

TECHNICAL SUPPORT DOCUMENT
(STATEMENT of BASIS)

APPLICATION FOR A PART 70 AUTHORITY TO CONSTRUCT

SUBMITTED BY:

All4 Inc.
2393 Kimberton Road
Kimberton, PA 19442

FOR:

Stericycle, Inc.

LOCATION:

Grand Valley Parkway
Las Vegas, Nevada 89165

Source: 17873

SIC Code: 4953 – Refuse Systems
NAICS Code: 562213 – Solid Waste Combustors and Incinerators

Clark County Department of Air Quality
Permitting Section

2018

EXECUTIVE SUMMARY

Stericycle, Inc., is a hospital, medical, and infectious waste incinerator (HMIWI) facility located in the Hydrographic Area of 216. This source category falls under Standard Industry Classification (SIC) code 4953: Refuse Systems and North American Industrial Classification System (NAICS) code 562213: Solid Waste Combustors and Incinerators. This is a minor source of regulated air pollutants. This source consists of two 17.5 MMBtu/hr natural gas-fired incinerators (approximately 34.5 MMBtu/hr waste-burning), two 3.5 MMBtu/hr natural gas-fired tub washers, an emergency generator, and a dry sorbent storage silo. The source will process a maximum of 26,280 tons per year of waste. Bottom ash and fly ash handling are classified as insignificant emission units. This source is subject to 40 CFR 60 Subpart IIII and 40 CFR 60 Subpart Ec and is required to obtain a Title V Operating Permit per 40 CFR 60.50c(l).

The following table identifies the source status based on the PTE of each regulated air pollutant. These PTE values are not intended to be enforced as emission limits by direct measurement unless otherwise noted in Section III of this permit.

Source-Wide PTE in Tons per Year

Pollutant	PM ₁₀	PM _{2.5}	NO _x	CO	SO ₂	VOC	HAP
Source Total	4.27	4.27	43.71	5.66	3.11	1.77	3.05

The issuance of the Authority to Construct (ATC) to Stericycle is based on the information submitted by the applicant and a technical review performed by Air Quality staff.

Pursuant to AQR 12.4, all terms and conditions in Sections I through V in this ATC are federally enforceable unless explicitly denoted otherwise.

This Technical Support Document (TSD) accompanies the proposed Authority to Construct Permit for Stericycle, Inc.

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I. SOURCE INFORMATION

A. General

Permittee	Stericycle, Inc.
Mailing Address	28161 North Keith Drive, Lake Forest, Illinois
Contacts	Dale Rich, Vice President, Incinerators
Phone Number	(704) 787-3134
Email	drich@stericycle.com
Source Location	Grand Valley Parkway, Las Vegas, NV 89165
Hydrographic Area	216
Township, Range, Section	T18S, R63E, Section 15
SIC Code	4953: Refuse Systems
NAICS Code	562213: Solid Waste Combustors and Incinerators

B. Description of Process

Stericycle plans to construct and operate two HMIWI units, each equipped with an automated waste feed system. Since the units will be constructed after the applicability date of December 1, 2008, the units are subject to 40 CFR Part 60, Subpart Ec [60.50c(a)(3)]. The units also meet the regulatory definitions of "large HMIWI" and "continuous HMIWI" units of 40 CFR 60.51c.

Types of materials combusted include: hospital and medical infectious waste, regulated/international garbage (USDA/APHIS), confidential records, expired medical products and devices, non-hazardous trace chemotherapeutic waste, non-hazardous pharmaceuticals, and any other waste allowed by County, State, or Federal regulations.

Waste arrives on site via truck in either reusable containers or single-use containers that can be incinerated. Waste is weighed and loaded into the feed system and charge hopper.

Each HMIWI will have a two-stage combustion system. The primary chamber is fed via a ram feed system equipped with an air lock. The secondary chamber will have an extended residence time with excess air to support the oxidation and combustion of the primary chamber exhaust gas. Natural gas-fired burners will be utilized when necessary to maintain the combustion temperature and to preheat the chambers during startup.

Each HMIWI unit is equipped with emission controls discussed later in this document.

Two types of ash are generated from the incineration process: bottom ash and fly ash, both consisting of non-combustible materials. Bottom ash exits the primary combustion chamber and is collected in a water quench. Fly ash is entrained in the flue gas and is captured in the baghouse and collected in a covered hopper, and disposed of in a landfill.

The source utilizes a dry sorbent silo to store and inject dry sorbent (sodium bicarbonate, lime, or equivalent) into the flue gas of each HMIWI.

Natural gas-fired tub washers are used by the source to wash and disinfect reusable waste containers.

A diesel-powered emergency generator is on site to supply emergency power to the critical components of the HMIWI operation in the event of a power supply interruption.

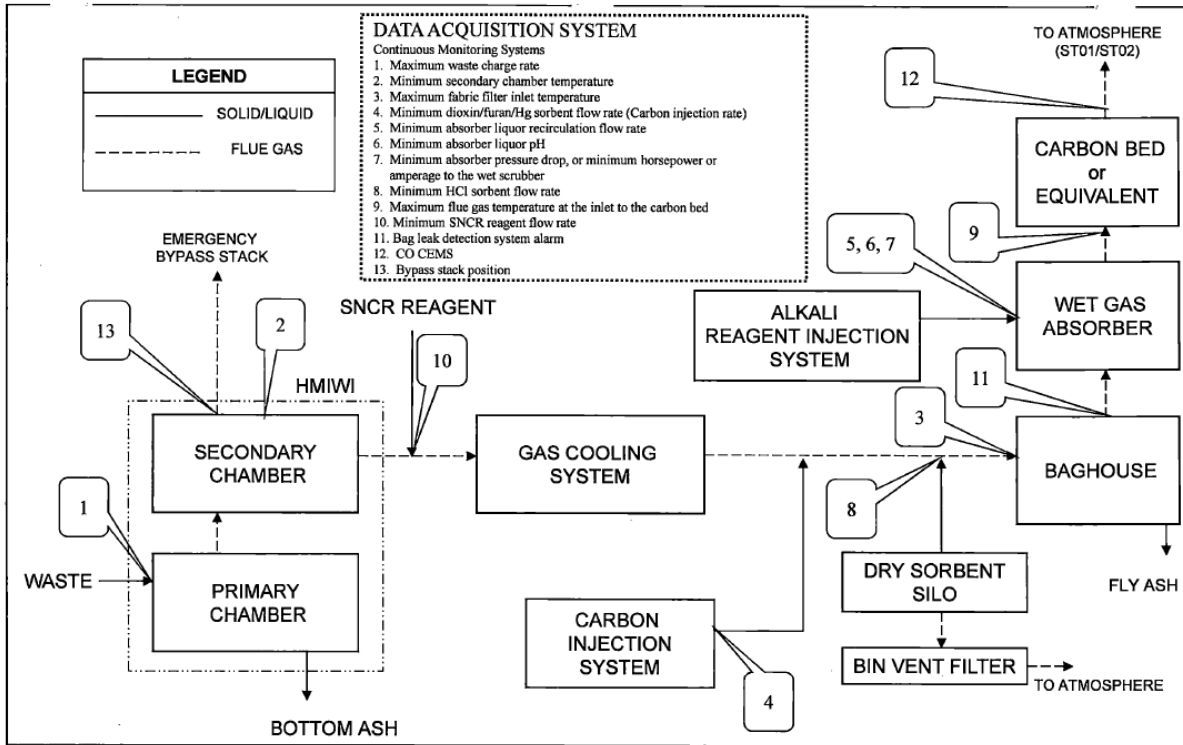


Figure 2-1
Proposed Configuration (each HMIWI)
Clark County, NV - Process Flow Diagram
Stericycle, Inc.

2-2

C. Permitting Action

Stericycle, Inc., is a new minor source as defined in AQR Section 12.1.1(f). Stericycle operates solid waste incineration units, therefore they are subject to Title V permitting as required by Section 129(e) of the Clean Air Act and 40 CFR 60.50c(l) and will be issued an Authority to Construct Permit for a Part 70 Source per AQR 12.4.

An applicability determination is performed based on the application submitted.

D. Operating Scenario

Stericycle has a combined maximum of 26,280 tons per year (52,560,000 lbs/year) of waste processed through both incinerators, which is based off the design 6,000 lb/hr waste feed rate. This designed limit was not set by the source to avoid any requirement. Only the VOC emissions and a portion of the HAP emissions are calculated based on the amount of waste processed, the remaining pollutants' emissions are based on the gas flow rate.

The emergency generator shall be limited to operate 100 hours for testing and maintenance purposes, including non-emergency limitations. On May 1, 2015, the U.S. Court of Appeals for the D.C. Circuit issued a decision to vacate provisions in 40 CFR Part 60, Subpart IIII that allowed emergency engines to operate for demand response and when there is a deviation of voltage or

frequency. Therefore, Air Quality is prohibiting sources from operating emergency generators for those activities to be consistent with the court decision and EPA's implementation memo dated April 15, 2016. In order to utilize the generator to operate for any of the scenarios that were part of the vacatur, the source must request that the engine be treated as a nonemergency engine.

E. Proposed Exemptions

No exemptions are requested in this permitting action.

II. EMISSIONS INFORMATION

A. Source-wide Potential to Emit

Stericycle is a minor source for all regulated pollutants.

Table II-A-1: Source PTE (tons per year)

Pollutant	PM ₁₀	PM _{2.5}	NO _x	CO	SO ₂	VOC	HAP
Source Total	4.27	4.27	43.71	5.66	3.11	1.77	3.05
Major Source Threshold	100	100	100	100	100	100	25/10 ¹

¹25 tons for combination of all HAPs (no single HAP exceeds 10 tons).

Table II-A-2: List of Emission Units

EU	Rating	Type	Manufacturer	Model No.	Serial No.	SCC
A01	17.5 MMBtu/hr Natural Gas; ~34.5 MMBtu/hr Waste	Incinerator 3,000 lb/hr	TBD	TBD	TBD	50200501
A02	17.5 MMBtu/hr Natural Gas; ~34.5 MMBtu/hr Waste	Incinerator 3,000 lb/hr	TBD	TBD	TBD	50200501
A03	3.5 MMBtu/hr	Natural Gas-Fired Tub Washer	TBD	TBD	TBD	10200603
A04	3.5 MMBtu/hr	Natural Gas-Fired Tub Washer	TBD	TBD	TBD	10200603
B01	644 kW	Genset – Emergency DOM: Post-2006	TBD	TBD	TBD	20200102
	864 hp		TBD	TBD	TBD	
C01	22,000 lb/hr	Dry Sorbent Storage Silo	TBD	TBD	TBD	30501613
D01		Bottom Ash/Fly Ash Loading				

The following activity is present at this source, but is an insignificant activity pursuant to AQR Section 12.5.2.5. The emissions from this activity, when added to the PTE of the source, will not make the source major for any pollutant. Paved haul roads are included as insignificant activities as all material entering and leaving the source is transported in trucks.

Table II-A-3: Insignificant Emission Units or Activities

Paved Haul Roads

B. Emission Increase and PTE

The two incinerators (EUs: A01 and A02) are subject to 40 CFR Part 60, Subpart Ec, which establishes emission limits for applicable new large HMIWI. The emission factors for all units are listed in Table II-C-1.

Table II-C-1: Emission Factors

EU	Rating	PM ₁₀	PM _{2.5}	NO _x	CO	SO ₂	VOC	H ₂ S	Pb
A01 ¹	34.5 ² MMBtu/hr each	0.0094 gr/dscf	0.0094 gr/dscf	140 ppmv	11 ppmv	8.1 ppmv	0.0471 lb/ton	--	0.00030 gr/Mdscf
A02 ¹									
A01 ³	17.5 ⁴ MMBtu/hr each	0.0075 lb/MMBtu	0.0075 lb/MMBtu	0.0980 lb/MMBtu	0.0824 lb/MMBtu	0.0006 lb/MMBtu	0.0054 lb/MMBtu	--	--
A02 ³									
A03 ³	3.5 MMBtu/hr each	0.0075 lb/MMBtu	0.0075 lb/MMBtu	0.0980 lb/MMBtu	0.0824 lb/MMBtu	0.0006 lb/MMBtu	0.0054 lb/MMBtu	--	--
A04 ³									
B01 ⁵	644 kW/ 864 hp	0.20 g/kW-hr	0.20 g/kW-hr	6.4 g/kW-hr	3.5 g/kW-hr	1.21E-05 lb/hp-hr	7.05E-04 lb/hp-hr	--	--
C01 ⁶	22,000 lb/hr	0.02 gr/dscf	0.02 gr/dscf	0.00	0.00	0.00	0.00	0.00	0.00

¹Emission factors based off 40 CFR 60 Subpart Ec, except for VOC, which is from EPA AP-42 Chapter 2.3. Emission factors for PM₁₀ and PM_{2.5} reflect the filterable PM limit from 40 CFR 60Subpart Ec plus condensable PM.

²34.5 MMBtu/hr rating for waste combustion. These emission factors are for waste combustion.

³Emission factors are from EPA AP-42 Chapter 1.4.

⁴17.5 MMBtu/hr rating for natural gas combustion. These emission factors are for natural gas combustion.

⁵PM₁₀, PM_{2.5}, NO_x, and CO emission factors are the Tier 2 Emission Standard. SO₂ and VOC emission factors are from EPA AP-42 Chapter 3.3.

⁶Engineering Estimate based on similar facility owned by the source.

The Subpart Ec emission limit for PM emissions of 0.0080 gr/dscf is for filterable PM only, as the compliance demonstration method is EPA Reference Method 5. Stericycle estimates that filterable PM makes up 85% of the total PM when using waste as a fuel. Stericycle is also conservatively assuming that total PM equals both PM₁₀ and PM_{2.5}. Therefore, the estimated PM₁₀ and PM_{2.5} emissions are not above the Subpart Ec limit, and will be verified by a required initial performance test.

HAP emissions are not regulated for minor sources in Clark County, however, they are quantified for informational purposes.

Table II-C-2: HAP Emissions for Incinerators (EUs: A01 and A02)

Pollutant	Emission Factor	Units	lb/hr	tons/yr
Waste Combustion				
HCl ¹	5.1	ppm	0.25	1.09
Dioxins/Furans ¹	4.1	gr/Bdscf	3.07E-07	1.34E-06
Lead ¹	3.00E-04	gr/Mdscf	2.25E-05	9.83E-05
Cadmium ¹	5.70E-05	gr/Mdscf	4.27E-06	1.87E-05
Mercury ¹	5.70E-04	gr/Mdscf	4.27E-05	1.87E-04
Chlorine ²	1.05E-01	lb/ton	0.315	1.3797
Antimony ²	1.51E-04	lb/ton	4.53E-04	1.98E-03
Arsenic ²	1.46E-05	lb/ton	4.38E-05	1.92E-04
Beryllium ²	3.84E-06	lb/ton	1.15E-05	5.05E-05
Chromium ²	3.96E-05	lb/ton	1.19E-04	5.20E-04
Hydrogen Fluoride ²	1.33E-02	lb/ton	0.04	0.17

Pollutant	Emission Factor	Units	lb/hr	tons/yr
Manganese ²	5.67E-04	lb/ton	1.70E-03	7.45E-03
Nickel ²	2.84E-04	lb/ton	8.52E-04	3.73E-03
Total PCBs ²	4.65E-05	lb/ton	1.40E-04	6.11E-04
Natural Gas Combustion				
Total HAP ³	0.0019	Lb/MMBtu	0.07	0.30
Total HAP			0.61	2.93

¹Emission limit from Subpart Ec.

²Emission factors from AP-42 Chapter 2.3.

³Emission factors from AP-42 Chapter 1.4.

The PTE used to determine the source's applicability to the minor source permitting regulations of AQR 12.4 is shown in the following table. This PTE is based on each emission unit operating at the maximum capacity and, in the case of the incinerators, at the emission limits established by 40 CFR Part 60, Subpart Ec, as this is the emission level the units can legally operate. The emergency generator's applicability PTE is based on 500 hours of operation.

The ash loading emissions (EU: D01) includes both bottom ash loading and fly ash loading. Bottom ash is collected in a water quench and fly ash is collected in a covered hopper. Therefore, emissions are not expected to occur, but since ash loading is subject to annual EPA Method 22 performance tests per 40 CFR 60.56c(3), it will be listed as an emission unit.

Table II-C-3: Applicability PTE (tons per year)

EU	Rating	PM ₁₀	PM _{2.5}	NO _x	CO	SO ₂	VOC	HAP	H ₂ S	Pb
A01	17.5/34.5 ¹ MMBtu/hr	1.98	1.98	19.18	0.92	1.54	0.73	1.49	0	0
A02	17.5/34.5 ¹ MMBtu/hr	1.98	1.98	19.18	0.92	1.54	0.73	1.49	0	0
A03	3.5 MMBtu/hr	0.11	0.11	1.54	1.29	0.01	0.08	0.03	0	0
A04	3.5 MMBtu/hr	0.11	0.11	1.54	1.29	0.01	0.08	0.03	0	0
B01	644 kW/ 864 hp	0.07	0.07	2.27	1.24	0.01	0.15	0.01	0	0
C01	22,000 lb/hr	0.49	0.49	0	0	0	0	0	0	0
D01		0.01	0.01	0	0	0	0	0	0	0
Totals		4.75	4.75	43.71	5.66	3.11	1.77	3.05	0	0
AQR 12.1(c) Applicability Thresholds		5	5	5	25	25	5	N/A	1	0.3
AQR 12.4.2.1(b) Significant Thresholds		7.5	5.0	20	50	20	20	N/A	5	0.6

¹17.5 MMBtu/hr natural gas and 34.5 MMBtu/hr waste combustion.

As shown in Table II-C-3, Stericycle exceeds the minor source thresholds for NO_x and is subject to minor source permitting. In addition, the PTE is below the Title V major source threshold of 100 tons per year for all pollutants, therefore the source is a true minor.

Table II-C-3 also shows the NO_x emissions are above the significant threshold and therefore, the source is required to submit a RACT analysis for this pollutant.

Table II-C-4: Allowable PTE (tons per year)

EU	Rating	PM ₁₀	PM _{2.5}	NO _x	CO	SO ₂	VOC	HAP	H ₂ S	Pb
A01	17.5/34.5 ¹ MMBtu/hr	1.98	1.98	19.18	0.92	1.54	0.73	1.49	0	0
A02	17.5/34.5 ¹ MMBtu/hr	1.98	1.98	19.18	0.92	1.54	0.73	1.49	0	0
A03	3.5 MMBtu/hr	0.11	0.11	1.54	1.29	0.01	0.08	0.03	0	0
A04	3.5 MMBtu/hr	0.11	0.11	1.54	1.29	0.01	0.08	0.03	0	0
B01	644 kW/ 864 hp	0.07	0.07	2.27	1.24	0.01	0.15	0.01	0	0
C01	22,000 lb/hr	0.01	0.01	0	0	0	0	0	0	0
D01		0.01	0.01	0	0	0	0	0	0	0
Totals		4.27	4.27	43.71	5.66	3.11	1.77	3.05	0	0
AQR 12.1(c) Applicability Thresholds		5	5	5	25	25	5	N/A	1	0.3
AQR 12.1(g) Significant Thresholds		7.5	7.5	20	35	40	20	N/A	0.6	5

¹17.5 MMBtu/hr natural gas and 34.5 MMBtu/hr waste combustion.

Table II-C-5: PTE (lbs per hour)

EU	Rating	PM ₁₀	PM _{2.5}	NO _x	CO	SO ₂	VOC	HAP	H ₂ S	Pb
A01	17.5/34.5 ¹ MMBtu/hr	0.45	0.45	4.38	0.21	0.36	0.17	0.34	0	0
A02	17.5/34.5 ¹ MMBtu/hr	0.45	0.45	4.38	0.21	0.36	0.17	0.34	0	0
A03	3.5 MMBtu/hr	0.03	0.03	0.34	0.29	0.01	0.02	0.01	0	0
A04	3.5 MMBtu/hr	0.03	0.03	0.34	0.29	0.01	0.02	0.01	0	0
B01	644 kW/ 864 hp	0.28	0.28	9.09	4.97	0.01	0.61	0.01	0	0
C01	22,000 lb/hr	0.11	0.11	0	0	0	0	0	0	0
D01		0.01	0.01	0	0	0	0	0	0	0

¹17.5 MMBtu/hr natural gas and 34.5 MMBtu/hr waste combustion.

C. Control Technology

The source submitted a RACT analysis for NO_x emissions for the incinerators (EUs: A01 and A02), as that is the only pollutant to exceed the minor NSR significance levels (20 tpy for NO_x) of AQR 12.4. The applicable NSPS allows for the option of SNCR, which the source has elected to install to meet RACT. To further support this, in the siting analysis required by the NSPS, the source submitted a BACT analysis.

The following were listed as potential control technologies for NO_x emissions:

- Good combustion practices
- Selective catalytic reduction (SCR)
- SNCR
- Wet scrubbing
- Process design

Only process design, which includes flue gas recycle (FGR) and control of waste feed composition, is eliminated as technically infeasible. FGR causes corrosion in the system and operator safety requirements do not allow waste to be sorted once it reached the facility.

The following is the remaining control technologies ordered from most effective to least effective:

- SCR
- Wet scrubbing
- SNCR
- Good combustion practices

SCR is estimated to cost approximately \$12,000 per ton of NO_x controlled. This would also require a capital investment of approximately \$905,000, resulting in this option being cost prohibitive.

Wet scrubbing is estimated to cost approximately \$17,500 per ton of NO_x controlled. This would also require a capital investment of approximately \$1,200,000, resulting in this option being cost prohibitive.

SNCR is estimated to cost approximately \$2,000 per ton of NO_x controlled. This would also require a capital investment of approximately \$143,000, resulting in this option being economically feasible.

With no additional costs, good combustion practices is also a feasible option.

As a result of this, SNCR and good combustion practices meet BACT, and therefore satisfy the RACT requirements, for NO_x control.

The following are additional controls proposed by the source to meet the emission limits of 40 CFR Part 60, Subpart Ec. As these emissions do not exceed any significance thresholds, no further analysis is required.

- Good combustion practices, carbon injection, fabric filter, and a carbon bed (or equivalent) (Dioxins/Furans).
- Dry Sorbent Injection, dry scrubber/fabric filter, and wet gas absorber (SO₂ and HCl).
- Carbon Injection, fabric filter, and carbon bed (or equivalent) (Gaseous Hg).
- Good combustion practices and fabric filter (PM, Pb, Cd, and particulate Hg).
- Good combustion practices (CO).

The source did not propose any add-on controls for the remaining equipment. The DSI Silo (EU: C01) is equipped with a binvent.

III. REGULATORY REVIEW

A. Local Regulatory Requirements

Air Quality has determined that the following public law, statutes and associated regulations are applicable:

1. Nevada Revised Statutes (NRS), Chapter 445; Sections 401 through 601;
2. Portions of the AQR included in the State Implementation Plan (SIP) for Clark County, Nevada. SIP requirements are federally enforceable. All requirements from Authority to Construct permits by Air Quality are federally enforceable because these permits were issued pursuant to SIP-included sections of the AQR; and
3. Portions of the AQR not included in the SIP. These locally applicable requirements are locally enforceable only.

The Nevada Revised Statutes (NRS) and the Clean Air Act Amendments (CAAA) are public laws that establish the general authority for the Regulations mentioned.

Local regulations contain sections that are federally enforceable and sections that are locally enforceable only. Locally enforceable only rules have not been approved by EPA for inclusion into the State Implementation Plan (SIP). Requirements and conditions that appear in the Part 70 Operating Permit which are related only to nonSIP rules are notated as locally enforceable only. These regulations may be accessed on the Internet at:

http://www.clarkcountynv.gov/airquality/regulations/Pages/Rules_CurrentRulesandRegulations.aspx

Air Quality reviewed the modeling submitted by ALL4 Inc. on behalf of Stericycle. Air Quality modeled the source with the information provided in the submittal using AERMOD to track the increment consumption. Five years (2011 to 2015) of meteorological data from the McCarran station were used in the model. United States Geological Survey (USGS) National Elevation Data (NED) terrain data was used to calculate elevations. Stericycle has proposed two locations for the facility. Tables III-A-1 and III-A-2 show the location of the maximum impact and the potential PSD increment consumed by the source at that location. The impacts are below the PSD increment limits.

Table III-A-1: PSD Increment Consumption for Location 1

Pollutant	Averaging Period	PSD Increment Consumption by the Source ($\mu\text{g}/\text{m}^3$)	Location of Maximum Impact	
			UTM X (m)	UTM Y (m)
SO ₂	3-hour	7.33 ¹	685167	4027632
SO ₂	24-hour	2.72 ¹	685189	4027629
SO ₂	Annual	1.01	685189	4027629
PM ₁₀	24-hour	10.44 ¹	685211	4027626
PM ₁₀	Annual	6.17	685211	4027626
NO _x	Annual	23.59	685189	4027629

¹ Second High Concentration

Table III-A-2: PSD Increment Consumption for Location 2

Pollutant	Averaging Period	PSD Increment Consumption by the Source ($\mu\text{g}/\text{m}^3$)	Location of Maximum Impact	
			UTM X (m)	UTM Y (m)
SO ₂	3-hour	7.84 ¹	685475	4027972
SO ₂	24-hour	3.96 ¹	685475	4027972
SO ₂	Annual	1.03	685475	4027972
PM ₁₀	24-hour	10.56 ¹	685475	4027972
PM ₁₀	Annual	3.99	685550	4027910
NO _x	Annual	15.59	685475	4027972

¹Second High Concentration

NAAQS ANALYSIS

Air Quality also reviewed the NAAQS modeling submitted by ALL4 Inc. on behalf of Stericycle. Using the information from the submittal, Air Quality modeled the source with AERMOD to evaluate the impacts with NAAQS. Table III-A-3 shows that the source will be in compliance with the NAAQS.

Table III-A-3: NAAQS Analysis

Pollutant	Averaging Period	Source Impact ($\mu\text{g}/\text{m}^3$)	Background Concentration ($\mu\text{g}/\text{m}^3$)	Total Impact ($\mu\text{g}/\text{m}^3$)	NAAQS ($\mu\text{g}/\text{m}^3$)
LOCATION 1					
NO ₂	1-hour	107.91 ¹	73.32 ²	181.23	188
NO ₂	Annual	23.59	8.03 ³	31.62	100
LOCATION 2					
NO ₂	1-hour	104.91 ¹	73.32 ²	178.23	188
NO ₂	Annual	15.59	8.03 ³	23.62	100

¹ Eighth high concentration

² 2005-07 One Hour Design Value at Apex monitoring station

³ 2005-07 Annual Design Value at Apex monitoring station

B. Federally Applicable Regulations

1. Clean Air Act, as amended (CAAA), Authority: 42 U.S.C. 40 CFR 7401, et seq.;
2. Title 40 of the Code of Federal Regulations (CFR); including Part 70 and others;

40 CFR PART 60-STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES:

Subpart A - General Provisions

40 CFR 60.7 - Notification and record keeping.

Discussion: This regulation requires notification to Air Quality of modifications, opacity testing, siting analysis and other requirements of 40 CFR 60.58c, records of malfunctions of process equipment and/or continuous monitoring device, and performance test data. These requirements will be in the Part 70 OP. Air Quality requires records to be maintained for five years, a more stringent requirement than the two (2) years required by 40 CFR 60.7.

40 CFR 60.8 - Performance tests.

Discussion: These requirements are will be in the Part 70 OP. Notice of intent to test, the applicable test methods, acceptable test method operating conditions, and the requirement for three runs are outlined in this regulation. Air Quality requirements for initial performance testing are identical to 40 CFR 60.8.

40 CFR 60.11 - Compliance with standards and maintenance requirements.

Discussion: Subpart Ec requirements will be addressed in the Part 70 OP. Stericycle shall operate in a manner consistent with this section of the regulation.

40 CFR 60.12 – Circumvention.

Discussion: This prohibition is addressed in the Part 70 OP. This is also AQR Section 80.1.

40 CFR 60.13 - Monitoring requirements.

Discussion: This section requires that CEMS meet Appendix B and Appendix F standards of operation, testing and performance criteria. The Part 70 OP will contain the CEMS conditions and citations to Appendix B and F.

Subpart Ec - Standards of Performance for New Stationary Sources: Hospital/Medical/Infectious Waste incinerators

40 CFR 60.50c - Applicability and delegation of authority.

Discussion: The incinerators (EUs: A01 and A02) will be constructed after December 1, 2008, and therefore are subject to this Subpart. 60.50c(l) states that applicable sources are subject to permitting under the Title V operating permit program and subject to Part 70.

40 CFR 60.52c - Emission limits.

Discussion: The NSPS emission standards applicable to Stericycle are in Table 1B of the Subpart per 60.52c(a)(2). Per 60.52c(b)(2), Stericycle is subject to a 6 percent opacity standard and per 60.52c(c) Stericycle shall not discharge visible emissions of combustion ash from an ash conveying system in excess of 5 percent of an observation period. Stericycle shall comply with these standards.

40 CFR 60.53c - Operator training and qualification requirements.

Discussion: Stericycle is subject to the provisions of this section including maintaining documentation on site, along with records of training.

40 CFR 60.54c - Siting requirements.

Discussion: Stericycle is subject to the provisions of this section including submitting the analysis as required under Section 60.58c(a)(1)(iii).

40 CFR 60.55c - Waste management plan.

Discussion: Stericycle is required to prepare a waste management plan per the requirements of this section.

40 CFR 60.56c - Compliance and performance testing.

Discussion: These requirements are found in the conditions for performance testing found in the Part 70 OP. Stericycle is not required to conduct performance tests for CO, as they are required to operate a CO CEMS. Per 60.56c(d), Stericycle is required to establish maximum and minimum operating parameters, as listed in Table 3 of the Subpart, for each incinerator. Per 60.56c(h),

Stericycle is required to establish the maximum charge rate, minimum secondary chamber temperature, and the minimum reagent flow rate during the initial performance test.

40 CFR 60.57c - Monitoring requirements.

Discussion: Stericycle is required to monitor the parameters listed in Table 3 of the Subpart and those required in 60.56c(h). Per 60.57c(f) and (g), Stericycle is required to perform an air pollution control device inspection annually. Per 60.57c(h), Stericycle shall install, calibrate, operate, and maintain a bag leak detection system.

40 CFR 60.58c - Reporting and recordkeeping requirements.

Discussion: Stericycle is required to submit the notifications as listed in this section, as provided by 40 CFR 60.7.

Subpart III – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

40 CFR 60.4200 – Applicability Determination

Discussion: The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE) with a displacement less than 30 liters per cylinder where the model year is 2007 or later, for engines that are not fire pumps, and July 1, 2006, for ICE certified by the National Fire Protection Association as fire pump engines. This subpart applies to the emergency generator (EU: B01).

40 CFR 60.4205 – Emission Standards for Owners and Operators

Discussion: The operator of the stationary CI ICE must provide the manufacturer certification of the emission standard specified in this subpart. These requirements will be addressed in the Part 70 OP.

40 CFR 60.4206 and 40 CFR 60.4211 – Compliance Requirements

Discussion: The operator of the stationary CI ICE must operate and maintain the CI ICE to achieve the emission standards according to the manufacturer's written instructions and procedures developed by the owner or operator that are approved by the engine manufacturer, over the entire life of the engine. These requirements will be addressed in the Part 70 OP.

40 CFR 60.4214 – Reporting and Recordkeeping Requirements

Discussion: The operator of the CI ICE shall keep records that include: engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement; emission control equipment; and fuel used. If the stationary CI ICE is a certified engine, the owner or operator shall keep documentation from the manufacturer that the engine is certified to meet the emission standards. These requirements will be addressed in the Part 70 OP.

Subpart ZZZZ - National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

40 CFR 63.6585 – Applicability.

Discussion: The emergency generator (EU: B01) is subject to the provisions of this subpart. The unit will meet the provisions this Subpart by meeting the requirements of Subpart III.

IV. COMPLIANCE

A. Compliance Certification

Requirements for compliance certification:

- a. Regardless of the date of issuance of this Part 70 Operating Permit, the schedule for the submittal of reports to the Control Officer shall be as follows:

Table IV-A-1: Reporting Schedule

Required Report	Applicable Period	Due Date ¹
Semiannual Report for 1st Six-Month Period	January, February, March, April, May, June	July 30 each year
Semiannual Report for 2 nd Six-Month Period, Any additional annual records required.	July, August, September, October, November, December	January 30 each year
Annual Compliance Certification Report	Calendar Year	January 30 each year
Annual Emission Inventory Report	Calendar Year	March 31 each year
Notification of Deviations with Excess Emissions	As Required	Within 24 hours of the Permittee learns of the event
Report of Deviations with Excess Emissions	As Required	Within 72 hours of the notification
Deviation Report	As Required	Along with semiannual reports
Performance Testing	As Required	Within 60 days from the end of the test.

¹If the due date falls on a Saturday, Sunday or a Federal or Nevada holiday, then the submittal is due on the next regularly scheduled business day.

- b. A statement of methods used for determining compliance, including a description of monitoring, recordkeeping, and reporting requirements and test methods.
- c. A statement indicating the source's compliance status with any applicable enhanced monitoring and compliance certification requirements of the Act.

B. Compliance Summary

Stericycle is subject to the monitoring requirements of 40 CFR 60, Subpart Ec, listed in Table IV-B-1. The anticipated operating parameter ranges listed in Table IV-B-1, and the identical one in the ATC, are based on engineering estimates and are subject to change based on performance testing after the source is constructed.

Table IV-B-1: Compliance Monitoring

Monitoring Requirement	Minimum Frequency		Anticipated Operating Parameter Range
	Data Measurement	Data Recording	
Operating Parameter Monitoring			
Maximum waste charge rate	Continuous	Once per hour	3,000 lb/hr (target)
Maximum fabric filter inlet temperature	Continuous	Once per minute	~300 – 400 °F
Maximum flue gas temperature at the inlet to the carbon bed (or equivalent) system	Continuous	Once per minute	~100 – 200 °F
Minimum secondary chamber temperature	Continuous	Once per minute	~1,700 – 1,900 °F

Monitoring Requirement	Minimum Frequency		Anticipated Operating Parameter Range
	Data Measurement	Data Recording	
Minimum CDD/CDF and Hg sorbent flow rate	Hourly	Once per hour	~2 – 4 lb/hr
Minimum DSI sorbent flow rate	Hourly	Once per hour	~50 – 70 lb/hr
Minimum pressure drop across, or minimum horsepower or amperage to the wet scrubber (wet gas absorber)	Continuous	Once per minute	~2 – 4 in H ₂ O
Minimum scrubber (wet gas absorber) liquor flow rate	Continuous	Once per minute	~100 – 200 gal/min
Minimum scrubber (wet gas absorber) liquor pH	Continuous	Once per minute	~4 – 8 pH
Minimum SNCR reagent flow rate	Hourly	Once per hour	~0.5 – 1.5 gal/hr
Bypass stack position	Continuous	Once per minute	N/A
Bag leak detection system sensor output signal	Continuous	N/A	N/A
Pollutant Monitoring			
CO CEMS	Continuous	N/A	N/A

In addition, the source will monitor the hours of operation of the emergency generator (EU: B01), the amount of material loaded into the dry sorbent storage silo (EU: C01), and perform visible emission checks.

Initial performance tests are required by 40 CFR Part 60, Subpart Ec (60.56c).

Table IV-B-2: Test Methods

Method	Parameter Measured
EPA Reference Method 3, 3A, or 3B	Gas composition analysis, including oxygen concentration
EPA Reference Method 5, 26A, or 29	Particulate matter emissions
EPA Reference Method 7 or 7E	NO _x emissions
EPA Reference Method 6 or 6C	SO ₂ emissions
EPA Reference Method 9	Opacity
EPA Reference Method 10 or 10B	CO emissions
EPA Reference Method 23	Total dioxin/furan emissions
EPA Reference Method 26 or 26A	HCl emissions
EPA Reference Method 29	Pb, Cd, and Hg emissions
EPA Reference Method 22	Fugitive ash emissions

PM CEMS, CO CEMS, continuous automated sampling system for monitoring dioxin/furan emission, HCl CEMS, multi-metals CEMS, and Hg CEMS may be used instead of performance tests for the respective pollutant.

Stericycle is required to conduct annual performance tests for opacity, PM, and HCl per Subpart Ec, for the incinerators, which may be reduced to once every three years per 40 CFR 60.56c(c)(2). The remaining pollutants from the incinerators in Table IV-B-2 shall be tested every five years per Air Quality policy, except for CO, for which compliance is demonstrated via CEMS.