MIDDLETOWN COKE COMPANY

MIDDLETOWN, OHIO

STARTUP, SHUTDOWN AND MALFUNCTION PLAN

PREPARED JUNE 2008

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1. INTRODUCTION

The purpose of this Startup, Shutdown and Malfunction Plan (SSMP) is to comply with the NESHAP provisions in §63.6 (e)(3) and §63.310. This SSM Plan gives a description of the procedures for complying with these requirements.

All contractors and employees of Middletown Coke Company (MCC) shall follow these guidelines as detailed in this plan.

Non-recovery coke oven batteries are unique to other industrial processes in that once the ovens are started during the initial heat-up sequence, they are never shut-down. A heat recovery oven battery is never shut down for two main reasons. First, it would allow the silica brick to cool to below 1100°F, which could cause thermal spalling. Secondly the ovens expand due to thermal growth of single brick elements. Shutting down a battery would cause the bricks to contract to their unheated size which could induce structural failure. Shutting down ovens, to a cold state to minimize emissions is not a technically feasible option due to the serious structural damage that would result. Therefore, this SSM plan addresses those processes at the plant that have a typical startup and shutdown mode.

2. PURPOSE OF THE STARTUP, SHUTDOWN AND MALFUNCTION (SSM) PLAN (40 CFR §63.6 (e) and §63.310)

This SSM plan describes procedures for operating and maintaining the emissions control devices (ECD) - and sources that they control - during startup or shutdown events, and during periods of operation when the devices or process sources malfunction. A list of the processes and emission points controlled by the devices is included as Table 1. The SSM Plan describes non-recovery coke oven batteries at MCC as a continuous mode of operation with batteries operating under negative pressures at all times since the initial start-up in 2009, the negative pressure in the ovens being created either by the induced draft (ID) fans, or occasionally through the bypass vent stacks distributed over three batteries. On the production level, the operations consist of sequences of discreet steps such as coal transfer to coke ovens, pushing of coke out of ovens, charging of coal into the ovens and coke transfer steps, the steps repeated sequentially between three batteries. This plan provides the startup, shutdown and malfunction procedures for the affected production processes and associated emission points as outlined in Table 1.

This SSM plan also describes MCC corrective action procedures for malfunctioning emission control device components, process equipment, and monitoring equipment used to comply with operating permit requirements.

<u>The purpose of this startup, shutdown, and malfunction plan is to:</u>

1. Ensure that, at all times, MCC operates and maintains the ECDs, affected sources, and the ECD monitoring equipment in a manner consistent with safety and with good air pollution control practices designed to minimize emissions to the levels required by the MCC Permit to Install;
2. Ensure that MCC is prepared to correct malfunctions as soon as practicable after their occurrence in order to minimize emissions of air pollutants; and

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3. Reduce the reporting burden associated with periods of startup, shutdown, and malfunction events (including corrective action taken to restore malfunctioning process and air pollution control equipment to its normal manner of operation).

3. DEFINITIONS

a. Definitions set forth in the 40 CFR 63.6 (e):

   i. Startup: *"...the setting in operation of an affected source or portion of an affected source for any purpose"*.

   ii. Shutdown: *"...the cessation of operation of an affected source or portion of an affected source for any purpose"*.

   iii. Malfunction: *"...any sudden, infrequent, and not reasonably preventable failure of air pollution control and monitoring equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions"*.

b. Definitions used in this SSM Plan that are specific to individual steps of coke production:

   i. Startup: Commencing operation of A, B, or C battery pushing/charging (PCM) machine consisting of sequential process of removing the coke from the oven and charging coal into the oven. Pushing of an oven begins with first detectable movement of coke mass and ends when the quench car enters the quench tower. Charging of an oven begins with insertion of charging conveyor into the oven and ends with securing the pushing side door of the oven with latching device.

   ii. Coking in non-recovery coke ovens: Means process where coal undergoes destructive distillation under negative pressure to produce coke. Coking time means the time interval that starts when an oven is charged with coal and ends when an oven is pushed. Typically, the process consists of sequential pushing and charging of groups of ovens from A, B, or C batteries and coking times of approximately 48 hours between pushing and charging of these groups of ovens.

   iii. Shutdown of pushing/charging: Termination of operations such that the last scheduled oven of a pushing/charging cycle has been emptied of coke and charged with coal. Short-term stoppages of pushing/charging operations for brief maintenance (where the charging and pushing is temporarily placed in idle mode and then brought back up to operating condition) are not considered shutdown events.

   iv. Shutdown of operating conditions of plant: Coke transfer from coke wharfs to the coke load-out station over the system of transfer points and conveyors is terminated. Short-term stoppages of conveyors and screening station operations for brief maintenance (where the transfer of coke is temporarily placed in idle mode and then brought back up to operating condition) are not considered shutdown events.

   v. Malfunction: Failure or upset condition of the emission control equipment, or their monitoring instrumentation systems, which results in either excess emissions or a parametric monitoring excursion. Failures or upset conditions caused by poor

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maintenance or improper operation are not considered to be malfunction events covered by this SSM plan.

vi. Excess Emissions: An emissions rate of particulate matter that exceeds the standards as detailed in MCC Permit to Install.

vii. Parametric Monitoring Excursion: Operating outside of the monitoring parameter compliance as detailed in MCC Continuous Compliance Plan (CCP).

4. STARTUP OPERATING PROCEDURES

a. Startup of operations of coke production sequence

The startup will be conducted such that excess particulate matter emissions is minimized during the event. This means that none of the affected pushing of coke, charging of coal and other operating conditions processes (listed in Table 1) will begin operation until the emissions control devices have been started. Pushing and charging startups will be performed per the most current Middletown Coke Standard Operating Procedure. The following process steps are followed during start-up of pushing/charging:

i. Inspect ovens scheduled for pushing/charging in the current cycle schedule for readiness to be pushed. Oven must not be pushed unless the visual inspection indicates that there is no smoke in the open space above the coke bed and that there is an unobstructed view of the door on the opposite side of the oven.

ii. Turn on the multiclone of the flat push hot car (FPHC)

iii. Record the FPHC multiclone differential pressure for each push. Record the multiclone fans amps at least once during each 8 hour period when operating.

iv. Verify that the coke screening station baghouse is operating, or turn it on from the control system consoles in the Control Room.

v. Turn on the pushing/charging machine baghouse.

vi. Set-up pushing/charging machine on first oven of the sequence and start the pushing/charging cycle.

vii. Track the PCM baghouse differential pressure and fan amps during operation of pushing/charging of the first oven.

If the differential pressure and fan amps (where applicable) are not in operating ranges then the start-up is suspended until the problem is diagnosed. Possible problems will be addressed through the malfunction response procedures outlined in Section V and Table 2 of this SSM plan.

Pushing/charging startups data is recorded on the PCM, FPHC, and coke loadout report forms. Flue Gas Desulphurization baghouse pressures are recorded by the computerized operating system.

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5. SHUTDOWN OPERATING PROCEDURES

a. Shutdown of operations of coke production sequence

Scheduled shutdown events will be conducted in a manner that should not generate any excess particulate matter emissions. Shutdown events are limited to times when the pushing/charging machine, including its baghouse, and other operating conditions cease operation. Temporary production stoppages related to brief maintenance events are not considered to be a shutdown event in this SSM Plan.

During a shutdown event, the PCM baghouse will be kept on-line and operated within the acceptable parameter values until the pushing side door of last oven scheduled in cycle has been re-installed and secured with latching mechanism. After this condition is satisfied, the PCM machine will be shut down per the current MCC Standard Operating Procedure. All other operating conditions and associated control equipment will stay on-line until all coke transfer operations to the load-out station are terminated.

All (PCM) pushing/charging shutdowns will be recorded on - the "MCC Pushing Report" (Attachment C).

All FPHC related shutdowns will be recorded on the hot car report form (Attachment D).

All coke screening shutdowns will be recorded in the “Load-out Report” (Attachment E).

b. Planned or scheduled FGD/HRSG operations outage

Scheduled shutdown events involving the FGD or heat recovery steam generators (HRSGs) will be coordinated in a manner that should minimize emissions to the lowest achievable emission rate possible. These shutdown events include, but are not limited to, HRSG and FGD maintenance or repair. These steps will be followed to achieve those objectives:

i. FGD/HRSG outages will be coordinated, communicated and planned in a timely manner.

ii. Critical path of operations will be determined to reduce the duration of an outage.

iii. Each outage will be evaluated for appropriate emission minimization opportunities.

6. MALFUNCTIONS

Malfunctions covered by this plan primarily consist of any sudden, infrequent, and not reasonably preventable failure of the emission control device and/or associated emissions monitoring equipment. Other potential process equipment malfunctions that could create uncontrolled venting of particulate matter to the atmosphere are also covered by the plan.

In any malfunction situation, the same general response steps will be followed:

a. Malfunction identification -most foreseeable malfunction events are incorporated into the Malfunction list and response procedures (Table 2)

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b. Notification -once a malfunction has been identified, the most appropriate responsible official at the facility at the time of the event (Environmental Manager, Turn Manager, Maintenance Manager, etc.) will be notified. The responsible official will provide assistance and guidance, if necessary, to successfully complete the response actions.

c. Diagnosis and malfunction cause determination -The cause of the malfunction must be determined to identify the appropriate corrective action steps. Table 2 provides a list of the potential conditions or factors that could cause each malfunction event covered by this SSM Plan.

d. Corrective action procedures -Once the cause of the malfunction has been determined, appropriate corrective action will be implemented to resolve the malfunction and restore the affected process equipment back to normal operation. Potential corrective action measures are listed in Table 2. If a malfunction not specifically covered within the plan occurs, the operations and/or maintenance department will attempt to correct the problem using the best resources available. Any previously excluded malfunction events will be added to the SSM Plan within 45 days of the occurrence. A description of the probable cause of the malfunction, operation/ maintenance procedure during the event and recommended response actions will be added to Table 2 of this plan.

e. Malfunction event documentation -the malfunction event will be appropriately documented using the "Startup, Shutdown, Malfunction Event Log" (Attachment A) and "Malfunction Report Form" (Attachment B).

f. Reporting and recordkeeping -malfunction events will be reported to the Ohio EPA and records maintained as required by the rule as described in Section VI of this document. Those events that are addressed in accordance with this SSM Plan will be summarized in the semi-annual SSM reports. Any events that are not addressed consistent with the plan will be immediately reported as described in Section VI.

7. RECORDKEEPING AND REPORTING

As required by §63.l0 (b), MCC will maintain and make available for inspection applicable records, logs, reports, and/or notifications pertaining to startup, shutdown, and malfunction events for at least 5 years following each occurrence. In the event of a startup, shutdown or malfunction event, periodic and immediate SSM plan reports will be submitted per the general provision requirements of §63.6(e)(3) and §63.310.

The following guidelines summarize these reporting requirements:

Periodic Reports

Periodic reports will be submitted to the Ohio EPA in Quarterly Deviation and Compliance Monitoring Reports that include all emergencies. The report will consist of; a letter stating that the actions taken during any startup, shutdown, and malfunction events were consistent with the SSMP, the number, duration, and a brief description of each event (the completed “Startup, Shutdown and Malfunction Event Log” included as Attachment A), and will include the name, title, and signature of the MCC responsible official who is certifying its accuracy.

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Plan Modifications or Revisions

Modifications may be made to this SSM Plan as necessary to satisfy the requirements of the role or to reflect changes in equipment or procedures. These modifications may be made without prior approval from the Ohio EPA unless specifically provided otherwise by Ohio EPA. If this plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the plan will be revised within 45 days after the event. Revisions will include detailed procedures for operating and maintaining the source during similar malfunction events and a program of corrective action for similar malfunctions of process or air pollution control and monitoring equipment. The SSM Plan revisions will be documented in the "SSM Document Control Form" (included in Attachment F of this plan).

Any revisions to the plan that alter the scope of the activities at MCC which are deemed to be a startup, shutdown, malfunction, or otherwise modifies the applicability of any emission limit, work practice requirement, or other requirement in a standard, the revised plan shall not take effect until after the MCC has provided a written notice describing the revision to Ohio EPA.

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Table 1
Description of Process Equipment and Emissions Controls
Middletown Coke Company

Process Source	Process Step	Emission Point	Control Arrangement
Coke oven plant distributed in three coke oven batteries identified as A, B, and C with coal and coke transfer systems	Coal transfer	Coal silos and coal weigh belt/diverter gates	The units are enclosed to prevent emissions. Coal unloading and the coal piles are equipped with water sprays to control emissions.
	Coking of coal	Coke ovens distributed in three batteries	The ovens are heated by re-circulated combusted gas, under constant negative pressure, with emissions controlled by one lime spray dryer desulfurization unit and one baghouse, with waste gas emissions removed by the way of common tunnel and exhausting through one main stack, and occasionally through some of the waste vent stacks distributed over three batteries.
	Coke pushing operations	FPHC machine	During pushing the emissions are captured in a multiclone and exhausting through one stack
	Coal charging operations	Coke oven pushing/charging machines	During charging each unit has emissions captured by a hood arrangement and controlled by one baghouse, each exhausting through one stack
	Coke quenching	Quench tower	Used for quenching coke by spraying water, controlled by baffles, exhausted through one stack
	Coke transfer	Coke transfer points	Coke transfer building doors are closed during operations to control fugitive emissions. Conveyor systems are covered.
	Coke screening	Coke screening station	During coke transfer operations the enclosed unit is controlled by one baghouse, exhausting through one stack. The building doors are closed during operations to control fugitive emissions.

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TABLE 2

MALFUNCTION LIST AND RESPONSE PROCEDURES

List of Contents of Table 2:

Table 2.1 - Battery Draft and Flue Gas Desulfurization Related Issues
Table 2.2 - Hot Car Multiclone and Related Process and Equipment
Table 2.3 - Pushing and Charging Machine Baghouse and Related Process and Equipment
Table 2.4 - Coke Screening Station and Related Process and Equipment
Table 2.5 - Quench Tower Baffles and Related Process and Equipment

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2.1 BATTERY DRAFT AND FLUE GAS DESULFURIZATION RELATED ISSUES

Event	Alarm/Event Notification	Operating Procedures During Malfunction Event	Potential Malfunction Causes	Recommended Actions
Loss of Power / Controls	Visual by Operator, HMI Display	The bypass vent stack lids will open to sustain drafting of battery. If pushing/charging at the time of event, the operation will cease until the problem is diagnosed. Corrective actions must be initiated immediately to correct the issue.	Failure of Breaker, Failure of control system card	Reset /Replace breaker(s), Reset / Replace control system Card.
Loss of Draft	Visual by Operator, HMI Display	The bypass vent stack lids will open to sustain drafting of battery. If pushing/charging at the time of event, the operation will cease until the problem is diagnosed. Corrective actions must be initiated immediately to correct the issue.	Problem with pressure transmitter or control system Card.	Repair or Replace Draft transmitter, Replace control system Card.
Failure of Emission Tracking Program	Visual by Operator, HMI Display	Check flow rate of flue gas and increase scrubbing of flue gas.	Software / Hardware malfunction, Loss of communication with Control Room	Repair / Replace draft transmitter, Replace control system card.
Main Stack Opacity above EPA Limit	Visual by Operator	Notify the control room product technicians. Monitor the control system for signs of bag leakage or missing bags. Ensure bypass damper is closed	Leaking or missing baghouse bags. Bypass damper opened.	Close by-pass damper if open. Replace leaking or missing baghouse bags.
High or Low differential pressure	Visual by Operator, HMI Display	Notify the FGD Manager. Inspect baghouse(s) to determine cause of high or low pressure.	Solenoid pilot valve malfunction - Insufficient compressed air - Breaker trip - Blown fuse - Grounded/shorted wiring	Listen to verify the solenoid valves are firing. Check for momentary air venting each time they fire. Clean or replace, if necessary. - Check the air supply to ensure the compressor is providing 80 to 100 psig. - Check for a plugged filter in the compressed air line -Diagnose and repair motor as needed. Reset breaker, change breaker, replace fuses, repair wiring, change motor etc.

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Event	Alarm/Event Notification	Operating Procedures During Malfunction Event	Potential Malfunction Causes	Recommended Actions
Mechanical Breakdown	Visual by Operator, HMI Display	Notify Maintenance to investigate breakdown. Replace defective atomizer with spare atomizer. Repair or Replace slurry gear box. Increase scrubbing rate to maintain SO2 emission limit compliance.	Mechanical breakdown.	Notify Maintenance to investigate breakdown. Replace defective atomizer with spare atomizer. Repair or Replace slurry gear box. Increase scrubbing rate to maintain SO2 emission limit compliance.
Heat Recovery Steam Generator Off-Line	Visual by Operator, HMI Display	The bypass vent stack lids will open to sustain drafting of battery. If pushing/charging at the time of event, the operation will cease until the problem is diagnosed.	HRSG Tube Leak, Steam or Water Leak	Notify the HRSG area manager to determine the cause of the problem. Repair the boiler leaks.
Loss of Water Supply to Lime/Slurry Mixing System	Visual by Operator, HMI Display	Notify maintenance to investigate water loss.	Error shut off water supply, Freezing water lines, Pond Water Pumps not operating.	Determine source of water loss. Repair or replace defective equipment. Thaw water lines. Begin over scrubbing to maintain SO2 emission rate limit.
Lime or Slurry System Blockage	HMI Display, Increased SO2 Emission Rate	Notify Maintenance to clear blockage. Utilize Sublime material to clear blockage in slurry lines and atomizer heads.	Grit screen breach. Excessive material at Slaker unit. Atomizer head blockage. Slurry Line Blockage.	Replace Grit Screens, Clear Slaker Blockage, Use Sublime to clear slurry line and atomizer blockage. Increase scrubbing rate to maintain SO2 emission limit compliance.

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2.2 FPHC MULTICLONE

Event	Alarm/Event Notification	Operating Procedures During Malfunction Event	Potential Malfunction Causes	Recommended Actions
Visible Dust from Multiclone Stack	Visual	If pushing/charging at the time of event, the operation will cease until the problem is diagnosed. Notify maintenance to repair or replace defective equipment. Ensure coke ovens are inspected and fully coked out prior to pushing. Check fan amps and the differential pressure to ensure compliance with the EPA limits.	Defects in the multiclone unit. Ovens are not completely coked out.	If pushing/charging at the time of event, the operation will cease until the problem is diagnosed. Notify maintenance to repair or replace defective equipment. Ensure coke ovens are inspected and fully coked out prior to pushing. Check fan amps and the differential pressure to ensure compliance with the EPA limits.
High or Low Differential Pressure	Hot Car Operator Pressure Gauge Reading	If pushing/charging at the time of event, the operation will cease until the problem is diagnosed. Notify maintenance to repair or replace defective equipment.	Differential Pressure Gauge malfunction. Blockage in pressure gauge line. Multiclone equipment failure.	If pushing/charging at the time of event, the operation will cease until the problem is diagnosed. Notify maintenance to repair or replace defective equipment. Remove blockage in pressure gauge line.
Fan Amps Outside threshold Values	Hot Car Operator Pressure Gauge Reading	If pushing/charging at the time of event, the operation will cease until the problem is diagnosed. Notify maintenance to repair or replace defective equipment.	Multiclone equipment failure. Blockage in multiclone. Breaker Trip.	Air leaks in system – check and repair Worn bearings, bent shaft, worn coupling, misalignment – change fan assembly – change motor Diagnose and repair motor as needed. Reset breaker, change breaker, replace fuses, repair wiring, change motor etc.

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2.3 PUSHING/CHARGING MACHINE BAGHOUSE

Event	Alarm/Event Notification	Operating Procedures During Malfunction Event	Potential Malfunction Causes	Recommended Actions
Visible Dust from baghouse stack	Visual	If pushing/charging at the time of event, the operation will cease until the problem is diagnosed. Turn Manager makes a determination as to the cause of the malfunction within (1) one hour of notification. Corrective actions must be initiated within (24) twenty four hours of the malfunction.	Cartridges loose, Damaged Cartridges, Damaged gaskets Leakage at tubesheet, Inadequate cleaning air supply Improper solenoid valve operation, Defective timer, Static electricity buildup Leakage in main air line Solenoid / diaphragm valve sticks	Check cartridge installation; repair as needed, Tighten cartridge clamp/mounting plate assembly Replace damaged cartridges, Check gaskets; replace cartridges or repair / replace gasket, Check tube sheet for warp age and joint deterioration ; repair as needed Check fan speed, damper position; adjust to specified rating, Check cleaning air supply; adjust to psig required Check solenoids and adjust as needed, Check fan rotation, fan speed damper position
High differential pressure.	Visual	As above	Leakage in main air line Solenoid / diaphragm valve sticks Improper bag cleaning Improper solenoid valve operation Incorrect timing sequence Defective timer Improper discharge from hopper	Check fan speed, damper position; adjust to specified rating Check cleaning air supply; adjust to psig as required Check solenoids and adjust as needed Check on and off interval; adjust as required Replace timer Remove cause of blockage and empty hopper
Fan amps outside threshold values	Visual	As above	Overheated bearings Overloaded motor Motor problems Breaker trip Blown fuse Grounded/shorted wiring	Air leaks in system – check and repair Worn bearings, bent shaft, worn coupling, misalignment – change fan assembly Megger the windings of fan motor - change motor Diagnose and repair motor as needed. Reset breaker, change breaker, replace fuses, repair wiring, change motor etc.
Dilution damper failure	Visual/Control System	If pushing/charging at the time of event, the operation will cease until the problem is diagnosed. Turn Manager makes a determination as to the cause of the failure within (1) one hour of notification. Corrective actions must be initiated within (24) twenty four hours of the malfunction.	Bad limit switch Solenoid valve malfunction Damper mechanism failed Power/electrical fault	Open manually Replace mechanical parts Diagnose and repair electrical components

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2.4 COKE SCREENING STATION BAGHOUSE

Event	Alarm/Event Notification	Operating Procedures During Malfunction Event	Potential Malfunction Causes	Recommended Actions
High differential pressure	Visual	Contact the Turn Manager Immediately. Turn Manager investigates reason for malfunction and initiates corrective action.	Improper timer operation Insufficient compressed air Solenoid pilot valve malfunction Pulse valve malfunction Leaking dust discharge device	Check the wiring, fuses, and setting of pulse duration and interval. Check the air supply to ensure the compressor is providing 80 to 100 psig. Check for a plugged filter in the compressed air line. Listen to verify the solenoid valves are firing. Check for momentary air venting each time they fire. Clean or replace, if necessary. Pulse pipe jets should be checked to verify operation of the pulse valves. Pulse valves can be easily disassembled and rebuilt in place. A leaking rotary lock, screw conveyor, slide gate, etc. can overload the baghouse by preventing dust discharge after pulsing. This causes high pressure drop, excessive bag wear, and reduced air volume. Seal any such leaks.
Visible discharge from stack	Visual	As above	Improperly installed or damaged bags Over cleaning	Check for holes or tears in bags. Replace damaged bags. Reseal bags as necessary. The unit could be pulsing too often, resulting in over cleaning. Verify the pressure drop is at least 3" w.g. Increase the pulse interval until the unit is operating stably at 3" pressure drop minimum.
Fan amps outside threshold values	Visual	As above	Incorrect fan rotation Fan V-belt slippage Leaks Motor problems Breaker trip Blown fuse Grounded/shorted wiring	Incorrect rotation of the fan will result in a failure to provide the required system static pressure or air volume. Tighten the V-belts if necessary. Replace broken or stretched belts. Leaking ductwork, access doors, explosion vents, dust discharge devices, or housing will cause insufficient suction at the pickup point. Seal any leaks. Diagnose and repair as needed. Reset breaker, change breaker, replace fuses, repair wiring, change motor etc.

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2.5 QUENCH TOWERS

Event	Alarm/Event Notification	Operating Procedures During Malfunction Event	Potential Malfunction Causes	Recommended Actions
Loss of water to baffles	Visual	According to the plan requirements the baffles have to be washed once a day. If failure of system observed repair and bring back on line as promptly as possible within the same day.	Failure of motor/pump assembly Loss of service water Loss of air pressure Loss of power Loss of controls Clogged sprays Frozen sprays	Replace motor/pump assembly, restore services, and unclog sprays as needed.
Loss of baffles	Visual	Repair as promptly as possible, but not later than 30 days from the date of failure.	Deteriorated baffle/supporting structure	Repair/replace baffles and structure

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TABLE 3

PREVENTATIVE MAINTENANCE AND CORRECTIVE ACTION PROCEDURES 63.310 (j)

List of Contents of Table 3:

Table 3.1 – Door Leaks
Table 3.2 – Charging Emissions

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3.1 DOOR LEAKS

Identification of potential malfunctions that will cause a door leak	Preventative maintenance procedures to minimize their occurrence	Corrective action procedures to stop the door leak
Door not seated correctly after charge	Sill raker inspects doors for warping and change if needed	The immediate corrective action procedures are outlined on the MCC Pushing Report under the Door Leak correction steps 1-10 1. Make sure door seated correctly 2. Seat K-wool around doors as outlined in work practice plan 3. Open uptakes dampers fully 4. Inspect Damper blocks for damage and prioritize repairs 5. Ensure limit switches, cylinders and frames are operational 6. Check power to Solenoids 7. Raise common tunnel draft 8. Close sole flue damper 50% 9. Close door dampers 10. Open Emergency Vent Stack (EVS)
Manual damper malfunction	Inspect monthly for proper functioning and repaired as needed.	
Coal in door sill	Sill Raker on Pusher Side and FPHC Operator on Coke Side is to make sure sills are free of coke and coal breeze after each push.	
Uptake damper malfunction	Monthly inspection of limit switches, air cylinders, frames and air lines, repaired as needed. Recorded on inspection sheet and reported to maintenance for repairs.	
Damaged door Lintel/Jamb	Monthly inspection of door jambs and lintels for damage. Recorded on inspection sheet and reported to maintenance for repairs.	

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3.2 CHARGING EMISSIONS

IDENTIFICATION OF POTENTIAL MALFUNCTIONS THAT AFFECT CHARGING EMISSIONS	PREVENTATIVE MAINTENANCE PROCEDURES TO MINIMIZE THEIR OCCURRENCES	CORRECTIVE ACTION PROCEDURES
High differential pressure	Weekly inspections by Maintenance personnel of : Bags Solenoid valve operation Timing sequence Timer Hopper discharge Excessive moisture on filters Structure	Check fan speed, damper position; adjust to specified rating Check cleaning air supply; adjust to 60 to 90 psig as required Check solenoids and adjust as needed Replace timer Remove cause of blockage and empty hopper
Loss of compressed air	Daily parametric monitoring and inspection of dilution dampers, Weekly inspections by maintenance personnel of bag cleaning system	Locate and repair air leak, if found inspect the valve; clean or repair as needed
Damaged filters	Weekly checks of filters	Replace filters
Cartridge filtering action impaired	Weekly inspections by maintenance personnel of : Cleaning air supply Solenoid valve operation Timer Excessive moisture build up Static electricity buildup	Replace cartridge

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ATTACHMENT A

STARTUP, SHUTDOWN AND MALFUNCTION EVENT LOG

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STARTUP, SHUTDOWN AND MALFUNCTION EVENT LOG

MIDDLETOWN COKE COMPANY

Date	Time	Duration	Initials	Description of event and consistency with SSM Plan procedures

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ATTACHMENT B

MALFUNCTION REPORT FORM

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MALFUNCTION REPORT FORM

MIDDLETOWN COKE COMPANY

This form is to be completed during or immediately following any emission control devices or parameter monitoring device malfunction event. Information provided will be relied upon for meeting reporting and recordkeeping requirements.

Date/Time malfunction identified:	
Name and title of initial responder:	
Name and title of Supervisor or responsible official notified of event:	
Malfunction description:	
Cause of malfunction:	
List corrective action(s) taken:	
Date/Time malfunction corrected:	
Total duration of malfunction:	
Was malfunction listed in SSM Plan? (Check one)	**□ Yes □ No**
If yes, was the response consistent with SSM Plan? (Check one)	**□ Yes □ No**
Provide explanation if response was inconsistent with SSM Plan*:	
Did SSM Plan appropriately address the malfunction? (Check one)	**□ Yes □ No****
Provide any recommendations for revisions or modifications to current SSM Plan to better accommodate future malfunctions:	
Whether any excess emissions and/or parameter monitoring exceedances are believed to have occurred during the malfunction	
List any additional measures taken to reduce excess emissions	
Name of investigating official:	
Signature of investigating official:	

**Note: Immediate report required for any response action taken that was inconsistent with the SSM Plan*

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ATTACHMENT C

MCC PUSHING REPORT

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ATTACHMENT D

MCC (HOT CAR) REPORT FORM

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ATTACHMENT E

COKE SCREENING LOAD-OUT REPORT FORM

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ATTACHMENT F

SSM PLAN DOCUMENT CONTROL FORM

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SSM PLAN DOCUMENT CONTROL FORM

- *To be completed every time the SSM Plan is revised*
- *Provide reference to section(s) that has been revised under "Details of Revision"*

Issue	Date	Authorized	Details of Revision

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