

Landfill gas (LFG) will enter the fuel gas compressor through the Mesh Pad Scrubber where liquids will be knocked out of the gas stream.

The LFG will then be compressed up to the working pressure required by the engines (approximately 6 psig). During compression, the temperature of the gas will be raised to above the dew point.

After the gas has been compressed, it will be cooled in an air-exchange cooler, in order to reduce the amount of water vapor present.

Next, particulates will be knocked out by the discharge filter/ separator. The filter size will be a maximum of 10 microns. Liquids will be removed at this point and sent to a condensate storage tank.

After liquids and other impurities have been removed, the LFG will pass through a Gas/Gas Heat Exchanger. The gas will be reheated in the exchanger to approximately 20 °F above its dew point in order to prevent condensation of liquids in the piping or engine fuel system.