



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
**REGION 5**  
**77 WEST JACKSON BOULEVARD**  
**CHICAGO, IL 60604-3590**

**ELECTRONIC MAIL**  
**DELIVERY RECEIPT REQUESTED**

Ki Harmon  
EH & S Manager  
Urschel Laboratories, Inc.  
kharmon@urschel.com

RE: Request for Alternative Monitoring Procedure for Thermal Sand Reclaimer  
Urschel Laboratories, Inc., Chesterton, Indiana

Dear Mr. Harmon:

The U.S. Environmental Protection Agency (EPA) has received and reviewed a letter from Urschel Laboratories, Inc. (Urschel), dated August 19, 2021, requesting approval of an alternative monitoring procedure (AMP) for the Thermal Sand Reclaimer (TSR) at its Chesterton, Indiana no-bake and stainless-steel foundry. Specifically, Urschel requests approval to utilize a bag leak detection system (BLDS) to monitor particulate matter (PM) emissions from the TSR, rather than the prescribed methods under the Standards of Performance for Calciners and Dryers in Mineral Industries, codified at 40 C.F.R., Part 60, Subpart UUU (Subpart UUU). Subsequent to the receipt of your letter, EPA made several requests for additional information, via email. Urschel responded to the last of these requests on November 1, 2021. Upon review of all the submitted information, EPA has concluded that a BLDS is an effective alternative monitoring method.

**Regulatory Background**

Under Subpart A – General Provisions, 40 C.F.R. § 60.13 states:

*(i) After receipt and consideration of written application, the Administrator may approve alternatives to any monitoring procedures or requirements of this part including, but not limited to the following:[...] (8) Alternative continuous monitoring systems that do not meet the design or performance requirements in Performance Specification 1, appendix B, but adequately demonstrate a definite and consistent relationship between its measurements and the measurements of opacity by a system complying with the requirements in Performance Specification 1. The Administrator may require that such demonstration be performed for each affected facility.*

Under Subpart A – General Provisions, 40 C.F.R. § 60.7 states:

*(c) Each owner or operator required to install a continuous monitoring device shall submit excess emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and-or summary report form (see paragraph (d) of this section) to the Administrator semiannually, except when: more frequent reporting is specifically required by an applicable subpart; or the Administrator, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. All reports shall be postmarked by the 30th day following the end of each six-month period. Written reports of excess emissions shall include the following information:*

*(1) The magnitude of excess emissions computed in accordance with § 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.*

*(2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.*

*(3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.*

*(4) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.*

*(f) Any owner or operator subject to the provisions of this part shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of such measurements, maintenance, reports, and records [...]*

Under Subpart UUU, 40 C.F.R. § 60.734, Monitoring of emissions and operations states:

*(a) With the exception of the process units described in paragraphs (b), (c), and (d) of this section, the owner or operator of an affected facility subject to the provisions of this subpart who uses a dry control device to comply with the mass emission standard shall install, calibrate, maintain, and operate a continuous monitoring system to measure and record the opacity of emissions discharged into the atmosphere from the control device.*

*(b) In lieu of a continuous opacity monitoring system, the owner or operator of a ball clay vibrating grate dryer, a bentonite rotary dryer, a diatomite flash dryer, a diatomite rotary calciner, a feldspar rotary dryer, a fire clay rotary dryer, an industrial sand fluid bed dryer, a kaolin rotary calciner, a perlite rotary dryer, a roofing granules fluid bed dryer, a roofing granules rotary dryer, a talc rotary calciner, a titanium dioxide spray dryer, a titanium dioxide fluid bed dryer, a vermiculite fluid bed dryer, or a vermiculite rotary dryer who uses a dry control device may have a certified visible emissions observer measure and record three 6-minute averages of the opacity of visible emissions to the atmosphere each day of operation in accordance with Method 9 of appendix A of part 60.*

### **Urschel's Request**

Urschel's TSR is subject to Subpart UUU, because it is a calciner or dryer at a facility that processes industrial sand. See 40 C.F.R. § 60.730. The TSR uses a baghouse (PCU-3) to control PM emissions. Urschel currently conducts Method 9 daily visible emissions observations when the TSR is operating in order to comply with the monitoring requirements of 40 C.F.R. §60.734. Urschel is requesting that a BLDS be utilized in lieu of the daily observations currently in place. Urschel has developed a continuous monitoring system (CMS) plan for the BLDS that it has requested to implement for its TSR.

### **Analysis**

EPA has reviewed Urschel's letter, the additional information which Urschel provided upon EPA's request, the applicable regulations, and prior EPA responses to similar AMPs. Based on this review, and in accordance with 40 C.F.R. §60.13(i)(8), EPA has determined that the proposed use of a BLDS in lieu of daily Method 9 visible emissions observations is an acceptable site- and unit-specific alternative monitoring method for purposes of Subpart UUU monitoring requirements, under the following conditions:

1. Urschel must install, calibrate, maintain, and continuously operate a BLDS to monitor emissions from the TSR during all periods the TSR is operating. The BLDS must be installed downstream of the PCU-3 baghouse used to control PM emissions for the TSR consistent with the guidance in EPA Fabric Filter Bag Leak Detection Guidance published September 1997.
2. The BLDS installed for purposes of this alternative monitoring method must meet, at a minimum, the following requirements:
  - a. The BLDS must be certified by the manufacturer to be capable of detecting emissions of PM at concentrations of one milligram per cubic meter (0.0005 grains per dry standard cubic foot) or less.
  - b. The BLDS must provide output of relative PM loadings which are continuously recorded using a strip chart, recorder, data logger, or other means.
  - c. The BLDS must be equipped with an audible and visible alarm that will sound

and light up when an increase in relative PM loading is detected over the alarm set point established during initial adjustments of the system (typically the alarm set point is established during initial performance testing).

- d. The initial adjustment of the BLDS must, at a minimum, consist of establishing the baseline output by adjusting the sensitivity (range), establishing the averaging period for the data, and establishing the alarm set points.
3. Urschel must develop and prepare a site-specific monitoring plan for the BLDS installed under this alternative monitoring method. The site-specific monitoring plan must address, at a minimum, the following procedures and practices:
    - a. Installation of the BLDS.
    - b. Initial and periodic (which should be no more frequent than quarterly for seasonable effects like temperature and humidity) adjustments, including how the alarm set-point will be established.
    - c. Operations of the BLDS, including quality-assurance procedures.
    - d. Maintenance of the BLDS, including a routine maintenance schedule and spare parts inventory list.
    - e. How the BLDS output data will be recorded and stored.
    - f. Procedures for determining what corrective actions are necessary in the event of a BLDS alarm, and how those procedures will be implemented. These procedures must include, at a minimum:
      - i. initiating an investigation into the root cause of each alarm within one hour of the alarm,
      - ii. implementing initial corrective actions to correct the cause of each alarm within three hours of the alarm,
      - iii. implementing any additional corrective actions needed to minimize or eliminate the root cause of each alarm within 24 hours of the alarm, and
      - iv. identifying and implementing preventative measures to prevent the cause of each alarm from recurring in the future.
  4. For purposes of the reporting requirements at 40 C.F.R. §60.7(c), Urschel must submit reports summarizing the BLDS output data, performance, and operational data. These reports must include, at a minimum, the following information: date and time of readings (based on the averaging period established during the initial performance testing), any period of BLDS downtime, the cause of any BLDS downtime, any periods of increased PM loading alarms, the cause of any increased PM loading alarms (i.e. the results of the root cause analyses), any corrective actions taken to minimize and/or eliminate the increased PM loading alarms, and any updates/revisions to the site specific monitoring plan associated with the BLDS.

Urschel must submit these reports to EPA at least semi-annually for one year following the installation of the BLDS, although more frequent quarterly submittals may be required by State and local permit reporting requirements. Semiannual reports must be

submitted to EPA no later than July 30, and January 31, after installation of the BLDS. The reports must be submitted to EPA via electronic mail to:

[R5airenforcement@epa.gov](mailto:R5airenforcement@epa.gov)

and

[sutlin.david@epa.gov](mailto:sutlin.david@epa.gov)

5. In accordance with 40 C.F.R. §60.7(f), Urschel must maintain a file of all measurements, all other information required by Subpart UUU and this alternative monitoring method approval letter in a permanent form suitable for inspection. This file must be retained for at least two years following the date of such measurements, maintenance, reports, and records.

It should be noted that with this approval, the BLDS will be considered the applicable method of determining compliance with the monitoring requirements of Subpart UUU. As part of that compliance methodology, Urschel is required to immediately document any BLDS alarms and take corrective actions to reduce or eliminate the cause of the alarms. The failure of Urschel to immediately investigate, document the root cause, and implement corrective actions to minimize or eliminate the cause of the alarm will be considered a violation of the monitoring requirements of 40 C.F.R. § 60.734.

Urschel remains subject to the requirement to perform Method 9 readings, as required by 40 C.F.R. §§60.11 (e)(1) and 60.736(b)(2) and the Facility's Clean Air Act permit(s), for purposes of demonstrating initial and periodic compliance. Following the initial demonstrations of compliance through performance testing and Method 9 readings, the monitoring requirements of Subpart UUU will be met by Urschel's use of the BLDS. The opacity limit in 40 C.F.R. 60.732 remains applicable to the unit.

Approval of Urschel's use of a BLDS in lieu of daily Method 9 visible emissions observations under this approved alternative monitoring method does not prohibit EPA or the State from conducting and using Method 9 readings, alternative EPA Reference Method 082 (Digital Opacity Camera System), or other methods to determine at any time compliance with the 10% opacity limit of Subpart UUU.

Lastly, approval of the proposed alternative monitoring method does not alter Urschel's legal obligation to comply with all other applicable requirements associated with Subpart UUU, including the need to provide the notifications identified under 40 C.F.R. §60.7(a). While not a requirement of this approval, it is recommended that Urschel include in the initial report submitted in accordance with Condition 4 of this letter the date upon which demonstration of the BLDS initial performance test commences.

Urschel must consult with IDEM on any revisions needed to its Clean Air Act permits. Please note that the conditions of this letter are "federally enforceable" requirements under the Clean Air Act. See, e.g., 40 C.F.R. § 52.21(b)(2)(17), § 40 C.F.R. 63.2.

If you have any further questions, please contact David Sutlin of my staff at 312-353-8990.

Sincerely,

Harris,  
Michael

 Digitally signed by Harris,  
Michael  
Date: 2021.12.03  
16:00:05 -06'00'

Michael D. Harris  
Division Director  
Enforcement and Compliance Assurance Division

cc: Janusz Johnson, Chief  
Air Compliance Branch  
Office of Air Quality  
Indiana Department of Environmental Management