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ALLEGATIONS OF DEQ PERMIT VIOLATIONS AND MISMANAGEMENT AT STERICYCLE

Allegations	Inspection Findings	Inspector Observations/Documents reviewed
Feed Rates		
Incineration feed rates are exceeded.	Waste is weighed on a charge belt and is fed to the incinerator hopper. The contents of the hopper are fed through a charge door to the incinerator in six-minute cycles. The charge door is closed except when waste is being fed to the incinerator. When the charge weight is exceeded, the Programmable Logic Controller (PLC) locks the incinerator system, and waste cannot be fed to the incinerator until the permitted feed rate under the air quality permit is met. Tracking of the amount of material charged into the incinerator is a requirement of Stericycle's air quality permit. The maximum charge rate is determined during stack testing. The hourly charge rate is determined by the total weight of the charges per hour. These weights are measured at the top of the belt and are electronically recorded by the Data Acquisition System (DAS). No exceedances of maximum hourly charge rate have been noted.	DEQ inspectors observed charging of waste to the incinerator.

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Allegations	Inspection Findings	Inspector Observations/Documents reviewed
Incinerator Management		
The incinerator is not maintained at accurate temperatures.	Incinerator temperatures are controlled by the PLC. If temperatures fall outside of the required operating range, the PLC locks the incinerator feed and waste cannot be fed until temperatures return to the required range. The boiler has two chambers, a primary chamber and a secondary chamber. The air quality permit requires that a 3-hour average minimum secondary chamber temperature be established during stack testing. The current minimum secondary chamber temperature is 1,797.6 degrees F. The temperature is usually between 1,830 degrees and 2,250 degrees F. The temperatures are continuously recorded, and the data is automatically stored in the DAS. All deviations from the minimum secondary temperature requirement are reported semi-annually to the Division of Air Quality (DAQ). Deviation reports are also sent to DAQ within 7 days of any such occurrence. No failures to maintain minimum secondary chamber temperatures have been reported by Stericycle, and no such events have been noted during inspections of company records.	DEQ inspectors observed incinerator operations and temperature recording instruments.

Allegations	Inspection Findings	Inspector Observations/Documents reviewed
	Secondary temperatures in the range of 2,000° F to 5,000° F would not be violations of air quality rules, but temperatures at the top end of the range could damage the furnace. The furnace is automatically controlled by PLC, not by manual thermostat. The employees on the floor can only turn the furnace off or on, load the furnace charge, and clean out the ash. If the PLC detects temperatures outside of set parameters, it will alarm and shutdown. The furnace is equipped with natural-gas-fired burners to maintain minimum temperatures inside the furnace. If the pilot light, which ignites the burner, didn't light up, the temperatures in the furnace would be low, not high. DEQ inspectors found no evidence that the required temperatures are not maintained when waste is fed to the incinerator.	
Incinerator operating parameters are poorly monitored.	The following incinerator parameters are continuously monitored and recorded: • maximum charge rate • minimum secondary temperature • minimum Selective Non-Catalytic Reduction (SNCR) reagent flow rate	

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	• fabric filter inlet temperature • maximum flue gas temperature at the carbon bed inlet • minimum absorber liquid flow rate • minimum absorber liquid pH • minimum pressure drop across the absorber • minimum carbon injection rate • minimum hydrogen chloride (HCl) sorbent flow rate • by-pass stack position These are all monitored and controlled by the PLC.	
The incinerator is cleaned by "punching the boiler."	The boiler tubes, not the incinerator, are cleaned, or "punched," approximately every 7 to 10 days. Entrance into the main boiler tube for cleaning is performed by an employee trained in confined space entry. Stericycle provides appropriate protective equipment for the employees who clean the boiler. Water is not used to clean the boiler. The boiler is cooled to approximately 120 degrees Fahrenheit before cleaning. Employees have the discretion to wait for a lower temperature before entering the boiler tube. Cleaning the boiler is part of Stericycle's maintenance program and is not a requirement of its permits. A boiler punch is performed every 7	DEQ inspectors observed boiler cleaning procedures.

Allegations	Inspection Findings	Inspector Observations/Documents reviewed
	to 10 days and is not a violation of air quality rules.	
Ammonia is used to keep the ash from the incinerator out of the stacks	The Selective Non-Catalytic Reduction (SNCR) air pollution control technology, installed at the facility in January 2013, uses ammonia to control nitrogen oxides (NO_x) emissions and is not used to specifically control incinerator ash. DAQ believes that the discussion surrounding the disposal of ash refers to the dust-handling system for the old electrostatic precipitator (ESP) hoppers that captured and removed flyash generated by the incineration process. The ESP has since been replaced with a more efficient baghouse.	
Radioactive Materials		
Containers are not monitored for radioactivity.	All containers are monitored for radioactivity while being weighed prior to incineration. Containers received from local pickups are scanned for radioactivity prior to repackaging. Containers that trigger the radioactive sensor are set aside and then checked 24 hours later for radioactive levels. Waste is not incinerated until it meets the permitted levels for radioactivity under	DEQ inspectors observed radiation detection procedures.

Allegations	Inspection Findings	Inspector Observations/Documents reviewed
	the solid waste permit. Inspectors found no evidence that containers are not monitored for radioactivity prior to incineration.	
The radiation detection monitor works only part of the time.	Radiation detectors are set to alarm at twice background (50 microrems (µRems). The detector is challenged with a Cesium 137 source at least weekly and calibrated yearly as required by the manufacturer. The radiation detector will not alarm if containers do not exceed the permitted level of radioactivity. DEQ inspectors found no evidence that the radioactive detection monitors do not work as required.	DEQ inspectors observed radiation detection procedures. Inspectors also observed multiple challenges of the detectors. Both detectors alarmed when challenged. The calibration logs were inspected.
Radioactive wastes are incinerated that exceed the permit limits.	All containers are monitored for radioactivity while being weighed prior to incineration. Containers received from local pickups are scanned for radioactivity prior to repackaging. Containers that trigger the radioactive sensor are set aside and then checked 24 hours later for radioactivity levels. Waste is not incinerated until it meets the permitted levels for radioactivity under the solid waste permit.	DEQ inspectors observed radiation detection procedures.

Allegations	Inspection Findings	Inspector Observations/Documents reviewed
	DEQ inspectors found no evidence that radioactive waste that exceeds permit limits is incinerated.	
Bags known to contain radioactive material are incinerated.	All containers are monitored for radioactivity while being weighed prior to incineration. Containers received from local pickups are scanned for radioactivity prior to repackaging. Containers that trigger the radioactive sensor are set aside and checked daily for radioactive levels. Waste is not incinerated until it meets the permitted levels for radioactivity under the solid waste permit. If radiation does not decay to permitted levels, arrangements are made to return the waste to the generator. DEQ inspectors found no evidence that radioactive waste that exceeds solid waste permit limits is incinerated.	DEQ inspectors observed radiation detection procedures.
Recordkeeping		
Operating data is not recorded. Paper radial recorders are rendered inoperable.	All incineration data are recorded in an electronic DAS. Paper radial charts are kept as a backup to the DAS. The paper radial recorders (wheel charts) record incinerator operating parameters as a backup	DEQ inspectors observed the DAS and radial dials in operation. Inspectors discussed the operations of the DAS and the radial dials with facility representatives. Operating data was reviewed.

Allegations	Inspection Findings	Inspector Observations/Documents reviewed
	system. The primary recording system is the electronic DAS. The incinerator operator also keeps handwritten logs of these operating parameters. If the wheel charts were not recording, there would be obvious gaps of data on them. No data gaps have been noted by DAQ. The DAS electronically records all parameters. In DAQ's experience, it is not uncommon to see rubber bands wrapped around wheel chart marker pens to hold them in place. Stericycle's current wheel chart markers are a newer design. Rubber bands would not work on their wheel chart arms. DEQ inspectors found no evidence of tampering with radial dials or the DAS, or that operating data is not recorded.	
Stack Testing		
Stericycle sends an engineer to the facility to optimize stack performance before compliance tests.	Part of the stack test requirements involve establishing operating parameter limits during testing and to program the PLC to automatically monitor and maintain those operating parameters during day-to-day operations. Mr. Jim Gaspar is sent to every Stericycle incinerator to establish PLC controller operating parameters (optimize the unit prior to every test). This is not a violation of air quality rules.	

Allegations	Inspection Findings	Inspector Observations/Documents reviewed
The facility makes special preparations before compliance testing.	Stack tests are scheduled by the facility. DAQ observers are onsite for these tests. Compliance inspections are performed unannounced.	
Supervision		
There are no supervisors on site during operations	Supervisors are on site at all times during operations. Supervisors may not be in every work area with every employee at all times during operating hours as they have other work assignments to perform. The incinerator is operated by a qualified and trained operator, and two backup operators live within one hour of the facility. The solid waste permit requires that an employee be at the facility at all hours the facility is operating.	DEQ inspectors reviewed supervisory assignments with company officials.
Wastes Accepted		
Certain wastes are incinerated without approval.	Stericycle is permitted to incinerate a large variety of medical wastes under its solid waste	DEQ inspectors observed waste management operations.

Allegations	Inspection Findings	Inspector Observations/Documents reviewed
	permit. Individual approval for each waste type is not required. Special waste defined in the solid waste permit must receive approval from the Director of the Division of Solid and Hazardous Waste prior to incineration. DEQ inspectors found no evidence that unapproved waste is being incinerated.	
Narcotics and other illegal drugs are incinerated.	Narcotics may be accepted for incineration at the Stericycle facility in accordance with the solid waste permit. Stericycle occasionally incinerates illegal drugs in accordance with the protocols of and under the direction of law enforcement agencies. Narcotics or pharmaceutical wastes meeting the definition of a hazardous waste cannot be incinerated at the facility.	DEQ inspectors reviewed narcotics and drug destruction protocols with company officials.
Waste Disposal		
Waste is not completely incinerated before being sent to the landfill.	By design, the incinerator does not reduce the waste to ash. Its purpose is to destroy infectious material. The solid waste permit does not require the	.

Allegations	Inspection Findings	Inspector Observations/Documents reviewed
	complete destruction of waste. The solid waste rules allow medical waste to be disposed of in a landfill without treatment.	
Incineration residue is physically crushed to render it unrecognizable.	There is no requirement for Stericycle to crush or otherwise treat incineration residue. Stericycle is not prohibited from crushing incineration residue. Stericycle has no apparent incentive to put employees at risk for puncture wounds by requiring further treatment of incineration residue. If incineration residue is crushed, it is done so in violation of Stericycle policy. By design, the incinerator does not reduce the waste to ash. Its purpose is to destroy infectious material. The solid waste permit does not require the complete destruction of waste. The solid waste rules allow medical waste to be disposed of in a landfill without treatment.	DEQ inspectors reviewed Stericycle's policy for management of incineration residue with company officials.
Waste Management: Body Parts		
Fetuses are accepted for incineration.	The solid waste permit does not allow the facility to accept recognizable fetal remains. If recognizable fetal remains are identified, they are	DEQ inspectors observed waste handling and management procedures.

Allegations	Inspection Findings	Inspector Observations/Documents reviewed
	removed from the load belt and returned to the generator. DEQ inspectors found no corroborating evidence to support the allegation.	
Body parts are managed in open containers.	No containers are opened by employees. Unless a container breaks open, it would be difficult to know its contents. Appendages (arms and legs) are acceptable under the solid waste permit for incineration but are not managed in open containers. DEQ inspectors found no evidence of improper management of body parts.	DEQ inspectors observed waste handling and management procedures.
Heads and torsos are accepted for incineration.	The solid waste permit prohibits the incineration of human remains or cadavers. DEQ inspectors found no corroborating evidence to support the allegation.	DEQ inspectors observed waste handling and management procedures.
Waste Management and Storage		
Waste is managed in unapproved	The solid waste permit does not require the use of	All containers observed were DOT-approved containers.

Allegations	Inspection Findings	Inspector Observations/Documents reviewed
containers.	certain types of containers. All containers must meet Department of Transportation (DOT) standards.	
Wastes are stored longer than 48 hours.	Stericycle's solid waste permit allows storage of waste for 30 days. DEQ inspectors found no evidence that wastes are kept onsite for longer than 30 days.	DEQ inspectors reviewed waste storage logs.
Wastes are stored in unpermitted areas.	The solid waste permit does not limit the areas where waste can be stored at the facility. DEQ inspectors found waste stored in appropriate locations.	The areas where wastes are stored were inspected.
Waste containers rip open.	Operators do not open containers. All outer containers are lined with an approved inner bag. If the inner bag breaks while being placed on the incinerator load belt, any liquid released is collected in the containment system for subsequent management. DEQ inspectors found no evidence that waste released from containers are improperly managed.	DEQ inspectors observed proper management of wastes released from containers.

Allegations	Inspection Findings	Inspector Observations/Documents reviewed
Weighing and Scanning of Containers		
Multiple containers are placed on the scale at the same time, but only one of the containers is scanned.	Weighing and scanning of bar codes of multiple bags or containers at this point in the waste management process is for business purposes only. Scanning of bar codes is not a regulatory requirement. One bar code representing one company may be used for multiple containers. In this case, it is not necessary to scan each individual container. Air quality rules require Stericycle to measure and track the weight of all materials being charged into the incinerator. The bar codes on the container identify the company to bill for the shipment. The charge weights of the containers are measured at the bottom of the belt and at the top of the belt before entering the incinerator. The containers described in the allegations are smaller containers that are bundled on pallets. Containers from the same customer all have the same bar code number. This practice does not impact DAQ's ability to determine compliance with the maximum charge rate limit. Compliance with the charge rate limit is tracked using the weights measured at the top conveyor belt as the containers enter the	DEQ inspectors observed waste acceptance, weighing and scanning procedures.

Allegations	Inspection Findings	Inspector Observations/Documents reviewed
	incinerator. The bar codes and weights taken at the bottom of the feed belt are only used for customer billing purposes. Stericycle has an established hourly feed rate limit under its air quality permit that is measured at the top of the belt as the waste dumps into the incinerator. To bypass the scale at the top of the feed belt, operators would have to manually carry waste up to the top of the belt and hand load it into the feed hopper. Inspectors found no evidence of this practice. If this were to happen, the practice would be more dangerous and slower than using the feed belt to load the incinerator in the normal manner. There is no economic incentive for Stericycle to not weigh all the containers before they go on the belt because Stericycle would not be paid for containers that are not weighed.	
Workplace Safety		
Smoke from incineration is released into work areas.	There are occasions where a clinker may enter the final quench bath in the incinerator and a small	DEQ inspectors reviewed incinerator operation procedures with company officials.

Allegations	Inspection Findings	Inspector Observations/Documents reviewed
	amount of steam enters the work area and is vented through the roof.	
No personal protective equipment other than paper masks is provided.	Stericycle provides appropriate personal protective equipment for employees.	DEQ inspectors observed the safety equipment dispensing system, which employees can activate using their employee identification number.
Personal protective equipment provided to employees for cleaning the incinerator is inadequate.	The incinerator is checked at the same time the boiler is cleaned. Entrance in the incinerator is performed by employees trained in confined space entry. Employees are provided with Tyvek suits, respiratory protection, face shields, and gloves. Water is used during the cleaning procedures and is controlled by the employee conducting the cleaning. Water is not indiscriminately sprayed over the employee, as alleged. Cleaning the incinerator is part of Stericycle's maintenance program, not a requirement of its solid waste or air quality permits.	DEQ inspectors reviewed incinerator- cleaning procedures with company. Records of confined space entry training were also reviewed.
Employees are stepping in medical wastes.	Wastes are transferred from the trucks at the loading dock directly to the loading belt without opening the containers. Wastes managed at the decant station are transferred between rigid containers without opening the inner containers	DEQ inspectors observed waste handling and container management procedures. Inspectors also reviewed spill cleanup procedures with company officials.

Allegations	Inspection Findings	Inspector Observations/Documents reviewed
	that actually hold the wastes. The only un-containerized wastes at the facility would be the result of a spill. In the event of a spill, required spill cleanup procedures are followed. DEQ inspectors found no evidence that, in the event of a spill, required spill cleanup procedures are not followed.	
Risks are not communicated to employees.	Stericycle trains employees on a regular basis. The training is job specific. All required training is documented. Employees are required to sign an attendance role and demonstrate knowledge through tests.	DEQ inspectors reviewed training records.