

PREVENTATIVE MAINTENANCE PROGRAM FOR FABRIC FILTER DUST COLLECTORS

The Preventative Maintenance Program for the Fabric Filter Dust Collector is for the purpose of keeping the dust collector in good operating condition, and thereby, maintaining the rated capture efficiency of the dust collector for the control of particulate matter. The United States Gypsum Plant only has fabric dust collectors.

ALL REFERENCES TO VISIBLE EMISSIONS IN THIS DOCUMENT REFER SPECIFICALLY TO APPLICABLE VISIBLE EMISSIONS LIMITS FOR EACH DUST COLLECTOR REFERENCED IN SECTIONS 1, 2, AND 3.

I. FABRIC FILTER DUST COLLECTOR OPERATING PRESSURE DROP

The pressure drop across each fabric filter dust collector shall be measured at a minimum weekly. The Plant's environmental coordinator will monitor weekly reports generated by operations. A deviation of 100% of the historic normal differential for an individual baghouse will result a mechanical inspection of the baghouse. The cause of the abnormal reading will be determined and corrected.

II. KETTLE FABRIC FILTER DUST COLLECTOR /PLANT ALARM SYSTEM FOR HIGH TEMPERATURE DUST COLLECTORS

The fabric filter dust collector shall be equipped with a high temperature sensor and alarm system. The alarm system shall be designed to set off an alarm when the high temperature set-point has been violated, and, to begin a sequential shut-down of the plant if the situation is not resolved within a very short period of time after the alarm sounds.

III. HANDLING AND STORAGE OF FABRIC FILTER DUST

Accumulated fabric filter dust (particulate) shall be stored and/or be disposed of in a manner which minimizes the introduction of the air contaminants to the outer air.

IV. PIPING AND SEALS MAINTENANCE

Piping and seals shall be replaced as needed.

V. VISIBLE EMISSIONS AND ACTIONS TO BE TAKEN

In the event visible emissions are observed at the discharge point of the stack, the following actions shall be taken:

If no certified visible emissions reader can be on-site within 60 minutes of observing the visible emissions to verify the emission opacity, operations shall be ceased immediately and the cause of the visible emissions determined and corrected prior to operating the plant again.

REMINDER: If the visible emissions continue for more than 2 hours, in excess of an emission standard, an excess emissions report must be made to MDEQ.

VI. DUST COLLECTOR INSPECTION PROGRAM

A semiannual dust collector inspection will be performed to investigate operational deficiencies. If any deficiencies are discovered a follow up work order will be performed. If major deficiencies are found the dust collector will be placed out of service until repairs can be performed.

VII. INVENTORY OF FILTER BAGS

An inventory of fabric filter bags shall be maintained at the facility and monitored by the storeroom attendant. Inventory will consist of a minimum of one full set of bags for each unit maintained. An inventory of other replacement parts for the fabric filter dust collector shall be maintained at all times.

VIII. FABRIC FILTER DUST COLLECTOR INSPECTION RECORD

An electronic record of the following shall be maintained by the owner or operator of the facility per section VI of the preventative maintenance program:

- Date of Inspection
- Record the differential Pressure
- Record Compressed air pressure feeding system
- Is timer sequencing
- Are solenoids operating
- Are there any leaks in the area
- Check door seals for deterioration
- Check air lines for leaks
- Check fan for free rotation
- Check fan for vibration
- Check to see if rotary valve is turning
- Check to see if hopper is full

A visual inspection of the interior components will be performed if any of the items listed above do not pass inspection. Any visible emissions will be reported as to their date and time and results will be communicated to the Method 9 observer at which time the observer will log deficiencies. Feedback from the inspection will be provided and if there is no feedback the dust collector will be deemed fully functional.

SECTION 1 EMISSION ABATEMENT PLAN FOR STARTUP, SHUTDOWN AND MALFUNCTIONS

NORMAL STARTUP PROCEDURE

All mill dust collectors start via control room prior to process operations. Calcining operations are then initiated and electronically monitored from the control room. When kettle temperature reaches 200 degrees Fahrenheit the dust collector fans automatically start. Process and dust collector operations are continuously monitored in the control room. Any disruption of the dust collector operation automatically shuts down the kettle operations.

NORMAL SHUTDOWN PROCEDURE

Kettle shutdown is accomplished electronically from the control room. Kettle feed is stopped. Kettle fires are turned off after all material is calcined. The kettle gate is opened sending all material into the hot pit. The material is sent to holding bins via screw conveyors and elevators. The dust collector screws and blasters are then shut off. The dust collector fan automatically shuts off after the kettle temp falls below 200 degrees Fahrenheit for 2 hours.

UPSET CONDITIONS

Any visible emission observed from the kettle results in immediate shut down. The environmental coordinator is advised of the emission. The dust collector is inspected to determine the extent of the problem. Mechanical and/or electrical personnel are utilized as needed to correct the issue. Normal operations shall not resume until the issue is corrected. The high temperature dust collector units are set to automatically shut down if the temperature exceeds 400 degrees Fahrenheit. Kettle operations are also computer controlled to shut down if dust collector operation stops. Any dust collector shutdown is indicated by a warning light on the control room panel.

IDENTIFICATION OF SUPERVISORY AND MAINTENANCE PERSONNEL

Descriptions of the responsibilities of these individuals for operation of the plant during startups, shutdowns, and upset conditions, as well as inspections and repairs, shall be stated on the updated list.

Title	Abatement Plan Responsibilities
General Foreman	Responsible for ensuring all shift Foremen adhere to the abatement plan for startup, shutdown, and upset conditions.
Foreman	Responsible for ensuring all inspections are done and communicating any issues to the Foreman & Environmental Coordinator.
Mechanical Supervisor	Responsible for assuring all mechanical DC components function and the repairs of any malfunctioning DC units.
Electrical Supervisor	Responsible for assuring all electrical DC components function and the repairs of any malfunctioning DC units.

DESCRIPTION OF INSPECTED ITEMS

At a minimum weekly magnahelic inspection will be done for operational dust collectors during operation including plant grounds for fugitive dust. The following items shall be inspected/ observed;

- Roadways (fugitive dust)
- Rock pile (fugitive dust)
- All operational dust collectors
- Storage silos (seals for dust escaping)

REPLACEMENT PARTS

As required by Appendix B, the following shall be kept in stock at all times:

- A minimum of one set of each size and type of bag used at the facility.
- A minimum of two (2) tubes of silicone caulk for minor leaks around doors and seals.
- Replacement magnehelic gauges.

BAGHOUSE VARIABLES AND MONITORING

Baghouses are monitored continuously by the use of a magnahelic gauge. Daily readings for pressure differential are made and recorded for each dust collector. Physical observations for visible emissions are also made and recorded daily. Any observation of visible emissions shall be reported to a supervisor for immediate action. Magnehelic gauge readings shall be recorded and sent to the environmental coordinator weekly. Abnormal readings will be reported to the mechanical department for investigation.

CORRECTIVE PROCEDURES AND RESPONSIBLE PERSONS

This startup, shutdown, malfunction plan shall be followed to meet the compliance limits. If the limits are exceeded it is the responsibility of the general foreman, or in his absence the plant shift foreman, to stop the operation and correct the problem immediately.

SECTION 2 EMISSION ABATEMENT PLAN FOR STARTUP, SHUTDOWN AND MALFUNCTIONS

NORMAL STARTUP PROCEDURE

The plant computer controls all additive feed rates throughout the start up process. Feed rates are entered into the computer prior to start up. Feed rates vary depending on the product being manufactured. The process dust collector is turned on automatically by the computer at start up. Dry additives are fed and mixed through a system of screw conveyors. The wet and dry additives are mixed immediately prior to entering the mixer. The process dust collector controls any dusting to this point. Wet and dry additives are mixed into concrete slurry and conveyed on a belt system for formation. The wet slurry eliminates any dusting until the slurry is dried. Any unusable material made on start up is run down the line and diverted to a waste pit for disposal.

NORMAL SHUTDOWN PROCEDURE

Normal shutdown is controlled by the computer. Upon starting the shutdown procedure the computer stops the feed at the dry additive feed bins. The screw conveying system runs until all dry additives are through the screw conveying system. The process runs until only wet additives remain in the slurry. Wet additive feeds are then shut off. The product continues through the forming process. Waste at the end of the process is diverted to a waste pit for disposal. Process dust collectors run until the wet additive feed is shut off.

UPSET CONDITIONS

Upon any visible emission the operation involved is immediately shut down. The environmental coordinator is advised of the emission. The dust collector is inspected to determine the extent of the problem. Mechanical and/or electrical personnel are utilized as needed to correct the issue. Normal operations shall not resume until the issue is corrected.

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BAGHOUSE VARIABLES AND MONITORING

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CORRECTIVE PROCEDURES AND RESPONSIBLE PERSONS This startup, shutdown, malfunction plan shall be followed to meet the compliance limits. If the limits are exceeded it is the responsibility of the general foreman, or in his absence the shift foreman to stop the operation, notify the Environmental Coordinator, and correct the problem immediately.

SECTION 3 EMISSION ABATEMENT PLAN FOR STARTUP, SHUTDOWN AND MALFUNCTIONS

NOTE: Section 3 will not be complete at this time as this section of the ROP represents an idle portion of the operation. A preventative maintenance program for fabric filter dust collectors will be completed when operations resume. At such time, a PMP will be submitted for review prior to operating these emission units.

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