DEPARTMENT OF ENERGY AND ENVIRONMENT

## NOTICE OF PROPOSED RULEMAKING

**Revisions to Air Quality Opacity Requirements**

The Interim Director of the Department of Energy and Environment (“DOEE”), pursuant to the authority set forth in Sections 5 and 6 of the District of Columbia Air Pollution Control Act of 1984, as amended, effective March 15, 1985 (D.C. Law 5-165; D.C. Official Code §§ 8-101.05 and 8-101.06); Section 107(4) of the District Department of the Environment Establishment Act of 2005, effective February 15, 2006 (D.C. Law 16-51; D.C. Official Code § 8-151.07(4)); Mayor’s Order 98-44, dated April 10, 1998; and Mayor’s Order 2006-61, dated June 14, 2006, hereby gives notice of his intent to adopt the following amendments to Chapter 6 (Air Quality – Particulates) of Title 20 (Environment) of the District of Columbia Municipal Regulations (DCMR) in not less than thirty (30) days from the date of final publication of this notice in the *D.C. Register.*

## Background

DOEE proposes to amend 20 DCMR § 606 (Visible Emissions) to:

* clarify how DOEE regulates emission units measured at facilities using a continuous opacity monitoring system (COMS);
* specify opacity limits for startup, cleaning, adjustment of combustion controls, or regeneration of emission control equipment;
* remove affirmative defense provisions; clarify the requirement that visible emissions limits apply to nonroad engines, requiring maintenance of logs; and
* improve the clarity of the regulations.

DOEE is proposing these changes in response to the United States Environmental Protection Agency’s (“EPA”) final action, *Findings of Failure to Submit State Implementation Plan Revisions in Response to the 2015 Findings of Substantial Inadequacy and SIP Calls to Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown, and Malfunction* (“Finding of Failure to Submit,” “FFS”) (January 12, 2022, 87 Fed. Reg. 1680). This EPA final action became effective on February 11, 2022, and gave the District eighteen (18) months from that date to submit an amendment to the District’s State Implementation Plan (“SIP”) or face sanctions under Clean Air Act (CAA) § 109.

EPA issued the FFS for the District because the District has not submitted an amendment to the District’s SIP in response to the *Startup, Shutdown, and Malfunction SIP Call* (“SSM SIP Call”)*.*[[1]](#footnote-2)The SSM SIP Call implements a settlement agreement executed November 30, 2011, to address a lawsuit filed by Sierra Club and WildEarth Guardians in *Sierra Club et al. v. Jackson*, No. 3:10-cv-04060-CRB (N.D. Cal.).

## Proposed Revisions to Respond to SSM SIP Call

The SSM SIP Call specifically required the District to address three areas of its regulations: 20 DCMR § 107.3, §§ 606.1-606.2, and § 606.4.

**20 DCMR § 107.3 (now 20 DCMR § 102.4)**

DOEE addressed the EPA’s concerns with § 107.3 by moving the provisions of previous § 107.3 to § 102.4; severely limiting the period for which the shutdown or maintenance can occur; and requiring the emissions during that period to comply with federal air quality standards. See 67 DCR 6758 (June 5, 2020). DOEE will submit the updates as a revision to the District’s SIP simultaneously with this rulemaking and SIP amendment proposal. Section 102.4 now reads as follows:

102.4 The Department may, by written notice to the owner or operator, permit the continued operation of the source for the time period proposed, or for the lesser time as the Department finds reasonable, provided that:

(a) The owner or operator of the equipment provides the notice required in §§ 102.2 and 102.3 of this title;

(b) The Department determines that measures have been taken to minimize the length of the shutdown period;

(c) The Department determines that it would be impossible or impractical to shut down the source operation during the maintenance or repair period; and

(d) The Department determines that operation of the source will not result in the violation of any federally enforceable emissions limitation or requirement.

**20 DCMR §§ 606.1 and 606.2**

In *Sierra Club v. Jackson*:

*The Petitioner objected to the alternative limitations on stationary sources for visible emissions during periods of “start-up, cleaning, soot blowing, adjustment of combustion controls, or malfunction,” (D.C. Mun. Regs. tit. 20 § 606.1) and, for fuel-burning equipment placed in initial operation before January 1977, alternative limits for visible emissions during startup and shutdown (D.C. Mun. Regs. tit. 20 § 606.2).* 80 Fed. Reg 33960.

It is impossible for many sources to meet the zero percent (0%) visibility threshold required under § 606 during certain operating modes. Under the anti-backsliding provisions of the CAA, DOEE cannot change this zero percent (0%) visibility threshold because it could result in increased emissions causing the District to backslide. Therefore, the Department must develop specific alternative emissions limitations to comply with the SSM SIP Call and reflect the capabilities of the sources.

In the SSM SIP Call, EPA recommended seven specific criteria as appropriate considerations for developing emission limitations in SIP provisions that apply during startup and shutdown. 80 Fed. Reg 33980.

1. *The revision is limited to specific, narrowly defined source categories using specific control strategies (e.g., cogeneration facilities burning natural gas and using selective catalytic reduction).*

DOEE proposes distinct visible emission limits during startup, cleaning, adjustment of combustion controls, or regeneration of emission control equipment for the following categories:

* fuel-burning equipment, when burning exclusively natural gas;
* fuel-burning equipment, when burning fuel oil or a combination of fuel oil and natural gas;
* fuel-burning equipment, in all other cases;
* combustion turbines;
* asphaltic concrete production equipment;
* stationary engines;
* nonroad engines; and
* cooking equipment.

The first six of these categories reflect the categorizations found in 20 DCMR § 805 for stationary sources, although some of the six stationary source categories were combined to increase readability of the regulation. Both nonroad engines and cooking equipment were added to narrowly define source categories in line with EPA’s guidance.

The Department seeks specific feedback on the ranges of allowable alternative visible emissions during startup, cleaning, adjustment of combustion controls, or regeneration of emission control equipment (“Startup”). These ranges are included in bracketed text in proposed § 606.2 for each category. The proposed ranges are based on federal and state regulations and state permit conditions. Upon review of federal and state regulations and permit conditions, DOEE found that visible emissions for Startup were often forty percent (40%) or higher. Therefore, DOEE is basing alternatives on the following exceptions found on the east coast (none of the specific state regulations cited were subject to the SSM SIP Call):

|  |  |  |
| --- | --- | --- |
| **Source Type** | **Alternative Visible Emissions Limit** | **Location** |
| Fuel Burning Equipment | 30% | W. Va. Code § 45-2-3.3 |
|  | 27% | Ga. Comp. R & Regs. 391-3-1 (d)(3) |
|  | 27% | 40 CFR 60.42a (2) |
|  | 27% | 40 CFR 60.43b (f) |
|  | 27% | 40 CFR 60.43c (c) |
| Combustion Turbines | 27% | N.Y. Comp. Codes R. & Regs tit. 6, § 227-1.4 |
|  | 20% | La. Admin. Code tit. 33 § III-327(E)(1) |
| Asphaltic Concrete | 20% | 40 CFR 60.92 (a)(2) |

DOEE encourages interested commenters to provide specific technical evidence in support of their recommendations. DOEE is also proposing to maintain a catch-all provision for all stationary source types and nonroad engines that are not specifically cited in § 606.2. Upon review of the District’s emissions inventory, DOEE expects the catch-all provision to apply only to six applicable flares at the Blue Plains facility. Without a catch-all provision in place, DOEE is concerned that if a source in a new category is constructed or discovered, there would be no reasonable limitation on that source’s visible emissions during startup, cleaning, adjustment of combustion controls, or regeneration of emission control equipment.

1. *Use of the control strategy for this source category is technically infeasible during startup or shutdown periods;*

DOEE is not proposing a specific regulatory change in response to requirement two (2). Upon review of the 2017 National Emissions Inventory (NEI), the Department found that natural gas use is the primary source of coarse particulate matter (PM10) emissions in the District, with PM10 being the best surrogate available for demonstrating the magnitude of visible emissions. Departmental research has not found any specific techniques or controls to reduce visible emissions from natural gas sources. DOEE currently requires bag houses to have PM10 controls on asphaltic concrete units and has not found additional technologies available. DOEE is seeking specific comments as to whether there are specific cost-effective technologies available to limit visible emissions from any type of stationary sources found in the District.

1. *The alternative emission limitation requires that the frequency and duration of operation in startup or shutdown mode are minimized to the greatest extent practicable;*

To meet requirement three (3), DOEE proposes to further limit the types of operations that can increase visible emissions. In its current regulations, the District allows for two minutes of visible emissions up to forty percent (40%) for 12 minutes a day with no specificity as to the circumstances. EPA found the District’s regulation to be too broad to meet SSM SIP Call criteria. As a result, DOEE is proposing to limit the increase in visible emissions to solely the following circumstances: start-up, cleaning, adjustment of combustion controls, or regeneration of emission control equipment.

1. *As part of its justification of the SIP revision, the state analyzes the potential worst-case emissions that could occur during startup and shutdown based on the applicable alternative emission limitation;*

Requirement four (4) is not directly applicable to § 606. DOEE adopted § 606 into the District’s SIP in order to reduce Total Suspended Particulates (TSP) which EPA removed as the indicator species as of 1984 (52 Fed. Reg. 24634. July 1, 1987). The research community and EPA have found no correlation between visible emissions and PM2.5. Therefore, the District cannot determine whether visibility limits during startup, cleaning, adjustment of combustion controls, or regeneration of emission control equipment would create any harm to the public health.

1. *The alternative emission limitation requires that all possible steps are taken to minimize the impact of emissions during startup and shutdown on ambient air quality;*
2. *The alternative emission limitation requires that, at all times, the facility is operated in a manner consistent with good practice for minimizing emissions and the source uses best efforts regarding planning, design, and operating procedures; and*

To meet requirements five (5) and six (6), DOEE proposes to amend the language concerning operational requirements in § 606.4 (a) and (b) to mirror the EPA requirements in 40 C.F.R. Part 60 and Part 63, which govern operational requirements under the New Source Performance Standards and National Emissions Standards for Hazardous Air Pollutants programs.

1. *The alternative emission limitation requires that the owner or operator’s actions during startup and shutdown periods are documented by properly signed, contemporaneous operating logs or other relevant evidence.*

In order to meet requirement seven (7), DOEE is proposing that owners and operators have a required logging and record keeping system.

**20 DCMR § 606.4:**

EPA found 20 DCMR § 606.4 problematic because “the Petitioner [*in Sierra Club v. Jackson*] objected to the provision in the DC SIP that provides an affirmative defense for violations of visible emission limitations during “unavoidable malfunction” (D.C. Mun. Regs. tit. 20 § 606.4). (June 12, 2015, 80 Fed. Reg 33960).” In November 2012, DOEE renumbered the subsections in § 606, moving § 606.4 to § 606.5 (59 DCR 12890). DOEE is proposing to remove § 606.5 and eliminate the current affirmative defense from the regulation.

## Other Revisions

**Addition of Non-road Engines to § 606 Applicability**

DOEE proposes to clarify that § 606 is applicable to nonroad engines. To eliminate any confusion, DOEE is proposing to replace “fuel-burning equipment” with “nonroad engines” in § 606.

**Opacity Standards Applicable to Non-road Engines**

The Department is not preempted from regulating opacity standards on non-road sources under Clean Air Act § 209(a). EPA has determined that regulating non-road opacity does not constitute a new emissions standard. For example, EPA approved the California Air Resource Board (CARB) opacity standards for Cargo Handling Equipment. In EPA’s notice of decision, EPA stated that “CARB states that the smoke opacity test is a quick and inexpensive way to detect if an engine is emitting excessive emissions” and “based on the record, EPA cannot find that CARB's testing procedures are inconsistent with section 202(a) and cannot deny CARB's request based on this criterion” (80 Fed. Reg. 26254).

DOEE, like CARB, is not setting a new emissions standard but instead clarifying it’s use of a best available test to determine whether nonroad engines are emitting particulate matter in amounts that exceed the federal emissions standards for the type of engine. This addition to the regulation will not constitute backsliding or require amendments as directed by the SSM SIP Call.

**Use of Continuous Opacity Monitoring System (COMS)**

DOEE provides an exception from the zero percent opacity standard for sources that meet all PM2.5 emissions limits, do not negatively impact attainment or maintenance of the PM2.5 or other NAAQS, and other minimal factors. The exception allowed use of a Continuous Opacity Monitoring System (COMS) to show compliance using a variability factor because the COMS technology cannot measure zero percent (0%) consistently and sometimes fluctuates both above and below zero percent (0%), even when no opacity is present. DOEE approves applications under this exception through DOEE’s 20 DCMR Chapter 2 and, when applicable, Chapter 3 permitting processes. DOEE recognizes that the current ten percent (10%) flexibility is more than is necessary for a COMS.

To meet the SSM SIP Call, DOEE is proposing a specific exception to the zero percent visibility threshold for units with a COMS, thus removing it from the broad exception available under § 606.3 and clarifying that specific units with a COMS have a five percent (5%) variability factor. By proposing this regulatory change, DOEE is both limiting the potential for units with a COMS to emit visible emissions and is providing the regulated community a straightforward solution to comply with § 606.

DOEE is maintaining the current § 606.3 process for other types of sources and other purposes, and the requirements to comply with PM2.5 emissions limits and to not negatively impact attainment or maintenance of the PM2.5 or other NAAQS also remain applicable. Therefore, the change to the COMS provisions does not constitute backsliding from the current federally enforceable version of § 606. Moreover, since DOEE adopted this exception in 2012, this exception has rarely been used.

DOEE is also proposing to merge the current §§ 606.7 and 606.8 into § 606.6 since all of these sections provide for exceptions.

## SIP Amendment

Once finalized, the rulemaking will be submitted to the United States Environmental Protection Agency (EPA) for approval as a revision to the District’s State Implementation Plan found at 40 C.F.R part 52, subpart J, to satisfy requirements under section 172(c) of the Clean Air Act. 42 U.S.C. § 7502(c).

**Title 20 DCMR, ENVIRONMENT, Section 606, VISIBLE EMISSIONS is amended to read as follows:**

**606 VISIBLE EMISSIONS**

606.1 Except as otherwise provided in these air quality regulations, visible emissions from stationary sources and nonroad engines shall not:

(a) Exceed a five percent (5%) variability factor from stationary equipment placed in initial operation on or after January 1, 1977, with an installed Continuous Opacity Monitoring System (COMS);

(b) Be emitted into the outdoor atmosphere from any stationary equipment placed in initial operation on or after January 1, 1977, without an installed COMS; and

(c) At any time exhibit opacity more than ten percent (10%) (unaveraged) from any stationary equipment placed in initial operation before January 1, 1977.

606.2 Discharges shall be permitted for two (2) minutes during any startup, cleaning, adjustment of combustion or operational controls, or regeneration of emission control equipment, and not exceed in terms of opacity (unaveraged) for each of the following stationary sources:

(a) Fuel-burning equipment:

(1) When burning exclusively natural gas, [twenty percent (20%)/twenty-seven percent (27%)/forty percent (40%)]; and

(2) When burning fuel oil or a combination of fuel oil and natural gas, [twenty-seven percent (27%)/forty percent (40%)];

(3) In all other cases, including when burning coal, [twenty-seven percent (27%)/forty percent (40%)];

(b) Combustion turbines, [twenty percent (20%)/twenty-seven percent (27%)/forty percent (40%)];

(c) Asphaltic concrete production equipment, [twenty percent (20%)/forty percent (40%)];

(d) Stationary engines, [twenty-seven percent (27%)/forty percent (40%)];

(e) Nonroad engines, [twenty-seven percent (27%)/forty percent (40%)];

(f) Cooking equipment, [twenty percent (20%)/forty percent (40%)]; and

(g) All sources not specified, [twenty-seven percent (27%), forty percent (40%)].

606.3 As an exception to § 606.2, the owner or operator of a stationary source may produce visible emissions not to exceed ten percent (10%) opacity if the owner or operator can demonstrate that the source meets the following criteria:

(a) The source meets all applicable particulate matter standards at the increased visible emissions limit;

(b) Visible emissions at the increased visible emissions limit are not an indication of improper operation of the equipment;

(c) The particulate emissions at the increased visible emissions limit will not create a violation of any National Ambient Air Quality Standard;

(d) The source cannot modify operations or install control equipment to meet a lower opacity standard without incurring unreasonable expense; and

(e) The source has had this limit approved in a permit pursuant to chapter 2, and when applicable chapter 3, of this title.

606.4 Owners and operators of stationary sources and nonroad engines shall:

(a) Maintain and operate the equipment, including associate air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions, including during startup, shutdown, and malfunction;

(b) Maintain the equipment in accordance with one of the following:

(1) The manufacturer’s emission-related written instructions; or

(2) Unless preempted by specific federal regulation, an alternate written maintenance plan approved in writing by the Department; and

(c) Ensure that persons participating in the maintenance and operation of equipment are adequately trained and supervised to minimize the production of emissions during operations.

606.5 Owners and operators of stationary sources and nonroad engines shall:

(a) Maintain signed or electronically verified logs of the date, time, and duration of any equipment manual startup, manual shutdown, cleaning, combustion control adjustment, emission control regeneration, and malfunction;

(b) For any malfunction, investigate the cause of the malfunction and maintain records of the investigatory activities and conclusions of such investigation;

(c) Maintain signed or electronically verified logs of the date and description of any maintenance performed on any installed COMS; and

(d) Retain all records required pursuant to § 606.5(a) through (c) in accordance with § 500.8, unless a longer retention period is required pursuant to another applicable regulation.

606.6 The provisions of this section shall not apply to visible emissions:

(a) When the presence of uncombined water is the only reason for failure of a visible emission to meet the requirement;

(b) From interior fireplaces; and

(c) When steam is used to blow oil from a burner as the last phase of shutting down the burner.

All persons desiring to comment on the subject of the proposed rulemaking or to submit information relevant to the agency’s amendments to its State Implementation Plan for visible emissions should file comments in writing not later than thirty (30) days after publication of this notice in the *D.C. Register*. Comments should be clearly marked “Public Comments: Revisions to Air Quality Opacity Requirements” and filed with DOEE, Air Quality Division, 1200 First Street, N.E., 5th Floor, Washington, DC 20002, Attention: Joseph Jakuta, or e-mailed to airqualityregulations@dc.gov. Copies of the proposed regulation and preamble may be obtained from DOEE at the same address.

DOEE will also hold a hearing on June 12, 2023, at 5:30 p.m. Interested parties wishing to testify at this hearing should submit, in writing, their name, address, telephone number, and affiliation to Air Quality Division (AQD), Department of Energy and Environment at the address: 1200 First Street, NE, Fifth Floor, Washington, DC 20002, or email Mr. Joseph Jakuta at airqualityregulations@dc.gov by 4:00 p.m. on June 12, 2023. The hearing will be held online using WebEx with the information as follows:

Meeting link: <https://dcnet.webex.com/dcnet/j.php?MTID=m1c7fc5c2b08876ecb31c18c1b15f2198>
Meeting number: 2307 412 5645
Password: mpFn2DTmQ85

Join by video system
Dial 23074125645@dcnet.webex.com
You can also dial 173.243.2.68 and enter your meeting number.

Join by phone
+1-202-860-2110 United States Toll (Washington D.C.)

1. State Implementation Plans: Response to Petition for Rulemaking; Restatement and Update of EPA's SSM Policy Applicable to SIPs; Findings of Substantial Inadequacy; and SIP Calls to Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown, and Malfunction, 80 Fed. Reg 33839 (June 12, 2015). [↑](#footnote-ref-2)