



**Environmental
Protection Agency**

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

CERTIFIED MAIL # 91 7108 2133 3932 1838 2710

August 23, 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 tri-annual 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 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.

Ohio EPA, CDO/DAPC representatives performed an on-site inspection during a site visit on June 14, 2012. This letter summarizes Ohio EPA's findings from this on-site inspection. These findings were discussed with facility personnel at the conclusion of the day's inspection. Additional inspections for the full compliance evaluation 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 "Finding(s)" below include observations and regulatory background, and are followed by "Violation(s)" (where applicable) and "Requested Action(s)" considered necessary to resolve any stated violations. A summary of requested actions and dates necessary to address any observed violations concludes the letter.

Central District Office
50 West Town Street, Suite 700
P.O. Box 1049
Columbus, OH 43216-1049

614 | 728 3778
614 | 728 3898 (fax)
www.epa.ohio.gov

1. **Finding(s):** Moldmaster Moldmaking and Sand Preparation (P009) Capture Efficiency

Observations

During the June 14, 2012, site visit, CDO personnel witnessed fugitive emissions from the Moldmaster Moldmaking and Sand Preparation (P009) sand mixer. The fugitive emissions were not being captured as identified in the requirements of the Title V permit.

Regulatory Information

The effective Title V Permit to Operate (TV PTO) states the following for the Moldmaster Moldmaking and Sand Preparation System (P009):

"The permittee shall eliminate visible emissions of fugitive dust through the employment of RACM... These measures shall include ...:

i. the use of hooding... and the use of enclosures at the ...mill to achieve a minimum 90% capture efficiency of potential emissions of fugitive dust..."

Violations:

Not achieving specified capture efficiencies specified in the existing Title V permit are considered violations of Ohio Revised Code (ORC) 3704.05(J)(2) which states that

"No person shall [...] [v]iolate any applicable requirement of a Title V permit or any permit condition..."

Failure to properly capture and control fugitive particulate emissions constitutes a violation of OAC rule 3745-17-08(B)(1) which requires that

"[no] person shall cause or permit any fugitive dust source to be operated...without taking reasonably available control measures to prevent fugitive dust from becoming airborne."

Requested Actions:

Ohio EPA requests that CC perform repairs and maintenance on emissions unit P009 and/or its associated collection and control equipment sufficient to comply with the effective Title V permit-to-operate and state and federal regulations. These repairs should be completed within thirty (30) days of receipt of this letter and a record of the repairs should be maintained on-site for review by Ohio EPA personnel.

2. **Finding(s):** 1693 Shakeout (P012) Capture Efficiency and Control Equipment Operating Outside Allowable Range

Observations

During the June 14, 2012, site visit, CDO personnel witnessed fugitive emissions from the 1693 Shakeout (P012). The side draft hoods associated with this emissions unit were not sufficient to capture fugitive particulate emissions from the shakeout process. CDO personnel were informed that the control equipment system, including the hoods, was operating normally during the time of observation. However, CDO noted that no materials were observed moving through the sand handling system and no parts were on the shaker tables while fugitive emissions were being generated. As CDO personnel were inspecting the control equipment for P012, CDO personnel noted no working lights in the pump room for wet scrubber B-3032. CDO believes lack of lighting in the B-3032 equipment room makes inspections required under the Preventative Maintenance & Malfunction Abatement Plan (PMMAP) difficult. CDO staff also observed general deterioration of the B-3032 scrubber including significant corroded areas of the housing that were pulling outside ambient air into the scrubber. Leaks in the ductwork and/or control equipment may result in decreased fugitive emissions capture at the collection points.

During the June 14, 2012, site visit, CDO personnel read the gauge for the water supply pressure for the wet scrubber, B-3032, controlling the 1693 Shakeout (P012) emission unit. CDO personnel observed the gauge reading approximately 23 pounds per square inch (psi). During the 2009 inspection process, CC indicated to OEPA during meetings that the sludge conveyor had ceased to operate properly. CC stated that the scrubber was scheduled to be replaced and the associated sand handling systems would be upgraded due to the inability of the system to operate within the permit allowable emission rates.

Regulatory Information

The effective Title V permit states the following:

"The permittee shall eliminate visible emissions of fugitive dust through the employment of RACM, in accordance with the RACM report submitted on February 4, 1991. These measures shall include, but not be limited to, the following:

- i. the use of side draft hoods in RACM area 13 (shakeouts), to achieve a minimum 60% capture efficiency of potential emissions of fugitive dust; and*
- ii. all fugitive dust captured within the RACM area shall be vented to the wet scrubber B-3032, which shall achieve an outlet loading of not greater than 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gases or no visible particulate emissions from the scrubber exhaust stack, whichever is less stringent.*

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 13, including, but not limited to: doorways, windows and roof openings."

The methods of minimizing emissions specified in the RACM area 13 analysis that Buckeye Steel Castings provided to Ohio EPA as a means of complying with OAC rule 3745-17-08(B) are not being followed. The applicable RACM study specified methodologies, equipment, capture equipment, capture efficiencies, control equipment, control efficiencies and work practices necessary to comply with OAC rule 3745-17-08(B). During this site visit CC was not operating equipment in a manner that complies with OAC rule 3745-17-08(B).

The effective Title V PTO states the following for wet scrubber B-3032:

"The B-3032 scrubber water supply pressure shall be continuously maintained at a value of not less than 25 pounds per square inch (gauge) at all times while the emissions unit is in operation."

Violations:

Not employing RACM is considered a violation of the terms and conditions of the effective Title V permit. Violations of the terms and conditions of a Title V permit are also considered violations of ORC rule 3704.05(J)(2).

Failure to properly capture and control fugitive particulate emissions is considered a violation of OAC rule 3745-17-08(B). Violations of OAC rule 3745-17-08 are also considered violations of ORC 3704.05(A).

Requested Actions:

Please submit a comprehensive plan specifying how CC will achieve and maintain compliance with the required capture efficiencies and emission limitations. Please include descriptions of how compliance will be demonstrated, what specific physical improvements will be made, and when the project will be completed.

Also, submit an updated Preventative Maintenance and Malfunction Abatement Plan that addresses capture hooding, enclosures, and equipment utilized to achieve the required capture efficiencies and fugitive particulate emissions limitations. In addition, include measures that CC will implement to ensure that the required capture efficiency will be maintained on an on-going basis.

Ohio EPA requests that CC perform repairs and maintenance on emissions unit P012, including the control equipment if appropriate, sufficient to comply with the effective Title V permit-to-operate and state and federal regulations. These repairs should be completed within thirty (30) days of receipt of this letter and a record of the repairs should be maintained on-site for review by Ohio EPA personnel.

If CC wishes to re-evaluate appropriate pressure drop for this emission unit, the facility will need to perform a compliance test to demonstrate the emissions limitations may be met at alternative operating conditions.

3. **Finding(s):** Visible emissions from building egress points

Observations

During the June 13, 2012, site visit, CDO personnel observed fugitive dust coming from the south side of the foundry building from windows, seams, and openings below the roofline. This observation was made when inspectors were on the elevated platforms between the #2 Foundry and Pattern Storage Building. CDO personnel performed U.S. EPA Method 22 visible emission readings.

CDO personnel noted the following emission units in operation around the time the visible emissions were noted outside the facility: 1693 Shakeout (P012) and Electric Arc Furnace #1 (P901).

Regulatory information

The effective Title V permit to operate, Part III.A.1.2.a for P012 states:

"...[T]here shall be no visible emissions of fugitive dust from any non-stack egress point from the building housing RACM area 13, including, but not limited to: doorways, windows, and roof openings."

The effective Title V permit to operate, Part III.A.1.2.a for P901 states:

"...[T]here shall be no visible emissions of fugitive dust from any non-stack egress point from the building housing RACM area 1, including, but not limited to: doorways, windows, and roof openings."

Violations:

Not employing RACM is considered a violation of the terms and conditions of the effective Title V permit. Violations of the terms and conditions of a Title V permit are also considered violations of ORC rule 3704.05(J)(2).

Failure to take reasonable measures to prevent fugitive particulate emissions is considered a violation of OAC rule 3745-17-08(B)(2), which states:

"No person shall cause or permit any fugitive dust source to be operated; or any materials to be handled, transported, or stored; or a building or its appurtenances or a road to be used, constructed, altered, repaired, or

demolished without taking or installing reasonably available control measures to prevent fugitive dust from becoming airborne."

Violations of OAC rule 3745-17-08 are also considered violations of ORC 3704.05(A).

Requested Action:

Ohio EPA requests that CC perform repairs and maintenance on emissions unit P012 and P901 and/or their associated collection and control equipment sufficient to comply with the effective Title V permit-to-operate and state and federal regulations. These repairs should be completed within thirty (30) days of receipt of this letter and a record of the repairs should be maintained on-site for review by Ohio EPA personnel.

4. **Finding:** New East End Sand Dryer installed in Core Room

Observations

CDO inspectors observed a new sand drying system attached to the B-3700 baghouse. The new sand drying system is located in the southeast corner of the Core Room. The sand dryer is used to regenerate spent sand by removing, with the use of heat, binding agents, residual water, and other materials from previous use. The sand dryer has a 5 million British Thermal Unit (mmBtu) burner which is used to heat the chamber of the dryer where the sand is processed. This process equipment is not included in a current permit-to-install for any emission unit.

Regulatory Information

Title 40, Code of Federal Regulations, Part 60 (40 CFR 60), Subpart UUU entitled Standards of Performance for Calciners and Dryers in Mineral Industries establishes standards for sand dryers. U.S. EPA has determined that sand dryers located at foundries are subject to Subpart UUU (See enclosed.) Under OAC 3745-31-03(A)(1), sources subject to federal New Source Performance Standards are not exempt from permitting.

Violation:

Failure to obtain a permit-to-install prior to installation of a new source is considered a violation of Ohio Administrative Code (OAC) rule 3745-31-02(A), which states that

"...no person shall cause, permit, or allow the installation or modification of a new source ...without first obtaining a permit to install from the director." Violations of OAC rule 3745-31-02 are also considered violations of Ohio Revised Code (ORC) 3704.05(A), which states that "No person shall cause, permit, or allow emission of an air contaminant in violation of any rule adopted by the director of environmental protection..."

Requested Action:

Ohio EPA requests that CC conduct emissions testing to determine appropriate oxides of nitrogen (NO_x), volatile organic compounds (VOC), individual and combined Hazardous Air Pollutants (HAPs), particulate matter (PM), particulate matter with an aerodynamic diameter less than or equal to 10 micrometers (PM₁₀), and particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers (PM_{2.5}). emissions factors for the sand dryer, in terms of lbs pollutant/ton of sand processed. Testing should conform to U.S. EPA methods 7E, 10, and 25 or 25A or other methodology approved by Ohio EPA. Please submit appropriate Intent to Test ("ITT") forms within 30 days of receipt of this letter and test within 60 days of initial ITT submittal.

CDO requests CC submit a complete permit application within 120 days of receipt of this letter that includes the following:

1. Hourly and annual potential to emit (PTE) calculations. The hourly and annual potential to emit analyses should be performed for NO_x, CO, SO₂, VOC, individual and combined HAPs, PM, PM₁₀, and PM_{2.5}.
2. Maximum hourly PTE calculations for toxic air contaminants, as defined in OAC rule 3745-114-01, for all physical operations, along with the distance of each physical operation to the nearest fence line. The maximum hourly emissions rate for both the toxic air contaminants with the highest emissions rates and those with the lowest TWA or STEL should be modeled in accordance with Ohio EPA Engineering Guides 69 and 70 to demonstrate that emissions of toxic air contaminants do not pose a risk to public health and safety.
3. If the potential emissions exceed Prevention of Significant Deterioration thresholds for any attainment area criteria pollutant, include an evaluation including appropriate modeling and Best Available Control Technology (BACT) analysis. If the potential emissions from any of the physical operations exceed Non-Attainment New Source Review thresholds, then include an evaluation including appropriate modeling and Lowest Achievable Emissions Rate (LAER) analysis for those nonattainment pollutants.
4. Any and all assumptions, calculations, citations, references, and guidance utilized when completing any of the above forms and information. Any assumptions should be documented and supported by citations of appropriate literature (ex, AP-42 chapter including section and table number, CERP Study numbers with table and section citations, guidance documents including section and/or table/figure citations, or other technical journals), manufacturer's data (provide copies of this data on manufacturer letterhead or copies of the operating manual), emissions testing data, or engineering studies including calculations.

5. **Finding:** Sand system

Observation

CDO personnel observed an elevated cloud of fugitive dust within the West End of the main foundry building. The cloud filled the West End of the main foundry building, obscuring the West End wall from the view of CDO inspectors. Upon investigation, CDO and facility personnel observed fugitive emissions being ejected from the West End Transport System. The emission of fugitive dust was occurring with each pneumatic pulse of the system.

Regulatory Information

The West End Transport System is not a permitted emission unit. Fugitive dust within the building is assumed to not be captured.

Ohio EPA, Division of Air Pollution Control Engineering Section has used "70% [capture efficiency] for non-heated sources and zero for heated sources to represent actual building capture efficiencies for sources with no building capture efficiency in U.S. EPA's "Compilation of Air Pollution Emission Factors" (a.k.a AP-42), or other reliable reference documents. The presence of furnaces, cooling molds and various other sources of heat, including but not limited to ladle heaters, hot castings, and ovens result in a heated building environment.

Violation:

Failure to properly capture fugitive particulate emissions is considered a violation of OAC rule 3745-17-08(B)(2), which states:

"No person shall cause or permit any fugitive dust source to be operated; or any materials to be handled, transported, or stored; or a building or its appurtenances or a road to be used, constructed, altered, repaired, or demolished without taking or installing reasonably available control measures to prevent fugitive dust from becoming airborne."

Violations of OAC rule 3745-17-08 are also considered violations of ORC 3704.05(A).

Requested Action:

Ohio EPA requests that CC perform repairs and maintenance on the West End Transport System sufficient to comply with state and federal regulations. These repairs should be completed within thirty (30) days of receipt of this letter and a record of the repairs should be maintained on-site for review by Ohio EPA personnel.

Mr. John Lisius
Columbus Castings
Page -9-

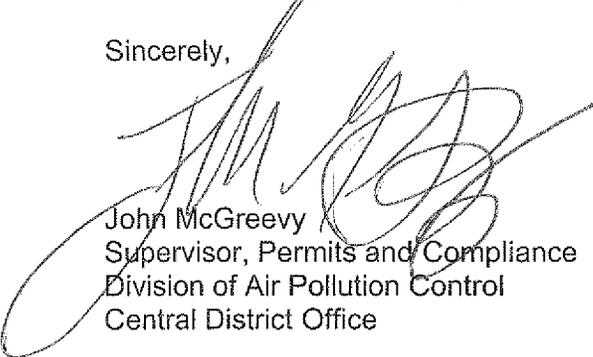
Ohio EPA recommends CC include the West End Transport System and other insignificant and permit exempt emission units in daily visible emission and PMMAP inspections to minimize or eliminate fugitive dust from building egress points.

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.

Sincerely,



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

Enc. U.S. EPA ADI Control Number 0500056

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

e: Kim Ness, Columbus Castings
John McGreevy, DAPC/CDO
Kelly Toth, DAPC/CDO
Bryon Marusek, DAPC/CDO
Barbara Walker, DAPC/CDO
Bruce Weinberg, DAPC/CO
John Paulian, DAPC/CO