

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Air Quality

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TITLE: Air Quality Compliance Assurance Policy for Municipal Waste Incinerators

EFFECTIVE DATE: _____ 2026

AUTHORITY: Act of January 8, 1960, P.L. (1959) 2119, No 787, as amended, known as The Air Pollution Control Act, (35 P.S. § 4001 et seq.) (APCA)

POLICY: Outlines the procedures to be followed for assessing civil penalties for violations of emission standards and monitoring, recordkeeping and reporting requirements for municipal waste incinerators under Section 9.1 of the APCA.

PURPOSE: The purpose of this document is to provide uniformity for the assessment of civil penalties for municipal waste incinerator violations of emission standards and monitoring, recordkeeping and reporting requirements through consensual agreement pursuant to Section 9.1 of the APCA.

APPLICABILITY: This guidance is applicable to DEP regional air quality program staff's assessment of a civil penalty for various violations by owners and operators of municipal waste incinerator air contamination sources under Section 9.1 of the APCA.

DISCLAIMER: The policies and procedures outlined in this guidance are intended to supplement existing requirements. Nothing in the policies or procedures shall affect statutory or regulatory requirements.

The policies and procedures herein are not an adjudication or a regulation. There is no intent on the part of DEP to give this document, which establishes the framework within which DEP will exercise its administrative discretion in the future, that weight or deference. DEP reserves the discretion to deviate from this policy statement if circumstances warrant.

PAGE LENGTH: 14 pages

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I. INTRODUCTION

A. Assessment of Penalties under the Air Pollution Control Act

Section 9.1(a) of the 1992 Amendments to the Pennsylvania Air Pollution Control Act (APCA or Act) authorizes the Department of Environmental Protection (Department or DEP) to assess civil penalties for violations of provisions of the Act, regulations adopted under the APCA or violations of any order, plan approval or permit issued pursuant to the Act (35 P.S. § 4009.1(a)). Section 9.1(a) of the APCA provides that in determining the amount of the penalty, the Department shall consider:

- willfulness of the violation;
- damage to air, soil, water or other natural resources of the Commonwealth or their uses;
- financial benefit to the person in consequence of the violation;
- deterrence of future violations;
- cost to the Department;
- the size of the source or facility;
- the compliance history of the source;
- the severity and duration of the violation;
- degree of cooperation in resolving the violation;
- the speed with which compliance is ultimately achieved;
- whether the violation was voluntarily reported;
- other factors unique to the owners or operator of the source or facility; and
- other relevant factors.

This Guidance addresses the following APCA Section 9.1(a) factors:

- damage to the environment;
- size; and
- severity and duration.

Consideration of the remaining APCA Section 9.1(a) factors should be informed by the Department's "Guidance for the Application of Regional Civil Penalty Assessment Procedures." DEP Document Number 273-4130-003.

B. Applicability and Scope

This guidance applies to the owners and operators of municipal waste incinerators that are required to monitor and report their emissions using Continuous Source Monitoring Systems (CSMS). When used to monitor emissions, these systems are also referred to as Continuous Emissions Monitoring Systems (CEMS).

The purpose of this policy is to establish uniform criteria for calculating monetary penalties for exceedances of emission standards and recordkeeping and reporting requirements through agreements. The Department has found agreements to be effective in resolving violations without resorting to litigation. Source owners are not required to sign an enforcement agreement to resolve past or future violations; however, the Department intends to take criminal and/or civil

action to resolve exceedances of standards for which an agreement has not been reached. The various leniency factors built into this policy are applicable only to agreement settlements. They have no applicability in litigation.

Enforcement responses in this policy are intended to be corrective and to prevent future occurrences. The DEP's enforcement response depends on the intensity and duration of the violation and the effect of the pollutant on public health and welfare considering the applicable factors under section 9.1 of the APCA. This policy does not limit the Department's enforcement response to a particular violation but specifies basic responses to most probable violations.

The procedures set forth in this guidance document are designed to apply the Section 9.1(a) factors in calculating civil penalties for municipal waste incinerators. Each of the listed factors must be considered, when applicable, in calculating a civil penalty. While the guidance is intended to promote consistency in the calculation of penalties, a particular case may involve unique factors that warrant a penalty different from that indicated by the guidance.

The penalty calculated may never exceed the statutory maximum set forth under section 9.1(a) of the APCA. As of the effective date of this Guidance, the statutory maximum is of \$25,000 per day for each violation. This Guidance was originally published July 1989 and amended in March 1995 and May 1996.

C. Inflation Adjustment

Beginning January 1, 2028, and every 2 years thereafter, an inflation adjustment multiplier will be calculated by the Department based on the Consumer Price Index for All-Urban Consumers (CPI-U) to account for inflation from **[EFFECTIVE DATE OF REVISED GUIDANCE]**.

Beginning January 1, 2028, each penalty calculated using the procedures in Section III below will be multiplied by the inflation adjustment factor.

Note: The penalty calculated may not exceed the statutory maximum per day for each violation under Section 9.1 of the APCA.

II. Continuous Source Monitoring Systems

A. Certification

Municipal waste incinerator permits may include requirements for continuous monitoring for emission standards and parameters to be conducted in accordance with 25 Pa. Code Chapter 139 requirements. Under 25 Pa. Code Chapter 139, monitors are subject to a three-phase certification process:

Phase 1: initial application where, for example, the monitor location must be approved;

Phase 2: performance testing which compares monitor results with stack test results, etc.; and,

Phase 3: Department review of performance test results and final approval of the system which constitutes "certification."

Once the monitoring system is certified, the data may be used for compliance demonstration and enforcement.

All monitors are subject to minimum data availability requirements under 25 Pa. Code Chapter 139.

B. Parameters and Pollutants

CSMS may be used to determine compliance with the following emission standards and operating parameter requirements detailed in the facility permit:

- hydrochloric acid (HCl)
- sulfur dioxide (SO₂)
- carbon monoxide (CO)
- nitrogen oxides (NO_x)
- visible air contaminants (opacity)
- furnace operating temperature

The owner or operator of a municipal waste incinerator that has facility permit conditions requiring CSMS submits quarterly data reports to DEP to demonstrate compliance with these requirements. Emission or data availability noncompliance incidents in these reports are subject to enforcement.

III. Penalty Calculation

This section describes the penalty calculations for municipal waste incinerators for violations of emission limits and monitoring, recordkeeping and reporting requirements for which compliance is evaluated based on CEMS data. The quarterly data is submitted to and processed by the Continuous Emission Monitoring Data Processing System*Online (CEMDPS*Online). The CEMDPS*Online uses the equations and methodology described in this section to calculate the penalty.

Enforcement response for non-compliance with other regulatory or permit conditions, limits and parameters determined outside CEMDPS*Online will consider the factors in section 9.1 of the APCA, including the intensity and duration of the violation and the effect of the pollutant on public health and welfare depend on the intensity and duration of the violation and the effect of the pollutant on public health and welfare. Penalty calculation should be informed by the Department's "Guidance for the Application of Regional Civil Penalty Assessment Procedures." DEP Document Number 273-4130-003.

The penalty provisions are designed to encourage owner and operator compliance but not to sanction chronic problems by the simple payment of a penalty. The Department reserves the right to require improved control of air contaminants in addition to enforcement actions indicated here for chronic exceedance cases. The Department may require corrective action:

- (1) if emission violations indicate inadequate design or improper operation of a process or air pollution control equipment, or
- (2) if data availability violations indicate inadequate design or operation of continuous emission monitoring equipment.

Violations of permit conditions that result in calculation of the maximum emission penalty for more than one day in a quarter warrant consideration for corrective action. For data availability penalties, consideration for corrective action is warranted if the maximum quarterly penalty threshold is reached as provided by the equations in Section IV B (Data Availability).

Note that settlement of a violation under prescriptions of this policy does not prevent the Department from taking additional enforcement action for the same event. For example, should penalties be paid for a visible emissions violation which also causes soiling off the facility property, the Department could take additional enforcement actions.

Penalties are typically settled through execution of a Consent Assessment of Civil Penalty (CACP) or a Consent Order and Agreement (COA). COAs may be used when equipment or significant operational changes are required in addition to the civil penalty. Depending on the violation, the COA may not allow any incinerator operation until certain changes are made, or it may authorize some operation. Operation under a COA will be limited to a maximum of 12 months.

Continuous monitoring quarterly data reports are required under 25 Pa. Code Chapter 139. Facility permit conditions require the quarterly data to be submitted to the Department within thirty days from the end of each calendar quarter. An owner or operator's submission of a quarterly data report beyond the 30-day requirement is subject to delinquency penalties. The standards that must be met for the data to be considered valid are set forth in 25 Pa. Code Chapter 139. Limited data availability penalty adjustments are possible. Details for penalty adjustments are included in Section IV E (Penalty Adjustments).

Section 9.1(a) of the APCA authorizes DEP to assess civil penalties for violations of provisions of the APCA, regulations adopted under the APCA or violations of any order, plan approval or permit issued pursuant to the APCA (35 P.S. § 4009.1(a)). DEP assesses civil penalties for most situations where an owner or operator is not in compliance. Penalty assessments under section 9.1 of the APCA prescribed in this policy for municipal waste incinerators consider the following:

- pollutant or parameter,
- duration and intensity of the violation, and
- size of the incinerator.

Base penalties in paragraphs A through F below apply to violations detected by CSMS. Differing base penalties reflect the air quality consequence of violating the particular standard and increase with the magnitude of the exceedances. The penalty is calculated by multiplying the base penalty by the penalty factor for size. The larger the incinerator capacity, the greater the penalty for a violation. Penalty factors are defined by:

| <u>Incinerator Rated Capacity</u> (tons/day) | <u>Penalty Factor, F</u> |
|---|--------------------------|
| <= 250 | 1 |
| 251 - 750 | 2 |
| 751 - 1500 | 3 |
| > 1500 | 4 |

For multiple incinerators with stack or facility-based penalties, the penalty factor is determined from the above table by summing the rated capacities of all contributing incinerators.

Beginning January 1, 2028, the penalty calculated will be multiplied by an inflation adjustment factor calculated as described in Section I C (Inflation Adjustment) to account for inflation from **[EFFECTIVE DATE OF REVISED GUIDANCE]**. As of the effective date of this Guidance, the statutory maximum civil penalty is \$25,000 per day per violation. The inflation adjusted penalty may never exceed the statutory maximum.

Specific conditions, including monitoring, recordkeeping and reporting requirements, and emission limits for municipal waste incinerators are determined through the permitting process based on Best Available Technology at the time the permit is issued. Municipal waste incinerator permits typically contain conditions and emission limits for which compliance may be evaluated using CEMS data for the following pollutants and parameters:

A. Hydrochloric Acid (HCl)

Hydrochloric acid (HCl) emission standards are typically expressed as a 24-hour daily average concentration limit, corrected to 7% O₂ on a dry basis; or, a specified percentage (by weight) reduction on a 24-hour daily average.

Penalty Calculation:

A daily penalty is assessed for HCl if the concentration limit is exceeded and the required reduction is not achieved. The penalty is based on how much the concentration exceeded the limit and how much less than the required reduction was achieved. The equation for this is:

$$S_{HCl} = (C - C_{HCl})(R_{HCl} - R)$$

where: C = concentration of HCl (ppmv) for violation day

C_{HCl} = concentration limit (ppmv)

R_{HCl} = reduction requirement (%)

R = reduction percentage achieved for violation day

The S_{HCl} defines the base penalty as follows:

| S_{HCl} | Base Penalty (B_H) |
|-----------------------------|--|
| 1 - 60 | \$200 |
| 61 - 120 | \$400 |
| 121 - 180 | \$800 |
| > 180 | \$1,600 |

The daily penalty calculated for HCl violations is the penalty factor for size times the base penalty:

$$P_H = F * B_H$$

B. Sulfur Dioxide (SO₂)

Sulfur dioxide (SO₂) emission standards are typically expressed as a 24-hour daily average, corrected to 7% O₂ on a dry basis; or, a specified percentage (by weight) reduction on a 24-hour daily average.

Penalty Calculation:

A daily penalty is calculated for SO₂ if the concentration limit is exceeded **and** the required reduction is not achieved. The penalty will be based on how much the concentration exceeded the limit and how much less than the required reduction was achieved. The equation for this is:

$$S_{SO_2} = (C - C_{SO_2})(R_{SO_2} - R)$$

where: C = concentration of SO₂ (ppmv) for violation day

C_{SO_2} = concentration limit (ppmv);

R_{SO_2} = reduction requirement (%);

R = reduction percentage achieved for violation day

The S_{SO_2} defines the base penalty as follows:

| S_{SO_2} | Base Penalty (B_S) |
|------------------------------|--|
| 1 - 32 | \$200 |
| 33 - 64 | \$400 |
| 65 - 96 | \$800 |
| > 96 | \$1,600 |

The daily penalty calculated for SO₂ violations is the penalty factor for size times the base penalty:

$$P_S = F * B_S$$

C. Carbon Monoxide (CO)

Carbon monoxide (CO) emission standards are typically expressed as a concentration limit in ppmv for a 4-hour block or as a 24-hour average, corrected to 7% O₂ on a dry basis.

Penalty Calculation (4-hour block):

A daily penalty is calculated for CO if the concentration limit is exceeded for any 4-hour block period. The penalty is based on how much the concentration exceeds the limit. The daily penalty is defined by the sum of these concentration excesses for all 4-hour violation periods in the day. The equation for this is:

$$S_{CO4} = \sum_{i=1}^n (C_i - C_{CO4})$$

where: C_i = concentration of CO (ppmv) for the ith, 4-hour violation period
 C_{CO4} = concentration limit (ppmv)

The S_{CO4} defines the base penalty as follows:

| S _{CO4} | 4-Hour Base Penalty (B _{CO4}) |
|------------------|---|
| 1 - 100 | \$200 |
| 101 - 200 | \$400 |
| 201 - 300 | \$800 |
| > 300 | \$1,600 |

The daily penalty calculated for CO violations is the penalty factor for size times the base penalty:

$$P_{CO} = F * B_{CO4}$$

Penalty Calculation (24-hour daily):

A daily penalty is calculated for CO if the concentration limit is exceeded for a 24-hour daily period. The penalty is based on how much the concentration exceeds the limit. The equation for this is:

$$S_{CO24} = C - C_{CO24}$$

where: C = concentration of CO (ppmv) for violation day

C_{CO24} = concentration limit (ppmv)

The S_{CO24} defines the base penalty as follows:

| S_{CO24} | 24-Hour Base Penalty (B_{CO24}) |
|------------|---|
| 1 - 40 | \$200 |
| 41 - 80 | \$400 |
| 81 - 120 | \$800 |
| > 120 | \$1,600 |

The daily penalty calculated for CO violations is the penalty factor for size times the base penalty:

$$P_{CO} = F * B_{CO24}$$

D. Nitrogen oxide (NO_x)

Nitrogen oxide (NO_x) emission standards are typically expressed as a concentration limit as a 24-hour daily average, corrected to 7% O₂ on a dry basis.

Penalty Calculation:

If the concentration limit is exceeded, a daily penalty is calculated based on the amount the concentration exceeds the limit:

$$S_{NOx} = C - C_{NOx}$$

| S_{NOx} | Base Penalty (B_N) |
|-----------|--|
| 1 - 20 | \$400 |
| 21 - 40 | \$800 |
| 41 - 60 | \$1,600 |
| > 60 | \$3,200 |

The daily penalty calculated for NOx is the penalty factor for size times the base penalty:

$$P = F * B_N$$

E. Visible Emissions (VE)

Standards for Visible Emissions (VE) are expressed as a limit on the opacity of the emissions. Municipal waste incinerators have permit conditions that require the opacity of the emissions to NOT be equal to or greater than 10% for a period or periods aggregating more than 3 minutes in any one hour; or equal to or greater than 30% at any time.

Penalty Calculation:

Daily penalties are calculated any time either limit is exceeded. Independent penalties are calculated based on the total daily minutes in excess of the 10% or 30% opacity standards according to the following tables:

| <u>10% Std.</u> | | <u>30% Std.</u> | |
|---|---|---|---|
| <u>Excess Minutes</u> (T ₁₀) | <u>Base Penalty</u> (B ₁₀) | <u>Excess Minutes</u> (T ₃₀) | <u>Base Penalty</u> (B ₃₀) |
| 1 - 30 | \$200 | 1 - 10 | \$200 |
| 31 - 60 | \$400 | 11 - 20 | \$400 |
| 61 - 90 | \$800 | 21 - 30 | \$800 |
| > 90 | \$1,600 | > 30 | \$1,600 |

The daily penalty calculated for opacity violations is the penalty factor for size times the sum of any base penalties:

$$P_O = F * (B_{10} + B_{30})$$

Note that when the opacity is => 10% for more than 15 or more minutes, waste charging must cease.

F. Operating Temperature

Municipal waste incinerators have permit conditions that require the unit to maintain the combustion gases at or above a specified temperature greater than when firing waste.

Penalty Calculation:

Recorded violations of the temperature standard during waste firing is subject to calculation of a penalty according to the following:

| Daily Minutes < Temp Standard | Base Penalty (B_T) |
|---|---|
| 1 - 30 | \$400 |
| 31 - 60 | \$800 |
| 61 - 90 | \$1,600 |
| > 90 | \$3,200 |

The daily penalty calculated for these low temperature violations is the penalty factor for size times the base penalty:

$$P_T = F * B_T$$

IV. Monitoring, Recordkeeping and Reporting

A. Data Validity

Per 25 Pa. Code Chapter 139, a three-phase certification process is required to be completed for each monitor. This process assures that all remaining 25 Pa. Code Chapter 139 requirements are met.

Monitoring data determined to be inaccurate or not representative during an audit will be invalidated. Data for the quarter in question will be reevaluated for excess invalid data which is subject to penalty.

B. Data Availability

Companies are required to submit quarterly emission report data to the Department via CEMDPS*Online within 30 days following the end of each quarter. The standards that must be met for the data to be considered valid are set forth in 25 Pa. Code Chapter 139.

Minimum data availability:

MONITORED POLLUTANT OR PARAMETER SYSTEM (CLASS)

| REQUIREMENT | (a) CO* & CE Temperature | (b) Opacity | (c) HCl*, SO ₂ * & NOx* |
|-------------------|--------------------------------|---------------------------|---------------------------------------|
| Data Availability | 100% valid hours/day | >= 95% valid hours/day | >= 90% valid hours/month |
| Valid Hour | >=90% valid readings | >=75% valid readings | >=75% valid readings |

*Corrected to 7% oxygen on a dry basis

Monitoring systems not achieving the required data availability are subject to quarterly penalties. Penalties depend on the system class (a, b, or c); the total number of excess invalid hours in the quarter (N_a, N_b, or N_c); and the penalty factor (F). Penalties are only assessed on outlet monitoring systems for HCl and SO₂.

Quarterly penalties are defined by the following equations:

$$P_a = F \times \$400 \times 2^{(N_a-1/72)} \quad \text{up to a maximum of \$25,600, where } N_a \geq 432 \text{ hrs}$$

$P_b = F \times \$300 \times 2^{(Nb-1)/84}$ up to a maximum of \$19,200, where $N_b \geq 504$ hrs

$P_c = F \times \$200 \times 2^{(Nc-1)/96}$ up to a maximum of \$12,800, where $N_b \geq 576$ hrs

C. Delinquent Reports

Facility permit conditions require the quarterly submittal of routine emission or parameter reports and incident reports for opacity, low temperature, and cessation of waste charging.

Continuous monitoring quarterly data reports are required under 25 Pa. Code Chapter 139. Facility permit conditions require the quarterly data to be submitted to the Department via CEMDPS*Online within thirty days from the end of each calendar quarter. An owner or operator's submission of a quarterly data report beyond the 30-day requirement is subject to delinquency penalties.

Subsequent data report changes must be approved by the appropriate regional office.

Delinquent reports will be considered in violation of the reporting requirements in 25 Pa. Code Chapter 139 and subject to a penalty of \$250 per day of delinquency per report. However, this penalty is forgiven for reports delinquent for seven or less days. That is, the penalty if submitted on the eighth day of delinquency would be \$2,000; on the ninth, \$2,250; etc.

D. Penalty Adjustments

CEMS penalty adjustment requests are to be filed with the Regional Air Quality Program Manager within 30 days following the receipt of the Department-generated CEMS reports by the company.

1. Upon receiving a request with adequate documentation from a source owner, the Regional Air Quality Program Managers may make penalty adjustments in accordance with the following:

a. Both opacity emission and data availability penalties may be reduced in a multiple MWI situation with one opacity CEMS when one or more incinerators are shut down. The penalty factor will be based upon the rated capacity of MWI's operating at the time of the violation.

b. Data availability penalty adjustments may be made under the following circumstances:

i. If a source owner demonstrates compliance with applicable emission standards by alternate means. The amount of the reduction depends on the degree of confidence with which compliance can be demonstrated.

ii. If the source owner demonstrates that the penalty was due to events or circumstances beyond the control of the source owner. The amount of the reduction depends on the extent to which the situation was uncontrollable.

iii. If the source owner takes extraordinary steps to reduce the extent of outage or steps to prevent similarly caused outages. The amount of the reduction depends on the results effectiveness of the steps taken.

2. Penalties calculated under this policy may be adjusted on a case-by-case basis by the Chief of the Division of Compliance & Enforcement may adjust any penalty. Requests for such adjustments must be referred through the Regional Air Quality Program Manager.

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