ENVIRONMENTAL PROTECTION

AIR QUALITY, ENERGY, AND SUSTAINABILITY

DIVISION OF AIR QUALITY

Air Pollution Control

Control and Prohibition of Air Pollution by Volatile Organic Compounds and Oxides of Nitrogen

Adopted Amendments: N.J.A.C. 7:27-16.1, 16.7, 16.16, 16.27, 19.2, 19.5, 19.8, and 7:27A-3.10

Adopted New Rules: N.J.A.C. 7:27-16.14, 16.15, and 16.24

Proposed: January 3, 2017, at 49 N.J.R. 14(a).

Adopted: September 1, 2017, by Bob Martin, Commissioner, Department of Environmental Protection.

Filed: September 27, 2017, as R.2017 d.190, **with non-substantial changes** not requiring additional public notice (see N.J.A.C. 1:30-6.3).

Authority: N.J.S.A. 13:1B-3(e), 13:1D-9, 13:1D-134 et seq., and 26:2C-1 et seq., in particular 26:2C-9.2.

DEP Docket Number: 09-16-11

Effective Date: November 6, 2017.

Operative Date: November 6, 2017

Expiration Date: N.J.A.C. 7:27, exempt; N.J.A.C. 7:27A, March 21, 2020.

The Federal Clean Air Act (CAA) requires states in the Ozone Transport Region (OTR), including New Jersey, to adopt reasonably available control technology (RACT) for existing

sources of volatile organic compounds (VOC) for which the EPA has issued a control technique guideline (CTG). The EPA defines RACT as the lowest emission level using controls that are technologically and economically feasible. In each CTG, the EPA provides recommendations to the states for determining RACT for the CTG's emission source categories. New Jersey can comply with the VOC RACT requirement by adopting the CTG recommendations. The Department is adopting new rules and amendments at N.J.A.C. 7:27-16, to address CTGs for four source categories: Fiberglass Boat Manufacturing Materials; Industrial Cleaning Solvents; Miscellaneous Metal and Plastic Parts Coatings; and Paper, Film, and Foil Coatings.

The CAA also requires OTR states to adopt RACT for all major sources of oxides of nitrogen (NO_x), including those covered by the EPA's Alternative Control Techniques (ACT) documents. The Department must adopt NO_x RACT requirements for natural gas compressors since they are major sources of NO_x and are covered by an ACT document. Accordingly, the Department is adopting amendments to N.J.A.C. 7:27-19 to establish NO_x RACT standards for non-electrical generating turbines and engines that burn only natural gas as a fuel and that power compressors used to transport gaseous fuels (natural gas compressors). The adopted rules apply to natural gas compressor engines capable of producing an output of 200 brake horsepower (bhp), but less than 500 bhp, and natural gas compressor turbines. Existing rules at N.J.A.C. 7:27-19 have NO_x RACT emission standards for natural gas compressor engines capable of producing an output of 500 bhp and greater.

Related amendments to the Air Administrative Procedures and Penalties at N.J.A.C. 7:27A establish penalties for violations of the VOC and NO_x RACT standards.

The Department will submit the adopted new rules and amendments to the EPA as a revision to New Jersey's SIP. The new and amended rules will reduce emissions of VOCs and

NO_x to help New Jersey to meet the national ambient air quality standard (NAAQS) for ozone, and reduce the indirect formation of $PM_{2.5}$, so that the State can continue to meet the NAAQS for $PM_{2.5}$.

Summary of Hearing Officer's Recommendation and Agency's Response:

The Department held a public hearing on this rulemaking and the associated SIP revision on February 13, 2017, at the Department's Public Hearing Room, 1st Floor, 401 East State Street, Trenton. Danny Wong, Bureau Chief of Evaluation and Planning, served as hearing officer. Two people provided oral comments. After reviewing the comments received during the public comment period, the hearing officer recommended that the Department adopt the proposed rules with the non-substantial changes described below in the Summary of Public Comments and Agency Responses and in the Summary of Agency-Initiated Changes. The Department accepts the hearing officer's recommendations.

A record of the public hearing is available for inspection in accordance with applicable law by contacting:

Department of Environmental Protection

Office of Legal Affairs

ATTN: Docket No. 09-16-11

401 East State Street

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Trenton, New Jersey 08625-0402

This adoption document can also be viewed or downloaded from the Department's website at http://www.nj.gov/dep/rules/adoptions.html.

Summary of Public Comments and Agency Responses:

The Department accepted comments on the notice of proposal through March 4, 2017. The following individuals provided written and/or oral comments:

1. Michael C. Callegari, The Williams Company, Incorporated, Transco
2. David Darling, American Coatings Association (ACA)
3. Barry Goodrich, Enbridge, Inc.
4. Allison Lundy, Specialty Graphic Imaging Association (SGIA)
5. Jeff Staub, Viking Yacht
6. Jeff Tittel, New Jersey Sierra Club
7. Kirk Wieber, Chief, Air Planning Section, United States Environmental Protection Agency, Region 2

The comments received and the Department's responses are summarized below. The number(s) in parentheses after each comment identify the respective commenter(s) listed above.

VOC RACT

Industrial Cleaning Solvents (ICS)

1. COMMENT: The proposed applicability threshold for the industrial cleaning provisions at N.J.A.C. 7:27-16.24 of 855 gallons of industrial cleaning solvents purchased for use per year (gal/yr) is appropriate, since this is consistent with thresholds included in other states' rules, including Colorado, Massachusetts, Delaware, Connecticut, New Hampshire, Wisconsin, Ohio,

Illinois, and Indiana. New Jersey is correct not to include the 15 lbs/day threshold proposed by Massachusetts in addition to its proposed three ton per year threshold, because the 15 lbs/day threshold can adversely impact manufacturing operations. (2)

2. COMMENT: The proposed exemption of coatings, ink, adhesive, and resin manufacturing from the ICS VOC content limit of 50 grams per liter (g/l) is appropriate, since using solvents that meet this VOC content limit would not allow effective cleaning at these manufacturing facilities. Without this exemption, there would be problems associated with the two compliance alternatives of using either exempt solvents or caustic cleaning systems. There would also be an adverse impact on current solvent recycling programs in that manufacturers would be forced to dispose of all existing solvents instead of cleaning and rinsing process equipment with recycled/reclaimed solvents as they do now. The exemption is also consistent with the EPA's CTG for ICS and other states' SIP-approved ICS rules. (2)

3. COMMENT: Thank you for considering and proposing the screen and digital printing industry's request for a 500 g/l (4.2 lbs/gal) VOC content limit for cleaning solutions to clean screen printing equipment. As solvents are needed in critical steps of screen printing operations, reasonable limits are essential for the industry's livelihood. (4)

RESPONSE TO COMMENTS 1 THROUGH 3: The Department acknowledges the commenters' support for the adopted rules.

4. COMMENT: For the 855 gal/yr usage applicability threshold in the ICS rules, the proposed language regarding the 12-month period to be used for determining applicability is vague and may lead to issues with interpretation. The Department should specify the 12-month period for which facilities need to track their purchases, or otherwise clarify that businesses may choose which 12-month period they track. (4)

RESPONSE: The Department is modifying N.J.A.C. 7:27-16.24(a) on adoption to clarify that the applicable 12-month period in N.J.A.C. 7:27-16.24 is any 12 consecutive months. If during any period of 12 consecutive months, the facility purchases more than 855 gallons of industrial cleaning solvents, the facility is subject to N.J.A.C. 7:27-16.24, unless otherwise excepted. As stated in the notice of proposal Summary, the threshold in the proposed rules is comparable to the EPA's recommended applicability threshold of the use of solvents that emit 15 pounds or more of VOCs per day (prior to controls). To make calculations easier for a facility, the Department is basing the applicability threshold on purchases, rather than daily use. (See 49 N.J.R. at 24.) However, in order that the 12-month period in the adopted rule captures the "per day" basis of the threshold in the EPA's CTG, the applicability period in the adopted rule must take into account each day; therefore, the applicability of the adopted rule is based on any period of 12 consecutive months. See also the Response to Comment 7 regarding the applicability of the ICS rules to a facility that purchases industrial cleaning solvents in an amount that exceeds the threshold.

5. COMMENT: In order to properly track VOC emissions, the Department should follow the ICS CTG recommendation and base the applicability threshold for the industrial cleaning requirements at N.J.A.C. 7:27-16.24 on the amount of solvents used, not the amount purchased, as proposed. Tracking VOC emissions based on purchase will not ensure that these amounts are utilized and "used" within the 12-month rolling period. (7)

6. COMMENT: Will the Department apply the CTG-recommended VOC content limit of 50 g/*l* to purchased solvents or used solvents? (7)

RESPONSE TO COMMENTS 5 AND 6: As explained in the notice of proposal Summary, basing the determination of applicability on the amount of solvent "purchased" rather "used" should be roughly equivalent, since the standard is based on each 12-month period. Stakeholders advised the Department during this rulemaking that a facility will purchase the solvent that it needs, as it needs it, rather than store solvent over an extended period. It is too costly for a facility to stockpile unused material. Therefore, the amount that a facility purchases in a 12-month period will be approximately the same as the amount that the facility uses in that 12-month period. Affected stakeholders advised the Department that keeping track of purchases is less burdensome than keeping track of material used. The latter requires employees to measure the facility's quantity of material on hand at the start and end of each production shift or day, and generate and maintain a record of those measurements. The former is an accounting task based on documents a facility already maintains as part of its business. (See 49 N.J.R. 14 at 24.)

Further, basing the applicability threshold on the amount purchased is consistent with the guidance the EPA provided the Department in developing these rules. In an August 23, 2010

letter to the Department, Richard Ruvo, Chief, State Implementation Planning Section, Air Programs Branch at EPA Region 2, offered Connecticut's Industrial Solvent Cleaning regulations at RCSA Section 22a-174-20(ii) "Industrial Solvent Cleaning" as an example of how the Department should address the ICS CTG in New Jersey's rules. RCSA Section 22a-174-20(ii)(2) "Applicability" provides that "… the provisions of this subsection apply to an owner or operator of any premises who purchases for use at the premises at least 855 gallons of cleaning solvents in aggregate per rolling 12-month period." The EPA approved Connecticut's SIP revisions addressing certain CTGs, including the ICS CTG, on June 9, 2014 (79 FR 32873), finding that Connecticut's industrial cleaning solvent regulations are consistent with the relevant CTGs and recommendations of the Ozone Transport Commission (OTC). (See https://www.federalregister.gov/documents/2014/06/09/2014-13220/approval-and-promulgation-of-air-quality-implementation-plans-connecticut-reasonably-available.)

7. COMMENT: The 855 gal/yr may be close to the ICS CTG-recommended applicability threshold of 15 pounds per day (lbs/day) of VOC emissions, but such an applicability threshold would seem to let too many emissions escape VOC limits. It is also possible to purchase more than 855 gallons of industrial solvent during a 12-month period and not exceed the 15 lbs/day threshold, and as such this annual industrial solvent purchase threshold may subject a few more ICS users to the VOC limits, since once a facility becomes subject to the rules, it remains subject to them. (7)

RESPONSE: The Department acknowledges that the 2006 ICS CTG recommends a daily VOC emission applicability threshold, and that an annual threshold will allow for daily fluctuations in

the amount of VOC emissions. However, CTGs that the EPA issued subsequent to the ICS CTG, including those addressing paper, film, and foil coatings (PFFC), miscellaneous metal and plastic parts coating (MMPPC), and fiberglass boat manufacturing materials (FBMM), recommend either a daily or annual VOC emission applicability threshold, recognizing that the potential for daily fluctuations is not great and will not impact the environmental benefit of these requirements. These more recent recommendations by the EPA, including the use of Connecticut's SIP-approved rules, support the Department's promulgation of an ICS applicability threshold based on a consecutive 12-month period, albeit one based on amount purchased as opposed to a record of actual emissions. Information provided to and gathered by the Department suggested that it is very difficult to monitor VOC emissions from ICS usage on a daily basis and the most efficient and accurate way of verifying applicability is through purchase records.

As the commenter states, once a facility has become subject to the ICS rules by exceeding the applicability threshold, it remains subject to them, even if its purchase of solvents subsequently falls below the applicability threshold. However, a facility that becomes subject to the ICS rules can modify its permit to restrict its solvent purchases to below the applicability threshold, and thereby be relieved of complying with the ICS rules. Even if a facility does not modify its permit, the adopted ICS rule is not burdensome. Compliant solvents are readily available; the EPA issued its CTG for ICS more than 10 years ago, and during that time other states have promulgated rules subjecting facilities to the VOC limits. The required BMPs provide additional environmental benefit with simple changes to operational procedures, such as ensuring solvent containers are covered when they are not in use, and storing VOC-soaked rags in closed containers. See also the Response to Comment 8 below for a discussion of BMPs.

8. COMMENT: The Department should exempt digital printing operations from the requirements of the ICS rules, including recordkeeping. (4)

RESPONSE: Adopted N.J.A.C. 7:27-16.24(c) exempts all digital printing operations from the VOC control measures for industrial cleaning solvents. As stated in the notice of proposal Summary at 49 N.J.R. at 24, the Department exempted solvents used for the cleaning of digital printing operations from the VOC content limit since very little solvent is used to clean the parts. This is consistent with Connecticut's rules.

Digital printing operations that purchase more than 855 gal/yr of industrial cleaning solvents in a 12-month period are subject only to best management practices (BMPs) and recordkeeping requirements. Many, if not most, digital printing operations already employ BMPs to reduce emissions of solvent through evaporation, since the more solvent the facility loses through evaporation, the more solvent the facility must purchase for its own use. Thus, solvent lost through evaporation is an expense to the facility. BMPs require only simple changes to the operations at a facility, but yield significant emission reductions. The BMPs at adopted N.J.A.C. 7:27-16.24(d) are comparable to the BMPs that apply to other operations regulated under N.J.A.C. 7:27-16.

Recordkeeping imposes no additional burden on affected facilities, since the facilities already maintain records of purchases as part of their regular business. The records are necessary in order that the Department and the facility can determine whether the facility has met the 855 gal/yr threshold that would subject it to BMPs.

9. COMMENT: The Department should follow the recommendations of the ICS CTG without exempting the cleaning of equipment used to manufacture adhesives, surface coating formulations, inks, or resins, and the cleaning of digital printing operations. (7)

RESPONSE: The adopted rules that exempt the cleaning of equipment used to manufacture adhesives, surface coating formulations, inks, or resins, and the cleaning of digital printing operations, are consistent with the EPA's recommendations in the ICS CTG. Some of the ICS CTG's recommendations are based on California's air quality regulations, specifically the regulations of the Bay Area Air Quality Management District (Bay Area), a California regional air pollution control agency that is considered a leader in addressing air pollution. Section V.B. "Suggested Exclusions" of the ICS CTG lists categories of cleaning operations that are specifically excluded from applicability in Bay Area Regulation 8, Rule 4, and suggests that states consider excluding these cleaning operations from the applicability of their industrial cleaning solvent requirements. Category operations that are specifically excluded under Bay Area 8-4-116 include stripping of cured inks, coatings, and adhesives; cleaning of resin, coating, ink, and adhesive mixing, molding, and application equipment; and performance or quality assurance testing of coatings, inks, or adhesive. Categories regulated by Bay Area 8-4-117 include coating, ink, and adhesives manufacturing, and polyester resin operations. Consequently, the adopted exemption of the cleaning of equipment used to manufacture adhesives, surface coating formulations, inks, and resins from VOC controls is consistent with the recommendations made in the ICS CTG. Analyses by both the EPA and the Bay Area support the exclusions.

As to the exclusion of the cleaning of digital printing operations, Section V.B. "Suggested Exclusions" of the ICS CTG recommends that states exclude from the VOC RACT rules those cleaning operations related to flexible packaging printing materials, lithographic printing materials, and letterpress printing materials, all of which are similar to the cleaning of digital printing operations, because these cleaning operations are categories addressed by other CTGs. The CTG that addresses lithographic and letterpress printing operations recommends limits for solvents used for cleaning operations that are less stringent than the VOC content limits listed in the ICS CTG, in recognition of the need for higher volatility solvents in these operations. The CTG that addresses flexible packaging printing materials operations excludes the cleaning of these operations from VOC content or vapor limit requirements and only recommends that best management practices be implemented for the handling of the cleaning materials and used shop towels. These higher VOC content limits and exclusions reflect the EPA's determination that printing operations need greater flexibility for the VOC content level in cleaning materials. The Department notes that the EPA has approved Connecticut's ICS rules which, like the adopted New Jersey ICS rules, exclude digital printing operations from VOC RACT requirements. Accordingly, the Department's adopted exclusion of digital printing operations is consistent with the EPA's principle of greater flexibility, and is also consistent with the EPA-approved rules of another state.

Further, industrial stakeholders have stated that digital printing equipment is cleaned with a Q-tip-sized tool and a very small amount of solvent, a process that emits very small amounts of VOCs. Although the ICS CTG does not specifically identify digital printing as a category of printing operation that should be excluded, digital printing operations have lower

potential VOC emissions than some of the printing processes that the EPA has recommended be excluded, as discussed above. See the Response to Comment 8 for a discussion of BMPs as applied to digital printing equipment.

Miscellaneous Metal and Plastic Parts Coatings (MMPPC)

10. COMMENT: The Department should use the content requirements in the MMPPC CTG-recommended definition for "pretreatment wash primer." In an effort to reduce the use of more toxic formulations, which have lower VOC content, the Department has proposed a definition of "pretreatment wash primer" that would allow high VOC-content coatings to qualify as "pretreatment wash primers," when these coatings would not qualify under the CTG-recommended definition. The Department's proposed definition will not automatically result in a switch to alternative higher VOC content non-toxic substances. The Department should instead provide an exemption for the lower toxic coatings. (7)

RESPONSE: Pretreatment wash primer is formulated to provide corrosion resistance and is used to coat fiberglass and metal, which require specific product characteristics. Recognizing the unique nature of this coating, the EPA recommended in the MMPPC CTG a higher maximum VOC content limit for this type of coating. Several other states' rules include this higher maximum limit, and industrial stakeholders have expressed support for the higher maximum limit. The Department is adopting this higher maximum VOC content limit for pretreatment wash primer, which is higher than the limit for any other pleasure craft surface coating category in N.J.A.C. 7:27-16.15(b), Table 15A.

In defining pretreatment wash primer, the MMPPC CTG recommends solids and acid content requirements (as distinguished from a maximum VOC content limit) of no more than 12 percent by weight for solids and at least 0.5 percent acids. However, the products that meet these content requirements, while compliant with the maximum VOC content limit, are often formulated with toxic substances. Industrial stakeholders support the use of non-toxic coatings for this purpose, but non-toxic coatings contain higher levels of VOCs and cannot meet the CTG-recommended solid and acid content limits. The non-toxic coatings can, however, meet the solid and acid content parameters the Department adopted in its definition of "pretreatment wash primer" at N.J.A.C. 7:27-16.1. As discussed in the notice of proposal Summary, 49 N.J.R. at 20, the adopted definition of "pretreatment wash primer" includes content requirements of no more than 25 percent by weight for solids and at least 0.1 percent acids, which differs from the CTG-recommended content requirements of no more than 12 percent by weight for solids and at least 0.5 percent acids. Compared to the CTG-recommended definition, the adopted definition allows more coatings to qualify as pretreatment wash primers, and allows for the introduction of safer, alternative etch systems that may have a higher VOC content, but are not formulated with toxic substances. Although the adopted definition does not exempt lower toxic coatings, as the commenter recommends, the Department believes the adopted rules provide a proper balance providing adequate flexibility to the regulated community to use less toxic substances with higher VOC content, and ensuring that the VOC content does not exceed the regulatory limit and cause an adverse environmental impact.

According to information that stakeholders provided to the Department during the development of this rulemaking, the adopted definition allows for an increased quantity of safer (non-carcinogenic) replacement pigment that is required for equivalent coating performance (the

higher "percent solids" value) and the reduced level acid needed to perform adequately (the minimum "percent acids" value). The adopted content requirements for "pretreatment wash primer" are the same as those in the EPA-approved rules adopted by Connecticut, Maryland, and New Hampshire.

11. COMMENT: The Department should adopt the MMPPC CTG's recommended military specification coating limits without the proposed partial exemptions. If certain military products need specific exemptions, the Department should add them, rather than adopt a blanket exemption. (7)

RESPONSE: As discussed in the notice of proposal Summary, 49 N.J.R. at 22, in response to requests from stakeholders, adopted N.J.A.C. 7:27-16.15(c)3vii exempts any military specification coating that has been formulated to meet a higher, less stringent, VOC content limit than the limit set forth at N.J.A.C. 7:27-16.15, Table 15B for use on military equipment. The military specification coatings are not exempted from the adopted recordkeeping requirements. The exemption is intended to address coatings that have been approved by a United States military agency as meeting a written military specification with the higher VOC content. The higher VOC content specification is often included where a coating complying with a lower VOC content requirement cannot satisfy particular coating performance requirements. This is more efficient than amending the rule to exempt an individual coating each time there is a new military-exempted coating.

The Department extensively reviewed military specification sheets and confirmed that an overwhelming majority of coatings meeting military specifications would meet the adopted

standard in N.J.A.C. 7:27-16.15, Table 15B. In addition, the Environmental Security Technology Certification Program (ESTCP), which is the Department of Defense's environmental technology demonstration and validation program, has conducted many studies to develop coatings for military use that contain low or no VOC. (See https://www.serdp-estcp.org/.) These studies have led and will continue to lead to further decreases in the VOC emissions from military specification coatings.

12. COMMENT: The Department should give manufacturing facilities two years to comply with the new miscellaneous metal and plastic parts requirements in order to allow manufacturers to determine how the adopted requirements can be implemented at individual facilities and for specific products. It will take time to arrange with vendors to find alternative compliant products that will meet a manufacturer's quality standards, and additional time to test the metal and plastic parts once they are incorporated into the manufacturer's product and are in use. For some manufacturers, such as boat builders, this could be as much as six to eight months. An extension of time to comply would allow a manufacturer subject to the MMPPC requirements the time necessary to ensure that any new coating formulations would meet both the new VOC content limits and any performance and durability requirements. (5)

RESPONSE: The Department is not modifying the rule on adoption to allow additional time for facilities to comply with the rules. The EPA published the MMPPC CTG in September 2008, and directed states to promulgate rules to implement the standards. Boat building facilities in Connecticut and Maryland have been subject to the MMPPC requirements since 2012; compliant coatings have been available and in use for at least five years. As discussed in response to prior

comments, the Department committed in the 2015 RACT SIP revision to requiring RACT for all VOC source categories for which there is a CTG, which includes the MMPPC CTG. At its regularly scheduled industrial stakeholders' meetings, the Department has repeatedly affirmed its commitment to move forward with the rules (http://www.state.nj.us/dep/aqpp/isg.html).

If a manufacturer is unable to meet the adopted requirements, it may apply to the Department for an alternative and facility-specific VOC emissions limit, pursuant to N.J.A.C. 7:27-16.17.

NO_x RACT

Natural Gas Engines and Turbines Powering Natural Gas Compressors

13. COMMENT: The Department should consider allowing the regulated community three years to achieve compliance, similar to compliance periods promulgated by other states, such as Pennsylvania, particularly for cases involving full replacement of existing compressor engines. If a facility is considering replacing existing natural gas-fueled compressor engines with electric motor-driven compression or state-of-the-art natural gas-fueled compression engines, as an alternative to installing NO_x control technology on existing equipment, the proposed two-year compliance window does not allow for realistic replacement of station infrastructure or account for unanticipated schedule delays. (1)

14. COMMENT: The Department should allow three years to achieve compliance from the effective date of the proposed RACT rules, or provide for a case-by-case schedule based on the execution and operational constraints of the specific replacement project. The proposed RACT rules will require the installation of control technology, or replacement of two natural gas

combustion turbines at a compressor station in which the commenter has an interest. The facility would like to replace these existing turbines with lower emitting turbine(s) that will offer superior performance to New Jersey's State-of-the-Art (SOTA) performance levels, and provide quantifiable environmental benefits beyond the proposed RACT. Based on its experience and that of its industry peers, the commenter believes that replacement projects require more than the proposed two years to implement. Pennsylvania and Connecticut's RACT regulations accommodate this requirement. (3)

RESPONSE TO COMMENTS 13 AND 14: The Department advised the regulated community at the July 14, 2014 stakeholders meeting of its intention to promulgate NO_x RACT requirements, and has repeated this intention during subsequent regularly scheduled meetings of industrial stakeholders. In the 2015 RACT SIP revision, the Department committed to requiring RACT for all NO_x sources for which there is an ACT, and all NO_x major sources for which there is no EPA-issued ACT document. Therefore, the regulated community has already had three years to prepare for the adopted rules. The Department acknowledges that Pennsylvania and Connecticut provided additional time for affected facilities to comply with the NO_x RACT requirements; however, these states promulgated their rules earlier than New Jersey did. New Jersey needs to achieve a reduction in ozone (for which NO_x is a precursor) as expeditiously as possible in order to meet the 2018 attainment date for the 2008 75 ppb ozone NAAQS. Accordingly, the Department is not modifying the rules on adoption to extend the compliance date.

Pursuant to N.J.A.C. 7:27-19.13, a facility subject to the adopted NO_x standards can apply for an alternative or facility-specific NO_x emissions limit, if it determines that two years is

insufficient time to comply with the new standards. This process provides the option for a case-specific determination for replacement projects. Therefore, the Department's rules already provide for a case specific determination as requested by the commenter.

15. COMMENT: The Department should treat all modifications or upgrades to existing compressor stations as new source review and require the equipment to meet the lowest achievable emissions rate. (6)

RESPONSE: The Federal Clean Air Act's new source review (NSR) program applies only to a major new stationary source and a significant modification of an existing major source. Such sources must achieve pollution control consistent with the lowest achievable emission rate (LAER). Requiring an existing source to comply with NSR and LAER for every modification and upgrade, regardless of emission increases, if any, associated with the change, is inconsistent with the Clean Air Act.

As discussed in the proposal Summary (49 N.J.R. at 16), the purpose of this rulemaking is to implement RACT measures for the 75 ppb ozone NAAQS, as the State committed to do in its June 2015 SIP. RACT is defined as the lowest emission limitation that a source can achieve by applying control technology that is reasonably available, taking into account technological and economical feasibilities and is required for existing sources. LAER, on the other hand, reflects the more restrictive of either the most stringent emission limitation achieved in practice by a plant in the source category, or the most stringent limitation contained in any SIP for the source category, without regard to cost.

The NSR permitting requirements are set forth in the Department's permitting rules at N.J.A.C. 7:27-8 and N.J.A.C. 7:27-22. As part of the NSR program, an assessment is made for major new or modified sources in nonattainment areas if LAER is applicable. An existing facility is required to reduce emissions to a LAER level only under two circumstances: 1) when the proposed modification to an existing equipment or source operation increases emissions above the significant net emission increase levels specified in N.J.A.C. 7:27-18.7; and 2) when a cumulative impact analysis shows an existing facility causing or contributing to a violation of a NAAQS. If LAER applies, N.J.A.C. 7:27-18 requires a facility to demonstrate that air contaminant emissions from the equipment proposed to be constructed, reconstructed, or modified will be controlled to the degree that represents LAER.

If an existing facility does not make any changes as explained above, then the LAER requirement does not apply. To require LAER for all modifications or upgrades to existing equipment at compressor stations would be a significant departure from both the Federal and State requirements for existing sources.

16. COMMENT: Since New Jersey is not attaining the ozone health standard, the Department should do more than RACT alone and look at other technologies and standards. The Department should consider a different technology, such as using electric motors to compress natural gas in pipelines, that can lower emissions significantly more than the proposed rules and at a reasonable, though possibly higher, cost. (6)

RESPONSE: The Department does not specify the technology that a facility must implement in order to meet the applicable NO_x standards, whether RACT or LAER. It is up to the facility to

determine how they are to meet their regulatory requirements. The Department evaluates the permit application as submitted, and approves or denies the application based on the facility's compliance with applicable State or Federal air pollution control rules and regulations. An air permit applicant has the flexibility to adopt any control measure deemed necessary to meet State or Federal rules and regulations. The Department notes that at least one regulated facility has advised the Department that it intends to replace its existing compression engines with electric motor-driven compression or state-of-the-art natural gas-fueled compression engines.

Additionally, as explained in the notice of proposal (49 N.J.R. at 25), the Department used the information, including various technologies, from the OTC model rule, OTC technical support documents, NESCAUM technical documents for NO_x controls, and other states' rules to arrive at the proposed limits as technological and economical feasible. Replacement with electric motors requires significant cost for existing facilities and would, therefore, not meet the economic feasibility prong of the RACT requirement.

17. COMMENT: New Jersey should not base the NO_x emission standards for engines and compressors on Pennsylvania and Texas, which both have terrible environmental records. New Jersey should look instead at states like California, which has a standard of 15 parts per million volume dry basis (ppmvd) or less. At a minimum, the State's standards should be consistent with the OTC-recommended levels of 25 ppmvd, but given New Jersey's serious problems, it needs to go beyond that. (6)

18. COMMENT: New Jersey should consider a more stringent NO_x emission standard of 25 ppmvd than the proposed 42 ppmvd for the compressor turbines since the OTC Model Rule

established a NO_x limit of 25 ppmvd for compressor turbines rated at 5,000 brake horsepower (bhp) or more, New Jersey has permitted limits of 25 ppmvd for compressor turbines rated 5,000 bhp or more within the State, and Spectra Energy already has compressor turbines rated at 5,000 bhp or more within New Jersey that are permitted at 25 ppmvd. (7)

RESPONSE TO COMMENTS 17 AND 18: The Department acknowledges that New Jersey has permitted certain compressor turbines at 25 ppmvd. RACT limits apply only to existing units that are not being modified. SOTA requirements apply when a piece of equipment is newly constructed, reconstructed, or modified. If a facility replaces rather than retrofits a non-compliant turbine, it must meet SOTA emissions level, which has been demonstrated to be 25 ppmvd (N.J.A.C. 7:27-22.35, Advances in the art of air pollution control). The Spectra Energy natural gas compressor turbines that the commenter identifies have allowable NO_x levels of 25 ppmvd because the owner applied to make major modification to the existing units and, therefore, had to comply with SOTA requirements. The adopted RACT limit does not mean that these newer existing units can increase their emissions to a higher level than is set forth in their permits.

The adopted 42 ppmvd is the appropriate limit for existing units to meet RACT for the 75 ppb ozone NAAQS for several reasons. In developing the adopted RACT limit of 42 ppmvd for all compressor turbines, the Department looked to Pennsylvania and Texas because the two states lead the nation in the numbers of natural gas transmission facilities and have experience regulating them. Both of these states, and also Delaware, established a RACT limit of 42 ppmvd for certain ratings or sizes of compressor turbine, as follows: Pennsylvania, equal to or greater than 6,000 hp; Texas, greater than or equal to 10 MW (equivalent to 13,410 hp); and Delaware,

greater than 15 MMBTU/Hr (equivalent to 2,064 hp assuming 35 percent thermal efficiency of simple cycle turbine).

The 2014 OTC Model Rule NO_x limits are 25 ppmvd for turbines with a rating of 5,000 bhp or more, 50 ppmvd for turbines with a rating between 2,000 and 5,000 bhp, and 150 ppmvd for turbines with a rating less than 2,000 bhp. In developing its Model Rule, the OTC evaluated the California rule and decided to use 25 ppmvd only for the turbines with the highest bhp rating. The OTC is a multi-state organization created under the Clean Air Act acting on behalf of the states comprising the OTR, which are Connecticut, Delaware, the District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and Virginia. Although the OTC recommended 25 ppmvd for turbines of 5,000 bhp or greater, no OTR state has adopted this standard. The Department's adopted 42 ppmvd limit is less stringent than the OTC Model Rule for compression turbines of 5,000 bhp and greater, but is more stringent than the OTC Model Rule for turbines less than 5,000 bhp. The Department determined that the 42 ppmvd is technologically and economically feasible, as discussed in the notice of proposal Summary (49 N.J.R. at 16).

19. COMMENT: The Department should follow California's lead and require 95 percent, not 80 percent, vapor control on fugitive emissions for microturbines with NO_x incinerators. In California, areas under RACT that are in non-attainment require microturbines with NO_x incinerators to reduce those levels. (6)

RESPONSE: The Department presumes that the commenter is referring to the stack emission reduction standard for uncontrolled NO_x (not fugitive NO_x or VOC) emissions referred to in

Table A of the notice of proposal Summary, 49 N.J.R. at 25. The OTC Model Rule does require compressor turbines to meet the more stringent of either 25 ppmvd at 15 percent O_2 or 80 percent reduction from uncontrolled emissions. The Department did not find the referenced uncontrolled emission percent reduction standard of 95 percent for compressor turbines in the California rules.

The 2012 OTC Final Technical Document indicated that the use of any of three existing technologies would allow existing compressor turbines to obtain emission reduction values ranging from 40 to 95 percent, including a technology that would allow existing turbines to meet the 42 ppmvd at 15 percent O_2 standard as adopted by Delaware, Pennsylvania, and Texas. The Department concluded that it was not economically feasible to achieve the 95 percent reduction for existing turbines. For this reason, that level of control was deemed not to be RACT.

The adopted rules do not address RACT for microturbines because none of the New Jersey compressor stations has microturbines. Should an affected facility replace its existing turbines with new microturbines, the facility would be required to meet the more stringent SOTA NO_x emission standard of nine ppmvd at 15 percent O_2.

20. COMMENT: The Department's rules at N.J.A.C. 7:27-19.8 already include limits of 1.5 grams/brake horsepower-hour (g/bhp-hr) for gas-fired lean and rich burn compressor engines rated above 500 bhp. Such limits are reasonable for the three compressor engines at the Transco Station 240 Liquefied Natural Gas Plant in Carlstadt. New Jersey should adopt a NO_x limit of 1.5 g/bhp-hr instead of the proposed 3.0 g/bhp-hr for all compressor engines. New York has set the 1.5 g/bhp-hr limit for compressor engines rated above 200 bhp within the New York City Metropolitan boundary and set similar limits throughout the remainder of New York State for compressor engines rated above 400 bhp. (7)

RESPONSE: Applicability and effectiveness of a NO_x control to an engine vary by make, model, vintage, location, and operating characteristics, as discussed in the OTC's October 17, 2012 technical document entitled "Technical Information - Oil and Gas Sector Significant Stationary Sources of NO_x Emissions – Final – October 17, 2012," (2012 OTC Final Technical Document), available at www.otcair.org. The site-specific installation issues of NO_x control may also be a consideration. The 2012 OTC Final Technical Document recommends addressing these issues by providing appropriate flexibility in rulemaking. The Department considered this guidance when developing the adopted limit. (See 49 N.J.R. at 26.)

The limits at existing N.J.A.C. 7:27-19.8(a) and (b) to which the commenter refers are for engines rated 500 bhp or greater. The adopted 3.0 g/bhp-hr NO_x limit applies to smaller size lean burn engines rated between 200 bhp to 500 bhp. This 3.0 g/bhp-hr limit is appropriate for several reasons. It is consistent with the OTC Model Rule. Further, both Pennsylvania and Texas established a RACT limit of 3.0 g/bhp-hr. The Department reviewed costs of retrofitting the three natural gas compressor engines at the Transco Station 240 Liquefied Natural Gas Plant in Carlstadt and determined that the retrofit costs ($4,319 to $16,228 per ton of NO_x reduced, as stated in Table F of the Economic Impact, 49 N.J.R. at 30) are reasonable for the adopted 3.0 g/bhp-hr limit. The costs of retrofitting the three natural gas compressor engines to a 1.5 g/bhp-hr limit, as the commenter suggests, would be considerably more expensive. The Department would expect that the facility would apply to the Department for a case-by-case RACT review, if the limit were reduced to 1.5 g/bhp-hr. Such a review is costly for both the applicant and the Department. New York's NO_x RACT rule (6 NYCRR 227-2.4), to which the commenter refers, specifically allows a case-by-case RACT demonstration to be conducted in lieu of the

presumptive RACT limit of 1.5 g/bhp-hr, indicating that New York anticipates that its sources will not be able to comply with the lower RACT limit. Since the Department's adopted rule is technically feasible and cost effective, there should be no need for such a review. The Department believes that the NO_x limit of 3.0 g/bhp-hr is sufficient to enable the State to comply with the 75 ppb ozone NAAQS.

21. COMMENT: The proposed rules will have some modest improvements in air quality. However, since New Jersey is out of attainment for ground level ozone, the State needs to do more. RACT by itself is not enough. The State must look to other technologies and standards, and the rules must be amended and strengthened to better protect the environment and prevent emissions from all sources, including compressor stations. (6)

RESPONSE: New Jersey's SIP addresses attainment and maintenance of the ozone NAAQS through a number of its air quality programs, including NO_x RACT as applied to compressor turbines and compressor engines, addressed in this adopted rulemaking. Ozone reduction efforts beyond NO_x RACT as applied to compressor turbines and compressor engines are beyond the scope of this rulemaking. The Department will continue to review its rules, Federal requirements, and available technology to determine whether additional measures are necessary.

Summary of Agency-Initiated Changes:

The Department is modifying the rules on adoption to add a definition of "architectural coating" at N.J.A.C. 7:27-16.1. In the notice of proposal Summary, 49 N.J.R. at 24, the Department

stated its intention to define this term using the existing definition of "architectural coating" at N.J.A.C. 7:27-23.2.

The Department proposed a definition of the term "clear coating" as that term is used in the adopted rules. However, there is already a definition of "clear coating" in N.J.A.C. 7:27-16.1 that denotes a coating that is used in metal, not plastic, applications. These coatings are regulated in existing N.J.A.C. 7:27-16.7, Table 7B, "Miscellaneous Surface Coating Operations Control Criteria and Compliance Dates." The Department proposed to amend and move the provisions relating to "Metal Parts and Products" (which include clear coating) to the new N.J.A.C. 7:27-16.15, Table 15B, "Metal Parts and Products VOC Content Limits," but did not propose to amend provisions in Table 7B that regulate clear coatings in the Group III category of "Pipe Coating for Metal and Concrete Pipe." To distinguish between the "clear coating" for metal parts and products (Table 7B) and the "clear coating" for plastic parts and products, the Department is modifying the rules on adoption by adding "(plastic)" to the term "clear coating" when it applies to plastic parts and products, and substituting "clear coating (plastic)" for "clear coating" wherever that term is used in Table 15D.

At N.J.A.C. 7:27-16.24(e)3, the Department is replacing the undefined acronym "SDS" with "safety data sheet (SDS)" consistent with the use of this term elsewhere in the subchapter.

The Department is changing and recodifying N.J.A.C. 7:27-19.2(b)12 as (b)14, and renumbering the remaining paragraphs, to end the subsection with "any other equipment or source operation not specifically listed at (b)1 through 13 above or (c) below that has the potential to emit more than 10 tons of NO_x per year." As a catch-all category of equipment or source operations, it appropriately belongs at the end of the list.

The following modifications on adoption clarify language and correct errors. In the definition for "air-assisted airless spray" at N.J.A.C. 7:27-16.1, the phrase "lower air pressure" replaces the incorrect "lower pressure air." The Department intended to propose a definition for "black automotive coating" at N.J.A.C. 7:27-16.1 that was substantively identical to its definition in the MMPPC CTG, at Appendix H, Recommended Coating Category Definitions. (See the notice of proposal Summary, 49 N.J.R. at 19.) The proposed definition contains the word "units" (or "umits" as it was incorrectly published), which is not used in the MMPPC CTG definition; saturation is described using numbers. The definition as modified on adoption matches the MMPPC CTG definition.

As proposed, new N.J.A.C. 7:27-16.15(h)3 incorrectly references N.J.A.C. 7:27-16.15(k) as the provision containing the calculations that are to be maintained by the owner or operator of a surface coating operation. There are no such calculations at N.J.A.C. 7:27-16.15(k); they are codified at N.J.A.C. 7:27-16.15(j), as shown in the rule as modified on adoption.

Other modifications on adoption correct grammar, capitalization, and transposed letters.

Federal Standards Analysis

Executive Order No. 27 (1994) and N.J.S.A. 52:14B-1 et seq. (P.L. 1995, c. 65), require State agencies that adopt, readopt, or amend State rules that exceed any Federal standards or requirements to include in the rulemaking document a Federal standards analysis. The adopted new rules and amendments are needed to fulfill a Federal CAA requirement that New Jersey adopt control measures to reduce NO_x, VOCs, and $PM_{2.5}$ emissions to attain the ozone NAAQS and maintain the fine particulate NAAQS. For the VOC control measures, only one adopted VOC emission limit is more stringent than that recommended in EPA's CTG.

Based on stakeholder input, as discussed in the notice of proposal, the Department did not follow the ICS CTG recommendation to exclude all graphic arts printing and coating operations from the recommended VOC content limits for the cleaning solvents used in the industrial cleaning process. The Department excluded all graphic arts printing and coating operations, except screen printing, which makes the new requirement for screen printing operations at N.J.A.C. 7:27-16.24(c) more stringent than the Federal requirements. The Department based this exception on the EPA's recommendation that states consult Connecticut's ICS CTG rule (R.C.S.A. 22a-174-20(ii)(3)(C)) and on stakeholder comments that compliant solvents are readily available and are being used. As discussed in the notice of proposal Economic Impact, cleaning solvents that meet the proposed 500 g/l limit are readily available and companies that switch to compliant solvents, if they have not already done so, will not be subject to any additional burden.

There is no Federal NO_x standard for existing and unmodified compressor turbines and compressor engines that do not generate electricity. However, the CAA requires states in the OTR, including New Jersey, to develop RACT for existing sources of NO_x such as these turbines and engines. The adopted rules establish RACT for these sources, and are, therefore, consistent with the Federal requirements. Accordingly, no further analysis is required.

Full text of the adoption follows (additions to proposal indicated in boldface with asterisks ***thus***; deletions from proposal indicated in brackets with asterisks *[thus]*):

CHAPTER 27

AIR POLLUTION CONTROL

SUBCHAPTER 16. CONTROL AND PROHIBITION OF AIR POLLUTION BY VOLATILE ORGANIC COMPOUNDS

7:27-16.1 Definitions

The following words and terms, when used in this subchapter, have the following meanings, unless the context clearly indicates otherwise.

…

"Adhesion primer" or "adhesion promoter" means a coating that is applied to a polyolefin part to promote the adhesion of a subsequent coating. An adhesion primer or promoter is identified as such on its accompanying safety data sheet (SDS).

"Adhesive" means any chemical substance that is applied for the purpose of bonding two surfaces together other than by mechanical means.

"Aerosol coating product" means a pressurized coating product containing pigments or resins that is dispensed by means of a propellant and is packaged in a disposable can for hand-held application, or for use in specialized equipment for ground traffic/marking applications.

"Aerospace coating" means a coating to be applied to the fabricated part, assembly of parts, or completed unit of any aircraft, helicopter, missile, or space vehicle, including prototypes and test models.

…

"Air-assisted airless spray" means a coating spray application system using fluid pressure to atomize the coating and lower ***air*** pressure *[air]* to adjust the shape of the spray pattern.

…

"Air-dried coating" means a coating that is cured at a temperature of up to 90 degrees Celsius (194 degrees Fahrenheit).

…

"Antifoulant coating" or "antifouling coating" means a coating applied to the underwater portion of a pleasure craft to prevent or reduce the attachment of biological organisms, which is registered with the EPA as a pesticide under the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. § 136).

"Antifouling sealer/tiecoat" means a coating applied over a biocidal antifouling coating to prevent the release of biocides into the environment and/or to promote adhesion between an antifouling and a primer or other antifoulings.

…

"Application equipment cleaning" means the process of flushing or removing resin and gel coats from the interior or exterior of equipment that is used to apply resin or gel coat in the manufacturing of fiberglass parts.

…

"Architectural coating" means a coating to be applied at the site of installation to the following: stationary structures or their appurtenances, portable buildings, pavements, or curbs. This term does not include adhesives and coatings applied in shop applications or to non-stationary structures such as airplanes, ships, boats, railcars, and automobiles.

…

"Assembly adhesive" means any chemical material used in the joining of one fiberglass, metal, foam, or wood part to another to form a temporary or permanently bonded assembly. Assembly adhesives include, but are not limited to, methacrylate adhesives and putties made from polyester or vinylester resin mixed with inert fillers or fibers.

…

"Atomized resin application" means a resin application technology in which the resin leaves the application equipment and breaks into droplets or an aerosol as it travels from the application equipment to the surface of the part. Atomized application methods include, but are not limited to, resin spray guns and resin chopper spray guns.

…

"Automobile and light-duty assembly" means the manufacturing of any passenger car or passenger car derivative capable of seating 15 or fewer passengers, or any motor vehicle rated at 8,500 pounds (3,856 kilograms) gross vehicle weight or less, that is designed primarily for purposes of transportation of property, or a derivative of such vehicle including, but not limited to, pick-ups, vans, and window vans.

…

"Automotive/transportation part" or "automotive/transportation product" means an interior or exterior component of a motor vehicle or mobile source.

…

"Baked coating" means a category of coating, other than a high bake or low bake coating, which is cured at a temperature at or above 90 degrees Celsius (194 degrees Fahrenheit).

…

"Black automotive coating" means a coating that meets both of the following criteria:

1. Maximum lightness: 23 units; and
2. Saturation: less than 2.8 *[umits]*, where saturation equals the square root of $A^2 + B^2$.

These criteria are based on Cielab color space, 0/45 geometry. For spherical geometry, specular included, maximum lightness is 33 units.

…

"Business machine" means a device that uses electronic or mechanical methods to process information, perform calculations, print or copy information, or convert sound into electrical impulses for transmission, including devices listed in Standard Industrial Classification Code numbers 3572, 3573, 3574, 3579, and 3661, and photocopy machines, a subcategory of Standard Industrial Classification Code number 3861.

…

"Camouflage coating" means a coating principally used by the military to conceal equipment from detection.

…

"Clear coating ***(plastic)***" means a colorless coating that contains binders, but no pigment, and is formulated to form a transparent film.

...

"Clear gel coat" means a gel coat that is clear or translucent, so that underlying colors are visible. This term does not include tooling gel coats used to build or repair molds.

…

"Closed molding" means a molding process in which pressure is used to distribute resin through the reinforcing fabric placed between two mold surfaces to either saturate the fabric or fill the mold cavity. The pressure may be clamping pressure, fluid pressure, atmospheric pressure, or vacuum pressure, used either alone or in combination. The mold surfaces may be rigid or flexible. Closed molding includes, but is not limited to, compression molding with sheet molding compound, infusion molding, resin injection molding (RIM), vacuum-assisted resin transfer molding (VARTM), resin transfer molding (RTM), and vacuum-assisted compression molding.

Processes in which a closed mold is used only to compact saturated fabric or remove air or excess resin from the fabric (such as in vacuum bagging), are not considered closed molding. Open molding steps, such as the application of a gel coat or skin coat layer by conventional open molding prior to a closed molding process, are not closed molding.

…

"Cured resin" or "cured gel coat" means a resin or gel coat that has been polymerized and has changed from a liquid to a solid.

…

"Digital printing" means a method of printing in which an electronic output device transfers variable data, in the form of an image, from a computer to a substrate.

…

"Dip coat" means a method of applying a coating material to a substrate by dipping the part into a tank of coating material.

…

"Drum" means any cylindrical metal shipping container larger than 12 gallons capacity, but no larger than 110 gallons capacity.

…

"Electrical component" or "electronic component" means a component that generates, converts, transmits, or modifies electrical energy. An electrical component or electronic component includes, but is not limited to, a wire, winding, stator, rotor, magnet, contact, relay, printed circuit board, printed wire assembly, wiring board, integrated circuit, resistor, capacitor, and transistors. Electrical component and electronic component do not include a cabinet in which an electrical component or an electronic component is housed.

"Electric-dissipating coating" means a coating that rapidly dissipates a high-voltage electric charge.

…

"Electric-insulating and thermal-conducting coating" means a coating that displays an electrical insulation of at least 1,000 volts DC per mil on a flat test plate and an average thermal conductivity of at least 27 hundredths (0.27) BTU per hour-foot-degree Fahrenheit.

"Electric-insulating varnish" means a non-convertible type coating applied to electric motors, components of electric motors, or power transformers, to provide electrical, mechanical, and environmental protection or resistance.

"Electrostatic prep coat" means a coating that is applied to a plastic part solely to provide conductivity for the subsequent application of a prime, a topcoat, or other coating through the use of electrostatic application methods. An electrostatic prep coat is clearly identified as an electrostatic prep coat on its accompanying safety data sheet (SDS).

"Electrostatic spray" means a method of applying a spray coating in which opposite electric charges are applied to the substrate and the coating. The coating is attracted to the substrate by the electrostatic potential between them.

…

"EMI/RFI shielding" means a coating used on electrical or electronic equipment to provide shielding against electromagnetic interference (EMI), radio frequency interference (RFI), or static discharge.

…

"Equipment cleaning" means an industrial cleaning unit operation conducted to clean any production equipment that may be cleaned in place (not moved to a cleaning area) to prevent

cross-contamination or for maintenance purposes. Examples include, but are not limited to, cleaning of punch presses, electrical contacts, pump parts, packaging equipment, rollers, ink pans, carts, press frames, and table tops.

"Etching filler" means a coating that contains less than 23 percent solids by weight and at least 0.5 percent acid by weight, and is used instead of applying a pretreatment coating followed by a primer.

…

"Extreme high gloss coating (craft)" or "extreme high gloss topcoat (craft)" means a coating used for pleasure craft that achieves at least 90 percent reflectance on a 60 degree meter when tested by the American Society for Testing Material Test Method D 523-89.

"Extreme high gloss coating (metal)" means a coating used for metal parts and products that, when tested by the American Society for Testing Material Test Method D 523 adopted in 1980, shows a reflectance of 75 or more on a 60 degree meter.

"Extreme performance coating" means a coating formulated for and exposed to harsh environmental conditions including, but not limited to:

1. Outside weather conditions all of the time;

2. Temperatures consistently above 95 degrees Celsius or below zero degrees Celsius;

3. Solvents, detergents, abrasives or scouring agents;

4. Chronic exposure to corrosive or acidic agents, chemicals, chemical fumes, chemical mixtures, chemical solutions, chemical atmospheres or chemical fluids; or

5. Repeated heavy abrasion, including mechanical wear.

Extreme performance coatings include, but are not limited to, coatings applied to locomotives, railroad cars, farm machinery, and heavy duty trucks.

…

"Fiberglass boat" means a vessel in which either the hull or the deck is built from a composite material consisting of a thermosetting resin matrix reinforced with fibers of glass, carbon, aramid, or other material.

…

"Filled tooling resin" or "filled production resin" means a resin to which an inert material has been added to change viscosity, density, shrinkage, or other physical properties.

"Finish primer/surfacer" means a coating applied with a wet film thickness of less than 10 mils prior to the application of a topcoat to provide corrosion resistance, adhesion of subsequent coatings, or a moisture barrier, or to promote a uniform surface necessary for filling in surface imperfections.

…

"Flexible coating" means any coating that is required to comply with engineering specifications for impact resistance, mandrel bend, or elongation as defined by the original equipment manufacturer.

"Flexible magnetic data storage disc" means a flat, circular plastic film, contained in a non-rigid envelope, with a magnetic coating on which digital information can be stored by selective magnetization of portions of the flat surface.

"Flexible packaging materials" means any paper, plastic, or foil substrate, or any combination of those materials that is coated, waxed, laminated, printed, or otherwise treated for fabrication into bags, pouches, or other preformed flexible packages.

…

"Floor cleaning" means an industrial cleaning unit operation conducted to clean floors in any production area of a facility.

"Flow coat" means the process whereby a metal or plastic part or product is conveyed over an enclosed sink, where a coating is applied at low pressure as the item passes under a series of nozzles, and excess coating drains back into the sink, is filtered, and pumped back into a coating holding tank.

"Flow coater" means a piece of equipment for nonatomizing application of applying resins and gel coats to an open mold with a fluid nozzle, with continuous consolidated streams leaving the nozzle, and with no air supplied to the nozzle.

"Fog coat" means a coating that is applied to a plastic part for the purpose of color matching without masking a molded-in texture.

…

"Gel coat" means a thermosetting resin surface coating formulation containing substances, such as styrene or methyl methacrylate, either pigmented or clear, that provides a cosmetic enhancement and improves resistance to ultraviolet radiation, water or chemical adsorption, and degradation from exposure to the elements. Gel coat layers do not contain any reinforcing fibers and gel coats are applied directly to mold surfaces or to a finished laminate.

…

"Gloss reducer" means a coating that is applied to a plastic part solely to reduce the shine of the part. A gloss reducer shall not be applied at a thickness of more than 0.5 mils of coating solids.

…

"Heat-resistant coating" means a coating that must withstand a temperature of at least 400 degrees Fahrenheit during normal use.

…

"High bake coating" means a coating designed to cure only at temperatures of more than 90 degrees Celsius (194 degrees Fahrenheit) and used for the surface coating of a plastic automotive/transportation or business machine part.

"High build primer/surfacer" means a coating applied with a wet film thickness of 10 mils or more prior to the application of a topcoat for purposes of providing corrosion resistance, adhesion of subsequent coatings, or a moisture barrier, or promoting a uniform surface necessary for filling in surface imperfections.

"High gloss coating (craft)" or "high gloss topcoat (craft)" means a pleasure craft coating that achieves at least 85 percent reflectance on a 60 degree meter when tested by the American Society for Testing Material Test Method D 523-89.

"High-performance architectural coating" means a coating used to protect architectural subsections and that meets the requirements of the Architectural Aluminum Manufacturer Association's publication number AAMA 2604-05 (Voluntary Specification, Performance Requirements, and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels) or AAMA 2605-05 (Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels).

"High-temperature coating" means a coating that is certified to withstand a temperature of at least 1,000 degrees Fahrenheit for 24 hours.

"High-volume, low-pressure (HVLP) spray" means a method of applying a spray coating using a spray gun that operates at a level of no more than 10 pounds per square inch of atomized air pressure at the air cap.

…

"Industrial cleaning" means the use of industrial cleaning solvents at one or more of the following unit operations: equipment cleaning, floor cleaning, large manufactured components cleaning, line cleaning, parts cleaning, small manufactured components cleaning, spray booth cleaning, spray gun cleaning, and tank cleaning. "Industrial cleaning" can occur through processes including, but not limited to, brushing, wiping, flushing, or spraying. "Industrial cleaning" does not include janitorial cleaning.

"Industrial cleaning solvent" means a substance that contains VOCs and that is used in an industrial cleaning unit operation to remove contaminants including, but not limited to, adhesives, dirt, grease, inks, oil, paint, or soil, from the surfaces of parts, products, tools, machinery, equipment, vessels, floors, walls, or other work production related work areas.

…

"Janitorial cleaning" means the general and maintenance cleaning of building or facility components including, but not limited to, floors, ceilings, walls, windows, doors, stairs, restrooms, furnishings, kitchens, and exterior surfaces of office equipment. "Janitorial cleaning" includes graffiti removal. "Janitorial cleaning" does not include the cleaning of parts, products, or equipment, where such parts, products, or equipment are incorporated into or used exclusively in manufacturing a product or the cleaning of work areas, such as laboratory benches, where manufacturing or repair activity is performed.

…

"Large manufactured components cleaning" means an industrial cleaning unit operation conducted to clean large parts including, but not limited to, automobile bodies and furniture sheet metal, as a step in a manufacturing process.

…

"Line cleaning" means an industrial cleaning unit operation conducted to clean coating lines and any associated tank that transports raw material including, but not limited to, paint or resin, and that are cleaned separately from spray guns and other process equipment.

…

"Low bake coating" means a coating designed to cure only at temperatures at or below 90 degrees Celsius (194 degrees Fahrenheit) and used for the surface coating of a plastic automotive/transportation or business machine part.

…

"Marine vessel" means any component or structure intended for exposure to a marine environment, including an oil drilling platform and a navigational aid.

"Mask coating" means a thin film coating applied through a template to coat a small portion of a substrate.

…

"Medical device" means an instrument, apparatus, implement, machine, contrivance, implant, in-vitro reagent, or other similar article, including any component or accessory that is:

1. Intended for use in the diagnosis of disease or other conditions or in the cure, mitigation, treatment, or prevention of diseases;

2. Intended to affect the structure or any function of the body; or

3. Defined in the National Formulary or the United States Pharmacopoeia or any supplement thereto, available from the U.S. Pharmacopeial Convention, www.usp.org.

"Medical device and pharmaceutical manufacturing operation" means an operation to manufacture medical devices or pharmaceutical products, including the associated manufacturing

and product-handling equipment and material, work surfaces, maintenance tools, and room surfaces that are subject to the Good Manufacturing/Laboratory Practice, available from the U.S. Food and Drug Administration (www.fda.gov), or the Centers for Disease Control/National Institute of Health guidelines for the biological disinfection of surfaces, available from the Centers for Disease Control and Prevention (www.cdc.gov).

"Metal and plastic parts application methods" means any of the following coating application methods: electrostatic spray, HVLP spray, flow coat, roller coat, dip coat (including electrodeposition), airless spray, or air-assisted airless spray.

"Metal container or closure coating" means any coating applied to either the interior or exterior of formed metal cans, drums, pails, lids or crowns, or flat metal sheets that are intended to be formed into cans, drums, pails, lids, or crowns.

"Metallic coating" means a coating that contains more than five grams of metal particles per liter of coating, as applied.

…

"Metal particle" means pieces of a pure elemental metal or a combination of elemental metals.

"Military specification coating" means a coating that has a formulation approved by a United States military agency for use on military equipment.

"Miscellaneous industrial adhesive" means an adhesive (including an adhesive primer used in conjunction with certain types of adhesives) used at industrial manufacturing and repair facilities for a wide variety of products and equipment that operate adhesives application processes.

…

"Mold" means the cavity or surface into or on which gel coat, resin, and fibers are placed and from which finished fiberglass parts take their form.

"Mold-seal coating" means the initial coating applied to a new mold or a repaired mold to provide a smooth surface that, when coated with a mold release coating, prevents products from sticking to the mold.

"Monomer VOC" means a relatively low molecular weight organic compound that combines with itself, or other similar compounds, by a cross-linking chemical reaction to become a cured thermosetting resin (polymer). Monomer VOC includes, but is not limited to, styrene and methyl methacrylate.

"Monomer VOC content" means the weight of the monomer VOC, divided by the weight of the material applied.

"Motor vehicle" means any self-propelled vehicle, including, but not limited to, a car, truck, bus, golf cart, motorcycle, tank, and armored personnel carrier.

"Motor vehicle bedliner" means a multi-component coating, used at a motor vehicle material surface coating operation, that is applied to a cargo bed after the application of a topcoat to provide additional durability and chip resistance.

"Motor vehicle cavity wax" means a coating, used at a motor vehicle material surface coating operation facility, that is applied into the cavity of a vehicle primarily for the purpose of enhancing corrosion protection.

"Motor vehicle deadener" means a coating, used at a motor vehicle material surface coating operation, that is applied to selected vehicle surfaces primarily for the purpose of reducing the sound of road noise in the passenger compartment.

"Motor vehicle gasket/gasket sealing material" means a fluid, used at a motor vehicle material surface coating operation, applied to coat a gasket or to replace and perform the same function as

a gasket. "Motor vehicle gasket/gasket sealing material" includes room temperature vulcanization (RTV) seal material.

"Motor vehicle lubricating wax/compound" means a protective lubricating material, used at a motor vehicle material surface coating operation, that is applied to vehicle hubs and hinges.

"Motor vehicle material surface coating operation" means a surface coating operation performed at a facility that is not an automobile or light-duty truck assembly coating facility.

"Motor vehicle sealer" means a high viscosity material, used at a motor vehicle material surface coating operation, for the primary purpose of completely filling body joints of automobiles and light-duty trucks, so that there is no intrusion of water, gases, or corrosive materials into the passenger area of the body compartment. "Motor vehicle sealer" is generally, but not always, applied in the paint shop after the body has received an electrodeposition primer coating and before the application of subsequent coatings (for example, a primer-surfacer). "Motor vehicle sealer" is also known as "motor vehicle sealant," "motor vehicle sealant primer," or "motor vehicle caulk."

"Motor vehicle truck interior coating" means a coating, used at a motor vehicle material surface coating operation, that is applied to the trunk interior to provide chip protection.

"Motor vehicle underbody coating" means a coating, used at a motor vehicle material surface coating operation, that is applied to the undercarriage or firewall to prevent corrosion and/or provide chip protection.

"Multi-colored coating" means a coating that exhibits more than one color when applied, and that is packaged in a single container and applied in a single coat.

"Multi-component coating" means a coating requiring the addition of a separate reactive resin, commonly known as a catalyst or hardener, before application, to form an acceptable dry film.

…

"Navigational aid" means a buoy or other U.S. Coast Guard waterway marker.

…

"Nonatomized resin application" means any application technology in which the resin is not broken into droplets or an aerosol as it travels from the application equipment to the surface of the part. Nonatomized resin application methods include, but are not limited to, flow coaters, chopper flow coaters, pressure-fed resin rollers, resin impregnators, and hand application (for example, application by paint brush or paint roller).

…

"Numismatic die" means the metal piece engraved with the design used for stamping coins.

…

"One-component coating" means a coating that is ready for application as it comes out of its container to form an acceptable dry film. A thinner, necessary to reduce the viscosity, is not a component of a "one-component coating."

…

"Open molding resin and gel coat operation" means any process in which reinforcing fibers and resins are placed in a mold and are open to the surrounding air while the reinforcing fibers are saturated with resin. This term includes operations in which a vacuum bag or similar cover is used to compress an uncured laminate to remove air bubbles or excess resin, or to achieve a bond between a core material and a laminate. This term also includes, but is not limited to, open molding tooling gel coat operations.

…

"Optical coating" means a coating applied to an optical lens.

…

"Overall control efficiency" means the product of the capture efficiency and the control device efficiency.

…

"Pan-backing coating" means a coating applied to the surface of pots, pans, or other cooking implements that are exposed directly to a flame or other heating elements.

…

"Parts cleaning" means an industrial cleaning unit operation conducted to clean miscellaneous items using an industrial cleaning solvent. Examples of miscellaneous items include, but are not limited to, applicator tips, bearings, brushes, circuit boards, cutoff steel/machined parts, engine blocks, filters, gauges, machine parts, motors and assemblies, oil guns, pumps, screws, tool dies, tools, truck parts, and welded parts.

…

"Pharmaceutical product" means a preparation or compound, including any drug, analgesic, decongestant, antihistamine, cough suppressant, vitamin, mineral, or herb supplement intended for human or animal consumption, that is used to cure, mitigate, or treat disease, or improve or enhance health.

…

"Pigmented gel coat" means an opaque gel coat used to manufacture parts for sale, but does not include a tooling gel coat used to build or repair molds.

…

"Plastic part" or "plastic product" means a piece made from a substance that has been formed from a natural or synthetic resin through the application of pressure or heat or both.

…

"Pleasure craft" means a vessel that is manufactured or operated primarily for recreational purposes, or leased, rented, or chartered to a person or business for recreational purposes.

"Pleasure craft coating" means a marine coating, except an unsaturated polyester resin (fiberglass) coating, applied to a pleasure craft by brush, spray, roller, or other means.

…

"Polyester" means a synthetic, long-chain polymeric ester produced mainly by reaction of dibasic acids with dihydric alcohols.

"Polyester resin material" means a resin used to fabricate composite products. "Polyester resin material" includes, but is not limited to, an unsaturated polyester resin, such as orthophthalic, isophthalic, halogenated, dicyclopentadiene, bisphenol A, and furan, a vinylester resin, cross-linking agent, catalyst, gel coat, inhibitor, accelerator, promoter, and any other material containing VOC that is used in a polyester resin operation.

"Polyester resin operation" means an operation that fabricates, reworks, repairs, or touches up composite products for commercial, military, or industrial use by mixing, pouring, manually applying, molding, impregnating, injecting, forming, filament winding, spraying, pultruding, centrifugally casting, curing, or corn-forming by using polyester resin materials.

"Polymer" means a chemical compound that consists of a large number of repeating monomer VOC.

…

"Powder coating" means any coating applied as a dry, finely divided solid that, when melted and fused, adheres to the substrate as a paint film.

…

"Precision optics" means the optical elements used in electro-optical devices that are designed to sense, detect, or transmit light energy, including specific wavelengths of light energy and changes of light energy levels.

…

"Prefabricated architectural component coating" means a coating applied to metal parts and products that are to be used as an architectural structure.

…

"Pretreatment coating" means a coating used to provide surface etching that contains no more than 12 percent solids by weight and at least 0.5 percent acid by weight and is applied directly to metal surfaces to provide corrosion resistance, adhesion, and ease of stripping.

"Pretreatment wash primer" means a coating used to provide surface etching that contains no more than 25 percent solids by weight and at least 0.1 percent acid by weight and is applied directly to fiberglass and metal surfaces to provide corrosion resistance and adhesion of subsequent coatings.

…

"Production resin" means any resin used to manufacture parts for sale, but does not include tooling resins used to build or repair molds, or assembly adhesives. Skin coat is a type of production resin.

…

"Pultrusion" means a continuous manufacturing process for composite products that have a uniform cross-sectional shape whereby continuous strands of fiber-reinforcing material are pulled through a strand-tensioning device into a resin impregnation chamber or bath and then pulled through a shaping die.

…

"Red automotive coating" means a coating that meets all of the following criteria:

1. Yellow limit: the hue of hostaperm scarlet;

2. Blue limit: the hue of monstral red-violet;

3. Lightness limit for metallics: 35 percent aluminum flake;

4. Lightness limit for solids: 50 percent titanium dioxide white;

5. Solid reds: hue angle of -11 to 38 degrees and maximum lightness of 23 to 45 units; and

6. Metallic reds: hue angle of -16 to 35 degrees and maximum lightness of 28 to 45 units.

These criteria are based on the Cielab color space, 0/45 geometry. For spherical geometry, specular included, the upper limit is 49 units. The maximum lightness varies as the hue moves from violet to orange. This is a natural consequence of the strength of the colorants, and real colors show this effect.

…

"Repair" means, with respect to a VOC leak, a corrective action taken to eliminate the leak or reduce the leak to below regulated levels. With respect to fiberglass boat manufacturing materials, "repair" means that portion of the fabrication process that requires the addition of polyester resin or other composite materials to portions of a previously fabricated product in order to mend damage.

"Repair coating" means a coating used to re-coat portions of a previously coated product that has sustained mechanical damage to the coating following normal coating operations.

…

"Research and development laboratory" means any facility with the primary purpose of conducting research and development into new processes and products, including academic and technological research and development, provided that such a facility is operated under the close supervision of technically trained personnel and is not engaged in the manufacture of products for commercial sale, except in a de minimis manner.

…

"Resin" means any thermosetting resin, with or without pigment, containing substances, such as styrene (CAS No. 100-42-5) or methyl methacrylate (CAS No. 80-62-6) and used to encapsulate and bind together reinforcement fibers in the construction of fiberglass parts. Resin includes, but is not limited to, filled tooling resin (filled production resin), production resin, and tooling resin.

"Resin and gel coat mixing operation" means any operation in which resin or gel coat, including the mixing of putties or polyputties, is combined with additives that include, but are not limited to, fillers, promoters, or catalysts.

"Resin impregnator" means a mechanical nonatomized resin application method in which dry fiberglass fabric is fed down through a pair of finished metal rollers and the fabric is saturated with resins in a controlled fiber-to-resin ratio for each specific composite product.

"Resist coating" means a coating that is applied to a plastic part before metallic plating to prevent deposits of metal on portions of the plastic part.

"Rigid magnetic data storage disc" means a flat, circular, non-flexible plate with a magnetic coating on which digital information can be stored by selective magnetization of portions of the flat surface.

…

"Roll coat" means a method of applying a coating to a substrate by means of hard rubber, elastomeric, or metal rolls. A roll coat application is used for high viscosity coatings, particularly adhesives, and for small surface areas.

"Roll-out" means the process of using rollers, squeegees, or similar tools to compact reinforcing material saturated with resin to remove trapped air or excess resin.

…

"Safety-indicating coating" means a coating that changes physical characteristics, such as color, to indicate unsafe conditions.

…

"Semiconductor wafer fabrication operation" means an operation performed in order to manufacture semiconductor or related solid state devices, such as semiconductor diodes and stacks and including rectifiers, integrated microcircuits, transistors, solar cells, and light sensing and emitting devices. Semiconductor wafer fabrication excludes crystal growth and blank wafer production, circuit separation, assembly, and encapsulation.

…

"Shipbuilding and repair coating" means the coating used during any building, repair, repainting, converting, or alteration of ships.

"Shock-free coating" means a coating applied to electrical components to protect the user from electric shock. The coating has characteristics of being low capacitance and high resistance, and having resistance to breaking down under high voltage.

…

"Silicone-release coating" means a coating that contains silicon resin and is intended to prevent food from sticking to metal surfaces, such as baking pans.

…

"Skin coat" means a layer of resin and fibers applied over the gel coat to protect the gel coat from being deformed by the next laminate layers. Skin coat is a type of production resin.

…

"Small manufactured-components cleaning" means an industrial cleaning unit operation conducted to clean a small part as a step in the manufacturing process of that small part. Small parts include, but are not limited to, circuit breaker cases, electrical contacts, engine components, glass windows, machined parts, molded parts, plastic parts, sheet metal panels, steel and copper components, subassemblies, switch covers, switches, threads and bolts, tin/silver-plated terminals, and upholstered parts.

…

"Solar-absorbent coating" means a coating that has as its prime purpose the absorption of solar radiation.

"Solid-film lubricant" means a very thin coating consisting of a binder system containing as its chief pigment material one or more of the following: molybdenum disulfide, graphite, polytetrafluoroethylene, or other solids that act as a dry lubricant between meeting surfaces.

…

"Spray booth cleaning" means an industrial cleaning unit operation conducted to clean all interior surfaces of a spray booth and all equipment within the booth including, but not limited to, conveyors, floor, grating, robots, and spray booth walls.

"Spray gun cleaning" means an industrial cleaning unit operation conducted to clean spray guns, attached paint lines, and any other gun equipment used in applying a coating.

…

"Stencil coat (automotive/transportation/business)" means a coating that is applied over a stencil to a plastic automotive/transportation or business machine part at a thickness of one mil or less of coating solids, most frequently letters, numbers, or decorative designs.

"Stencil coating (metal and plastic)" means an ink or a pigmented coating that is rolled or brushed onto a template or stamp in order to add identifying letters, symbols, and/or numbers. "Stencil coating (metal and plastic)" does not include stencil coat (automotive/transportation/business).

…

"Stripping" means the removal of cured coatings, inks, adhesives, or maskants. Examples include, but are not limited to, wood furniture stripping, metal parts stripping, and dry film stripper operations.

…

"Texture coat" means a coating that is applied to a plastic part that, in its finished form, consists of discrete raised spots of the coating.

…

"Tooling gel coat" means the gel coat used to build or repair molds (also known as tools) or prototypes (also known as plugs) from which molds will be made.

"Tooling resin" means the resin used to build or repair molds (also known as tools) or prototypes (also known as plugs) from which molds will be made.

"Topcoat (craft)" means any final pleasure craft coating applied to the interior or exterior of a pleasure craft.

"Touch-up" means, for metal and plastic parts, that portion of the process that is necessary to cover minor imperfections. With respect to fiberglass boats, "touch-up" means the application of

resin or gel coat to cover minor cosmetic imperfections that occur during fabrication or field installations.

"Touch-up coating" means a coating used to cover minor coating imperfections appearing after the main coating operation.

…

"Translucent coating" means a coating that contains binders and pigment, and is formulated to form a colored, but not opaque, film.

…

"Unit operation" means an industrial operation classified or grouped according to its function in an operating environment. A unit operation may consist of one or more items of equipment, for example, both a reactor and a mixing vessel or several mixing vessels.

…

"Vacuum bagging" means any molding technique in which the reinforcing fabric is saturated with resin and then covered with a flexible sheet that is sealed to the edge of the mold and where a vacuum is applied under the sheet to compress the laminate, remove excess resin, or remove trapped air from the laminate during curing. Vacuum bagging does not include processes that meet the definition of closed molding.

…

"Vacuum-metalizing process" means an application process, also known as physical vapor deposition (PVD) process, whereby metal is vaporized and deposited on a substrate in a vacuum chamber.

"Vacuum-metalizing coating (automotive/transportation/business machine)" means a topcoat or basecoat that is used in the vacuum-metalizing process for the surface coating of a plastic automotive/transportation or business machine part.

"Vacuum-metalizing coating (metal and plastic)" means the undercoat applied to the substrate on which metal is deposited or the overcoat applied directly to the metal film using a vacuum-metalizing or physical vapor deposition (PVD) process. "Vacuum-metalizing coating (metal and plastic)" does not include vacuum-metalizing coating (automotive/transportation/business machine).

…

"Vinylester resin" means a thermosetting resin containing esters of acrylic or methacrylic acids and having double-bond and ester linkage sites only at the ends of the resin molecules.

…

7:27-16.7 Surface coating and graphic arts operations

(a)-(f) (No change.)

TABLE 7A

(No change.)

TABLE 7B

MISCELLANEOUS SURFACE COATING OPERATIONS

CONTROL CRITERIA AND COMPLIANCE DATES

Maximum Allowable VOC Content per Volume of Coating (minus water)

Type of Operation	Pounds per Gallon	Kilogram per Liter	Final Compliance Date

...

TABLES 7C and 7D

(No change.)

(g)-(t) (No change.)

(u) The owner or operator of a facility with a paper coating operation that emits total actual VOC emissions, prior to controls, at a rate greater than 15 pounds per day for all paper coating operations and performs related cleaning activities at that facility, shall implement the following best management practices and shall record and maintain on site the documentation of these best management practices, pursuant to N.J.A.C. 7:27-16.22:

1. Each container of VOC-containing cleaning materials or used shop towels shall have a cover that is closed, except when in use or when material is being added to or removed from the container, which shall prevent the contents from coming in contact with and being exposed to the atmosphere;

2. All VOC-containing cleaning materials shall be conveyed in closed containers or pipes, which shall prevent the contents from coming in contact with and being exposed to the atmosphere; and

3. All spills of VOC-containing coatings, thinners, and cleaning materials shall be cleaned up immediately.

7:27-16.14 Fiberglass boat manufacturing materials

(a) Except as provided at (b) below, this section applies to any fiberglass boat manufacturing facility whose total actual VOC emissions, before add-on controls, exceed 15 pounds per day from all fiberglass boat manufacturing operations, calculated as follows:

1. Include in the calculation of the 15 pounds per day limit any emissions from:

i. Open molding resin and gel coat operations;

ii. Resin and gel coat mixing operations;

iii. Resin and gel coat application equipment cleaning operations; and

iv. Polyester resin putty used to assemble fiberglass parts.

2. Exclude from the calculation of the 15 pounds per day limit any emissions from:

i. Surface coating formulation applied to fiberglass boats or pleasure crafts; and

ii. Industrial adhesive used in the assembly of fiberglass boats, other than a polyester resin putty used to assemble fiberglass parts.

(b) A fiberglass boat manufacturing facility is exempt from this section if it manufactures only boat trailers, or parts of boats, such as hatches, seats, or lockers, and does not manufacture boat hulls or decks from fiberglass or build molds to make fiberglass boat hulls or decks.

(c) The following materials and operations are exempt from (d) and (e) below:

1. Production resin that is applied with nonatomized resin application equipment, and that:

i. Must meet specifications for use in military vessels;

ii. The U.S. Coast Guard must approve in accordance with 46 CFR Subchapter Q, Equipment, Construction, and Materials: Specifications and Approval, for use in the construction of lifeboats, rescue boats, and other life-saving appliances; or

iii. The U.S. Coast Guard must approve for use in the construction of small passenger vessels regulated by 46 CFR Subchapter T, Small Passenger Vessels (Under 100 Gross Tons);

2. Production or tooling resin, or a pigmented, clear, or tooling gel coat purchased for repair or touch-up of fiberglass parts or molds. The total amount of resin and gel coat material exempted from (d) and (e) below shall not exceed one percent by weight of all resin and gel coat purchased at the facility on a 12-month rolling average basis;

3. One hundred percent pure vinylester resin (not a blend of vinylester and polyester), purchased for use as a skin coat and applied with nonatomized resin application equipment, where the total amount of the 100 percent pure vinylester resin purchased does not exceed five percent of all resin purchased at the facility on a 12-month rolling average basis;

4. Surface coating formulation applied to fiberglass boats or pleasure crafts;

5. Industrial adhesive used in the assembly of fiberglass boats, with the exception of polyester resin putty used to assemble fiberglass parts; and

6. Closed molding operations. This exemption does not apply to an open molding resin and gel coat operation that precedes a closed molding operation, such as the application of a gel coat or skin coat layer.

(d) Except as provided at (c) above, the owner or operator of any open molding resin and gel coat operation at any fiberglass boat manufacturing facility to which this section applies shall ensure (d)1, 2, or 3 below. For compliance determination, any non-monomer VOC content of a resin or gel coat in excess of five percent shall be added to the monomer VOC content.

1. The monomer VOC content (percent by weight) in any resin or gel coat purchased for any open molding resin and gel coat operation, or purchased for any other molding operation that is not a closed molding operation, such as a vacuum bagging operation, does not exceed:

i. The maximum monomer VOC content (percent by weight) limit for the material and application method listed in Table 14A; or

ii. The weighted average monomer VOC content (percent by weight) limit as determined by Equation 14A for the material and application method listed in Table 14A.

TABLE 14A

MAXIMUM MONOMER VOC CONTENT LIMITS FOR

OPEN MOLDING RESIN AND GEL COAT OPERATIONS

WHERE COMPLIANCE IS DETERMINED PURSUANT TO N.J.A.C.

7:27-16.14(d)1

Material	Resin Application Method	Weighted Average Monomer VOC Content Limit (Percent by Weight)
Production resin	Atomized (spray)	28
Production resin	Nonatomized	35
Pigmented gel coat	Any method	33
Clear coat gel	Any method	48
Tooling resin	Atomized	30
Tooling resin	Nonatomized	39
Tooling gel coat	Any method	40

EQUATION 14A

$$\text{Weighted Average Monomer VOC Content} = \frac{\sum_{i=1}^{n}(\mathrm{M}_i \mathrm{VOC}_i)}{\sum_{i=1}^{n}(\mathrm{M}_i)}$$

Where:

M*i* = the mass of open molding resin or gel coat, *i*, purchased in the past 12 months in an operation, in megagrams;

VOC*i* = the monomer VOC content, in percent by weight, of open molding resin or gel coat, *i*, purchased in the past 12 months in an operation; and

n = the number of different open molding resins or gel coats purchased in the past 12 months in an operation;

2. The VOC emissions from each open molding resin and gel coat operation, and from any other molding operation that is not a closed molding operation, such as a vacuum bagging operation, do not exceed a facility-specific monomer VOC emission limit established pursuant to (d)2i through iii below, per 12-month period, of the mass of each material purchased, as follows:

i. Use Equation 14B to establish the facility-specific monomer VOC emission limit;

ii. For any open molding resin and gel coat operation included in Equation 14B, use Equation 14C to demonstrate that the monomer VOC mass emissions from the operation do not exceed the facility-specific monomer VOC emission limit calculated using Equation 14B for the same 12-month period. Conduct this demonstration at the end of the first 12-month period and at the end of every subsequent month for only those operations and materials included in the average; and

iii. For each open molding resin and gel coat operation included in Equation 14B, use Equation 14D to compute the weighted-average monomer VOC emission rate per 12-month period for each open molding resin and gel coat operation included in the average for use in Equation 14C; or

3. A VOC control apparatus installed to control the VOC emissions from an open molding resin operation, or gel coat, prevents VOC emissions from exceeding the maximum facility-specific monomer VOC mass emission limit established using Equation 14B in accordance with (d)2i above.

EQUATION 14B:

$$FSMVEL = 46(M_R) + 159(M_{PG}) + 291(M_{CG}) + 54(M_{TR}) + 214(M_{TG})$$

Where:

FSMVEL (facility-specific monomer VOC emission limit) = the total allowable monomer VOC that can be emitted from an open molding resin and gel coat operation included in the average, in kilograms per 12-month period;

M_R = the mass, in megagrams, of production resin purchased in the past 12 months, excluding materials exempted in (c) above;

M_{PG} = the mass, in megagrams, of pigmented gel coat purchased in the past 12 months, excluding materials exempted in (c) above;

M_{CG} = the mass, in megagrams, of clear gel coat purchased in the past 12 months, excluding materials exempted in (c) above;

M_{TR} = the mass, in megagrams, of tooling resin purchased in the past 12 months, excluding materials exempted in (c) above;

M_{TG} = the mass, in megagrams, of tooling gel coat purchased in the past 12 months, excluding materials exempted in (c) above; and

The numerical coefficient associated with each term on the right-hand side of Equation 14B is the allowable monomer VOC emission rate for that material in units of kilograms of monomer of VOC per megagram of material purchased. For example, "46" means 46 kilograms (kg) of monomer VOC per megagram (Mg) of resin purchased.

EQUATION 14C:

Monomer VOC emissions = $(PV_R)(M_R) + (PV_{PG})(M_{PG}) + (PV_{CG})(M_{CG}) + (PV_{TR})(M_{TR}) + (PV_{TG})(M_{TG})$

Where:

Monomer VOC emissions = the monomer VOC emissions calculated using the monomer VOC emission equations for each operation included in the average, in kilograms;

PV_R = the weighted-average monomer VOC emission rate for production resin purchased in the past 12 months, in kilograms per megagram;

M_R = the mass of production resin purchased in the past 12 months, in megagrams;

PV_{PG} = the weighted-average monomer VOC emission rate for pigmented gel coat purchased in the past 12 months, in kilograms per megagram;

M_{PG} = the mass of pigmented gel coat purchased in the past 12 months, in megagrams;

PV_{CG} = the weighted-average monomer VOC emission rate for clear gel coat purchased in the past 12 months, in kilograms per megagram;

M_{CG} = the mass of clear gel coat purchased in the past 12 months, in megagrams;

PV_{TR} = the weighted-average monomer VOC emission rate for tooling resin purchased in the past 12 months, in kilograms per megagram;

M_{TR}= the mass of tooling resin purchased in the past 12 months, in megagrams;

PV_{TG} = the weighted-average monomer VOC emission rate for tooling gel coat purchased in the past 12 months, in kilograms per megagram; and

M_{TG} = the mass of tooling gel coat purchased in the past 12 months, in megagrams.

EQUATION 14D

$$\mathbf{PV_{OP}} = \frac{\sum_{i=1}^{n}(\mathbf{M_i PV_i})}{\sum_{i=1}^{n}(\mathbf{M_i})}$$

Where:

$PV[_{OP}]$ = the weighted-average monomer VOC emission rate for each open molding operation ($PV[_{R}]$, $PV[_{PG}]$, $PV[_{CG}]$, $PV[_{TR}]$, and $PV[_{TG}]$) included in the average, in kilograms of monomer VOC per megagram of material applied. As shown in Equation 14D, PVOP equals the sum of the products of $M[_i]$ and $PV[_i]$ for open molding resin or gel coats, one through n, divided by $M[_i]$ one through n;

n = the number of different open molding resins and gel coats purchased within an operation in the past 12 months;

M_i = the mass of resin or gel coat, *i*, purchased within an operation in the past 12 months, in megagrams; and

PV_i = the monomer VOC emission rate for resin or gel coat, *i*, purchased within an operation in the past 12 months, in kilograms of monomer VOC per megagram of material applied. PV_i is computed using the equations in Table 14B.

Table 14B

MONOMER VOC EMISSION RATE FORMULAS FOR OPEN MOLDING OPERATIONS WHERE COMPLIANCE IS DETERMINED PURSUANT TO N.J.A.C. 7:27-16.14(d)2

Material	Resin Application Method	Monomer VOC Emission Rate (PV*i*) Formula[1]
Production resin, tooling resin	Atomized	$0.014 \times (\text{resin VOC})^{2.425}$
	Atomized, plus vacuum bagging with roll-out	$0.01185 \times (\text{resin VOC})^{2.425}$
	Atomized, plus vacuum bagging without roll-out	$0.00945 \times (\text{resin VOC})^{2.425}$
	Nonatomized	$0.014 \times (\text{resin VOC})^{2.275}$
	Nonatomized, plus vacuum bagging with roll-out	$0.0110 \times (\text{resin VOC})^{2.275}$
	Nonatomized, plus vacuum bagging without roll-out	$0.0076 \times (\text{resin VOC})^{2.275}$
Pigmented gel coat, clear gel coat, tooling gel coat	All methods	$0.445 \times (\text{gel coat VOC})^{1.675}$

[1] Resin VOC and gel coat VOC refer to the monomer VOC content as supplied, expressed as a percent by weight value between 0 and 100 percent.

(e) Except as provided at (c) above, the owner or operator of any fiberglass boat manufacturing facility, when using filled production resin or filled tooling resin shall:

1. Determine the filled resin monomer VOC emission rate (PVF) using Equation 14E:

EQUATION 14E

$$\mathbf{PV_F} = \frac{(\mathbf{100} - \mathbf{Percent\ Filler})}{(\mathbf{100})} * \mathbf{PV_U}$$

Where:

PV_F = the as-applied monomer VOC emission rate for the filled production resin or tooling resin, in kilograms monomer VOC per megagram of filled resin, per 12-month period, based on monthly purchase records. As shown in Equation 14E, PV_F shall be equal to 100 minus the weight-percent of filler, divided by 100, with the entire quantity multiplied by PV_U;

PV_U = the monomer VOC emission rate for the neat (unfilled) resin, before filler is added, as calculated using the formulas in Table 14B, per 12-month period, based on monthly purchase records; and

Percent Filler = the weight-percent of filler in the as-applied filled resin system;

2. Ensure that the PV_F determined in (e)1 above does not exceed the filled resin monomer VOC emission limits in Table 14C, where the limit is in kilograms monomer VOC per megagram of filled resin, as applied;

3. Ensure that the non-monomer VOC content of each filled resin does not exceed five percent; and

4. If filled resin is included in the emission averaging procedure in Equation 14D above, then use the value of PVF calculated using Equation 14E above for the value of PV_i in Equation 14D above.

Table 14C

FILLED RESIN MONOMER VOC EMISSION LIMITS WHERE

COMPLIANCE IS DETERMINED PURSUANT TO N.J.A.C. 7:27-16.14(e)

Resin	Emission limit (in kilograms monomer VOC per megagram of filled resin on a 12-month rolling average, based on monthly purchase records)
Filled production resin	46
Filled tooling resin	54

(f) The owner or operator of a fiberglass boat manufacturing facility to which this section applies shall:

1. Use only industrial cleaning solvents that:

i. Contain no more than five percent VOC by weight; or

ii. Have a composite vapor pressure of no more than 0.5 millimeters of mercury at 68 degrees Fahrenheit;

2. Use only non-VOC solvents to remove cured resin and gel coat from application equipment; and

3. For all resin and gel coat containers with a capacity of 55 gallons or more, including those used for on-site mixing of putties and polyester resin putties, cover at all times with no visible gaps, except:

i. When materials are being manually added or removed from a container; and

ii. When mixing equipment is being placed into or removed from a container.

(g) An owner or operator of a facility subject to (d) or (e) above shall keep the following records in accordance with N.J.A.C. 7:27-16.22(a):

1. Information on each polyester resin material purchased each month including, at a minimum, the following:

i. The manufacturer's name;

ii. The type of polyester resin material (for example, production resin, pigmented gel coat, clear gel coat, tooling resin, or tooling gel coat);

iii. The amount of polyester resin material purchased;

iv. The percent by weight of monomer VOC content for each polyester resin material;

v. The percent by weight of the non-monomer VOC content or the total percent by weight of the VOC content;

vi. The type of application method(s) used; and

vii. The methodology being used to demonstrate that the polyester resin material is compliant with (d) or (e) above;

2. Information on the use of all monthly calculations performed to demonstrate compliance with the following, as applicable:

i. N.J.A.C. 7:27-16.14(d)1ii, with the use of Equation 14A;

ii. N.J.A.C. 7:27-16.14(d)2, with the use of Equations 14B, 14C, and 14D, and Table 14B; and

iii. N.J.A.C. 7:27-16.14(e), with the use of Equations 14D and 14E;

3. For each industrial cleaning solvent purchased for application equipment cleaning, either the VOC content percent by weight or composite vapor pressure in millimeters of mercury, whichever is applicable;

4. The type of solvent purchased each month to remove cured resin and gel coat from application equipment;

5. Records of covering all resin and gel coat containers as required in (f)3 above; and

6. Monthly amount of production and tooling resins, and pigmented, clear and tooling gel coat purchased for part or mold repair and touch-up of fiberglass that do not meet any of the requirements in (d) above.

(h) The owner or operator of a source operation that has a thermal oxidizer used to control the emission of VOCs at a fiberglass boat manufacturing facility to which this section applies shall maintain records in accordance with N.J.A.C. 7:27-16.16(g)2.

(*i*) The owner or operator of a source operation that has a control apparatus using carbon or other adsorptive material to control the emission of VOCs at a fiberglass boat manufacturing facility to which this section applies shall maintain records in accordance with N.J.A.C. 7:27-16.16(g)3.

(j) The owner or operator of a fiberglass boat manufacturing facility to which this section applies shall, upon the request of the Department, record any other operating parameter relevant to the prevention or control of air contaminant emissions from the manufacturing of fiberglass boat materials or control apparatus, pursuant to N.J.A.C. 7:27-16.22.

7:27-16.15 Miscellaneous metal and plastic parts coatings

(a) This section applies to all source operations at a facility whose cumulative actual VOC emissions exceed 2.7 tons during any consecutive 12-month period from all miscellaneous metal and plastic parts surface coating operations, including related cleaning activities, but *[shall]* ***does*** not apply to a surface coating operation that uses exclusively powder coating.

(b) The owner or operator of a commercial pleasure craft surface coating operation to which this section applies shall ensure that:

1. The pleasure craft surface coating operation complies with the following VOC emission standard:

i. The VOC content of any surface coating formulation as applied, excluding repair or touch-up coatings, does not exceed the applicable maximum allowable VOC content specified in Table 15A;

ii. The pleasure craft surface coating operation is served by a VOC control apparatus that has an overall control efficiency of at least 90 percent; or

iii. The pleasure craft surface coating operation is served by a VOC control apparatus that has a minimum overall control efficiency as determined by Equation 15A using the applicable coating category in Table 15A.

2. A pleasure craft surface coating operation complying with (b)1i or iii above, except an extreme high gloss coating (craft) operation, shall use one or more of the following application methods at all times and shall not use any other application method:

i. Metal and plastic parts application methods; or

ii. Another coating application method capable of achieving a transfer efficiency equivalent to or better than that achieved by HVLP spraying and approved by the EPA.

EQUATION 15A:

$$OCE = \{1 - [(VOC)_c * (V_n)_a / (VOC)_a * (V_n)_c]\} * 100$$

Where:

OCE = overall control efficiency;

$(VOC)_c$ = maximum allowable VOC content per volume of coating (pound per gallon or kilogram per liter), minus water and exempt organic substances, for the applicable coating category in Table 15A, 15B, 15C, or 15D;

$(VOC)_a$ = VOC content per volume of coating (pound per gallon or kilogram per liter), minus water and exempt organic substances, as applied;

$(V_n)_c$ = the volumetric fraction of solids (expressed as gallon of solids per gallon of coating or liter of solids per liter of coating) minus water and exempt organic substances, for the applicable coating category in Table 15A, 15B, 15C, or 15D, and expressed as 1 - $(V_v)_c$;

$(V_v)_c$ = is the volumetric fraction of VOC (expressed as gallon of VOC per gallon of coating or liter of VOC per liter of coating) minus water and exempt organic substances for the applicable coating category in Table 15A, 15B, 15C, or 15D, and expressed as $\{(VOC)_c/d_{VOC}\}$;

$(V_n)_a$ = the volumetric fraction of solids (expressed as gallon of solids per gallon of coating or liter of solids per liter of coating) minus water and exempt organic substances as applied, and expressed as 1 - $(V_v)_a$;

$(V_v)_a$ = is the volumetric fraction of VOC (expressed as gallon of VOC per gallon of coating or liter of VOC per liter of coating) minus water and exempt organic substances as applied, and expressed as $\{(VOC)_a/d_{VOC}\}$; and

d_{VOC} = the density (expressed as pound per gallon or kilogram per liter) of the VOC as applied minus water and exempt organic substances.

Table 15A

PLEASURE CRAFT SURFACE COATING FORMULATION VOC CONTENT LIMITS

	Maximum Allowable VOC Content per Volume of Coating (minus water and exempt organic substances)	
Coating Category	Pounds per gallon	Kilograms per liter

Extreme high gloss topcoat (craft)	5.0	0.60
High gloss topcoat (craft)	3.5	0.42
Pre-treatment wash primer	6.5	0.78
Finish primer/surfacer	3.5	0.42
High build primer/surfacer	2.8	0.34
Aluminum substrate antifoulant coating	4.7	0.56
Other substrate antifoulant coating	3.3	0.40
Antifouling sealer/tiecoat	3.5	0.42
All other pleasure craft surface coating formulations	3.5	0.42

(c) Except as set forth in (c)3 below, the owner or operator of a metal parts and products surface coating operation to which this section applies shall ensure that:

1. The metal parts and products surface coating operation complies with the following VOC emission standard:

i. The VOC content of any surface coating formulation, as applied, does not exceed the applicable maximum allowable VOC content, if any, specified in Table 15B;

ii. The metal parts and products surface coating operation is served by a VOC control apparatus that has an overall control efficiency of at least 90 percent; or

iii. The metal parts and products surface coating operation is served by a VOC control apparatus that has a minimum overall control efficiency as determined by Equation 15A above using the applicable coating category in Table 15B.

2. The metal parts and products surface coating operation, except touch-up coatings, repair coatings, or textured finishes, complying with (c)1i or iii above, shall use one or more of the following application methods at all times and shall not use any other application method:

i. A metal and plastic parts application method; or

ii. Another coating application method capable of achieving a transfer efficiency equivalent to or better than that achieved by HVLP spraying and approved by the EPA.

3. The provisions of (c)1 and 2 above *[shall]* ***do*** not apply to the following metal parts and products surface coating operations:

i. Stencil coatings (metal and plastic);

ii. Safety-indicating coatings;

iii. Solid-film lubricants;

iv. Electric-insulating and thermal-conducting coatings;

v. Flexible or rigid magnetic data storage disc coatings;

vi. Plastic extruded onto metal parts to form a coating; and

vii. Any military specification coating that has been formulated to meet a higher, less stringent VOC content limit than the maximum allowable for the coating, as identified at Table 15B.

Table 15B

METAL PARTS AND PRODUCTS VOC CONTENT LIMITS

	Maximum Allowable VOC Content per Volume of Coating (minus water and exempt organic substances)

	Air-Dried Coating		Baked Coating	
Coating Category	Pounds per gallon	Kilograms per liter	Pounds per gallon	Kilograms per liter
General, one-component coating	2.8	0.34	2.3	0.28
General, multi-component coating	2.8	0.34	2.3	0.28
Camouflage coating	3.5	0.42	3.5	0.42
Electric-insulating varnish	3.5	0.42	3.5	0.42
Etching filler	3.5	0.42	3.5	0.42
Extreme high gloss coating (metal)	3.5	0.42	3.0	0.36
Extreme performance coating	3.5	0.42	3.0	0.36
Heat-resistant coating	3.5	0.42	3.0	0.36
High performance architectural coating	6.2	0.74	6.2	0.74
High-temperature coating	3.5	0.42	3.5	0.42
Metallic coating	3.5	0.42	3.5	0.42
Military specification coating	2.8	0.34	2.3	0.28
Mold-seal coating	3.5	0.42	3.5	0.42
Pan-backing coating	3.5	0.42	3.5	0.42
Prefabricated architectural multi-component coating	3.5	0.42	2.3	0.28
Prefabricated architectural one-component coating	3.5	0.42	2.3	0.28
Pretreatment coating	3.5	0.42	3.5	0.42

Repair and touch-up coating	3.5	0.42	3.0	0.36
Silicone-release coating	3.5	0.42	3.5	0.42
Solar-absorbent coating	3.5	0.42	3.0	0.36
Vacuum-metalizing (metal and plastic)	3.5	0.42	3.5	0.42
Drum coating, new, exterior	2.8	0.34	2.8	0.34
Drum coating, new, interior	3.5	0.42	3.5	0.42
Drum coating, reconditioned, exterior	3.5	0.42	3.5	0.42
Drum coating, reconditioned, interior	4.2	0.5	4.2	0.50

(d) Except as set forth in (d)3 below, the owner or operator of a plastic parts and products surface coating operation to which this section applies shall ensure that:

1. The plastic parts and products surface coating operation complies with the following VOC emission standard:

i. The VOC content of a surface coating formulation, as applied, does not exceed the applicable maximum allowable VOC content, if any, specified in Table 15C;

ii. The plastic parts and products surface coating operation is served by a VOC control apparatus that has an overall control efficiency of at least 90 percent; or

iii. The plastic parts and products surface coating operation is served by a VOC control apparatus that has a minimum overall control efficiency as determined by Equation 15A above using the applicable coating category in Table 15C.

2. The plastic parts and products surface coating operation, except an airbrush operation using five gallons or less per 12-month period of coating, complying with (d)1i or iii above, shall

use one or more of the following application methods at all times and shall not use any other application method:

i. A metal and plastic parts application method; or

ii. Another coating application method capable of achieving a transfer efficiency equivalent to or better than that achieved by HVLP spraying and approved by the EPA.

3. The provisions of (d)1 above *[shall]* ***do*** not apply to the following plastic parts and products surface coating operations:

i. Touch-up and repair coatings;

ii. Stencil coats (automotive/transportation) applied on clear or translucent substrates;

iii. Clear or translucent coatings;

iv. Coatings applied at a paint-manufacturing facility while conducting performance tests on the coatings;

v. An individual coating category used in volumes of less than 50 gallons in any 12-month period if substitute compliant coatings are not available, provided that the total usage of all such coatings does not exceed 200 gallons per year, per facility;

vi. Reflective coating applied to highway cones;

vii. Mask coatings that are less than 0.5 millimeter thick (dried) and the area coated is less than 25 square inches;

viii. EMI/RFI shielding coatings; and

ix. Heparin-benzalkonium chloride (HBAC)-containing coatings applied to medical devices, provided that the total usage of all such coatings does not exceed 100 gallons per year per facility.

TABLE 15C

PLASTIC PARTS AND PRODUCTS SURFACE COATING

FORMULATION VOC CONTENT LIMITS

	Maximum Allowable VOC Content per Volume of Coating (minus water and exempt organic substances)	
Coating Category	Pounds per gallon	Kilograms per liter
General, one-component	2.3	0.28
General, multi-component	3.5	0.42
Electric-dissipating coating and shock-free coating	6.7	0.80
Extreme performance	3.5 (two-pack coatings)	0.42 (two-pack coatings)
Metallic coating	3.5	0.42
Military specification coating	2.8 (one-pack), 3.5 (two-pack)	0.34 (one-pack), 0.42 (two-pack)
Mold-seal coating	6.3	0.76
Multi-colored coatings	5.7	0.68
Optical coatings	6.7	0.80
Vacuum-metalizing (metal and plastic)	6.7	0.80

(e) Except as set forth in (e)3 below, the owner or operator of an automotive/transportation or business machine plastic parts and products surface coating operation to which this section applies shall ensure that:

1. The automotive/transportation and business machine plastic parts and products surface coating operation complies with the following VOC emission standard:

i. The VOC content of a surface coating formulation, as applied, and excluding repair and touch-up coatings, does not exceed the applicable maximum allowable VOC content, if any, specified in Table 15D;

ii. The automotive/transportation and business machine plastic parts and products surface coating operation is served by a VOC control apparatus that has an overall control efficiency of at least 90 percent; or

iii. The automotive/transportation and business machine plastic parts and products surface coating operation is served by a VOC control apparatus that has a minimum overall control efficiency as determined by Equation 15A above using the applicable coating category in Table 15D.

2. The automotive/transportation or business machine plastic parts and products surface coating operation, complying with (e)1i or iii above, shall use one or more of the following application methods at all times and shall not use any other application method:

i. A metal and plastic parts application method; or

ii. Another coating application method capable of achieving a transfer efficiency equivalent to or better than that achieved by HVLP spraying and approved by the EPA.

3. The provisions of (e)1 above *[shall]* ***do*** not apply to the following automotive/transportation and business machine plastic parts and products surface coating operations:

i. Texture coatings;

ii. Vacuum metalizing (automotive/transportation) coatings;

iii. Gloss reducers (applied at a thickness of no more than 0.5 mils of coating solid);

iv. Texture topcoats;

v. Adhesion primers;

vi. Electrostatic prep coatings;

vii. Resist coatings; and

viii. Stencil coats (automotive/transportation).

TABLE 15D

AUTOMOTIVE/TRANSPORTATION AND BUSINESS MACHINE PLASTIC PARTS AND PRODUCTS SURFACE COATING FORMULATION VOC CONTENT LIMITS

	Maximum Allowable VOC Content per Volume of Coating (minus water and exempt organic substances)	
Coating Category	Pounds per gallon	Kilograms per liter
Automotive/transportation coatings[1]:		
High bake coatings – interior and exterior parts		

Flexible coating primer	4.5	0.54
Non-flexible coating primer	3.5	0.42
Base coats	4.3	0.52
Clear coating ***(plastic)***	4.0	0.48
Non-basecoat/clear coating ***(plastic)***	4.3	0.52
Automotive/transportation coatings[1]: Low bake/air-dried coatings – exterior parts		
Primers	4.8	0.58
Basecoat	5.0	0.60
Clear coating ***(plastic)***	4.5	0.54
Non-basecoat/clear coating ***(plastic)***	5.0	0.60
Automotive/transportation coatings[1]: Low bake/air-dried coatings – interior parts	5.0	0.60
Automotive/transportation coatings[1]: Touch-up and repair coatings	5.2	0.62
Business machine coatings		
Primers	2.9	0.35
Topcoat	2.9	0.35
Texture coat	2.9	0.35
Fog coat (Applied at a thickness no		

more than 0.5 mils of coating solids)		
	2.2	0.26
Touch-up and repair	2.9	0.35

[1] For red, yellow, and black automotive coatings, except touch-up and repair coatings, the limit shall be determined by multiplying the appropriate limit in Table 15D by 1.15.

(f) The owner or operator of a motor vehicle material surface coating operation to which this section applies shall ensure that:

1. The motor vehicle material surface coating operation complies with the following VOC emission standard:

i. The VOC content of a surface coating formulation, as applied, does not exceed the applicable maximum allowable VOC content, if any, specified in Table 15E; or

ii. The motor vehicle material surface coating operation is served by a VOC control apparatus that has an overall control efficiency of at least 90 percent.

2. The motor vehicle materials surface coating operation, complying with (f)1i above shall use one or more of the following application methods at all times and shall not use any other application method:

i. A metal and plastic parts application method; or

ii. Another coating application method capable of achieving a transfer efficiency equivalent to or better than that achieved by HVLP spraying and approved by the EPA.

TABLE 15E

MOTOR VEHICLE MATERIALS SURFACE COATING

FORMULATION VOC CONTENT LIMITS

	Maximum Allowable VOC Content per Volume of Coating (minus water and exempt organic substances)	
Coating Category	Pounds per gallon	Kilograms per liter
Motor vehicle cavity wax	5.4	0.65
Motor vehicle sealer	5.4	0.65
Motor vehicle deadener	5.4	0.65
Motor vehicle gasket/gasket sealing material	1.7	0.20
Motor vehicle underbody coating	5.4	0.65
Motor vehicle trunk interior coating	5.4	0.65
Motor vehicle bedliner	1.7	0.20
Motor vehicle lubricating wax/compound	5.8	0.70

(g) The owner or operator of a facility with a metal or plastic parts and products surface coating operation to which this section applies shall implement the following best management practices at the facility, and shall record and maintain on site the documentation of these best management practices, pursuant to N.J.A.C. 7:27-16.22:

1. Each container of VOC-containing coating, thinner, cleaning materials, or used shop towels shall have a cover that is closed, except when in use or when material is being added to or removed from the container, which shall prevent the contents from coming in contact with and being exposed to the atmosphere;

2. A mixing vessel that contains any VOC-containing material shall have a cover that is closed, except when in use or when materials are being added to or removed from the vessel;

3. All VOC-containing coatings, thinners, and cleaning materials shall be conveyed in closed containers or pipes, which shall prevent the contents from coming in contact with and being exposed to the atmosphere; and

4. All spills of VOC-containing coatings, thinners, and cleaning materials shall be cleaned up immediately.

(h) The owner or operator of a surface coating operation implementing (b)1i, (c)1i, (d)1i, (e)1i, or (f)1i above, shall maintain records of the VOC content of each surface coating formulation as applied, as follows:

1. Pounds of VOC per gallon of coating or kilograms of VOC per liter of coating;

2. The daily volume of each surface coating formulation applied; and

3. The calculations performed pursuant to *[(k)]* ***(j)*** below.

(*i*) The owner or operator of a surface coating operation implementing (b)1ii, (c)1ii, (d)1ii, or (e)1ii above, shall maintain records as follows:

1. All of the values used in Equation 15A to determine the overall control efficiency;

2. The calculated overall control efficiency;

3. The daily volume of each surface coating formulation applied; and

4. The calculations performed pursuant to (j) below.

(j) For the purpose of determining compliance with the limits set forth in (b)1, (c)1, (d)1, (e)1, and (f)1 above, the VOC content of a coating applied, or to be applied, shall be calculated in accordance with Equation 15B below. For purposes of Equation 15B, the method for determining the VOC content of a given coating shall be Method 24 of Appendix A at 40 CFR

Part 60, incorporated herein by reference. The owner or operator may use an alternative method for determining compliance (for example, quality assurance checks, recordkeeping, standard formulation sheets, or safety data sheets); however, if there are any inconsistencies between the results of Method 24 and the alternative method, the Method 24 test results shall govern.

EQUATION 15B:

$$VOC = \frac{(W_v + W_a - W_w - W_n)}{(V + V_a - V_w - V_n)}$$

Where:

VOC = The VOC content of a given coating, in pounds per gallon (lbs/gal) or kilograms per liter (kg/l), as applicable;

W_v = Mass of total volatiles, in pounds or kilograms, as applicable;

W_a = Mass of total VOC in additives or other materials that are added to the coating prior to its application, in pounds or kilograms, as applicable;

W_w = Mass of the water in coating (if any), in pounds or kilograms, as applicable;

W_n = Mass of any non-VOC solvent in the coating, in pounds or kilograms, as applicable;

V = Volume of coating, in gallons or liters, as applicable;

V_a = Volume of VOC-containing additives or other materials that are added to the coating prior to its application, in gallons or liters, as applicable;

V_w = Volume of the water in coating (if any), in gallons or liters, as applicable; and

V_n = Volume of any non-VOC solvent in the coating, in gallons or liters, as applicable.

(k) The owner or operator of a source operation that has a thermal oxidizer used to control the emission of VOCs shall maintain records in accordance with N.J.A.C. 7:27-16.16(g)2.

(*l*) The owner or operator of a source operation that has a control apparatus using carbon or other adsorptive material used to control the emission of VOCs shall maintain records in accordance with N.J.A.C. 7:27-16.16(g)3.

(m) The owner or operator of a source operation that is exempt from the VOC limitations pursuant to (c)3, (d)3, and (e)3 above shall maintain records that demonstrate that the source operation qualifies for the exemption.

(n) The owner or operator of a source operation to which this section applies shall, upon the request of the Department, record any other operating parameter relevant to the prevention or control of air contaminant emissions from the miscellaneous metal and plastic parts coatings or control apparatus, pursuant to N.J.A.C. 7:27-16.22.

7:27-16.16 Other source operations

(a) The provisions of this section apply to any source operation, except source operations in the following categories (*[Note]* ***note***: *[Source]* ***source**** operations in those categories designated by an asterisk (*) that have the potential to emit three pounds per hour or more of VOC and that are located at a major VOC facility are regulated by N.J.A.C. 7:27-16.17*[.]*):

1.-13. (No change.)

14. *Fiberglass manufacturing furnaces;

15. *Glass manufacturing furnaces;

16. *Fuel burning for steam generation for space heating;

17. *Sulfuric acid plant burners;

18. Any source operation regulated pursuant to N.J.A.C. 7:27-16.14 or 16.17; and

19. (No change.)

(b) Source operations to which this section apply are not limited to those involved in manufacturing and include, without limit, the following: agitators, autoclaves, bakery ovens, blenders, centrifuges, distillation processes, driers, extruders, fermentation processes, fiberglass boat or vessel manufacturing operations, except any source operation regulated pursuant to N.J.A.C. 7:27-16.14, fiberglass product manufacturing operations, foam blowing operations, fumigation chambers, mills, mixers, ovens, reactors, receivers, roasters, sterilization operations, and synthetic fiber manufacturing operations. The provisions of this section do not apply to any insignificant source operation as defined in N.J.A.C. 7:27-8.2 or 22.1.

(c)-(g) (No change.)

7:27-16.24 Industrial cleaning

(a) Except as provided at (b) below, this section applies to industrial cleaning at a facility that purchases for use more than 855 gallons of industrial cleaning solvents, in aggregate, during any [12-month] period * **of 12 consecutive months***.

(b) This section does not apply to the use or purchase of industrial cleaning solvents at the following source operations:

1. Mobile equipment repair and refinishing;
2. Stationary storage tank;
3. Open top tank and solvent cleaning;
4. Aerospace coating;
5. Auto and light-duty truck assembly;
6. Fiberglass boat manufacturing;
7. Flexible packaging printing;
8. Large appliance coating;

9. Letterpress printing;

10. Lithographic printing;

11. Metal and wood furniture coating;

12. Miscellaneous metal parts coating;

13. Paper coating;

14. Plastic parts coating;

15. Shipbuilding and repair coating;

16. Electrical and electronic component manufacturing;

17. Precision optics manufacturing;

18. Numismatic die manufacturing;

19. Research and development laboratory;

20. Medical device and pharmaceutical manufacturing;

21. Quality assurance testing for coatings, inks, and adhesives;

22. Architectural coating;

23. Metal container, closure, and coil coating;

24. Graphic arts printing and coating, except screen printing;

25. Magnet wire coating;

26. Semiconductor wafer fabrication manufacturing;

27. Flexible magnetic data storage disc manufacturing;

28. Rigid magnetic data storage disc manufacturing;

29. Stripping of cured inks, coatings, and adhesives;

30. Flat wood paneling and printed hardwood coating;

31. Coil coating;

32. Polyester resin operations;

33. Miscellaneous industrial adhesives;

34. Wood products coating; and

35. Marine vessel coating.

(c) The owner or operator of an industrial cleaning operation subject to this section, other than at a digital printing operation, or at an adhesive, surface coating formulation, ink, or resin manufacturing facility, shall implement at least one of the following VOC control measures:

1. The use of only industrial cleaning solvents that meet the maximum VOC content listed in Table 24A;

2. The use of only industrial cleaning solvents that have composite vapor pressures equal to or less than eight millimeters of mercury (mmHg) at 20 degrees Celsius; or

3. The installation, operation, and maintenance, in accordance with the manufacturer's recommendations, of air pollution control equipment that reduces uncontrolled VOC emissions to the atmosphere from industrial cleaning by an overall control efficiency of 85 percent or more.

TABLE 24A

MAXIMUM ALLOWABLE VOC CONTENT OF INDUSTRIAL CLEANING SOLVENTS

Type of Industrial Cleaning	Maximum Allowable VOC Content (grams per liter)
Cleaning of equipment used in screen printing	500
All other types of industrial cleaning	50

(d) The owner or operator of a facility that conducts industrial cleaning subject to this section shall implement the following best management practices at such a facility and shall record and

maintain on site the documentation of these best management practices, pursuant to N.J.A.C. 7:27-16.22:

1. All VOC-containing cleaning materials and VOC-containing used shop towels shall be kept in closed containers when not in use, which shall prevent the contents from coming in contact with and being exposed to the atmosphere;

2. Each container of VOC-containing cleaning materials shall have a cover that is kept closed, except when material is being added to or removed from the container, which shall prevent the contents from coming in contact with and being exposed to the atmosphere;

3. Any spill of VOC-containing coatings, thinners, or cleaning materials shall be cleaned up immediately; and

4. All VOC-containing cleaning materials shall be conveyed in closed containers or pipes, which shall prevent the contents from coming in contact with and being exposed to the atmosphere.

(e) The owner or operator of a facility that conducts industrial cleaning subject to this section shall maintain, on site, a record of the purchased industrial cleaning solvents, pursuant to N.J.A.C. 7:27-16.22, as follows:

1. The name and address of the person selling the industrial cleaning solvent and the date of the sale. An invoice, bill of sale, or a certificate that corresponds to one or more sales may be used to satisfy this requirement, if it includes the seller's name and address;

2. A list of VOCs and information concerning their concentration in the industrial cleaning solvent;

3. The *[SDS]* ***safety data sheet (SDS)**** for each industrial cleaning solvent purchased;

4. The product number assigned to the industrial cleaning solvent by the manufacturer; and

5. For each industrial cleaning solvent purchased, either:

i. The vapor pressure of the industrial cleaning solvent measured in millimeters of mercury at 20 degrees Celsius (68 degrees Fahrenheit); or

ii. The VOC content in grams per liter.

(f) The owner or operator of a source operation that has a thermal oxidizer used to control the emission of VOCs shall maintain records in accordance with N.J.A.C. 7:27-16.16(g)2.

(g) The owner or operator of a source operation that has a control apparatus using carbon or other adsorptive material used to control the emission of VOCs shall maintain records in accordance with N.J.A.C. 7:27-16.16(g)3.

(h) The owner or operator of a source operation to which this section applies shall, upon the request of the Department, record any other operating parameter relevant to the prevention or control of air contaminant emissions from the use of industrial cleaning solvents or control apparatus, pursuant to N.J.A.C. 7:27-16.22.

7:27-16.27 Exceptions

(a) (No change.)

(b) The provisions of this subchapter *[shall]* ***do*** not apply to the emissions of VOC from the following source operations:

1. Natural gas pipelines that are not major VOC facilities, with the exception of blowdown events as set forth in N.J.A.C. 7:27-16.21;

2. Open burning; and

3. Aerosol coating products.

SUBCHAPTER 19. CONTROL AND PROHIBITION OF AIR POLLUTION FROM OXIDES OF NITROGEN

7:27-19.2 Purpose, scope**,** and applicability

(a) (No change.)

(b) The following types of equipment and source operations are subject to the provisions of this subchapter:

1.-10. (No change.)

11. Any sewage sludge incinerator;

[12. Any other equipment or source operation not specifically listed at (b)1 through 11 above or (b)13 and 14 or (c) below that has the potential to emit more than 10 tons of NO_x per year;]

[13.] ***12.*** Any simple cycle combustion turbine combusting natural gas and compressing gaseous fuel at a major NO_x facility; *[and]*

[14.] ***13.*** Any stationary reciprocating engine capable of producing an output of 200 bhp or more but less than 500 bhp, combusting natural gas, and compressing gaseous fuel at a major NO_x facility*[.]* ***; and**

14. Any other equipment or source operation not specifically listed at (b)1 through 13 above or (c) below that has the potential to emit more than 10 tons of NO_x per year.*

(c)-(f) (No change.)

7:27-19.5 Stationary combustion turbines

(a)-(k) (No change.)

(*l*) Beginning *[(two years from the effective date of this amendment)]* ***November 6, 2019***, any simple cycle combustion turbine combusting natural gas and compressing gaseous fuel at a major NO_x facility shall not emit more than 42 parts per million by volume, dry basis, *[(ppmdv)]* ***(ppmvd)*** of NO_x, corrected to 15 percent oxygen.

7:27-19.8 Stationary reciprocating engines

(a)-(f) (No change.)

(g) Beginning *[(two years from the effective date of this amendment)]* *November 6, 2019*, the owner or operator of a two-stroke lean-burn engine capable of producing an output of 200 bhp or more but less than 500 bhp, combusting natural gas, and compressing gaseous fuel at a major NO_x facility shall cause it to emit no more than 3.0 grams of NO_x per bhp-hr.

(h) Beginning *[(two years from the effective date of this amendment)]* *November 6, 2019*, the owner or operator of a four-stroke lean-burn engine or four-stroke rich-burn engine capable of producing an output of 200 bhp or more but less than 500 bhp, combusting natural gas, and compressing gaseous fuel at a major NO_x facility shall cause it to emit no more than 2.0 grams of NO_x per bhp-hr.

CHAPTER 27A

AIR ADMINISTRATIVE PROCEDURES AND PENALTIES

SUBCHAPTER 3. CIVIL ADMINISTRATIVE PENALTIES AND REQUESTS FOR ADJUDICATORY HEARINGS

7:27A-3.10 Civil administrative penalties for violation of rules adopted pursuant to the Act

(a)-(l) (No change.)

(m) The violations of N.J.A.C. 7:27, whether the violation is minor or non-minor in accordance with (q) through (t) below, and the civil administrative penalty amounts for each violation are as set forth in the following Civil Administrative Penalty Schedule. The numbers of the following subsections correspond to the numbers of the corresponding subchapter in N.J.A.C. 7:27. The rule summaries for the requirements set forth in the Civil Administrative Penalty Schedule in this subsection are provided for informational purposes only and have no legal effect.

CIVIL ADMINISTRATIVE PENALTY SCHEDULE

1.-15. (No change.)

16. The violations of N.J.A.C. 7:27-16, Control and Prohibition of Air Pollution by Volatile Organic Compounds (VOC), and the civil administrative penalty amounts for each violation, per source, are as set forth in the following table:

Citation	Class	Type of Violation	First Offense	Second Offense	Third Offense	Fourth and Each Subsequent Offense
...						
N.J.A.C. 7:27-16.7(t) and (u)	Best management practices	NM	$500	$1,000	$2,500	$7,500

…

Citation	Class	Type of Violation	First Offense	Second Offense	Third Offense	Fourth and Each Subsequent Offense
N.J.A.C. 7:27-16.14(d) and (e)	Fiberglass boat manufacturing					
Maximum Actual Emissions						
For less than 10 pounds per hour:						
1. Less than 25 percent over the allowable standard		NM	$2,000 [3]	$4,000 [3]	$10,000 [3]	$30,000 [3]
2. From 25 through 50 percent over the allowable standard		NM	$4,000 [3]	$8,000 [3]	$20,000 [3]	$50,000 [3]
3. Greater than 50 percent over the allowable standard		NM	$8,000 [3]	$16,000 [3]	$40,000 [3]	$50,000 [3]
From 10 pounds through 22.8 pounds per hour:						
1. Less than 25 percent over the allowable standard		NM	$6,000 [3]	$12,000 [3]	$30,000 [3]	$50,000 [3]

2. From 25 through 50 percent over the allowable standard		NM	$8,000 [3]	$16,000 [3]	$40,000 [3]	$50,000 [3]
3. Greater than 50 percent over the allowable standard		NM	$10,000 [3]	$20,000 [3]	$50,000 [3]	$50,000 [3]
For greater than 22.8 pounds per hour:						
1. Less than 25 percent over the allowable standard		NM	$8,000 [3]	$16,000 [3]	$40,000 [3]	$50,000 [3]
2. From 25 through 50 percent over the allowable standard		NM	$10,000 [3]	$20,000 [3]	$50,000 [3]	$50,000 [3]
3. Greater than 50 percent over the allowable standard		NM	$10,000 [3]	$20,000 [3]	$50,000 [3]	$50,000 [3]
N.J.A.C. 7:27-16.14(f)	Best management practices	NM	$500	$1,000	$2,500	$7,500
N.J.A.C. 7:27-16.14(g), (h), (i) or (j)	Recordkeeping	M	$500	$1,000	$2,500	$7,500

Citation	Class	Type of Violation	First Offense	Second Offense	Third Offense	Fourth and Each Subsequent Offense
N.J.A.C. 7:27-16.15(b)1, (c)1, (d)1, (e)1, or (f)1	Miscellaneous metal and plastic parts coatings					
Maximum Actual Emissions						
For less than 10 pounds per hour:						
1. Less than 25 percent over the allowable standard		NM	$2,000 [3]	$4,000 [3]	$10,000 [3]	$30,000 [3]
2. From 25 through 50 percent over the allowable standard		NM	$4,000 [3]	$8,000 [3]	$20,000 [3]	$50,000 [3]
3. Greater than 50 percent over the allowable standard		NM	$8,000 [3]	$16,000 [3]	$40,000 [3]	$50,000 [3]
From 10 pounds through 22.8 pounds per hour:						
1. Less than 25 percent over the allowable standard		NM	$6,000 [3]	$12,000 [3]	$30,000 [3]	$50,000 [3]

2. From 25 through 50 percent over the allowable standard		NM	$8,000 [3]	$16,000 [3]	$40,000 [3]	$50,000 [3]
3. Greater than 50 percent over the allowable standard		NM	$10,000 [3]	$20,000 [3]	$50,000 [3]	$50,000 [3]
For greater than 22.8 pounds per hour:						
1. Less than 25 percent over the allowable standard		NM	$8,000 [3]	$16,000 [3]	$40,000 [3]	$50,000 [3]
2. From 25 through 50 percent over the allowable standard		NM	$10,000 [3]	$20,000 [3]	$50,000 [3]	$50,000 [3]
3. Greater than 50 percent over the allowable standard		NM	$10,000 [3]	$20,000 [3]	$50,000 [3]	$50,000 [3]
N.J.A.C. 7:27-16.15(b)2, (c)2, (d)2, (e)2, or (f)2	Coating Application Techniques	NM	$1,000	$1,500	$2,000	$2,500
N.J.A.C. 7:27-16.15 (g)	Best management practices	NM	$500	$1,000	$2,500	$7,500
N.J.A.C. 7:27-	Recordkeeping	M	$500	$1,000	$2,500	$7,500

16.15(h), (i), (j),

(k), (l), (m), or (n)

…

Citation	Class	Type of Violation	First Offense	Second Offense	Third Offense	Fourth and Each Subsequent Offense
N.J.A.C. 7:27-16.24(c)	VOC control measures	NM	$1,000 [3]	$1,500 [3]	$2,000 [3]	$2,500 [3]
N.J.A.C. 7:27-16.24(d)	Best management practices	NM	$500	$1,000	$2,500	$7,500
N.J.A.C. 7:27-16.24(e), (f), (g) or (h)	Recordkeeping	M	$500	$1,000	$2,500	$7,500

…

17.-18. (No change.)

19. The violations of N.J.A.C. 7:27-19, Control and Prohibition of Air Pollution from Oxides of Nitrogen, and the civil administrative penalty amounts for each violation, are as set forth in the following table:

Citation	Class	Type of	First	Second	Third	Fourth and

		Violation	Offense	Offense	Offense	Each Subsequent Offense
		…				
N.J.A.C. 7:27-19.5(k) [and (l)]	Submit reduction plan and updates	M	$2,000	$4,000	$10,000	$30,000
N.J.A.C. 7:27-19.5(l)	Simple Cycle Combustion Turbines					
Actual Emission (ppmvd corrected to 15 percent O_2):						
Less than 13,400 hp Turbine						
1. Less than 25 percent over the allowable standard		NM	$2,000	$4,000	$10,000	$30,000
2. From 25 through 50 percent over the allowable standard		NM	$4,000	$8,000	$20,000	$50,000
3. Greater than 50 percent over the		NM	$8,000	$16,000	$40,000	$50,000

allowable standard						
13,400 to 67,100 hp Turbine						
1. Less than 25 percent over the allowable standard		NM	$6,000	$12,000	$30,000	$50,000
2. From 25 through 50 percent over the allowable standard		NM	$8,000	$16,000	$40,000	$50,000
3. Greater than 50 percent over the allowable standard		NM	$10,000	$20,000	$50,000	$50,000
Greater than 67,100 hp Turbine						
1. Less than 25 percent over the allowable standard		NM	$8,000	$16,000	$40,000	$50,000
2. From 25 through 50 percent over the allowable standard		NM	$10,000	$20,000	$50,000	$50,000
3. Greater than 50 percent over the allowable standard		NM	$10,000	$20,000	$50,000	$50,000
…						
Citation	Class	Type of Violation	First Offense	Second Offense	Third Offense	Fourth and Each Subsequent

		Offense				
…						
N.J.A.C. 7:27-19.8(g) or (h)	Compressor engines greater than or equal to 200 bhp but less than 500 bhp					
Actual Emissions (grams per bhp-hr)						
1. Less than 25 percent over the allowable standard		NM	$4,000	$8,000	$20,000	$40,000
2. From 25 through 50 percent over the allowable standard		NM	$6,000	$12,000	$30,000	$50,000
3. Greater than 50 percent over the allowable standard		NM	$9,000	$18,000	$45,000	$50,000
...						
20.-34. (No change.)						
(n)-(u) (No change.)						