



NVRO-106-98

COMMONWEALTH of VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY

CONSENT AGREEMENT
WITH

Potomac Electric Power Company
1900 Pennsylvania Ave., N.W.
Washington, D.C. 20068-0001

Registration No. 70228

SECTION A: Purpose

This Agreement establishes a Reasonably Available Control Technology (RACT) standard for the Potomac Electric Power Company (PEPCO) for the control of nitrogen oxides (NO_x) emissions at the Potomac River Generating Station as required by the State Implementation Plan (SIP) and 9 VAC 5-40-310 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution.

This Agreement also establishes additional NO_x emission standards in Section E, Subsection 2, as part of the ozone attainment plan and in Section E, Subsection 3, as part of the regional phase-II NO_x controls.

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.

"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 which emits, or has the potential to emit 100 tons per year or more of any pollutant subject to regulation under the federal Clean Air Act, or 50 tons per year or more of volatile organic compounds or nitrogen oxides in ozone nonattainment areas classified as serious in 9 VAC 5-20-204 of the SAPCB Regulations. The area in which the affected facility is located is a nonattainment area classified as serious in 9 VAC 5-20-204 of the SAPCB Regulations.

"MDE" means the Maryland Department of the Environment which is the state agency responsible for handling matters affecting air quality in Maryland.

"Metropolitan Statistical Area" or "MSA" means that area designated as a metropolitan statistical area by the Bureau of the Census.

"National Capital Interstate Air Quality Control Region" or NCIAQCR means the National Capital Interstate Air Quality Control Region as defined by Code of Federal Regulations - Title 40, Section 81.12, which includes the District of Columbia; Montgomery and Prince Georges County in Maryland; Arlington, Fairfax, Loudoun and Prince William Counties in Virginia; and, the cities of Alexandria, Fairfax, and Falls Church in Virginia.

"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.

"Nonattainment area" means those areas of the Washington, DC metropolitan area in Virginia, Maryland, and the District of Columbia which have been designated in the State Implementation Plans for the respective jurisdictions as having a "nonattainment" status with respect to the national ambient air quality standard for ozone.

"NO_x" means nitrogen oxides as defined by 9 VAC 5-10-20 of the SPCB Regulations.

"Ozone Attainment Plan" means that portion of the "SIP" that is required to bring Northern Virginia into compliance with the National Ambient Air Quality Standard (NAAQS) for ozone.

"PEPCO" means the Potomac Electric Power Company with electric power generating stations in Maryland, Virginia, and the District of Columbia.

"Phase II NO_x Controls" means controls on nitrogen oxides (NO_x) emissions that enable the Commonwealth of Virginia to satisfy its commitment to obtain, if justified by modeling results, emissions reductions similar to those proposed in the Memorandum of Understanding signed on September 27, 1994 by eleven of the thirteen members of the Ozone Transport Commission (established pursuant to the Clean Air Act Amendments of 1990). Virginia was not one of the signing members.

"Potomac River Station" or "affected facility" means Potomac Electric Power Company's Potomac River Generating Station located at 1400 N. Royal Street, Alexandria, 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 Northern Virginia Regional Office of the Department of Environmental Quality, 13901 Crown Ct., Woodbridge, Virginia.

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

"SIP" or "State Implementation Plan" means the portion or portions of the plan or the most recent revision thereof, which has been approved under § 110 of the federal Clean Air Act, or promulgated under § 110(c) of the federal Clean Air Act, or promulgated or approved pursuant to regulations promulgated under § 301(d) of the federal Clean Air Act and which implements the relevant requirements of the federal Clean Air Act.

"Separated Over-fired Air" or "SOFA" means the addition of combustion air into the furnace above the location of fuel-rich burners in order to complete combustion at a lower temperature than occurs when complete combustion occurs at the burners.

"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 which limit production rates or hours of operation.

"Title IV AEL demonstration period" means the period from January 1, 1996 through March 31, 1998 during which PEPCO will demonstrate to the U.S. EPA what should be an appropriate alternative NO_x emission limit for Chalk Point Station Units 1 and 2 to comply with Title IV (acid rain provisions) of the Clean Air Act.

"Units" means the individual electrical generating systems, which utilize boilers to produce steam externally to the generator turbines. Each of the five units at the Potomac River Station are uniquely designated by one of the numbers from 1 through 5

"Units subject to NO_x RACT" means the following units within the PEPCO system: Units 1, 2, 3, 4 and 5 at the Potomac River Station in Virginia; Units 1, 2 and 3 at the Dickerson Station in Maryland; Units 1, 2, 3 and 4 at the Chalk Point Station in Maryland; and, Units 1 and 2 at the Morgantown Station in Maryland.

"VOC-limited" means that the ambient concentration of volatile organic compounds (VOC) compared to the ambient concentration of NO_x is such

that the concentration of ozone is more a function of the availability of VOC than of NO_x.

"VOC" means volatile organic compounds as defined by 9 VAC 5-10-20 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 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. 9 VAC 5-20-130 of the SAPCB Regulations contains the Delegation of Authority from the Board to the Director. In subdivision C 1 of 9 VAC 5-20-130 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. PEPCO operates an electric power generating station at 1400 N. Royal Street in Alexandria, Virginia.
2. 9 VAC 5-40-300 and 5-40-310 (formerly Sections 120-04-0407 and 120-04-0408 of the SAPCB Regulations), which became effective on July 1, 1991 and January 1, 1993, respectively, require RACT for all non-CTG major stationary sources of VOC emissions and all major stationary sources of NO_x emissions in the Northern Virginia Ozone Nonattainment Area which includes the Cities of Alexandria, Fairfax, Falls Church, Manassas, Manassas Park, and the Counties of Arlington, Fairfax, Loudoun, Prince William and Stafford.
3. By letter dated February 25, 1993, DEQ notified PEPCO that the Potomac River Station may be subject to RACT for NO_x emissions. The letter required PEPCO to notify DEQ of Potomac River Station's RACT applicability status, make a commitment to determine what would constitute RACT, and provide DEQ with a schedule for achieving compliance by May 31, 1995.
4. By letter dated March 26, 1993, PEPCO notified DEQ that it concurs that the Potomac River Station (Units 1-5) are subject to RACT for NO_x emissions. The letter stated that PEPCO intends to utilize "interstate trading" of emissions reductions among its network of units in the National Capital Interstate Air Quality Control Region (NCIAQCR) to provide the most cost-effective means of complying with RACT system-wide. The letter also said that retrofitting each unit in the system to meet RACT for each unit by itself could not be accomplished by the statutory compliance date of May 31, 1995. Not all of the facilities are actually in the NCIAQCR as defined by 40 CFR Part 81; the Morgantown Station is in Charles County, Maryland, which is, however, located within the Washington, DC-MD-VA MSA. Section 107 (d)(3)(E)(4) of the Clean Air Act requires that all counties within the MSA of an area which has been designated nonattainment with respect to the national ambient air quality standard for ozone be included within the "nonattainment area" for regulatory purposes.
5. By letter dated May 27, 1993, PEPCO informed DEQ that it would submit a RACT analysis for all company facilities by July 1, 1993.

6. By letter dated July 2, 1993 and its appendices, PEPCO proposed to DEQ that it would meet the "presumptive RACT limit" (in Appendix T of the SAPCB Regulations). However, this would not be done by reducing emissions at the Potomac River Station units. Rather, emissions would be reduced beyond RACT levels at other units in the PEPCO system. The excess reductions at those other units would be of sufficient quantity to equal or exceed the reductions that otherwise would have been obtained by imposing RACT on each of the Potomac River Station units. Not only would the excess reductions be sufficient to offset reductions not being made at Potomac River Station, but would offset reductions not being made at some RACT-subject PEPCO units in Maryland, as well.
7. With letter dated August 31, 1993, PEPCO submitted to DEQ a document entitled NO_x RACT Implementation Plan which further described PEPCO's proposal for satisfying the aggregate NO_x RACT reduction requirements of the 16 PEPCO steam electric generating units within the NCIAQCR. This document noted that the proposed plan would be in effect prior to the statutory compliance date of May 31, 1995, whereas, it would be impossible to retrofit all of the NO_x RACT-subject units with their own controls by May of 1995. The document also stated that retrofitting each unit with RACT controls was estimated to have a capital cost of \$373 million, whereas the PEPCO proposal capital cost was estimated to be just \$154 million.
8. By letter dated November 22, 1993, DEQ expressed concern to PEPCO that the interstate trading proposal it submitted July 2, 1993 was not consistent with SAPCB Regulations and that PEPCO should submit a new RACT plan that would be consistent with the regulations.
9. By letter to DEQ dated December 16, 1993, PEPCO disagreed that the plan proposed on July 2 was contrary to SAPCB regulations. Included with the letter were preliminary ozone formation modeling results that indicated that controlling NO_x at the Potomac River Station would not be as beneficial to Virginia and the District of Columbia (D.C.) as controlling it at PEPCO's Morgantown Station.
10. At a meeting on March 10, 1994 comprised of representatives from MDE, the District of Columbia Department of Consumer and Regulatory Affairs (DC DCRA), the Alexandria, Virginia Health Department, and DEQ, the Alexandria representative expressed concern that Alexandria residents would not readily accept a RACT

plan that has no apparent benefit to air quality in Alexandria, and that at a minimum a regulatory cap, limiting emissions to the current rate, should be imposed on the Potomac River Station as part of any multiple facility emissions averaging plan.

11. By letter to DC's Air Resources Management Division, dated March 18, 1994, PEPCO requested exclusion of its Benning Station (the only one in DC that would have been included in the system-wide emissions averaging) from the system-wide emissions averaging plan on the grounds that it can otherwise meet the DC RACT requirements.
12. By letter to MDE, dated June 23, 1994, PEPCO reported on NO_x-reduction improvements to the boilers at the Chalk Point and Morgantown Stations. SOFA did not seem to be very effective at Chalk Point, but the vendor-guaranteed levels at Morgantown using SOFA were apparently being met. Negative impacts of SOFA at Morgantown were yet unknown. The letter went on to state that PEPCO does not believe that RACT should be based on application of SOFA, since it is not commonly required elsewhere and such technology must be customized to each unit. The letter also reported that ongoing modeling efforts continue to support the contention that immediate Washington area NO_x reductions would only hamper ozone reduction efforts, due to the area ozone concentrations being VOC-limited.
13. At meetings held on September 12, 1994 and October 19, 1995, comprised of representatives from PEPCO, District of Columbia Department of Consumer and Regulatory Affairs (DC DCRA), MDE, the Alexandria, Virginia Health Department, and DEQ, the participants agreed to draft a memorandum of understanding (MOU) among Maryland, Virginia, and the District of Columbia that would serve as a guide for each jurisdiction to reach an enforceable agreement with PEPCO regarding an interstate emissions averaging strategy to implement RACT.
14. PEPCO began sending RACT monitoring compliance reports to MDE and DEQ on July 11, 1995, demonstrating that the system-wide RACT plan that PEPCO had previously proposed has been in effect since May 31, 1995, despite not having been approved or required by the jurisdictions involved.

15. By letter dated August 2, 1995, MDE informed PEPCO (and sent a copy to DEQ) that MDE had determined that the RACT that PEPCO had proposed is indeed RACT. Substitution of a portion of the NO_x reductions that PEPCO made at the Chalk Point and Morgantown Stations for RACT reductions at the Potomac River Station was contingent on Maryland determining that the proposed reductions at Chalk Point and Morgantown were more than required for site-specific RACT at those facilities. The August 2 letter is accepted by DEQ as confirmation that surplus creditable reductions could occur from those Maryland-based stations. (As noted in paragraph D.11, actual reductions from the Chalk Point Station may fall short of the proposed, but experience to date indicates that the surplus at Morgantown is still sufficient to offset the deficit at Potomac River and the other PEPCO stations to which RACT controls are not being applied.)
16. On the basis of documentation supplied with the RACT proposal to DEQ by PEPCO, NO_x emissions and reductions are estimated to be as follows (in tons per year):

	Potomac River Station Potential	Station Actual	All PEPCO RACT Potential	Units Actual
Before RACT	12,921 or more	10,545	131,729	89,749
After RACT if <u>each</u> unit controlled	8,249	6,901	96,871	70,761
Minimum reduction if <u>each</u> unit controlled	4,672	3,644	34,858	18,988
After Proposed RACT	12,921	10,545	96,871	70,761
Minimum reduction if RACT as proposed	0	0	34,858	18,988

where: potential emissions are based on year-round (8760 hours) operation at the assumed maximum sustainable emission rate per

unit of heat input. The assumed rates are based on past tests of the units. "Actual" emissions (as presented in the table above) are based on PEPCO's projected annual load profile, not measured emissions, so they are actually theoretical emissions. The "before RACT" actual emissions assume emission rates that vary with load as determined by testing. The other actual emissions presume the maximum allowable emission rate at the average annual load profile. Given the inherent variability from one day to the next, the real annual emissions in each category would have to be less than those presented, in order to achieve compliance with the allowable limit on a daily basis and at varying loads. Real CEM data indicate average emission rates prior to this agreement have been well below the theoretical "actual" rates. Although "potential" emission rates are often based on the maximum allowable or the greatest physically possible, the "before RACT" and "proposed RACT" potential emissions for the Potomac River Station in the table above are intentionally based on neither. Use of "potential" based on assumed maximum sustainable rates, rather than the allowable limits for each unit specified in Section E of this Agreement, is done so that the comparisons are meaningful. There were no NO_x limits on the Potomac River units until PEPCO elected to accept early NO_x limits under Title IV (acid rain provisions) of the Clean Air Act and until this Agreement posed limits. The limits specific to the Potomac River Station imposed by this Agreement are caps based on the highest daily emissions recorded during a year. Those caps were purposefully set well above the mean to account for operational extremes, and therefore, reductions calculated from such limits would be misleading. On the other hand, the system as a whole could sustain operation near the limit imposed by this Agreement.

17. By letter dated June 13, 1996, PEPCO informed DEQ that it studied data from the NO_x continuous emissions monitoring (CEM) system at the Potomac River Station during the last seven months of 1995. By fitting the data from each unit to a normal distribution, PEPCO determined that emission rates averaging greater than the following over a calendar day have a probability of occurring less than once per year:

Unit 1	0.77 lb/10 ⁶ Btu	Unit 3	0.86 lb/10 ⁶ Btu
Unit 2	0.73 "	Unit 4	0.83 "
		Unit 5	0.80 "

The highest probable emission rate in a year for any unit within each of the two groups of similar type units above, should serve as an emissions cap representative of maximum pre-RACT emissions for every unit within the same type group.

18. By letter dated February 7, 1996, PEPCO informed DEQ that the highest rate of total NO_x emission from the units subject to NO_x RACT, excluding either of the Morgantown Units, was 206.9 tons/day during days of high utilization in July and August of 1995.
19. By letter dated March 21, 1996, PEPCO informed both the State of Maryland and DEQ that the Chalk Point Units 1 and 2 cannot maintain the proposed RACT limit of 0.70 lb/10⁶ Btu averaged over 24 hours, on a long-term basis. PEPCO is working with its control technology vendor to achieve the lowest feasible NO_x emission rate using low-NO_x burner (LNB) technology. It is possible to achieve an NO_x emission rate in the 0.70 to 0.90 lb/10⁶ Btu range.
20. Chalk Point Units 1 and 2 are subject to NO_x emission limitations under Title IV of the Clean Air Act. Under Title IV, if a unit is unable to meet the presumptive NO_x limit of 0.5 lb/10⁶ Btu for wall-fired boilers, it must apply for an Alternative Emission Limit (AEL) to determine the NO_x emission limit that can be achieved with LNB technology. PEPCO has applied to the U.S. EPA and received approval on August 19, 1996 for Chalk Point's NO_x AEL demonstration period and on March 6, 1997 received approval for an extension of the demonstration to March 31, 1998. The demonstration period covers an extensive testing and burner optimization program to determine the maximum long-term NO_x emission reduction attainable with LNBs.
21. The State of Maryland has accepted a proposal by PEPCO to set an interim daily NO_x RACT emission limit for Chalk Point Units 1 and 2 during the AEL demonstration period to be equal to its actual 24-hour average emission rate, not to exceed 0.9 lb/10⁶ Btu. Emissions of less than 0.7 lb/10⁶ Btu would be considered to be less than the baseline for RACT. A final NO_x RACT emission limit will be set by the State of Maryland at the end of the AEL demonstration period.
22. The jurisdictions composing the NCIAQCR are responsible under the Clean Air Act Amendments of 1990 for submitting a plan to EPA to

demonstrate that reductions in emissions of NO_x and VOCs to be imposed in those jurisdictions will be sufficient to bring the metropolitan Washington area into attainment of the one-hour ambient ozone standard by 1999. This plan depends on reductions that exceed those projected as a result of the implementation of RACT.

23. The Potomac River Generating Station is subject to NO_x emission limits under the Title IV Clean Air Act Amendments Acid Rain Program. In order to comply with the Title IV NO_x emission limits PEPCO has incorporated methods of reducing NO_x emissions at the Potomac River Station that have resulted in the heat input-based emissions rate being 18% lower from Units 1 & 2 and 28% less from Units 3,4 & 5 than was anticipated when the RACT plan was proposed. When also allowed to take credit for excess (greater than RACT) reductions elsewhere in the PEPCO system, the Potomac River Station is well-below the "presumptive RACT limit" of 0.38 pounds NO_x per million Btu's of heat input stated in 9 VAC 5-40-311 (formerly Appendix T of the SAPCB Regulations).
24. Because of the surplus of reductions cited above, PEPCO accepts a lower limit on NO_x emissions during the ozone season (May 1 - September 30) than would be required for meeting the RACT requirements of 9 VAC 5-40-310 and 9 VAC 5-40-311, so that DEQ may incorporate the excess reductions into the ozone standard attainment demonstration plan. To comply with the lower emissions limit, PEPCO could accrue credits for reductions beyond RACT requirements at other PEPCO facilities on behalf of the Potomac River Station, just as would be the case for demonstrating compliance with RACT.
25. The attainment plan is based on emission rates averaged over the entire ozone season, therefore, compliance for PEPCO with the "beyond RACT" limits may be based on averaging emission rates over the ozone season; whereas, 9 VAC 5-40-311 requires RACT compliance on a daily basis.
26. DEQ has determined that additional NO_x emissions reductions will be necessary in Northern Virginia as part of the effort to bring the region and neighboring regions into full attainment of the ozone standard. To be consistent with a decision by the Ozone Transport Commission (OTC) to require a 65 percent reduction in

NO_x emissions. DEQ requests a commitment by PEPCO for such a reduction.

27. This Agreement is signed following an advertised public comment period and public hearing on the RACT portion of the Agreement. In order to incorporate provisions into this Agreement that would enforce the beyond-RACT reductions necessary to satisfy the attainment plan, without altering the RACT agreement presented for public comment, the Agreement is divided into three subsections. The first subsection consists of the RACT agreement as presented for public comment and the second subsection adds provisions that enforce additional reductions to be incorporated into the ozone standard attainment demonstration plan. The third subsection commits PEPCO to 65% reductions of NO_x emissions from the 1990 baseline as part of the "Phase II NO_x Control" plan.

28. A comparison of baseline and RACT NO_x emissions, and beyond-RACT reductions of NO_x emissions during the ozone season is as follows (in tons):

	Potomac River Station Potential	Actual	All PEPCO RACT Potential	Units Actual
Before RACT	5,416	2,829	55,218	-
After Proposed RACT	5,416	2,829	40,606	-
Minimum reduction if RACT as proposed	0	0	14,612	-
NO _x Limits under Title IV	4,109	2,108	-	-
Minimum reduction by Attainment Plan provisions compared to before RACT	0	0	15,392	-
Reduction beyond RACT by Attainment Plan provisions (See text below)	(See text below)	(See text below)	780	436

The explanatory note under the table in paragraph D.16 is applicable to the this table as well, except that the term "year-round" should be replaced by "continuous," since this table only refers to the ozone season (May 1 - September 30). DEQ does not have data on ozone season heat input for the entire PEPCO system, so system-wide "actual" emission rates and reductions are excluded in this table, except for the "beyond-RACT" reductions that allow PEPCO to comply with the "Attainment Plan" provisions of Section E., Subsection 2 of this Agreement. Those reductions are legally presumed, but not required, to come from the Potomac River Station, which is why this table shows no reductions for the Potomac River Station. Only the system-wide reductions are enforceable by this agreement. However, apart from this agreement, the Title IV NO_x emission rate limit (0.45 lb/10⁶ Btu) is legally enforceable; therefore, maximum ozone season emissions from the Potomac River Station under Title IV are shown in this table. Title IV emissions are averaged annually, so the total Potomac River emissions shown for the ozone season are an estimate rather than a firm, ozone-season limit. Nevertheless, unlike the emissions reductions necessary to comply with the formula-based emission limits of this Agreement, reductions to satisfy the Title IV limits for the Potomac River Station must actually occur at the Potomac River Station and not just be "presumed" to occur there. Since reductions for Title IV purposes are also counted for compliance purposes with the provisions of this Agreement, some of the reductions (at least the amount required to meet Title IV) necessitated by this Agreement really will have occurred at the Potomac River Station, even though the Agreement does not specify where they occur.

SECTION E: Agreement

Accordingly, the Board and PEPCO agree that:

Subsection 1: RACT

1. NO_x emissions from the affected facility shall be controlled and reduced as outlined in this Agreement.
2. NO_x emissions may, but are not required to be reduced from 1990 (baseline year) levels at the Potomac River Station; however, the Potomac River Station units shall not be considered to be in compliance if the total NO_x emissions from all of the NO_x RACT-subject units within the PEPCO system combined are greater for any calendar day than would have been the case if each unit in the system were required to meet the unit-specific, heat input-based NO_x RACT emission limits below, except as allowed by other paragraphs of this agreement.

Unit-specific NO_x RACT Emission Rates

<u>Station/Unit</u>	<u>RACT Limit</u> <u>(lb NO_x/10⁶ Btu)</u>
Potomac River #1	0.38
" " #2	0.38
" " #3	0.38
" " #4	0.38
" " #5	0.38
Dickerson #1	0.53
" #2	0.53
" #3	0.53
Chalk Point #1	0.70 - 0.90*
" " #2	0.70 - 0.90*
" " #3	0.25
" " #4	0.25
Morgantown #1	0.94
" #2	0.94

*Applies during the Title IV AEL demonstration period. The unit-specific RACT limit for Chalk Point Units 1 and 2, as applied to the right-hand side of the compliance equation of this paragraph, shall be equal to the actual measured NO_x rates, but not less than 0.70 lb/10⁶ Btu nor greater than 0.90 lb/10⁶ Btu. This can be determined by dividing both sides of the compliance equation by the daily heat input for the applicable unit. After completion of the AEL demonstration period, the unit-specific emission limit shall become a single revised limit equivalent to what the State of Maryland sets as a RACT baseline for each unit. If the State of Maryland fails to set a RACT baseline within six months following the completion of the AEL demonstration period, the AEL's approved by U.S. EPA (or if not yet approved, as proposed by PEPCO to U. S. EPA) shall serve as the unit-specific emission limits for Chalk Point Units 1 and 2, until Maryland sets a RACT baseline for each unit.

Compliance with this paragraph shall be demonstrated with the following equation:

$$\sum_{i=1}^{14} (\text{Actual Daily Emissions}_i) \leq \sum_{i=1}^{14} [(\text{RACT Limit}_i) \times (\text{Daily Heat Input}_i)]$$

where: Σ is the sum of all i units, 1 through 14;

i is a unit subject to NO_x RACT;

Actual Daily Emissions are the total NO_x emissions (measured as if converted to NO₂) from each unit on any day in pounds per day;

RACT Limit is the Unit-specific RACT emission limit from the table of this paragraph;

Daily Heat Input is the total daily heat input to each unit on that day, as determined by continuous monitors.

3. NO_x emissions (reported as NO₂) from the boilers of Potomac River Station Units 1, 2, 3, 4 and 5 shall be limited to the following rates for each boiler:

Unit 1	0.77 lb/10 ⁶ Btu
Unit 2	0.77 "
Unit 3	0.86 "
Unit 4	0.86 "
Unit 5	0.86 "

averaged over each calendar day. The limits for the Potomac River Station shall not apply to a unit during any calendar day in which the unit's boiler has been fired less than six hours.

4. On any calendar day during which one of the Morgantown Station units has not operated at 50 percent or more of its rated daily fuel (in Btu's) capacity, compliance with paragraph E.2 of this agreement is not required, so long as the total emissions from the units subject to NO_x RACT do not exceed 210 tons for the day and compliance with paragraph E.3 of this agreement is achieved.
5. Failure to comply with the requirements of this agreement shall not only subject PEPCO to the normal enforcement actions available to the Board, but repeated failure to comply with the requirements of this agreement shall be cause for requiring PEPCO to meet the requirements of 9 VAC 5-40-311 of the State Air Pollution Control Board Regulations by modifications to the Potomac River Station alone.
6. Actual NO_x emissions shall be determined by continuous monitoring. A continuous emissions monitoring (CEM) system shall be installed on each flue from the units subject to NO_x RACT to measure the mass emission rate of NO_x. The CEM systems required by this paragraph shall be operated and maintained in accordance with 40 CFR, Part 75 Subpart C.
7. A quarterly compliance report of data from the NO_x CEM systems and the heat input records shall be submitted to the Regional Director within 30 days following the quarters ending March 31, June 30, September 30 and December 31. As a minimum the compliance reports shall contain:

- a. The design capacity heat input (10^6 Btu/day) for each unit.
- b. The actual daily heat input (10^6 Btu) for each unit.
- c. The actual daily emissions (tons/day) for each unit.
- d. The daily emissions (tons/day) that would be allowed for each unit by the unit-specific RACT limits in Paragraph 2.
- e. The daily actual and allowable emissions (tons/day), representing each side of the compliance equation in Paragraph 2.
- f. Dates of any non-compliance with Paragraph 2 and/or Paragraph 3, the reasons for non-compliance and the corrective action(s) taken.
- g. Dates and times of all CEM system outages and corrective actions taken.
- h. Results of the daily CEM system calibration drift checks.
- i. Results of the 40 CFR, Part 75, quality assurance audits.

Data that may or must be tabulated to comply with this paragraph may be presented in the compliance report either as one table of all units for each day or may be presented as daily tables of all units for items a. through e. and separate daily or other type of tables for item h. The other items may be presented in any reasonable manner.

8. In addition to the quarterly compliance reports, all violations of the emissions limits of paragraphs 2, 3, and 4 of this agreement shall be reported by telephone, telegraph or facsimile transmission to the Northern Virginia Regional office on or before the third business day following the day of the violation. Accompanying any report (oral or otherwise) of an emissions limit violation shall be a statement describing how PEPCO intends to curtail the violation and prevent reoccurrence.
9. PEPCO shall grant access to representatives of the Maryland Department of the Environment (MDE) to the NO_x RACT-subject units

in Maryland and to the operating records for same including those pertaining to the CEMs to the extent that MDE deems necessary to ensure on behalf of the Virginia Department of Environmental Quality (Department) that the data reported to the Department are valid.

10. At any time in the future, should PEPCO plan any modifications (within the context of the new source review program) of the affected facility covered by this Agreement, PEPCO 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 existence at that time.
11. The Board may modify, rewrite, or amend this Agreement with the consent of PEPCO, for good cause shown by PEPCO, 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).
12. So long as this Agreement remains in effect, PEPCO 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.
13. Failure by PEPCO 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 nor shall it diminish PEPCO's right to a fair hearing or judicial review of any enforcement action taken.
14. PEPCO declares it has received fair and due process under the Administrative Process Act (§ 9-6.14:1 et. seq.).
15. This Agreement shall become effective upon signature by both parties and shall continue in effect indefinitely or until otherwise terminated by the Board.

Subsection 2: Ozone Attainment Plan

1. In addition to the provisions of the paragraphs of Subsection 1 of this Agreement, the provisions of the paragraphs below shall also apply.
2. The provisions of Subsection 2 become effective May 1, 1998.
3. The Potomac River Station units shall not be considered to be in compliance if the total NO_x emissions from all of the PEPCO units tabulated below are greater for any ozone season (May 1 through September 30) than would have been the case if each unit in the system were required not to exceed the unit-specific, heat input-based NO_x emission rates below.

Unit-specific NO_x Emission Rates

<u>Station/Unit</u>	<u>NO_x Emission Rate (lb NO_x/10⁶ Btu)</u>
Potomac River #1	0.31
" " #2	0.31
" " #3	0.28
" " #4	0.28
" " #5	0.28
 Dickerson #1	 0.53
" " #2	0.53
" " #3	0.53
 Chalk Point #1	 0.70 - 0.90*
" " #2	0.70 - 0.90*
" " #3	0.25
" " #4	0.25
 Morgantown #1	 0.94
" " #2	0.94

*See footnote for Subsection 1, paragraph 2.

Compliance with this paragraph shall be demonstrated with the following equation:

$$\sum_{i=1}^{14} (\text{Actual Ozone Season Emissions}_i) \leq \sum_{i=1}^{14} [(\text{NO}_x \text{ Rate}_i) \times (\text{Ozone Season Heat Input}_i)]$$

where: Σ is the sum of all i units, 1 through 14;

i is a subject unit;

Actual Ozone Season Emissions are the total NO_x emissions (measured as if converted to NO_2) from each unit during the period May 1 through September 30 in pounds;

NO_x Rate is the unit-specific NO_x emission rate from the table in this paragraph;

Ozone Season Heat Input is the total heat input in millions of Btu's to each unit during the period May 1 through September 30, as determined by continuous monitors.

Subsection 3: Phase II NO_x Control

1. The emissions limits of the paragraphs above of this Agreement notwithstanding, beginning in the year 2002 or according to the schedule established by the Maryland Department of the Environment (MDE) for the PEPCO plants in Maryland, NO_x emissions at the Potomac River Station during the ozone season (May 1 - September 30) shall not exceed 1148 tons (a 65% reduction from the 1990 baseline).
2. The NO_x emissions reductions and limits required by the paragraphs of this Subsection may be achieved by interstate and intrastate emissions trading.
3. In order to establish an effective compliance plan for the Potomac River Station, PEPCO agrees to enter into a consent agreement with DEQ as soon as a schedule for the Maryland powerplants has been established by MDE or by June 1, 1999, whichever is earlier.

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 Potomac Electric Power Company, each by its duly authorized representatives, or self, on the dates indicated below.

DEPARTMENT OF ENVIRONMENTAL QUALITY
OF THE COMMONWEALTH OF VIRGINIA

7/31/98
(date)

BY: *Dennis H. Treacy*
for Dennis H. Treacy
Director

POTOMAC ELECTRIC POWER COMPANY

7/10/98
(date)

BY: *James S. Potts*
James S. Potts
Vice President,
Environment

DISTRICT OF COLUMBIA

The foregoing instrument was acknowledged before me this 10th day of July, 1998, by James S. Potts, Vice President, Environment of Potomac Electric Power Company, a District of Columbia Corporation, on behalf of the Corporation.

My commission expires July 31, 2002.

Jusa A. Poole
Notary Public