



**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY**

**STATE PLAN FOR MUNICIPAL SOLID WASTE (MSW)
LANDFILLS**

JUNE 30, 1997

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STATE PLAN FOR MUNICIPAL SOLID WASTE LANDFILLS

I. INTRODUCTION

The Administrator for the U.S. Environmental Protection Agency (EPA) has determined that municipal solid waste landfill gases such as non-methane organic compounds (NMOC), carbon monoxide and methane contribute significantly to air pollution. The NMOC emissions include vinyl chloride, toluene, volatile organic compounds (VOCs), hazardous air pollutants (HAPs) and odorous compounds which adversely affect public health and welfare.

Pursuant to section 111 of the Clean Air Act (CAA), the EPA promulgated new source performance standards (NSPS) for “new” municipal solid waste (MSW) landfills and emission guidelines (EG) for “existing” MSW landfills to control the emission of landfill gases. See Federal Register (March 12, 1996). The final rule and guidelines, effective on March 12, 1996 also added “MSW landfills” as a source category to the priority list of sources in 40 CFR §60.16 for regulation under section 111 of the CAA. The NSPS and EG requirements, adopted under section 111 of the CAA, apply to any new MSW landfill with a maximum design capacity equal to or greater than 2.5 million megagrams (Mg) or 2.5 million cubic meters (m³). For NSPS purposes, a landfill is considered “new” if the facility started construction, reconstruction, modification or began initial acceptance of waste on or after May 30, 1991.

Emission guidelines, promulgated under Section 111(d) of the CAA establish criteria for the control of landfill gases from “existing” MSW landfills using “best demonstrated technology”. A MSW landfill will be considered an existing or “designated” MSW landfill under either of the following conditions: (1) the landfill owner/operator began construction, modification, or reconstruction before May 30, 1991; (2) the MSW landfill received waste on or after November 8, 1987 or has additional capacity available for the future deposition of waste; (3) the MSW landfill is closed (no longer accepting waste nor does the facility have the capacity for the future deposition of waste). A copy of the Emission Guidelines for existing MSW landfills is attached hereto as Appendix A. Existing landfills which meet the 2.5 million Mg maximum design capacity threshold must also comply with Title V operating permit requirements codified in 25 Pa. Code Chapter 127, Subchapters F (relating to operating permit requirements) and G (relating to Title V operating permits).

Existing MSW landfills with maximum design capacities below 2.5 million Mg are exempt from the EG requirements. However, exempt landfills must submit design capacity reports to implementing state agencies within 90 days after EPA approves the State Plans. Exempt MSW landfills which are also major sources, as defined in 40 CFR §70.2, must obtain Title V operating permits.

Pursuant to 40 CFR §60.23(a), states must submit to the EPA a State Plan to implement and enforce the requirements of the EG within 9 months of the effective date of the EG, March 12, 1996 (61 FR 9905). Therefore, the Pennsylvania Department of Environmental Protection (PADEP) should have submitted its State Plan for MSW landfills to EPA no later than December 12, 1996. The EPA Administrator must approve or deny the State Plan or a portion thereof within 4 months of receipt of the Plan. Failure to submit a State Plan to the EPA or disapproval of the State Plan will result in the promulgation of a plan by EPA to implement the EG.

Pennsylvania has sufficient statutory and regulatory authority to adopt, implement and enforce the EG requirements for existing MSW landfills, without revisions, through its federally enforceable plan approval, state operating permits or Title V operating permits programs, codified in 25 Pa. Code Chapter 127. The proposed State Plan was developed in accordance with 40 CFR 60, Subpart B (relating to adoption and submittal of state plans for designated facilities) and plan development guidelines provided by the EPA.

II. PUBLIC HEARINGS AND ADOPTION OF THE STATE PLAN

[40 CFR §60.23(f)]

Prior to submitting the Section 111(d) Plan to EPA for approval, the Department held three public hearings for the purpose of accepting testimony on the proposed plan. The public hearings began at approximately 1:00 p.m. on June 6, 9 and 10, 1997 at the following PADEP locations:

June 6, 1997	Rachel Carson State Office Building Room 105 400 Market Street Harrisburg, PA 17105
June 9, 1997	Southeast Regional Office Main Conference Room 555 North Lane, Suite 6010 Conshohocken, PA 19428
June 10, 1997	Southwest Regional Office Waterfront Room B 400 Waterfront Drive Pittsburgh, PA 15222-4745

In accordance with 40 CFR §60.23, the PADEP provided notice of the date, time and location of each hearing at least 30 days prior to the scheduled date of the hearing. The Notice of Public Hearing and opportunity to provide written comments was published in the

Pennsylvania Bulletin on May 3, 1997 (27 Pa. B. 2198-2199, 5/3/97) and the following prominent newspapers on May 5, 1997:

1. Philadelphia Inquirer, Philadelphia, PA
2. Williamsport Sun Gazette, Williamsport, PA
3. Patriot News, Harrisburg, PA
4. Times Publishing Co., Erie, PA
5. Times Leader, Wilkes-Barre, PA
6. Post Gazette, Pittsburgh, PA

The Department also notified EPA, local air pollution control agencies and neighboring states in the interstate region whose air quality may be affected by emissions from existing landfills of the date, time and location of the hearing. Prior to providing notice of the availability of the Plan, copies of the proposed State Plan were available for review in each of PADEP's regional offices throughout the Commonwealth.

Persons interested in providing testimony on the proposed plan were required to notify the Department at least 10 days prior to the hearing to reserve an opportunity to provide testimony. The Department requested that oral testimony on the plan be limited to 10 minutes for each witness and submittal of three written copies of the oral testimony at the public hearing.

The public hearings, which began at approximately 1:00 p.m. were attended by representatives from industry, federal, state and local governmental agencies. Testimony was provided solely by Michael D. Pavelek, Executive Director of the Greater Lebanon Refuse Authority. A written copy of the oral testimony will be maintained by PADEP for at least 2 years and made available for review by the public.

Interested persons were also invited to submit written comments on the proposed State Plan to the Department no later than the close of business on June 18, 1997. Four interested persons and EPA (Region III) provided written comments on the proposed plan. Subsequently, the Department developed a comment and response document which addresses the comments received during the public participation process. Copies of the public hearing notices, listing of attendees at the hearings, transcripts of the public hearings, written comments and the comment and response document are attached hereto as Appendix B.

In accordance with 40 CFR §60.23(f)(1), the State Plan includes a certification that the public hearings were held in accordance with the criteria specified in 40 CFR §60.23(d). The public hearing certification is attached hereto as Appendix B.1.

III. IMPLEMENTATION OF THE STATE PLAN

Owners and operators of existing landfills subject to the EG must demonstrate that the source will comply with applicable requirements which include Section 111(d) of the Clean Air Act. The Department will initially amend existing federally enforceable state-operating permits (FESOPs) for MSW landfills to incorporate the EG specified in 40 CFR Part 60, Subpart Cc. Any existing MSW landfill operating without an operating permit will be issued a FESOP pursuant to 25 Pa. Code Chapter 127, Subchapter F (relating to operating permit requirements) which incorporates the EG for landfills. The Department will submit finalized FESOPs to EPA no later than September 30, 1997. The revised FESOPs issued for landfill will serve as legally enforceable mechanism to implement EG requirements. Subsequently, FESOP terms and conditions will be included in Title V permits as "applicable requirements." Whenever a gas collection system is installed at existing designated MSW landfills, plan approvals authorizing construction or modification of a gas collection system will also incorporate by reference the EG specified in 40 CFR Part 60, Subpart Cc as an applicable requirement for the designated landfill.

The EG for existing designated MSW landfills is currently being implemented by the Department in accordance with the following procedures:

- A) PADEP provided notice, in writing, to the owners or operators of existing designated MSW landfills requiring them to submit a Title V operating permit application to PADEP within 120 days of the date of the notice, in accordance with 25 Pa. Code §127.505(a).
- B) Pursuant to 25 Pa. Code §§ 127.12b (b) and 127.441(b), the Department will incorporate the EG for MSW landfills into a FESOP, Title V permit and plan approval, if necessary.
- C) Upon completion of the technical review, the PADEP will prepare and publish notice in the Pennsylvania Bulletin of action to be taken on the proposed FESOPs, Title V permits or approvals in accordance with the public notice requirements set forth in 25 Pa. Code Chapter 127 (relating to construction, modification and reactivation of sources).

The notice will also be provided to the landfill owner or operator, the EPA, any state within 50 miles of the facility and any contiguous state whose air quality may be affected by a MSW landfill facility. The owner or operator of the MSW landfill will publish the notice on at least 3 separate days in a prominent place and site in a newspaper of general circulation in which the facility is located, in accordance with 25 Pa. Code § 127.424 (b) and 127.521.

- D) Prior to issuance or modification of an existing FESOP, Title V permit or plan approval, PADEP will provide at least a 30-day comment period, commencing from the date of publication of the proposed action, for the submission of written comments on the proposed FESOP, Title V permit or plan approval.
- E) PADEP will submit copies of proposed plan approvals, state operating permits or Title V permits which incorporate the EG for landfills to EPA along with supporting documentation, including review memoranda prepared by PADEP personnel in accordance with 25 Pa. Code §127.522(f). The Department will not issue a plan approval, state operating permit or Title V permit containing the EG for landfills if EPA provides written notification that the FESOP, Title V permit or plan approval does not comply with the Clean Air Act or the regulations thereunder.
- F) Following issuance or modification of FESOPs incorporating the EG in 40 CFR Part 60 Subpart, Cc, PADEP will submit the final permits to EPA no later than September 30, 1997. Subsequently, the FESOP terms and conditions will be included as “applicable requirements” in Title V permits submitted to EPA within one year of the date of EPA approval of the State Plan for MSW Landfills.
- G) PADEP will submit to EPA, on an annual basis, a report which details the progress in the enforcement of the State Plan in accordance with 40 CFR §60.25(e). The first progress report will be submitted to EPA one year after approval of the State Plan for MSW landfills. The annual progress report will include the elements described in 40 CFR §60.25(f).

IV. EMISSION STANDARDS FOR MSW LANDFILLS

Pursuant to 40 CFR § 60.24(a), State Plans must include emission standards which prescribe allowable emission rates unless it is clearly impracticable. When it is impracticable to include allowable emission rates, State Plans may prescribe equipment specifications. Pennsylvania’s Section 111(d) Plan for existing MSW landfills will implement the EG specified in 40 CFR Part 60, Subpart Cc, by incorporating the provisions as “applicable requirements” in FESOPS, Title V permits or plan approvals, as appropriate. Consequently, the EG for existing MSW landfills in Pennsylvania will be identical to the guidelines specified in 40 CFR §60.33c.

Gas collection systems used to control and collect landfill gases must control emissions to levels which satisfy the “best demonstrated control technology” (BDT). All designated landfills in the Commonwealth that are subject to the EG shall control landfill gases through the use of control devices which satisfy either of the following requirements:

- 1) An open flare designed and operated in accordance with the parameters established in 40 CFR §60.18 (relating to general control device requirements);
- 2) A control system designed and operated to reduce NMOC by 98 weight percent;
- 3) An enclosed combustor designed and operated to reduce the outlet NMOC concentration to 20 parts per million by volume as hexane, dry basis at 3 percent oxygen, or less.

The gas collection system installed to collect landfill gases may use active or passive techniques to effectively capture gases generated within the MSW landfill. Pursuant to 40 CFR §60.752(b)(2)(ii)(A)(1), an active gas collection system must be designed to handle the maximum anticipated gas flow rate from the entire area of the landfill that warrants controls over the intended use period of the gas control or treatment system equipment. The active collection system must collect gas, at a sufficient extraction rate from every area, cell or group of cells in the landfill in which the initial solid waste has been in place for 5 years or more if the landfill is active or 2 years or more if the landfill is closed as provided in §60.757(d) or at final grade. An active collection system must also be designed to minimize off-site migration of subsurface gas.

If the landfill owner or operator installs a passive collection system, the system must meet the active collection system requirements specified in 40 CFR §60.752(b)(2)(ii)(A)(1), (2) and (4). In addition, the passive collection system must be installed with liners on the bottom and all sides in all areas in which gas is to be collected as required under 40 CFR §258.40.

Each owner or operator seeking to comply with §60.752(b)(2)(i) shall site active collection wells, horizontal collectors, surface collectors, or other extraction devices at a sufficiency density throughout all gas producing areas using the following procedures unless alternative procedures have been approved by the Department as provided in §60.752(b)(2)(i)(C) and (D):

(1) The collection devices within the interior and along the perimeter areas shall be certified to achieve comprehensive control of surface gas emissions by a professional engineer. The following issues shall be addressed in the design: depths of refuse, refuse gas generation rates and flow characteristics, cover properties, gas system expandability, leachate and condensate management, accessibility, compatibility with filling operations, integration with closure end use air intrusion control, corrosion resistance, fill settlement, and resistance to the refuse decomposition heat.

(2) The sufficient density of gas collection devices determined in Paragraph (1) shall address landfill gas migration issues and augmentation of the collection system through the use of active or passive systems at the landfill perimeter or exterior.

(3) The placement of gas collection devices determined in Paragraph (1) shall control all gas producing areas, except as provided by the following paragraphs.

Any segregated area of asbestos or nondegradable material may be excluded from collection if readily accessible documentation is provided in accordance with 40 CFR §60.758(d). The landfill owner or operator shall keep documentation which includes the nature, date of deposition, location and amount of asbestos or nondegradable material deposited in the area. This documentation shall be provided to the Department or EPA upon request.

Any nonproductive area of the landfill may be excluded from control, provided that the total of all excluded areas can be shown to contribute less than 1 percent of the total amount of NMOC emissions from the landfill. The amount, location, and age of the material shall be documented and provided to the Administrator upon request. A separate NMOC emissions estimate shall be made for each section proposed for exclusion, and the sum of all such sections shall be compared to the NMOC emissions estimate for the entire landfill. Emissions from each section shall be computed using the following equation:

$$Q_i = 2 k L_o M_i (e^{-kt_i}) (C_{NMOC}) (3.6 \times 10^{-9})$$

where,

Q_i = NMOC emission rate from the i^{th} section, megagrams per year

k = methane generation rate constant, year⁻¹

L_o = methane generation potential, cubic meters per megagram solid waste

M_i = mass of the degradable solid waste in the i^{th} section, megagram

t_i = age of the solid waste in the i^{th} section, years

C_{NMOC} = concentration of nonmethane organic compounds, parts per million by volume as hexane

3.6×10^{-9} = conversion factor

The values for k , L_o , and C_{NMOC} determined in field testing shall be used, if field testing has been performed in determining the NMOC emission rate or the radii of influence. If field

testing has not been performed, the default value for k , L_0 and C_{NMOC} provided in §60.754(a)(1) shall be used. The mass of nondegradable solid waste contained within the given section may be subtracted from the total mass of the section when estimating emissions provided the nature, location, age, and amount of the nondegradable material is documented pursuant to 40 CFR §60.759(a)(3)(i).

Each owner or operator seeking to demonstrate compliance with §60.752(b)(2)(i)(A) shall construct the gas collection devices using the following equipment or procedures:

(1) The landfill gas extraction components shall be constructed of polyvinyl chloride (PVC), high density polyethylene (HDPE) pipe, fiberglass, stainless steel, or other nonporous corrosion resistant material of suitable dimensions to: convey projected amounts of gases; withstand installation, static and settlement forces; and withstand planned overburden or traffic loads. The collection system shall extend as necessary to comply with emission and migration standards. Collection devices such as wells and horizontal collectors shall be perforated to allow gas entry without head loss sufficient to impair performance across the intended extent of control. Perforations shall be situated with regard to the need to prevent excessive air infiltration.

(2) Vertical wells shall be placed so as not to endanger underlying liners and shall address the occurrence of water with the landfill. Holes and trenches constructed for piped wells and horizontal collectors shall be of sufficient cross-section so as to allow for their proper construction and completion including, for example, centering of pipes and placement of gravel backfill. Collection devices shall be designed so as not to allow indirect short circuiting of air into the cover or refuse into the collection system or gas into the air. Any gravel used around pipe perforations should be of a dimension so as not to penetrate or block perforations.

(3) Collection devices may be connected to the collection header pipes below or above the landfill surface. The connector assembly shall include a positive closing throttle valve, any necessary seals and couplings, access couplings and at least one sampling port. The collection devices shall be constructed of PVC, HDPE, fiberglass, stainless steel, or other nonporous material of suitable thickness.

Each owner or operator seeking to comply with §60.752(b)(2)(i)(A) shall convey the landfill gas to a control system in compliance with §60.752(b)(2)(iii) through the collection header pipe(s). The gas mover equipment shall be sized to handle the maximum gas generation flow rate expected over the intended use period of the gas moving equipment using the following procedures: For existing collection systems, the flow data shall be used to project the maximum flow rate. If no flow data exists, MSW landfill owner or operator shall

use the new collection systems procedures. The maximum flow rate shall meet the requirements of 40 CFR § 60.755(a)(1).

V. COMPLIANCE SCHEDULE AND INCREMENTS OF PROGRESS
[40 CFR §§ 60.21(h) and 60.24]

In accordance with the requirements of 40 CFR § 60.24(a), the State Plan must include a compliance schedule. The term “compliance schedule” means a legally enforceable schedule specifying a date or dates by which a source or category of sources must comply with specific emission standards contained in a plan or with any increments of progress to achieve such compliance.” In circumstances in which a compliance schedule extends more than 12 months from the date for submittal of the State Plan to EPA, the plan shall include, where practicable, each increment specified in 40 CFR § 60.21(h). The State Plan must also include any additional increments of progress determined to be necessary for close and effective supervision of progress toward final compliance with the EG requirements.

The minimum increments of progress for MSW landfills specified in 40 CFR §60.21(h) are as follows:

- i. Submitting a final control plan. The control plan may be interpreted to be same as the site-specific collection and control system design plan required by the Emission Guidelines. Section 60.33c(b) requires State Plans to include a process for approval of site-specific collection and control system design plans to verify that the design criteria in §60.752(b)(2)(ii) of Subpart WWW are met. Under §60.752(b)(2) of Subpart WWW (the NSPS), the landfill owner or operator must submit a collection and control system design plan within one year of the date of first Annual Emission Rate Report showing that the NMOC emission rate is 50 Mg/yr or greater. Existing landfills larger than the design capacity cutoff must submit their first Annual Emission Rate Report with the design capacity report within 90 days after approval of the State Plan by EPA;
- ii. Awarding contracts for construction of collection and control systems or orders for purchase of components; If construction or installation of collection and control systems is necessary, contracts must be awarded and components purchased within three months of approval of the Collection and Control Design Plan by DEP.

- iii. Initial on-site construction or installation of the collection and control systems shall begin within six months of Department approval of the Collection and Control Design Plan ;
- iv. Completing on-site construction or installation and control systems; the installation of collection and control systems capable of meeting the EG must be completed within 30 months of approval of the State Plan for MSW landfills. For landfills that have NMOC emission rate less than 50 Mg/yr on the effective date, collection and control system installation will be required within 30 months after the date the first annual NMOC emission rate equals or exceed 50 Mg/yr.
- v. Final compliance. Existing designated MSW landfills must comply with the EG requirements as expeditiously as practicable but not later than 30 months after departmental issuance of a FESOP, Title V permit or plan approval incorporating the EG requirements. When the NMOC emission rate for a designated facility is greater than 50 Mg/yr., the owner or operator of the MSW landfill must complete planning, awarding of contracts, and installation of MSW landfill air emissions collection and control equipment within 30-months after issuance of a operating permit or plan approval containing the applicable requirements for the control of landfill gases.

Following installation of the collection and control system, a performance test will be completed within 180 days, with a 30-day notice before the performance test. The report of the performance test results will be submitted to PADEP within 60 days after the test is conducted. Preliminary tests will be allowed to enable MSW landfill owners or operators to make any necessary “shakedown” adjustments and retest before the initial official performance tests.

The State Plan for MSW landfills includes one set of increments with compliance dates applicable to all MSW landfills in Pennsylvania. All five increments of progress for MSW landfills in Pennsylvania will have floating dates. These floating dates are linked to either the date of issuance of the FESOP, Title V permit or plan approval for the designated landfill, EPA’s approval of the State Plan for MSW landfills or the date the Annual Emission Rate Report shows that the NMOC emissions equal or exceed 50 Mg/yr. Whenever the compliance schedule or increments of progress are revised, the compliance schedule or increments of progress revisions will be submitted to EPA for review and approval as a revision to the State Plan for MSW Landfills.

The legally enforceable increments of progress and compliance schedule has been developed to ensure full compliance with the applicable requirements as expeditiously as practicable. Therefore, plan approvals, operating permits or Title V operating permits issued to the owners or operators of existing designated MSW landfills will contain the following

compliance schedule requiring designated MSW landfills to demonstrate incremental progress according to the milestones shown in Table V-1.

TABLE V-1 Schedule for MSW Landfill Compliance with Emission Guidelines

State Plan Submittal to EPA	June 30, 1997
PA Final FESOP issuance to incorporate EG	September 30, 1997
EPA Approval of the State Plan	Four months after submittal of a complete State Plan
Initial Design Capacity Report Submittal	Within 90 days after FESOP issuance
Initial NMOC Emission Rate Report Submittal	Within 90 days after FESOP issuance
Collection and Control System Design Plan Submittals and application for Plan Approval (if applicable)	Within 1 year after the NMOC Emission Rate Report shows an NMOC emission rate equal to or greater than 50 Mg/yr.
Approval of the Collection and Control Design Plan	Within 6 months after submittal
Award Contracts for gas collection and control system	Within 3 months after approval of the Collection and Control Design Plan
Begin construction or installation of the gas control system	Within 6 months after issuance of the Plan Approval by DEP
Complete construction or installation of the gas control system	Within 18 months after Design Plan submittal
Initial performance test for the gas control system	Within 180 days after installation of the gas control system
Final EG compliance date	Within 30 months after permit or plan approval issuance or 30 month after annual NMOC emission rate equals or exceeds 50 Mg/yr.

PADEP will consider providing for the application of less stringent emission standards or extending the EG compliance schedule for designated facilities, on a case-by-case basis, in accordance with the following criteria specified in 40 CFR §60.24(f):

- a). Unreasonable cost of control resulting from the age of the plant, location or basic process design;
- b). Physical impossibility of installing necessary control equipment; or

- c). Other factors unique to the landfill (or class of landfills) that warrant the establishment of a less stringent compliance schedule.

In circumstances where an extension of the EG compliance schedule is warranted, the Department will hold a public hearing in accordance with the requirements of 40 CFR §60.23 and submit the compliance schedule to EPA within 60 days of approval of the compliance schedule by the Department.

VI. PROCESS FOR REVIEW OF DESIGN PLANS [40 CFR §60.33c(b)]

The State Plan must describe a process for State review and approval of the site-specific design plans for the gas collection and control system(s). When landfill gas emissions meet or exceed the 50 Mg/yr threshold, landfill owners or operators must submit a site-specific Collection and Control System Design Plan (Design Plan) to the Department for approval within one year. As specified in 40 CFR §60.752(b)(2)(i), the Design Plan shall be prepared by a professional engineer. The collection and control system(s) described in the Design Plan shall meet the design requirements of § 60.752(b)(2)(ii). The Design Plan shall also include any proposed alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions of §§ 60.753 --60.758. If the Design Plan does not conform with specifications for active collection systems in § 60.759, the plan shall include a demonstration, to the Department's satisfaction of the sufficiency of the alternative provisions specified in 40 CFR §60.759.

PADEP will implement the following process for the review and approval of Design Plans:

1. Each owner or operator of a MSW landfill that has NMOC emission equal to or greater than 50 Mg/yr shall submit a site-specific Design Plan to the appropriate Regional Office of the Department for approval within one year of triggering the 50 Mg/yr threshold level for NMOCs.
2. The Design Plan shall contain a certification by a responsible official at the designated MSW landfill as to truth accuracy and completeness of the plan in accordance with the permitting requirements of 25 Pa. Code §127.402(d). The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.
3. The Department's Regional Air Quality Staff will review and approve the Design Plans within 6 months after submittal of plan by the owner or operator of the designated MSW landfill. When warranted, the Department will request additional information necessary for

PADEP to determine whether to approve or disapprove the Design Plan. PADEP will provide notice, in writing, of the approval or disapproval of the Design Plan.

4. If modification or installation of collection and control system equipment is required to achieve compliance with the EG for MSW landfill emissions established under 40 CFR §60.33c, the Department will notify the owner or operator of the landfill to submit an application for plan approval in accordance with the requirements of 25 Pa. Code Chapter 127, Subchapter B (relating to plan approval requirements).

VII. INVENTORY OF DESIGNATED FACILITIES [40 CFR §60.25(a)]

Section 60.25(a) specifies that the State Plan shall include “an inventory of all designated facilities including emissions data for the designated pollutants.” The inventory of existing designated MSW landfills in the Commonwealth of Pennsylvania which are subject to the EG requirements codified in 40 CFR Part 60, Subpart Cc is attached hereto as Appendix C (relating to inventory of municipal solid waste landfills subject to the emission guidelines). Existing MSW landfills modified on or after May 30, 1991 and prior to March 12, 1996 are subject to the standards of performance for MSW landfills in 40 CFR Part 60, Subpart WWW. The inventory of existing modified MSW landfills in Pennsylvania is attached hereto as Appendix C-1 (relating to inventory of modified MSW landfills subject to new source performance standards).

The inventory of MSW landfills subject to the EG includes approximately 22 existing designated MSW landfills. Designated landfills located in Allegheny County are subject to the jurisdiction of the Allegheny County Health Department and must comply with a State Plan and emission standards developed and implemented by the local agency. (See Appendix C-2).

The inventory of designated facilities also identifies existing MSW landfills with design capacities below the EG threshold limits. The EG does not require existing MSW landfills with a design capacity below 2.5 million Mg or 2.5 million cubic meters to install collection and control system equipment.

On February 27, 1996, the City of Philadelphia notified EPA that there are no MSW landfills located within Philadelphia County. A copy of the written notification is attached hereto as Appendix C-3.

The inventory of designated facilities includes all existing MSW landfills in the Commonwealth, regardless of the design capacity of the facility. With the exception of the MSW landfills located in Allegheny County, all existing MSW landfills must comply with the State Plan and EG requirements incorporated as applicable requirements in operating permits or plan approvals. The Department will revise the inventory and data on designated facilities, if necessary, in accordance with the requirements of 40 CFR § 60.25(f)(4).

VIII. EMISSIONS INVENTORY FOR DESIGNATED FACILITIES [40 CFR §60.25(a)]

Pursuant to 40 CFR §60.25(a), the NMOC emissions data described in the State Plan must meet the criteria established in 40 CFR Part 60, Appendix D (relating to required emission inventory information). The initial emissions inventory for MSW landfills includes NMOC emission estimates, design capacities, the year the landfill began accepting waste and the year the landfill closed, if applicable. The initial inventory of emissions from existing designated MSW landfills, subject to the EG, in the Commonwealth of Pennsylvania is attached hereto as Appendix D. The inventory of emissions data also includes NMOC emission data for those existing MSW landfills with a design capacity of less than 2.5 million Mg or 2.5 million cubic meters in circumstances in which development of the data for those facilities was “reasonable and practical.”

PADEP will also submit updated NMOC emission data to EPA on an annual basis in accordance with 40 CFR §51.321 (relating to annual source emissions and state action report). The updated information will include state and county identification codes, a description of the facility, a description of the air pollution control equipment proposed or in use, the annual average control efficiency and an estimate of NMOC emissions from the designated facilities as specified in 40 CFR Part 60, Appendix D (relating to required emission inventory information). The NMOC emissions data will be submitted annually to the Aerometric Information Retrieval System (AIRS).

IX. TESTING, MONITORING, REPORTING, RECORDKEEPING AND OPERATIONAL STANDARDS [40 CFR §§ 60.34c and 60.35c]

A. Test Methods and Procedures

Pursuant to 40 CFR §60.34c, the owners or operators of MSW landfills shall calculate NMOC emission rates at designated MSW landfills, as specified in 40 CFR §60.754 (relating to test methods and procedures). Landfills with design capacities equal to or greater than 2.5 million megagrams or 2.5 million cubic meters shall use the test methods and procedures specified in §60.754 to determine whether the NMOC emissions rate is equal to or greater than 50 Mg/yr. The landfill owner or operator shall determine whether the landfill meets or exceeds 50 Mg/yr NMOC emission rate threshold using the equations and tiered procedures in 40 CFR §60.754. The procedures for calculating the NMOC emission rate is a function of site-specific variables including the age of the MSW landfill and the waste acceptance rate. In addition, variables including the methane generation rate constant (k), methane generation potential (Lo)

and the NMOC concentration in landfill gas (C_{NMOC}) must also be considered. If the facility's annual NMOC emission rate equals or exceeds the 50 Mg/yr. threshold level, landfills gases must be controlled in accordance with the MSW landfills emission standards in §60.752.

When the actual year to year solid waste acceptance rate is known, the landfill owner or operator shall calculate emissions in accordance with the equations set forth in §60.754(a)(1)(i).

$$M_{NMOC} = \sum_{i=1}^n 2kL_o M_i (e^{-kt_i})(C_{NMOC})(3.6 \times 10^{-9})$$

where,

M_{NMOC} = Total NMOC emission rate from the landfill, megagrams per year

k = methane generation rate constant, year⁻¹

L_0 = methane generation potential, cubic meters per megagram solid waste

M_i = mass of solid waste in the i^{th} section, megagrams

t_i = age of the i^{th} section, years

C_{NMOC} = concentration of NMOC, parts per million by volume as hexane

3.6×10^{-9} = conversion factor

However, if the actual year to year solid waste acceptance rate is unknown, the NMOC emissions shall be calculated in accordance with the equations provided in §60.754(a)(1)(ii).

$$M_{NMOC} = 2L_o R (e^{-kc} - e^{-kt})(C_{NMOC})(3.6 \times 10^{-9})$$

where,

M_{NMOC} = Total NMOC emission rate from the landfill, megagrams per year

L_0 = methane generation potential, cubic meters per megagram solid waste

R = average annual acceptance rate, megagrams per year

k = methane generation rate constant, year⁻¹

t = age of landfill, years

C_{NMOC} = concentration of NMOC, parts per million by volume as hexane

c = time since closure, years. For active landfills $c = 0$ and $e^{-kc} = 1$

3.6×10^{-9} = conversion factor

B. Monitoring of operations

Pursuant to 40 CFR §60.25(b), the State Plan shall provide for “monitoring the status of compliance with applicable emission standards.” Consequently, the owners or operators of existing designated MSW landfills must comply with monitoring provisions in 40 CFR §60.756 applicable to the gas collection system(s) installed and operated at those facilities.

C. Reporting Requirements

1. Initial Design Capacity Reports

Pursuant to 40 CFR §60.25c, the owner or operator of a MSW landfill must comply with the reporting guidelines provided in §60.757. Accordingly, all landfill owners or operators must submit an Initial Design Capacity Report. The Initial Design Capacity Report shall include :

- 1) A map or plot of the landfill that provides the location and size of the landfill and identifies where MSW may be disposed of pursuant to applicable state or local permits.
- 2) The maximum design capacity of the MSW landfill.

The Initial Design Capacity Report must be submitted to the appropriate Regional Office or local permitting agency no later than the earliest date of either of the following deadlines:

- 1) 90 days after issuance of a construction or operating permit;
- 2) 30 days after the construction or reconstruction as defined in 40 CFR §60.15;
- 3) 30 days after the initial acceptance of MSW.

In circumstances in which the maximum design capacity for the landfill is included in a plan approval or operating permit issued by the Department, a copy of the plan approval or operating permit which specifies the maximum design capacity for the facility may be included with the Initial Design Capacity Report. If the maximum design capacity for the landfill is not provided in the Plan Approval or Operating Permit, the landfill’s maximum design capacity shall be determined according to good engineering practices. Any calculations and assumptions used to determine the maximum design capacity for the landfill must be incorporated in the Initial Design Capacity Report submitted to the Department.

Under 40 CFR §60.757(a)(3), the Initial Design Capacity Report must be amended and submitted to PADEP if the maximum design capacity of the landfill increases and the revised capacity of the MSW facility is equal to or greater than 2.5 million Mg or 2.5 million cubic

meters of refuse. The amended report must be submitted to the Department within 90 days of the issuance of a revised plan approval, operating permit or Title V permit, placement of waste in additional land or a change in operating procedures which causes an increase in the maximum design capacity of the MSW landfill.

2. NMOC Emission Rate Report

In accordance with 40 CFR §60.757(b), the owner or operator of the MSW landfills with design capacities equal to or greater than 2.5 million Mg or 2.5 million cubic meters shall submit an NMOC Emission Rate Report on an annual basis. The first NMOC Emission Report is due within 90 days after approval of the State Plan by EPA and each year thereafter.

The NMOC emission rate report shall include an annual estimate of the NMOC emissions from the MSW facility using the tiered equations and procedures for calculating emissions specified in 40 CFR §60.754. The landfill owner or operator may elect to submit a 5-year estimate of emissions in the NMOC Emissions Report if the NMOC emission estimates are less than 50 Mg/yr. (55 tons per year) for each of the next consecutive five years. The 5-year estimate of NMOC emissions from the facility shall be determined using the same tiered equations and procedures for determining annual estimates of landfill gas emissions.

3. Collection and Control System Design Plan

The owners or operators of MSW landfills that report an emission rate for NMOCs greater than 50 Mg/yr must submit a design plan for a gas collection and control system or recalculate the NMOC emission rate estimate in accordance with the comprehensive Tier 2 and Tier 3 procedures provided in §60.754 for the calculation of an estimate of NMOC emissions at designated MSW landfills. The Collection and Control System Design Plan must be submitted to the Department for approval within 1 year after reporting an NMOC emission rate is equal to or greater than 50 Mg/yr. (55 tons/yr). The landfill owner or operator may elect to install either a gas collection system which meets the design criteria in 40 CFR §60.759 (relating to specifications for active collection systems) or an alternative design. Once the gas collection system is approved by the Department, the system is required to be installed and operational within 18 months after submittal of the design plan. Generally, the Department will take final action on the design plan for a gas collection system no later than 6 months from the date of submittal of the plan.

In accordance with §60.754(a)(2)(ii) the MSW landfill owner or operator has the option of recalculating the NMOC emission rate for the landfill if Tier I calculations were used to establish an emission rate of 50 Mg/yr. Based on Tier 2 and Tier 3 calculations, the NMOC emission rate is recalculated using site-specific landfill characteristics. If the NMOC emission rate is determined to be less than 50 Mg/yr. using site-specific Tier 2 procedures, the landfill

owner or operator is required to resume annual reporting of NMOC emission rate using the Tier 2 calculation procedures. This report, referred to as the Tier 2 NMOC Emission Rate Report, must be submitted to the Department within 180 days of calculating the first NMOC exceedance of the 50 Mg/yr. emission standard.

The landfill owner or operator may recalculate the NMOC emission rate based on Tier 3 calculation procedures provided in §60.754(a)(4) and the resulting site-specific methane constant (k) when the NMOC emission rate is equal to or greater than 50 Mg/yr. If the NMOC emission rate is determined to be less than 50 Mg/yr. using the Tier 3 procedures, a revised NMOC Emission Rate Report, based on the Tier 3 site-specific requirements, must be submitted to the Department within 1 year of the of the first calculated NMOC emission rate in excess of 50 Mg/year.

4. Closure Report

The owners or operators of controlled landfills that are preparing for permanent closure by following the closure criteria in 40 CFR §258.60, must submit to the Department a closure report within 30 days of waste acceptance cessation as per §60.757(d). The report acknowledges that the landfill will no longer accept or dispose of refuse in the landfill unless a notification of modification is filed according to the procedures in §60.7(a)(4). The Department may request additional information to verify permanent closure of the landfill has taken place.

5. Equipment Removal Report

An equipment removal report must be submitted to the Department within 30 days prior to the removal or cessation of operation of a gas collection and control system pursuant to §60.757(e). The Equipment Removal Report must include the following:

- (a) A copy of the Landfill Closure Report;
- (b) A copy of the Initial Performance Test Report, to demonstrate that the gas collection and control system has controlled emissions from the landfill for at least 15 years; and
- (c) Copies of three successive NMOC Emission Rate Reports which document the NMOC emission rate as less than 50 Mg/yr. The test dates should be no closer than 90 days apart and no farther than 180 days apart.

6. Annual Compliance Report

The initial Annual Report for a gas collection and control system must be submitted to the Department within 180 days after installation and start-up of the system as specified in §§60.757(f) and (g). The initial report is required to include the Initial Performance Test Report for the gas control system and the following information:

- (a) Value and length of time for exceedances of monitored parameters under §60.756. This would include reporting of monthly measurements of nitrogen or oxygen concentration and temperature within a well that exceed 20 percent or 55°C (131°F), and methane concentrations in excess of 500 ppm above background. Reportable exceedances for control device operating parameters include 3-hour periods when combustor temperatures are outside the ranges established in the most recent performance tests, and periods when the pilot flame to a flare or flare flame is absent;
- (b) Description and duration of all periods when the gas stream from the collection system was diverted from the control device through a bypass line or had no flow;
- (c) Description and duration of all periods when the gas control device was not operating for a period exceeding 1 hour and length of time the control device was not operating;
- (d) All periods when the gas collection system was not operating in excess of 5 days;
- (e) Each location where the landfill surface exceeded a methane concentration of 500 ppm, and the methane concentration measured at each location for which an exceedance was recorded in the previous month; and
- (f) Date and location of all newly installed wells or collection system expansions.

7. Initial Performance Test Report

The landfill owner or operator is required to submit a performance test report (as specified in §60.8) for the gas collection and control system. This report must be submitted to the Department within 60 days after the initial performance test required under 40 CFR §60.8. The Initial Performance Test Report must include the following information:

- (a) A diagram of gas collection system showing collection system positioning including all wells, horizontal collectors, surface collectors, or other gas

extraction devices; landfill areas excluded from control; and proposed sites for future collection system expansion.

- (b) Data upon which the sufficient density of gas extraction devices and gas mover sizing are based.
- (c) Documentation on the presence of asbestos or nondegradable material in areas where extraction wells have been excluded.
- (d) Calculations and the sum of LFG gas generation rates for areas where extraction wells have been excluded.
- (e) Provisions for increasing gas mover capacity if future gas generation rates exceed current equipment limits.
- (f) Documentation to demonstrate the control of off-site gas migration.

D. Recordkeeping Requirements

Pursuant to 40 CFR §60.35c, the State Plan shall include applicable recordkeeping requirements specified in §60.758 (relating to recordkeeping requirements). Consequently, owners or operators of existing MSW landfills seeking to demonstrate compliance with the EG for landfills shall comply with applicable recordkeeping provisions prescribed in 40 CFR § 60.758.

E. Operational Standards

In accordance with the requirements of §60.34(c), State Plans must include operational standards as prescribed in 40 CFR §60.753 (relating to operational standards for collection and control systems) in order to obtain EPA approval of the plan. Therefore, MSW landfill owners or operators shall comply with the operational standards specified in §60.753.

X. ANNUAL PROGRESS REPORTS [40 CFR §60.25(e)]

The PADEP will submit to EPA, on an annual basis, a report which details the progress in the enforcement of the State Plan as required under 40 CFR §60.25(e). The first progress report will be submitted to EPA one year after approval of the State Plan for existing MSW landfills. The annual progress report will include the following elements prescribed by 40 CFR §60.25(f):

- the
- 1) Enforcement actions initiated against a designated facility during the reporting period for the calendar year.
 - 2) Identification of any increments of progress required by the plan.
 - 3) If applicable, identity of designated facilities that have ceased operation during reporting period.
 - 4) Submission of additional emission data to update previous progress reports.
 - 5) Submission of copies of technical reports on all performance testing conducted on designated facilities, complete with concurrently recorded process data.
 - 6) Submission of emission inventory data as described in 40 CFR § 60.25(a) on designated facilities that were not in operation or identified in the original section 111(d) plan submittal.

XI. LEGAL AUTHORITY TO IMPLEMENT THE STATE PLAN
[40 CFR §60.26(a)]

Pursuant to 40 CFR §60.26, State Plans must show that States have legal authority to carry out the plan including the authority to [a]dopt emission standards and compliance schedules applicable to designated facilities and to enforce applicable laws, regulations, standards, compliance schedules and seek injunctive relief.

It is my opinion that PADEP has sufficient statutory and regulatory authority under its plan approval, State operating permit and Title V permit programs to implement applicable requirements adopted under Sections 111(d) and 129 of the Clean Air Act, including those for municipal waste combustors (MWCs) and MSW landfills. A copy of the Commonwealth's Air Pollution Control Act (35 P.S. §4001 et seq.) and applicable regulations in 25 Pa. Code Article III (relating to air resources) for the plan approval, State operating permit and Title V permit requirements is attached hereto as Appendix E.

A. Adoption of Emission Standards and Compliance Schedules

Pennsylvania's Air Pollution Control Act and regulations promulgated thereunder provide authority for the PADEP to issue plan approvals, state operating permits and Title V permits to air contamination sources which incorporate "applicable requirements" and ensure compliance with "applicable requirements" of the CAA and regulations adopted under the act. The term "applicable requirements" as defined in 25 Pa. Code §121.1 includes requirements which apply to a source at a Title V facility including a standard or other requirement under §111 of the CAA including subsection (d) and a standard or other requirement governing solid waste incineration under Section 129 of the Clean Air Act. The Emission Guidelines for MWCs and MSW landfills are applicable requirements under state law.

Pursuant to §6.1(a) of the APCA, no person can construct, assemble, install or modify an air contamination source nor install thereon an air pollution control device unless the person has obtained written approval from the PADEP. 35 P.S. §4006.1(a). In addition, an applicant for a plan approval must demonstrate that the source will comply with applicable requirements of 25 Pa. Code Article III and requirements promulgated by the EPA under the CAA. These statutory and regulatory requirements provide the necessary authority to incorporate the applicable requirements for designated facilities including MSW landfills and MWCs directly into plan approvals required under 25 Pa. Code §127.11 (relating to plan approvals).

Section 6.1(b) of the APCA provides that no person can operate any air contamination source unless the PADEP has issued to the source an operating permit in response to a written application to operate such sources. 35 P. S. §4006.1. This statutory requirement implements the permitting requirements in 25 Pa. Code §§127.401-127.465 (relating to operating permit requirements) and 25 Pa. Code §§127.501-127.543 (relating to Title V Operating Permit requirements).

An applicant for a State operating permit or Title V permit must demonstrate that the source is complying with applicable requirements of 25 Pa. Code Article III (relating to air resources) and requirements promulgated under the CAA by the Administrator of the EPA. 25 Pa. Code §127.411(a)(5). Section 127.411(a)(12) requires that operating permit applications contain a completed compliance review form or the applicant must provide a reference for the most recent compliance review form for facilities submitting compliance review forms on a periodic basis. Each permit issued by the PADEP must, at a minimum, incorporate by reference the emission and performance standards and other requirements of the APCA, the CAA or the regulations promulgated under either act. The provisions of 25 Pa. Code Chapter 127, Subchapter F (relating to operating permit requirements) are incorporated into the Title V permit requirements in 25 Pa. Code Chapter 127, Subchapter G (relating to Title V operating permits). Section 127.501 provides that Subchapter G "... describes the additional operating permit program requirements applicable to Title V facilities which are in addition to the requirements in Subchapter F ...".

Section 6.1(b) of the APCA and implementing regulations authorize the PADEP to issue permits to noncomplying air contamination sources and to include in the plan approval or operating permit a schedule to achieve compliance with all applicable requirements of the CAA and the regulations promulgated under the CAA no later than the time frame specified by federal law. 35 P. S. §§4006.1(b)(3-4), 4007.2 and 25 Pa. Code §§127.403(c), 127.404, 127.411 and 127.445(a)-(f).

Additional statutory authority for the incorporation of applicable requirements into permits for designated facilities is derived from §6.1(k) of the APCA. This provision authorizes the Department to revise any permit to incorporate applicable standards and regulations promulgated under the CAA after issuance of such permit. 35 P. S. §4006.1(k). The implementing regulations are codified at 25 Pa. Code §§127.461, 127.463 and 127.542.

B. Enforcing Applicable Laws, Regulations, Standards, and Compliance Schedules

The PADEP has sufficient authority to enforce applicable requirements including §§111(d) and 129 of the CAA. Section 7.1 of the APCA establishes a mandatory bar to the issuance of plan approvals or permits if the PADEP finds that a permittee has been placed on the Department's compliance docket for violations of any requirement of the APCA and regulations adopted thereunder, any plan approval, permit or order of the Department. 35 P. S. §4007.1.

Section 7.2 of the APCA provides that permits issued to sources out of compliance with the APCA, the CAA or regulations promulgated under either act "must contain an enforceable schedule requiring the source to attain compliance." If the permittee fails to achieve compliance by the final compliance date, the permit shall terminate. 35 P. S. §4007.2

Section 8 of the APCA provides that it shall be unlawful to fail to comply with the act, regulations adopted under the Act or fail to comply with any order of the Department, or any term or condition of a plan approval or permit. 35 P. S. §4008.

In addition, Pennsylvania law provides civil and criminal enforcement authority for violations of the APCA, regulations including the assessment of penalties and fines under §§9 and 9.1 of the APCA. Under Section 9.1(a), the PADEP may assess a civil penalty of up to \$25,000 per day for each violation of applicable requirements. 35 P. S. §§4009, 4009.1.

Section 10.1 of the APCA also authorizes the PADEP to issue enforcement orders to aid in the enforcement of the provisions of the Act or its implementing regulations. Such orders shall include orders modifying, suspending, terminating, or revoking a Plan Approval or Operating Permit. 35 P. S. §4010.1.

C. Seeking Injunctive Relief

Section 13 of the APCA specifies that a violation of the act or regulations, any order, plan approval or permit is a public nuisance and allows for the abatement of public nuisances. 35 P.S. §4013.

Section 13.6 of the APCA authorizes the PADEP to abate nuisances in the manner provided by law or equity for the abatement of public nuisances. When circumstances warrant or public health is endangered, a mandatory preliminary injunction, special injunction or temporary restraining order may be issued upon the terms of prescribed by the court. In such proceedings, upon a motion of the Commonwealth, the court shall issue a prohibitory or mandatory preliminary injunction if it finds that the defendant is engaged in unlawful conduct as defined by the APCA or is engaged in conduct which is causing immediate or irreparable harm. The court may also levy penalties in accordance with §9.1 of the APCA. See 35 P. S. §4013.

D. Obtaining Information Necessary to Determine Whether Designated Facilities are in Compliance with Applicable Requirements.

As required under 40 CFR §60.26(a)(3), the PADEP may obtain information necessary to determine compliance with applicable laws, regulations, standards and compliance schedules. Section 7.1 of the APCA requires the Department to withhold a plan approval or permit if the applicant, permittee or a general partner, parent or subsidiary corporation of the applicant or permittee is in violation of the APCA, regulations adopted thereunder, a plan approval, permit or order of the Department. 35 P. S. § 4007.1.

The owners or operators of designated facilities, including MSW landfills with design capacities of 2.5 million megagrams, must comply with the compliance review procedures established in 25 Pa. Code §127.412 and the compliance certification requirements established in 25 Pa. Code §§127.503, 127.512 and 127.513.

Section 127.412(c) requires that the compliance review form submitted to the Department include information related to compliance status of the applicant and “related parties. The compliance review form must include a list of “documented conduct” and “deviations” by the plan approval or permit applicant or a “related party.” The applicant or related party is required to update the compliance review form. Subsection (e) provides that the Department may establish a supplemental review form that may be used to update information

submitted to the Department on the compliance review form. 25 Pa. Code §127.412(e). In addition, subsection (k) requires the owners and operators of designated facilities to have reasonable procedures in place to insure that documented conduct and deviations are identified and made part of the compliance review information submitted to the Department. 25 Pa. Code §127.412(k).

Compliance certification provisions established under §127.503 include:

1) certification by a responsible official that the facility is in compliance with applicable requirements or certification of compliance with “applicable requirements;”

2) a schedule for submission of compliance certification during the permit term, to be submitted at least annually or more frequently if specified by the applicable requirement or by the Department. 25 Pa. Code §127.503(10).

Section 127.512(c)(5) provides that Title V permits shall require each permittee to furnish to the Department within a reasonable time, information that the Department may request in writing to determine whether cause exists for modifying, revoking and reissuing or terminating the permit or to determine compliance with the permit.

In accordance with §127.513, permits issued to Title V facilities must specify that upon presentation of credentials and other documents required by law, the permittee shall allow the PADEP or an authorized representative of the PADEP access to such facilities to inspect, at reasonable times, facilities and equipment including monitoring and air pollution control equipment. 25 Pa. Code §127.513(2)(iii). The Department also has authority to sample or monitor substances or parameters for the purpose of assuring compliance with the terms of the permit or applicable requirements as authorized under the CAA, the APCA, or the regulations adopted under the acts. 25 Pa. Code §127.513(2)(iv).

E. Requiring Owners or Operators to Install Maintain and Use Emission Monitoring Devices and Make Periodic Reports

In accordance with §127.12(a)(3), plan approval applications must show that the source will be equipped with reasonable and adequate facilities to monitor and record the emissions of air contaminants and operating conditions which may affect the emissions of air contaminants. The applicant must also show that the records are being and will continue to be maintained and that the records will be submitted to the Department at specified intervals or upon request. 25 Pa. Code §127.12(a)(3).

Section 127.411(4)(i) provides that an applicant for an operating permit must demonstrate that the source is equipped with reasonable and adequate facilities to monitor and record the emissions of air contaminants and the operating conditions which may affect the emissions of air contaminants. 25 Pa. Code §127.411(a)(4)(i).

Section 127.441(a) provides that a permit may contain terms and conditions that the PADEP deems necessary to assure the proper operation of the source. Subsection (c) specifies

that “the operating permit shall incorporate the monitoring, recordkeeping and reporting requirements required by 25 Pa. Chapter 139(relating to sampling and testing) and other requirements” of 25 Pa. Code Article III. This subsection also provides that operating permits shall incorporate additional requirements related to the monitoring, recordkeeping and reporting required by the Clean Air Act and the regulations thereunder.” 25 Pa. Code §127.441(c). These requirements must be included in both State operating permits and Title V permits issued by the PADEP. Therefore, Pennsylvania has adequate authority to include the monitoring, recordkeeping and reporting requirements for designated facilities in State operating permits and Title V permits.

In addition, Section 127.442 provides that the permittee shall submit reports to the PADEP containing information prescribed by the PADEP relative to the operation and maintenance of a source. At a minimum, each permit shall incorporate by reference the requirements of the APCA, the Clean Air Act, or applicable regulations adopted thereunder.

Pursuant to 25 Pa. Code §127.511(a), emission monitoring and analysis procedures or test methods required under applicable requirements, including procedures and methods under Sections 114(a)(3) or 504(b) of the Clean Air Act must be included as a condition in Title V permits. With respect to emission monitoring, the permittee must also comply with requirements concerning the use, maintenance and, when appropriate, installation of monitoring equipment or methods, as necessary. 25 Pa. Code §127.511(a)(3). At least every six months, the permittee must submit reports of required monitoring, certified by a responsible official of the designated facility. Instances of deviations from permit requirements shall be clearly identified in the reports. 25 Pa. Code §127.511(c).

The previously described statutory and regulatory provisions demonstrate that PADEP has adequate authority to require the owners and operators of designated facilities including existing MSW landfills and certain MWCs to comply with the EG applicable to those facilities. Furthermore, the monitoring, recordkeeping and reporting provisions of 40 CFR Part 60, Subparts Eb and WWW are incorporated by reference in their entirety in 25 Pa. Code Chapter 122. Consequently, the monitoring, recordkeeping and reporting requirements applicable to the designated facilities including MWCs and MSW landfills have the force and effect of Pennsylvania law.

F. Making Available to the Public Emission Data Correlated to Emission Standards

Section 13.1 of the APCA requires the Department to make all records, reports or information pertaining to emission data available to the public. As specified in 25 Pa. Code §127.411(c) records, reports or information obtained by the Department or referred to a public hearings shall be available to the public, except as provided in subsection(d). The exception in subsection (d) , which does not apply to emissions data, provides for the confidential treatment of certain information that would “adversely affect the competitive position of that person.” Such information includes the production or sales figures, or methods, processes, trade secrets and intellectual property rights. Section 127.411(d) also provides that the Department will

implement the requirements of this section consistent with the requirements in section 112(d) (relating to emission standards) and 114(c)(relating to availability of records, reports and information to public; disclosure of trade secrets). 25 Pa. Code §127.411(d)

In accordance with the requirements of 25 Pa. Code §§127.441(c) and 127.511 (b), State operating permits and Title V permits issued to designated facilities will incorporate the monitoring, recordkeeping or reporting requirements of Chapter 139 (relating to sampling and testing), 25 Pa. Code Article III and applicable emissions monitoring and analysis procedures or test methods required under the Clean Air Act including Sections 114(a)(3) or 504(b).

The owners or operators of designated facilities subject to Title V permit requirements must include the following emissions-related information in a Title V application which shall be made available to the general public:

1) Emissions of air contaminants for which the facility is a Title V facility and emissions of regulated pollutants. The permit application shall describe emissions of regulated air pollutants emitted from a stationary air contamination source. The PADEP may also require additional information related to the emissions of air contaminants necessary to verify which requirements are applicable to each source. 25 Pa. Code §127.503(3)(i).

2) Emission rates in tons per year and in terms necessary to establish compliance consistent with the applicable emission limit and standard reference test method. 25 Pa. Code §127.503(3)(iii).

Under 40 CFR §60.25, the emissions data summarized in State Plans developed pursuant to Sections 111(d) and 129 of the Clean Air Act must be correlated to emission standards for designated pollutants. In Pennsylvania, emissions data correlated to emission standards are available to the general public. The correlated emission data will also be available for review by the general public when PADEP provides notice and opportunity for comment on the proposed plans.

G. Legal Authority to Enforce the EG Prior to the Issuance of a Permit

The Air Pollution Control Act and the regulations promulgated thereunder provide adequate authority for PADEP to enforce EG requirements developed pursuant to Sections 111(d) and 129 of the Clean Air Act prior to the issuance of a permit. Section 6.1(k) of the Act provides that PADEP shall require revisions to any permit to incorporate applicable standards and regulations promulgated under the Clean Air Act after the issuance of a Title V permit. 35 P.S. §4006.1(k). Therefore, the Department will revise existing State operating permits for designated facilities to incorporate “applicable requirements” including requirements in Sections 111(d) and 129 of the Clean Air Act in accordance with the provisions in 25 Pa. Code §127.463. Section 127.463(e) also states that: “Regardless of whether a revision is required under this section, the permittee shall meet the applicable standards or regulations promulgated under the Clean Air Act within the time frame required by the standards or regulations.”

Subsection(e) expressly authorizes PADEP to require compliance with applicable requirements prior to the issuance of State operating permits or Title V permits to designated facilities. Failure to comply with EG requirements subjects the owners or operators of designated facilities to appropriate enforcement action including the issuance of departmental orders and the assessment of civil penalties. 35 P. S. §§4004(9)(i), 4009.1 and 4010.1.

H. Legal Authority to Enforce Applicable Requirements Following the Expiration of Operating permits

Pennsylvania law provides the necessary authority to enforce applicable requirements including Sections 111(d) and 129 of the Clean Air Act following the expiration of an operating permit issued by PADEP. In this Commonwealth, air contamination sources may not operate without a permit. Pursuant to §6.1(b.2) of the APCA and 25 Pa. Code §446(c), the terms and conditions of an expired permit are automatically continued pending the issuance of new permit if the permittee has submitted a timely and complete application and paid applicable fees. 35 P. S. §4006.1(b.2) and 25 Pa. Code §127.446(c). The continued effect of expired permits applies to both state operating permits and Title V permits.

In circumstances where the owner or operator of a designated facility violates terms and conditions of the expired permit, the Department may issue enforcement orders including requiring the cessation of operation of a designated facility or any air contamination source at such facilities. 35 P. S. §§4004(9)(I) and 4010.1.

In Pennsylvania, it is unlawful to any operate stationary air contamination source without a permit. Section 6.1(b)(1) of the APCA provides that “no person shall operate any stationary air contamination source unless the department shall have issued to such person a permit to operate such source ...in response to a written application ...”. 35 P. S. §4006.1(b)(1). Therefore, if the owner or operator of a designated facility fails to submit an application to renew a State operating permit or Title V permit, the Department can initiate appropriate enforcement action upon expiration of the permit if the permittee continues to operate the stationary air contamination source after the permit lapses.

Section 9.1 of the APCA provides that the Department may assess up to \$25,000 per day in civil penalties for violations of the act, regulations adopted under the act, departmental orders or terms and conditions of plan approvals and operating permits. 35 P. S. §4009.1.

The provisions described above provide sufficient authority to enforce applicable requirements prior to the renewal of state operating permits or Title V permits. Additionally, Section 7.1 of the APCA authorizes the Department to withhold plan approvals, state operating permits or Title V permits where an applicant or related party has shown a lack of ability or intention to comply with the APCA. 35 P. S. §4007.1. If the permittee fails to comply with the EG, the Department may withhold plan approvals or operating permits until the owner or operator of a designated facility corrects violations of applicable requirements, including Sections 111(d) and 129 of the Clean Air Act.

Dated: _____

Signed: _____
Terry R. Bossert, Chief Counsel, PADEP

**APPENDIX A: EMISSION GUIDELINES FOR EXISTING MSW LANDFILLS
(40 CFR Part 60, Subpart Cc)**

AND

NSPS FOR MSW LANDFILLS (40 CFR Part 60, Subpart WWW)

APPENDIX B-1: PUBLIC HEARING CERTIFICATION

I, Krishnan Ramamurthy , on behalf of the Commonwealth of Pennsylvania, Department of Environmental Protection, based on information and belief formed after reasonable inquiry, hereby certify that three public hearings were held prior to adoption of the State Plan in accordance with criteria specified in 40 CFR §60.23. I further certify that the Plan includes a list of witnesses and a written copy of the oral testimony presented.

Dated: June 30, 1997

Signed: _____

(Krishnan Ramamurthy, Chief, Technical Support Section, PADEP)

APPENDIX C

COMMONWEALTH OF PENNSYLVANIA

INVENTORY OF MUNICIPAL SOLID WASTE LANDFILLS SUBJECT TO EMISSION GUIDELINES

S.No.	Permit No.	Facility Name	PA Region	County	Capacity	Units	Year Opened	Year Closed
1	09-322-002 & 03B	G.R.O.W.S., Inc.	SE	Bucks	12.7	MMg	1970	2000
2	35-322-001&002	Keystone Landfill, Inc.	NE	Lackawanna	12.9	MMg	1972	2004
3	35-322-003&004	Empire Sanitary Landfill, Inc.	NE	Lackawanna	14.9	MMg	1986	2004
4		Taylor Landfill (Amity)	NE	Lackawanna	2.7	MMg	1973	1990
5	48-322-001	Grand Central Sanitary Landfill, Inc.	NE	Northampton	7.4	MMg	1955	2004
6	48-322-003	Chrin Brothers Sanitary Landfill	NE	Northampton	2.5	MMg	1961	1993
7	54-322-001A	Pine Grove Landfill	NE	Schuykill	3.4	MMg	1990	2006
8		Colebrookdale Landfill (Delaware County S.W. Auth.)	SC	Berks	7.1	MMg	1982	1997
9	36-322-001A	Chester County Solid Waste Authority	SC	Lancaster	9.3	MMg	1975	2005
10	36-322-002	Lancaster County Solid Waste Mgmt. Authority (Frey)	SC	Lancaster	5.9	MMg	1979	2016
11	67-322-001	Modern Trash Removal of York, Inc.	SC	York	7.6	MMg	1978	2001
12		Greater Lebanon Refuse Authority LF	SC	Lebanon	3.5	MMg	1983	2004
13	41-322-01	Lycoming County Landfill	NC	Lycoming	6.5	MMg	1978	2009
14	18-322-003	Clinton County Solid Waste Authority	NC	Clinton	2.9	MMg	1975	2008
15	63-322-001	Martin, William H., Inc.(Arden)	SW	Washington	5.9	MMg	1971	2004
16	56-322-001	Southern Alleghenies Disposal Service, Inc.	SW	Somerset	4.1	MMg	1973	2000
17	65-322-001A	Valley Landfill	SW	Westmoreland	20.4	MMg	1990	2010
18	63-322-003A	Armoni, M. C., Co.	SW	Washington	6.8	MMg	1979	2001
19	24-322-001	Browning Ferris Industries (Greentree LF)	NW	Elk	4.5	MMg	1990	1999
		Allegheny County:						
20		Browning-Ferris Industries of PA (Imperial Landfill)		Allegheny	803	Acres	1935	2021
21		Chambers Development Co. (Monroeville Landfill)		Allegheny	171	Acres	1940	2000
22		Kelly Run Sanitation (Elizabeth)		Allegheny	400	Acres	1964	Unknown
		Open MSW Landfill with capacity less than 2.5 MMg						
23	06-322-001/002	Western Berk Refuse Authority	SC	Berks	1.6	MMg	1975	1992
24		Dauphin Meadows Landfill	SC	Dauphin	1.3	MMg	1991	1998
25	08-322-001A	Northern Tier Solid Waste Authority	NC	Clinton	1.5	MMg	1991	2008
26	11-322-002	Chambers Laurel Highland Landfill, Inc.	SW	Cambria	1.2	MMg	1973	1997
27	15-0060	SECCRA Landfill	SE	Chester	0.92	MMg	1986	2001
28	26-322-001	C.B.F., Inc.	SW	Fayette	2.3	MMg	1960	2020
29	32-322-001	Pellegrene Sanitary Landfill	SW	Indiana	1.6	MMg	1980	2011
30	65-322-002	Westmoreland County, Municipal Authority of	SW	Westmoreland	0.8	MMg	1968	2006
31	42-322-001	McKean County Solid Waste Authority	NW	McKean	0.7	MMg	1981	2000

APPENDIX C-1

**COMMONWEALTH OF PENNSYLVANIA
INVENTORY OF MODIFIED EXISTING MUNICIPAL SOLID WASTE LANDFILLS SUBJECT TO NEW SOURCE
PERFORMANCE STANDARDS (NSPS)**

S.No.	Permit No.	Facility Name	PA Region	County	Capacity	Units	Year Opened	Year Closed	Year Modified
1	09-322-001/005	Tullytown Resource Recovery Facility	SE	Bucks	10,690,909	Mg	1988	2002	1995
2	46-322-005A	Waste Management of North America, Pottstown LF	SE	Montgomery	4,092,971	Mg	1973	2001	Feb. 1996
3	06-05078	Pioneer Crossing Landfill	SC	Berks	3,411,300	Mg	1940	2003	1993
4	21-322-001	Cumberland County Landfill	SC	Cumberland	3,080,000	Mg	1974	2004	1995
5	28-322-001A	Community Refuse Limited (Mountain View)	SC	Franklin	3,171,167	Mg	1977	1998	Feb. 1996
6		R & A Bender, Incorporated	SC	Franklin	9,495,000	Mg	1972	2027	1995

**APPENDIX D
COMMONWEALTH OF PENNSYLVANIA**

INVENTORY OF EMISSIONS FROM MUNICIPAL SOLID WASTE LANDFILLS SUBJECT TO EMISSION GUIDELINES

G.R.O.W.S., Inc.	12.7	MMg	1,543.0	1	293.5
Keystone Landfill, Inc.	12.9	MMg	1,409.0	1	266.0
Empire Sanitary Landfill, Inc.	14.9	MMg	188.5	2	294.0
Taylor Landfill (Amity)	2.7	MMg	340.0	1	66.5
Grand Central Sanitary Landfill, Inc.	7.4	MMg	28.4	2	130.0
Chrin Brothers Sanitary Landfill	2.5	MMg	270.6	1	54.0
Pine Grove Landfill	3.4	MMg	11.7	2	48.0
Colebrookdale Landfill (Delaware County S.W. Auth.)	7.1	MMg	1,044.0	1	190.3
Chester County Solid Waste Authority	9.3	MMg	999.0	1	188.0
Lancaster County Solid Waste Mgmt. Authority (Frey)	5.9	MMg	388.0	1	83.5
Modern Trash Removal of York, Inc.	7.6	MMg	986.0	1	182.4
Greater Lebanon Refuse Authority LF	3.5	MMg	547.3	1	102.1
Lycoming County Landfill	6.5	MMg	620.0	1	114.6
Clinton County Solid Waste Authority	2.9	MMg	393.0	1	74.9
Martin, William H., Inc.(Arden)	5.9	MMg	640.0	1	121.3
Southern Alleghenies Disposal Service, Inc.	4.1	MMg	507.0	1	97.7
Valley Landfill	20.4	MMg	1,321.0	1	232.7
Armoni, M. C., Co.	6.8	MMg	884.0	1	163.1
Browning Ferris Industries (Greentree LF)*	4.5	MMg	642.0	1	113.0
Allegheny County:					
Browning-Ferris Industries of PA (Imperial Landfill)**	803	Acres	370.0	**	370.0
Chambers Development Co. (Monroeville Landfill)**	171	Acres	172.7	**	172.7
Kelly Run Sanitation (Elizabeth)**	400	Acres	127.3	**	127.3
TOTAL			13,432.5		3,485.6
Open MSW Landfill with capacity less than 2.5 MMg					
Western Berk Refuse Authority	1.6	MMg	32.2		
Dauphin Meadows Landfill	1.3	MMg	36.8		
Northern Tier Solid Waste Authority	1.5	MMg	39.0		
Chambers Laurel Highland andfill, Inc.	1.2	MMg	31.2		
SECCRA Landfill	0.92	MMg	147.0		
C.B.F., Inc.	2.3	MMg	20.2		
Pellegrene Sanitary Landfill	1.6	MMg	26.7		
Westmoreland County, Municipal Authority of	0.8	MMg	14.7		
McKean County Solid Waste Authority	0.7	MMg	143.8		
* Indicates that assumptions were made regarding closure dates for facilities					
** Facility capacity in acres, Emissions as VOC, Values supplied by Allegheny County					
Model defaults: $L_0 = 6001 \text{ ft}^3/\text{Mg}$, $k = 0.05\text{yr}^{-1}$, $C_{\text{NMOC}} = 4000\text{ppm}$					

**APPENDIX E. PENNSYLVANIA AIR POLLUTION CONTROL ACT
(35 P. S. Sections 4001-4015)**

AND

**PLAN APPROVAL AND OPERATING PERMIT PROGRAM
REGULATIONS (25 Pa. Code Chapter 127)**