62-296.500 Reasonably Available Control Technology (RACT) – Volatile Organic Compounds (VOC) and Nitrogen Oxides (NOx) Emitting Facilities.

(1) Applicability.

(a) The specific emission limiting standards and other requirements of Rules 62-296.500 through 62-296.516, F.A.C., shall apply to existing VOC-emitting facilities in areas designated as air quality maintenance areas for ozone under Rule 62-204.340, F.A.C. In addition, the emission limiting standards of these rules shall apply to new and modified VOC-emitting facilities in areas designated as air quality maintenance areas for ozone under Rule 62-204.340, F.A.C., except those new and modified VOC-emitting facilities which have been or would be subject to review pursuant to 40 C.F.R. 52.21 or Rule 17-2.17 (repealed), 17-2.500 (transferred), 17-2.510 (transferred), 62-212.400 or 62-212.500, F.A.C.

(b) In addition to the applicable requirements of this rule the specific emission limiting standards and other requirements of Rule 62-296.570, F.A.C., shall apply in Broward, Dade, and Palm Beach counties to major VOC-emitting facilities not regulated in whole under Rules 62-296.501 through 62-296.516, F.A.C., and major NOx-emitting facilities, except those new and modified major VOC- and NOx-emitting facilities which have been or would be subject to review pursuant to 40 C.F.R. 52.21 or Rule 17-2.17 (repealed), 17-2.500 (transferred), 17-2.510 (transferred), 62-212.400, or 62-212.500, F.A.C.

(2) Permit, Recordkeeping, and Compliance Reporting Requirements.

(a) Permits – Special Considerations.

1. Permits to construct or operate are required for all emissions units subject to a specific emission limiting standard or other requirement of Rules 62-296.501 through 62-296.516, F.A.C., or Rule 62-296.570, F.A.C., except those emissions units subject to Rule 62-296.512, F.A.C., Cutback Asphalt.

2. Permits to operate shall contain conditions relating to operation, emission levels, control equipment, use of low solvent technology or other resource characteristics necessary to insure compliance with the applicable rules.

(b) Recordkeeping.

1. An owner or operator of a stationary emissions unit using adhesives, coating, solvents, and/or graphic arts materials and subject to a specific emission limiting standard or other requirement of Rules 62-296.501 through 62-296.516, F.A.C., or Rule 62-296.570, F.A.C., shall maintain daily records of operations for the most recent two year period. The records shall be made available to the local, state, or federal air pollution agency upon request. The records shall include, but not be limited to, the following:

a. The rule number applicable to the operation for which the records are being maintained.

b. The application method and substrate type (metal, plastic, paper, etc.).

c. The amount and type of adhesive, coatings (including catalyst and reducer for multicomponent coatings), solvent, and/or graphic arts material used at each point of application, including exempt compounds.

d. The VOC content as applied in each adhesive coating, solvent, and/or graphic arts material.

e. The date for each application of adhesive coating, solvent, and/or graphic arts material.

f. The amount of surface preparation, clean-up, wash-up of solvent (including exempt compounds) used and the VOC content of each.

g. Oven temperature (where applicable).

2. VOC content shall be calculated using a percent solids basis (less water and exempt solvents) for adhesives, coating, and inks, using EPA Reference Method 24.

3. VOC content and density of rotogravure publication inks shall be determined by EPA Reference Method 24A.

4. The Department may accept, instead of the coating analysis methods required under paragraphs 62-296.500(2)(b)2. and 3., F.A.C., a certification by the coating manufacturer of the composition of the coating if it is supported by actual batch formulation records. The manufacturer's certification

shall be consistent with EPA's document number 450/3-84-019, titled, "Procedures for Certifying Quantity of Volatile Organic Compounds Emitted by Paint, Ink, and Other Coatings".

5. When an emissions unit utilizes add-on controls to achieve compliance, documentation will be necessary to assure proper operation. Examples of some controls and related information are:

a. Thermal incinerator – combustion temperature, inlet and outlet VOC concentration from emission tests, how and when these concentrations were determined, destruction or removal efficiency, and manufacturer data.

b. Catalytic incinerator – exhaust gas temperature, change in temperature across catalyst bed, date of last change of catalyst bed, inlet and outlet VOC concentration from emission tests, how and when these concentrations were determined, destruction or removal efficiency, and manufacturer data.

c. Condenser – inlet temperature of cooling medium, outlet temperature of cooling medium, inlet and outlet VOC concentration from emission tests, how and when these concentrations were determined, removal efficiency, and manufacturer data.

(c) Reporting. Annually, in accordance with a schedule and reporting format provided by the Department, the owner or operator of any emissions unit having a Department air operation permit and subject to a specific emission limitation under Rules 62-296.501 through 62-296.516, F.A.C., shall provide the Department with proof of compliance with such limitation. Compliance with the requirements of Rule 62-296.570, F.A.C., shall be demonstrated in accordance with the provisions of that rule.

(3) Exceptions.

(a) Emissions units which in combination with all other emissions units at the facility subject to the same specific emission limitation under Rules 62-296.501 through 62-296.516, F.A.C., emit VOC at rates of not more than 15 pounds (6.8 kilograms) in any one day and not more than 3 pounds (1.4 kilograms) in any one hour.

(b) Emissions units used exclusively for chemical or physical analysis, or for the determination of product quality and commercial acceptance, provided:

1. The operation of the emissions unit is not an integral part of any production process; and,

2. The emissions from the emissions unit do not exceed 800 pounds (363 kilograms) in any one calendar month.

(4) Consideration of Exempt Solvents – Compliance calculations for coatings containing solvents exempted under the definition of VOC shall be determined as follows:

Given the mass of VOC and mass of exempt solvent per unit volume of coating, determine the mass of VOC per unit volume of coating less exempt solvent.

Let

x = mass of exempt solvent per unit volume of coating

y = mass of VOC per unit volume of coating

d = density of exempt solvent

z = mass of VOC per unit volume of coating less exempt solvent.

Then

z = [y/ (1 - x/d)] or

If more than one solvent is present and the individual volumes and densities are known, use:

$$d = \frac{d_1 V_1 + d_2 V_2 + \ldots d_n V_n}{V_1 + V_2 + \ldots V_n}$$

where

V = volume of each component solvent

(5) Compliance may be demonstrated for surface coating and graphic arts facilities on a 24-hour weighted average basis for a single emissions unit point with a single emission limit.

(6) Specific Emission Limitations. The specific volatile organic compounds emission limiting standards set forth in Rules 62-296.401 through 62-296.416, F.A.C., have been found to represent the application of RACT for each emissions unit category listed in those rules except for those emissions unit categories listed in Rules 62-296.501 through 62-296.516, F.A.C., and Rule 62-296.570, F.A.C. For those emissions unit categories the volatile organic compounds emission standards of Rules 62-296.501 through 62-296.516, F.A.C., and Rule 62-296.570, F.A.C., have been found to represent the application of RACT. Emission limitations for surface coating operations shall be expressed in units of pounds VOC/gallon of solids as applied rather than pounds VOC/gallon of coating (less water and exempt solvents) when crossline averaging or compliance using add-on control equipment such as incineration is involved. The method of calculating pounds VOC/gallon of solids as applied from the pounds VOC/gallon of coating is shown in Table 296.500-1.

TABLE 296.500-1 CALCULATION OF POUNDS VOC/GALLON OF SOLIDS FROM POUNDS VOC/GALLON OF COATING

These calculations shall be determined as follows:

EXAMPLE CONVERSION

GIVEN: COATING OF 3 POUNDS VOC/GALLON OF COATING (LESS WATER AND EXEMPT SOLVENTS) AND VOC DENSITY OF 7.36 POUNDS VOC/GALLON.

PROBLEM: CONVERT POUNDS VOC/GALLON OF COATING TO POUNDS VOL/GALLON OF SOLIDS.

STEP 1 – WHAT IS THE VOLUME OF VOC IN 1 GALLON OF COATING?

3 POUNDS VOC × 1 GALLON VOC = 0.408 GALLON VOC

_____ _____ _____

GALLON COATING 7.36 POUNDS VOC GALLON COATING

STEP 2 – WHAT IS THE VOLUME OF SOLIDS IN 1 GALLON COATING?

1 GALLON COATING – VOLUME VOC = VOLUME SOLIDS

1 – 0.408 = 0.592 GALLON SOLIDS

STEP 3 – HOW MANY GALLONS OF COATING DOES IT TAKE TO GET A GALLON OF SOLIDS? (INVERSE OF STEP 2)

1 GALLON COATING = 1.689 GALLON COATING

_____ _____

0.592 GALLON SOLIDS GALLON SOLIDS

STEP 4 – CONVERT 3 POUNDS VOC/GALLON OF COATING TO POUNDS VOC/GALLON OF SOLIDS

3 POUNDS GALLON × 1.689 GALLON COATING = 5.07 POUNDS VOC

_____ _____ _____

ANSWER: 3 POUNDS VOC/GALLON OF COATING (LESS WATER AND EXEMPT SOLVENTS) = 5.07 POUNDS VOC/GALLON OF SOLIDS

62-296.570 Reasonably Available Control Technology (RACT) - Requirements for Major VOC- and NOx-Emitting Facilities.

(1) Applicability.

(a) The requirements of this rule shall apply to those major VOC- and NOx-emitting facilities specified in paragraph 62-296.500(1)(b), F.A.C.; specifically, to those VOC emissions units within such facilities which are not regulated for VOC under Rules 62-296.501 through 62-296.516, F.A.C., and those VOC and NOx emissions units which have not been exempted pursuant to paragraph 62-296.500(1)(b), F.A.C., or by a specific provision of Rules 62-296.500 through 62-296.516, F.A.C.

(b) The requirements of this rule shall not apply to emissions units that would otherwise be exempt from the air permitting requirements of the Department pursuant to subsection 62-210.300(3), F.A.C., or that would otherwise be considered insignificant pursuant to subparagraph 62-213.300(2)(a)1. or paragraph 62-213.430(6)(b), F.A.C.

(2) Compliance Requirements. Emissions units subject to the requirements of this rule shall comply with the operation permit requirements of subsection 62-296.570(3), F.A.C., and the RACT emission limiting standards of subsection 62-296.570(4), F.A.C. If, pursuant to an air operation or construction permit, the owner or operator of a emissions unit subject to the requirements of this rule assumes (or has assumed) a more stringent NOx or VOC emissions limit than the RACT emissions limit established in subsection 62-296.570(4), F.A.C., for the applicable emissions unit category, compliance with the emissions unit's NOx or VOC emissions limit in its air operation or construction permit shall be considered compliance with RACT for purposes of this rule.

(3) Operation Permit Requirements.

(a) The owner or operator of any emissions unit subject to the requirements of this rule shall apply for a new or revised permit to operate in accordance with the provisions of this rule by March 1, 1993, unless a later filing date is specified by the Department in writing.

(b) If the existing operation permit for any emissions unit subject to the requirements of this rule would expire between the effective date of this rule and March 1, 1993, or any later filing date specified by the Department, the expiration date of such permit is hereby extended until March 1, 1993, or such later date. This provision shall not apply in the case of a revocation or suspension of such permit pursuant to Chapter 62-4, F.A.C.

(4) RACT Emission Limiting Standards.

(a) Compliance Dates and Monitoring.

1. Each applicant for a new or revised operation permit for an emissions unit subject to the requirements of this rule shall propose a schedule for implementing the RACT emission limiting standards as expeditiously as practicable but no later than May 31, 1995. The emissions unit shall demonstrate compliance with the RACT emission limiting standards in accordance with a schedule specified in the emissions unit's air operation permit issued pursuant to subsection 62-296.570(3), F.A.C.

2. Fuel-specific NOx and VOC emission limits established under this rule shall be incorporated into the new or revised operation permit for each emissions unit and become effective in accordance with the terms of the permit.

3. For units that are not equipped with a continuous emission monitoring system (CEMS) for NOx or VOCs, compliance with the emission limits established in this rule shall be demonstrated by annual emission testing in accordance with applicable EPA Reference Methods from Rule 62-297.401, F.A.C., or other methods approved by the Department in accordance with the requirements of Rule 62-297.620, F.A.C., except as otherwise provided in paragraph 62-296.570(4)(b), F.A.C. If required, such annual emission testing shall be conducted during each federal fiscal year (October 1 – September 30). Annual compliance testing while firing oil is unnecessary for units operating on oil for less than 400 hours in the current federal fiscal year.

4. For units that are equipped with a CEMs, compliance shall be demonstrated based on a 30-day rolling average. The CEMs must meet the performance specifications contained in 40 Code of Federal Regulations Part 60, Appendix B, or 40 Code of Federal Regulations Part 75, hereby adopted and incorporated by reference.

(b) Emission Limiting Standards.

1. Emissions of NOx from any rear wall fired, forced circulation, 16-burner, compact furnace shall not exceed 0.20 lb/million BTU while firing natural gas and 0.36 lb/million BTU while firing oil.

2. Emissions of NOx from any front wall fired, natural circulation, 18-burner, compact furnace shall not exceed 0.40 lb/million BTU while firing natural gas and 0.53 lb/million BTU of NOx while firing oil.

3. Emissions of NOx from any front wall fired, natural circulation, 24-burner, compact furnace shall not exceed 0.50 lb/million BTU while firing natural gas and 0.62 lb/million BTU of NOx while firing oil.

4. Emissions of NOx from any tangentially fired, low heat release, large furnace shall not exceed 0.20 lb/million BTU while firing natural gas.

5. Emissions of NOx from any gas turbine shall not exceed 0.50 lb/million BTU while firing natural gas and 0.90 lb/million BTU while firing oil. Unless compliance is demonstrated using a CEMs, compliance shall be demonstrated by a stack test on one representative turbine unit within a facility if the turbines are substantially similar.

6. Emissions of VOC and NOx from carbonaceous fuel burning facilities, other than waste-to-energy facilities, shall not exceed 5.0 lbs/million BTU and 0.9 lb/million BTU, respectively.

7. Emissions of NOx from any oil-fired diesel generator shall not exceed 4.75 lb/million BTU.

8. Emissions of NOx from any cement plant shall not exceed 2.0 lb/million BTU.

9. Emissions of NOx from any other external combustion emissions unit subject to the requirements of this rule, and not covered in subparagraph 62-296.570(4)(b)1. through 8., F.A.C., shall not exceed 0.50 lb/million BTU. Compliance shall be demonstrated annually in accordance with the applicable EPA Method from Rule 62-297.401, F.A.C., or other method approved by the Department in accordance with the requirements of Rule 62-297.620, F.A.C.

10. Emissions of VOC from resin coating operations shall be limited by the use of low-VOC resin or thermal oxidation of emissions from the purge cycle.

11. Emissions of VOC from any emissions unit subject to this rule but specifically exempted from any of the control technology requirements of Rules 62-296.501, through 62-296.516, F.A.C., shall not exceed the applicable exemption criteria.

(c) Exception for Startup, Shutdown, or Malfunction. The emission limits in this rule shall apply at all times except during periods of startup, shutdown, or malfunction as provided by Rule 62-210.700, F.A.C.