



STATE OF DELAWARE
**DEPARTMENT OF NATURAL RESOURCES AND
ENVIRONMENTAL CONTROL**
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OFFICE OF THE
SECRETARY

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Secretary's Order No.: 2021-A-0017

**RE: *Approving Final Regulations to Amend 7 DE Admin. Code 1124, Control of
Volatile Organic Compound Emissions, Section 33- Solvent Cleaning and
Drying***

Date of Issuance: July 15, 2021

Effective Date of the Amendment: August 11, 2021

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 proposed regulation amendments ("Amendments") to 7 DE Admin. Code 1124, *Control of Volatile Organic Compound Emissions, Section 33- Solvent Cleaning and Drying* ("Regulation"). Specifically, the Department proposes to amend the Regulation to update solvent cleaning control requirements based upon the 2012 Ozone Transport Commission ("OTC") Model Rule and to reduce emissions of Volatile Organic Compound ("VOC") from solvent cleaning operations, thus reducing the formation of ground-level ozone in Delaware. It should be noted that the Department will also submit the Amendments to U.S. Environmental Protection Agency ("EPA") as a State Implementation Plan revision.

The EPA designated certain areas of Delaware as non-attainment of the federal standard for ground-level ozone. Ground-level ozone is formed through the reaction of VOC and other compounds in the air in the presence of sunlight. High levels of ground-level ozone can cause or worsen difficulty in breathing, asthma and other serious respiratory problems. As Delaware is a member of the OTC, a multi-state organization authorized by the *1990 Clean Air Act*, the Department is proposing to implement the regional solutions developed by the OTC to further reduce VOC's in the solvent cleaning process.

Solvent cleaning is the process of using solvents to remove contaminants from various plastic, metal, or other surfaces. Cold solvent cleaning includes machines such as batch-loaded and immersion cold cleaning machines, remote reservoir cold cleaning machines (also known as sink-on-a-drum) and various types of spray booths, flush booths, or wash stations. Batch cold cleaning is the most common type of the solvent cleaning process used in Delaware. The solvent cleaning and drying process can be conducted either in the liquid phase (cold cleaning) or the vapor phase.

The liquid phase of solvent cleaning and drying consists of soiled parts being scrubbed in a sink-like device or submerging in a batch cold cleaning machine and then drip dried. Solvent cleaning and drying conducted in the vapor phase heats the solvent to a boiling point in a batch vapor cleaning machine, the vapors are contained in a zone above the boiling liquid, and parts are then lowered into the vapor zone where the vapors condense on the cooler parts and drip back into the boiling liquid. ConveyORIZED in-line cleaning machines may also be used, typically for mass production of solvent cleaning. It should be noted that the Department is unaware of any conveyORIZED in-line cleaning machines in Delaware, however the proposed Regulation include provisions for such machines, with the understanding that this type of machine could exist.

In 2001 the OTC released the 2001 Model Rule for Solvent Cleaning, referred hereto as the “2001 Model Rule”, as part of a regional effort to attain and maintain the one-hour ozone standard, address emission reduction shortfalls that were identified by EPA in specific state’s plans to attain the one-hour ozone standard, and reduce eight-hour ozone levels. The 2001 Model Rule has a low vapor pressure VOC limit of less than 1.0 millimeters of mercury (“mm Hg”) vapor pressure for solvent in cold cleaning machines, to control the level of VOC emissions while still allowing for the use of 100% VOC solvent in cold cleaning machines.

Subsequent to the release of the 2001 Model Rule, Delaware adopted the current Regulation in November 2001. The current Regulation applies to any person who owns or operates a solvent cleaning machine that contains more than one liter of solvent and uses any solvent containing volatile organic compounds in a total concentration greater than 5 % by weight, as a cleaning or drying agent. Likewise, the current Regulation exempts users of cold cleaning machines containing one liter or less of solvent and with a VOC concentration of 5% by weight or less.

After a release of the *Control Techniques Guideline (CTG): Industrial Cleaning Solvents* by the EPA in 2006, proposing new VOC limits for solvent cleaning, the OTC convened a group of experts that suggested a more stringent model rule than what is provided in the CTG and the 2001 Model Rule. The OTC then developed the 2012 Model Rule for Solvent Degreasing using the Santa Barbara County Air Pollution Control District Rule 321 (Remote Reservoir Cleaner only,) as amended September 18, 1997 and California’s South Coast Air Quality Management District Rule 1122, as amended May1, 2009. In addition, new VOC content limit requirements were applied only to cold cleaners. It should be noted that the requirements for vapor degreasing remains the same as in the 2001 Model Rule, with the exception that all types of parts are regulated, not just metal parts.

As established by EPA's *Clean Air Act*, 42 U.S. Code 7511c(b)(1)(B), entities, such as Delaware, in non-attainment areas, are required to adopt ground-level ozone CTGs or make similar VOC reductions. In compliance with the aforementioned EPA requirement, the Department developed the amended Regulations to update solvent cleaning control requirements to further reduce emissions of VOC by: (1) eliminating the exemptions for cold cleaning machines containing one liter or less of solvent and with a VOC concentration of 5% by weight or less; (2) allowing cold cleaning machines to be heated to below boiling; (3) reducing the solvent VOC concentration from 800 grams per liter to 25 grams per liter for most applications; and (4) allowing higher VOC concentrations to be used in conjunction with a VOC capture and control device. In addition, the Amendments provide non-substantive administrative wording edits and corrections.

The Department estimates that by adopting the Amendments, Delaware VOC emissions will be reduced by 27.42 percent, which will result in a reduction of 40.87 tons per year or 0.11 tons per day, thus the reduction of VOC emissions from solvent cleaning operations will further reduce the formation of ground-ozone. It should be noted that existing users/sources have 1 year from the effective date to comply, and new users/sources will be required to comply upon start up, contingent upon the effective date of Amendments.

The Department published its initial proposed Amendments in the November 1, 2020 *Delaware Register of Regulations*. Thereafter the public hearing notice was issued, and the Department held a virtual public hearing on December 2, 2020. There were six (6) members of the public in attendance at the virtual public hearing. Pursuant to 29 *Del.C.* §10118(a), the hearing record remained open for receipt of written comment for 15 days following the public hearing. The hearing record formally closed for comment in this matter at close of business on December 17, 2020, with (2) verbal comments and (1) written comment received by the Department.

Subsequent to the close of the record, the Department's Division of Air Quality staff prepared a Technical Response Memorandum to address the comments received by the public. Based on comments received, the Department revised the proposed Amendments to include non-substantive changes. Referenced in subsections 33.8.9 and 33.11.1, the non-substantive changes provide clarification to the initial proposed amendments. In section 33.8.9, the revision clarifies that annual testing of temperature control is not required if a second thermal cut off sensor is used in addition to the primary thermostat. In section 33.11.1, the revision clarifies that the use of Method 313 for testing is not in addition to Method 24 and SCAQMD Method 304, rather all three methods are separate options available for testing. It should be noted that none of the revisions as proposed are substantive in nature, nor do they constitute any new requirements of the regulated community that were not previously vetted at the time of the public hearing. Thus, no additional noticing or hearings are necessary to be held by the Department in this matter.

Hearing Officer Theresa Newman prepared her report dated June 16, 2021 ("Report"), which expressly incorporated the Department's proposed Amendments into the hearing record generated in this matter. The Report documents the proper completion of the required regulatory amendment process, establishes the record, and recommends the adoption of the proposed *revised* 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 *revised* Amendments, pursuant to 7 *Del.C.* §6010(a) and (c). It should be noted that all notification and noticing requirements concerning this matter were met by the Department. Proper notice of the hearing was provided as required by law.

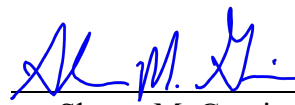
Reasons and Conclusions

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 *revised* regulatory Amendments are well-supported and will enable the Department to update solvent cleaning control requirements based upon a 2012 Ozone Transport Commission Model Rule and reduce emissions of VOC from solvent cleaning operations, thus reducing the formation of ground-level ozone. I further find that the Department's Air Quality experts fully developed the record to support adoption of these Amendments. Therefore, the recommendations of the Hearing Officer are hereby adopted, and I direct that the proposed Amendments be promulgated as final.

The following reasons and conclusions are hereby entered:

1. The Department has the statutory basis and legal authority to act with regard to this proposed regulatory promulgation, pursuant to 7 *Del. C.* §6010(a) and (c);
2. The Department has jurisdiction under its statutory authority, pursuant to 7 *Del.C.* Ch. 60, to issue an Order adopting these proposed *revised* Amendments as final;
3. The Department provided adequate public notice of the initial 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 same, including at the time of the virtual public hearing held on December 2, 2020 and during the 15 days subsequent to the hearing (through December 17, 2021), before making any final decision;
4. Promulgation of the proposed *revised* Amendments to 7 DE Admin. Code 1124: Section 33.0, *Solvent Cleaning and Drying*, will enable the Department to update solvent cleaning control requirements based upon a 2012 Ozone Transport Commission Model Rule and reduce emissions of VOC from solvent cleaning operations, thus reducing the formation of ground-level ozone;

5. The Department has reviewed the proposed *revised* Amendments in the light of the Regulatory Flexibility Act, consistent with 29 *Del.C.* §104, and believes the same to be lawful, feasible and desirable, and the recommendations as proposed should be applicable to all Delaware citizens equally;
6. The Department's Hearing Officer's Report, including its established record and the recommended proposed *revised* Amendments as set forth in Appendix "A," are hereby adopted to provide additional reasons and findings for this Order;
7. The Department's proposed regulatory Amendments, as initially published in the November 1, 2020, *Delaware Register of Regulations*, and then subsequently *revised*, 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*;
8. The Department has an adequate Record for its decision, and no further public hearing is appropriate or necessary; and
9. The Department shall submit this Order approving the proposed *revised* Amendments as final 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.



Shawn M. Garvin
Secretary