TECHNICAL REVIEW DOCUMENT
for
OPERATING PERMIT 99OPAD220
to be issued to:

BFI Waste Systems of North America, Inc.
Tower Road Landfill
Adams County
Source ID 0010182

Prepared by Cathy Rhodes
July, 2000

I. PURPOSE:

This document establishes the basis for decisions made regarding the Applicable Requirements, Emission Factors, Monitoring Plan and Compliance Status of Emission Units covered within the Operating Permit proposed for this site. It is designed for reference during review of the proposed permit by the EPA and during Public Comment. This narrative is intended only as an adjunct for the reviewer and has no legal standing. Conclusions in this document are based on information provided in the original application submittal of December 28, 1999, and supplemental Title V technical information.

Any revisions made to the underlying construction permits associated with this facility in conjunction with the processing of this operating permit application have been reviewed in accordance with the requirements of Regulation No. 3, part B, Construction Permits, and have been found to meet all applicable substantive and procedural requirements. This operating permit incorporates and shall be considered to be a combined construction/operating permit for any such revision, and the permittee shall be allowed to operate under the revised conditions upon issuance of this operating permit without applying for a revision to this permit or for an additional or revised Construction Permit.

II. Source Description:

This facility disposes of municipal solid waste. The facility is located on Tower Road, south of Interstate highway 76/US85 South/ US -6 West interchange. There are no affected states within 50 miles of the facility. Rocky Mountain National Park is a Federal Class I designated area within 100 kilometers of the facility.

Landfill construction and operation activities addressed in this operating permit include vehicle traffic on paved or unpaved roads, handling of soil cover material, and use of a landfill gas migration collection and control system.

The Title V application reports the facility is not subject to the Accidental Release Plan provisions of 112(r)(7) of the Clean Air Act.

Facility wide emissions are as follows (tons/year):

Pollutant	Actual	Potential
Particulate Matter	105	988
PM_{10}	48	441
Nitrogen Oxides (NO_x)	94	94
Sulfur Dioxide (SO_2)	4	4
Volatile Organic Compounds (VOC)	18	18
Carbon Monoxide	99	99

Potential emissions are based on permitted levels, except for PM and PM_{10}, which include permitted emissions for the flare as well as uncontrolled fugitive particulate emissions from landfill operation activities, as estimated in the Construction Permit preliminary analysis. Actual emissions for the flare equal potential emissions at this time. Actual PM and PM_{10} emissions include permitted flare emissions and controlled fugitive particulate emissions from landfill operation activities, as estimated in the Construction Permit preliminary analysis.

This facility has received a synthetic minor permit to limit Hazardous Air Pollutants (HAPs) emissions below the levels which would trigger Maximum Achievable Control Technology (MACT) standards.

Prevention of Significant Deterioration and Nonattainment New Source Review

This plant is located in an area designated as non-attainment for carbon monoxide and particulate matter smaller than ten (10) microns. NO_x and SO_2 emissions are considered to be precursors for PM, and may trigger major nonattainment source status. Fugitive emissions are not included when determining major source status. The area in which the source operates was previously designated nonattainment for ozone. This designation was removed in 1998, however, all SIP-approved requirements continue to apply in order to prevent backsliding under the provisions of Section 183(e) of the Federal Clean Air Act. A July 20, 2000 Federal Register indicated that the nonattainment status may be reinstated in 2001. In addition, Denver recently violated the new 8 hour ozone standard, and it is the Division=s understanding that the EPA will issue a nonattainment status Federal Register notice for the Metro area even though the standard itself is under judicial review as of the issuance date of this permit.

The permittee received a synthetic minor permit limiting emissions below nonattainment major source status for both PM and CO (Note: Fugitive PM emissions are not included when determining major source status). Construction Permit 99AD0380 was issued to Bio

Energy for combustion engines located at the landfill. The engines will use NMOC emissions as fuel. The engines are included as part of the landfill for PSD and major nonattainment New Source Review purposes. The Division will issue a separate operating permit for the engines in the future.

Major stationary source requirements for nonattainment areas shall apply at such time that this source becomes major solely by virtue of relaxation in any permit condition. Any relaxation that increases the potential to emit above the applicable major stationary source threshold will result in the source being subject to Major Stationary Source requirements of Regulation No. 3, Part B, Section IV.D.2.

III. EMISSION SOURCES:

SUMMARY DESCRIPTION OF PROCESS

The anaerobic decomposition of organic wastes in landfills results in the generation of a biogas commonly referred to as LFG. A landfill with soil cover emits LFG as the LFG permeates vertically through the cover soils and escapes into the atmosphere. The Tower Road Landfill has a landfill gas migration control system (GMCS). The LFG generated within the landfill is collected and conveyed via pipeline to the LFG flare facility, or to the engines for combustion. Particulate emissions result from landfill traffic, landfill construction, and landfill operations, including vehicles traveling on unpaved landfill access roads. Watering of unpaved roads reduces particulate emissions. Specific equipment and activities covered under this operating permit are as follows.

S001 - Landfill Gas Flare - NMOC emissions are greater than 50 Megagrams/year, therefore the permittee is required to install and operate a landfill gas collection and control system. The permittee has submitted the required design plan, and the Division has approved it. The design plan is included as an appendix of the permit. The system consists of a flare, or alternatively, Bio Energy uses NMOC emissions as fuel for combustion engines (covered by a separate operating permit to be issued to Bio Energy in the future).

Initial Approval Construction Permit 91AD291 was issued for the landfill gas collection and enclosed ground type flaring system. Applicable requirements are as follows.

Construction Permit 91AD291

- Visible emissions shall not exceed twenty percent, except during certain operating conditions, when opacity shall not exceed 30% (Colorado Regulation No. 1, Section II.A.1&4) Opacity from flares not to exceed 30% (Section II.A.5) Note: The Division has determined that because Section II.A.5 specifically addresses flares, Sections II.A.1 &

4 do not apply to flares, therefore only Section II.A.5 is included in the operating permit.

- Limits emissions of particulate matter, sulfur dioxide, nitrogen oxides, volatile organic compounds, and carbon monoxide on a monthly and annual basis (See Section V, below, regarding short term limits)
- Limits total hazardous air pollutants on a monthly and annual basis (Note: Non-fugitive NO_x, CO, and HAP emissions are for the entire facility, including emissions from the flare, the Bio Energy combustion engines covered in permit 99AD0380, and other sources listed in the permit.)
- Limits BTU amount of landfill gas burned in the flare on a monthly and annual basis
- Requires a source compliance test for CO emissions
- Requires at least 98% destruction of NMOC and HAP emissions- Requires identification of operating parameters prior to final approval of the Construction Permit, which may replace the control efficiency requirement. (Note: This provision is included in the operating permit, and allows the use of operating parameters in lieu of the control efficiency requirement, upon written approval of the Division. Upon written approval of the operating parameters, the parameters will be attached to the permit.)
- Requires compliance with the odor requirements of Regulation No. 2.
- Limits NO_x, CO, and HCl emissions from all insignificant activities to 1 ton/year (per pollutant). This limit is included to ensure that major source nonattainment review is not triggered for the facility.
- Because the source is located in a PM and CO nonattainment area, Reasonably Available Control Technology requirements apply to the CO and NO_x (a PM_{10} pre-cursor) emissions. RACT emission limits are included in the operating permit.
- NSPS Emission Guidelines for Existing Municipal Solid Waste Landfills (40 CFR Part 60, Subpart Cc, as adopted by reference in Colorado Regulation No. 6, Part A)

S002 - Landfill Fugitive Emissions - Final Approval Construction Permit 13AD198 was issued for operation of the solid waste landfill. Applicable requirements are as follows.

Construction Permit 13AD198

- Sets forth fugitive particulate emission control measures

- Limits waste receival rate on an annual basis, and vehicle traffic on a daily basis (See short term limit policy, Section V, below)
- Requires compliance with odor requirements of Regulation No. 2

Emission Factors- Fugitive PM emissions are estimated using AP-42 factors and equations, along with appropriate control measure efficiencies. Waste receipt information is used to determine landfill gas emissions, including CO, VOC, NMOC, and hazardous air pollutant emissions. The waste volume data is entered into the EPA=s Landfill Gas Estimation Model. Combustion emissions from the flare are estimated using AP-42 emission factors.

Monitoring Plan- The permittee will perform a weekly inspection to ensure the fugitive particulate matter minimization methods are in place and effective. The Emission Guidelines set forth specific monitoring methods for collection and control of landfill gas emissions. Monthly records of the waste acceptance rate shall be maintained. The permittee shall perform weekly checks and annual Method 22 observations to monitor flare opacity.

Compliance Status- The Division believes these sources were in compliance with applicable requirements as of the date of application submittal.

IV. Emission Factors

From time to time published emission factors are changed based on new or improved data. A logical concern is what happens if the use of the new emission factor in a calculation results in a source being out of compliance with a permit limit. For this operating permit, the emission factors or emission factor equations included in the permit are considered to be fixed until changed by the permit. Factors dependent on the fuel sulfur content or heat content can not be fixed and will vary with the test results. The formula for determining the emission factors is, however, fixed. It is the responsibility of the permittee to be aware of changes in the factors, and to notify the Division in writing of impacts on the permit requirements when there is a change in factors. Upon notification, the Division will work with the permittee to address the situation.

V. Short Term Limits

On April 16, 1998, the Colorado Air Quality Control Commission directed the Division to implement new procedures regarding the use of short term emission and production/throughput limits on Construction Permits. These procedures are being directly implemented in all Operating Permits that had not started their Public Comment period as of April 16, 1998. All short term emission and production/throughput limits that appeared in the Construction Permits associated with this facility that are not required by a specific

State or Federal standard or by the above referenced Division procedures have been deleted and all annual emission and production/throughput limits converted to a rolling twelve (12) month total. Note that, if applicable, appropriate modeling to demonstrate compliance with the National Ambient Air Quality Standards was conducted as part of the Construction Permit processing procedures. If required by this permit, portable monitoring results and/or EPA reference test method results will be multiplied by 8760 hours for comparison to annual emission limits unless there is a specific condition in the permit restricting the hours of operation.

Note that the recently issued Initial Construction Permits for the flare contains monthly process and emission limits that remain applicable for one year until rolling 12 month averages can commence, These monthly limits are retained in the operating permit application, with the indication that they apply for the first year of operation at the new production rates. In addition, the Construction Permit for fugitive particulate emissions includes a daily vehicle limit. This short term limit is retained in the Operating Permit. A review of the Construction Permit analyses indicates that this limit is deemed necessary to protect the 24 hour PM ambient standard.

VI. Final Approval for Initial Construction Permits

Some Construction Permits that have not yet been issued Final Approval. Since these pieces of equipment will have been in operation for more than 180 days by the due date of the first semi-annual monitoring required by the operating permit, the Division will consider the Responsible Official certification submitted with that report to serve as the self-certification for Final Approval for these sources.