

Section 2. Environmental Requirements – SO₂, NO_x, Particulate Matter and Mercury

Sulfur dioxide (SO₂), nitrogen oxides (NO_x), and particulate matter (PM) emissions from fossil-fuel-fired power plants have been the subject of

regulation since the enactment of the Clean Air Act in 1970. These emissions began to be reduced in the early 1970s to meet ambient air quality standards developed by the Environmental Protection Agency (EPA). For example, PM emissions from all Southern Company coal-fired plants were reduced by more than 99% with the addition of electrostatic precipitators.

The 1990 amendments to the Clean Air Act (“the Act”) established the first cap-and-trade program to reduce emissions of SO₂ because of concerns about acid rain. The amendments also required reductions in power plant NO_x emissions. As a result of the 1990 amendments and subsequent requirements to address nonattainment of the one-hour ozone standard (the one-hour ozone State Implementation Plans (SIPs) for Birmingham and Atlanta, as well as the NO_x SIP call), Southern Company has reduced its emissions of SO₂ and NO_x by nearly 40 percent from 1990 levels, over a period during which electricity generation has increased by more than 30 percent (Figure 13). These reductions were achieved by using lower sulfur coal and the application of low-NO_x burners and, most recently, by the installation of 12 SCR systems at plants around Atlanta and Birmingham.

New Efforts to Reduce SO₂, NO_x, and Mercury Emissions

Two new, comprehensive regulations to reduce power plant emissions to unprecedented levels have recently

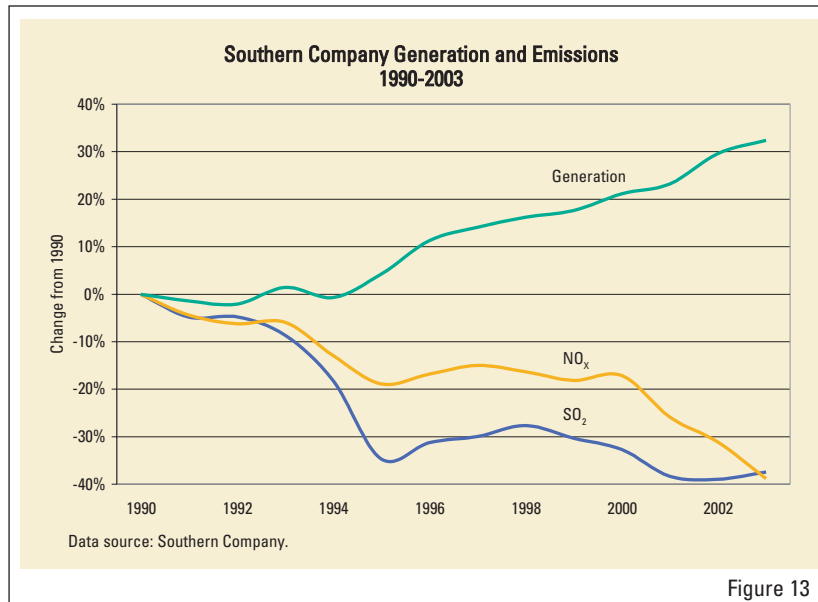


Figure 13

been finalized: the Clean Air Interstate Rule (CAIR) (for SO₂ and NO_x) and the Clean Air Mercury Rule (CAMR) (for mercury). Congress has also recently considered further amendments to the Clean Air Act (such as the Clear Skies Act) that would require many of the same reductions. In addition, several other ongoing

programs have the potential to require further reductions in power plant emissions. These final regulations and ongoing programs include:

Eight-hour ozone ambient air quality standard

In 1997, EPA revised the ozone ambient air quality standard, making it more stringent. In early 2004, EPA designated nonattainment areas for the new eight-hour average ozone standard. Many of the areas that recently achieved air quality levels that met the earlier one-hour average standard – like Atlanta and Birmingham – are once again in ozone nonattainment.

EPA has established a staggered schedule over the next few years specifying when states must finalize their SIPs. These SIPs will include control strategies and emission reduction requirements designed to achieve attainment of the new standard. For power plants, additional NO_x emissions reductions may be required.

PM_{2.5} ambient air quality standard

Also in 1997, EPA revised the ambient air quality standard for particulate matter. The earlier standard had been based on limiting particulate matter consisting of airborne particles less than 10 microns (millionths of a meter) in diameter. Upon review of the science, EPA decided a more stringent standard based on particles less than 2.5 microns in diameter (or PM_{2.5}) was warranted.

PM_{2.5} is made up of many different kinds of particles, including sulfate and nitrate particles formed from SO₂ and NO_x emissions from power plants, as well as particles made up of carbon compounds. Many areas in the United States do not meet the new PM_{2.5} ambient air quality standard, including Birmingham and Atlanta.

SIPs for achieving the new PM_{2.5} standard could require further SO₂ and NO_x emissions reductions at power plants.

Clean Air Interstate Rule (CAIR)

In March 2005, EPA finalized a comprehensive, multi-pollutant plan for further reductions of SO₂ and NO_x from power plants. The CAIR will impose an additional, market-based, cap-and-trade regulatory scheme that will require further emissions reductions in both pollutants of 50 percent and 70 percent in 2010 (2009 for NO_x) and 2015, respectively. EPA states that these reductions are needed to reduce interstate transport of pollutants that contribute to nonattainment of the new eight-hour ozone and PM_{2.5} standards. These reductions are beyond those already required by the acid rain provisions of the 1990 amendments, the one-hour ozone SIPs, and the NO_x SIP call.

Clean Air Mercury Rule (CAMR)

In March 2005, EPA finalized a new regulation, the CAMR, to require reduction of mercury emissions from power plants. The CAMR uses a cap-and-trade approach similar to the acid rain program. The rule will require about a 20 percent reduction in electric utility mercury emissions by 2010, and a 70 percent reduction by 2018.

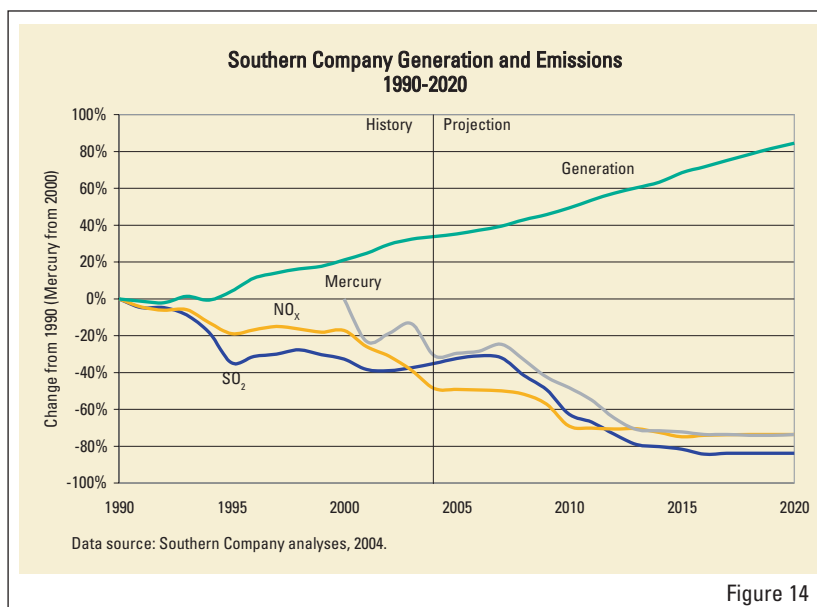


Figure 14

Regional haze rules/Best Available Retrofit Technology (BART)

Additional power plant SO₂ and NO_x emissions reductions may be required to meet the regional haze rules, which EPA developed to meet the Clean Air Act's mandate that views in national parks and other sensitive areas be improved. These rules require states to

meet "reasonable further progress" targets in 10-year phases. These targets are designed to reduce and eventually eliminate man-made visibility impacts in these sensitive areas by 2064. Additionally, an analysis of industrial facilities, including power plants, constructed and operated between 1962 and 1977 will be required under the Best Available Retrofit Technology (BART) provisions of the Act. The BART rule is expected to be final in the summer of 2005.

Southern Company's Response

Southern Company has spent more than \$1 billion since 2000 for SCRs and other NO_x controls at power plants around Birmingham and Atlanta in response to the one-hour ozone SIPs and the NO_x SIP call in Alabama. Existing and new regulations – and programs under development – are expected to require the company to invest more than \$6 billion in additional emission control equipment over the next 10 years. These costs include the installation of about two dozen scrubbers to remove SO₂, about a dozen more SCRs, and other NO_x control devices, and possibly several baghouses in concert with the scrubbers and SCRs to remove mercury. The construction of the first phase of this pollution control technology over the next five years at the same time that other utilities have similar construction programs will present many challenges, including the possible unavailability of labor, construc-

Section 2. Environmental Requirements – SO₂, NO_x, Particulate Matter and Mercury

tion materials, engineering resources, and resources to permit these facilities. By 2020, the installation of this technology is expected to reduce Southern Company's SO₂, NO_x, and mercury emissions by 60-80 percent from 2000 levels.

Figure 14 depicts Southern Company's projected SO₂, NO_x, and mercury emission reductions,³ along with the projected 36 percent increase in generation between now and 2020 discussed in Section 1.

³ The variations in mercury emissions reported before 2004 are due to differences in calculation methodology, not substantial differences in actual emissions.

Forward looking statement cautionary note

Much of the information contained in this report is forward-looking information based on current expectations and plans that involve risks and uncertainties. Some of the forward-looking information relates to scenarios that seek to predict future environmental rules and regulations, Southern Company's ability to address those rules and regulations in a cost-effective manner, solutions for addressing such rules and regulations, costs involved in addressing those rules and regulations, and continued economic growth in Southern Company's service territory. Southern Company cautions that there are certain factors that can cause actual results to differ materially from the forward-looking information that has been provided. The reader is cautioned not to put undue reliance on this forward-looking information, which is not a guarantee of future performance and is subject to a number of uncertainties and other factors, many of which are outside the control of Southern Company; accordingly, there can be no assurance that such suggested results will be realized.

The following factors, in addition to those discussed in Southern Company's Annual Report on Form 10-K for the year ended December 31, 2004, and subsequent securities filings, could cause results to differ materially from management expectations as suggested by such forward-looking information: the impact of recent and future federal and state regulatory change, including legislative and regulatory initiatives regarding deregulation and restructuring of the electric utility industry, and also changes in environmental, tax and other laws and regulations to which Southern Company and its subsidiaries are subject, as well as

changes in application of existing laws and regulations; current and future litigation, regulatory investigations, proceedings or inquiries, including the pending Environmental Protection Agency (EPA) civil actions against certain Southern Company subsidiaries; the effects, extent and timing of the entry of additional competition in the markets in which Southern Company's subsidiaries operate; variations in demand for electricity and gas, including those relating to weather, the general economy and population and business growth (and declines); available sources and costs of fuels; ability to control costs; advances in technology; state and federal rate regulations and the impact of pending and future rate cases and negotiations; internal restructuring or other restructuring options that may be pursued; potential business strategies, including acquisitions or dispositions of assets or businesses, which cannot be assured to be completed or beneficial to Southern Company or its subsidiaries; the ability to obtain new short- and long-term contracts with neighboring utilities; the direct or indirect effect on Southern Company's business resulting from terrorist incidents and the threat of terrorist incidents; interest rate fluctuations and financial market conditions and the results of financing efforts, including Southern Company's credit ratings; the ability of Southern Company and its subsidiaries to obtain additional generating capacity at competitive prices; and catastrophic events such as fires, earthquakes, floods, hurricanes or other similar occurrences. Southern Company and its subsidiaries expressly disclaim any obligation to update any forward-looking information.