UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
ENFORCEMENT AND
COMPLIANCE ASSURANCE

EAST KENTUCKY POWER COOPERATIVE FACT SHEET

Overview

On July 2, 2007, the United States Environmental Protection Agency and United States Department of Justice announced a settlement agreement with East Kentucky Power Cooperative (EKPC) for Clean Air Act (Act) violations at EKPC's coal-fired power plants known as the Spurlock and Dale generating stations. The settlement will require the installation of flue gas desulfurization (FGD) for the control of sulfur dioxide (SO_2) emissions as well as year-round operation of selective catalytic reduction devices (SCRs) for the control of nitrogen oxides (NO_x) at the Spurlock power plant. The settlement also imposes unit-specific emission rates for SO_2, NO_x, and particulate matter (PM) at Spurlock, Cooper and Dale.

The settlement will reduce SO_2 and NO_x emissions by more than 60,000 tons per year (tpy) based on 2005 operations. The cost of this injunctive relief to EKPC will be approximately $650 million, which includes an Environment Project valued at $47 million for installation of Wet Electro-Static Precipitators designed to reduce EKPC's sulfuric acid mist emissions. Finally, EKPC will pay a civil penalty of $750,000.

The Defendant

EKPC is a non-profit corporation and electrical generating utility headquartered in Kentucky. EKPC operates three coal-fired power plants in Kentucky, known as the Spurlock, Dale, and Cooper plants. Spurlock Units 1 and 2, Dale Units 3 and 4, and Cooper Units 1 and 2 are the subject of this settlement. EKPC uses its power plants to generate electricity for sale to 16 electrical distribution cooperatives that, in turn, supply power to over 450,000 homes, farms, and businesses in 89 counties in Kentucky.

Coal-Fired Power Plants Enforcement Effort

The Department of Justice, at EPA's request, has filed lawsuits against several coal-fired electric utilities for alleged violations of the Clean Air Act. This series of cases seeks to bring the coal-fired power plant industry into full compliance with the New Source Review (NSR) and Prevention of Significant Deterioration (PSD) requirements of the Clean Air Act.

This settlement with EKPC represents the thirteenth judicial settlement under the power plants enforcement effort. EPA has reached similar settlements with Illinois Power Company and Dynegy Midwest Generation, Alcoa Rockdale, TX, facility (an industrial boiler), PSEG Fossil, Southern Carolina Public Service Authority (Santee Cooper), Southern Indiana Gas and Electric Company (SIGECO) Culley Station, Tampa Electric Company (TECO), Virginia Electric Power Company (VEPCO), Wisconsin Electric Power Company (WEPCO), Ohio Edison Company (Ohio Edison), and Minnkota Power Cooperative and Square Butte Power Cooperative.

Clean Air Act Violations

Based in part on information received from EKPC, the United States alleged that EKPC made physical and operational changes at the Spurlock Plant that constituted “major modifications” without first

undergoing Prevention of Significant Deterioration (PSD) review, obtaining required permits, and installing and operating Best Available Control Technology to reduce air pollution.

The United States also alleged that EKPC failed to include PSD requirements in its CAA Title V operating permit for the Spurlock Plant. The United States also separately alleged that EKPC's operation of Spurlock Unit 2 at an "increased" heat input capacity violated the terms of its operating permits.

At the Dale Plant, the United States alleged that EKPC made physical changes that constituted illegal modifications under both the PSD and New Source Performance Standards (NSPS) programs, and that EKPC failed to include requirements triggered by those changes in its Title V operating permit for the Dale plant.

Environmental Benefits

- **Harmful Pollutants Addressed by This Settlement**
    - **NO_x**: Nitrogen oxides cause a variety of health problems and adverse environmental impacts, such as ground-level ozone, acid rain, particulate matter (PM), global warming, water quality deterioration, and visual impairment. Nitrogen oxides play a major role, along with volatile organic chemicals, in the atmospheric reactions that produce ozone.
    - **SO_2**: High concentrations of sulfur dioxide affect breathing and may aggravate existing respiratory and cardiovascular disease. Sensitive populations include asthmatics, individuals with bronchitis or emphysema, children, and the elderly. Sulfur dioxide is also a primary contributor to acid deposition, or acid rain.
    - **PM**: Health effects of PM include increased hospital admissions and emergency room visits, increased respiratory symptoms and disease, decreased lung function, and alterations in lung tissue and structure and in respiratory tract defense mechanisms and premature death. PM also is the major cause of reduced visibility in many parts of the nation.
- **Installation of Controls at Cooper Unit 2 or Retire or Re-power Dale Units 3 and 4.**

  Under the agreement, EKPC will notify EPA in writing by December 31, 2009, as to whether EKPC will install NO_x emission controls on Cooper Unit 2 by December 31, 2012, and SO_2 emission controls by June 30, 2012. If EKPC does not install those controls, it must either permanently shutdown or retire Dale Units 3 and 4. In the alternative, EKPC may re-power those units with circulating fluidized bed boilers or natural gas combined-cycle combustion turbines, install Best Available Control Technology (BACT), and comply with emission rates on each unit. If EKPC shuts down Dale Units 3 and 4, it may not operate those units again until they have been repowered, and any repowered operation must occur by May 31, 2014.
- **NO_x Emission Controls and Emission Limitations.**

  The settlement requires EKPC to operate its existing SCRs at Spurlock Units 1 and 2 year-round and achieve a combined 30-day rolling average NO_x emission rate of 0.100 lbs./mmBtu when both units are operating. Individually, Spurlock Unit 1 is required to meet an emission rate of 0.120 lbs./mmBtu and Spurlock Unit 2 is required to meet an emission rate of 0.100 lbs./mmBtu. After January 1, 2013, the more stringent unit-specific 30-day rolling average NO_x emission rate of 0.100 lbs./mmBtu applies at Spurlock Unit 1. In addition, if EKPC installs emission controls on Cooper Unit 2, then by December 31, 2012, EKPC must install an SCR or equivalent NO_x control technology on that unit and meet a 30-day rolling average NO_x emission rate of 0.080 lbs./mmBtu. The Units that are required to meet these stringent NO_x emission rates account for approximately 75-80% of EKPC's coal-fired system megawatt generating capacity. At the remaining units, EKPC is obligated under the decree to operate pre-existing low-NO_x burners at

all times in a manner to maximize NO_x reductions.

Consistent with our other settlements, EKPC has also agreed to meet a system-wide tonnage cap for NO_x that declines over time. Specifically, the settlement caps EKPC's annual NO_x emissions at 11,500 tpy beginning January 1, 2008, 8,500 tpy beginning January 1, 2013, and 8,000 tpy beginning January 1, 2015.

- **SO_2 Emission Controls and Emission Limitations.**

  The settlement requires EKPC to install and operate FGDs or equivalent control technology at Spurlock Unit 2 by October 1, 2008 and Spurlock Unit 1 by June 30, 2011. EKPC must meet a 30-day rolling average SO_2 emission rate of 0.100 lbs/mmBtu or a 30-day rolling average removal efficiency of 95% for SO_2 at Spurlock Unit 2 by January 1, 2009 and at Spurlock Unit 1 by June 30, 2011. In addition, if EKPC installs emission controls on Cooper Unit 2, then by June 30, 2012 EKPC must install an FGD or equivalent control technology and meet a 30-day rolling average SO_2 emission rate of 0.100 lbs/mmBtu or a 30-day rolling average removal efficiency of 95% for SO_2. As a practical matter, EPA expects the 95% removal efficiency standard to be the operative standard. This removal efficiency requirement is consistent with what we have required in other power plants settlements. The Units that are required to meet or beat the 95% rolling average removal efficiency for SO_2 account for approximately 75-80% of EKPC's coal-fired system megawatt generating capacity.

  Through a system-wide tonnage cap, t he settlement caps EKPC's annual SO_2 emissions at 57,000 tpy beginning October 1, 2008, 40,000 tpy beginning July 1, 2011, and 28,000 tpy beginning January 1, 2013. The agreement prohibits EKPC from using any SO_2 allowances to comply with these tonnage caps. The table below quantifies the emission reductions expected under the decree.

- **PM and Mercury Reductions and Controls.**

  EKPC already has electrostatic precipitators (ESPs) for controlling PM emissions at the six units covered by the settlement. The settlement requires EKPC to optimize each existing ESP and either meet a PM emission rate of 0.030 lbs./mmBtu or upgrade those devices and propose an alternate PM emission rate. This is the same approach we have followed in our other settlements for units with existing ESPs.

  The settlement also requires EKPC to conduct annual PM stack tests at each unit in the EKPC system where stack test results show that PM emissions are above 0.015 lb./mmBtu, and biennially where those emissions are below 0.015 lb/mmBtu.

  In addition to stack testing, the settlement requires EKPC to install and operate PM Continuous Emission Monitoring Systems (CEMS) on Spurlock Unit 2 by October 1, 2008 and Cooper Unit 1 by December 31, 2012. The settlement also requires EKPC to install one mercury CEMS on either Spurlock Unit 1 or 2 by October 1, 2008. EPA considers this relief valuable to its effort to encourage the use and development of PM and Mercury CEMS.

Civil Penalties and Environmental Projects

EKPC will pay a civil penalty in the amount of $750,000. As an environmental project, EKPC has agreed to install, concurrently with the FGDs, wet electrostatic precipitators (WESPs) to control sulfuric acid mist emissions from Spurlock Units 1 and 2. The settlement requires that the WESPs be designed to achieve an emission rate of 0.020 lbs./mmBtu of sulfuric acid mist, with a goal of achieving an emission rate of no greater than 0.005 lbs./mmBtu. EKPC expects construction and installation to cost approximately $47 million.