NORTH CAROLINA DIVISION OF AIR QUALITY

Air Permit Review

Permit Issue Date:

Region: Winston-Salem Regional Office
County: Alamance
NC Facility ID: 0100010
Inspector's Name: Ray Stewart
Date of Last Inspection: 03/24/2009
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): Stericycle, Inc.

Facility Address:
Stericycle, Inc.
1168 Porter Avenue
Haw River, NC 27258

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

Facility Classification: Before: Title V **After:** Title V
Fee Classification: Before: Title V **After:** Title V

Permit Applicability (this application only)

SIP:
NSPS:
NESHAP:
PSD:
PSD Avoidance:
NC Toxics:
112(r):
Other:

Contact Data

Facility Contact	Authorized Contact	Technical Contact
J Hill Environmental Manager (336) 578-8900 P O Box 310 Haw River, NC 27258	Alan Skrzypczak Facility Manager (336) 578-8900 P O Box 310 Haw River, NC 27258	Alan Skrzypczak Facility Manager (336) 578-8900 P O Box 310 Haw River, NC 27258

Application Data

Application Number: 0100010.06A
Date Received: 08/31/2006
Application Type: Renewal
Application Schedule: TV-Renewal

Existing Permit Data
Existing Permit Number: 05896/T17
Existing Permit Issue Date: 10/11/2005
Existing Permit Expiration Date: 05/31/2007

Review Engineer: Gautam Patnaik

Review Engineer's Signature: **Date:**

Comments / Recommendations:
Issue 05896/T18
Permit Issue Date:
Permit Expiration Date:

1. Facility Description.

This facility burns hospital, medical, and infectious waste in two HMIWI (hospital, medical, and infectious waste incinerators). The products of combustion are controlled by packed bed scrubbers and associated quench columns in series with venturi scrubbers equipped with mist eliminators. The facility also has a diesel-fired emergency generator.

2. Purpose of Application

This application (0100010.06A) is for the renewal for their Title V permit. The current Air Permit No. 005896T17, expired on May 31, 2007. However, the applicant submitted the required renewal application at least nine months prior to the expiration date and are therefore covered under the Title V application shield pursuant to 15A NCAC 2Q .0512(b)(1). In accordance with 15A NCAC 2Q .0513(c) Permit No. 005896T17 shall not expire until the renewal permit has been issued or denied.

3. Application Chronology

This renewal application was received on August 31, 2006. The table below outlines the modifications to their permit starting from their initial title V permit. :

Application #	Changes Made to the Permit	Permit Issued
0100010.00A	Initial title V application	05896T14
0100010.02A	Withdrawn	N/A
0100010.02B	Clarify existing monitoring conditions, define previously undefined terms and conditions, and better organize conditions.	05896T15
0100010.04A	Administratively changes in the operating parameters based on most recently approved performance test.	05896T16
0100010.05A	Administrative change to amend the existing waste management plan requirement under NSPS to include the explicit prohibition for incineration of dental waste.	05896T17

4. Regulatory Review

1. Two dual chamber hospital, medical, and infectious waste incinerators (HMIWI) firing supplemental natural gas (ID Nos. ES01 and ES02).

The incinerators are subject to the following regulations:

a) 15A NCAC 02D .1206: Hospital, Medical, and Infectious Waste Incinerators (HMIWI)

The emissions limit guidelines mentioned in Section 2.1. A. 1.a., of the current permit is as per 40 CFR 60 Subpart Ce and 40 CFR 62 Subpart HHH, until approval of 2D .1206 into SIP.

The State Implementation Plans (SIPs) are required by Section 110 of the Clean Air Act (CAA), for implementation, maintenance, and enforcement of the Ambient Air Quality Standards (NAAQS). Attainment demonstrations and maintenance plans are also part of the SIP. An index of North Carolina state rules that are part of the SIP are published at the site below:

http://www.epa.gov/region4/air/sips/nc/index.htm

A check of this site shows that this rule (i.e., 5A NCAC 02D .1206) has not been approved by the federal EPA. Per Mike Abraczinskas, of the planning Section, this rule is very unlikely to be incorporated as a SIP. Thus, these emissions limits are now incorporated as "State Only" limits under 2D .1206. The following table summarizes emission limitations for these Hospital, Medical, Infectious Waste Incinerator (HMIWI) units.

Pollutant	**Emission Limits***	**Applicable 2D.1206 State Rule**

Pollutant	Emission Limits*	Applicable 2D.1206 State Rule
Particulate matter	34 mg/dscm 0.015 gr/dscf	15A NCAC 2D.1206(c)(2)(A)
Carbon monoxide	40 ppmv	15A NCAC 2D.1206(c)(6)
Dioxins/furans	125 ng/dscm total D/F or 2.3 ng/dscm TEQ	15A NCAC 2D.1206(c)(12)(A)
Hydrogen chloride	100 ppmv or 93% reduction	15A NCAC 2D.1206(c)(8)(A)
Sulfur dioxide	55 ppmv	15A NCAC 2D.1206(c)(4)
Nitrogen dioxide	250 ppmv	15A NCAC 2D.1206(c)(5)
Lead	1.2 mg/dscm or 70% reduction	15A NCAC 2D.1206(c)(10)(A)
Cadmium	0.16 mg/dscm or 65% reduction	15A NCAC 2D.1206(c)(11)(A)
Mercury	0.55 mg/dscm or 85% reduction	15A NCAC 2D.1206(c)(9)(A)
Visible emissions	10% opacity (6-minute block averages)	15A NCAC 2D.1206(c)(3)

*All limits are corrected to 7% oxygen on a dry standard basis.

b) Operational requirements for incinerators

i) Both these incinerators (ES01 and ES02) are subject to the NSPS Subpart Ce "Emission Guidelines and Compliance Times for Hospital/Medical/Infectious Waste Incinerators" and NSPS Subpart Ec "Standards of Performance for Hospital/Medical/Infectious Waste Incinerators for Which Construction Is Commenced After June 20, 1996"

As stated in 40 CFR § 60.37e (2) "Establish maximum charge rate and minimum secondary chamber temperature as site-specific operating parameters during the initial performance test to determine compliance with applicable emission limits," and 40 CFR § 60.37e (4) "(4) operation of the designated facility above the maximum charge rate and below the minimum secondary chamber temperature (each measured on a 3-hour rolling average) simultaneously shall constitute a violation of the PM, CO, and dioxin/furan emission limits." These rates and limits are already established in Section 2.1. A. 1. b. (1) and (2) of the current permit, respectively.

Pursuant to 40 CFR § 60.56c(d)(1) for a wet scrubber control system, the applicant shall re-establish the appropriate maximum and minimum operating parameters as site specific operating parameters identified below:

A. Maximum waste charge rate (pounds per hour);
B. Maximum flue gas temperature;
C. Minimum secondary chamber temperature;

D. Minimum pressure drop across the venturi scrubbers;
E. Minimum liquor flow rate to the venturi scrubbers;
F. Minimum liquor pH of the packed bed scrubbers; and
G. Bypass stack position.

Based on the most recent performance test the operating scenarios for each incinerator is specified in tables in Section 2.1. A. 1. b. (4) of the permit.

HMIWI - UNIT 1

Pollutant Emission Limit Violation	**Operating Scenario Defining Compliance**
particulate matter	maximum charge rate of 1,952 pounds per hour and minimum pressure drop across venturi scrubber of 40.0 inches W.C.
CO	maximum charge rate of 1,952 pounds per hour and minimum secondary chamber temperature of 1,795.5oF
dioxin/furan	maximum charge rate of 1,952 pounds per hour minimum secondary chamber temperature of 1,795.5oF and minimum venturi scrubber liquor flow rate of 65.8 gallons per minute
HCl	maximum charge rate of 1,952 pounds per hour and minimum packed bed scrubber liquor pH of 4.15
mercury	maximum charge rate of 1,952 pounds per hour and maximum flue gas temperature of 133.7oF
particulate matter, dioxin/furan, HCl, lead, cadmium, mercury	operation of bypass stack except during start-up, shutdown, or malfunction

HMIWI - UNIT 2

Pollutant Emission Limit Violation	**Operating Scenario Defining Compliance**
particulate matter	maximum charge rate of 2,091.9 pounds per hour and minimum pressure drop across the venturi scrubber or 40.1 inches W.C.
CO	maximum charge rate of 2,091.9 pounds per hour and minimum secondary chamber temperature of 1,798.2oF
dioxin/furan	maximum charge rate of 2,091.9 pounds per hour, minimum secondary chamber temperature of 1,798.2oF, and minimum venturi scrubber liquor flow rate of 66.0 gallons per minute
HCl	maximum charge rate of 2,091.9 pounds per hour and minimum packed bed scrubber liquor pH of

Pollutant Emission Limit Violation	Operating Scenario Defining Compliance
	3.6
mercury	maximum charge rate of 2,091.9 pounds per hour and maximum flue gas temperature of 134.3oF
particulate matter, dioxin/furan, HCl, lead, cadmium, mercury	operation of bypass stack except during start-up, shutdown, or malfunction

The operating combustion chamber temperature and the residence time of the flue gas is specified in Section 2.1. A. 1. b. (5), and (6) of the current permit.

ii) Types of wastes allowed to be incinerated:

As per Section 2.1. A. 1. b. (7) of the current permit the type of waste allowed to be incinerated are as follows:

A. items and materials that fit within the definition of hospital, medical, and infectious waste contained in 40 CFR 60.51c;
B. international garbage (USDA/APHIS) defined as waste material derived in whole or in part from fruits, vegetables, meats, or other plant or animal material, and other refuse of any character whatsoever that has been associated with any such material aboard any means of conveyance and includes food scraps, table refuse, galley refuse, food wrappers, or packaging materials, and other waste material from stores, food preparation areas, passengers' or crews' quarters, dining rooms, or any other areas on vessels, aircraft, or other means of conveyance;
C. confidential documents generated in the health care industry,
D. controlled substances captured by law enforcement agencies;
E. non-hazardous trace chemotherapeutic waste materials;
F. non-hazardous pharmaceuticals.

The Regional Office had concerns regarding the terms "non-hazardous trace chemotherapeutic waste" and "non-hazardous pharmaceuticals,". As per the Regional Office "this particular NSPS was written before the development and widespread use of pharmaceutical drugs of today."

Both the NSPS Subpart Ec "Standards of Performance for Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996" and NSPS Subpart Ce "Emission Guidelines and Compliance Times for Hospital/Medical/Infectious Waste Incinerators" do not cite any of the above types of waste. 15A NCAC 2D.1206 (5) provides for the Incineration of only pathological waste, low-level radioactive waste, or chemotherapeutic waste under certain conditions. The applicant was made aware of the above issues.

The applicant responded in an e-mail on 9/11/09 stating "Essentially the way **RCRA** works is that a facility that is not permitted to receive hazardous waste (such as an HMIWI, MWC, municipal landfill, composting facility, recycling facility, etc.) should not receive hazardous

wastes because it is **illegal for generators to send it** and it is **illegal for transporters to deliver it to those facilities**. The obligation falls on the generators and transporters to prevent wastes from being shipped to unpermitted facilities. When unacceptable waste arrives at a Stericycle facility, **it is rejected** and either forwarded back to the generator or shipped to an appropriate treatment/disposal facility. All manifest discrepancies must be resolved prior to treatment of any waste, or the load will be rejected."

A conference call with the source, the regional office, and this office was held on on 10/30/09 and it was agreed to revise the permit condition to refer to non-hazardous materials under Section 2.1. A. (7) E., and F., to those substance that are not regulated under 15NCAC 13A .0106. This is stated in Section 2.1. A. (7) G., of the modified permit. 15NCAC 13A .0106 refers to a state statute that identifies and lists hazardous waste. This additional condition ensures that the permit cannot be used as shield to demonstrate compliance with RCRA.

iii) Visible emissions from these HMIWIs:

As per 40 CFR 60.52c(b) and 15A NCAC 2D .1206(c)(3) the visible emissions from these sources shall not be more than 10 percent opacity when averaged over a six-minute period. Though 2D .1206(c)(3) emissions limit are now only "State Only" requirements, this standard for opacity as well as the monitoring and record keeping are as per the requirements of NSPS Subpart Ec and thus not cited as a "Sate Only" in this Section of the permit. There are no changes to the monitoring and record keeping requirements.

iv) Venturi Scrubber Requirements:

NSPS Subpart Ec (40 CFR § 60.57c(a)) states "the owner or operator of an affected facility shall install, calibrate (to manufacturers' specifications), maintain, and operate devices (or establish methods) for monitoring the applicable maximum and minimum operating parameters listed in Table 3 of this subpart such that these devices (or methods) measure and record values for these operating parameters at the frequencies indicated in Table 3 of this subpart at all times except during periods of startup and shutdown."

Particulate matter emissions from the incinerators shall be controlled by packed bed scrubbers and mist eliminators. The charging rate for the two units and the pressure drop across the two venturi scrubbers are as stated in Section 2.1. A. 1. b. (9) A., of the permit. There is no change in the monitoring limits for these units.

Table 3 of NSPS Subpart Ec defines the operating parameters to be monitored and minimum measurement and recording frequencies. For a source using a wet scrubber the data measurement has to be continuous and the data recording is for every one hour, while measuring the charge rate and similarly, for a source using a wet scrubber the data measurement has to be continuous and the data recording is for every one minute, while measuring the pressure difference across the scrubber.

The current permit as specified in Section 2.1. A. 1. b. (9) B., requires the applicant to continuously record the pressure drop across the venturi scrubbers and the charging rate to each incinerator. This language is changed to state that the applicant shall continuously monitor the pressure drop across the venturi scrubbers and the charging rate to each incinerator. The applicant shall record every minute the pressure drop across each venturi scrubbers and record the charging rate to each incinerator, every hour.

c) Test Methods and Procedures [15A NCAC 2D .1206(e) and NSPS Subpart Ec]
d) Monitoring/Recordkeeping/Reporting [15A NCAC 2D .1206(f)]
e) NSPS Monitoring/Recordkeeping/Reporting Requirements [NSPS Subpart Ec (40 CFR 60.58c)]
f) Excess Emissions, Start-up and Shutdown [15A NCAC 2D .1206(g)]
g) Operator Training and Certification [15A NCAC 2D .1206(h) and NSPS Subpart Ec]

There is no change in the test methods, procedures, monitoring, record keeping, reporting, NSPS monitoring/recordkeeping/reporting requirements, excess emissions, start-up, shutdown, operator training and certification as specified in Section 2.1 A. 1. c), through g), of the permit.

2. One diesel fuel-fired emergency generator (ID No. EG01)

The generator is subject to the following regulations:

a) 15A NCAC 2D .0516: "Sulfur Dioxide Emissions from Combustion Sources"

As per this regulation emissions of sulfur dioxide from this source shall not exceed 2.3 pounds per million Btu heat input. Emission of sulfur dioxide formed by the combustion of diesel is very low and this generator is always expected to be in compliance. No monitoring, record keeping, or reporting is required to demonstrate compliance from this source.

b) 15A NCAC 2D .0521: "Control of Visible Emissions"

As per the current permit condition the visible emissions from the emergency generator is not more than 20 percent opacity. The latest inspection found this generator to be in compliance and future compliance is expected. No monitoring, record keeping, or reporting is required to demonstrate compliance from this source.

5. NSPS, NESHAPS/MACT, PSD, Attainment Status , 12(r), CAM

NSPS

As stated above both these incinerators (ES01 and ES02) are subject to the NSPS Subpart Ce "Emission Guidelines and Compliance Times for Hospital/Medical/Infectious Waste Incinerators" and NSPS Subpart Ec "Standards of Performance for Hospital/Medical/Infectious Waste Incinerators for Which Construction Is Commenced After June 20, 1996"

NESHAP/MACT

The facility is not currently subject to any MACT Standards because its emissions of all HAPs are below the major source thresholds. There is no change as a result of this action to renew the permit.

PSD

This renewal does not trigger any emissions increases.

Attainment Status
This facility is located in Alamance County, which is currently designated as an attainment area. The minor baseline dates for this County has been triggered for PM10 and SO2 emissions. This renewal does not trigger any increased emissions of PM10 and SO2 from this facility.

112(r)

This facility is not subject to Section 112(r) of the Clean Air Act requirements because it does not store any of the regulated substances in quantities above the thresholds in the Rule.

CAM

None of the control devices at this facility are currently subject to a Compliance Assurance Monitoring Plan (CAM).

The Compliance Assurance Monitoring (CAM) Rule (40 CFR Part 64) applies to pollutant-specific emissions units (PSEU) that are pre-control major sources and use a control device to comply with an emissions limit. To be subject to CAM a source must be subject to an emission limit and uses a control device to achieve compliance with this limit and the before control emissions from this source are greater than 100 tons per year of any criteria pollutant or more than 10 tons per year of any HAPs or more than 25 tons per year for a combined emissions of HAPs. The applicant has determined that none of the control device trigger CAM subject to the above criteria.

6. Facility Wide Air Toxics

The renewal of this permit did not require an air toxics analysis.

7. Statement of Compliance

The DAQ has reviewed the compliance status of this facility. As per the latest inspection done on 03/24/2009 the inspection report states “the facility was operating in likely compliance with its Title V Air Permit and all applicable DAQ regulations.” The applicant has certified that the facility will be in compliance with all applicable requirements at the time of permit issuance and will continue to comply with these requirements.

8. Public Notice / EPA and Affected State Review

Pursuant to 2Q. 0521, a notice of the draft Title V Permit will be/was placed in a newspaper of general circulation in the area where the facility is located. The notice shall/did provide for a 30 day comment period, with an opportunity for a public hearing. Copies of the public notice will be/was sent to persons on the Title V mailing list and EPA. Pursuant to 2Q .0522, a copy of each permit application, each proposed permit and each final permit pursuant will be/was provided to EPA. Also pursuant to 2Q .0522, a notice of the draft Title V Permit will be/was provided to each affected State at or before the time notice provided to the public under 2Q .0521 above.

9. Conclusions, Comments, and Recommendations

A professional engineer's seal was not required for this renewal.

A consistency determination was not required for this renewal.

Regional Office and the applicant were provided a draft of this permit their comments were taken into account. Regional Office concurs with RCO recommendation to renew air permit.

The additional statement that the Regional Office stated was the potential applicability of the RICE GACT to the facility's diesel fired generator.

The applicant major comments and action taken are noted below:

- "While .1206 is a state rule, EPA has SIP approved it with few exceptions and therefore referring to it as "State Only" doesn't reflect that it is SIP approved. Stericycle recommends removal of the term "State Only." SIP approval link: http://daq.state.nc.us/rules/rules/SIP.pdf"

  The above link does provide a site to State DAQ which in part states" All the regulations contained herein are part of the federally-approved State Implementation Plan for North Carolina or have been **submitted for approval** as part of the State Implementation Plan."

  This site lists the 2D .1206 "Hospital, Medical, and Infectious Waste Incinerators" with the exception of (c)(7), (13), and (14) and (f)(2)) of the rule.

  However as per Mike Abraczinskas, the Planning Section Chief of DAQ "02D .1206 is not part of the Federally approved SIP….. I have found records that we submitted 02D .1206 to EPA (assuming we requested 111(d) approval) in 2002, but I can't find any record of EPA "approving" our 02D .1206 rule into our Section 111(d) plan in part 62." Thus, 02D .1206 continues to be listed as a State only regulation.

- "Only 40 CFR Part 60 Subpart Ec references are cited in this section. Additionally Subpart Ce is not incorporated by reference by NC DENR as stated in: http://daq.state.nc.us/rules/rules/D0524.pdf . As a result, Stericycle suggests deletion of this reference."

  The reference to Subpart Ce is removed in Section 2.1 A. 1. b., of the modified permit.

- "Condition A.1.b(2) in not applicable to Stericycle's HMIWI operations as the condition applies to small rural /remote HMIWI only. 40 CFR Part 60.56c addresses the operating parameters which must be monitored for large HMIWI utilizing a wet scrubber control system (as referenced in Condition A.1.b(3)). Condition A.1.b(4) specifically identifies the "Operating Scenario Defining Compliance" and the associated "Pollutant Emission Limit Violation" that Units 1 and 2 are subject to. Stericycle requests that this condition be deleted."

  This request is denied since the applicant did not provide any justification or regulatory language to indicate that this condition applies to "**small rural /remote HMIWI only**."

- "Since .1206 is SIP approved, it is no longer necessary to reference citations if the Federal Plan (40 CFR Part 62 Subpart HHH)"

  The applicant was referring to 2.1 A. 1. b. (4) of the permit. As explained above since 2D .1206 is not SIP approved, this request is denied.

- "Stericycle suggests deletion of 1.b.(9) in its entirety since all of the requirements are covered elsewhere in the permit and are redundant. Specifically 1.b.(9)A is addressed in 1.a.4 and 1.b.(9)B is addressed in 1.e.5. 1.a.4 and 1.e.5 address all operating parameters and don't single out the venturi scrubber."

  This request was denied, however some modification to the language of this section was made as suggested by the applicant.

10. Permit Modification/Changes

The following table describes the modifications to the current permit as part of the modification process.

Page(s)	Section	Description of Change(s)
6	2.1. A. 1. b. (7). G.	Added reference to "non-hazardous materials" not regulated under 15NCAC 13A .0106
6 to 7	2.1. A. 1. b. (7). G.	Modified recoding requirements for the charge rate and pressure difference
11	Testing.	Change all testing reference
14 to 23	General Conditions	Updated