Facility Name: **Chesser Island Road Landfill**
City: Folkston
County: Charlton
AIRS #: 04-13-049-00008 Application #: 616729

Date SIP Application Received: December 1, 2021
Date Title V Application Received: December 1, 2021
Permit No: 4953-049-0008-V-03-1

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Introduction

This narrative is being provided to assist the reader in understanding the content of the referenced SIP permit to construct and draft operating permit amendment. Complex issues and unusual items are explained in simpler terms and/or greater detail than is sometimes possible in the actual permit. This permit is being issued pursuant to: (1) Sections 391-3-1-.03(1) and 391-3-1-.03(10) of the Georgia Rules for Air Quality Control, (2) Part 70 of Chapter I of Title 40 of the Code of Federal Regulations, and (3) Title V of the Clean Air Act Amendments of 1990. The following narrative is designed to accompany the draft permit and is presented in the same general order as the permit. This narrative is intended only as an adjunct for the reviewer and has no legal standing. Any revisions made to the permit in response to comments received during the public comment period and EPA review process will be described in an addendum to this narrative.

I. Facility Description

A. Existing Permits

Table 1 below lists the current Title V permit, and all administrative amendments, minor and significant modifications to that permit, and 502(b)(10) attachments.

Table 1: Current Title V Permit and Amendments

Permit/Amendment Number	Date of Issuance	Description
4953-049-0008-V-03-0	May 18, 2017	Title V Renewal

B. Regulatory Status

1. PSD/NSR/RACT

This facility is a minor source in respect to PSD. Potential emissions of each criteria pollutant are below 250 tons per year. Nonattainment NSR does not apply because the source is located in an area deemed to be in attainment for all pollutants. In this modification, the facility is taking a limit on the total flow in the open flare and a facility-wide limit to keep CO emissions under 250 tpy, thus remaining a minor source with respect to PSD requirements.

2. Title V Major Source Status by Pollutant

Table 2: Title V Major Source Status

Pollutant	Is the Pollutant Emitted?	If emitted, what is the facility's Title V status for the Pollutant?		
		Major Source Status	Major Source Requesting SM Status	Non-Major Source Status
PM	Y			✓
PM_{10}	Y			✓
$PM_{2.5}$	Y			✓
SO_2	Y			✓
VOC	Y			✓
NO_x	Y			✓
CO	Y	✓		
TRS	n/a			
H_2S	n/a			
Individual HAP	Y			✓
Total HAPs				✓

II. Proposed Modification

A. Description of Modification

The facility proposes to construct and operate a replacement open flare with a rated capacity of 5,100 scfm and a leachate evaporator with a rated capacity of approximately 45,000 gallons per day (GPD) (approximately 841 scfm of landfill gas at 55% methane).

Only leachate from CIRL will be evaporated at this time, however, to ensure facility emissions remain below major Prevention of Significant Deterioration (PSD) thresholds, a Federally enforceable limit of 2,365.20 MMscf/year is proposed for the replacement flare to limit total carbon monoxide (CO) emissions from the flare to 204.1 tons per year (TPY) and from the facility to 237.6 TPY. With this approach, the flare's rated capacity of 5,100 scfm would be available during peak flow periods if needed, but during other periods, the flare will be operated at a lower flow rate such that total flow remains below 2,365.20 MMscf per rolling 12-month period.

B. Emissions Change

Potential emission calculations for this project and the resulting facility-wide emissions are provided in Attachment E of the application. Point source combustion emissions for the evaporator include both criteria pollutants and hazardous air pollutants (HAPs). Combustion emissions for the replacement flare and evaporator were calculated using AP-42 and information provided by the vendor. Point source emissions resulting from the evaporation of leachate include particulate matter (PM), volatile organic compounds (VOCs) and HAPs. Leachate data used in the calculations are from a May 2021 leachate sample collected at CIRL, is provided in Attachment E of the application. Facility-wide emissions are calculated as the sum of the emissions from the flare plus the leachate evaporator.

Table 3: Emissions Change Due to Modification

Pollutant	Is the Pollutant Emitted?	Potential Emissions Pre-Modification (tpy)	Net Potential Emissions Increase (tpy)[1]	Facility-Wide Potential Emissions After Modification (tpy)
PM [2]	Y	--	--	--
PM_{10}	Y	111.6	46.3	157.9
$PM_{2.5}$	Y	19.3	13.6	32.9
SO_2	Y	51.6	35.9	87.5
VOC	Y	18.9	5.5	24.4
NO_x	Y	29.8	20.6	50.4
CO	Y	136.0	101.6	237.6
TRS	n/a	n/a	n/a	n/a
H_2S	n/a	n/a	n/a	n/a

1 Project net change reflects removal of 3,000 scfm flare and addition of 5,100 scfm flare and evaporator while landfill fugitives and solidification units do not change.
2 PM Emissions are segregated into PM_{10} and $PM_{2.5}$ emissions

Individual HAP[3]	Y	>> 10.0	$6.12x10^{-3}$	>> 10.0
Total HAPs	Y	10.2	0.8	11.0

C. PSD/NSR Applicability

This modification is not classified as a modification under PSD/NSR.

3 Individual HAP is toluene.

III. Facility Wide Requirements

A. Emission and Operating Caps:

To ensure carbon monoxide (CO) emissions remain below major Prevention of Significant Deterioration (PSD) thresholds, the facility proposes to take a facility-wide CO limit of 237.6 tons during any 12-consecutive month period.

B. Applicable Rules and Regulations

40 CFR 62 Subpart OOO - Federal Plan Requirements for Municipal Solid Waste Landfills That Commenced Construction On or Before July 17, 2014 and Have Not Been Modified or Reconstructed Since July 17, 2014

All existing MSW landfills that commenced construction, modification, or reconstruction on or before July 17, 2014 became subject to the new Federal Plan at 40 CFR 62, Subpart OOO starting May 21, 2021, unless they are already subject to an approved state plan implementing NSPS Cf. On June 21, 2021, CIRL became subject to 40 CFR 62 Subpart OOO, the Federal Plan that implements Emission Guideline Cf (EG Cf).

On June 21, 2021, CIRL became subject to 40 CFR 62 Subpart OOO, the Federal Plan that implements Emission Guideline Cf (EG Cf). The facility is an area source of Hazardous Air Pollutants (HAPs) and is subject to 40 CFR 63 Subpart AAAA. The facility began complying with the revised AAAA requirements on September 27, 2021. All previous reports and approvals granted under NSPS WWW carry forward under Subpart OOO and Subpart AAAA. Since NSPS WWW is no longer applicable when the Permittee submits either a GCCS Design Plan Revision or Title V permit modification, it is not included in this application as an applicable requirement. The site will become subject to a Georgia state rule implementing EG Cf once Georgia's state plan incorporating the rule is approved by EPA.

C. Compliance Status

The facility did not submit a form F.2, Compliance Plan for Non-Compliant Emission Unit or Group with the renewal Title V application or application update. This indicates that the source believes itself to be in compliance with all Air Quality Rules as of the application date.

D. Permit Conditions

Permit Condition 2.1.1 limits facility wide CO emissions such that the emissions during any 12 consecutive month period does not exceed 237.6 tons.

Permit Condition 2.2.1 requires the Permittee to comply with all applicable requirements of 40 CFR Part 62 Subpart A and OOO for the landfill.

IV. Regulated Equipment Requirements

A. Brief Process Description

CIRL receives, manages, and disposes of municipal solid waste, coal combustion residue, construction & demolition (C & D) waste, contaminated soil, and other wastes as permitted. The waste is dumped directly on an active cell of the landfill and spread out; daily cover is applied in accordance with the site's solid waste permit and then waste and cover is compacted. Cover is applied daily. CIRL consists of two separate landfill areas that are considered one site for Title V purposes. The "closed site" consists of Phase 1 and 2. This site does not receive waste and was completely capped as of July 15, 2003. In a letter dated, December 21, 2011, the Division determined the "closed site" contributes less than 1 percent of the total NMOC to the total NMOC emitted by the 2-landfill site and was exempt from the collection requirements of 40 CFR 60 Subpart WWW.

The "active site" consists of Phases 3 and 4 and were subject to the collection and control requirements of 40 CFR 60 Subpart WWW and used an open flare to control landfill gas emissions. The waste deposited in the landfill decomposes over time and produces landfill gas (LFG). The LFG is composed primarily of methane and carbon dioxide with small amounts of nonmethane organic compounds (NMOC) and inorganic compounds. The LFG is collected under vacuum by a series of vertical and horizontal landfill gas collection structures.

B. Equipment List for the Process

Emission Units		Applicable Requirements/Standards	Air Pollution Control Devices	
ID No.	**Description**		**ID No.**	**Description**
LF	Landfill [Phase 1 & 2: Closed site] And [Phase 3: Active site]	40 CFR Part 61, Subpart A 40 CFR Part 61, Subpart M 40 CFR Part 62, Subpart A 40 CFR Part 62, Subpart OOO 40 CFR Part 63, Subpart A 40 CFR Part 63, Subpart AAAA 391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(n)	None **OF3** **EVAP1**	Gas collection and control System [GCCS] **5,100 cfm Open Flare (for active site)** **Leachate Evaporator System**

C. Equipment & Rule Applicability

Emission and Operating Caps –
The facility is proposing a total flow limit in the replacement open flare (Source ID: OF3) of 2,365.20 MMscf/year to limit total carbon monoxide (CO) emissions from the flare to 204.1 tons per year (TPY) to avoid being subject to PSD for CO.

Applicable Rules and Regulations -

There are no new applicable rules and regulations associated with this modification.

D. Permit Conditions

Permit Condition 3.2.1 limits the total flow in the open flare such that the total flow during any 12 consecutive month period does not exceed 2,365.20 MMscf to avoid being subject to PSD for CO.

Permit Condition 3.3.2 outlines the following requirements specified in 40 CFR 63.1958 "Operational Standards for Collection and Control Systems" for the operation of the landfill and allows the Permittee an option to comply with the alternative requirements in the Division-approved GCCS Plan:

Permit Condition 3.3.3 requires the Permittee to operate an open flare in accordance with 40 CFR 63.11 and 40 CFR 60.18 at all times that any open flare is being used to control LFG.

Permit Condition 3.3.4 was removed

New Permit Condition 3.3.5 requires the Permittee to operate the Leachate Evaporator (Air Pollution Control ID: EVAP1) at all times that collected landfill gas is routed to the evaporator.

New Permit Condition 3.3.6 requires the Permittee to operate the control to either reduce NMOC by 98 percent by weight or reduce the outlet NMOC concentration to less than 20 ppmv, dry basis as hexane at 3 percent oxygen or if a boiler or process heater is used as the control device, the landfill gas stream must be introduced into the flame zone.

Permit Conditions 3.4.1 and 3.4.2 were modified to require the Permittee to comply with Georgia Rule (n) for the leachate evaporator system.

Permit Condition 3.4.3 was modified to require the Permittee to comply with Georgia Rule (e) for the leachate evaporator system.

Permit Condition 3.4.4 was modified to require the Permittee to comply with Georgia Rule (b) for the leachate evaporator system.

V. Testing Requirements (with Associated Record Keeping and Reporting)

Permit Condition 4.1.3 was modified to incorporate testing methods required by the updated 40 CFR 63 Subpart AAAA for the leachate evaporator system.

Permit Condition 4.2.1 was modified to update the acceptable method of determining the NMOC emission rate for the purpose of determining when the collection and control system may be removed as provided in 40 CFR 62.16715(f).

New Permit Condition 4.2.6 requires the Permittee to conduct the initial performance test on replacement open flare OF3 for visible emissions, to determine the heating value of the landfill gas venting to the flare, and to calculate exit velocity from the flare.

New Permit Condition 4.2.7 requires the Permittee to conduct the initial performance test on the leachate evaporator system for reduction efficiency or ppmv.

VI. Monitoring Requirements (with Associated Record Keeping and Reporting)

Permit Condition 5.2.1 requires the Permittee to install a continuous monitoring system that measures gas flow rate and a heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light or the flame itself, to indicate the continuous presence of a flame for Open Flare OF3.

Permit Condition 5.2.2 contains the monitoring requirements specified in updated 40 CFR 63 Subpart AAAA, which requires the facility to install a sampling port and a temperature measuring device or an access port for temperature measurements at each wellhead at the landfill.

Permit Conditions 5.2.3 and 5.2.4 contain the monitoring requirements and exceedance correction and reporting requirements specified in updated 40 CFR 63 Subpart AAAA for the measurements of the gauge pressure in the gas collection header at each individual wellhead.

Permit Conditions 5.2.5 and 5.2.6 contain the monitoring requirements and exceedance correction and reporting requirements specified in updated 40 CFR 63 Subpart AAAA for the measurements of the temperature and the oxygen or nitrogen concentration in each wellhead.

In order to demonstrate compliance with the operational standards specified in 40 CFR 60.753(d), which are included in Condition 3.3.2, Condition 5.2.7 requires that the facility follow the monitoring requirements specified in updated 40 CFR 63 Subpart AAAA.

Permit Condition 5.2.8 contains the instrumentation specifications and procedures specified in updated 40 CFR 63 Subpart AAAA for the surface methane monitoring.

Permit Condition 5.2.9 contains the requirements specified in updated 40 CFR 63 Subpart AAAA. The facility must implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis

New Permit Condition 5.2.10 requires the Permittee to install a continuous monitoring system that monitors temperature on the enclosed combustor portion of the evaporator and a gas flow rate measuring device on the enclosed combustor portion of the evaporator.

New Permit Condition 5.2.11 requires the Permittee to measure and record the oxygen or nitrogen concentration in each wellhead in the active collection system.

New Permit Condition 5.2.12 outlines the procedures the Permittee must follow in the event of an exceedance of the wellhead temperature standard, as specified in Condition 6.1.7b.ii.

New Permit Condition 5.2.13 outlines the procedures the Permittee must follow in the event a temperature greater than or equal to 73.9°C (165 degrees Fahrenheit) is measured.

New Permit Condition 5.2.14 outlines the procedures the Permittee must follow in the event the temperature is greater than or equal to 76.7 °C (170 degrees Fahrenheit) is measured.

VII. Other Record Keeping and Reporting Requirements

Permit Condition 6.1.7b.v. was added to include the description and duration of all periods when open flare OF3 was not operating for a period exceeding 1 hour while receiving landfill gas and the total length of time OF3 was not operating during the reporting period as an exceedance.

Permit Condition 6.1.7b.vii was added to include all 3-hour periods of operation during which the average temperature was more than 28 degrees Celsius (82 degrees Fahrenheit) below the average combustion temperature during the most recent performance test at which compliance with § 63.1959(b)(2)(iii) was determined as an exceedance.

Permit Conditions 6.2.4 and 6.2.5, 6.2.11 through 6.2.23 outline the recordkeeping requirements in accordance with 40 CFR 63 Subpart AAAA. Many conditions were modified by removing reference to 40 CFR 60 Subpart WWW since the rule is no longer applicable.

Modified Permit Condition No. 6.2.4, the Permittee is authorized to exclude any areas of deposited asbestos or other nondegradable waste from being part of a required Subpart AAAA GCCS.

Modified Permit Condition No. 6.2.5 authorizes the Permittee to exclude any nonproductive area of the landfill from being part of a required 40 CFR 63 Subpart AAAA GCCS, provided it contributes less than 1 percent of the total amount of NMOC emissions from the landfill. This is a new condition.

Modified Permit Condition 6.2.11 requires the facility to keep records of the following items for a period of 5 years: average temperature measured at least every 15 minutes and averaged over the same time period of the performance test and the percent reduction of NMOC determined as specified in § 63.1959(b)(2)(iii)(B) achieved by the control device.

If the facility plans to remove the GCCS in the future, Modified Permit Condition 6.2.12 requires that the facility follow the reporting requirements specified in 40 CFR 63.1981(g).

Modified Permit Condition 6.2.13 contains the record keeping requirements specified in 40 CFR 63.1983(b). In particular, the facility must keep, up-to-date and accessible, on-site the records of LFG control equipment as specified by 40 CFR 63.1983(b)(1) through (5) measured during the initial performance test, any subsequent test, or compliance determination.

Modified Permit Condition 6.2.14 contains the record keeping requirements specified in 40 CFR 63.1983(d). In particular, the facility must keep an up-to-date and accessible plot map showing each existing and planned collector in the system, providing a unique identification location label for each collector, and installation date and location of all newly installed collectors.

Modified Permit Condition 6.2.15 contains the record keeping requirements specified in 40 CFR 63.1983(e)(1). In particular, the facility must keep records of all collection and control system exceedances of the operational standards in 40 CFR 63.1958.

Modified Permit Condition 6.2.16 contains the record keeping requirements specified in 40 CFR 63.1983(c)(4). In particular, the facility must keep , up-to-date, readily accessible continuous records of the flame or pilot monitoring specified under 40 CFR 63.1961(c), as specified in Condition 5.2.1b, for Open Flare OF3, and up-to-date, readily accessible records of all periods of operation in which flame or pilot flame is absent.

Permit Condition 6.2.17 was removed.

New Permit Condition 6.2.18 requires the Permittee to keep records of all collection and control system exceedances of the operational standards in 40 CFR 63.1958,

New Permit Condition 6.2.19 requires the Permittee to keep records of each wellhead temperature monitoring value of 62.8 degrees Celsius (145 degrees Fahrenheit), all enhanced monitoring activities, and the email transmission of each 24-hour high temperature report.

New Permit Condition 6.2.20 requires the Permittee to keep records of the root cause analysis conducted for each root cause analysis in which corrective actions are required.

New Permit Condition 6.2.21 requires the Permittee to keep records of the root cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed following the initial reading, and for action(s) not already completed, a schedule for implementation for each root cause analysis for which corrective actions and a corrective action analysis are required.

New Permit Condition 6.2.22 requires the Permittee to keep records of the root cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed following the initial reading, and, for action(s) not already completed, a schedule for implementation, and a copy of any comments or final approval from the Division on the corrective action analysis or schedule for each root cause analysis for which corrective action(s) and a corrective action analysis are required which are expected to require more than 120 days to complete.

New Permit Condition 6.2.23 requires the Permittee to report the date, time, well identifier, temperature and carbon monoxide reading via email to the Administrator within 24 hours of any measurement of landfill gas temperature, at either the wellhead or at any point in the well, which is greater than or equal to 76.7 degrees Celsius (170 degrees Fahrenheit) and the carbon monoxide concentration measured is greater than or equal to 1,000 ppmv.

VIII. Specific Requirements

A. Operational Flexibility

None Applicable.

B. Alternative Requirements

None Applicable.

C. Insignificant Activities

None Applicable.

D. Temporary Sources

None Applicable.

E. Short-Term Activities

None Applicable.

F. Compliance Schedule/Progress Reports

None Applicable.

G. Emissions Trading

None Applicable.

H. Acid Rain Requirements/CAIR/CSPAR

None Applicable.

I. Prevention of Accidental Releases

None Applicable.

J. Stratospheric Ozone Protection Requirements

None Applicable.

K. Pollution Prevention

None Applicable.

L. Specific Conditions

None Applicable.

Addendum to Narrative

The 30-day public review started on month day, year and ended on month day, year. Comments were/were not received by the Division.