

DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

DIVISION OF AIR QUALITY

Statutory Authority: 7 Delaware Code, Sections 6001(c) and 6010 (7 Del.C. §§6001(c) & 6010)
7 DE Admin. Code 1114

FINAL

Secretary's Order No.: 2025-A-0001

**RE: Approving Final Regulations to Amend 7 DE Admin. Code 1114 -
 *Visible Emissions***

Date of Issuance: January 7, 2025

Effective Date of the Amendment: February 11, 2025

1114 Visible Emissions

Under the authority vested in the Secretary of the Department of Natural Resources and Environmental Control ("Department" or "DNREC"), pursuant to 7 Del.C. §§6006 and 6010, and all other relevant statutory authority, the following findings of fact based on the record, reasons and conclusions are entered as an Order of the Secretary in the above-referenced promulgation.

Background, Procedural History and Findings of Fact

This Order relates to the proposed amendments ("Amendments") to 7 DE Admin. Code 1114 - *Visible Emissions* ("Regulation"). The Department is proposing amendments to address the regulation of particulate emissions during startup, shutdown, and malfunction ("SSM") of stationary sources that emit visible air contaminants. These Amendments are necessary to ensure compliance with the U.S. Environmental Protection Agency's (EPA) *2015 Startup, Shutdown, and Malfunction State Implementation Plan Call* ("2015 SSM SIP CALL").

Pursuant to the *Clean Air Act* ("CAA") the Department established 7 DE Admin. Code 1114 to establish air emission limits for visible air contaminants (or smoke) from a stationary source in alignment with the National Ambient Air Quality Standards ("NAAQS"). This regulation limits stationary sources to not exceed 20% opacity for a total of more than three minutes in any one hour or more than 15 minutes in any 24-hour period.

The sources covered under the Regulation, with equipment that operates continuously or in an extended steady state during startup, shutdown, and malfunction ("SSM") events, are required to obtain a permit in accordance with Section 2.0 of 7 DE Admin. Code 1102 to limit emissions during these events. For the purposes of this regulation, "startup" is defined as the initiation of a source's operation, "shutdown" as the cessation of operation, and a "malfunction" as a sudden and unavoidable breakdown of process or control equipment. During SSM periods, equipment does not operate at optimal efficiency, resulting in excess emissions. These emissions can negatively impact public health, contribute to smog formation, and adversely affect downwind communities.

The Department's regulations are also part of Delaware's State Implementation Plan ("SIP") because they implement, maintain, and enforce the NAAQS. A SIP is a state-created, federally enforceable plan that outlines how the state will fulfill CAA requirements to enhance air quality. It includes regulations and supporting documentation that demonstrate the state's efforts to safeguard public health and the environment.

On June 30, 2011, the Sierra Club petitioned the EPA to address how excess emissions during SSM events were being handled in SIPs that had been approved by the EPA. In response, on June 12, 2015, the EPA issued a final rule known as the 2015 SSM SIP Call [80 FR 33840]. Under Section 110(k)(5) of the CAA, the EPA has the authority to issue a 'SIP Call' to states, requiring them to correct state plans that fail to meet federal standards. The 2015 SSM SIP Call included 36 state SIPs, including Delaware's SIP for 7 DE Admin. Code 1114. The EPA found Subsection 1.3 of Delaware's Regulation to be deficient because it potentially allowed exemptions from the emission limits established in Section 2.0 of the Regulation, during SSM events. The 2015 SSM SIP Call mandated that states establish plans that require industrial facilities to follow air pollution rules during periods of SSM; specifically, how these emissions are treated in SIPs, with corrections due by November 22, 2016.

On November 22, 2016, the Department revised regulations governing *Visible Emissions* (7 DE Admin. Code 1114) and submitted a SIP revision to the EPA, in response to the 2015 SSM SIP Call. The revisions proposed the removal of 7 DE Admin. Code 1114 from the SIP, in its entirety, while maintaining the Regulation as a state-only regulation in the *Delaware Registrar of Regulations*. Delaware's approach has been to require a permit for facilities that limit emissions during SSM. These permits are subject to an environmental review, public scrutiny, and they must prove that they won't violate NAAQS. As such, the Department considered the SSM provisions in the SIP to be protective of the NAAQS and

sufficient. Delaware also believed that the conditions set forth in the "state only" version was necessary to administer good air quality management.

On October 23, 2023, the EPA issued a final rule (88 FR 72688), disapproving Delaware's SIP revision submission. The EPA concluded that Delaware had not conducted a sufficiently quantifiable assessment of the relationship between visible emissions and fine particulate matter emissions. Additionally, the EPA found Delaware's explanation addressing the anti-backsliding provisions of CAA Section 110(l), related to removing Regulation 1114 from the SIP, to be inadequate.

In response to the EPA's disapproval, the Department is proposing the Amendments, herein, to rectify the deficiencies cited in the 2015 SSM SIP Call. The Amendments address Section 1.3 ("General Provisions") and Section 2.0 ("Requirement") of 7 DE Admin. Code 1114. To ensure compliance with EPA standards, the Department proposes to strike the regulatory language in subsection 1.3, in its entirety, and add a new subsection 2.2, to include a new SSM emission limit of "40% opacity for more than 6 consecutive minutes in any 1 hour period." The Amendment aims to remove language that could potentially allow exemptions in SSM events and implement new emission limits during SSM events.

The Department conducted a review of the impacts to the facilities covered under 7 DE Admin. Code 1114. The Department determined the following facilities were also covered under more stringent federal regulation opacity limits:

- **40 CFR Part 60, Subpart D - Standards of Performance for Fossil-Fuel-Fired Steam Generators:** Fossil-fuel-fired steam generating units with a heat input rate exceeding 73 MW (250 MMBtu/hr), including units co-fired with wood residue have a limit of no more than 20% opacity, except for one six-minute per hour of not more than 27% opacity.
- **40 CFR Part 60, Subpart H - Standards of Performance for Sulfuric Acid Plants:** Sulfuric acid production units have a 10% opacity limit for acid mist.
- **40 CFR Part 60, Subpart I - Standards of Performance for Hot Mix Asphalt Facilities:** Facilities producing hot mix asphalt by heating and drying aggregate and mixing it with asphalt cement have an opacity limit of 20%.
- **40 CFR Part 60, Subpart J - Standards of Performance for Petroleum Refineries:** Specific units in petroleum refineries, such as fluid catalytic cracking unit regenerators, fuel gas combustion devices, and most Claus sulfur recovery plants have an opacity limit of 30%, with an allowance for one six-minute period per hour.
- **40 CFR Part 60, Subpart DD - Standards of Performance for Grain Elevators:** Grain terminal and storage elevators have an opacity limit is 0%.
- **40 CFR Part 60, Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants:** Fixed or portable nonmetallic mineral processing equipment, such as crushers and conveyors have opacity limits, with the highest allowable opacity limit set at 15%.

The Department also determined that some sources regulated under Regulation 1114 may not fall within the scope of the referenced federal regulations. However, these sources may be required to obtain Delaware permits if their emission rates meet the thresholds outlined in 7 DE Admin. Code 1102. These permits often impose opacity standards that are more stringent than the proposed SSM opacity limits in Regulation 1114. Additionally, the permits include provisions requiring facilities to minimize emissions during startup, shutdown, and malfunction (SSM) events, mandating adherence to good air pollution control practices. To ensure compliance, the Department conducts assessments that include reviewing monitoring data, performing opacity observations, evaluating operating and maintenance practices, and conducting source inspections.

As more stringent federal regulations already apply to many sources covered by this Regulation, it is not expected that those sources will need to expend any additional resources to comply with the proposed amendments. Additionally, the proposed amendments are not substantially likely to impose additional cost or burdens upon sources covered by the Regulation. With proper maintenance of equipment and the use of good air pollution control practices, sources should be able to meet the proposed opacity limits during start-up, shutdown of equipment.

The Department published its proposed amendments in the August 1, 2024, *Delaware Register of Regulations*. The virtual public hearing regarding this matter was held on August 27, 2024. There were seven (7) members of the public in attendance at the Department's virtual public hearing. Pursuant to 29 Del.C. §10118(a), the Hearing Record ("Record") remained open for receipt of written comment for 15 days following the public hearing. The Record formally closed for comment in this matter on September 11, 2024, with one comment received by the Department.

Subsequent to the close of the public comment period, Hearing Officer Theresa Smith requested a Technical Response Memorandum ("TRM") from the Department's subject matter experts in the Division of Air Quality. That TRM, dated November 15, 2024, and received by Mrs. Smith on December 4, 2024, is discussed herein in greater detail below.

Thereafter, Hearing Officer Theresa Smith prepared her report dated December 19, 2024 ("Report"), which expressly incorporated into the Record the proposed Amendment, attached thereto as Appendix "A" and the above-referenced TRM regarding the comment received from the public in this matter, attached thereto as Appendix "B." Mrs. Smith's Report set forth the procedural history, summarized and established the record of information ("Record") relied on in the Report and provided findings of fact, reasons, and conclusions that recommend the approval of the proposed amendments pending before the Department.

The Report, along with its Appendices, is incorporated herein by reference. The Report documents the proper completion of the required regulatory amendment process, establishes the record, and recommends the adoption of the proposed amendments as attached to the Report as Appendix "A."

The Department has the statutory basis and legal authority to act with regard to the formal promulgation of these proposed amendments, pursuant to 7 *Del.C.* §§ 6001(c) & 6010. All notification and noticing requirements concerning this matter were met by the Department and proper notice of the hearing was provided as required by law.

Reasons and Conclusions

Currently pending before the Department are the proposed regulatory amendments to 7 DE Admin. Code 1114 - *Visible Emissions*. In reviewing the applicable statutes and regulations, as well as weighing the public benefits of the proposed amendments against potential detriments, the Department's experts in the Division of Air Quality ("DAQ") have concluded that the proposed amendments comply with all applicable federal and state laws and regulations. Further, the proposed amendments as published in the August 1, 2024, *Delaware Register of Regulations*, are reflective of the Department's authority under 7 *Del.C.* §§ 6001(c) & 6010, to ensure continued protection of public health and the environment by regulating emissions and reduce air pollution and air contaminants.

The Department's TRM, attached and incorporated into Mrs. Smith's Report as Appendix "B," acknowledges the comment received from the public concerning the proposed amendments, and provides a thorough and balanced response to the same, accurately reflecting the Record generated in this matter.

The commenter also expressed concerns regarding grid reliability. Facilities affected by this issue would be electric Generating Units (EGUS). Most EGUs have Title V permits which require the facilities to self-report deviations if they cannot comply with the opacity standard. These permits may allow for alternate opacity during SSM events. The Department reviewed permit conditions for all facilities that allowed alternate opacity during SSM events and determined that existing facilities are currently complying with the proposed amendments.

The commenter raised concerns that the proposed amendment is unnecessarily stringent. However, the Department's proposed amendments are consistent with, and not more stringent than federal Regulations and state permits issued to a majority of facilities covered under the Regulation. Further, it is expected that facilities subject to the Regulation should not require new controls or expend additional resources to achieve compliance with the proposed amendments. With proper maintenance of equipment and the use of good air pollution control practices, sources should currently be able to meet the proposed opacity limits during start-up and shutdown of equipment.

The commenter also expressed concerns regarding grid reliability. Facilities affected by this issue would be electric Generating Units (EGUS). Most EGUs have Title V permits which require the facilities to self-report deviations if they cannot comply with the opacity standard. These permits may allow for alternate opacity during SSM events. The Department reviewed permit conditions for all facilities that allowed alternate opacity during SSM events and determined that existing facilities are currently complying with the proposed amendments.

The Department also addressed the concern regarding the technical feasibility of the proposed amendment. The proposed amendment implements language that is currently in place for Delaware's neighboring state, Maryland, which limits SSM events to 40% opacity. The Department has reviewed federal regulations that impact sources covered under the Regulation and found them to be more stringent. The Department also takes the perspective that quantifying visible emissions using visible observations provides a more practical and cost-effective method for ensuring compliance with particulate matter emissions during SSM events compared to stack testing.

Additionally, the Department addressed the concern of facilities needing to preserve the ability to use fuel oil for extreme weather conditions. During the December 2022 winter storm, no permit deviations were reported by the facility related to extreme weather conditions. Thus, the Department concludes that the proposed amendment will not hinder the ability to use fuel oil during extreme cold. While the Department does not regulate weather emergency situations, facilities are reminded that compliance exceptions do not exist for emergencies. Any noncompliance must still be self-reported. Facilities are encouraged to prioritize: (1) protecting worker and public safety, and (2) minimizing excess emissions.

Based on the record developed by the Department's staff in the Division of Air Quality, and established by the Hearing Officer's Report, I find that the proposed regulatory amendments are well-supported and will enable the Department to ensure compliance with the EPA 2015 SSM SIP Call. These Amendments address EPA's backsliding concerns by removing Section 1.3, and adding subsection 2.2, establishing visible emissions limit for SSM periods, where no such opacity limit previously existed in the Regulation. I also find that under Section 110(k)(5) of the CAA, the EPA will review the proposed amendments and if approved, these Amendments will become part of Delaware's SIP for 7 DE Admin. Code 1114 and will be enforceable under federal law (40 CFR Part 52, Subpart I - Delaware). Lastly, I find that the proposed amendments comply with all applicable federal and state laws and regulations. Further, the proposed amendments as published in the August 1, 2024, *Delaware Register of Regulations*, are reflective of the Department's authority under 7 *Del.C.* §§ 6001(c) & 6010, to ensure continued protection of public health and the environment by regulating emissions and reducing air pollution and air contaminants.

The following reasons and conclusions are hereby entered:

1. The Department has the statutory basis and legal authority to adopt and enforce these proposed regulatory amendments pursuant to 7 *Del.C.* §§ 6001(c) & 6010;
2. The Department has jurisdiction under its statutory authority, pursuant to 7 *Del.C.* Chapter 60, to issue an Order adopting these proposed amendments as final;

3. The Department provided adequate public notice of the proposed amendments and all proceedings in a manner required by the law and regulations, and provided the public with an adequate opportunity to comment on the proposed amendments, including at the time of the virtual public hearing held on August 27, 2024, and during the 15 days subsequent to the hearing (through September 11, 2024), before making any final decision;
4. Promulgation of the proposed amendments to 7 DE Admin. Code 1114 - *Visible Emissions*, will enable the Department to ensure compliance with the EPA 2015 SSM SIP Call by removing Section 1.3, and adding subsection 2.2, establishing visible emissions limit for SSM periods;
5. The Department has reviewed the proposed Amendments in light of the *Regulatory Flexibility Act*, consistent with 29 *Del.C.* §104, and believes the same to be lawful, feasible and desirable, that it will not establish reporting requirements or substantive additional costs for individuals or small businesses, and that the recommendations as proposed should be applicable to all Delaware individuals or small businesses equally;
6. The Department has reviewed this proposed regulatory promulgation in the light of 7 *Del.C.* §10003 and 29 *Del.C.* §10118(b)(3), and has determined that any impact of this regulation on the achievement of the State of Delaware's greenhouse gas emissions reduction targets will be de minimis;
7. The Department's Hearing Officer's Report, including its established record and the recommended proposed amendments as set forth in Appendix "A," are hereby adopted to provide additional reasons and findings for this Order;
8. The Department's proposed regulatory amendments, as published in the August 1, 2024, *Delaware Register of Regulations*, as set forth in Appendix "A" hereto, are adequately supported, are not arbitrary or capricious, and are consistent with the applicable laws and regulations. Consequently, they are approved as final regulatory amendments, which shall go into effect ten days after their publication in the next available issue of the *Delaware Register of Regulations*;
9. The Department has an adequate Record of its decision, and no further public hearing is appropriate or necessary;
10. The Department shall submit this Order approving the proposed amendments as final regulations to the *Delaware Register of Regulations* for publication in its next available issue, and provide such other notice as the law and regulation require, and the Department determines is appropriate; and
11. The Department shall serve and publish its Order on its internet site.

Shawn M. Garvin
Secretary

1114 Visible Emissions

11/11/2013

1.0 General Provisions

- 1.1 The purpose of this regulation is to control the emissions of visible air contaminants from all stationary sources.
- 1.2 Measurements of air contaminant visibility shall be in accordance with accepted practices of Ringelmann values or opacity percentages.
- ~~1.3 The provisions of this regulation shall not apply to the start-up and shutdown of equipment which operates continuously or in an extended steady state when emissions from such equipment during start-up and shutdown are governed by an operation permit issued pursuant to the provisions of 2.0 of 7 DE Admin. Code 1102.~~

21 DE Reg. 883 (05/01/18)

2.0 Requirements

- 2.1 ~~No~~ Except as outlined in 2.2, no person shall cause or allow the emission of visible air contaminants or smoke from a stationary or mobile source, the shade or appearance of which is greater than 20% opacity for an aggregate of more than three minutes in any one hour or more than 15 minutes in any 24 hour period. For guideline purposes only, Shade Number 1 of the Ringelmann Smoke Chart coincides with the regulatory limit of 20% opacity, when observing black smoke.
- 2.2 During the start-up and shutdown of equipment, no person shall cause or allow the emission of visible air contaminants or smoke from a stationary or mobile source, the shade or appearance of which is greater than 40% opacity for more than 6 consecutive minutes in any 1 hour period.

17 DE Reg. 536 (11/01/13)

21 DE Reg. 883 (05/01/18)

07/17/1984

3.0 Alternate Opacity Requirements

- 3.1 Whenever the Secretary determines that a source complies with an applicable mass emission standard and demonstrates that the opacity of the complying emissions is more restrictive than the requirements of 2.0 of this regulation, the Secretary will make an appropriate adjustment to the opacity standard for the affected source.
- 3.2 Whenever an owner or operator can establish compliance with an applicable mass emission standard and fails to comply with 2.0 of this regulation, the owner or operator may petition the Secretary setting forth the results of the emission testing or evaluation and request the Secretary to make an appropriate adjustment to the opacity standard for the affected source.
- 3.3 The Secretary may grant such a petition as outlined in 3.2 of this regulation upon a demonstration by the owner or operator that the affected source and associated air pollution control equipment was operated and maintained during the mass emission test in a manner to minimize the opacity of emissions during emission testing or evaluation that the mass emissions testing was performed in accordance with procedures approved by the Department; and that the affected source and associated air pollution control equipment is incapable of continuously meeting applicable opacity standards as set forth in 2.0 of this regulation.
- 3.4 The Secretary may establish an opacity standard for the affected source at a level at which the source will be able to meet the adjusted opacity standard at all times during which the source is meeting the applicable mass emission rate standard. The Secretary will make the adjusted opacity standard a part of the operating permit in the form of an operating condition.
- 3.5 Any action by the Secretary pursuant to the provisions of 3.0 of this regulation shall be incorporated in the State Implementation Plan.

07/17/1984

4.0 Compliance with Opacity Standards

For purposes of this regulation, compliance with opacity standards shall be in accordance with 1.5.3 of 7 DE Admin. Code 1120.

12 DE Reg. 347 (09/01/08)

17 DE Reg. 536 (11/01/13)

21 DE Reg. 883 (05/01/18)

28 DE Reg. 596 (02/01/25) (Final)