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MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
AIR QUALITY DIVISION

RENEWABLE OPERATING PERMIT REPORT CERTIFICATION

MACES_____ MAERS_____
FILE_____

Authorized by 1994 P.A. 451, as amended. Failure to provide this information may result in civil and/or criminal penalties.

Reports submitted pursuant to R 336.1213 (Rule 213), subrules (3)(c) and/or (4)(c), of Michigan's Renewable Operating Permit (ROP) program must be certified by a responsible official. Additional information regarding the reports and documentation listed below must be kept on file for at least 5 years, as specified in Rule 213(3)(b)(ii), and be made available to the Department of Environment, Great Lakes, and Energy, Air Quality Division upon request.

Source Name St Marys Cement Inc., Charlevoix Plant County Charlevoix

Source Address 16000 Bells Bay Road City Charlevoix

AQD Source ID (SRN) B1559 ROP No. MI-ROP-B1559-2014 ROP Section No. N/A

Please check the appropriate box(es):

☐ **Annual Compliance Certification (Pursuant to Rule 213(4)(c))**

Reporting period (provide inclusive dates): From _____ To _____

☐ 1. During the entire reporting period, this source was in compliance with **ALL** terms and conditions contained in the ROP, each term and condition of which is identified and included by this reference. The method(s) used to determine compliance is/are the method(s) specified in the ROP.

☐ 2. During the entire reporting period this source was in compliance with all terms and conditions contained in the ROP, each term and condition of which is identified and included by this reference, **EXCEPT** for the deviations identified on the enclosed deviation report(s). The method used to determine compliance for each term and condition is the method specified in the ROP, unless otherwise indicated and described on the enclosed deviation report(s).

☐ **Semi-Annual (or More Frequent) Report Certification (Pursuant to Rule 213(3)(c))**

Reporting period (provide inclusive dates): From _____ To _____

☐ 1. During the entire reporting period, **ALL** monitoring and associated recordkeeping requirements in the ROP were met and no deviations from these requirements or any other terms or conditions occurred.

☐ 2. During the entire reporting period, all monitoring and associated recordkeeping requirements in the ROP were met and no deviations from these requirements or any other terms or conditions occurred, **EXCEPT** for the deviations identified on the enclosed deviation report(s).

☒ **Other Report Certification**

Reporting period (provide inclusive dates): From _____ To _____

Additional monitoring reports or other applicable documents required by the ROP are attached as described:

Fuel Procurement and Monitoring Plan, May 2021

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in this report and the supporting enclosures are true, accurate and complete

Matthew Simon	Operations Manager	231.237.1343
Name of Responsible Official (print or type)	Title	Phone Number

Signature of Responsible Official — Date: 5/3/21

* Photocopy this form as needed.

EQP 5736 (Rev 04/30/2019)

Fuel Procurement and Monitoring Plan

St Marys Cement U.S. LLC
16000 Bells Bay Road
Charlevoix, Michigan 49720

May 2021

INTRODUCTION

St Marys Cement U.S. LLC (SMC) (the Facility) is located at 16000 Bells Bay Road, Charlevoix, Michigan. SMC operates under the State of Michigan Renewable Operating Permit (ROP) Number MI-ROP-B1559-YEAR, and applicable permit to installs (PTI). Changes allowing the expanded use of alternative fuels (AF) are described in PTI 140-15B, which will be incorporated into the ROP.

Historically AFs, primarily plastics and small quantities of cellulose fibers, have been used as a fuel in the calciner. Fuels under this permit are brought to an offsite facility located a short distance from the main plant. At this facility, plastics are shredded, blended, and then transported to a storage building on the main plant property. Additionally, a further quantity of plastic which is already sorted, shredded and blended by a separate supplier, is delivered directly to the storage building. Plastic from both sources are combined and loaded into a feeder system, and from there delivered to the calciner end of the kiln and are utilized as AF in the manufacture of Portland cement. SMC has also used asphalt flakes as AF in the calciner.

With the issuance of PTI 140-15B, a new alternative fuels facility will be constructed on the north side of the main plant, and the profile of AF use greatly expanded to include recyclable and non-recyclable plastics excluding PVC, cellulose fibers, asphalt flakes, biomass, wood chips, paper, cardboard, non-tire derived rubber and other fuels that meet legitimacy criteria as fuels pursuant to 40 CFR Part 241. The new AF Building will be used to store and process AF prior to its introduction into the calciner and eventually into the main kiln burner. AF requiring onsite shredding will be delivered to the new AF Building. AF may also be delivered in ready-to-use form (i.e., preprocessed/preshredded).The purpose of the Fuel Procurement and Monitoring Plan (FPMP) is to describe procedures which will be used in the management of AFs in accordance with PTI 140-15B and the following requirements:

a) A description of fuel to be burned.
b) Inspection and sorting procedures and protocol used to eliminate prohibited fuels and minimize unacceptable fuel.
c) Procedures for rejecting and/or removing unacceptable fuel.
d) Supplier qualification, processing, and inspection procedures for each supplier of source separated fuel.
e) Auditing procedures including records of fuel specification, load identification, quality control of load and fuel piles.

GENERAL CONSIDERATIONS

Fuels may be categorized into two broad groups: post-consumer AF, and post-industrial/commercial AF.

Post-industrial/commercial AFs are typically obtained directly from manufacturing operations which utilize either virgin materials or highly refined previously recycled materials. Post-industrial/commercial AF is often relatively homogenous in composition, contains less deleterious material and is very low in moisture. Examples of post-industrial/commercial AF include trimmings, stampings, cuttings, and off-spec material from manufacturing processes. Other examples are "purge" from plastic molding machines and wood scrap from any point of forestry through a manufacturing process.

Post-consumer AF is material which has already passed through consumer markets and has been collected as part of a recycling operation. Almost any material which is available as a post-industrial AF may also be obtainable as a post-consumer AF. Post-consumer AF is generally more variable in composition, may be more susceptible to consumer contamination, and may also contain more moisture. Most post-consumer AF has undergone sorting and/or processing at the collection point to remove deleterious material. Sorting is accomplished using air separation, magnetics and optical sorters, in addition to mechanical and human separation of material.

For AF requiring on-site processing in SMCs AF building, the AF processing will be as follows:

- Material will be fed to the AF shredder's infeed conveyor. The infeed conveyor is a wide flat belt conveyor which can receive bales or bulk material. The shredder will typically be used for plastic-type fuels.
- The shredder will have a nominal capacity of 15 mt/hr. The outlet of the shredder is equipped with a removable screen.
- The shredder will discharge onto the shredder discharge conveyor. The discharge conveyor is also a wide flat belt conveyor, which will be equipped with a self-cleaning cross belt magnet which will remove most metallic particles from the shredded material.
- The shredder discharge conveyor will transfer the material to a pile within the building.
- A front-end loader will be used to transfer the materials to a storage bay.

FUEL TYPES

Recyclable and Non-Recyclable Plastics Excluding PVC

Plastics #1, #2, #4, #5, #6, and #7, but excluding #3 PVC, will be obtained as AF. PVC is not commonly found in plastic streams but when it is found, it is usually visually evident and can be removed from the load. Plastics may be obtained from both post-consumer and post-industrial sources including but not limited to plastic bottle scrap, auto plastic and extrusions, plastic from materials recovery facilities (MRFs), etc.

Cellulose Fibers

Cellulose fibers includes the small amount of label material that may remain on the recyclable and non-recyclable plastics after sorting and shredding.

Asphalt Flakes

Asphalt flakes, includes asphalt shingles with aggregate material removed, in any form that contains no asbestos and has no appreciable amount of paint, stain, or other types of coatings.

Biomass

Biomass is plant material used as fuel. Examples of plant biomass products include forestry, cherry pits, crops, and trimmings or leftover material from yards or agricultural operations.

Wood Chips

Wood chips may be sourced as AF from construction and demolition, furniture industry scrap and rejects, milling, and related industries. Wood chips does not include lumber treated with metals solutions or creosote to prevent decay.

Paper and Cardboard

Paper and cardboard are often sourced in combination as a bi-material with plastic. Other sources include packaging materials, process residuals such as pulper residue from paper recycling, and off-spec intermediate or finished products.

Non-Tire Derived Rubber

Non-tire derived rubber will be sourced as AF. Potential sources of material include trimmings and rejects from shoe production, seal and gasket manufacturing, belts, hoses, matting, and flooring.

Other Fuels That Meet Legitimacy Criteria as Fuels Pursuant to 40 CFR Part 241

Other fuels not explicitly described above may be evaluated for use as AF in accordance with 40 CFR Part 241.

Initial Evaluation of Alternative Fuel Acceptable Levels

Unless alternative values are specified in the Sampling Plan Section, the below table identified the initial targets of AF for SMC.

Parameter	Acceptable Value *
Btu	>5,000 Btu/lb
Chlorine	<1.5%
Mercury	<0.121 ppm
Lead	< 600 ppm
Arsenic	< 100 ppm
Beryllium	< 20 ppm
Chromium	< 800 ppm
Cadmium	< 100 ppm
Moisture	varies

* Materials not meeting the above criteria may still be suitable for use after blending/processing.

The calciner and main burner of the kiln have been designed to combust fuels efficiently. Use of AF will have limited impact on emissions from the inline kiln/raw mill at St. Marys. The InLineKiln at SMC includes continuous emissions monitoring of CO, SO_2, NOx, THC, HCl, and mercury. The acceptable value ranges may be adjusted based on actual monitoring data. Any range adjustments will be submitted to Michigan Department of Environment, Great Lakes, and Energy (EGLE) via a revised plan.

Qualification, Processing, and Inspection Procedures for Each Supplier of Source Separated Fuel

Prior to receiving AF from a supplier, SMC will require the supplier to provide:

- A prequalification sample for SMC to perform environmental and/or quality evaluation.
- SMC Profile Form (see appendix).
- Safety Data Sheet (SDS) (if available/applicable).
- Explanation of supplier's process generating the material.
- Primary technical contact (name, address, phone number).
- The supplier verification of materials through bill of lading or shipping document.

If necessary, a representative from SMC will visit the supplier location and review the procedures. Random audits of suppliers may be implemented.

SMC will provide the supplier with a prequalification number specific to each material stream and which must be included on every supplier shipping document incoming to the plant.

MATERIAL DELIVERY

All Alternative Fuels Excluding Asphalt Flakes

A. Delivery Documentation:

Manifest or Other Documentation of Source

Supplier name, address, contact information, source, material name, unique load identification number, date of delivery, and approximate deliverable weight of the alternative fuels, and the unique prequalification number provided for the material from SMC.

B. Visual Inspection:

Each load of AF will be visually inspected to look for signs of contamination or unacceptable materials. Any load that appears to be contaminated or containing unacceptable materials will be segregated and further evaluated, which may include testing, to determine if the material can be used.

C. Supplier Statement of Quality:

Suppliers will provide Statement of Quality as follows:

Material*	Statement of Quality
Recyclable and Non-Recyclable Plastics Excluding PVC	Statement from the supplier stating the plastic is numbers 1, 2, 4, 5, 6 or 7
Biomass and Woodchips	Statement from the supplier stating the wood has not been treated with metals/creosote
Paper and Cardboard	Statement from the supplier stating that the shipment contains no hazardous waste.
Non-Tire Derived Rubber	Statement from the supplier stating that the shipment contains no tire derived rubber.
Other Fuels Meeting Legitimacy Criteria	Statement requirements to be determined on a case-by-case basis.

* A Pre-Delivery Sampling Plan and Sampling Analysis Report will not be required of the supplier upon delivery of the above materials

Material Delivery Requirements for Asphalt Flakes

A. Pre-delivery Sampling Plan

I. When the supplier creates a new batch (defined below) of asphalt flakes, a sample of the asphalt flakes shall be collected during the batch creation and labeled with the unique batch identification number. The sample shall be sent to an independent laboratory to verify the maximum levels of Chromium, Lead, Manganese, and Mercury. The maximum allowable levels are as follows:

Contaminant	Maximum Allowable Level
Chromium	1000 ppmw
Lead	1000 ppmw
Manganese	2000 ppmw
Mercury	121 ppbw

B. Delivery Documentation

I. **Statement of Quality**

Statement from the supplier stating the asphalt flakes contain no asbestos and no appreciable amount of paint, stain, or other types of coatings.

II. **Sampling Analysis Report**

Results of the approved sampling analysis with all associated analytical data from an approved laboratory. The results shall correspond to the unique batch identification number given at the time the batch was sampled.

Other Fuels That Meet Legitimacy Criteria as Fuels Pursuant to 40 CFR Part 241

Documentation that any additional proposed fuels meet the Legitimacy Criteria as Fuels Pursuant to 40 CFR Part 241 will be required. The documentation will be submitted to the AQD District Office along with a sampling plan for the fuel prior to use in the Inline Kiln.

BATCH SAMPLES

For purposes of this plan, a "batch" shall be an amount of AF not to exceed 5,000 tons. For asphalt flake material, a batch will only contain asphalt flake. For all other AF, batch sample will be defined as the blended material stockpile prior to being fed into the kiln.

Batch Sampling Plan for all AF Excluding Asphalt Flakes

I. Each batch of AF shall contain a unique batch identification number. A sufficient amount of material shall be collected to provide three (3) samples, from the processed material stockpile, prior to entry into the kiln feeding system, and labeled with the unique batch identification number. If required by the AQD District Supervisor, a sample shall be sent to an independent laboratory to verify the maximum allowable level of Chlorine is no more than 15,000 ppmw. The material shall be maintained by the facility until the end of the calendar year.

II. A record of all batches received including any sampling analysis report with any associated analytical data from the independent laboratory, shall be kept on file and made available to the AQD upon request.

Batch Sampling Plan For Asphalt Flakes:

I. Each batch of asphalt flakes shall contain a unique batch identification number. A sufficient amount of material shall be collected to provide three (3) samples, from the material stockpile, prior to mixing with other AFs in on-site storage, and labeled with the unique batch identification number. If required by the AQD District Supervisor, the sample shall be sent to an independent laboratory to verify the maximum allowable levels of Chromium, Lead, Manganese, and Mercury, as described in II.A.1 of this sampling plan. The remaining material shall be maintained by the facility until the end of the calendar year.

II. A record of all batches received including the sampling analysis report with any associated analytical data from the independent laboratory, shall be kept on file and made available to the AQD upon request.

ONGOING EVALUATION OF ALTERNATIVE FUELS

Once a source of AF has been established and been deemed acceptable, the source will be re-evaluated if any the following occurs:

- A known process change at the generating facility.
- A problem with the chemical analytical results of the overall AF stream.
- A visual change in the characteristics of the source material.
- Periodic random spot-checking of material streams.

Auditing Procedures Including Records of Fuel Specification, Load Identification, Quality Control of Load and Fuel Piles

SMC will maintain copies of fuel specifications, load identification, and laboratory analysis. Environmental personnel, production personnel or a designee will conduct periodic inspections of the records to ensure they are accurate and complete. SMC's continuous emissions monitors may be used to evaluate emissions from alternative fuels to determine whether further evaluation is needed.

Each load of AF will be visually inspected to look for signs of contamination or unacceptable materials. Any load that appears to be contaminated or containing unacceptable materials will be segregated and further evaluated, which may include testing, to determine if the material can be used.

MANAGEMENT OF UNACCEPTABLE FUELS

If an AF material is found unacceptable in the prequalification process, then that material will be rejected and not be accepted for AF use by SMC. Rejected materials may be reevaluated at a later time if the supplier is able to correct the problem which caused the material to initially be rejected.

If the material passes the prequalification process but is found unacceptable on or after arrival at SMC, then the material will be rejected for use. Unacceptable materials will be visually assessed and segregated from other fuels to the extent possible. Unacceptable fuels will be returned to the supplier. A contractual review will be conducted with the supplier of an unacceptable fuel in order to determine whether a resolution with the fuel supplier can be achieved. If the situation with supplier cannot be resolved, then the fuel supply contract may be terminated.