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COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

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Director

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Piedmont Regional Dir.

CONSENT AGREEMENT AND ORDER

WITH

Philip Morris Incorporated
D/B/A Philip Morris USA
Richmond Manufacturing Center
3601 Commerce Road
Richmond, Virginia 23261

Registration No. 50076

SECTION A: Purpose

This Agreement establishes a Reasonably Available Control Technology (RACT) standard for the Philip Morris USA, Richmond Manufacturing Center, for the control of volatile organic compound (VOC) emissions in the Richmond Ozone Nonattainment Area as required by the 1985 State Implementation Plan (SIP) and Section 120-04-0407 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution. This RACT standard shall be the basis for VOC emissions control for this plant.

SECTION B: References

Unless the context indicates otherwise, the following words and terms have the meanings assigned to them below:

"Agreement" means this Consent Agreement and Order.

"Board" or "SAPCB" means the State Air Pollution Control Board, a collegiate body of the Commonwealth of Virginia described in §10.1-1301 of the Code. Particular powers and duties of the Board are described in Section C of this document.

"Code" means the Code of Virginia.

"DEQ" means the Department of Environmental Quality, an agency of the Commonwealth described in §10.1-1183 of the Code.

"Director" means the Director of the Department of Environmental Quality. Particular powers and duties of the Director are described in Section C of this document.

"EPA" means the United States Environmental Protection Agency.

"Major Stationary Source" means any stationary source with a theoretical potential to emit 100 tons or more per year of any criteria pollutant.

"New Source Review Program" means a program for the preconstruction review and permitting of new stationary sources or expansions to existing ones in accordance with regulations promulgated to implement the requirements of §§110 (a)(2)(C), 165 (relating to permits in prevention of significant deterioration areas), and 173 (relating to permits in nonattainment areas) of the federal Clean Air Act.

"Non-CTG" means a source type for which the EPA has not issued a Control Technique Guideline (CTG), and thus has not established RACT for that source type.

"Philip Morris" or "affected facility" means Philip Morris Incorporated, D/B/A Philip Morris USA, Richmond Manufacturing Center, located at 3601 Commerce Road, Richmond, Virginia.

"Piedmont Regional Office" refers to the staff of the office of the Department of Environmental Quality, 4949-A Cox Road, Glen Allen, Virginia.

"Reasonably Available Control Technology" or "RACT" means the lowest emission limit that a particular source is capable of meeting by the application of control technology that is both reasonably available, as well as technologically and economically feasible.

"Regional Director" means the Director of the Piedmont Regional Office.

"SAPCB Regulations" means the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution.

"SIP" means the State Implementation Plan.

"Theoretical potential to emit" means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. It is based on emissions at design capacity or maximum production and maximum operating hours (8,760 hours per year) before add-on controls, unless the source is subject to state and federally enforceable permit conditions that limit production rates or hours of operation.

"VOC" means volatile organic compounds as defined by Section 120-01-02 of the SAPCB Regulations.

SECTION C: Authority

1. Chapter 13 of Title 10.1 of the Code creates the Board and vests in it the authority to supervise and control various aspects of air pollution in the Commonwealth. Among the Board's powers is the authority to promulgate regulations "abating, controlling and prohibiting" air pollution, found in §10.1-1308 of the Code.

2. Pursuant to its authority, the Board has promulgated the SAPCB Regulations, which first took effect March 17, 1972 and have been periodically amended.

3. Pursuant to §10.1-1307.D. of the Code, the Board has the authority to issue orders to diminish or abate the causes of air pollution and to enforce its rules and regulations. Orders of the Board are enforceable pursuant to §§10.1-1316 and 10.1-1320 of the Code.

4. The Director is the executive officer of the Board. Under §10.1-1307.2 A of the Code, the Director is to perform those duties required of him by the Board. Additionally, under §10.1-1307.3 of the Code, the Director has such powers to supervise, administer and enforce the provisions of Chapter 13 of Title 10.1 of the Code, as well as the regulations and orders of the Board, as are conferred upon him by the Board. The powers and duties conferred and imposed upon the Director under §§10.1-1307.2 and 10.1-1307.3 of the Code are continued under §10.1-1185 of the Code.

5. Under §10.1-1307.2 B of the Code, the Director may be vested with the authority of the Board when it is not in session, subject to such regulations or delegation as may be prescribed by the Board. Appendix F of the SAPCB Regulations contains the Delegation of Authority from the Board to the Director. In Section II A of Appendix F the Director is given the authority, with some exceptions, to act for the Board when it is not in session and to issue consent orders and emergency special orders.

SECTION D: Findings

1. Philip Morris USA operates a cigarette manufacturing center located at 3601 Commerce Road, in Richmond, Virginia.

2. In the 1985 SIP revision and again by letter dated May 10, 1989, the DEQ made a commitment to establish emissions standards in accordance with EPA policy, requiring RACT for all non-CTG major stationary sources of VOC emissions in the Richmond Ozone Nonattainment Area which, at the time, included the City of Richmond, and the Counties of Henrico and Chesterfield.

3. Philip Morris was determined by the Board to be a non-CTG major stationary source of VOC emissions in the Richmond Ozone Nonattainment Area.

4. On February 21, 1986, the Board notified Philip Morris of its requirement to develop a RACT standard for VOC emissions from the affected facility.

5. A Consent Agreement and Order was executed and a RACT analysis was submitted to the EPA for approval on December 18, 1987.

6. In a letter dated January 7, 1991, the EPA indicated that the RACT analysis submitted on December 18, 198 was deficient and could not be approved.

7. Section 120-04-0407 of the SAPCB Regulations, which became effective on July 1, 1991, requires RACT for all non-CTG major stationary sources of VOC emissions in the expanded Richmond Ozone Nonattainment Area, which includes the Cities of Richmond, Hopewell, and Colonial Heights; and the Counties of Henrico, Hanover, Chesterfield, and Charles City.

8. Philip Morris performed a new RACT analysis, which was submitted to the DEQ on June 24, 1992.

9. Based on 1990 throughput data, the following emissions are summarized for 1990 in the RACT analysis:

   a. Uncontrolled stack VOC emissions from burley casing cylinders #1 and #2 are estimated to be 1 tons per year.

   b. Uncontrolled stack VOC emissions from aftercut dryers #1 through #4 are estimated to be 106 to per year.

c. Uncontrolled stack VOC emissions from aftercut flavor cylinders #1 through #8 are estimated to be 350 tons per year.

d. Uncontrolled stack VOC emissions from all other tobacco processing equipment are estimated to be 153 tons per year.

e. Fugitive VOC emissions from tobacco processing are estimated to be 500 tons per year.

f. Total uncontrolled VOC emissions from the affected facility are estimated to be 1259 tons per year.

10. Based on 1990 throughput data, RACT for all flavor cylinders applying high-VOC-emitting flavorings and the aftercut dryers, referenced in Paragraph D.9.a-c. above, is determined to be the use of thermal oxidation having a VOC destruction efficiency of at least 95% on a mass basis.

11. Because it is not cost effective to control VOC emissions from all of the tobacco processing operations referenced in Paragraph D.9.d. above, RACT is determined to be no control for these operations.

12. Based on the RACT proposed in Paragraphs D.10. and D.11. above, total VOC emissions from the affected facility in 1990 after RACT has been applied are estimated to be 684 tons per year.

13. In March, 1993, Philip Morris discontinued the use of high-VOC-emitting flavorings applied in the burley casing cylinders referenced in Paragraph D.9.a. above.

14. As a result of the two thermal oxidation units having been already installed and operating, an expeditious startup and testing schedule is required by the DEQ.

SECTION E: Agreement

Accordingly, the Board and Philip Morris agree that:

1. This Agreement shall supersede the Consent Agreement and Order concerning the affected facility executed between Philip Morris and the DEQ on December 18, 1987.

2. VOC emissions from the affected facility shall be controlled and reduced as outlined in this Agreement.

3. Exhaust VOC emissions from flavor cylinders where high-VOC-emitting flavorings are applied and the aftercut dryers in Process Lines #1 and #2 shall be controlled

by thermal oxidation unit(s) having a destruction efficiency of at least 95% on a mass basis.

4. The thermal oxidation unit(s) shall be installed and operational no later than 120 days from the effective date of this Agreement.

5. Each thermal oxidation unit shall operate with a minimum temperature as determined during performance testing. All 3-hour periods of operation calculated on a rolling average, in which the average combustion temperature was more than 50 degrees Fahrenheit below the minimum average combustion temperature during the most recent performance test that demonstrated compliance, shall be recorded for each day for each line and an explanation provided for the reduction in temperature. This information shall be maintained at the facility for the most recent five years. Notification of a malfunction shall be given in accordance with the SAPCB Regulations.

6. Each thermal oxidation unit shall have a minimum individual air flow capacity of 10,000 scfm, and a minimum combined air flow capacity shall be 20,000 scfm. Each thermal oxidizer shall be provided with adequate access for inspection.

7. The thermal oxidation units shall be equipped with automatic control dampers which prevent the flow of laden process exhaust air to each unit until the minimum temperature is attained. During all periods of operation, to include startup and shutdown, the thermal oxidizer chamber temperatures and the automatic damper positions shall be continuously monitored and recorded. Data from the continuous temperature monitor shall be recorded as one-minute readings and reduced to 3-hour averages on a rolling basis. A valid 3-hour average shall consist of no less than 90% valid readings. All continuous monitoring devices shall be maintained and calibrated in accordance with the manufacturer's specifications. The continuous temperature monitors shall be calibrated annually and the results of the calibrations recorded. If a monitor fails its calibration check (i.e. calibration error exceeds manufacturer's specifications), the temperature data shall be invalid until corrective actions are taken a successful recalibration is completed.

8. The exhaust system from the process lines shall be equipped with a pressure gauge in the duct prior to thermal oxidation unit(s) to continuously monitor a insure that a negative pressure is being maintaine the exhaust system. During all periods of operati

to include startup and shutdown, the exhaust system pressures shall be continuously monitored and recorded. Data from the continuous pressure monitors shall be recorded as one-minute readings and reduced to 3-hour averages on a rolling basis. A valid 3-hour average shall consist of no less than 90% valid readings. All continuous monitoring devices shall be maintained and calibrated in accordance with the manufacturer's specifications. The continuous pressure monitors shall be calibrated annually and the results of the calibrations recorded. If a monitor fails its calibration check (i.e. calibration error exceeds manufacturer's specifications), the pressure data are considered invalid until corrective actions are taken and a successful recalibration is completed.

9. After the effective date of this Agreement, if Philip Morris desires to reformulate any flavorings associated with the equipment required to be exhausted to the thermal oxidation unit(s), the respective equipment in which the reformulated flavorings are implemented will be exempt from the add-on control requirements established by this Agreement, provided the following conditions are met:

   a. Emissions resulting from any such change in formulation must be verified by stack sampling, where applicable, using appropriate EPA test methods and material balance. All stack sampling must be approved by the Regional Director prior to conducting any testing.

   b. On a daily basis, Philip Morris shall track production and flavoring throughputs for the equipment no longer exhausting to the thermal oxidation unit(s). Philip Morris shall calculate the emissions from the affected equipment as follows:

$$E = (TT \times EF) + MBE$$

where:

E	=	VOC emissions in pounds per day
TT	=	Tobacco throughput in pounds of tobacco processed per day
EF	=	Reformulated flavoring emission factor in pounds of VOC per pound of tobacco processed (based on stack sampling)
MBE	=	Material balance VOC emissions in pounds per day

For each day, Philip Morris shall also calculate the emissions that would have occurred on January 1, 1993 prior to the reformulation, with the affected equipment being exhausted to the thermal oxidation unit(s), as follows:

$$E' = (((TT \times EF') + (0.55 \times MBE)) \times ((100 - DE)/100)) + (0.45 \times MBE)$$

where:

E' = VOC emissions that would have occurred prior to reformulating the flavoring in pounds per day

TT = Tobacco throughput in pounds of tobacco processed per day

EF' = Original formulated flavoring emission factor in pounds of VOC per pound of tobacco processed (based on stack sampling)

DE = Required destruction efficiency (95%) for the thermal oxidation unit(s)

MBE = Material balance VOC emissions in pounds per day

On a daily basis, Philip Morris must compare the results of these two equations. Emissions from the equipment applying a reformulated flavoring (E) must always be less than the emissions (E') which would have been generated had the reformulation not occurred and the equipment were exhausted to the thermal oxidation unit(s). These records shall be maintained for the most recent five years.

10. Within 180 days of initial startup of the thermal oxidation units, Philip Morris shall conduct performance tests using EPA Reference Method 25 or any other Reference Method or equivalent method approved by the Regional Director to determine that a VOC destruction efficiency of at least 95% on a mass basis is being achieved by each thermal oxidation unit. During these tests, Philip Morris shall be required to operate all process equipment, exhausted to these units, at a minimum of 80% of their maximum rated capacity. Tests shall be conducted and reported and data reduced as set forth in Sections 120-05-03 and 120-06-03 of the SAPCB Regulations, and the test methods and procedures contained in each applicable section or subpart listed in Sections 120-05-0502 and 120-06-0102. The details of the tests are to be arranged with the Regional Director. Three copies o

the test results shall be submitted to the Regional Director within 45 days after test completion.

11. During the performance tests of the thermal oxidation units, Philip Morris shall establish and record the 3-hour average combustion chamber temperature that achieves a destruction efficiency of 95% on a mass basis.

12. Philip Morris shall furnish written notification to the Regional Director of the anticipated date of performance tests for the thermal oxidation units and a testing protocol postmarked at least 30 days prior to such date.

13. Philip Morris shall comply with all applicable SAPCB Regulations including the requirements for monitoring, notification, recordkeeping, reporting, maintenance, and malfunction.

14. Philip Morris shall maintain records of all operating parameters necessary to demonstrate compliance. These records shall be maintained for both thermal oxidation units and associated continuous temperature monitoring equipment, and shall include, but are not limited to, all of the following:

    a. a maintenance schedule

    b. scheduled and unscheduled maintenance records

    c. inventory of spare parts that are needed to minimize durations of equipment breakdowns

    d. written operating procedures

    e. thermal oxidizer chamber temperatures (1-minute and 3-hour rolling averages)

    f. automatic damper position records (minimum frequency: hourly)

    g. operating schedules for all flavor cylinders applying high-VOC-emitting flavorings and the aftercut dryers, indicating all operating and downtime hours for each piece of equipment for each calendar day

    h. results of annual calibrations of temperature monitors

    i. process line exhaust duct pressures (1-minute and 3-hour rolling averages)

j. daily throughput and emissions data from any piece of equipment applying a reformulated flavoring demonstrating that the reformulated flavoring emissions are always less than what would have been generated had the reformulation not occurred and the equipment were exhausted to the thermal oxidation unit(s).

These records shall be available on site for inspection by the DEQ and shall be maintained for the most recent five years.

15. In order to minimize the duration and frequency of excess emissions due to malfunctions of process or air pollution control equipment, Philip Morris shall:

a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance, including dates and duration of any outages. These records shall be maintained on site for a period of five years and shall be made available to the DEQ upon request.

b. Maintain an inventory of spare parts that are needed to minimize durations of air pollution control equipment breakdowns.

16. At any time in the future, should Philip Morris plan any modifications (within the context of the new source review program) of the affected facility covered by this Agreement, Philip Morris shall have the right to apply to the Board for a new source review permit, and the Board may consent to such modifications provided such modifications will meet all of the new source review permit program regulatory requirements in effect at that time.

17. The Board may modify, rewrite, or amend this Agreement with the consent of Philip Morris, for good cause shown by Philip Morris, or on its own motion provided approval of the changes is accomplished in accordance with SAPCB regulations, the Administrative Process Act (§9-6.14:1 et. seq.) and 40 CFR Part 51 (Requirements for Preparation, Adoption, and Submittal of Implementation Plans).

18. So long as this Agreement remains in effect, Philip Morris waives the right to any hearing pursuant to §§9-6.14:11 and 9-6.14:12 of the Code and to judicial review of any issue of fact or law contained herein. Nothing herein, however, shall be construed as a waiver of the right to a hearing or to judicial review of any action taken by the Board to enforce this Agreement.

19. Failure by Philip Morris to comply with any of the terms of this Agreement shall constitute a violation of an Order of the Board. Nothing herein shall waive the initiation of appropriate enforcement actions or the issuance of additional orders as appropriate by the Board as a result of such violations. Nothing herein shall affect appropriate enforcement actions by any other federal, state, or local regulatory authority.

20. Philip Morris declares it has received fair and due process under the Administrative Process Act (§9-6.14:1 et. seq.) in the negotiation of this agreement.

21. This Agreement shall become effective upon signature by both parties and shall continue in effect indefinitely or until otherwise terminated by the Board.

The foregoing Consent Agreement has been executed on behalf of the STATE AIR POLLUTION CONTROL BOARD of the COMMONWEALTH OF VIRGINIA and on behalf of Philip Morris Incorporated, each by its duly authorized representatives, or self, on the dates indicated below.

DEPARTMENT OF ENVIRONMENTAL QUALITY
OF THE COMMONWEALTH OF VIRGINIA

7/12/96
(date)

BY: _____
Thomas L. Hopkins
Director

PHILIP MORRIS INCORPORATED

6/7/96
(date)

BY: _____
David L. Milby
Senior Vice President, Manufacturing

COMMONWEALTH OF VIRGINIA
CITY OF RICHMOND

The foregoing instrument was acknowledged before me this 7th day of June, 1996, by David L. Milby, Senior Vice President, Manufacturing of Philip Morris Incorporated, a Virginia Corporation, on behalf of the Corporation.

My commission expires January 31, 1997.

_____
Notary Public