



Environmental  
Protection Agency

John R. Kasich, Governor  
Mary Taylor, Lt. Governor  
Scott J. Nally, Director

**CERTIFIED MAIL # 91 7108 2133 3932 1838 3007**

July 16, 2012

Mr. John Lisius  
Columbus Castings  
2211 Parsons Avenue  
Columbus, OH 43207-2386

**Re: NOTICE OF VIOLATION**  
**Facility ID: 0125040020**  
**Name: Columbus Castings**  
**Location: 2211 Parsons Avenue**  
**Columbus, OH 43207-2386**  
**Franklin County**

Dear Mr. Lisius:

The Ohio Environmental Protection Agency (Ohio EPA), Division of Air Pollution Control (DAPC), Central District Office (CDO), has completed a portion of the full compliance evaluation of Columbus Castings (CC), located at 2211 Parsons Avenue, Columbus, Ohio. Columbus Castings is the current name of the facility identified by DAPC as 0125040020. This facility was previously known as Columbus Steel Castings and Buckeye Steel Castings. Full compliance evaluations of your Title V facility are conducted on a triennial basis, consistent with federal policy. The purpose of this facility compliance evaluation is to document a facility's compliance status with the effective Title V permit to operate, applicable Permits to Install (PTIs), the approved Preventive Maintenance and Malfunction Abatement Plan (PM&MAP), and applicable state and federal rules and regulations. A full compliance evaluation consists of an evaluation of Title V significant emissions units, many known physical operations and many insignificant emissions units via an on-site inspection and review of applicable facility records (current and historical), correspondence, and notifications.

This letter summarizes Ohio EPA's findings as a result of inspections and partial records reviews conducted on the following dates in 2012: April 19, May 1, May 15, May 18, May 31, and June 6. Additional inspections and records reviews for this full compliance evaluation, including the June 14 site visit, will be on-going and documented in future correspondence.

Listed below are "Findings" based upon Ohio EPA inspector observations, specific process information, and/or observed operations of various emissions units installed at the facility (if possible). The "Findings" below includes observations and regulatory background, and are followed by "Violations" (where applicable) and "Requested Actions" considered necessary to resolve any stated violations. A summary of requested actions and dates necessary to address any observed violations concludes the letter.

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1. **Finding:** Operating equipment without required capture and control

Observations

On April 19, 2012, May 1, 2012, May 31, 2012, and June 6, 2012, CDO staff observed the enclosure serving the Moldmaster extraction arm in poor repair. The enclosure was observed to have significant damage to sheet metal sides and fabric curtains to the extent that the enclosure failed to capture emissions resulting from extraction of parts from the flask following punch-out. There was no visible draw within the enclosure and emissions generated by this process escaped towards the ceiling of the building. Ductwork leading to the baghouse was observed to terminate short of the enclosure, making emissions capture impossible. Facility personnel were notified at the time that the enclosure did not meet the requirements of the Title V permit.

On May 1, 2012, CDO staff observed visible emissions coming from the Moldmaster enclosure area. CDO staff observed the Moldmaster extractor arm pick up and place a hot casting outside of the Moldmaster enclosure resulting in a large dust cloud. Facility personnel were notified that the enclosure did not meet the requirements of the Title V permit.

On May 31, 2012 CDO staff observed a general lack of capture from operations occurring within the enclosure and parts piled outside the enclosure. CDO staff observed visible emissions escaping from the building housing the Moldmaster enclosure near the catwalk connecting the Foundry department building to the East End sand system over the east end alley. As CDO staff prepared to read visible emissions from the building opening the Moldmaster extraction system shut down and emissions subsided. At that time, facility personnel explained that the unit was not operating normally. CC personnel were notified that the enclosure did not meet the requirements of the Title V permit. Records collected during the June 6, 2012 inspection, indicated that the emission unit resumed operation on May 31, 2012, approximately the same time CDO personnel departed site.

On June 6, 2012, CDO staff observed the manipulator arm place parts onto the vibratory conveyor. The conveyor outside the remains of the enclosure did not have a hood. Emissions from parts placed on the conveyor were observed escaping to the ceiling. A small section of wall was observed to have been repaired at floor level. A significant opening in the enclosure was observed near the ceiling of the enclosure. Ductwork was observed to still be terminated short of the enclosure. Facility personnel were again notified that the enclosure did not meet the requirements of the Title V and they were continuing to operate in violation of their permit. CDO staff also observed castings piled outside the enclosure.

On June 14, 2012, CDO staff observed significant repairs had been performed on the manipulator arm enclosure. A curtain and hood had been installed over the conveyor outside the enclosure. CDO staff noted emissions from parts placed on the conveyor coming out of the sides of the conveyor.

On May 31, 2012, CDO staff observed visible emissions from the exhaust stack of the B-3552 baghouse, which serves the East End Sand System. As CDO staff prepared to read visible emissions from the B-3552 baghouse exhaust stack, the P905 emission unit was shut down and emissions subsided. CC personnel stated that the emission unit was experiencing a problem that CC was investigating. Prior to system shut down, CDO staff also observed emissions coming from various sand conveyors and elevators in the P905 sand system equipment.

Regulatory Information

The Title V permit requires the following for P906 in Part III.A.1.2.a.ii:

*"the use of a partial enclosure, in RACM [Reasonably Available Control Measures] area 30, around the casting extractor, to achieve a minimum 98% capture efficiency of potential emissions of fugitive dust."*

The Title V permit requires the following for P906 in Part III.A.1.2.a

*"By employing the above-mentioned RACM, there shall be no visible emissions of fugitive dust from any non-stack egress point from the building housing RACM area 30, including, but not limited to: doorways, windows and roof openings."*

The PSD evaluation submitted to Ohio EPA on February 9, 1990, states

*"[a]t no point in the new sand system are castings placed on the ground level. Nor is sand handled in other than an enclosed and exhausted device."*

The placing of parts outside of the enclosure is a change in process of air contaminant source P906 that may result in the increase of particulate emissions.

The Title V permit Section A.1.2a. for P905 states:

*"The permittee shall eliminate visible emissions of fugitive dust through the employment of best available technology (BAT)... These measures shall include, but not be limited to, the following:*

- i. *the use of hooding, in RACM area 10, around the east end sand system to achieve a minimum 98% capture efficiency of potential emissions of fugitive dust...*

### **Violations**

Failure to adequately capture and control fugitive emissions of dust at the point of generation is considered a violation of Ohio Administrative Code (OAC) Rule 3745-17-08(A) and the terms and conditions of the Title V permit to operate. Violations of the terms and conditions of a Title V permit are also considered violations of Ohio Revised Code (ORC) 3704.05(J)(2), which states

*"[n]o person shall...[v]iolate any applicable requirement of a Title V permit or any permit condition..."*

Modification of an air contaminant source without first obtaining a permit-to-install is considered a violation of OAC rule 3745-31-02(A)(1)(a) which states:

*"...[n]o person shall cause, permit, or allow the:*

- (a) *...modification of any new source ...without first obtaining a permit-to-install."*

### **Requested Action**

Ohio EPA requests that the facility submit a complete permit-to-install (PTI) application for the modification of P906 and/or its associated operations within thirty (30) days of receipt of this letter. If the facility determines that a PTI application is not required, please provide CDO information demonstrating why the change in process does not require a new PTI, including all guidance, calculations, references, assumptions and supporting documents.

2. **Finding:** Failure to properly document PM&MAP activities

### **Observations**

On May 31, 2012, CDO staff observed visible emissions from the exhaust stack of the B-3552 baghouse, which controls particulate emissions from the east end sand system (identified as P905 in the Title V permit). Pressure drop across baghouse B-3552 was approximately 4 inches of water, which was within the operating range established in the Title V permit. CDO staff also observed emissions coming from various sand conveyors and elevators in the P905 sand system equipment. CDO staff collected copies of the PM&MAP monthly inspection forms for the equipment serving the P905 sand system. Both PM&MAP FORM 33 for the B-3306 baghouse and PM&MAP FORM 34 for the B-

3552 baghouse indicated that the inspection was performed on May 30, 2012. CDO staff observed that ductwork found to have holes in it that was noted during the May 1, 2012, inspection and "Finding 1" in the June 8, 2012, Notice of Violation (NOV) had been temporarily repaired with duct tape. PM&MAP forms indicate the duct tape repair of the P905 sand system collection pipes is "permanent" by not indicating that further repair is required.

On May 1, 2012, CDO staff inspected baghouse B-3700 and discovered and documented the "super sack" serving compartment #3 was under vacuum, indicating the rotary airlock serving the compartment had failed. CDO staff informed facility personnel at that time that failure of a baghouse hopper airlock can impair the ability of the baghouse to provide sufficient capture of particulate emissions. On May 31, 2012, CDO staff re-inspected baghouse B-3700 and discovered the "super sack" was under vacuum. The monthly PM&MAP form for the B-3700 baghouse (PM&MAP form 30), indicates that an inspection of the B-3700 was performed on May 30, 2012. The checklist item "INSPECT HOUSE AND HOPPER FOR LEAKS AND LOSSES" is checked "ok" with no problems noted.

#### Regulatory Information

Columbus Castings was required to develop and submit a PM&MAP which was accepted by the Ohio EPA in 1995. The PM&MAP was incorporated into the Title V permit to provide documentation of Columbus Casting's ongoing maintenance program and support the recordkeeping required for various emissions units and control devices at the facility. Failure to maintain accurate records of PM&MAP inspections and observations precludes an effective evaluation of compliance with Columbus Casting's PM&MAP.

#### Violations

Failure to accurately complete PM&MAP operation and maintenance records is considered a violation of OAC rule 3745-15-06(D)(3) which states:

*"Operation and maintenance records shall be maintained by the owner or operator of the source to demonstrate that any preventive maintenance and malfunction abatement plan is fully implemented."*

Failure to comply with the existing Title V permit is considered a violation of ORC 3704.05(C) which states:

*"No person who is the holder of a permit ... shall violate any of its terms or conditions."*

Requested Action

Immediately comply with the provisions of applicable permits, RACM studies, and PM&MAP, including recording accurate information on PM&MAP forms.

3. Finding: Failure to properly report malfunctions

Observations

On May 31, 2012, CDO staff observed visible emissions from the exhaust stack of the B-3552 baghouse, which serves the East End Sand System. CDO staff also observed emissions coming from various sand conveyors and elevators in the P905 sand system equipment. CDO staff collected copies of the PM&MAP monthly form from May 2012 for the B-3552, WEST COLLECTOR EAST END SAND SYSTEM which states "first level duct at roto-conditioner" for the duct from collection points to fan exhaust and "roto-conditioner being worked on at first level" under additional comments. The malfunctions of both the emissions unit and control device were not reported to Ohio EPA.

On June 5, 2012, CDO inspectors received a complaint alleging visible emissions from the Columbus Castings or PSC Metals area. Upon investigation by CDO personnel from an off-site location, inspectors determined that orange-brown emissions were visible coming from the B-3216 baghouse ridge vent. CDO inspectors contacted the facility to learn what was occurring at the facility. Facility personnel were unaware of any issues, but investigated the B-3216 baghouse to ensure proper operation. At 4:15 P.M., facility personnel contacted Ohio EPA to report that three bags within the baghouse had become disconnected. The facility stated they had recently replaced all of the bags within a compartment and that "they must not have seated them [the bags] properly." Facility personnel contacted Ohio EPA to report a "potential malfunction" later that day, but did not provide any additional information. The facility did not report a malfunction, nor did the facility include the information as required by 3745-15-06(B)(1) or the effective PM&MAP.

On June 6, 2012, 11:10 a.m., CDO staff witnessed the P901, Electric Arc Furnace, being charged during regular operations. During the charge, CDO staff observed significant visible emissions coming from the furnace and rolling toward the west end of the facility. CDO staff observed that the dampers located directly above the P901 furnace were in a closed position during the charging process and promptly notified Columbus Castings personnel.

The facility subsequently contacted CDO staff at 4:30 p.m. to report that when the emission unit began operations earlier in the day the dampers overhead leading to the control device "tripped an electrical fault." Facility personnel contacted Ohio EPA to report a "potential malfunction" later that day, but did not provide any additional information. The facility did not report a malfunction, nor

did the facility include the information as required by 3745-15-06(B)(1) or the effective PM&MAP.

Regulatory Information

Ohio Administrative Code (OAC) Chapter 3745-15-06(B)(1) states:

*"In the event that any ... air pollution control equipment ... breaks down in such a manner as to cause the emission of air contaminants in violation of any applicable law, the person responsible for such equipment shall immediately notify the Ohio environmental protection agency district office or delegate agency of such failure or breakdown."*

Furthermore, OAC 3745-15-06(B)(1) and the facility's PM&MAP requires that:

*"...The immediate notification...shall include the following data:*

- (a) Identification and location of such equipment including the Ohio environmental protection agency permit application number for each air contaminant source;*
- (b) The estimated or actual duration of breakdown;*
- (c) The nature and estimated quantity of air contaminants which have been or may be emitted into the ambient air during the breakdown period;*
- (d) Statements demonstrating that:*
  - i. Shutdown or reduction of source operation during the breakdown period will be or would have been impossible or impractical;*
  - ii. The estimated breakdown period will be or was reasonable in duration based on installation or repair time, delivery dates of equipment replacement parts, or materials, or current unavailability of essential equipment, parts, or materials;*
  - iii. Available alternative operating procedures and interim control measures will be or have been implemented during the breakdown period to reduce adverse effects on public health or welfare; and*

- iv. *All actions necessary and required by any applicable preventive maintenance and malfunction abatement plan will be or have been implemented.*

The Title V permit, Section A.2.c. states:

*"The permittee shall maintain this emissions unit and associated air pollution control equipment in accordance with the Preventative Maintenance and Malfunction Abatement Plan (PM&MAP) as approved on August 15, 1995. Any changes in the PM&MAP shall be approved in writing by Ohio EPA prior to implementation."*

The absence of a properly installed fabric filter (bag) within the B-3216 baghouse results in PM bypassing the "porous fabric" required in the PM&MAP. Therefore, the absence of a bag while the system is operating is a malfunction of the control equipment.

The Title V permit, Section A.2.a. for P901 states:

*"The permittee shall eliminate visible emissions of fugitive dust through the employment of RACM. These measures shall include, but not be limited to, the following:*

- i. *the use of canopy hooding during charging, tapping, ladle cleaning and oxygen lancing with sufficient capture efficiency to eliminate visible particulate emissions of fugitive dust from building openings; and*
- ii. *ventilation of all captured PE [particulate emissions] to baghouse B-3216..."*

Dampers are an essential part of the system Columbus Castings employs to capture and control particulate emissions from P901. With closed canopy hood dampers, it is impossible to properly collect fugitive dust during furnace operations. The failure of the control equipment system during charging operations of P901 is a malfunction of the control equipment.

Missing or disconnected bags in baghouse B-3216 preclude effective particulate emissions control, and results in the bypass of a portion of the captured emissions from P901 directly to the ambient air. The Title V permit requires that this emissions unit be controlled using a baghouse.

The Title V permit Section A.1.2a. for P905 states:

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*"The permittee shall eliminate visible emissions of fugitive dust through the employment of best available technology (BAT)... These measures shall include, but not be limited to, the following:*

- i. *the use of hooding, in RACM area 10, around the east end sand system to achieve a minimum 98% capture efficiency of potential emissions of fugitive dust..."*

#### **Violations**

Failure to properly report malfunctions is a violation of the terms and conditions of the effective Title V permit, the effective PM&MAP, and OAC 3745-15-06(B).

Failure to comply with the terms and conditions of the Title V permit is considered a violation of ORC 3704.05(C).

#### **Requested Action**

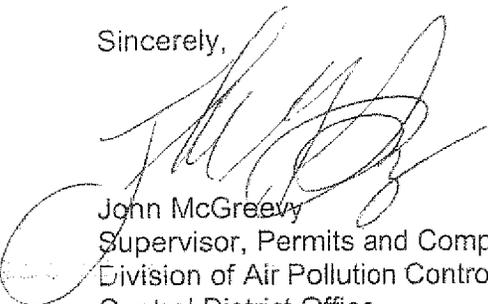
Immediately comply with malfunction reporting requirements in OAC 3745-15-06(B)(1) and the malfunction reporting requirements found within the PM&MAP.

#### **Additional Information**

Please note that the Ohio EPA has the authority to seek civil penalties as provided in ORC 3704.06. This letter or information pursuant to this letter does not constitute a waiver of Ohio EPA's authority to seek civil penalties as provided in the ORC. The decision on whether or not to seek such penalties will be made by the Ohio EPA at a later date.

If you have any questions, please contact Barbara Walker of my staff at (614) 728-3805 or [Barbara.walker@epa.ohio.gov](mailto:Barbara.walker@epa.ohio.gov).

Sincerely,



John McGreevy  
Supervisor, Permits and Compliance  
Division of Air Pollution Control  
Central District Office

Enclosures

c: William MacDowell, Region 5 U.S. EPA  
Adam Ward, Assistant Chief, CDO

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