

Appendix E
COMPLIANCE ASSURANCE MONITORING PLAN

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COMPLIANCE ASSURANCE MONITORING PLAN
Middletown Coke Company

Background

Emission Unit

Description: Spray Dryer Baghouse Flue Gas Desulfurization (FGD) System

Operation Identification: FGD System

Facility: Middletown Coke Company, Butler County, Ohio

Applicable Regulation and Emission Limit

Regulation Number: None

Pollutant: SO₂ & PM/ PM₁₀

Emission limits:

Annual Average SO₂ Limit – 701 tons/year, excluding FGD maintenance
 (equivalent to annual average of 160 lb/hour)

24-hour Average SO₂ Limit – 192 lb/hour

Average Filterable PM/PM₁₀ Limit – 10.7 lb/hour

Average Filterable PM/PM₁₀ Limit – 46.9 tons/year

Applicable Monitoring Requirements

None. Propose to use procedures in 40 CFR 60, Appendix B.

Control Technology

Spray Dryer

Pulse Jet Baghouse operated under negative pressure

Monitoring Approach

| | Indicator No. 1 | Indicator No. 2 |
|----------------------|---|--|
| I. Indicator | SO ₂ Concentration | Pressure Drop |
| Measurement Approach | SO ₂ concentration is measured with a CEMS meeting: <ol style="list-style-type: none"> 1. 40 CFR 60 Appendix B, Performance Specification (PS): <ul style="list-style-type: none"> • PS2 – Specification for SO₂ CEMS in Stationary Sources 2. 40 CFR 60, Appendix F: Quality Assurance Procedures. 3. Target >95% availability | Pressure drop across the baghouse is measured continuously by using a magnahelic gage or pressure transducer. |
| II. Indicator Range | An excursion is defined as 24-hour average greater than 192 lb SO ₂ /hour; excursions trigger an inspection, corrective action, and reporting, requirement. Excursions do not include periods where the FGD system is being maintained (e.g., atomizer change-out in the spray dryer). SO ₂ range (0-200 ppm) Flow Rate range (0-100 ft/sec) | An excursion is defined as a pressure drop greater than 15 or less than 5 in. H ₂ O. Excursion triggers an inspection, corrective action, and reporting, requirement. |

| | Indicator No. 1 | Indicator No. 2 |
|---------------------------------------|--|--|
| III. Performance Criteria | | |
| A. Data Representativeness | Probes will be located as described in Performance Specification 2. Representativeness validated by RATA testing. | Pressure taps will be located in the baghouse inlet and outlet plenums to measure overall pressure drop. The gage will have a minimum accuracy of 0.5 in H ₂ O. |
| B. Verification of Operational Status | Daily calibration and observation | Recorded each day |
| C. QA/QC Practices and Criteria | 1. Daily Calibration Drift (CD) evaluation (with instrument being adjusted whenever the daily CD exceeds 10% range) 2. Quarterly Cylinder Gas Audit (CGA) 3. Annual Relative Accuracy Test Audit (RATA) 4. Maintenance according to manufacturer's specifications | Calibrate the pressure gage annually. Maintenance according to manufacturer's specifications. |
| D. Monitoring Frequency | Continuous (target >95% availability) | Continuous |
| E. Data Collection Procedures | SO ₂ concentration, flow rate, and mass emission rate recorded automatically in a data acquisition system (DAS). | Record pressure drop every day. |
| F. Averaging Period | 24-hour daily average and annual | None |

I. Rationale for Selection

Procedures in EPA Performance Specifications, as the basis for NSPS monitoring, are generally acceptable for non-NSPS applications.

Pressure drop is an appropriate indicator of baghouse performance as described in the EPA CAM Technical Guidance Document.

II. References

1. 40 CFR 60 Appendix B, Performance Specification (PS):
 - PS2- Specification for SO₂ CEMS in Stationary Sources
2. 40 CFR 60, Appendix F: Quality Assurance Procedures
3. EPA Office of Air Quality Planning and Standards Emission Measurements Center, *Technical Guidance Document: Compliance Assurance Monitoring, Revised Draft*, August 1998.