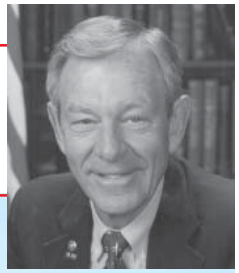
# The Clean Air Act's New Source Review Program: *A Policy in Desperate Need of Reform*



By: Senator George V. Voinovich

The Clean Air Act is the cornerstone of our nation's environmental laws, and it was designed by Congress to protect human health and the environment. It has been amended several times to ensure that all Americans will have healthy air to breathe for generations to come. According to the Act, the purpose is to protect and enhance the quality of the nation's air resources so as to promote the public health and welfare and the productive capacity of its population.

Overall, the Act has been extremely successful in reducing emissions of pollutants. Since the 1970s, our nation's air quality has greatly improved as emissions of all criteria pollutants have been reduced by 29 percent: carbon monoxide, lead, particulate matter, nitrogen oxide, ozone, and sulfur dioxide. At the same time, our population has increased by 38 percent, our nation's energy consumption has increased by 45 percent, the number of miles our vehicles travel each year has increased by 143 percent, and our gross domestic product has increased by 160 percent. More can and should be done, however.

To better control emissions from stationary sources, the New Source Review (NSR) program was created in the 1977 Clean Air Act Amendments. Since its enactment, the NSR program has undergone multiple revisions and reinterpretations through regulatory changes, enforcement actions, and conflicting guidance documents issued by the U.S. Environmental Protection Agency (EPA). This has led not only to costly litigation, but to a climate of uncertainty, forcing companies to forego needed maintenance and repair work until the meaning of regulatory policies are determined.

Ironically, this uncertainty has led to companies even declining to invest in cleaner, less polluting technologies for fear the shifting regulatory environment that once deemed such changes a welcome improvement would now declare such improvements a violation. While the goal of the Clean Air Act has been to make the air cleaner, at times the NSR program has worked against this goal and wound up having the opposite effect. It is imperative that this program be reformed by the EPA if we are to move forward with needed efforts to further improve air quality.

**What Is New Source Review?**

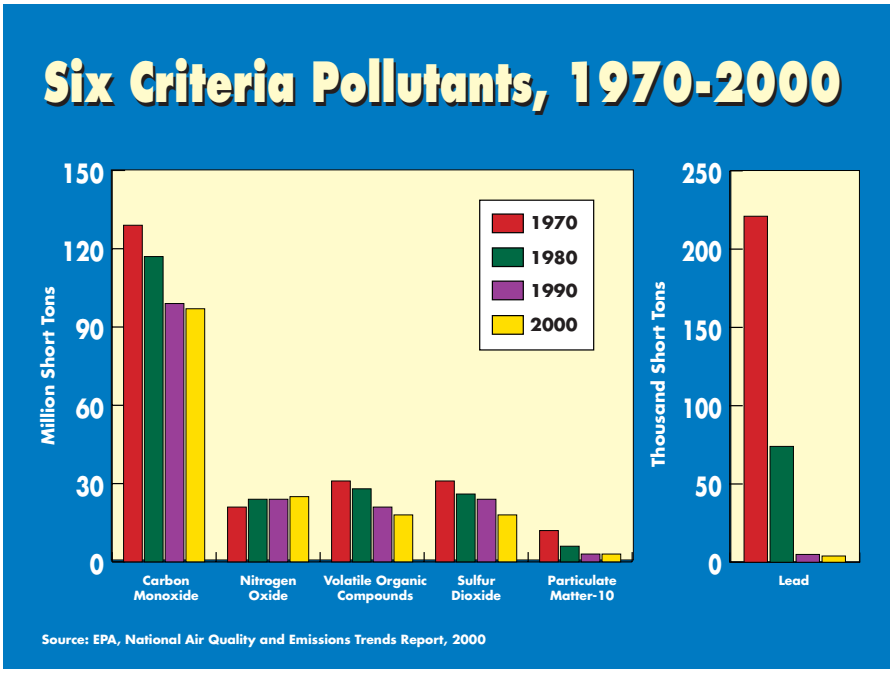
The NSR program dates back to the 1977 amendments to the Clean Air Act. The original goal of the NSR program was to ensure that new facilities and older facilities that make major modifications install the best technology. The program worked well for more than 20 years, helping to produce a cleaner environment. However, as any program ages, changes often need to be made. The EPA first issued a 20-page regulation in 1980 defining NSR and since has gone on to produce more than 4,000 pages of guidance documents explaining and reinterpreting the regulation. This continual reinterpretation over the years has led to confusion and misunderstanding by the Agency, the regulated community, states, and interested outside groups.

The basic premise of the program is that major sources of pollution should install modern pollution control equipment when they are built (for new sources) or when they make major

[Six Criteria Pollutants, 1970-2000] Since the 1970s, our nation's air quality has greatly improved as emissions of all criteria pollutants have been reduced by 29 percent: carbon monoxide, lead, particulate matter, nitrogen oxide, ozone, and sulfur dioxide.

modifications that increase emissions significantly (for existing sources). Congress believed that incorporating pollution controls into the design and construction when new facilities are built or when older ones are significantly modified is generally the most efficient way of controlling pollution from major sources. The program applies to all major stationary sources such as utilities, refiners, chemical plants, and most manufacturing facilities.

It is important to point out that all major facilities are regulated by the Clean Air Act. It is a widespread misunderstanding that some plants are exempt from the Clean Air Act through "grandfathering" provisions. There are no such provisions and no facility is exempt from the Act. All facilities have permit levels that they must meet for their emissions. They must abide by the ozone and particulate matter standards, the MACT (maximum achievable control technology) standards, the acid rain program, the nitrogen oxides state implementation plans ($NO_x$ SIP Call), the regional haze program, and every regulatory program applicable to each industry or facility. In addition, states implement source-specific emission limits through state implementation plans and states may also set more stringent requirements if further controls are needed.




**The Evolution of New Source Review**

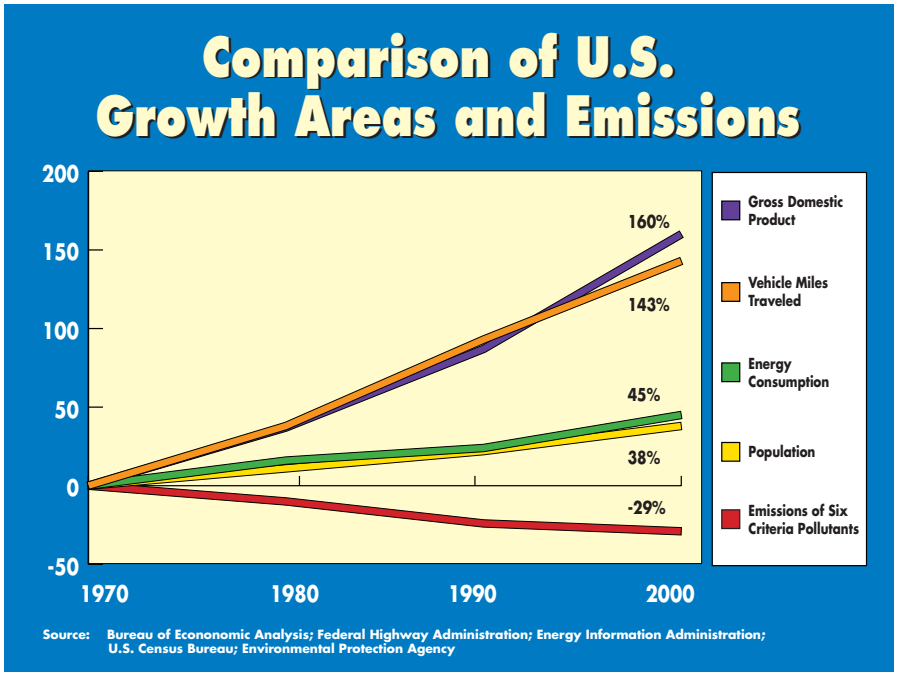
When created by Congress, NSR was to be applicable to newly-constructed sources of air pollution, including newly-constructed modifications to existing facilities. A modification is defined in the statute as "any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted." The EPA then issued the implementing regulations in 1980 which excluded from the definition of modification "routine maintenance, repair, and replacement" and "an increase in the hours of operation or in the production rate." As previously noted, this 20-page regulation was followed by more than 4,000 pages of guidance documents explaining the program.

This definition of the program was in place until 1990 when changes in the NSR program occurred as a result of an EPA determination that gave rise to the Wisconsin Electric Power Company (WEPCO) court case. Not surprisingly, the WEPCO decision said that "massive" and "unprecedented" projects are not "routine maintenance." Additionally, the EPA was required to modify its effort to change the method for calculating potential emissions increases for NSR purposes.

[Comparison of U.S. Growth Areas and Emissions Chart] At the same time our population has increased by 38 percent, our nation's energy consumption has increased by 45 percent, the number of miles our vehicles travel each year has increased by 143 percent, and our gross domestic product has increased by 160 percent.

The court case was then codified by a rulemaking in 1992 by the first Bush Administration. Both the court case and the rule only applied to the utility industry sector.

During the late 1990s, the Clinton Administration sent several contradictory messages regarding the direction of the NSR program. In 1996, they issued a proposed rulemaking to reform the program and received extensive comments on the proposals.




Then in a 1997 enforcement memorandum leaked to the media, the EPA enforcement office, fearing that new environmental standards would not "result in reduced emissions until well after the millennium," advocated targeting coal facilities. The memo shows EPA's desire to force additional reductions in emissions by arbitrarily revising enforcement practices instead of the more appropriate regulatory process complete with its public comment and review requirements.

In 1998, the EPA changed enforcement practices when they renounced the 1992 NSR interpretation in a proposed rule calling parts of the WEPCO decision a departure from Agency policy which should not be continued. Neither the 1996 nor the 1998 proposals were ever finalized, creating greater uncertainty in the regulatory process.

Finally, in 1999, the EPA filed NSR lawsuits against seven electric utility companies and an administrative enforcement order against the Tennessee Valley Authority, alleging NSR modification violations at 24 different facilities, reaching back as many as 22 years. In addition, the EPA has targeted the oil refinery and the pulp and paper industries.

## Why Reform Is Necessary

The constantly evolving NSR program has resulted in a system in which few people understand the myriad complexities of the regulatory program. While the problem of understanding the NSR program affects every single manufacturing industry including computer, auto, chemical, and paper manufacturers, it has probably had the biggest impact on energy production. In particular, coal-fired facilities, which provide the Midwest and Ohio with relatively cheap electricity, have been negatively affected. Gasoline refineries have also been targeted over the last four years for enforcement actions under NSR. This has led to these industries foregoing much needed maintenance and repair work which would increase efficiency and lower emissions levels. Today, the NSR program has resulted in companies making decisions which actually increase emissions.

"During the Clinton administration, EPA advanced a novel interpretation that would require the adoption of state-of-the-art pollution controls at existing sources for activities that state regulators had considered routine maintenance, repair, and replacement activities. The Clinton EPA's new interpretation conflicted with prior federal and state guidance. In several instances, state and local regulators inspected the facilities that are the subject of EPA's enforcement actions - before or immediately after the maintenance activities upon which EPA has based its actions - without suggesting that a permit was necessary."

*- Testimony of Alabama State Attorney General Bill Pryor before the Senate Judiciary and Environment and Public Works Committees, July 16, 2002*

According to a recent National Coal Council study, commissioned by the Clinton Administration, if the EPA were to return to the pre-1998 NSR definitions the U.S. could generate 40,000 new megawatts of electricity from coal-fired facilities and reduce pollution at the same time. As coal-fired facilities age, they become less efficient at producing electricity and are more prone to equipment failures and breakdowns which result in facility shutdowns. These shutdowns cause disruptions in service and reliability and force utilities to purchase more expensive power on the national grid, leading to higher prices for consumers.

In order to avoid these shutdowns, utility owners regularly conduct routine maintenance and repair work to maintain their system's reliability. This maintenance work results in the dual benefit of more efficient equipment which leads to more electricity and less pollution per kilowatt hour. According to the Chairman of the Council, Steven Leer, "citizens, environmentalists, public officials, and generators need to know that if we are able to proceed as planned, the improvements made to plants will have the important effect of decreasing emissions per megawatt from such modified plants, thereby actually improving air quality." The resulting inaction has created an environment in which utilities forgo emissions reduction improvements.

## Technology Example

**A new technology called Dense-Pack could enhance the efficiency of turbine blades in coal-fired power plants, resulting in the production of more electricity with no greater fuel use. If the technology improves the efficiency of generating units between 2 and 4 percent (a very conservative estimate), this means an additional output of 6,000 to 12,000 megawatts of power in the near term, with significant decreases in nitrogen oxide and sulfur dioxide emissions. This is the equivalent of building 20 to 40 new power plants of 300 megawatts each with no new emissions. However, according to the Electric Reliability Coordinating Council, installation of the Dense-Pack technology could trigger NSR (under certain EPA interpretations) and require complete revamping of the pollution control equipment.**

The current NSR program creates both short-term and long-term reliability problems for our nation's electricity providers. According to the Department of Energy, electricity demand is projected to grow by 1.8 percent per year by 2020. The increased demand is based on projected economic growth and the potential for growth in electricity use for a variety of residential and commercial appliances and equipment, including personal computers. At the same time, no new nuclear plants have been constructed since the 1970s and the number of new coal facilities has declined significantly since the 1980s. While natural gas use is expected to double by 2020, our nation's use of coal will continue to increase, resulting in greater demand on our aged coal facilities. In order to meet the growing electricity demand, more frequent maintenance and repair work will be needed to keep these coal facilities on-line.

On the refining side, the gasoline price spikes of 2001

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*- Testimony of former EPA General Counsel E. Donald Elliott before the Senate Judiciary and Environment and Public Works Committees, July 16, 2002*

can be traced to problems with supply and refining capacity. The NSR program has without question discouraged refiners from installing new equipment to increase capacity. According to the National Petrochemical and Refiners Association, one of their members has the ability to increase capacity by 210,000 gallons of gasoline per day without increasing emissions by running a different crude slate, modifying the fuel mix, or adding catalysts. However, if these changes were made EPA would require the installation of additional costly equipment that would not increase refining capacity and would render the projects cost-prohibitive.

## Power Plant Example

**In 2000, EPA concluded that a plan by the Detroit Edison Company to replace worn turbine blades with new and improved blades was non-routine. The replacement would have increased the efficiency of two turbines both by 4.5 percent, allowing the units to either produce 70 additional megawatts of power each with no increase in fuel consumption or generate at past energy levels while reducing fuel consumption and emissions.**

Our nation's refineries currently operate at 94-95 percent capacity, and the Department of Energy projects the demand for gasoline to increase at roughly 1.5 percent per year through 2020. In addition, there have been no new refineries built in the last 25 years, and in fact 33 percent of our refineries have closed, since 1983. The high capacity rate causes us to import more refined products, leaving our nation vulnerable to emergency shutdowns and equipment failures at any of our larger refineries. This problem will only get worse as our fleet of refineries age.

At the same time, NSR discourages our already overburdened refineries from performing the much needed maintenance and repair work which will keep them operational and producing the fuel our economy needs. Over the next few years, refineries will be responsible for implementing major pollution-cutting technologies to produce cleaner fuels such as low sulfur gasoline and low sulfur diesel fuel. The current NSR program will make it more difficult to install this equipment since any modification can result in requirements to completely rebuild a facility in order to comply with NSR.

The fallout from these regulatory policies extends beyond energy companies and touches every consumer of electricity and gasoline through higher utility bills and gasoline prices. Higher energy prices will have a more profound affect on low-income families and the elderly. The Department of Energy claims that those individuals or families making less than $10,000 a year will spend 29 percent of their income on energy costs, and those making between $10,000 and $24,000 a year will spend 13 percent of their income on energy costs.

According to researchers at the University of North Texas, the current NSR program will have a more detrimental impact on rural America. The researchers state that "rising electricity costs due to compliance with the EPA's new interpretation of NSR requirements

"The NSR program needs to be clarified to adequately define the concept of 'routine maintenance' to avoid the regulatory uncertainty currently facing industry. Such clarification would allow companies to repair their facilities and maintain reliable and safe electric service for consumers and workers without being subject to the threat of federal government lawsuits for allegedly violating vague NSR requirements."

*- Bipartisan U.S. Senate Letter to EPA Administrator Whitman, May 13, 2002*

will likely fall disproportionately on rural businesses and households, especially those with the least financial ability to pay higher utility rates. This will add to the disincentives of rural living and may well contribute to the already accelerating loss of population, family farms, and home-based businesses in many rural areas of the United States." Part of the reason for this finding is the fact that rural areas are 76 percent dependent on coal for their electricity, and rising electricity prices in rural areas accelerate the loss of population, family farms, and businesses.

When maintenance and repair work is delayed because of NSR, it not only prevents the installation of more efficient and less polluting technologies, but it also interferes with safety improvements. According to the Boilermakers Union, "maintenance is necessary to maintain worker safety. Electric generating facilities harness tremendous forces: superheater tubes exposed to flue gases over 2000 degrees; boilers under deteriorating conditions; and parts located in or around boilers subjected to both extreme heat and pressure." The Boilermakers support installing new pollution control equipment, it is after all part of their livelihood, however, they also recognize the disincentives the current NSR program places on routine maintenance and repair work. Failure to maintain and repair equipment creates a potential danger to the lives and safety of facility employees and the surrounding community.

## Refining Industry Example

**According to the National Petrochemical and Refiners Association, when a tube on a reboiler furnace failed at a refinery resulting in a fire that destroyed the remaining tubes, new tubes were quickly installed and the unit was back in production within two weeks. However, the EPA claimed the refinery was in violation of NSR because the new tubes could potentially operate for longer periods of time than the older tubes. The EPA concluded that the unit should have undergone the NSR permit process, which would have resulted in the refinery being down for 5 to 18 months.**

The program over the last few years has created a climate of uncertainty. Businesses are unable to make decisions regarding new equipment and routine maintenance and repair out of fear of violating an ever changing definition of NSR. While they can request a determination by EPA on whether a particular practice violates NSR, those decisions by EPA can take months. For business owners to invest and reinvest in their facilities, they need certainty and clear guidance from EPA regarding regulatory requirements. Businesses are not complaining about having to comply with the Clean Air Act; they are complaining that they do not understand the requirements, and the requirements are constantly changing. What is most needed is consistency in the program. Two separate proposed rulemakings that were not finalized and the enforcement initiative does not provide the certainty required for businesses to operate efficiently and states to implement air quality programs.

**Conclusion**

There is strong bipartisan support for a regulatory definition of routine maintenance and repair in order to end the uncertainty in the program. On May 13, 2002, Senator George Voinovich (R-OH) joined Senator Kent Conrad (D-ND) and 24 other senators in a letter to EPA Administrator Christie Todd

"New Source Review requirements should be reformed to achieve improvements that enhance the environment and increase energy production capacity, while encouraging energy efficiency, fuel diversity and the use of renewable resources."

*- Unanimously passed National Governors Association resolution, August 2001*

Whitman calling on her to "complete the review and to undertake the necessary regulatory process in the near future to clarify and reform the NSR program." This was a bipartisan letter signed by nine Democrats and 17 Republicans, all calling for reform. While it is unlikely that all 26 senators would necessarily agree on what the reforms should ultimately look like, there is agreement that reforms to the program should move forward. The senators agreed that "the NSR program needs to be clarified to adequately define the concept of 'routine maintenance' to avoid the regulatory uncertainty currently facing industry. Such clarification would allow companies to repair their facilities and maintain reliable and safe electric service for consumers and workers without being subject to the threat of federal government lawsuits for allegedly violating vague NSR requirements."

## Aerospace Example

**Using EPA's 1994 pollution control project policy, a company could not implement a program because their project would have improved energy efficiency and thus triggered NSR. The project would have used a new faster drying adhesive that would have had significant pollution control benefits.**

In the unanimous resolution that the National Governors Association passed in August 200 calling for NSR reform, they state "New Source Review requirements should be reformed to achieve improvements that enhance the environment and increase energy production capacity, while encouraging energy efficiency, fuel diversity, and the use of renewable resources."

In order to continue our 25 year pattern of continuous emissions reductions, the country must move forward to restore common sense to the NSR program. In the words of former EPA General Counsel E. Donald Elliott, "EPA's many changing interpretations of NSR over the years have created a legal mess of baffling complexity that raises a host of separation of powers and administrative law issues...plants are delaying making needed repairs and changes to equipment. In the long run this threatens the reliability of our electricity supply and keeps inefficient equipment on line when it would benefit our economy to replace it with more modern equipment."

On December 31, 2002, EPA finalized many of the Clinton-era NSR reforms and proposed a new definition for "routine maintenance, repair, and replacement." The new proposal is subject to public review and comment. The final rule is already the result of over 10 years of work by the EPA (across three administrations) and has involved over 130,000 written comments in the last year alone. Reforming the program will produce a better understood regulatory program which will provide needed certainty to the regulated community and will continue to protect public health and improve the environment.

A single, clear and consistent definition of routine maintenance, repair and replacement must be created to end the confusion which has held up environmental and efficiency improvements. Ending this confusion will allow companies to make the investments necessary to both increase our energy supply while increasing environmental protections. Our need to both provide for continued economic development and protections for public health and the environment mandates that we enact substantive NSR reform.

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