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West Carleton Environmental Centre Landfill Ottawa, Ontario

Final Report

Best Management Practice Plan (Combustion By-Products) Version 1 RWDI # 1302177 July 30, 2014

SUBMITTED TO

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Best Management Practice Plan – Combustion By-Products
West Carleton Environmental Centre Landfill
Version 1
RWDI#1302177
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Attachment A: Example of WM Combustion By-Products Training Form
Attachment B: Example of WM Combustion By-Products Inspection Form
Attachment C: Example of WM Combustion By-Products Complaint Form



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1. PURPOSE

A Best Management Practice Plan (BMPP) for combustion by-products is a detailed document that outlines the combustion sources at a given site and describes the measures that shall be used to control emissions from these sources. The BMPP is used to manage combustion by-products emissions from stationary combustion equipment and vehicular traffic, including idling trucks. This BMPP for combustion includes the following:

- Details regarding combustion by-products;
- A description of the emission sources from the facility;
- A summary of control measures that are or will be put in place as part of the BMPP;
- An implementation schedule for the control measures;
- An implementation plan for the control measures;
- Details regarding the inspection and maintenance schedule; and,
- A description of the planned monitoring and record keeping activities.

In effort to minimize the potential for off-site combustion events for the existing and future operations of the West Carleton Environmental Centre (WCEC) landfill site, Waste Management of Canada Corporation (WM) has developed this BMPP.

This BMPP is to be amended if there is an alternative solution or modification to the practices and controls provided herein. The following sections outline the procedure that WM will implement to control the potential for combustion by-product emissions from the site.

2. RESPONSIBILITIES

WM is responsible for ensuring the requirements of this BMPP. To accomplish this, employees will be trained in this BMPP and employee responsibilities will be designated. Training and responsibilities include the deployment, maintenance, monitoring and inspections of equipment and operations.

The Site Manager is responsible for:

- Providing formal training to appropriate staff to ensure that this BMPP is followed;
- Providing guidance on dust control measures by having a working knowledge and understanding of the practices and control measures as outlined in this BMPP;
- maintaining this BMPP; and
- maintaining a Combustion By-Product Control and Complaints log.



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3. GENERAL INFORMATION

3.1 Combustion By-Products

On-site stationary combustion sources and vehicular traffic produces a variety of air contaminants as a result of fuel combustion inside the engine. There are typically three main contaminants of interest related to combustion emissions: carbon monoxide (CO), nitrogen oxides (NOX), and respirable particulate matter (PM2.5). In addition, impacts from dioxins and furans (D&F) were assessed based on emissions from the on-site stationary waste incineration sources. For the purposes of this BMPP, control measures to minimize air impacts related to CO, NOX and D&F are included.

Refer to the Dust BMPP for particulate matter (dust) control measures.

4. EMISSION SOURCES

Potential combustion by-product sources are listed below and reflect various operations at the WCEC landfill:

- vehicles travelling along the on-site haul routes;
- vehicles travelling along the adjacent off-site roadways;
- idling vehicles;
- the landfill gas-fired engine-generators;
- the LFG flares;
- the leachate treatment facility emergency diesel-fired generator; and
- the impact crusher engine diesel-fired generator.

5. TRAINING

The site manager is responsible for identifying a list of personnel who will be trained in the management of haul route truck traffic and inspection/maintenance of waste trucks and combustion equipment.

The list of individuals identified will be listed in the Combustion By-Products training log as well as the date when they were trained. The list will be updated every five years or upon employee turnover. Attachment A includes an example of the WM Combustion By-Product Training Log.



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6. INSPECTION AND MAINTENANCE PROCEDURES

The site manager or trained individuals will be responsible for the management of haul route truck traffic, inspection/maintenance of waste trucks and combustion equipment. An inspection log will be completed and entered into the Combustion By-Product log of any irregular or abnormal activities. The following items will occur during inspections and noted:

- Evaluate waste trucks as they are arriving on-site to ensure that they are in satisfactory condition. In the event that a waste truck is not in satisfactory conditions, corrective measures are to be taken.
- Evaluate that the landfill gas-fired engines, LFG flares, and the impact crusher engine to ensure that they are operating as designed (i.e. sufficient landfill gas flow enters the flare and generator, optimal temperature of combustion of flare, and engines, etc.). The date on which the inspection and/or maintenance activities occurred, the names of individuals who performed the testing and maintenance, notes on any unsatisfactory conditions observed and measure taken to correct such conditions should be noted in the Combustion By-Product log.
- Routinely perform testing and maintenance on the SBR emergency diesel-fired generator. The date on which the testing and maintenance occurred, the names of individuals who performed the testing and maintenance, notes on any unsatisfactory conditions observed and measures taken to correct such conditions should be noted in the Combustion By-Product Log. The emergency generator should be tested in accordance with the CSA C282-09 – Emergency Electrical Power Supply for Buildings.

Attachments A & B include examples of the WM Combustion By-Product Inspection Form and WM Combustion By-Product Dispatch Forms.



7. CONTROL METHODS FOR IDENTIFIED SOURCES

The following measures will be taken to help reduce the combustion by-product off-site impact.

- Routinely inspect truck traffic upon on-site arrival to ensure that waste trucks are in satisfactory conditions.
- Develop an internal procedure to ensure that on-site idling of vehicles is minimized. The internal procedure can include the following guidelines for when drivers are expected to shut their trucks off:
 - In line-ups at the scalehouse.
 - During lunches and breaks
 - When making deliveries or pick-ups.
 - Generally, if the trucks do not need to be running, shut it off.
 - Trucks should not idle for more than 5 minutes.
- Routinely inspect landfill gas-fired engine-generators, LFG flares, the impact crusher diesel-fired engine and the leachate treatment facility emergency diesel-fired generator.
- Properly plan for waste vehicle staging and sequencing.

8. SCHEDULE OF IMPLEMENTATION

The following table provides the proposed schedule for implementation of the plan:

Table 1: Schedule for Control Methods

Tasks	Implementation Time Lines
Implementation of Training as defined in Section 4.0	On-going until site completion
Implementation of Inspection and Maintenance Procedures as defined in Section 5.0	On-going until site completion
Implementation of Control Methods as defined in Section 6.0	On-going until site completion



9. RECORD KEEPING

Throughout this document there is reference to a Combustion By-Product log that will be maintained on site. This log will include notation of the items listed previously as well as any other notes relevant to combustion by-product at the site. The log will be in a three-ringed binder that will contain portioned sections for training, inspection, remediation activities, general notes and complaint records. The log will contain notations going back no less than 1 year or until included in annual monitoring report.

From time to time there may be complaints regarding combustion by-product events from the local residents. There will be individual logs with standard forms for combustion by-product complaints (Attachment C). Complaint logs will include the following at a minimum:

- Name of complainant;
- Time of complaint;
- Time that the incident occurred;
- Nature of complaint;
- Operational details at the time of the complaint;
- Wind conditions at the time of the complaint; and
- Details of any investigation.

All complaints will be included in the combustion by-product log. On an annual basis, the logs will be reviewed and any unfavourable trends will be examined further to identify corrective actions and included in annual monitoring report.



10. EA COMMITMENTS AND EA CONDITIONS

The following table provides a summary of EA commitments and EA Conditions that have been addressed through this Best Management Practice Plan for Combustion By-Products:

Table 10.1: Overview of EA Commitments and Minister of the Environment’s EA Conditions

EA Commitments	EA Conditions	Covered in BMPP
<ul style="list-style-type: none"> ▪ Develop a Combustion Haul Route BMP Plan that may include the following mitigation measures: <ul style="list-style-type: none"> a) Minimize on-site idling of vehicles; b) Routinely monitoring of waste vehicles arriving to the site in unfit or unmaintained condition; and c) Properly plan for waste vehicles staging and sequencing on the site. 	<p>Condition 2.2: The proponent shall fulfill all commitments made during the environmental assessment process.</p> <p>Section 4.0: Compliance Monitoring</p> <p>Section 4.1: The proponent shall prepare and submit to the Director for the public record, an environmental assessment compliance monitoring plan.</p> <p>Section 4.3: The program shall include monitoring of the proponent’s implementation of the undertaking in accordance with the environmental assessment and the conditions in this Notice with respect to mitigation measures, public consultation and additional studies and work to be carried out. The program shall also include monitoring of compliance with all commitments made in the environmental assessment and the subsequent review assessment with respect to mitigation measures, public consultation and additional studies of work to be carried out.</p>	<p>Section 7</p>

ATTACHMENT A

ATTACHMENT B



West Carleton Environmental Centre Best Management Practice Plan Combustion By-Product Inspection and Dispatch Log

Inspected By: _____ Inspection Date: _____

Areas to inspect include: Management of haul route truck traffic, inspection/maintenance of waste trucks and combustion equipment

Area Inspected and Time	Visual Observations/Identified Area/Corrective Actions Required	Corrective Action Completed/Date & Time	Additional Control Action Required	Notes
<p><i>Example:</i></p> <p>Waste Trucks at Scale House @ 10:00am</p>	<p>Notable smoke from exhaust and truck appears to require maintenance</p>	<p>Instructed truck driver to have truck inspected and show records of inspection at next visit</p>	<p>No further action at this time</p>	<p>none</p>

ATTACHMENT C



West Carleton Environmental Centre Best Management Practice Plan Combustion By-Product Complaint Form

WM Personnel:			
Date of Call		Time of Call	
Complainant Name		Complainant Contact Number	
Complainant Address			
Date of Odour Incident		Time of Odour Incident	
Description of Event			
Operations at Time of Incident			
Winds at Time of Incident			
Investigation Results and Corrective Action			