# MALFUNCTION PREVENTION and ABATEMENT PLAN

[redacted]

[redacted]

Revision 2
Revised: May 2012

[redacted]

ENVIRONMENTAL DEPARTMENT
MILWAUKEE, WISCONSIN

Prepared By: _____ [redacted] _____

Approved By: _____ [redacted] _____

# Table of Contents


1.0 Introduction ..... 3

2.0 Particulate Matter (PM) Emissions Control Equipment ..... 4

2.1 Source and Abatement Equipment Description: ..... 4

2.2 Air Pollution Control Equipment Maintenance: ..... 4

2.3 Mechanical Cyclone Dust Collector (MCDC) and Electrostatic Precipitator (ESP) Emissions Control Equipment: ..... 5

2.3.1 Inspection Responsibilities: ..... 5

2.3.2 Operational Inspections: ..... 5

2.3.3 Maintenance Inspection ..... 7

2.3.4 Routine Maintenance Inspections List: ..... 7

2.3.5 Outage Maintenance Inspections List: ..... 7

2.3.6 Electrostatic Precipitator (ESP) Operating Instrumentation: ..... 8

2.3.7 Reporting and Regulatory Notification: ..... 8

2.3.8 Typical Mechanical Cyclone Collector and ESP Materials and Spare Parts Inventory List (Rule NR 439.11(1)(d), *Wis. Adm. Code*): ..... 9

2.4 Ash Transfer System Baghouse: ..... 9

2.4.1 Inspection Responsibilities: ..... 9

2.4.2 Operational Inspections: ..... 9

2.4.3 Routine Maintenance Inspections List: ..... 10

2.4.4 Ash Transfer System Baghouse Operating Instrumentation: ..... 10

2.4.5 Reporting and Regulatory Notification: ..... 11

2.4.6 Typical Ash Transfer System Baghouse Materials and Spare Parts Inventory List (Rule NR 439.11(1)(d), *Wis. Adm. Code*): ..... 11

3.0 Nitrogen Oxides (NOx) Emissions Control Equipment ..... 11

3.1 Source and Abatement Equipment Description: ..... 11

3.2 Air Pollution Control Equipment Operation: ..... 11

3.3 Boiler B25 Ultra-Low NOx Burner System: ..... 12

3.4 Inspection Responsibilities: ..... 12

3.5 Operational Inspections ..... 12

3.6 Maintenance Inspections ..... 12

3.7 Routine Maintenance Inspections List ..... 12

## 1.0 Introduction

The information contained in this Malfunction Prevention and Abatement Plan (MPAP) describes the existing air emission sources and air pollution control equipment operation and maintenance practices at the [redacted]. This plan is prepared in accordance with Wisconsin DNR (DNR) Rule NR 439.11, *Wis. Adm. Code*. Rule NR 439.11, *Wis. Adm. Code*, requires that owners or operators of direct or portable sources of air emissions prepare MPAPs to prevent, detect, and correct malfunctions or equipment failures which may cause any emission limitation to be exceeded or which may cause air pollution. The DNR may order the owner or operator to submit the MPAP for review and approval. The DNR may amend the plan if deemed necessary for malfunction prevention or the reduction of excess emissions during malfunctions. The plan must be updated at least every five years.

The [redacted] supplies all of the steam heat, process steam, and chilled water requirements for the member institutions of the [redacted] and a number of other [redacted] facilities. The plant consists of three spreader-stoker coal-fired boilers (Boilers 21-23) each with a heat input capacity of 140 MMBtu/hour (110,000 pounds steam/hour). Two additional natural gas-fired boilers include Boiler 24 rated at 162.2 MMBtu/hour heat input capacity (125,000 pounds steam/hour) and Boiler 25 rated at 99.5 MMBtu/hour heat input capacity (69,500 pounds steam/hour). This brings the total plant steaming capacity to 524,500 pounds steam/hour of high pressure steam. Three turbine-generator units are in place to reduce the steam pressure and to co-generate electricity. Up to 11 MW of electricity can be generated. Steam is provided to the end use customers at either 135 or 15 psi of pressure.

The plant boilers operate throughout the entire year. Steam and electric-driven chillers supply chilled water for air conditioning during warm weather periods when the demand for steam heat is low. The chilled water production consists of six steam-driven absorption chillers, two turbine drive centrifugal chillers and six electric centrifugal chillers. The total cooling capacity is approximately 20,000 tons.

The air pollution control equipment for Boilers B21-B23 includes three individual boiler specific mechanical cyclone dust collectors (MCDCs) and electrostatic precipitators (ESPs) to control particulate matter (PM) emissions. Also, Boilers B21-B23 are connected to an ash transfer system which includes a baghouse that collects PM emissions from the ash transfer process. To control NOx emissions, Boiler 25 has ultra-low NOx burners and flue gas recirculation. Boilers B21-23 burn low-sulfur coal to comply with the $SO_2$ permit emission limit. Plant personnel perform routine inspections and maintenance on the air pollution control equipment. These activities are performed as part of a preventative maintenance program which generates maintenance requests for inspection and/or maintenance based on a predetermined schedule, or as a result of equipment performance measurement findings. Maintenance requests are closed out upon completion of the required inspections, or identified maintenance activity. All maintenance records are available electronically to allow plant personnel to review the maintenance history of any piece of air pollution control equipment. Examples of items in the maintenance program and spare parts list are included in the specific emission control equipment sections of this plan. Each of these lists is for reference only and is

subject to change based on actual equipment operating experience and good maintenance practice.

# 2.0 Particulate Matter (PM) Emissions Control Equipment

## 2.1 Source and Abatement Equipment Description:

The following PM emission control equipment is covered by this plan:

- **Boiler B21-B23 Mechanical Cyclone Dust Collectors (MCDCs) and Electrostatic Precipitators (ESPs)** – To control PM emissions, exhaust gases from Boilers B21-B23 pass through individual boiler specific in series combination of MCDCs followed by a single ESPs (Control Units C21-C23) located downstream of the air heater. Each MCDC is comprised of 7 rows of 16 tubes for a total of 112 collector tubes. The fly ash enters the tubes through directional vanes and is spun in a circular motion. This action generates a centrifugal force to separate larger particles from the gas stream. The particles of the entrained ash concentrate at the interior walls of the collecting tubes. The ash particles then fall out of the bottom of the tubes into a collection hopper. Following in series, the ESPs for all three boilers are an identical, three field design in the direction of gas flow. Visible emissions (opacity) are monitored using a continuous opacity monitoring (COM) system on each stack (S11-S13).

- **Ash Transfer System Baghouse** - The ash transfer system baghouse (Control Unit C30) collects PM emissions from the ash transfer system (Process P30) that is connected to the coal-fired boilers' bottom ash pits, the electrostatic precipitators' (ESPs) fly ash collection hoppers, mechanical dust collector hoppers, and sifting ash (ash with an intermediate size between that of fly ash and bottom ash) hoppers. The gas and ash mixture go through a primary separator (gravitational settling chamber) and a secondary separator (multi-cyclones) before entering the ash transfer system baghouse PM control device (C30). The bag house was constructed in 2010 and commenced initial operation on January 11, 2011. Stack S16 is the exhaust stack for the ash transfer system baghouse. Particulate emissions are monitored on the exhaust stack using a FilterSense dust detector.

## 2.2 Air Pollution Control Equipment Maintenance:

Plant personnel perform routine inspections and maintenance on the MCDCs, ESPs and Ash Transfer System baghouse PM emission control equipment. These activities are performed as part of a preventative maintenance program which generates maintenance requests for inspection and/or maintenance based on a predetermined schedule, or as a result of equipment performance measurement findings. Maintenance requests are closed out upon completion of the required inspections, or identified maintenance activity. All maintenance records are available electronically to allow plant personnel to review the maintenance history of any piece of air pollution control equipment. Examples of items

in the maintenance program and spare parts list are included in the specific emission control equipment sections. Each of these lists is for reference only and is subject to change based on actual equipment operating experience and good maintenance practice.

## 2.3 Mechanical Cyclone Dust Collector (MCDC) and Electrostatic Precipitator (ESP) Emissions Control Equipment:

- **Equipment Name**: Mechanical Cyclone Dust collector and Electrostatic Precipitator.
- **Permit Reference Number**: C21/S21/B21; C22/S22/B22; and C23/S23/B23.
- **Manufacturer**: UOP Inc. Air Correction Division.

### 2.3.1 Inspection Responsibilities:

- **Operations Supervisor** – Perform and evaluate daily operational checks.
- **Maintenance Supervisor** - Direct maintenance work and evaluate inspection data.
- A contractor is hired by the plant on an as needed basis to perform MCDC and ESP inspections and provide reports and recommendations on repairs and maintenance.

### 2.3.2 Operational Inspections:

#### 1. Task – Mechanical Cyclone Dust Collector (MCDC) Operational Check:

- **Description** – During Boiler B21-B23 operation, particulate matter emissions are controlled by the series combination of MCDC followed by ESP. None of these boilers have a bypass stack or control device bypass capability. As such, opacity monitoring will reflect the combined performance of both control devices on each boiler.
- **Corrective Action** – The MCDC is a control device with no moving parts and the steady state collection efficiency is relatively constant depending on the condition of the collection tubes. Most MCDC failures are caused by sustained erosion of the collecting tubes. To reasonable prevent these failures; an annual Mechanical Cyclone Collector Outage Inspection will be performed. During the inspection, if a collection tube is found to be severely worn it will be capped. Severely worn is defined as having a hole at the bottom of the collection tube extending ¾ around the circumference. Based on operational history, no more than 20% of the collection tubes can be capped at one time.
- **Frequency** – Annual Outage.

#### 2. Task – ESP Pressure Drop:

- **Description** – Each ESP has two (2) pressure monitors that measure the differential pressure (DP) across the ESP (e.g. inlet and outlet flue gas pressure) to detect plugging of the ESP.
- **Corrective Actions** – Based on operation history, the normal DP across the ESP will range from 0 to 2 inches of water column. If the DP falls outside of that range, plant personnel will be dispatched to determine the cause of the problem and make appropriate repairs or adjustments as good and safe operating

practices allow. If the attempted repairs or adjustments are not effective or cannot be completed in a timely manner, boiler load will be reduced as necessary to bring opacity levels below the permit limit. Depending on the nature of the malfunction, an attempt will be made to put the equipment back in service. Upon equipment failure, the maintenance group responsible for the equipment is contacted to make the required repairs.

- **Frequency** – Once for every 8 hours of source operation.

### 3. Task - ESP Controls:

- **Description** - Plant personnel record and evaluate electrical readings to verify equipment is functioning properly. During boiler operation, operators record primary current and voltage and secondary current and voltage, three (3) times per day for each of the three (3) ESP fields in operation on each boiler. Based on operational history, below is a table with guidelines used for precipitator controls

Guideline for Precipitator Controls

| Boiler | Secondary Voltage VMA (Kilo-volts)(1) | Secondary Current AMA (Milli-Amps)(1) | Secondary Voltage VMB (Kilo-volts) (1) | Secondary Current AMB (Milli-Amps) (1) | Spark Rate (Sparks/ minute) (1) |
|---|---|---|---|---|---|
| | | | | | |
| B23/C23 | 10 – 45 | 120 – 260 | 10 – 45 | 120 – 260 | NA |
| Boiler | Primary Voltage (Volts) | Primary Current (Amps) | Secondary Voltage (Kilo-volts) | Secondary Current (Milli-Amps) | Spark Rate (Sparks/ minute) |
| B21/C21 | 50 - 500 | 10 - 70 | 10 - 45 | 50 - 500 | 0 - 20 |
| B22/C22 | 50 - 500 | 10 - 70 | 10 - 45 | 50 - 500 | 0 - 20 |

(1) In 2012, the existing precipitator analog controls for B23 will be upgraded to automatic controllers similar to B21 and B22. Upon completion of the controller upgrades, the guidelines for B23 precipitator controls will be the same as B21 and B22.

- **Corrective Action** – When the opacity level increases abnormally or an alarm occurs due to precipitator malfunction (i.e. field trip), plant personnel will be dispatched expeditiously to determine the cause of the issue and make appropriate repairs or adjustments as good and safe operating practices allow. If the attempted repairs or adjustments are not effective or cannot be completed in a timely manner, boiler load will be reduced as necessary to bring opacity levels below the permit limit. Depending on the nature of the malfunction, an attempt will be made to put the equipment back in service. Upon equipment failure or if corrective actions undertaken consistent with good and safe operating practices do not bring the ESP back into proper operation, the maintenance group responsible for the equipment is contacted to make the required repairs as soon as possible. Depending on nature or severity of the malfunction, and if the measures listed above have been unsuccessful in controlling opacity within limits, the Boiler may be taken out of service to repair problem.
- **Frequency** - Once for every 8 hours of source operation.

### 4. Task - Monitor Opacity:

- **Description** - During Boiler B21-B23 operation, the operators monitor stack opacity to ensure unit operation is within permit emission limit.
- **Corrective Actions** – A Honeywell electronic recorder collects opacity data for each stack outside the control room. The opacity alert alarm is set for 15% opacity. Upon identification of a problem, plant personnel will be dispatched to determine the cause of the problem and make appropriate repairs or adjustments as good and safe operating practices allow. If the attempted repairs or adjustments are not effective or cannot be completed in a timely manner, boiler load will be reduced as necessary to bring opacity levels below the permit limit. Depending on the nature of the malfunction, an attempt will be made to put the equipment back in service. Upon equipment failure or if corrective actions undertaken consistent with good and safe operating practices do not reduce opacity levels below the permit limit, the Boiler may be taken out of service to repair problem.
- **Frequency** – Continuous.

## 2.3.3 Maintenance Inspection

**Task – Continuous Opacity Monitoring System (COMS):**

- **Description** - The COMS and associated equipment are tested, calibrated and maintained in accordance with an established quality assurance/quality control (QA/QC) plan that meets the requirements of 40 CFR Part 60.
- **Frequency** – Continuous.

## 2.3.4 Routine Maintenance Inspections List:

| Planner Group | Maintenance Item Text | Maint. Item | Frequency |
|---|---|---|---|
| ELE | Precipitators Rapper Check M1 | 25343 | Monthly |
| ELE | PM Precipitator Control A/C Filter | 40089 | Monthly |
| ELE | PM A2 Precipitators – Sample XFMR Oil | 20020 | Monthly |
| ELE | Semi-annual Precipitator Hopper Heaters | 20021 | 6 Months |
| ELE | Calibrate Precipitator Meters | 27846 | Annual |

**Note:** The maintenance activities listed above are not all inclusive of the maintenance performed on these units. In the interest of containing the length of this list, it includes the maintenance items that are critical to demonstrate environmental compliance only.

## 2.3.5 Outage Maintenance Inspections List:

| Planner Group | Maintenance Item Text | Maint. Item | Frequency |
|---|---|---|---|
| OPS | Mechanical Cyclone Collector Outage Inspection (contractor) | 19001<br>19127<br>19907 | Annual Outage |

| | | | |
|---|---|---|---|
| OPS | OU Precipitator – Mechanical Inspection (contractor) | 19002<br>19407<br>19912 | Annual Outage |
| ELE | OU Precipitators – Electrical Inspection | 19004<br>19409<br>19914 | Annual Outage |
| ELE | Coal Boiler Annual Precipitators Rapper Inspection | 26743<br>26744<br>26745 | Annual Outage |
| ELE | Calibrate Precipitator Meters | 30309<br>30310<br>30311 | Annual Outage |
| I&C | Calibrate Draft Gauges (i.e. Precipitator Inlet & Outlet) | 19007<br>19510<br>19925 | Annual Outage |

**Note:** The maintenance activities listed above are not all inclusive of the maintenance performed on these units. In the interest of containing the length of this list, it includes the maintenance items that are critical to demonstrate environmental compliance only.

### 2.3.6 Electrostatic Precipitator (ESP) Operating Instrumentation:

The operation of the precipitators is monitored by three metering systems:

A. Pressure monitors measure the differential pressure (DP) across the ESP.

B. Voltage Metering Systems on Primary and Secondary Voltage

C. Current Metering Systems on Primary and Secondary Current

In each calendar year, each meter will be checked for accuracy. This check will be conducted, with the measurement system at typical operating levels, if possible. If the meter is not indicating within +/- 5% accuracy of the actual parameter level, an adjustment will be made until the meter returns to acceptable accuracy. Meters which cannot be adjusted properly, will be repaired or replaced at the earliest opportunity under safe operating conditions. If a meter cannot be safely or accurately checked under typical operating conditions, then they will be checked during an outage (which may be 12 -24 months between calibrations) under simulated operating conditions.

Records showing the annual calibration checks of the precipitator pressure monitors and voltage and current meters shall be kept on site as well.

### 2.3.7 Reporting and Regulatory Notification:

The Operations Supervisor will contact the [redacted] Environmental Department, based on established procedures, with specific information on the problem. The Environmental Department will contact the WDNR and report any exceedances per the reporting requirements of the plant air operation permit per NR 439.03(4), Wis. Adm. Code. COM downtime which is anticipated to continue in excess of a week shall be reported per NR 439.03(5), Wis. Adm. Code.

### 2.3.8 Typical Mechanical Cyclone Collector and ESP Materials and Spare Parts Inventory List (Rule NR 439.11(1)(d), *Wis. Adm. Code*):

| Part Number | Material Short Description |
|---|---|
| NA | Collection Tubes |
| 0888-6483 | Fuse 1A 250V |
| 0888-6486 | Fuse 4A 600V |
| 0888-6485 | Fuse 8A 250V |
| 0888-6490 | Fuse Holder 32A, 600V |
| 0888-6484 | Control Transformer 750VA, 480V/120V |
| 0888-6487 | Terminal Block, 2 pole |
| 0888-6438 | Terminal Block, 1 pole |
| 0888-6489 | Selector Switch |
| 0888-6492 | ABB Contractor 100A @ 480V |
| 0888-6493 | Current Transformer w/250 ohm Resistor |
| 0888-6494 | Potential Transformer 600V/20V |
| 0888-6495 | Interface Unit |
| 0888-6496 | Display |
| 0888-6497 | SCR 240A, 480V |
| 0888-6498 | Sygnal Conditioning Board |
| 0888-6499 | Communication Cable |

**Note:** The material list above is not all inclusive of spare parts stocked for these control devices. In the interest of containing the length of this list, it includes the items that are critical to demonstrate environmental compliance only.

## 2.4 Ash Transfer System Baghouse:

- **Equipment Name**: Ash Transfer System Baghouse.
- **Permit Reference Number**: S16; P30; and C30
- **Manufacturer**: United Conveyor Corporation.

### 2.4.1 Inspection Responsibilities:

- **Operations Supervisor** – Perform and evaluate daily operational checks.
- **Maintenance Supervisor** - Direct maintenance work and evaluate inspection data.

### 2.4.2 Operational Inspections:

#### 1. Task – Check Baghouse Collector Pressure Drop:

- **Description** – Monitor the differential pressure (DP) gauge across the baghouse.
- **Corrective Actions** – Based on operation history, the normal DP across the baghouse will range from 0.5 to 5 inches of water column. Due to the cyclical nature of the ash pulling process, the DP typically starts at less than 1.0 inch of water column (no or low flow) and during the cycle builds to greater than 4.0 inches of water column (ash surge). If DP is less than 0.5 inch or greater than 4.0 inches of water column pressure for greater than 5 minutes, an immediate check of the exhaust stack particulate will be performed. If the particulate monitor

validates there is a problem an inspection of the baghouse collector will be performed.

- **Frequency** – Once per day.

### 2. Task – Mechanical Exhauster Discharge:

- **Description** – During the ash pulling operation, plant personnel visually inspect the system and exhauster discharge for signs of leaks and visible dust.
- **Corrective Action** – If ash appears to be leaking or discharging, plant personnel will take corrective action and shutdown the ash system and make appropriate repairs or adjustments as good and safe operating practices allow.
- **Frequency** - Once per daylight hours.

### 3. Task – Particulate Monitor:

- **Description** - Particulate emissions are monitored on the exhaust stack using a FilterSense dust detector (EM 30LGX). During the ash pulling operation, the operators check and record the stack particulate monitor reading to ensure the baghouse is operating properly.
- **Corrective Actions** – The FilterSense dust detector standard operating range is 5.0 to 5,000 Pico Amperes (pA). Based on operational history, the dust detector alarm is set for 300pA. If the PM emission control equipment malfunctions the particulate monitor will alarm at greater than 300pA and shut the system down to protect the mechanical exhausters. Upon identification of a problem, plant personnel will be dispatched to determine the cause of the problem and make appropriate repairs or adjustments as good and safe operating practices allow. Depending on the nature of the malfunction, an attempt will be made to put the equipment back in service. Upon equipment failure, the maintenance group responsible for the equipment is contacted to make the required repairs.
- **Frequency** – Once per day.

## 2.4.3 Routine Maintenance Inspections List:

| Planner Group | Maintenance Item Text | Maint. Item | Frequency |
|---|---|---|---|
| OPS | Visual Inspect Primary Separator (gravitational settling chamber) and Secondary Separator (multi-cyclones) Dump Gates | 37401 | Monthly |
| I&C | RM CAL Baghouse DP Transmitter | 43943 | Annual |

**Note:** The maintenance activities listed above are not all inclusive of the maintenance performed on these units. In the interest of containing the length of this list, it includes the maintenance items that are critical to demonstrate environmental compliance only.

## 2.4.4 Ash Transfer System Baghouse Operating Instrumentation:

The operation of the baghouse is monitored by a differential pressure (DP) transmitter. The DP transmitter shall be checked and calibrated annually. This check will be

conducted, with the differential pressure at typical operating levels, if possible. The DP transmitter will be calibrated to within +/- 5% accuracy of the actual (reference) differential pressure level. If the DP transmitter cannot be calibrated properly, it will be repaired or replaced at the earliest opportunity under safe operating conditions. If the DP transmitter cannot safely or accurately be checked under typical operating conditions, then it will be checked during a maintenance outage under simulated operating conditions. Records showing the annual calibration checks of the differential pressure transmitter shall be kept on site.

### 2.4.5 Reporting and Regulatory Notification:

The Operations Supervisor will contact the We Energies' Environmental Department, based on established procedures, with specific information on the problem. The Environmental Department will contact the WDNR and report any exceedances per the reporting requirements of the plant air operation permit per NR 439.03(4), Wis. Adm. Code. Monitoring device downtime which is anticipated to continue in excess of a week shall be reported per NR 439.03(5), Wis. Adm. Code.

### 2.4.6 Typical Ash Transfer System Baghouse Materials and Spare Parts Inventory List (Rule NR 439.11(1)(d), *Wis. Adm. Code*):

| Material Short Description |
|---|
| Baghouse DP Transmitter, United Electric type H100-702 – Model No. 95129. |
| DP Gauge, Press 0-20 IN WC, Dwyer DCP 200, UCC Part No. 910530. |

**Note:** The material list above is not all inclusive of spare parts stocked for on these units. In the interest of containing the length of this list, it includes the items that are critical to demonstrate environmental compliance only.

## 3.0 Nitrogen Oxides (NOx) Emissions Control Equipment

### 3.1 Source and Abatement Equipment Description:

Boiler B25 is a natural gas-fired steam boiler constructed in 2008. Boiler B25 is designed with ultra-low NOx burners and flue gas recirculation to achieve its NOx performance goal. The boiler control scheme is designed to optimize boiler combustion while minimizing combustion NOx production.

### 3.2 Air Pollution Control Equipment Operation:

Emissions from the Boiler B25 are required to be within established NOx emission limits. A continuous emission monitoring system (CEMS) has been installed on the stack to monitor NOx emission in the gas stream. NOx emissions data are transmitted to the main control room, and are monitored by the operators as part of Boiler 5 control station.

The boiler controls are operated in manual operation mode only during startup. Once online, the boiler can only be operated in Auto. NOx emissions are controlled by a PLC that has boiler performance curves programmed into it. In the event the boiler burner system malfunctions, the PLC would shut down the boiler automatically and plant maintenance staff would need to repair the burner system before resuming operation of the boiler.

## 3.3 Boiler B25 Ultra-Low NOx Burner System:

- Equipment Name: Ultra-Low NOx Burner with Flue Gas Recirculation
- Reference Number: S15/B25
- Manufacturer: RMB (Ultra-Low NOx Burner)

## 3.4 Inspection Responsibilities:

- **Operations Supervisor** – Perform and evaluate daily operational checks.
- **Maintenance Supervisor** - Direct maintenance work and evaluate inspection data.

## 3.5 Operational Inspections

**Task - Boiler B25 Operation Check**

- **Description** – During Boiler B25 operation, the operators monitor stack NOx emissions to ensure unit operation is within permitted emission limitations. In addition, plant personnel check a daily NOx summary report to ensure the NOx 30-day rolling average is not exceeding the permit emission limit.
- **Corrective Action** – If the potential exists for exceeding the NOx 30-day rolling average emission limit, the boiler operators will take corrective action by reducing boiler load or shutting down the boiler.
- **Frequency** – Continuous.

## 3.6 Maintenance Inspections

**Task – Stack NOx Continuous Emissions Monitoring System (CEMS):**

- **Description** - The NOx CEMS and associated equipment are tested, calibrated and maintained in accordance with an established quality assurance/quality control (QA/QC) plan that meets the requirements of 40 CFR Part 75.
- **Frequency** – Continuous.

## 3.7 Routine Maintenance Inspections List

| Maintenance Item Text | Frequency |
|---|---|
| Check CEM Shelter Calibration Gas Levels | Monthly |

**Note:** The maintenance activities listed above are not all inclusive of the maintenance performed on these units. In the interest of containing the length of this list, it includes the maintenance items that are critical to demonstrate environmental compliance only.