NCDENR
NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

FACILITY COMPLIANCE AUDIT REPORT
Division of Waste Management
Solid Waste Section

UNIT TYPE:

Lined MSWLF		LCID		YW		Transfer		Compost	x	SLAS		COUNTY: Chatham
Closed MSWLF		HHW		White goods		Incin		T&P		FIRM		PERMIT NO.: SWC-19-06
CDLF		Tire T&P / Collection		Tire Monofill		Industrial Landfill		DEMO		SDTF		FILE TYPE: Compliance

Date of Audit: April 13 & 14, 2011 Date of Last Audit: August 6, 2009

FACILITY NAME AND ADDRESS:
McGill Environmental Systems - Merry Oaks Facility
634 Christian Chapel Church Road
New Hill, North Carolina 27562

G.P.S. COORDINATES: N: 35.63476 W: -79.00658

FACILITY CONTACT NAME AND PHONE NUMBER:
Steve Cockman, Vice President, McGill Environmental Systems
(919) 362-1161

FACILITY CONTACT ADDRESS:
(same)

AUDIT PARTICIPANTS:
Jimmy Halcomb, McGill Environmental Systems
Steve Cockman, McGill Environmental Systems
Robert Hearn, Solid Waste Section

STATUS OF PERMIT:
Permit Issued: April 12, 2003
Permit Amended (renewal): December 1, 2004
Permit Amended (renewal): December 8, 2010
Permit Expires: December 8, 2015

PURPOSE OF AUDIT:
Comprehensive audit

NOTICE OF VIOLATION:
(none)

You are hereby advised that, pursuant to N.C.G.S. 130A-22, an administrative penalty of up to $5,000 per day may be assessed for each violation of the Solid Waste Statute or Regulations. If the violation(s) noted here continue, you may be subject to enforcement actions including penalties, injunction from operation of a solid waste management facility or a solid waste collection service and any such further relief as may be necessary to achieve compliance with the North Carolina Solid Waste Management Act and Rules.

STATUS OF PAST NOTED VIOLATIONS:
(none)

AREAS OF CONCERN AND COMMENTS:

1. The McGill Environmental Systems - Merry Oaks Facility, owned and operated by McGill Environmental Systems of N.C., Inc., is permitted as a Large Type-4 Solid Waste Composting Facility. The facility accepts numerous wastes as compost feedstocks and produces compost and soil mixes. It receives an average of approximately 7,740 tons of waste per month, according to the Facility Annual Report submitted for the period of July 1, 2009 to June 30, 2010. Facility hours of operation are Monday through Friday from 8:00 a.m. until 5:00 p.m. Inspected facility operations on April 13, 2011, accompanied by Mr. Jimmy Halcomb, following several days of relatively-dry weather. Returned to the facility on April 14, 2011 and met with Mr. Steve Cockman to discuss facility operations and complete inspection of facility operating records and other documents. Overall facility operations appeared to be consistent with Permit No. 19-SWC-06 and the approved Operations Plan.

2. Current operational phases at the McGill Environmental - Merry Oaks facility include: waste receiving and bucket blending in the operations building's blending area; composting in the static-composting bays in the processing area; an initial screening in the screening plant; curing in curing bays and outdoor windrows; outdoor storage for further curing prior to final screening; and final screening and placement in storage bunkers. Other operations conducted at the site include grinding of clean yard waste and pallets for use as bulking material; storage of liquid feedstocks in an outdoor holding tank; and blending of compost with approved amendments to produce soil mixes.

3. Observed very little or no runoff from operations in the blending, processing, screening, and curing areas inside the building. Observed that drains on the floor in each area were clear of compost or other debris.

4. Observed that the compost building, which includes blending, screening, and curing areas as described above, had sustained significant damage since the previous facility audit:

Observed that numerous metal panels on the walls of the building were missing, as well as several translucent panels on the roof; also observed that some of the ventilation fan units on the roof were displaced or missing. Mr. Halcomb explained that, approximately three weeks prior to my visit, the site experienced severe straight-line winds that resulted in damage to the walls and roof, and knocked several fan units on the roof out of place.

Also observed that the no door is in place at the loading entrance on the west side of the building. Mr. Halcomb explained that the same strong winds had irreparably damaged the door's support structure, necessitating removal of the door to allow continued access to the interior of the building.

Further observed that a localized failure of one or more of the large, structural-support beams inside the building had occurred, resulting in a partial collapse of the roof in the static-composting-bay (processing) area. Mr. Halcomb explained that, over time, corrosion of the steels beams had weakened some of them to the point of failure under the load of the roof. Mr. Halcomb said that no one was injured in the collapse.

Mr. Halcomb explained that planning is underway for a major renovation of the building in the coming months, wherein the building superstructure, aside from the concrete floor, walls, and bays, will be removed and replaced. He further explained that the height of the existing, concrete portions of the walls would be raised several feet, but would not extend to the roofline.

5. Spoke with Mr. Cockman on April 28, 2011 to get an update on the facility renovation schedule. He said that he expects to receive a final draft of building renovation plans within the next two weeks, and anticipates that demolition of the building will commence by mid-May. Please submit a copy of all site renovation and construction plans to Mr. Michael Scott, Composting and Land Application Branch Supervisor, as soon as they are received.

6. Observed delivery and bulking of liquid waste in the blending area. Observed that liquid waste delivered to the blending area was promptly bucket-mixed, using a wheel loader, with high-carbon organic feedstock wastes (e.g., ground, clean wood waste), which serve to absorb liquids and help achieve proper moisture levels to produce a waste blend that is suitable for composting. Also observed that movement of liquid waste in the blending area was controlled

by a check dam consisting of compost and waste wood. Very little runoff from waste blending operations was observed to have moved beyond the blending area at the time of inspection.

Mr. Halcomb explained that, as part of the facility's Odor Control Plan, putrescible, odorous, and liquid waste materials are promptly managed upon receipt at the facility to minimize odors and exposure to vectors, either by immediate delivery into the blending area, or by temporary storage in the large holding tank located adjacent to the receiving area.

7. Observed that the waste-material blend was then moved to the primary processing area, which consists of composting bays surrounded on three sides by high concrete walls. Mr. Halcomb explained that confining composting waste to this area for approximately one week (prior to moving to the main processing area) helps to control odors via better-controlled delivery of malodorous air to the biofilters, and also helps to reduce corrosion of metals and improve air quality inside the building.

8. Observed that blended-waste material in the static-composting bays in the processing area was neatly confined within the bays, with very little material present on the concrete traffic aisle along the center of the building. Mr. Halcomb said that composting waste remains in the static-composting bays for at least 72 hours and is maintained at temperatures of 151 degrees Fahrenheit or greater so as to achieve requirements for a Process for Further Reduce Pathogens (PFRP). No runoff was observed draining from this processing area into the traffic aisle at the time of inspection.

9. Observed screening operations of composted material in the screening-plant area. Compost is screened by a custom-built Erin-brand trommel/screening machine. Mr. Halcomb explained that after screening, finer-grade compost is moved to the curing bays, while larger-sized particles ("overs") are returned to the blending area to be processed again. Observed that the screening-plant area was neat and orderly, with a minimum amount of compost on the floor outside the screening area. No runoff was observed in this area at the time of inspection.

10. Observed that the indoor curing-bay area was also neat and orderly; a minimal amount compost was observed on the floor outside the curing bays. Mr. Halcomb explained that compost remains in the curing bays for at least 14 days and is maintained temperatures of 114 degrees Fahrenheit or higher so as to achieve requirements for Vector Attraction Reduction (VAR). No runoff was observed draining from the curing-bay area at the time of inspection.

11. Observed that the outdoor curing area was also neat and orderly. Compost was stored in several windrows, which were observed to have adequate space between each row for access by equipment in the event of an emergency. Mr. Halcomb explained that these windrows are periodically turned, using a Wildcat-brand windrow turner, to homogenize and facilitate thorough curing of the windrowed compost. A relatively-minor amount of compost was observed on the ground outside the windrows, and minimal runoff was observed in the outdoor curing area.

12. Observed that the pad under the windrow curing area, comprised of approximately 2' of compacted fly ash atop compacted clay soil, appeared to be adequately graded to allow surface runoff to drain from the area in a controlled manner. No ponding of runoff was observed on the pad or against the compost windrows at the time of inspection.

13. Observed that compost in the adjacent, outdoor compost storage area was confined to storage piles, with a minimal amount of compost on the ground in traffic areas. <u>Observed that a very large storage pile at the north-east corner of the storage area appeared to extend well beyond the limits of the storage area designated on the approved Site Plans</u>. <u>Take timely actions to remove and confine any compost situated beyond those limits to the approved storage area</u>.

14. Inspected the biofilter located outside the west wall of the operations building. Mr. Halcomb explained that renovation of the biofilters, which includes replacement of biofilter media, replacement of air-distribution pipes, and repairs to fans or ductwork (if needed), is currently underway and is expected to be completed by the end of 2011. Mr. Halcomb further explained that the northern portion of the biofilters was renovated during 2010, while renovation of the southern portion of the biofilters is almost complete. Observed that a portion of the biofilter midway along its length was not in place; Mr. Halcomb explained that mechanical components in this area were undergoing repair, and

that biofilters media would be replaced upon promptly upon its completion.

15. Inspected the facility yard and runoff-drainage patterns outside the building. A relatively-minor amount of compost, wood waste, or other debris was observed on the yard. Observed that the perimeter of the facility yard was enclosed by berms that appeared to consist of compost, overs, and wood waste. Inspected the four check-dam drains at the perimeter of the yard, each of which was comprised of an initial row of contiguous bales of hay, with an absorbent sock downgrade and adjacent to the bales, followed by a rip-rap-stone check dam, contiguous to the adjacent berms, at the drain outlet. Drainage ditches, located below the drain outlets and running parallel to the berms, function to channel runoff to the two silt basins located outside the perimeter of the yard, in accordance with the approved Site Plan. However, due to woody vegetation growing on and adjacent to some portions of the drainage ditches, it was not immediately discernable that the ditches were functional in accordance with approved Site Plans. Regularly monitor check dams and drainage ditches and take prompt actions to repair these components as needed to control surface runoff from the facility.

16. Observed that the gravel check dam on the silt basin located west of the facility perimeter was in need of repair; also, the basin appeared to need emptying of accumulated sediment so as to restore adequate basin capacity. The check dam on the basin outside the northern limits of the facility was barely observable due to dense, woody vegetation around the basin. Take prompt actions to repair and clean out the silt basins as needed, and clear woody vegetation from around the basins to allow for easy inspection and regular maintenance of basins so as to ensure proper function, in accordance with the approved Site Plan.

17. Observed the yard-waste storage and grinding area on the south-west portion of the facility yard. Noted that the pile contained an incidental amount of non-vegetative waste, which Mr. Halcomb explained is removed from compost during the screening process. Mr. Halcomb said that yard waste staging and grinding operations are being moved to the north-west portion of the facility yard. Promptly contact Mr. Scott regarding requirements for documentation of any such changes in operational layout.

18. Observed screening of finished compost by a Doppstadt-brand screening machine in the curing pile area. Mr. Halcomb explained that, after screening, compost is stored in large storage bunkers adjacent to the outdoor screening area, ready for distribution. He said that a portion of the compost is blended with approved amendments to produce soil mixes for sale and distribution.

19. Observed that heavy equipment, irrigation equipment, and fire-suppression materials are present on site for use in fighting fires. Noted that fire extinguishers at the facility are maintained by United Fire & Safety Equipment Co., Inc. of Goldston, N.C., and were last inspected in August, 2010.

20. Observed a large, locking gate in place at the entrance on Christian Chapel Church Road to prevent unauthorized access to the facility.

21. Observed signage in place at the entrance to the facility showing the facility permit number, hours of operation, and the facility contact telephone number. Also observed signage listing wastes prohibited from acceptance at the facility.

22. Observed that the facility access road and interior service roads are maintained with gravel cover and appeared to be adequately graded to shed surface runoff in a controlled manner.

23. Observed that a large amount of road dust was generated by vehicles traveling along the facility entrance road and service roads. Consider making regular applications of water to the roads, as needed, to minimize emissions of dust resulting from vehicular traffic.

24. Inspected operational records in the compost building's operations-control room. The facility utilizes computer software by Industrial Concepts, Inc., of Hartsville, S.C., for control and monitoring of composting operations. Inspected records of data collected from composting and curing bays during the past year, and noted that this data

appeared to demonstrate that PFRP and VAR temperatures and holding-time requirements were achieved for each batch of compost processed at the facility.

25. Discussed with Mr. Cockman the numerous feedstocks that are currently accepted for composting at this facility, which include: wastewater-treatment residuals, industrial sludges, water-treatment residuals, grease-trap waste, and food and animal waste/feed. Inspected waste-feedstock and amendment analysis reports maintained for each client account; pre-acceptance testing of waste feedstocks include TCLP (tested biannually) and total metals (tested monthly).

26. Inspected compost analysis reports from testing of finished compost materials. Reviewed U.S. Composting Council Certification Reports which detailed technical data, including: percent moisture, percent organic matter content, pH, nutrients, soluble salts, trace metals, presence of select pathogens, and a maturity indicator (via bioassay).

27. The Facility Annual Report submitted for the period of July 1, 2009 to June 30, 2010 states that a total of 92, 908.34 tons of material were composted during that period, well below the 151,200-ton limit specified in Permit Condition No. 19 of Solid Waste Composting Permit No. SWC-19-06.

28. Noted that the Facility Permit, approved Operations Plan, and Safety Training documents were available for review in the facility office.

Please contact me if you have any questions or concerns regarding this audit report.

Robert Hearn

Robert Hearn
Environmental Senior Specialist
Regional Representative

Phone: (919) 508-8525

cc: Mark Poindexter, Field Operations Branch Supervisor
Michael Scott, Composting and Land Application Branch Supervisor
Jason Watkins, Central District Supervisor
Shawn McKee, Compliance Officer

Delivered on: 4/29/11 by		Hand delivery	X	US Mail		Certified No.