# CONSOLIDATED REGULATORY IMPACT STATEMENT

## STATUTORY AUTHORITY

On October 27, 1998, the United States Environmental Protection Agency ("EPA") published a final administrative action in which EPA found that emissions of oxides of nitrogen ("NOx") from sources and emitting activities in the District of Columbia and 22 States in the Eastern United States, including New York State, significantly contribute to nonattainment of the 1-hour and 8-hour ozone national ambient air quality standard ("NAAQS"), or interfere with maintenance of the ozone NAAQS, in one or more downwind States. In this final action, EPA required, under Clean Air Act ("CAA") section 110(a)(1) and 110(k)(5), that each subject State submit revisions to its State implementation plan ("SIP") that meet the requirements of CAA section 110(a)(2)(D)(i)(I) by containing provisions adequate to prohibit sources in those States from emitting NOx in amounts that contribute significantly to nonattainment in, or interfere with maintenance by, a downwind State. The EPA final action included revisions to 40 CFR Part 51 (setting forth requirements for relevant SIP revisions), promulgation of a new 40 CFR 96 (establishing a model ozone season[1] State NOx Budget Trading Program on which States may choose to base their SIP submittal), and revisions to 40 CFR Parts 72 and 75 (amending certain provisions relating to NOx emissions monitoring). The entire EPA final action is generally known as the "NOx SIP call." See *40 CFR Parts 51, 72, 75, and 96, Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone*, 63 Federal Register p. 57356 (October 27, 1998).

In order to comply with the NOx SIP call, the Department of Environmental Conservation (the Department) proposes to promulgate a new 6 NYCRR Part 204 and to revise 6 NYCRR Part 200 in order to implement a NOx Budget Trading Program ("the Program") beginning in 2003 that is consistent with the model State NOx Budget Trading Program established in 40 CFR Part 96. Pursuant to 40 CFR §51.121(d)(1), SIP revisions to comply with the NOx SIP call must be submitted to EPA by no later than September 30, 1999.

Part 204 will also be consistent with the principles of the September 27, 1994 Ozone Transport Commission ("OTC") NOx Memorandum of Understanding ("NOx MOU") regarding the control of NOx emissions from large stationary sources. By the OTC NOx MOU, the signatory States, including New York State, committed themselves to the development and proposal of regulations that would mandate regionwide NOx emissions reductions which are necessary for the attainment of the ozone NAAQS. All of the State regulatory programs to implement Phase 3 of the OTC NOx MOU and the NOx SIP call are set to be in place and operational by the start of the 2003 ozone season.

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[1] The ozone season is the May 1 through September 30 time period.

The promulgation of Part 204 and attendant revisions to Part 200 are authorized by the following sections of the Environmental Conservation Law ("ECL") which, taken together, clearly empower the Department to coordinate and interact with the federal government and other States in establishing and implementing the Program:

Section 1-0101. This Section declares it to be the policy of New York State to conserve, improve and protect its natural resources and environment and control air pollution in order to enhance the health, safety and welfare of the people of New York State and their overall economic and social well being. Section 1-0101 further expresses, among other things, that it is the policy of New York State to coordinate the State's environmental plans, functions, powers and programs with those of the federal government and other regions and manage air resources to the end that the State may fulfill its responsibility as trustee of the environment for present and future generations. This Section also provides that it is the policy of New York State to foster, promote, create and maintain conditions by which man and nature can thrive in harmony by providing that care is taken for air resources that are shared with other states.

Section 3-0301. This Section empowers the Department to promulgate regulations to carry out the environmental policy of New York State set forth in Section 1-0101 and specifically empowers the Department to cooperate with officials and representatives of the federal government, other States and interstate agencies regarding problems affecting the environment of New York State. Section 3-0301 specifically empowers the Department to provide for the prevention and abatement of air pollution.

Section 19-0103. This Section declares that it is the policy of New York State to maintain the purity of air resources and to require the use of all available practical and reasonable methods to prevent and control air pollution in the State.

Section 19-0105. This Section declares that it is the purpose of Article 19 of the ECL to safeguard the air resources of New York State under a program which is consistent with the policy expressed in Section 19-0103 and in accordance with other provisions of Article 19.

Section 19-0301. This Section declares that the Department has the power to promulgate regulations for preventing, controlling or prohibiting air pollution and that the Department has the duty and responsibility to cooperate with agencies of the federal government and with agencies of other State governments with respect to the control of air pollution.

Section 19-0305. This Section authorizes the Department to enforce the codes, rules and regulations established in accordance with Article 19.

Section 19-0311. This Section directs the Department to establish an operating permit

program for sources subject to Title V of the CAA. Section 19-0311 specifically requires that complete permit applications must include, among other things, compliance plans, schedules of compliance, and a compliance certification. This Section further expresses that any permits issued must include, among other things, terms setting emissions limitations or standards, terms for detailed monitoring, record keeping and reporting, and terms allowing Department inspection, entry, and monitoring to assure compliance with the terms and conditions of the permit.

The Department is proposing to revise 6 NYCRR Subpart 227-3, Pre-2003 Nitrogen Oxides Emissions Budget and Allowance Program, to change certain references to materials involving NOx emissions monitoring requirements that were incorporated into the regulation. The references to incorporated materials must be changed to reflect the revisions to 40 CFR Part 75, mentioned above, which essentially supplant the originally referenced materials regarding NOx emissions monitoring requirements applicable to budget sources subject to Subpart 227-3. The revisions to Subpart 227-3 are authorized by ECL §§1-0101, 3-0301, 19-0105 and 19-0301, discussed above.

The Department is proposing to revise 6 NYCRR Part 220, "Portland Cement Plants" to make it consistent with the applicability and opacity requirements in 40 CFR Part 60, Subpart F, for portland cement kilns and certain other specific sources. The revisions to Part 220 are authorized by ECL §§1-0101, 3-0301, 19-0105 and 19-0301, discussed above.

The Department is proposing to revise 6 NYCRR Subparts 227-2 to correct an inconsistent date reference. 6 NYCRR 227-1 is being revised to correct an outdated reference and to update a table to correspond to a previously updated formula. 6 NYCRR Part 200, General Provisions, is being revised to incorporate by reference the relevant CAA sections and the federal monitoring regulations applicable to the Program (40 CFR Part 75). The revisions to Subparts 227-2 and 227-1 are authorized by ECL §§1-0101, 3-0301, 19-0105 and 19-0301, discussed above.

## LEGISLATIVE OBJECTIVES

The proposed Program under Part 204 marks the latest action in a sustained series of actions undertaken by New York State, in concert with EPA and other States, in an effort to control the interstate transport of ozone and its precursors, NOx and volatile organic compounds ("VOCs"), so that the New York State may attain the ozone NAAQS.

As part of the 1990 amendments to the CAA, Congress enacted CAA §184(a) by which it established the Northeast Ozone Transport Region ("the OTR") and the OTC. The OTR is comprised of the States of Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island, New York, Pennsylvania, New Jersey, Delaware, Maryland, the District of Columbia and a

portion of northern Virginia. EPA first convened the OTC during May 1991. Under CAA §176A(b)(2), the OTC is required to assess the degree of interstate transport of ozone or its precursors throughout the region, assess strategies for mitigating the interstate pollution, and recommend to EPA measures found necessary to ensure that the plans of the OTC States will meet the requirements of CAA §110(a)(2)(D). CAA §110(a)(2)(D) requires that each SIP contain adequate provisions prohibiting, among other things, any emissions activity in the State from emitting any air pollutant which will contribute significantly to nonattainment of a NAAQS in any other State.

Under CAA §184(b), the OTC States are required to implement specific measures that go beyond those imposed on States outside the OTR. These measures include the imposition of reasonably available control technology ("RACT") on major stationary sources, vehicle inspection and maintenance programs, and use of Stage II vapor recovery systems. These programs are required throughout each State regardless of the attainment status of any areas within the State. The purpose behind imposing these minimum regionwide measures is to ensure that the OTC States achieve swift progress toward solving the problem of the interstate transport of ozone and its precursors, including NOx.

Under CAA §184(d), EPA must establish criteria to be used for determining the contribution of sources in one area to concentrations of ozone in another area which is designated nonattainment for the ozone NAAQS. The statute mandated that such criteria require the use of the best available air quality monitoring and modeling techniques for making such determinations. In May 1991, EPA published *Criteria for Assessing the Role of Transported Ozone/Precursors in Ozone Nonattainment Areas*, EPA-450/4-91-015. This guidance document recommended that modeling be used as the primary tool for making a contribution determination and that ambient monitoring information be used to support the modeling determination.

In line with EPA's guidance, the OTC undertook modeling analysis of ozone transport within the OTR. The results of this analysis demonstrated that New York State (as well as other OTC States) could not possibly demonstrate attainment with the ozone NAAQS without additional controls, including controls on major sources of NOx. *Technical Support Document: The Long-Range Transport of Ozone in the Ozone Transport Region*, at 52, OTC, January 1994. The modeling also indicated that precursor emissions outside the OTR significantly contributed to nonattainment of the ozone NAAQS within the OTR. Id. at 50.

On September 27, 1994, all of the OTC States, with the exception of Virginia, entered into the OTC NOx MOU which provides a strategy for reducing NOx emissions from large stationary sources characterized as fossil fuel fired boilers and indirect heat exchangers with a maximum rated heat input capacity of at least 250 million British thermal units per hour ("mmBtu/hr"). These reductions are greatly in excess of those to be realized through the imposition of RACT controls. When the OTC NOx MOU would be fully implemented, NOx emissions would be reduced from these sources by approximately 70% from 1990 levels.

The OTC NOx MOU calls for the regionwide reductions to be achieved in two phases. The first phase spans the 1999 -2002 ozone seasons - known as the "Phase 2" reductions in the parlance of the OTC. The second phase spans the ozone seasons from 2003 onward - known as the "Phase 3" reductions. Hence, the 70% reduction in NOx emissions will be achieved by the 2003 ozone season. The "Phase 1" reductions were accomplished by the imposition of RACT on these same sources. The State of New York imposed RACT when the Department promulgated Subpart 227-2 which became effective in February 1994. The "Phase 2" reductions are being accomplished by implementation of Subpart 227-3, which became effective on March 5, 1999.

Under CAA §182(c)(2)(A), the Petitioner was obligated to file, by November 15, 1994, an attainment demonstration for the severe nonattainment area consisting of the New York Metropolitan Area/Lower Orange County Metropolitan Area ("the NYMA/LOCMA "). However, in preparing for this demonstration, the Petitioner determined, through airshed modeling, that it was impossible to demonstrate attainment for this area. Even with all manmade emissions from within the modeling domain set at zero, the model predicted exceedances of the ozone NAAQS. Consequently, the Petitioner filed a request with its November 1994 submittal requesting that EPA review the SIPs of upwind States to assure that those SIPs contain adequate provisions to prohibit the emission of pollutants which will contribute significantly to nonattainment in New York State.

New York State's inability to demonstrate ozone attainment for the NYMA/LOCMA was not a unique problem and, in fact, represented a problem widely shared among States in the eastern half of the nation which contain serious and above nonattainment areas. As a result, in 1995, EPA, in cooperation with the Environmental Council of States, formed the Ozone Transport Assessment Group ("OTAG"). OTAG's stated goal was to "identify and recommend a strategy to reduce transported ozone and its precursors which, in combination with other measures, will enable attainment and maintenance of [the ozone NAAQS]." OTAG included representatives from EPA, 37 States in the central and eastern portions of the nation, as well as various industry and environmental groups. New York State participated in this collaborative effort to address the ozone transport problem. OTAG first convened during May 1995. It issued its Final Recommendations during June 1997.

During its two years of activity, OTAG performed extensive ozone transport modeling which demonstrated that NOx emissions from sources hundreds of miles from the NYMA/LOCMA significantly contributed to nonattainment of the ozone NAAQS in the NYMA/LOCMA.

Based on the information regarding long range transport of ozone and its precursors drawn from the OTAG process, the 1994 attainment demonstration modeling, results of new supplemental modeling performed by the Department, and results of ambient air monitoring studies, New York State, in coordination with other Northeastern States, filed a petition under

CAA §126(b) on August 13, 1997. CAA §126(b) authorizes a State to petition EPA for a finding that a major source or group of stationary sources emits an air pollutant in violation of the prohibition in CAA §110(a)(2)(D).

In its CAA §126 petition, New York State sought a finding that all sources of emissions of NOx characterized as fossil fuel fired boilers or indirect heat exchangers with a maximum heat input rate of 250 mmBtu/hr or greater and all electric generating facilities with a rated output of 15 megawatts of electrical output ("MWe") or greater that are situated in upwind regions extending west into Michigan, Indiana and Kentucky and extending south into Tennessee and North Carolina were emitting NOx in violation of §110(a)(2)(D). New York State recommended that EPA establish emissions limitations and a schedule of compliance for the identified upwind sources that, at a minimum, involved the imposition on the upwind sources of a regulatory program consistent with the principles and provisions of the OTC NOx MOU and the OTC NOx Budget Program (of which the program established by Subpart 227-3 is a part).

When EPA failed to make a finding on the petitions within the 60 day time period set forth in CAA §126(b), New York State and the other petitioning Northeastern States filed suit in federal court on February 25, 1998 to force EPA action on their petitions. Ultimately, the parties settled the lawsuit. The terms of the settlement are embodied in a consent decree that was entered on October 26, 1998. The consent decree established a schedule for EPA action on the petitions.

On October 21, 1998, EPA issued a notice of proposed rulemaking in which it proposed to grant New York State's petition as to virtually all the upwind sources named by New York State. See *40 CFR Parts 52 and 97 Findings of Significant Contribution and Rulemaking on Section 126 Petitions for Purposes of Reducing Interstate Ozone Transport*, 63 Federal Register p. 56292. In the proposed rule, EPA indicated that it intended to implement the emissions limitations and compliance schedules required under CAA §126(c) by imposing the Federal NOx Budget Trading Program which was set forth in the proposed new 40 CFR Part 97. EPA also expressed that it intended to implement the Federal NOx Budget Trading Program as a federal implementation plan ("FIP") for any State which fails to submit an approvable SIP revision in response to the NOx SIP call.

In the NOx SIP call published on October 27, 1998, EPA determined that sources in 22 States and the District of Columbia emit NOx in amounts that significantly contribute to nonattainment of the 1-hour and 8-hour ozone NAAQS, or will interfere with maintenance of the 8-hour ozone NAAQS, in one or more downwind States. EPA is requiring each of the affected upwind States, which includes New York State, to submit SIP revisions by September 30, 1999 prohibiting those amounts of NOx emissions which significantly contribute to downwind air quality problems. The programs needed to reduce NOx emissions in each State in the NOx SIP call region must be implemented by May 1, 2003. The 22 States, in addition to the District of Columbia are: Alabama, Connecticut, Delaware, Georgia, Illinois, Indiana, Kentucky,

Massachusetts, Maryland, Michigan, Missouri, North Carolina, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Virginia, West Virginia, and Wisconsin.

EPA is requiring the SIP revision to be completed by September 30, 1999 to facilitate the installation of control equipment on NOx Budget units needed to comply with the State trading program budgets. In the Technical Support Document to the NOx SIP Call, *Feasibility of Installing NOx Control Technologies by May 2003*, EPA Office of Atmospheric Programs, September 1998, EPA estimated that the NOx controls needed to comply with the State trading program budgets could be implemented in three years (September 2002), without causing an adverse impact on electricity supply. This was further supported by a report from a consortium of Northeast utilities and environmental groups, *NOx SIP Call Compliance and Electricity System Reliability: Compatible Goals for Achieving Needed Air Quality Benefits*, Ozone Attainment Coalition, May 1999.

States and EPA are required to act "as expeditiously as practicable" to implement programs to attain the health based air quality standards. A compliance date of May 1, 2003 would allow seven additional months for unanticipated delays. Therefore, EPA believed it was necessary, feasible and reasonable to have the program in place by September 30, 1999 that will implement the NOx SIP Call starting May 1, 2003.

The State of New York requested in its CAA § 126 Petition that EPA impose NOx controls on upwind sources by May 1, 2003. The consent decree entered into on October 26, 1998 which set forth a schedule for action on the New York CAA § 126 Petition also provides that EPA impose NOx controls on upwind sources by May 1, 2003. Therefore, the NOx SIP Call schedule comports with the § 126 action.

In addition, EPA provided each State a compliance supplement pool for some additional flexibility in 2003 and 2004. The 1,831 allowances from the compliance supplement pool for New York State will be distributed to NOx Budget units regulated under Subpart 227-3 that held allowances in their compliance accounts at the end of 2002.

In the NOx SIP call, EPA established NOx emissions budgets for each State by determining the amount of NOx emissions that would remain after application of highly cost-effective controls to sources of NOx. EPA determined that controls are highly cost effective if the they result in NOx reductions which cost no more than $2,000 per ton of ozone season NOx emissions removed. EPA chose the following control levels for each indicated industry sector which are achievable after application of highly cost-effective controls:

(1) For electricity generating units greater than 25 MWe ("EGUs"), an emission rate no greater than 0.15 lb/mmBtu.

(2) For industrial boilers and turbines with maximum rated heat input greater than

250 mmBtu/hr ("non-EGUs"), a 60% reduction from uncontrolled levels.

(3) For cement kilns with a maximum rated heat input greater than 250 mmBtu/hr ("Portland cement kiln units"), a 30% reduction from uncontrolled levels.

EPA noted that it could not identify any additional NOx controls that States could implement for mobile or nonroad sources beyond those already being implemented by EPA and the States that were both technologically feasible and cost-effective, relative to point sources covered by the NOx SIP call. Therefore, each State's NOx emissions budget does not assume implementation of additional highway or nonroad mobile source controls or expansion of existing controls beyond those already mandated by the CAA.

To assist in development of the SIP revisions needed to meet the State NOx emissions budgets, EPA developed the model State NOx Budget Trading Program set forth at 40 CFR Part 96. The State NOx Budget Trading Program constitutes a NOx cap-and-trade program for a group of "core sources" that includes (1) all fossil fuel-fired stationary boilers, combustion turbines, and combined cycle systems that serve an electricity generator having a nameplate capacity greater than 25 MWe and (2) all fossil fuel-fired stationary boilers, combustion turbines, and combined cycle systems not serving a generator that have a heat input capacity greater than 250 mmBtu/hr. Portland cement kilns are not included in the group of core sources but may be included in the model trading program. EPA anticipates that adoption of the State NOx Budget Trading Program by all eligible States will achieve over 90% of the emission reductions required by the NOx SIP call. The Department, in choosing to include Portland cement kilns in the State NOx Budget Trading Program, will achieve <u>all</u> of the reductions required in the NOx SIP Call.

Adoption of a program consistent with 40 CFR Part 96 is optional, but its use will provide New York State with a readily approvable SIP revision and provide sources with a program that will provide the lowest overall cost of compliance with the reductions which must be achieved from their industry sectors. The Department chose to adopt a program consistent with 40 CFR Part 96 in order to have a readily approvable SIP revision to avoid EPA imposing a FIP. Failure submit an approvable SIP revision or failure to gain EPA approval for the NOx Budget Trading Program rule by November 1999 would cause EPA to impose a FIP to satisfy the requirements of the NOx SIP Call and the federal rulemaking resulting from the CAA § 126 Petitions. In imposing a FIP, EPA would use a different allocation methodology than agreed to by the owners/operators of NOx Budgets units in New York. The FIP allocation would not take into consideration any circumstances unique to New York State.

In drafting Part 204, the Department has made many non-substantive changes to the federal model rule to make it consistent with the regulatory system in place in the State. These changes will allow NOx Budget units to comply with Part 204 with a minimum amount of disruption since they are already regulated under other State air pollution regulations. For example, the changes to the federal model rule permitting requirements are made to align Part 204

with State permitting requirements. All NOx Budget units are required to be permitted under 6 NYCRR Part 201. Part 204 differs from the federal model rule in terminology to be consistent with Part 201.

Both the NOx SIP call and the CAA §126 petitions are mechanisms designed to address ozone transport through reductions in upwind NOx emissions. However, in at least one fundamental respect, the operation of the these mechanisms is different. In the NOx SIP call, EPA determined that certain States are or will be significantly contributing to nonattainment or maintenance problems in downwind States. EPA is requiring the upwind States to submit SIP revisions designed to reduce the amounts of NOx emissions by sources in each State that significantly contribute to downwind air quality problems. The States will have the discretion to select the mix of control measures to achieve the necessary reductions, including controls on small stationary sources and mobile sources. By contrast, under CAA §126(b), only large stationary sources named in a petition may be subject to a finding of significant contribution and are the only type of sources which may become subject to direct regulation by EPA.

Some of the States that filed CAA §126 petitions are downwind of New York State and have sought a finding with respect to sources situated within New York State (for example, Connecticut and New Hampshire). EPA's CAA §126 remedy in the form of the Federal NOx Budget Trading Program addresses sources which are all included as core sources from which emissions reductions are assumed under the NOx SIP call and which are the type of sources included under the model State NOx Budget Trading Program set forth in 40 CFR Part 96. By adopting Part 204, the Department will achieve 100% of the reductions required under both the NOx SIP call and EPA's final action on the CAA §126 petitions which EPA grants with respect to New York State based sources.

The OTC has determined that the NOx emission reductions set forth in the NOx SIP Call are consistent with Phase 3 of the OTC NOx MOU. Hence, New York State continues its performance of its obligations under the OTC NOx MOU by promulgating Part 204.

Part 204 will establish a New York State Trading Program Budget which sets a statewide ozone season cap on NOx emissions beginning in 2003 from the same large stationary sources subject to the recently adopted Subpart 227-3, which sunsets in 2002.[2] The Program to be implemented through Part 204 contains methodologies to allocate allowances to accounts set up for each NOx Budget unit in New York State and Department set-aside accounts set up for distributions to new units and sponsors of energy efficiency measures, projects generating electricity from renewable resources, and in-plant efficiency improvements. Each allowance represents a limited authorization to emit one ton of NOx starting with a particular ozone season.

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[2] Under Subpart 227-3, these large stationary sources are known as "budget sources." Under Part 204 (and 40 CFR Part 96 from which Part 204 was derived), these sources, with the addition of Portland cement kilns, are known as "NOx Budget units."

All the allowances in all the accounts established under the Program match the number of allowances in the New York State Trading Program Budget. The Program represents a cost-effective way to restrict NOx emissions to the State Trading Program Budget level because it allows the trading of allowances among NOx Budget units located in all States which have established equivalent programs as well as any other person who establishes an account. Thus, market forces determine the most efficient allocation of this economic resource. To assure its integrity and reliability, the Program contains provisions governing, among other things, emissions monitoring, reporting and record keeping, compliance certification, permitting, and penalties for noncompliance.

Under the Program, allowances are initially allocated to accounts of the NOx Budget units and the Department set-aside accounts. Once allocated, allowances may generally be deducted for compliance purposes, transferred to others or banked for future use. EPA will be administering the computerized system to maintain the accounts and track the status of allowances which arise from any of the relevant State regulatory programs or FIPs. This computerized system is known as the NATS (NOx Allowance Tracking System).

To determine the appropriate methodology for allocating NOx allowances to NOx Budget units in New York State, the Department convened a facilitated negotiation among owners and/or operators of the NOx Budget units, environmental groups, and other interested parties, with the express goal of determining an allowance allocation methodology. The Department held four negotiation sessions during January and February 1999. At the end of these sessions, all the parties agreed upon a set of allowance allocation methodologies which are embodied in Part 204 (primarily Subpart 204-5).

EPA determined each State's NOx Trading Program Budget by applying different levels of control to each of the three industry sectors (EGU, non-EGU and Portland cement kiln units) covered by this regulation. The budget for the EGU sector was based on an emission rate of 0.15 pounds of NOx per million Btu of heat input . The non-EGU sector budget was based on a 60 percent reduction of NOx from uncontrolled levels and the Portland cement kiln units budget was based on a 30 percent reduction of NOx from uncontrolled levels. These different control levels represent an equivalent cost per ton of NOx reduced in the ozone season. As a result, the owners/operators of the NOx Budget units believed that maintaining the three distinct industry sectors would result in the most equitable method of allocation. Therefore, the agreed upon allowance allocation methodology divides the New York State Trading Program Budget into the same three industry sectors used by EPA to determine the State NOx Trading Program Budget.

The EGU sector is made up of 294 fossil fired electricity generating units owned by utilities and independent power producers. There are 33 companies in the EGU sector, including Keyspan, Consolidated Edison, NGE, Rochester Gas and Electric, Indeck, Sithe, FiberTek and U. S. Generating Company. The non-EGU sector includes 19 units owned by Kodak, General Electric, Consolidated Edison (steam only units) and International Paper. There are three

companies each with one unit in the Portland cement kiln sector, Glens Falls Cement, Atlantic-Blue Circle and St. Lawrence Cement. Therefore, the total number of NOx Budget units is 316.

Allowance allocations are generally based on historic utilization (heat input for EGUs and non-EGUs and clinker production for Portland cement kiln units) and the NOx reductions identified as highly cost effective by EPA in the NOx SIP Call. The methodologies also include set-asides for new sources (5% of initial sector allocations for EGUs and Portland cement kiln units, and 15% of the initial sector allocation for non-EGUs) and energy efficiency and renewable energy sources (3% for all industry sector allocations).

The Department believes that the public participation procedures used in the development of this regulation maximized the benefits to all participants. The Department learned, from experience with 6 NYCRR Subpart 227-3 “Pre-2003 Nitrogen Oxides Emissions Budget and Allowance Program,” that if it had developed this regulation without the input from regulated entities and interested parties, it would potentially be delayed beyond the point by which the regulation needs to be adopted (September 30, 1999). By being pro-active, the Department has successfully facilitated an agreement among the owners and/or operators of the NOx Budget units, and has been able to maintain the ambitious schedule required by EPA for the adoption of this rule-making.

Furthermore, prior to the workshops, the Department held an informational session to help the participants understand the NOx SIP call requirements. By understanding what the Department was required to do, the participants were able to use the time efficiently and work with each other towards an acceptable agreement. The agreement that was reached provided an allocation methodology which reacted to the specific needs of the three individual industry sectors. It would have been practically impossible for the Department to address these specific needs otherwise, especially with the newly affected cement industry. Also, each individual industry sector allocation methodology specifies unique allocation procedures for certain NOx Budget units where EPA cost assumptions were not valid.

The Department believes that any other means of developing this regulation would have resulted in a less desirable outcome. Comments received to date on the workshops, both written and verbal, seem to corroborate this position. The use of these workshops allowed the Department, prior to formal proposal, to develop a consensus among the regulated entities and other interested parties regarding the most sensitive element of the regulation.

Once the Program becomes effective, other non-NOx Budget units may opt-in to the Program if they so choose. These "NOx Budget opt-in units" will each be given an allocation of new allowances which will be added to the New York State Trading Program Budget. When units opt-in to the Program, actual NOx emissions do not increase; rather, more existing NOx emissions from additional units become subject to the Program.

NOx Budget units are required to monitor and report NOx emissions on an annual basis to ensure that emissions do not exceed allowances. This reporting information is submitted to EPA which will be administering a computerized system for tracking emissions among all sources subject to any of the relevant State regulatory programs. This computerized system is known as the NETS (NOx Emissions Tracking System). NOx Budget units must comply with the monitoring and reporting requirements in Subpart H of 40 CFR Part 75, which will be incorporated by reference into Part 204.

By midnight of November 30 of each calendar year, each NOx Budget unit must evaluate its actual reported emissions and assure that is has an adequate number of allowances in its compliance accounts to cover the actual emissions during the preceding ozone season. If the NOx Budget unit fails to obtain sufficient allowances to account for emissions during the ozone season, EPA will automatically deduct allowances from the NOx Budget unit's compliance account at the start of the following ozone season at a rate of three allowances for each ton of excess emissions. The Department may also take enforcement action under existing authority concerning violations of the State's air pollution control laws and regulations.

Allowances that are not deducted for compliance purposes or retired at the earliest opportunity are automatically rolled over for use during a future ozone season. Such allowances are "banked." The Program allows for unlimited banking of allowances, but incorporates a progressive flow control mechanism to regulate the deduction of banked allowances. Progressive flow control is intended to prevent a tremendous release of NOx emissions if NOx Budget units rely heavily on the use of banked allowances for any one ozone season. This mechanism would allow a certain portion of banked allowances to be used on a one-for-one basis and others on a two-for-one basis, depending on the number of banked allowances in all accounts in the NATS.

The Department is proposing to revise 6 NYCRR Subpart 227-3, Pre-2003 NOx Emissions Budget and Allowance Program to change certain references to materials involving NOx emissions monitoring requirements that were incorporated into the regulation. The references to incorporated materials must be changed to reflect recent revisions to 40 CFR Part 75 which essentially supplant the originally referenced materials regarding NOx emissions monitoring requirements applicable to budget sources subject to Subpart 227-3.

The Department is revising 6 NYCRR Part 220, “Portland Cement Plants” to make it consistent with the applicability and opacity requirements in 40 CFR Part 60, Subpart F, for Portland cement kilns and certain other specific sources.

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## NEEDS AND BENEFITS

There are two types of ozone, stratospheric and ground level ozone. Ozone in the stratosphere is naturally occurring and is desirable because it shields the earth from harmful ultraviolet rays from the sun which may cause skin cancer. Ozone at ground level causes throat irritation, congestion, chest pains, nausea and labored breathing. It aggravates respiratory conditions like chronic lung and heart diseases, allergies and asthma. Ozone damages the lungs and may contribute to lung disease. Even exercising healthy adults can experience 15% to 20% reductions in lung function from exposure to low levels of ozone over several hours.

Children are most at risk from exposure to ozone. Because their respiratory systems are still developing, they are more susceptible than adults. This problem is exacerbated because ozone is a summertime phenomenon. Children are outside playing and exercising more often during the summer which results in children being exposed to ozone more than adults. Outdoor workers are also more susceptible to lung damage because of their increased exposure to ozone.

Ground level ozone interferes with the ability of plants to produce and store food. This compromises growth, reproduction and overall plant health. By weakening sensitive vegetation, ozone makes plants more susceptible to disease, pests and environmental stresses. Ozone has been shown to reduce yields for many economically important crops (e.g., corn, kidney beans, soybeans). Ozone damage to long lived species such as trees (by killing or damaging leaves) can significantly decrease the natural beauty of an area, such as the Adirondacks.

Unlike other pollutants, ozone is a secondary pollutant - not emitted directly but formed in the atmosphere by a variety of photochemical reactions involving VOCs and NOx in the presence of sunlight. NOx is a by-product of fossil fuel combustion and is emitted primarily by utilities, motor vehicles and major industrial facilities.

On sunny hot summer days, VOCs react with NOx to form ozone. Established by EPA, the ozone NAAQS is the level above which public health can be affected. In the Northeastern United States the ozone nonattainment problem is pervasive as concentrations of ozone often exceed the level of the NAAQS by mid-afternoon. The contiguous metropolitan areas of Washington, D.C., Baltimore, Philadelphia, New York, and Hartford area are designated ozone nonattainment areas.

Implementation of the Program will, in concert with counterpart programs established by other States and FIPs imposed by EPA, lower levels of ozone in New York State and will decrease the adverse public health and welfare effects described above.

Lower NOx emissions will also have other real environmental benefits. Decreases in NOx emissions will reduce acid deposition, nitrates in drinking water, excessive nitrogen loading to

aquatic and terrestrial ecosystems, and ambient concentrations of nitrogen dioxide, particulate matter, and toxics. NOx emissions reductions will also lessen regional haze and improve visibility. On a global scale, decreases in NOx emissions will, to some degree, reduce greenhouse gases and stratospheric ozone depletion.[3]

In enacting the Title I ozone control requirements of the 1990 CAA amendments, Congress recognized the hazards of ozone pollution and mandated that States, especially those in the OTR, implement stringent regulatory programs in order to meet the ozone NAAQS.

The Department has implemented many programs to assist in bringing all areas in the State into attainment with the ozone NAAQS. Examples of VOC controls include RACT on major sources, Stage I and Stage II gasoline vapor recovery, maximum volatility requirements for gasoline, limits on auto body and architectural paints, limits on consumer products such as hair sprays and deodorants, and controls on small industrial facilities such as printing operations and bakeries. The low emission vehicle program and the enhanced inspection and maintenance program control emissions of both VOCs and NOx. The compilation of all the control programs constitute the ozone NAAQS attainment SIP for New York State.

Since the enactment of the 1990 CAA amendments, the National Academy of Sciences released a study concluding that, for many areas in the country, controlling NOx emissions would be more effective than controlling VOC emissions to achieve ozone benefits.[4] EPA and the Department performed regional scale ozone modeling for the Eastern United States that indicated that regional NOx reductions on the order of 75% coupled with VOC reductions of 25% would be needed to attain the ozone NAAQS in the New York City metropolitan area.[5] The OTC entered into negotiations in 1994 to determine a course of action to achieve the necessary emission reductions to continue progress toward attainment of the ozone NAAQS. The result of these negotiations was the generation of the OTC NOx MOU.

The importance of controlling NOx emissions was further demonstrated in the work performed by OTAG. Among the major conclusions from OTAG was that regional NOx reductions are effective in producing ozone benefits and the more NOx reduced, the greater the

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[3] *Nitrogen Oxides: Impacts on Public Health and the Environment*, US Environmental Protection Agency, August 1997 (EPA 452/R-97-002).

[4] *Rethinking the Ozone Problem in Urban and Regional Air Pollution*, National Academy of Sciences, 2001 Wisconsin Avenue, N.W., Washington, DC, December 1991.

[5] *Examination of the Efficacy of VOC and NOx Emissions Reductions on Ozone Improvement in the New York Metropolitan Area*, John, K., Rao, S. T., Sistla, G., Zhou, N., Hao, W., Schere, K., Roselle, S., Possiel, N., and Scheffe, R., Air Pollution Modeling and Its Application X, Plenum Press, New York, 1994.

benefit.[6]

The CAA requires the State to document progress towards, as well as attainment of, the ozone NAAQS. Progress is measured by the adoption and verification of control programs that will result in VOC emissions reductions in nonattainment areas. A 15% reduction from a 1990 base inventory resulting from new programs was required by 1996. After 1996 there is a 3% annual reduction requirement, measured in three year increments, up to the nonattainment area's attainment date. The substitution of NOx reductions is allowed after 1996. The NYMA/LOCMA is a severe ozone nonattainment area and, therefore, has a statutory attainment date of 2007 and an ultimate rate of progress reduction requirement of 48%. The Department is required to document that it is meeting the rate of progress requirements for 1999, 2002, 2005 and 2007. New York State will rely, in part, on the NOx emissions reductions to be achieved by the Program to meet the NYMA/LOCMA rate of progress requirements for 2005 and 2007.

## COSTS

Costs to Regulated Parties and Consumers:

Since Part 204 is identical to 40 CFR Part 96 in most respects other than the allocation methodologies, the Department utilized cost information that supported the NOx SIP call. All the details of the federal cost information may be found in the federal Regulatory Impact Analysis that accompanied the NOx SIP call. The Department undertook no independent cost analysis.

The Department anticipates that approximately 77% of the emissions reductions in New York State expected to result from implementation of Part 204 will come from the electric power industry, at an average ozone season cost of $1,503 per ton reduced. The table below indicates the estimates of direct control costs for NOx Budget units, including costs associated with emissions monitoring and reporting. The table also indicates the total administrative costs to the Department. EPA's analysis demonstrates that, for the electric power industry, a single trading program across the SIP call region would achieve NOx emissions reductions similar to what direct command-and-control requirements would accomplish, but would do so at a lower cost. For this reason, the Department plans to participate in the trading program that EPA will administer.

[6] *Executive Report 1997*, Ozone Transport Assessment Group, September 1997.

**Estimate of New York's Emission Reductions, Total Annual Costs, and Cost-Effectiveness in 2007**

| Sector | Ozone Season NOx Emission Reductions beyond 227-3 (tons) | Total Annual Cost (millions $) | Average Ozone Season Cost-Effectiveness ($ per ozone season ton) |
|---|---|---|---|
| Electricity Generating Units [a] | 11,391 | $17.12 | $1,503 |
| Industrial Boilers and Turbines [b] | 1,963 | $2.88 | $1,467 |
| Internal Combustion Engines [c] | N/A | N/A | $1,215 |
| Cement Manufacturing [c] | 1,461 | $2.13 | $1,458 |
| Administrative Costs for EGUs | | $6 | |
| Administrative Costs to States | | $2 | |
| **Total** | **14,815** | **$30.1** | |

[a] Does not include additional monitoring costs (see later row).
[b] Includes additional monitoring and other administrative costs associated with participating in the NOx emissions trading program.
[c] Includes additional monitoring and other administrative costs associated with the SIP call rule

EPA considered what the economic impacts could be, if States implemented the regulatory approach that EPA used to calculate the NOx SIP call budgets for EGUs. Electricity prices could rise in the NOx SIP call region by as much as 1.6% in 2007, if the power industry is pricing its power on the basis of marginal costs in a fully competitive environment. The price increase will be less, if these assumptions regarding the nature of the competitive environment do not hold. There will be more new electricity generating capacity built in response to the competitive electricity market than will retire. In other words, there will be little generating capacity that closes while new generating capacity is expedited to be built. On net, EPA expects the NOx SIP call to create more new jobs (from pollution control operations and increased natural gas use) than it reduces (due to a small decline in forecasted coal demand).

No small businesses in New York State will be regulated by proposed Part 204.

Not all the potential costs can be captured in any analysis. However, EPA was generally able to estimate the costs of pollution controls based on present control technology and assess the important impacts when it had sufficient information for its analysis. EPA compiled, through the OTAG process and from many other sources, sufficient information for the NOx SIP call.

Despite EPA's extensive efforts to compile information, there were some data limitations. Despite the limitations, EPA believed that it used the models and assumptions on which it based its analysis in a reasonable way based on the available evidence, but this should be kept in mind when reviewing various aspects of the results.

Another factor that adds to the uncertainty of the results is the potential for pollution control innovations that can occur over time It is impossible to estimate how much of an impact, if any, new technologies that are just now emerging may have in lowering the compliance costs for the NOx SIP call, which goes into effect in 2003. EPA and the Department can only recognize their possible influence.

There also is the uncertainty regarding future costs that exists due to the flexibility that occurs under the Program. The analysis that EPA has done to date has been fairly conservative in considering the electric power industry and large industrial boilers and combustion turbines operating separately under their own trading programs. In reality, they should enter the same trading pool and there should be greater efficiency and lower costs that result.

Part 220, "Portland Cement Plants", is being revised to make it consistent with the applicability and opacity requirements in 40 CFR Part 60, Subpart F, for Portland cement kilns and certain other specific sources. Since the regulated facilities in New York State are already required to comply with the federal regulations, there will not be any costs associated with the revisions to Part 220.

No additional costs will be related to the revisions to Subparts 227-3, 227-2, 227-1 and Part 200.

Costs to State and Local Governments. The Jamestown Board of Public Utilities, a municipally owned utility, owns and operates the S. A. Carlson Generating Station. The facility agreed to an allocation of 202 allowances at the workshops held in January and February 1999. This allocation minimized the emission reduction called for from the S. A. Carlson Generation Station. The monitoring at S. A. Carlson Generating Station currently meets the 40 CFR Part 75 requirements. Therefore, a minimal upgrade to EPA's Electronic Data Reporting Version 2.1 software is expected. Refer to "Costs to Regulated Parties and to Consumers" above for a complete description of the costs associated with complying this regulation.

Costs to the Regulating Agency. There will be some increase in administrative costs. The Department will need to review compliance plans and monitoring plans submitted under Part 204. It will also need to analyze the data submitted to EPA and the Department to determine the appropriate allocations to sources and flow-backs that result from unused set-aside allowances. The Department will also need to review opt-in applications. Coordination with EPA is also necessary for the successful implementation of the regional program. The Department will also be implementing the procedures developed by the New York State Energy Research and

Development Authority for quantifying energy efficiency, renewable energy and in-plant efficiency measures.

It is expected that the above activities will comprise approximately 8 person-years of Department staff time during program start-up, and approximately an additional 2 person-years of staff time annually thereafter.

## LOCAL GOVERNMENT MANDATES

The Jamestown Board of Public Utilities, a municipally owned public utility, owns and operates the S. A. Carlson Generating Station. There are four boilers which are NOx Budget units at the S. A. Carlson Generating Station. These NOx Budget units will need to comply with the provisions of this regulation.

No additional record keeping, reporting, or other requirements will imposed on local governments under the rulemaking.

## PAPERWORK

The owners and operators of the NOx Budget source and each NOx Budget unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created.

(i) The account certificate of representation form.

(ii) All emissions monitoring information, unless a 3-year period is specified. NOx Budget sources will be required to report emissions and allowance transfers via electronic means. This will minimize the paperwork burden on budget sources.

(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the NOx Budget Trading Program.

(iv) Copies of all documents used to complete a NOx Budget permit application and any other submission under the NOx Budget Trading Program or to demonstrate compliance with the requirements of the NOx Budget Trading Program.

For each control period in which one or more NOx Budget units at a source are subject to the NOx Budget emissions limitation, the NOx authorized account representative of the source shall submit to the Department and the Administrator by November 30 of that year, a compliance certification report for each source covering all such units.

The revisions to Parts 200 and 220, and Subparts 227-1, 227-2 and 227-3 do not impact

paperwork requirements.

## DUPLICATION

No duplication between the Program and any existing State and federal requirements is known.

## ALTERNATIVES

Three options exist as alternatives to this proposed rule. These are: (1) an emission rate based program, (2) an intrastate cap-and-trade program, or (3) allowing imposition of a FIP by EPA.

With an emission rate based program, the Department would have to determine appropriate control requirements for each relevant source and enforce compliance with those requirements. The cost of complying with an emission rate program would be higher than with trading program because the marginal cost for some sources to remove the last tons of NOx could easily reach $10,000. A trading program allows sources with high implementation costs to seek out other sources with low implementation costs and purchases excess allowances from those sources, thereby reducing the overall cost of control. EPA determined that the use of a regionwide trading program will result in an overall 25% decrease in control costs.

EPA analyzed the implications of each State limiting trading to within its borders as compared to entering into a common trading program among with all other States subject to the NOx SIP call. EPA found that the average cost per ton of ozone season NOx reduced was about $1,499 per ton. EPA's analysis suggests that it makes little difference whether there are individual intrastate trading programs or a single regionwide interstate trading program. In either case, all States would experience a substantial reduction in summer NOx emissions. The fact that there are similar opportunities for NOx reductions in each of the States indicates that if there were individual State trading programs in place they would each generally have an average cost effectiveness for reducing ozone season NOx emissions that is fairly close to the cost effectiveness of trading programs in other States. Therefore, EPA found that the cost for controls with an intrastate trading program is roughly the same as the regional interstate program.

The advantage of participating in the regional program lies in the administration of the program. If a State were to maintain an intrastate program, it would need to establish independent emissions tracking and reporting and allowance tracking systems. The computer hardware and development of the computer software would cost in excess of $2,000,000 (based on the costs associated with the development of the EPA systems). Since EPA has already established such a system for implementing the OTC NOx Budget Program and New York State is already using that system to implement Subpart 227-3, it is reasonable to continue in that fashion when Part 204 is implemented.

If, by September 30, 1999, New York State fails to submit approvable SIP revisions in response to the NOx SIP call, EPA will impose a FIP for New York State. The FIP would be a one-size-fits-all approach to regulation of the large sources of NOx in New York State. The FIP would not account for any special circumstances that exist with respect to sources in New York State and would not utilize the negotiated allowance allocation procedure in Part 204. Additionally, if the Department failed to adopt the requisite control programs, EPA would withhold federal funding from New York State which would otherwise be provided for administering the Program. EPA would also start the sanctions process mandated by the CAA that could ultimately result in the imposition of new source offsets at the ratio of 2 to 1 and the withholding of federal highway funds. New York State would still be expected to ultimately adopt the programs needed to remove the FIP.

## FEDERAL STANDARDS

The Program does not exceed any minimum standards of the federal government.

## COMPLIANCE SCHEDULE

The NOx authorized account representative of each NOx Budget unit shall submit to the Department a complete NOx Budget permit application in accordance with the deadlines specified in the regulation. For sources that commence operation before January 1, 2000, a complete NOx Budget permit application must be received by the Department by May 1, 2002. For sources that commence operation on or after January 1, 2000, a complete NOx Budget permit application must be received by the Department by the later of May 1, 2002 or 12 months before the date on which the NOx Budget unit commences operation.

The owners and operators and, to the extent applicable, the NOx authorized account representative of each NOx Budget source and each NOx Budget unit at the source shall comply with the monitoring and reporting requirements of the regulation. Compliance dates and requirements vary depending on the operational status of the NOx Budget unit. NOx Budget units that commence operation before January 1, 2002, must comply with the monitoring and reporting requirements May 1, 2002. NOx Budget units that commence operation on or after January 1, 2002 must comply with the monitoring and reporting requirements by the later of: May 1, 2002; or the earlier of, 180 days after commencing operation, or, for EGU's 90 days after commencing commercial operation.

Each year, the owners and operators of each NOx Budget source and each NOx Budget unit at the source shall hold a number of NOx allowances available for compliance deductions, as of the NOx allowance transfer deadline (November 30$^{th}$), in the unit's compliance account and the source's overdraft account in an amount not less than the total tons of NOx emissions for the control period from the unit. A NOx Budget unit shall be subject to this requirement starting on

the later of May 1, 2003 or the date on which the unit commences operation.

For each control period in which one or more NOx Budget units at a source are subject to the NOx Budget emissions limitation, the NOx authorized account representative of the source shall submit to the Department and the Administrator by November 30 of that year, a compliance certification report for each source covering all such units.

By September 30, 1999, the Department will submit to the Administrator the NOx allowance allocations for the control period in 2003. By April 1, 2001 and April 1 of each year thereafter, the Department will submit to the Administrator the NOx allowance allocations for the control period in the year that is three years after the year of the applicable deadline for submission.

The revisions to Parts 200 and 220, and Subparts 227-1, 227-2 and 227-3 do not involve compliance schedules.