TULSA CEMENT LLC
TULSA, OKLAHOMA

PERMIT ATTACHMENT 1
WASTE ANALYSIS PLAN

NOTE: ALL THE PAGES FOR THE ATTACHMENTS ARE TAKEN FROM THE PERMIT APPLICATION AND PAGE NUMBERS MAY NOT BE IN SEQUENCE.

SECTION C - WASTE ANALYSIS PLAN

TABLE OF CONTENTS

TABLES:

ATTACHMENTS:

SECTION C - WASTE ANALYSIS PLAN

1.0 WASTE ANALYSIS PLAN PURPOSE AND SCOPE

The purpose and scope of the Waste Analysis Plan (WAP) is to describe the procedures, sampling and analysis requirements, and rationale that will be followed at the CPCC plant to ensure adequate information is available to identify and manage Resource Conservation and Recovery Act (RCRA) hazardous waste safely. This WAP has been prepared in accordance with the requirements of 40 Code of Federal Regulations (CFR) 264.13. It provides a description of the process streams and addresses the sampling and analysis associated with those waste activities related to FQW, cement kiln dust (CKD), and refractory brick recycling or disposal.

2.0 INTRODUCTION

Tulsa Cement LLC owns and operates a Portland cement plant in Tulsa, Oklahoma, under the name of Central Plains Cement Company (CPCC). Systech Environmental Corporation (Systech) owns and operates a waste management facility co-located on the CPCC site for the receiving, blending, storage, and transfer of fuel quality waste (FQW) to the cement kilns. Together, the FQW blending facility and the cement plant are operated as a resource recovery site. The cement plant manufactures Portland cement from raw limestone, sand, and shale, as well as various raw material substitutes in two dry-process rotary kilns. The kilns may obtain up to 100% of the thermal energy required in the cement manufacturing process through the combustion of FQW. The FQW replaces traditional fossil fuels such as coal, coke, and natural gas, that are used for energy recovery to provide the heat necessary for the kilns to process the raw materials. The management of FQW at CPCC is regulated under the RCRA and the Oklahoma Hazardous Waste Regulations, Oklahoma Administrative Code (OAC 252 et. al.). The combustion of the FQW in the cement kilns is regulated by the United States Environmental Protection Agency (USEPA), 40 CFR Part 63, Subpart EEE, Hazardous Waste Combustor - Maximum Achievable Control Technology (MACT) regulations.

3.0 DESCRIPTION OF PROCESS STREAMS

The feed streams associated with cement manufacturing include FQW, nonhazardous fuels, raw materials, raw material substitutes, and recycled CKD. These feed streams produce the clinker product and CKD (which may be recycled, handled as a product, or placed in a landfill as a waste). Air emissions associated with the burning of fuels and production of cement are regulated under 40 CFR60 Subpart F, 40 CFR 61 Subpart FF, and 40 CFR 63 Subparts EEE and LLL. Consequently, only the FQW, CKD removed from the process, and spent refractory brick processes are described in this section.

3.1 Fuel Quality Waste Description

FQW at the CPCC plant is considered to be “pumpable.” FQW is received exclusively from the Systech Environmental Corporation, which is co-located at the facility and covered under OK permit OKR000025452. The fuel is stored in two large storage tanks owned and operated by Systech. The FQW tanks allow for blending and transfer of FQW to maintain a relatively consistent FQW feed quality to the kilns.

Liquid FQW is essentially a mixture of waste solvents from various industries such as paints, inks, plastic received from various industries and is essentially a mixture of waste solvents such as paints and paint thinners, acetone, inks, etc. Also, FQW is comprised of various petroleum materials and oils, including used oil, etc. Small amounts of dissolved fine solid particles from the processes generating the wastes may be in these various fuel materials.

Typical organic substances that may be present at some level from time to time in the FQW include alcohols, glycols, glycol ethers ,ethers, aldehydes, polyols, ketones, esters, hydrocarbon degreasers, petroleum oils and derivatives, vegetable oils and derivatives, chlorinated organic liquids, and polymers/copolymers/oligomers/resin fragments including epoxies, phenolics, polyesters, acrylics, urethanes, vinyl, polyethylene, polypropylenes, and styrene.

Tables C-1 and C-2 present the typical organic and non-organic constituent composition of FQW.

TABLE C-1 TYPICAL FQW ANALYSIS (ORGANIC CONSTITUENTS)[1]

COMPOUND	CAS NUMBER	AVERAGE WT%
ETHYL ALCOHOL	64175	1.12
METHYL ALCOHOL	67561	0.77
ISOPROPYL ALCOHOL	67630	1.85
ACETONE	67641	1.73
N-BUTYL ALCOHOL	71363	0.19
BENZENE (RESULTS FROM FREDONIA)	71432	0.06
BUTYLAMINE, TERT-	75649	0.89
BUTANOL, TERT-	75650	0.08
ISOBUTYL ALCOHOL	78831	0.33
METHYL ETHYL KETONE	78933	0.72
METHYLACETAMIDE, N-	79163	0.32
ETHYL BENZENE	100414	0.70
STYRENE	100425	0.16
VINYL ACETATE (*RMP*)	108054	0.32
ETHYLHEXYL ALCOHOL, 2-	104767	0.29
METHYL ISOBUTYL KETONE	108101	0.13
ISOPROPYL ACETATE	108214	0.36
TOLUENE	108883	1.23
PHENOL	108952	0.97
DIETHYLAMINE	109897	0.24
TETRAHYDROFURAN	109999	0.34
METHYL N-AMYL KETONE	110430	0.19
HEXANES	110543	0.60
CYCLOHEXANE	110827	0.39
GLYCOL ETHERS (SEE BELOW FOR INDIVIDUAL)	111900	1.07
N-BUTYL ACETATE	123864	0.43
DIOXANE	123911	0.38
ETHYL ACETATE	141786	0.39
ISOOCTANE	540841	0.09

COMPOUND	CAS NUMBER	AVERAGE WT%
BUTYLMETHYL ETHER, TERT-	1634044	0.16
DIISOPROPYL KETONE	565800	0.63
METHYL N-BUTYL KETONE (2-HEXANONE)	591786	0.19
XYLENES (MIXED ISOMERS)	1330207	1.67
PROPYLENE GLYCOL ETHYL ETHER	1569024	0.14
BUTYL ACRYLATE, TERT- POLYMERIZE ON HEAT)	1663394	0.14
DIETHYLENE GLYCOL PROPYL ETHER	6881943	0.85
ALIPHATICS (LOW BOILING AND HEPTANES)	N/A	0.37
ALKYL BENZENES (MID/HIGH BOILERS, UNDECANE)	N/A	19.14
WATER	7732185	21.73
SOLIDS	N/A	23.83
DIETHYLENE GLYCOL ETHYL ETHER	111900	0.72
TRIETHYLENE GLYCOL DIMETHYL ETHER	112492	0.39

[1]Organic data compiled from 2019 TRI report

TABLE C-2 TYPICAL FQW ANALYSIS (NON-ORGANIC CONSTITUENTS)[1]

PARAMETER	HWF
CHLORINE (%)[2]	0.5
ARSENIC (ppm)	10
BERYLLIUM (ppm)	1
CADMIUM (ppm)	1.6
CHROMIUM (ppm)	53.8
LEAD (ppm)	20.4
MERCURY (ppm)	0.7

[1]Non-organic data compiled from 2019 TRI report.
[2]Chlorine % value compiled from 2019 MACT data.

All FQW fired in the industrial furnace comes from only one source, the on-site Systech fuel processing operations. The single supplier, Systech, has prepared a Fuel Qualification Form for the FQW received by CPCC from the on-site Systech operations. The qualification form is updated as necessary if CPCC is notified or has reason to believe the FQW has changed. Each transfer from the Systech tanks to the industrial furnace is reviewed by Systech to determine that the FQW meets the transfer requirements as defined in the Feedstream Analysis Plan (FAP) developed in compliance with the Hazardous Waste Combustor MACT (40 CFR 63 Subpart EEE) for CPCC. Systech determines the heat content by mathematically calculating the results of test methods based on ASTM D240 and/or ASTM D5468 of each transfer. Systech uses this result as a fingerprint test to ensure that the waste is as expected and is reviewed by Systech to ensure that the FQW meets the minimum energy recovery requirements of the industrial furnace.

3.2 Cement Kiln Dust and Refractory Brick

Process by-products consist of particulate matter removed from the stack emissions and used refractory brick. The particulate matter is commonly referred to as cement kiln dust (CKD). The CKD is captured by the air pollution control devices dedicated to each kiln and collected in hoppers below each unit.

CKD will be sampled and analyzed to demonstrate compliance with 40 CFR 266.112(b), exemption from the definition of a solid waste.

Used refractory brick is generated periodically by the removal of this material from the kilns during maintenance. Used refractory brick is not a listed hazardous waste but could be a characteristically hazardous waste due to containing chromium and/or other hazardous constituents above the characteristic regulatory levels. The used refractory brick is tested by a subcontracted laboratory to confirm the absence of characteristically hazardous concentrations of constituents of concern prior to reuse or disposal. Any used refractory brick determined to have characteristically hazardous concentrations of constituents of concern will be managed as a hazardous waste or managed as a Hazardous Secondary Material (HSM) as described in Section 7.0.

4.0 PURPOSE OF SAMPLING AND ANALYSIS

4.1 Residue Classification and Refractory Brick Status Determination

Under 40 CFR 266.112(b), it is necessary to demonstrate that burning hazardous waste in a cement kiln does not affect process residues. Sampling and analyses are performed to demonstrate that the residue does not contain toxic compounds at levels above specified health-based limits that could reasonably be attributable to burning or processing hazardous waste. This sampling and analysis is referred to as the Bevill exclusion test.

CKD will retain the Bevill exemption as long as it can be demonstrated that the character of the residue is not affected by the burning of hazardous waste. For the purposes of waste classification, CPCC has established a plan for determining whether CKD retains the exemption or must be managed as a hazardous waste, using the F039 list for organics and the Toxic Characteristic Leaching Procedure (TCLP) list for metals. This plan is provided as Attachment C-2 of the Waste Analysis Plan.

CPCC will also sample the used refractory brick for metals to determine its status as a characteristic waste. After analysis, CPCC will handle the material according to its designation (see Section 5.2).

5.0 SAMPLING PROCEDURES AND FREQUENCIES

40 CFR 266.102(b)(2) requires owners and operators to conduct sampling and analysis as necessary to ensure that the hazardous waste, other fuels, and industrial furnace feedstocks fired into the industrial furnace are within the physical and composition limits specified in the permit. The Feedstream Analysis Plan (FAP) required by the HWC MACT, details the sampling and analysis of the feed streams to assure compliance with the limitation specified in the permit.

This section explains the sampling procedures that CPCC employs when sampling CKD and refractory brick. To collect a sample that is representative of the process stream, the sample must be collected and handled by means that will preserve its original physical form and composition, as well as prevent contamination or changes in concentration of the parameters to be analyzed. Table C-3 provides a list of sampling methods and sampling frequency to be used for each stream.

TABLE C-3 SAMPLING METHODS

FEED STREAM	SAMPLING SITE	FREQUENCY	METHOD	TYPE	CONTAINER[1]	FIELD DUPLICATE FREQUENCY
CKD	CKD screw	Daily sample	S-004	Grab	P,G	1 per 10 samples

Used Kiln Brick	Brick pile	Each batch	"whole" brick	Composite	P	1 per 10 samples

[1] Plastic (P) or Glass (G)

5.1 Cement Kiln Dust

CKD samples will be collected as close to the air pollution control device as possible in order to minimize the possibility of contamination due to ambient conditions. The sampling point for each unit will be at the screw conveyor prior to the pneumatic pump.

CPCC samples the CKD (composited from both kilns) on a daily basis when CKD is being removed from the system (either as product or waste). The samples are analyzed at the sampling interval specified in the CKD Sampling and Analysis plan, Attachment C-2.

If the TCLP analysis confirms that any constituent is present in the CKD at levels which exceed the regulatory limits given at 40 CFR 266, Appendix VII, the CKD will be sent to a Subtitle C landfill.

Sampling and analysis frequency for F039 organics and dioxin/furans in the CKD will be conducted at least once per year. During the 1995 and 2003 Trial Burns conducted at the Lafarge plant in Fredonia, Kansas, Lafarge conducted sampling and analysis of CKD for F039 listed organics during minimum combustion zone temperatures. Under these conditions, 100% fuel substitution with FQW was practiced, and principle organic hazardous constituents (POHCs) selected on the basis of maximum thermal stability were being spiked in the waste fuel feed stream. These kiln conditions favor incomplete combustion and are most likely to result in contamination of the CKD by toxic organics; however, all of the CKD samples indicated concentrations below the F039 limits specified for non-wastewater Land Disposal Restrictions (40 CFR 268.40).

5.2 Used Refractory Brick

CPCC has established the following procedures for sampling used refractory brick:

- Used brick will be placed inside a building to provide rainwater runoff protection.
- One sample will be taken from each quadrant of the pile.
- The samples will be crushed and mixed to form a single composite sample to represent the entire pile.
- The sample will be analyzed at an off-site laboratory, for TCLP metals.
- If the sample exceeds the regulatory level for any TCLP metal, it will be considered hazardous.
- If the brick is hazardous, it will be sent off-site for proper treatment or disposal within 90 days of determination that it is a regulated hazardous waste or it may be recycled as a Hazardous Secondary Material to use as a substitute for raw materials needed for the manufacture of cement.
- If the brick is non-hazardous, it will be reused as a raw material ingredient in the manufacture of cement.
- Non-hazardous used brick will be recycled within one year.

6.0 SAMPLE ANALYSIS

The samples described in Section C.5 will be prepared and analyzed according to the methods described below:

CPCC will subcontract a qualified laboratory to perform the total metal analysis on the refractory brick. All CKD-related analyses are performed following Methods 6020A, 7470A, 8260B, 8082, 8270C,

8082S, 8260S, 8270S, or 8290, as appropriate from Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846. Table C-4 describes the methods of preparation and analysis for each parameter, as well as a description of the reason for the analysis.

TABLE C-4 ANALYTICAL PARAMETERS, METHODS, AND RATIONALE

PARAMETER	PREPARATION[1]	ANALYSIS	REASON FOR ANALYSIS
Volatile Organics	SW-846	Method 8260	CKD Exemption Determination
Semi-volatiles		Method 8270	CKD Exemption Determination
Pesticides & PCB's		Method 8081, 8082	CKD Exemption Determination
Misc. VOC's & Herbicides		Methods 8015 & 8151	CKD Exemption Determination
TCLP Metals		Methods 1311, 6010 and 7000-series (as needed)	CKD Exemption Determination
Dioxins/Furans		Method 8280	CKD Exemption Determination
F039 Organics			CKD Exemption Determination
TCLP Metals	SW-846	Method 1311	Refractory Brick Hazard Classification

[1] One or more of the methods are used in a modified, amended, revised, or updated form in accordance with the following quotations from the Federal Register, February 8, 1990, pages 4440-4445, EPA Proposed Rules - Preamble to SW-846 3rd edition.

- "This notice, or the subsequent final rule, should not be constructed to require the use of SW-846, Third Edition methods except where specifically prescribed by regulation."
- "Except for those situations where the RCRA regulations specify use of a particular method, it is appropriate for the chemist to use judgement, tempered by experience, in selecting an appropriate set of methods from SW-846 or the scientific literature for preparing and analyzing a given sample."
- "Implicit in the preceding argument is the fact that SW-846 was designed largely for use in showing that a waste does not contain certain hazardous constituents or characteristics. In that regard, many SW-846 sample preparation methods are designed around trace analysis rather than the percent level determinations often required for concentrated wastes. These methods, however, might be suitable for percent level determination analysis when appropriately modified by the analyst."

7.0 HAZARDOUS SECONDARY MATERIALS

Used refractory brick that is hazardous may be recycled as a Hazardous Secondary Material (HSM) in the cement kilns as a substitute for raw materials used in producing cement. Pursuant to 40 CFR 261.4(a)(23) Hazardous secondary material generated and legitimately reclaimed within the United States or its territories and under the control of the generator, provided that the material complies with paragraphs (a)(23)(i)(A) of this section is exempt from the definition of a solid waste. The HSM (used refractory brick) is generated and reclaimed at the generating facility, CPCC. HSM must be managed in accordance with the following requirements of 40 CFR 261.4(a)(23)(ii):

(A) The hazardous secondary material is contained as defined in § 260.10 of this chapter. A hazardous secondary material released to the environment is discarded and a solid waste unless it is immediately recovered for the purpose of reclamation. Hazardous secondary material managed in a unit with leaks or other continuing or intermittent unpermitted releases is discarded and a solid waste.

CPCC manages hazardous used refractory brick by placing it inside a building to provide rainwater runoff protection.

(B) The hazardous secondary material is not speculatively accumulated, as defined in § 261.1(c)(8).

CPCC routinely recycles used refractory brick on a consistent frequency until the material is consumed and is therefore not speculatively accumulated.

(C) Notice is provided as required by § 260.42 of this chapter.

Notification of HSM recycling is provided in Section A of the hazardous waste permit application.

(D) The material is not otherwise subject to material-specific management conditions under paragraph (a) of this section when reclaimed, and it is not a spent lead-acid battery (see §§ 266.80 and 273.2 of this chapter).

The HSM used refractory brick is not subject to material-specific management conditions and is not a spent lead-acid battery

(E) Persons performing the recycling of hazardous secondary materials under this exclusion must maintain documentation of their legitimacy determination on-site. Documentation must be a written description of how the recycling meets all three factors in § 260.43(a) and how the factor in § 260.43(b) was considered. Documentation must be maintained for three years after the recycling operation has ceased.

A copy of the legitimacy determination is included in Attachment C-3.

(F) The emergency preparedness and response requirements found in subpart M of this part are met.

Attachment C-4 to this plan is a checklist for demonstrating compliance with the emergency preparedness and response requirements found in 40 CFR 264, Subpart M. The checklist provides the locations in Sections F and G of this application where the information listed in 40 CFR 264, Subpart M is found.

ATTACHMENT C-1 CKD SAMPLING AND ANALYSIS PLAN

CPCC CEMENT KILN DUST SAMPLING AND ANALYSIS PLAN

Revision 3

March 2022

1.0 INTRODUCTION

This document defines the sampling and analysis protocol to be followed to ensure quality data for the characterization of cement kiln dust (CKD) generated by CPCC. CKD sampling and analyses will be performed to meet the requirements regarding regulation of residues as outlined in 40 CFR 266.112. All sampling and analysis will be performed in accordance with procedures specified in the most current version of EPA's Test Methods for Evaluating Solid Waste: Physical/Chemical Methods Compendium, SW-846.

CPCC may modify this document to accommodate changes in regulations or to provide new or additional information.

2.0 ORGANIZATIONAL RESPONSIBILITY

CPCC will have overall responsibility for implementing the sampling activities discussed in this document. These activities include providing and training sampling personnel, scheduling sample collection events, periodically reviewing field sampling procedures to ensure that they are being conducted properly and adhering to appropriate health and safety requirements. The Environmental Manager will serve as the primary point of contact and control concerning sampling activities at the plant.

CPCC is responsible for providing sufficient quantities of CKD to the laboratory for use as field/trip blanks. CPCC may delegate any or all of these sampling activities at its discretion.

The commercial laboratory selected by CPCC will have overall responsibility for implementing the analytical activities discussed in this document. These activities include training analytical personnel in the requirements of CKD sample preparation and analysis, ensuring that all analyses are conducted in a timely fashion according to specified SW-846 protocols and adhering to any special analytical techniques and QA/QC procedures (e.g., CKD trip blank) required by the nature of the CKD matrix. The laboratory will have experience in preparing and analyzing CKD matrices. The laboratory Client Services Coordinator or his/her designee will serve as the primary point of contact and control concerning analytical activities at the laboratory.

The laboratory may not subcontract any analytical work without the prior express written consent of CPCC. If work is subcontracted, the original laboratory will be responsible for overseeing subcontractor operations.

The laboratory is responsible for supplying and preparing sampling kits as specified in Section 4.3 and sample containers as specified in Section 4.4, and then shipping them to CPCC as needed. Preparation includes any necessary equipment pre-cleaning that must be performed to meet specified protocols.

3.0 DATA QUALITY OBJECTIVES

Data quality objectives (DQOs) are guidelines for certain characteristics of data that indicate the usefulness or reliability of the data. The DQOs for the CPCC CKD sampling and analysis episodes are specified in terms of accuracy, precision, comparability, completeness, representativeness, and practical quantitation limits (PQLs). The procedures prescribed in this document are intended to ensure that the specified DQOs for CPCC CKD sampling and analysis are achieved and valid data are obtained.

In any instance where a DQO is not achieved during a sampling and analysis episode, the CPCC Environmental Manager will be notified at once. The Environmental Manager is responsible for ensuring that any necessary corrective action is taken as soon as practicable after notification.

3.1 Accuracy

Accuracy is a measure of how closely a measured value agrees with the true value of a parameter. Accuracy will be evaluated using matrix spike and surrogate recoveries to determine the extent of matrix interference, and field/trip/lab blank analysis to determine the extent of any sample contamination.

The DQO for matrix spike and surrogate recoveries is the recovery range specified in each applicable method in SW-846 or the acceptable recovery range specified by a laboratory performing the analysis.

Bias determined from the matrix spike recovery information will be used to correct measured analyte values when the average recovery is less than the minimum acceptable recovery range specified; bias corrections using the average recovery will be performed as specified in SW-846. No bias correction will be performed when the method used self-corrects for bias (e.g., isotope dilution), or when the matrix spike recovery is greater than or equal to the minimum of the acceptable recovery range specified in SW-846. The DQO for field/trip/lab blanks is an analyte concentration below the sample detection limit for all analytes of concern. If analytes are detected in blanks, corresponding sample concentrations for those analytes will be evaluated to determine if the sample concentrations are attributable to contamination according to criteria specified in SW-846. Affected samples will be noted.

3.2 Precision

Precision is a measure of the agreement among individual measurements of the same parameter performed under similar conditions. It indicates the extent of inherent variability in sampling and analysis procedures. Analytical precision will be evaluated using matrix spike/matrix spike duplicate (MS/MSD) pairs.

The DQO for relative percent difference (RPD) between results of duplicate pair analyses for target organic analytes is 50% or less; for target inorganic analytes, the DQO for RPD is 30% or less. If a DQO for precision is not met, the impact on data quality will be evaluated. Where indicated, the more conservative of the matrix spike duplicate pair analyses, i.e., the one leading to higher analyte sample concentrations, will be used in lieu of the average recovery for any data reduction. In some instances, re-analysis may be warranted.

3.3 Comparability

Comparability is a measure of the degree of confidence with which one data set can be compared to another. The DQO for comparability will be ensured by using the same sampling and analysis procedures for each sampling episode. Analytical data will be reported in the same manner and using the same units for each test for all samples of the same fraction.

3.4 Completeness

Completeness is a measure of the amount of valid data that is collected from a sampling and analysis episode compared to the amount of data that was desired to be produced. Completeness may not always be achieved due to mishaps in sampling and sample shipping, analytical difficulties, etc.

The DQO for completeness for each sampling episode is 100%. If completeness for any sampling and analysis episode is less than 100%, the circumstances must be documented, and the impact on data quality must be evaluated. Supplemental sampling and analysis may be required if deemed appropriate.

3.5 Representativeness

Representativeness is a measure of the degree to which the analytical results represent the population from which the sample was obtained. The DQO for representativeness will be ensured by following standard sampling and analysis techniques prescribed in SW-846 and in this document.

3.6 Practical Quantitation Limits (PQLs)

The PQLs for target metal analytes using the standard SW-846 methods specified in Section 5.2 of this Attachment will be less than or equal to the TCLP Extract Concentration Limits for those metals, as specified in 40 CFR Part 266, Appendix VII.

The PQLs for target organic analytes using the standard SW-846 methods specified in Section 5.2 of this Attachment will be less than or equal to the PQLs as listed in the methods for this type of matrix. In cases where the method specified PQL is not attainable due to sample matrix interferences, any data generated in those instances will be flagged accordingly.

4.0 SAMPLING PROCEDURES

The sampling procedures outlined below assume that the full set of sample fractions will be collected during the same sampling and analysis episode. If less than the full set of sample fractions for various different analyses is collected during a sampling episode, the procedures will be modified accordingly to accommodate only the specific sample fractions necessary for each particular sampling episode.

The prescribed sampling procedures may also require modification based on plant- specific circumstances. The CPCC Environmental Manager must give prior approval before any modifications to sampling procedures can be implemented.

All personnel involved in any aspect of sampling will be adequately trained to perform their specific duties. In addition, they will be familiar with and abide by all relevant health and safety requirements, including the proper use of any necessary personal protective equipment (PPE).

4.1 General Precautions

CKD is a powerful adsorbent. It may adsorb volatile organic compounds (VOCs) that are present in surrounding air to the extent that VOCs are detected when CKD samples are analyzed, producing a "false positive" result. Since VOCs can be generated in various ways (from vehicles, machinery, paints, solvents, adhesives, etc.) and can occur virtually anywhere, utmost caution will be observed when collecting VOC fractions of CKD samples. Empty or filled VOC sample containers will not be stored near waste-derived fuel-burning operations, vehicle exhausts, or painting, spraying, waxing, or other chemical operations, etc., to the extent practicable. Samples will not be collected if conditions persist around the sampling location that are conducive to the presence of VOCs (e.g., presence of gasoline engines, etc.). The Environmental Manager or designee will be responsible to ensure that conditions around the sampling location are conducive to collecting a sample.

4.2 Sample Fractions

Four sample fractions will be retrieved from one grab sample collected at each sampling location at the CPCC plant in the following order:

1. VOCs;
2. Semivolatiles, including Pesticides and PCBs;
3. Polychlorinated dibenzo-p-dioxins/dibenzofurans (Dioxins/Furans) (this fraction may be discontinued following the initial sampling episode for Dioxins/Furans at each site after analytical results are evaluated); and
4. Metals.

4.3 Sampling Conditions

CKD will be sampled only during normal waste-burning operations. The sampled CKD will be representative of CKD generated during steady-state operating conditions. Sampling personnel will confirm steady-state operation with the current Shift Kiln Burner Operator.

4.4 Sampling Locations

According to 40 CFR 266.112(b), to demonstrate that burning hazardous waste in a cement kiln does not affect waste-derived residue, i.e., CKD, the residue must not contain toxic compounds (above specified health-based limits) that could reasonably be attributable to burning or processing the hazardous waste. Therefore, samples collected during each sampling episode at the plant will represent recently generated CKD to minimize any environmental contamination that is not attributable to burning or processing hazardous waste. As such, CKD samples will be taken as close to the Air Pollution Control Device (APCD) waste dust outlets as practicable. The sampling point is at the screw conveyor prior to the pneumatic pump.

4.5 Sampling Frequency

Metals. CPCC will sample for TCLP metals in the CKD at a frequency to be determined through the evaluation of historical results. A sampling interval adequate to provide a 95% confidence level that the limits will not be exceeded will be statistically derived, and these calculations, as well as the proposed sampling interval, will be submitted to the Agency before the current sampling interval is modified. A minimum sampling frequency of once per quarter will be maintained.

Non-Metals: CKD is sampled for non-metal constituents during the worst-case operating conditions (minimum combustion chamber temperature maximum hazardous waste feed rate) during the Compliance Performance Test. If none of the technology-based Land Disposal Restriction limits for waste code F039 non-wastewaters re exceeded in these sample, CPCC will sample for non-mental in the CKD at least annually.

5.0 ANALYTICAL PROCEDURES

5.1 General Precautions

CKD is a powerful adsorbent. It may adsorb volatile organic compounds (VOCs) that are present in surrounding air to the extent that VOCs are detected when CKD samples are analyzed, producing a "false positive" result. Since VOCs can be generated in various ways (from vehicles, machinery, paints, solvents, adhesives, etc.) and can occur virtually anywhere, utmost caution will be observed when preparing or analyzing VOC fractions of CKD samples. VOC sample containers will not be stored near vehicle exhausts, or near painting, spraying, waxing, or other chemical operations, etc., to the extent practicable.

5.2 Analytical Methods

The samples from each sampling location will be analyzed for VOCs using SW-846 Method 8260, for Semi volatiles using Method 8270, Pesticides and PCBs using Method 8081, Dioxins/Furans using Method 8280, for TCLP Metals using Methods 1311, 6010, and 7000-series methods (as needed), and for miscellaneous VOCs and Herbicides using Methods 8015 and 8151, respectively. This method list may be condensed, expanded, or otherwise substituted by the laboratory as long as the methods selected adequately analyze all target analytes. All applicable laboratory calibration, quality assurance/quality control (QA/QC), and auditing procedures will be followed.

5.3 Target Analyte List

The regulations at 40 CFR 266.112(b) allow the owner or operator of a cement kiln to choose either of two criteria to demonstrate that the burning of FQW does not significantly affect the resulting CKD. CPCC has chosen to comply with the criteria contained in 40 CFR 266.112(b)(2), which compares the concentration of nonmetal and metal constituents of concern in the waste-derived CKD with health- based limits. As described below, CPCC may use the criteria contained in 40 CFR 266.112(b)(1) as a secondary criterion to confirm results prior to making a final determination. The specific requirements used for the primary method described in 40 CFR 266.112(b)(2) are:

- The concentration of nonmetal constituents of concern (i.e., toxic constituents from Appendix VIII, 40 CFR 261 that could be reasonably attributed to the hazardous waste and the Products of Incomplete Combustion listed in 40 CFR 266 Appendix VII) in the hazardous waste-derived CKD generally must not exceed the limits specified in 40 CFR 268.40 for waste code F039 (non-waste waters), "Treatment Standards for Hazardous Wastes". Constituents of concern not in the F039 list do not have specified concentrations. There are special considerations for problems with limits of detection that exceed the concentrations specified in the F039 list as explained at § 266.112(b)(2).

  Table 1 in Appendix A contains the list and comparison limits of nonmetal constituents of concern that are used to determine compliance with 40 CFR 266.112(b). This list has been developed from the following lists:

  - The Products of Incomplete Combustion (PICs), which are listed in 40 CFR, Part 266, Appendix VIII;
  - The toxic constituents from 40 CFR Part 261 Appendix VIII, that reasonably could be attributed to the Waste Derived Fuel (WDF) (reasonably expected analytes, or REAs); and
  - The chemicals that have specified non-wastewater limits as listed in the F039 entry in 40 CFR 268.40.

  The determination of which REAs to include on the list is based on the list of waste codes which the facility is approved to receive that are included within the 40 CFR 261 Appendix VIII. If a REA or a PIC is listed in the non-wastewater limits in the F039 entry at 40 CFR 268.40, then it was included in the list in Table 1. This list is not expected to be modified since it represents significantly more compounds than have been identified in the many years of WDF quarterly sampling at other similar facilities. The lack of presence of these compounds from the CKD residues demonstrates the effectiveness of the high destruction removal efficiency and the inherent capabilities of the pyro processing system.
- Table 2 of Appendix A contains the list and comparison limits of metal constituents of concern that are used to determine compliance with 40 CFR 266.112(b). This list includes the twelve BIF residue metals (i.e., antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, nickel, selenium, silver and thallium) contained in Appendix VII, 40 CFR 266.

- The CKD will be sampled and analyzed as often as necessary to determine whether the CKD generated during each 24-hour period has concentrations of constituents of concern in excess of those referenced in the two preceding paragraphs.

The target analyte list was developed by compiling all 40 CFR Part 261, Appendix VIII Hazardous Constituents that could reasonably be attributed to the hazardous waste code included in the Part A and all 40 CFR Part 266, Appendix VII Nonmetal Residue Concentration Limits, and then reducing that compilation to include only those constituents that can be analyzed by SW-846 methods according to 40 CFR Part 264, Appendix IX. The laboratory will analyze all listed target analytes that the laboratory is capable of analyzing; the laboratory will provide CPCC with an exact list of any compounds on the target analyte list that it is not capable of analyzing. Matrix and analytical spikes will be performed using representative target analytes.

5.4 SW-846 Method Modification

In instances where SW-846 methods require modification for analysis of CKD samples with analyte detection limits at or below analyte health-based limits, the laboratory will verify that the modification is valid, and will document the procedures and data used to make the validity determination. No method modification can be made without the prior express written consent of CPCC.

APPENDIX A
TARGET ANALYTE LISTS

TABLE 1 NON-METALS TARGET ANALYTE LIST

COMMON NAME	CHEMICAL ABSTRACTS NO.	CONC. MG/KG
p-Nitroaniline	100-01-6	28
p-Nitrophenol	100-02-7	29
cis-1,3-Dichloropropene (as part of 1,3-Dichloropropene)	10061-01-5	18
trans-1,3-Dichloropropene (as part of 1,3-Dichloropropene)	10061-02-6	18
N-Nitrosopiperidine	100-75-4	35
4,4'-Methylenebis(2-chloroaniline)	101-14-4	30
4-Bromophenyl phenyl ether	101-55-3	15
Heptachlor epoxide	1024-57-3	0.066
2,4-Dimethylphenol	105-67-9	14
p-Cresol (as part of Cresols or Cresylic Acid)	106-44-5	5.6
p-Dichlorobenzene	106-46-7	6
p-Chloroaniline	106-47-8	16
Ethylene dibromide	106-93-4	15
3-Chloropropene (Allyl chloride)	107-05-1	30
Ethylene dichloride	107-06-2	6
Acrylonitrile	107-13-1	84
Methyl isobutyl ketone	108–10–1	33
m-Cresol (as part of Cresols or Cresylic Acid)	108-39-4	5.6
Toluene	108-88-3	10
Chlorobenzene	108-90-7	6
Phenol	108-95-2	6.2
Pyridine	110-86-1	16
Dichloroethyl ether [Bis(2-chloroethyl) ether]	111-44-4	6
Dichloromethoxy ethane [Bis(chloromethylether)]	111-91-1	7.2
Diethylhexyl phthalate [Bis(2-ethylhexyl) phthalate]	117-81-7	28
Di-n-octyl phthalate	117–84–0	28
Hexachlorobenzene	118-74-1	10
Isosafrole	120-58-1	2.6
2,4-Dichlorophenol	120-83-2	14
2,4-Dinitrotoluene	121-14-2	140
1,4-Diethyleneoxide	123-91-1	170
Methacrylonitrile	126-98-7	84

COMMON NAME	CHEMICAL ABSTRACTS NO.	CONC. MG/KG
Tetrachloroethylene	127-18-4	6
Dimethyl phthalate	131-11-3	28
Xylene	1330–20–7	30
Polychlorinated biphenyls	1336-36-3	10
Ethyl acetate	141–78–6	33
Kepone	143-50-0	0.13
1,2-Dichloroethylene	156-60-5	30
Hexachloropropene	1888-71-7	30
Indeno[1,2,3-cd]pyrene	193-39-5	3.4
Fluoranthene	206-44-0	3.4
Chrysene	218-01-9	3.4
Pronamide	23950-58-5	1.5
Methyl parathion	298-00-0	4.6
Phorate	298-02-2	4.6
Disulfoton	298-04-4	6.2
Aldrin	309-00-2	0.066
Isodrin	465-73-6	0.066
DDT	50-29-3	0.087
Benzo[a]pyrene	50-32-8	3.4
2,4-Dinitrophenol	51-28-5	160
Famphur	52-85-7	15
4,6-Dinitro-o-cresol	534-52-1	160
Dibenz[a,h]anthracene	53-70-3	8.2
2-Acetylaminefluarone	53-96-3	140
m-Dichlorobenzene	541-73-1	6
N-Nitrosodiethylamine	55-18-5	28
Carbon tetrachloride	56-23-5	6
Parathion	56-38-2	4.6
3-Methylcholanthrene	56-49-5	15
Benz[a]anthracene	56-55-3	3.4
Chlordane	57-74-9	0.26
Lindane	58-89-9	0.066
2,3,4,6-Tetrachlorophenol	58-90-2	7.4
p-Chloro-m-cresol	59-50-7	14

COMMON NAME	CHEMICAL ABSTRACTS NO.	CONC. MG/KG
Ethyl ether	60–29–7	160
Dieldrin	60-57-1	0.13
2,6-Dinitrotoluene	606-20-2	28
Pentachlorobenzene	608-93-5	10
Phenacetin	62-44-2	16
Aniline	62-53-3	14
1,1,1,2-Tetrachloroethane	630-20-6	6
Acetone	67–64–1	160
Chloroform	67-66-3	6
Hexachloroethane	67-72-1	30
n-Butyl alcohol	71–36–3	2.6
Benzene	71-43-2	10
1,1,1-Trichloroethane	71-55-6	6
Endrin	72-20-8	0.13
Methoxychlor	72-43-5	0.18
DDD	72-54-8	0.087
Methyl bromide	74-83-9	15
Methyl chloride	74-87-3	30
Methyl iodide	74-88-4	65
Methylene bromide	74-95-3	15
Vinyl chloride	75-01-4	6
Methylene chloride	75-09-2	30
Bromoform	75-25-2	15
Ethylidene dichloride	75-34-3	6
1,1-Dichloroethylene	75-35-4	6
Trichlorofluoromethane	75-69-4	30
Dichlorodifluoromethane	75-71-8	7.2
Heptachlor	76-44-8	0.066
Hexachlorocyclopentadiene	77-47-4	2.4
Isobutyl alcohol	78-83-1	170
Propylene dichloride	78-87-5	18
Methyl ethyl ketone (MEK)	78-93-3	36
1,1,2-Trichloroethane	79-00-5	6
Trichloroethylene	79-01-6	6

COMMON NAME	CHEMICAL ABSTRACTS NO.	CONC. MG/KG
1,1,2,2-Tetrachloroethane	79-34-5	6
Toxaphene	8001-35-2	2.6
Methyl methacrylate	80-62-6	160
Pentachloronitrobenzene (PCNB)	82-68-8	4.8
Diethyl phthalate	84-66-2	28
Dibutyl phthalate	84-74-2	28
2,6-Dichlorophenol	87-65-0	14
Hexachlorobutadiene	87-68-3	5.6
Pentachlorophenol	87-86-5	7.4
2,4,6-Trichlorophenol	88-06-2	7.4
Dinoseb	88-85-7	2.5
Naphthalene	91-20-3	5.6
beta-Chloronaphthalene	91-58-7	5.6
Methapyrilene	91-80-5	1.5
N-Nitrosodi-n-butylamine	924-16-3	17
N-Nitrosopyrrolidine	930-55-2	35
Safrole	94-59-7	22
2,4-D	94-75-7	10
o-Cresol (as part of Cresols or Cresylic Acid)	95-48-7	5.6
o-Dichlorobenzene	95-50-1	6
o-Chlorophenol	95-57-8	5.7
1,2,4,5-Tetrachlorobenzene	95-94-3	14
2,4,5-Trichlorophenol	95-95-4	7.4
1,2-Dibromo-3-chloropropane	96-12-8	15
Ethyl methacrylate	97-63-2	160
Acetophenone	98-86-2	9.7
Nitrobenzene	98-95-3	14
5-Nitro-o-toluidine	99-55-8	28
Hexachlorodibenzo-p-dioxins (HxCDD)		0.001

TABLE 2 METALS TARGET ANALYTE LIST COMPOUND	CAS NO.	CONCENTRATION LIMIT (MG/L)
Antimony	7440-36-0	1
Arsenic	7440-38-2	5
Barium	7440-39-3	100
Beryllium	7440-41-7	0.007
Cadmium	7440-43-9	1
Chromium	7440-47-3	5
Lead	7439-92-1	5
Mercury	7439-97-6	0.2
Nickel	7440-02-0	70
Selenium	7782-49-2	1
Silver	7440-22-4	5
Thallium	7440-28-0	7

ATTACHMENT C-2 HSM LEGITIMACY DETERMINATION

DOCUMENTATION OF LEGITIMATE RECYCLING

Persons performing the recycling of hazardous secondary material (HSM) under the generator-controlled exclusion of 40 CFR 261.4(a)(23) must maintain documentation of their legitimacy determination on-site. Documentation must be a written description of how the recycling meets all four factors in 40 CFR 260.43(a), except as otherwise noted in 40 CFR 260.43(a)(4)(iii). Documentation must be maintained for 3 years after the recycling operation has ceased. The template below is a suggested format for documenting legitimacy. A facility may choose to create its own format for documenting legitimate recycling. Any type of document is acceptable if it addresses the four legitimacy factors.

LEGITIMACY DOCUMENTATION

1. Provide a brief narrative description identifying the hazardous secondary material (HSM) and describing how the HSM is recycled by the generator.

HSM consists of used refractory brick that is periodically generated when relining the kilns as a maintenance activity. The refractory brick is made of similar components to the raw materials used to make clinker including metals. Crushed used refractory brick sill be recycled as a material

For example: Spent solvents are reclaimed in an on-site distillation system in order to remove the contaminant and return the solvent back to commercial grade.

2. Check the box under each factor that most appropriately describes how the recycling meets the factor. Then add a brief narrative description explaining how the recycling meets the factor.

Factor 1:

Explain how the HSM provides a useful contribution:

_X Contributes valuable ingredients to a product or intermediate

__ Replaces a catalyst or carrier in the recycling process

__ Is the source of a valuable constituent recovered in the recycling process

__ Is recovered or regenerated by the recycling process

_X Is used as an effective substitute for a commercial product

For example: Spent solvents reclaimed on site to commercial grade are "recovered or regenerated by the recycling process." Check the fourth line.

Provide a written description of how the hazardous secondary material provides a useful contribution to the recycling process or to a product or intermediate of the recycling process:

Refractory brick is comprised of the same materials found in raw materials used to produce clinker. It reduces the need for natural resources (aluminum, silica, iron, etc.) mined to produce clinker.

For example, the facility could identify what spent solvents are being regenerated in the recycling process.

Factor 2:

Describe how the product or intermediate made from the HSM is valuable:

__ Sold to a 3rd party

_X Used by the recycler or generator as an effective substitute for a commercial product or as an ingredient or intermediate in an industrial process

For example: Spent solvents reclaimed on site and then used by the generator are "used as an effective substitute for a commercial product." Check the second line.

Provide a written description of how the product or intermediate is valuable:

Refractory brick is comprised of the same materials found in raw materials used to produce cement. It reduces the need for natural resources (aluminum, silica, iron, etc.) mined to produce clinker.

For example, the facility could identify the commercial product for which their reclaimed solvents are substituting.

Factor 3:

Describe how the HSM is managed as a valuable commodity:

_X There is an analogous raw material and the HSM is managed, at a minimum, in a manner consistent with the raw material, or in an equally protective manner

__ There is no analogous raw material and the HSM is contained per 260.10

For example: There are analogous raw materials to the spent solvents. Check the first line.

Provide a written description of how the hazardous secondary material is managed prior to being recycled:

_*Used refractory brick is removed from the kilns and placed in either a pile and covered, or in a covered materials storage building that is also used for raw materials (crushed limestone).*

For example, the facility should include a brief description of how the spent solvents are stored and managed prior to reclamation. The facility must manage their spent solvents before they are reclaimed in the same manner (or equally protective manner) as the original commercial solvents.

Factor 4:

Explain how the product of the recycling process is comparable to a legitimate product or intermediate:

_X There is an analogous product or intermediate:

_X_ The product of the recycling process does not exhibit a hazardous characteristic (as defined in part 261 subpart C) that analogous products do not exhibit; AND

_X_ The concentrations of any hazardous constituents found in appendix VIII of part 261 that are in the product or intermediate are at levels that are comparable to or lower than those found in analogous products OR

__ At levels that meet widely-recognized commodity standards and specifications (where the commodity standards and specifications include levels that specifically address those hazardous constituents).

__ There is no analogous product:

_ _ The product of the recycling process is a commodity that meets widely recognized commodity standards and specifications, OR

__ The hazardous secondary materials being recycled are returned to the original process or processes from which they were generated to be reused.

__ The product of the recycling process has levels of hazardous constituents that are not comparable to or unable to be compared to a legitimate product or intermediate as outlined above but the recycling is still legitimate.i

For example: The reclaimed solvent would be analogous to the commercial solvent the facility uses for the same purpose. Check the first line.

Basis for this choice:

_X Process Knowledge

_X Analytical Testing,

__ None of the above

Provide a written description of how the product made with HSM is comparable to a legitimate product or intermediate:

_The crushed used refractory brick is blended with raw materials (limestone) that are processed in the rotary kiln to produce clinker that meets the same standards as clinker that is not mixed with crushed refractory brick.

The facility must determine if the solvent from the recycling exhibits a characteristic that the virgin solvent does not. If it does not, then the facility would either directly compare the composition of the reclaimed solvent to the commercial solvent or apply widely recognized commodity standards or specifications that include levels that address the hazardous constituents in the reclaimed solvent. The facility would include an explanation of which standard the reclaimed solvent meets in its documentation.

ATTACHMENT C-3 COMPLIANCE WITH 40 CFR 264, SUBPART M

COMPLIANCE WITH 40 CFR 264, SUBPART M

Subpart M - Emergency Preparedness and Response for Management of Excluded Hazardous Secondary Materials

Source:80 FR 1777, Jan. 13, 2015, unless otherwise noted.

§ 261.400 Applicability.
The requirements of this subpart apply to those areas of an entity managing hazardous secondary materials excluded under §261.4(a)(23) and/or (24) where hazardous secondary materials are generated or accumulated on site.

(a) A generator of hazardous secondary material, or an intermediate or reclamation facility operating under a verified recycler variance under § 260.31(d), that accumulates 6000 kg or less of hazardous secondary material at any time must comply with §§ 261.410 and 261.411.

(b) A generator of hazardous secondary material, or an intermediate or reclamation facility operating under a verified recycler variance under § 260.31(d) that accumulates more than 6000 kg of hazardous secondary material at any time must comply with §§ 261.410 and 261.420.

§ 261.410 Preparedness and prevention. SEE SECTION F OF APPLICATION

(a) *Maintenance and operation of facility.* Facilities generating or accumulating hazardous secondary material must be maintained and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous secondary materials or hazardous secondary material constituents to air, soil, or surface water which could threaten human health or the environment.

(b) *Required equipment.* All facilities generating or accumulating hazardous secondary material must be equipped with the following, *unless* none of the hazards posed by hazardous secondary material handled at the facility could require a particular kind of equipment specified below:

(1) An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal)to facility personnel;

(2) A device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or state or local emergency response teams;

(3) Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment; and 2/3/22, 10:13 AM eCFR. 40 CFR Part 261 Subpart M -- Emergency Preparedness and Response for Management of Excluded Hazardous Second… .

(4) Water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems.

(c) *Testing and maintenance of equipment.* All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure its proper operation in time of emergency.

(d) *Access to communications or alarm system.*

(1) Whenever hazardous secondary material is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, unless such a device is not required under paragraph (b) of this section.

(2) If there is ever just one employee on the premises while the facility is operating, he must have immediate access to advice, such as a telephone (immediately available at the scene of operation) or a hand-held two-way radio, capable of summoning external emergency assistance, *unless* such a device is not required under paragraph (b) of this section.

(e) *Required aisle space.* The hazardous secondary material generator or intermediate or reclamation facility operating under a verified recycler variance under § 260.31(d) must maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless aisle space is not needed for any of these purposes.

(f) *Arrangements with local authorities.*

(1) The hazardous secondary material generator or an intermediate or reclamation facility operating under a verified recycler variance under § 260.31(d) must attempt to make the following arrangements, as appropriate for the type of waste handled at his facility and the potential need for the services of these organizations:

(i) Arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous secondary material handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility, and possible evacuation routes;

(ii) Where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority;

(iii) Agreements with state emergency response teams, emergency response contractors, and equipment suppliers; and

(iv) Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

(2) Where state or local authorities decline to enter into such arrangements, the hazardous secondary material generator or an intermediate or reclamation facility operating under a verified recycler variance under § 260.31(d) must document the refusal in the operating record.

§ 261.411 Emergency procedures for facilities generating or accumulating 6000 kg or less of hazardous secondary material. NOT APPLICABLE

A generator or an intermediate or reclamation facility operating under a verified recycler variance under § 260.31(d) that generates or accumulates 6000 kg or less of hazardous secondary material must comply with the following requirements:

(a) At all times there must be at least one employee either on the premises or on call (*i.e.,* available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures specified in paragraph (d) of this section. This employee is the emergency coordinator.

(b) The generator or intermediate or reclamation facility operating under a verified recycler variance under § 260.31(d) must post the following information next to the telephone:

(1) The name and telephone number of the emergency coordinator;

(2) Location of fire extinguishers and spill control material, and, if present, fire alarm; and

(3) The telephone number of the fire department, unless the facility has a direct alarm.2/3/22, 10:13 AM eCFR: 40 CFR Part 261 Subpart M -- Emergency Preparedness and Response for Management of Excluded Hazardous Second… https://www.eCFR.gov/current/title-40/chapter-I/subchapter-I/part-261/subpart-M 3/5

(c) The generator or an intermediate or reclamation facility operating under a verified recycler variance under § 260.31(d) must ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures, relevant to their responsibilities during normal facility operations and emergencies;

(d) The emergency coordinator or his designee must respond to any emergencies that arise. The applicable responses are as follows:

(1) In the event of a fire, call the fire department or attempt to extinguish it using a fire extinguisher;

(2) In the event of a spill, contain the flow of hazardous waste to the extent possible, and as soon as is practicable, cleanup the hazardous waste and any contaminated materials or soil;

(3) In the event of a fire, explosion, or other release which could threaten human health outside the facility or when the generator or an intermediate or reclamation facility operating under a verified recycler variance under § 260.31(d) has knowledge that a spill has reached surface water, the generator or an intermediate or reclamation facility operating under a verified recycler variance under § 260.31(d) must immediately notify the National Response Center (using their 24-hour toll free number 800/424-8802). The report must include the following information:

(i) The name, address, and U.S. EPA Identification Number of the facility;

(ii) Date, time, and type of incident (*e.g.,* spill or fire);

(iii) Quantity and type of hazardous waste involved in the incident;

(iv) Extent of injuries, if any; and

(v) Estimated quantity and disposition of recovered materials, if any.

§ 261.420 Contingency planning and emergency procedures for facilities generating or accumulating more than 6000 kg of hazardous secondary material. SEE SECT*ION C OF APPLICATION*

A generator or an intermediate or reclamation facility operating under a verified recycler variance under § 260.31(d) that generates or accumulates more than 6000 kg of hazardous secondary material must comply with the following requirements:

(a) *Purpose and implementation of contingency plan.*

(1) Each generator or an intermediate or reclamation facility operating under a verified recycler variance under § 260.31(d)that accumulates more than 6000 kg of hazardous secondary material must have a contingency plan for his facility. The contingency plan must be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous secondary material or hazardous secondary material constituents to air, soil, or surface water.

(2) The provisions of the plan must be carried out immediately whenever there is a fire, explosion, or release of hazardous secondary material or hazardous secondary material constituents which could threaten human health or the environment.

(b) *Content of contingency plan.*

(1) The contingency plan must describe the actions facility personnel must take to comply with paragraphs (a) and (f) in response to fires, explosions, or any unplanned sudden or non-sudden release of hazardous secondary material or hazardous secondary material constituents to air, soil, or surface water at the facility.

(2) If the generator or an intermediate or reclamation facility operating under a verified recycler variance under §260.31(d) accumulating more than 6000 kg of hazardous secondary material has already prepared a Spill Prevention, Control, and Countermeasures (SPCC) Plan in accordance with part 112 of this chapter, or some other emergency or contingency plan, he need only amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of this part. The hazardous secondary material generator or an intermediate or reclamation facility operating under a verified recycler variance under § 260.31(d) may develop one contingency plan which meets all regulatory requirements. EPA recommends that the plan be based on the National Response Team's Integrated Contingency Plan Guidance (“One Plan”). When modifications are made to non-RCRA provisions in an integrated contingency plan, the changes do not trigger the need for a RCRA permit modification.

(3) The plan must describe arrangements agreed to by local police departments, fire departments, hospitals, contractors, and State and local emergency response teams to coordinate emergency services, pursuant to § 262.410(f).2/3/22, 10:13 AM eCFR: 40 CFR Part 261 Subpart M -- Emergency Preparedness and Response for Management of Excluded Hazardous Second… https://www.eCFR.gov/current/title-40/chapter-I/subchapter-I/part-261/subpart-M 4/5

(4) The plan must list names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator (see paragraph (e) of this section), and this list must be kept up-to-date. Where more than one person is listed, one must be named as primary emergency coordinator and others must be listed in the order in which they will assume responsibility as alternates.

(5) The plan must include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external), and decontamination equipment), where this equipment is required. This list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.

(6) The plan must include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must describe signal(s) to be used to begin evacuation, evacuation routes, and alternative evacuation routes (in cases where the primary routes could be blocked by releases of hazardous waste or fires).

(c) *Copies of contingency plan.* A copy of the contingency plan and all revisions to the plan must be:

(1) Maintained at the facility; and

(2) Submitted to all local police departments, fire departments, hospitals, and State and local emergency response teams that may be called upon to provide emergency services.

(d) *Amendment of contingency plan.* The contingency plan must be reviewed, and immediately amended, if necessary, whenever:

(1) Applicable regulations are revised;

(2) The plan fails in an emergency;

(3) The facility changes - in its design, construction, operation, maintenance, or other circumstances - in a way that materially increases the potential for fires, explosions, or releases of hazardous secondary material or hazardous secondary material constituents, or changes the response necessary in an emergency;

(4) The list of emergency coordinators changes; or

(5) The list of emergency equipment changes.

(e) *Emergency coordinator.* At all times, there must be at least one employee either on the facility premises or on call (*i.e.,* available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records within the facility, and the facility layout. In addition, this person must have the authority to commit the resources needed to carry out the contingency plan. The emergency coordinator's responsibilities are more fully spelled out in paragraph (f). Applicable responsibilities for the emergency coordinator vary, depending on factors such as type and variety of hazardous secondary material(s) handled by the facility, and type and complexity of the facility.

(f) *Emergency procedures.*

(1) Whenever there is an imminent or actual emergency situation, the emergency coordinator (or his designee when the emergency coordinator is on call) must immediately:

(i) Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and

(ii) Notify appropriate State or local agencies with designated response roles if their help is needed.

(2) Whenever there is a release, fire, or explosion, the emergency coordinator must immediately identify the character, exact source, amount, and areal extent of any released materials. He may do this by observation or review of facility records or manifests and, if necessary, by chemical analysis.

(3) Concurrently, the emergency coordinator must assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment must consider both direct and indirect effects of the release, fire, or explosion (*e.g.,* the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-offs from water or chemical agents used to control fire and heat-induced explosions).

(4) If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health, or the environment, outside the facility, he must report his findings as follows:2/3/22, 10:13 AM eCFR. :: 40 CFR Part 261 Subpart M -- Emergency Preparedness and Response for Management of Excluded Hazardous Second… https://www.eCFR.gov/current/title-40/chapter-I/subchapter-I/part-261/subpart-M 5/5
(i) If his assessment indicates that evacuation of local areas may be advisable, he must immediately notify appropriate local authorities. He must be available to help appropriate officials decide whether local areas should be evacuated; and

(ii) He must immediately notify either the government official designated as the on-scene coordinator for that geographical area, or the National Response Center (using their 24-hour toll free number 800/424-8802). The report must include:

(A) Name and telephone number of reporter;

(B) Name and address of facility;

(C) Time and type of incident (*e.g.,* release, fire);

(D) Name and quantity of material(s) involved, to the extent known;

(E) The extent of injuries, if any; and

(F) The possible hazards to human health, or the environment, outside the facility.

(5) During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous secondary material at the facility. These measures must include, where applicable, stopping processes and operations, collecting and containing released material, and removing or isolating containers.

(6) If the facility stops operations in response to a fire, explosion or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.

(7) Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered secondary material, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility. Unless the hazardous secondary material generator can demonstrate, in accordance with § 261.3(c) or (d) of this chapter, that the recovered material is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of parts262, 263, and 265 of this chapter.

(8) The emergency coordinator must ensure that, in the affected area(s) of the facility:

(i) No secondary material that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and

(ii) All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

(9) The hazardous secondary material generator must note in the operating record the time, date, and details of any incident that requires implementing the contingency plan. Within 15 days after the incident, he must submit a written report on the incident to the Regional Administrator. The report must include:

(i) Name, address, and telephone number of the hazardous secondary material generator;

(ii) Name, address, and telephone number of the facility;

(iii) Date, time, and type of incident (*e.g.,* fire, explosion);

(iv) Name and quantity of material(s) involved;

(v) The extent of injuries, if any;

(vi) An assessment of actual or potential hazards to human health or the environment, where this is applicable; and

(vii) Estimated quantity and disposition of recovered material that resulted from the incident.

(g) *Personnel training.* All employees must be thoroughly familiar with proper waste handling and emergency procedures relevant to their responsibilities during normal facility operations and emergencies **SEE SECTION H OF APPLICATION**

[80 FR 1777, Jan. 13, 2015, as amended at 81 FR 85806, Nov. 28, 2016]

[ii] Note, in the case where product of the recycling process has levels of hazardous constituents that are not comparable to or unable to be compared to a legitimate product or intermediate, the person performing the recycling must conduct the necessary assessment and prepare documentation showing why the recycling is, in fact, still legitimate. The recycling can be shown to be legitimate based on lack of exposure from toxics in the product, lack of the bioavailability of the toxics in the product, or other relevant considerations which show that the recycled product does not contain levels of hazardous constituents that pose a significant human health or environmental risk. The documentation must include a certification statement that the recycling is legitimate and must be maintained on-site for three years after the recycling operation has ceased. The person performing the recycling must notify the Regional Administrator of this activity using EPA Form 8700-12.