



North Carolina Department of Environment and Natural Resources
Division of Air Quality

Michael F. Easley, Governor

William G. Ross, Jr., Secretary
B. Keith Overcash, P.E., Director

MEMORANDUM

DATE: February 9, 2006

TO: Air Quality Regional Supervisors
Air Quality Section Chiefs

FROM: Lee A. Daniel /s/

SUBJECT: Division of Air Quality Permitting and Compliance Guidelines for Municipal Solid Waste Landfills

On January 16, 2003, the United States Environmental Protection Agency (EPA) finalized the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Municipal Solid Waste Landfills (40 CFR Part 63, Subpart AAAA). This regulation is also referred to as the Maximum Achievable Control Technology (MACT) standard for Municipal Solid Waste Landfills or the Landfill MACT. The existing landfills subject to the Landfill MACT were required to comply with this regulation by January 16, 2004. New landfills are required to comply by this date or the start-up date, whichever is later.

North Carolina also has a health-based toxic air pollutant control program, in effect since May 1, 1990, that regulates 105 toxic air pollutants (TAPs). Under this program, a facility must demonstrate compliance with 15A NCAC 2D .1104, "Toxic Air Pollutant Guidelines" at the same time the facility is required to comply with the applicable Last MACT.

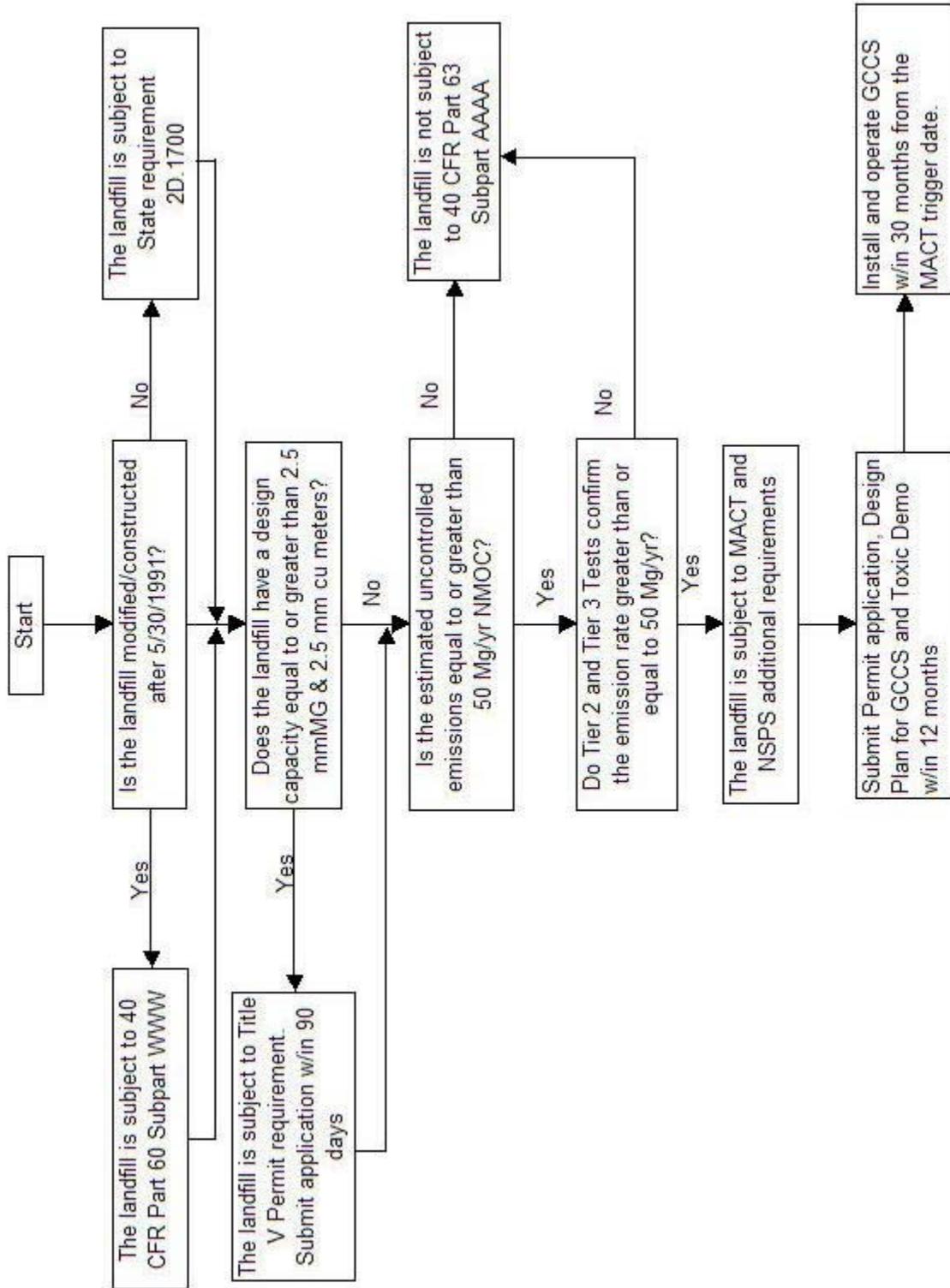
The Landfill MACT was the last applicable MACT for most landfill facilities in North Carolina so these facilities were required to demonstrate compliance with 15A NCAC 2D .1104 by January 16, 2004. Most landfills in the State failed to meet this requirement. The Division of Air Quality (DAQ) issued Notices of Violations (NOVs) to all facilities in violation of the requirement. In an effort to assist landfills in meeting this requirement, the DAQ conducted a one-day training seminar on March 31, 2005 in Raleigh for all landfills in the State who are subject to the landfill MACT. Topics covered in the seminar included an overview of the Landfill MACT, the New Source Performance Standards for Municipal Solid Waste Landfills (40 CFR Part 60, Subpart WWW), the NC Air Toxics rule, and air modeling. The seminar participants requested a DAQ guideline for permitting landfills. A flow diagram of generalized regulatory and air quality permit requirement for landfills is shown in figure 1 and a step-by-step outline is as follows:

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- Modification/Construction of Landfill, After 30 May 1991, subject to 40 CFR Part 60 Subpart WWW [based on date; not size]
- Landfill has NC Solid Waste Operating Permit (based on in place waste plus potential operating permit limits)
- If design capacity > 2.5 mm MG & 2.5 mm cu meters Then w/in 90 days apply for Initial Title V Permit. New Source Performance Standards (NSPS) requirement in permit will include annual reporting.
- Continue to use nonmethane organic compounds (NMOC) equations to monitor emission rate. If emission rate > 50 Mg then further evaluate for MACT.
- Then use Tier 2 Test to verify emission rate If emission rate > 50 Mg, then MACT is Triggered
- Submit Annual Report that demonstrates the NMOC emissions are over 50 Mg [report date is day zero for MACT Compliance]
- Within 12 months, Submit Permit Application and Design Plan for Gas Collection and Control System [GCCS]. Must include PE Seal, System must be designed for the volume to be handled, and must include Toxic Demonstration. The design plan is approved, if appropriate, and the permit is modified to include air toxic limits.
- Within 18 months of the design plan submission, install and operate GCCS to comply with the MACT. [approximately 18 months, b/c it is truly no more than 30 months from the MACT trigger date (day zero)]

*Facility must be in compliance by the time of the last MACT,
- not counting Combustion Source MACTs (Boiler, Turbine, RICE).*

Figure 1. Flowchart for Municipal Solid Waste Landfill Air Quality Permitting



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The DAQ's Air Quality Analysis Branch has reviewed a number of modeling analyses that were performed to evaluate landfill toxic emissions. Using the conservative SCREEN3 model in all but one analysis, the modeled impacts were well below the applicable AALs. As a result, the Air Quality Analysis Branch believes most, if not all landfills can be screened from future permitting modeling requirements and they have developed a landfill data spreadsheet that summarizes the relevant emission and modeling variables.

For future landfill submissions, the following information will be needed to screen out those landfills from further detailed air pollution dispersion modeling:

- a. location of landfill (city, county);
- b. emission sources by type (e.g., area, point, flare, etc.);
- c. pollutant emission rates for each source;
- d. site map identifying emission sources and property boundaries.

[See the [December 12, 2005, Dispersion Modeling Analyses for Landfills Memo](#) by Jamie Sellman, Meteorologist, AQAB- Attached]

A copy of this memorandum is posted on DAQ website – www.ncair.org/enf/landfill.
If you have any questions concerning this memo, please bring them to the attention of Agyeman Adu-Poku at (919) 733-1486 or agyeman.adupoku@ncmail.net.

Attachment

cc: Keith Overcash, P.E.
Jim Roller