

Malfunction Abatement Plan Manistee County Landfill



Manistee, Michigan

March 2008
Updated April 2022

1.0 INTRODUCTION

Harland's Sanitary Landfill, Inc. dba Manistee County Landfill is a municipal solid waste landfill operating in Manistee, Michigan. The facility has installed and operates a landfill gas collection and control system.

In an April 22, 2008, letter, the Michigan Department of Environmental Quality – Air Quality Division requested that the Manistee County Landfill prepare a Malfunction Abatement Plan in accordance with R336.1911. This document was developed in response to that request.

2.0 RESPONSIBLE PARTIES

The following personnel will be responsible for the identified tasks

Personnel	Responsibilities	Phone Number
Site Manager	Site operations and minor repairs of the GCCS	231-425-8975
Gas Technician	Monitoring of GCCS	216-104-3470
Environmental Engineer	Notify MDEQ of Malfunction	616-431-6173

3.0 NORMAL OPERATION OF CONTROL EQUIPMENT

The gas collection system is equipped with a blower that is used to actively extract gas from the landfill and an open stick flare (utility flare). A vacuum (on average forty inches) is applied to the field sufficient to minimize gas migration. The flare at the facility is equipped with a thermocouple that detects the presence of a flame. In the event that no flame is detected, the flare blower shuts down and a valve to the remainder of the gas collection system is closed. Closure of the valve, prevents landfill gas from being emitted to the ambient air. Upon shutdown, the flare will try to restart itself 5 times. Additionally, flare control variables that are monitored are flow to flare (scfm), presence of flame, and periodic visible emission observations.

4.0 INSPECTION/MAINTENANCE AND SCHEDULE

The following table provides a general maintenance and inspection schedule for the gas collection and control system.

Unit	Inspection/Maintenance Action	Inspection/Maintenance Frequency
Gas Collection Wells	Inspect and replace gas well sampling ports and flex hose	During wellfield tuning events (typically every other month)
Gas System Blower	Inspect and lubricate blower Inspect blower bearings All other repairs	Quarterly (as needed) Quarterly As needed
Condensate Lift Station	Verify pump operations	Repair pumps as needed. Pumps inspected annually
Flare Station	Clean flame arrestor Replace thermocouple All other repairs	Annual As needed As needed
Cover Integrity	Inspect cover for erosion cracks and repair	Monthly (as allowed by weather conditions)

5.0 CORRECTIVE ACTION TO BE TAKEN IN THE EVENT OF ODORS

In the event odors leave the facility the one or more of the following steps will be taken:

Possible Malfunction	Corrective Action
Loss of electrical power	Investigate cause. If possible restore electrical service. Restart flare
Flare shutdown	Investigate cause and restart flare
Thermocouple	Replace if necessary and restart flare
Gas collection system	Investigate gas collection system for location of venting gas. Cap or repair vent
Cover integrity	Apply cover to that area Repair cap
Working face	Apply cover to that area Review waste receipts to try to identify possible odor causing load

Odor Management Plan Manistee County Landfill



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September 2007

Purpose

The purpose of this Odor Management Plan is to establish standard procedures to be followed in actively handling and managing landfill gas and associated odors. Furthermore, this plan addresses the procedures and corrective actions associated with odor complaints.

Prevention, Detection and Correction of Off-site Odors:

Landfill operations are conducted in an effort to prevent off-site odor. Methods of prevention, detection and corrections are ongoing and are summarized below.

Prevention

An active gas extraction system to manage the landfill gas generated by the waste has been installed and is periodically expanded.

Routine wellfield monitoring and tuning of the active gas system is conducted every other month and consists of tuning each well to ensure adequate vacuum is applied to the gas wells to allow for proper extraction of the landfill gas. The temperature, methane and oxygen concentrations are recorded.

Data generated from each event is evaluated and potential problems in the wellfield, which may attribute to odors, are identified. Corrective actions to the identified problems are immediately taken. This may include adjusting the wellfield further or making repairs to the wellhead and/or associated system. Should data suggest larger problems and/or major construction is necessary, a schedule to complete the repair is immediately generated.

Detection/Monitoring

Landfill personnel monitor the site each operating day, Monday through Friday. Monitoring includes a driving around the perimeter of the site to determine if odors are detected. If odors are detected at the perimeter, the site personnel attempt to determine the immediate cause of the odors and take actions to reduce or control the odor. If further action is required, the site personnel will notify the Environmental Manager and collectively, a plan to control the odor will be generated and a corrective action will be taken.

Correction

Corrective actions to off-site detections include but are not limited to expanding the wellfield, tuning the wellfield, verification of interim cover, and wellhead repairs.

Staff Training

The site manager is responsible for monitoring for odors at the perimeter of the landfill property. Should the site manager be unavailable to perform the training for any period of time, the site manager will train additional personnel to perform the monitoring and ensure the procedures for the detection of off-site odors are completed.

Off-site Odor Complaints

Whenever it is anticipated that off-site odors may be present due to a specific activity or operation, the site manager will call or visit the potentially affected party; however should

an unanticipated odor complaint be received, the following procedure is to be adhered to:

- The odor complaint will be routed to the site manager.
- The site manager will then discuss the odor issue with the complainant noting the time and date of the detected odors and possible description/concentration
- Items discussed with the complainant will be recorded in the attached Odor Complaint Log.
- Following the discussion of the odor complaint, the site manager will perform several if not all of the following actions:
 - Check weather station data for the specific time and date of the odor complaint
 - Identify the possible location of the odor complaint
 - Visit the location of the complaint immediately to confirm the odor. Effort will be made to visit the location no more than one hour after the complaint is received.
 - Follow-up with the complainant. This can be completed with a call or a visit. At a minimum, the follow-up should include the managers' findings concerning the complaint, the source of the odors (if determined), the duration of the odors (if known), and the corrective measures if odors are from the facility. As indicated above, corrective measures include, but are not limited to, adjusting the wellfield, making repairs to the wells and/or associated system, or adding interim cover.
 - Log the follow-up call/meeting on the odor complaint log.

Record Keeping

The site will maintain complete files of all odor complaint logs in an on-site binder. Furthermore, wellfield tuning records and data generated from the on-site weather station (temperature, wind direction and speed, barometric pressure, precipitation amounts, and humidity) will also be maintained in an on-site binder. The odor management binder will include information for the past 12 months.