TECHNICAL REVIEW DOCUMENT
for
OPERATING PERMIT 01OPME234

Mesa County Solid Waste Management
Mesa County
Facility ID:0770084

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1. Purpose

This document will establish the basis for decisions made regarding the Applicable Requirements, Emission Factors, Monitoring Plan and Compliance Status of Emission Units covered within the Colorado Title V Operating Permit proposed for this site. It is designed for reference during review of the proposed permit by the EPA, during Public Comment, and for other interested parties. Information in this report is primarily from the application received on March 26, 2001, as well as numerous discussions with the applicant. This narrative is intended only as an adjunct for the reviewer and has no legal standing.

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 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 hours of operation.

Any revisions made to the underlying construction permits associated with this facility, made 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.

2. Source Description

The Mesa County Solid Waste Management facility is classified as a municipal solid waste landfill, which falls under the Standard Industrial Classification 4953. The activities at this

facility include the landfilling of solid wastes, a composting site, and a household hazardous waste center. This facility is located approximately seven miles southeast of Grand Junction, Mesa County, Colorado. The State of Utah is an affected state within 50 miles of the facility. The Black Canyon of the Gunnison National Park and the Maroon Bells-Snowmass Wilderness Area are Federal Class I designated areas located within 100 kilometers of this facility.

The facility is located in an area designated as attainment for all criteria pollutants. Based on the information provided by the applicant, the facility is categorized as a minor stationary source for PSD applicability purposes (note: The facility's particulate matter fugitive potential-to-emit emission is greater than 250 TPY. However, fugitive emissions from landfills are not taken into account when determining if a source is a major source for PSD applicability purposes for two reasons. First, landfills are not one of the listed 28 source categories. Secondly, Subparts Cc and WWW are not two of the NSPS subparts that were regulated as of August 7, 1980.) as of the issue date of this permit. The source therefore is not subject to the PSD review requirements of 40 CFR 52.21 (Colorado Regulation No. 3, Part B, Section IV.D.3). Future modifications to this facility may result in an exceedance of the major source threshold. Once that threshold is exceeded, future modifications at this facility resulting in a significant net emissions increase (see Reg 3, Part A, Section I.B.37 and 58) for any pollutant as listed in Regulation No. 3, Part A, Section I.B.58 or a modification which is major by itself may result in the application of the PSD review requirements. Facility-wide emissions are outlined below:

Pollutant	Potential-to-Emit (TPY)	2000 Actual Emissions (TPY)
PM_{10}	98.84	4.39
PM	394.79	16.67
VOCs	50.82	10.75

The potential-to-emit PM_{10} and PM emissions are uncontrolled fugitive emissions, while actual emissions are controlled fugitive emissions. The potential-to-emit VOCs emissions are calculated from EPA's Landfill Gas Model. This emission rate is based on the landfill's design capacity of 8,612,823 megagrams, and the landfill would not emit at this rate until 2056. The actual VOCs emissions are also based on EPA's Landfill Gas Model. However, this emission rate was the emission rated predicted by the model for the 2000 calendar year.

In the operating permit, the annual limits for the PM_{10} and PM emissions will be demonstrated by the implementation of the Fugitive Emissions Control Plan. The source will be required to certify semi-annually that the Fugitive Emissions Control Plan is being implemented. The source will also be required to calculate the VOCs emissions annually, using EPA's Landfill Gas Model. The model predicts the landfill gas emissions only on an annual basis. This is the reason why the annual frequency is required instead of the monthly frequency. Any exceedances of the annual limits will result in the source being out of compliance with the terms and conditions of the operating permit. The source will provide compliance monitoring reports semi-annually and compliance certification reports annually.

The Mesa County Landfill was constructed in September of 1983. However, the landfill did not

begin to accept waste until 1986. The landfill received Final Approval Construction Permit 84ME411F on May 21,1996. The construction permit addressed only the fugitive particulate emissions resulted from the dirt moving activities within the landfill. At that time, there were no Federal or State air pollution regulations in place to regulate the landfill gas emissions.

On September 28, 1998, the New Source Performance Standard (NSPS), Subpart Cc regulation (Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills) was adopted by the State of Colorado. As required by Subpart Cc, the source submitted the Initial Design Capacity Report (IDCR) for the landfill to the Division on December 18, 1998. The IDCR stated that the capacity of the landfill was 2,218,000 megagrams. In the fall of 1998, the landfill was expanded laterally and vertically. This expansion was considered to be a modification of the landfill under NSPS regulations. Because the modification occurred after May 31, 1991, the landfill is now subject to Subpart WWW (Standards of Performance for Solid Waste Landfills) instead of Subpart Cc. As required by Subpart WWW, the source had to submit a revised IDCR because the landfill's capacity was increased. The source then submitted a revised IDCR to the Division on October 5, 2000. The new capacity of the landfill is 8,613,823 megagrams. Because the new capacity is greater than 2.5 million megagrams, the source is required to get an operating permit for the landfill. This requirement is outlined in Subpart WWW (CFR 40 Part 60, Section §60.752(b)). The source submitted an operating permit application to the Division on March 26, 2001.

3. Emission Sources

The following emission sources are specifically regulated under the terms and conditions of the operating permit for this facility.

E001 – Fugitive Particulate Matter Emissions

a. Applicable Requirements – The regulations that are applicable to the fugitive particulate matter emissions are found in Colorado Regulation No.1.III.D. Specifically, the source must have a fugitive dust control plan to minimize the emissions. The 20% opacity guideline, the off-property transport provision, and the nuisance provision are also applicable to this emission point.

b. Emission Factors – The Division's template titled "Sand and Gravel Operations Dust Emissions" was used to estimate the fugitive particulate matter emissions. The emission factors in this template are from the various sections of AP-42 (September 1988, July 1998, and October 1998). The information concerning the amount of soil disturbed, the activities at the landfill, and the control measures used to control the emission were submitted with the operating permit application. This information was then used in the template to estimate the fugitive emissions.

c. Monitoring and Compliance – The source will demonstrate compliance with the particulate matter emission limits by implementing the Fugitive Emissions Control Plan that is outlined in the permit. In addition, the source will be required to perform a weekly check of the measures in the plan to ensure that the plan is being implemented and it is effective. The source certified in the operating permit application that the landfill is currently in compliance with the applicable requirements.

E002 – VOCs Emissions from Landfill

a. Applicable Requirements – The requirements that are applicable to this emission point are the VOCs emission limit and the NSPS, Subpart WWW regulation. The main requirement of Subpart WWW is the submittal of the annual non-methane organic compounds (NMOCs) emission report. If the annual report shows that the NMOCs emission rate is greater than 50 megagrams per year, the source may have to install a gas collection and control system.

b. Emission Factors – The landfill gas emissions were estimated with EPA's Landfill Gas Model, Version 2.0. The values of the parameters used in this model were:

Lo = methane generation potential (cubic meters per megagrams solid waste). The default value of 170 m^3/megagrams was used in the model.

K= methane generation rate constant (year $^{-1}$). The default value for this parameter is 0.05. However, the landfill is located in an area that receives less than 25 inches of rain per year, based on a thirty-year annual average, and the regulation allows the source to use a value of 0.02 instead of 0.05.

C = concentration of NMOCs (parts per million by volume as hexane). A NMOCs concentration of 1000 ppm was used in the model. The source performed a Tier II test in January of 2001, and the site-specific concentration was determined to be 619 ppm. However, this concentration was not used in the model. Tier II test results from other landfills in Colorado show that the NMOCs concentration can reach as high as 2438 ppm. The test data also show that the majority of the landfills (five out of six landfills) had concentrations less than 1000 ppm. The source will most likely perform other Tier II tests and if the concentrations of the tests are greater than 619 ppm, the source may be out compliance with the VOCs emission limit. The 1000 ppm value was used in the model because statistically, future tests would most likely result in concentrations less than 1000 ppm. If a future test shows that the actual concentration is greater than 1000 ppm and this results in the source being out of compliance with VOCs limit, the Division

and the source will have to work together to resolve the non-compliance issue.

Landfill capacity = the capacity of the landfill is 8,612,823 megagrams. This value was determined in the Initial Capacity Design Report that was submitted to the Division on October 5, 2000.

The model predicted that the greatest amount of NMOCs that will ever be emitted from this landfill is 118.2 megagrams per year (130.3 tons/yr). This emission rate will not occur until the year 2056. Of the total NMOCs emissions, only 39% (50.8 tons) are VOCs emissions. The 50.8 tons/yr value is the VOCs emission limit in the operating permit. All of the parameters used in the model should remain constant throughout the term of the operating permit, except for the NMOCs concentration. This issue was discussed in the section above.

c. Monitoring and Compliance – The source will demonstrate compliance with the VOCs emission limit with EPA's Landfill Gas Model, Version 2.0 or the most current version. This model will be run on an annual basis. The result from the model will be multiplied by 0.39 (39%) to derive at the VOCs emissions. The model predicts the landfill gas emissions on a yearly basis. Therefore, it is not necessary for the source to demonstrate compliance with the emission limit on a rolling 12-month basis. The source certified in the operating permit application that the landfill is currently in compliance with the applicable requirements.

4. Insignificant Activities

The following is a list of insignificant activities that was provided by the source to assist in the understanding of the facility layout:

One (1) 500-gallon under ground storage tank used to store waste oil

One (1) 500-gallon above ground storage tank used to store waste oil

One (1) 250-gallon above ground storage tank used to store anti-freeze

One (1) 4000-gallon above ground storage tank used to store diesel

One (1) 5000-gallon above ground storage tank used to store diesel

Three (3) heaters, two with a design rate of 500,000 Btu/hr and one with a design rate of 185,000 Btu/hr. (Colorado Regulation No. 3, Section II.D.1.ggg provides an APEN exemption for each individual space heater which uses gaseous fuel, and which has a design rate of less than or equal to 10 mmBtu/hr. These heaters burn waste oil, which is not a gaseous fuel. The source submitted criteria pollutant emission calculations for these heaters and each criteria pollutant emission was less than the 2 tons/yr, for each heater. The source used the emission factors in AP-42 (October 1996) for these calculations. This facility is located in an attainment area for all criteria pollutants. Therefore, the heaters are insignificant activities because of Regulations No.3, Section II.D.1.a.)

5. Alternative Operating Scenarios

There are no alternative operating scenarios for this facility.

6. Permit Shield

The source did not request any permit shields for this facility in the permit application.

7. Accidental Release - 112(r)

Section 112(r) of the Clean Air Act mandates a new federal focus on the prevention of chemical accidents. Sources subject to these provisions must develop and implement risk management programs that include hazard assessment, a prevention program, and an emergency response program. They must prepare and implement a Risk Management Plan (RMP) as specified in the Rule.

Based on the information provided by the applicant, this facility is not subject to the provisions of the Accidental Release Prevention Program (Section 112(r) of the Federal Clean Air Act).