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Cheap and Dirty in the Caribbean

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CHEAP AND DIRTY IN THE CARIBBEAN

SUR CONTRA LA CONTAMINACION V. ENVIRONMENTAL PROTECTION AGENCY, RESPONDENT AND AES PUERTO RICO L.P., INTERVENOR

In *Sur Contra La Contaminacion v. Environmental Protection Agency*, the United States First Circuit Court of Appeals considered the issue of whether a Prevention of Significant Deterioration (PSD) permit issued by the federal Environmental Protection Agency (EPA) should be upheld.[1] The Court of Appeals denied the petition brought by Sur Contra La Contaminacion (SURCCo) and upheld the issuance of a PSD permit that authorized the construction of a power plant by AES Puerto Rico L.P. (AES) in the ward of Jobos.

I. The History of Coal-fired, Cogeneration Power Plants

"Coal is cheap, plentiful and dirty."[2] The method of using coal to produce power has been a common practice for many years. Although some thirty years ago, coal may have been seen as a fuel of the past, it is surprisingly still being used as a way to produce large volumes of electricity at a low price to both producer and consumer because of its abundance.[3] Currently, coal is a cheap commodity in the United States.[4] It has been said by many scientists that coal, is in fact, back and here to stay.[5] The difficulties that these coal-burning, steam-electric power plants are facing, which are at issue in the present case, revolve around the level of pollutants released from the power plants.

The effects of emissions such as carbon dioxide from coal-burning are enormous. Although there are some impacts of coal-burning that may be lessened with conscious efforts, there are others, such as carbon emissions that are, unfortunately, an inevitable byproduct of coal use.[6] Indeed, one of the leading causes of global warming is attributed to the carbon emissions.[7] Sulfur dioxide emissions

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[1] *Sur Contra La Contaminacion v. Environmental Protection Agency*, 202 F.3d 443 (1st Cir. 2000).

[2] Union of Concerned Scientist, *How Coal Works* <http://www.ucs@ucsusa.org> (accessed Feb. 11, 2001).

[3] *Id.*

[4] Smithsonian Institution, *Powering A Generation: Generation Electricity* <http://www.si.edu/Harcourt/h_si/si/powring/generate/gnmain.htm >(accessed Feb. 12, 2001).

[5] *Id.*

[6] *Id.*

[7] *Id.*

from coal burning are the main cause of acid rain, which damages forests, lakes and buildings.[8] "Beginning with the mining of coal, to processing, transportation, burning, and ending with disposal, coal has more environmental impacts than any other energy source."[9]

The process in which cogeneration plants receive their name begins with the burning of the coal. Coal is being used more efficiently in cogeneration plants by taking advantage of the way many large electricity users operate.[10] The process through which cogeneration plants operate begins when:

> [P]ulverized coal into the furnace where it burns while airborne. Water flows through tubes that run through the furnace. The water is heated to boiling while under pressure. This pressurized steam blasts through a turbine, which turns a generator to produce electricity. After the steam has passed through the turbine, it is condensed into water and cooled, and sent back into the furnace.[11]

Recently, cogeneration plants began to use new materials and designs to improve reliability, and to control pollution. New technologies used in the cogeneration plants are implemented from the start.[12] The economy and capability of cogeneration technology allows many plants to return to burning coal without exceeding air-quality standards"[13]

II. Facts and Procedural History of *Sur Contra La Contaminacion v. Environmental Protection Agency*

Sur Contra La Contaminacion (SURCCo) is a community organization that is comprised of residents of Guayama, Puerto Rico, that sought judicial review of a decision made by the EPA to issue a PSD permit authorizing the construction of a coal-fired, steam-electric cogeneration power plant.[14] The Environmental Appeals Board denied review of the challenged petition, which led to this appeal.

The EPA received a PSD permit application from AES on January 10, 1996 for a 454-megawatt coal-fired, steam-electric cogeneration power plant it planned to

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[8] *Id.*

[9] *Id.*

[10] *Id.*

[11] *Union of Concerned Scientist, supra* n. 2.

[12] *Smithsonian Institution, supra* n. 4.

[13] *Id.*

[14] *Id.*

construct in Guayama. The Clean Air Act requires the PSD permit, since the plant would be a new stationary source of certain pollutants, particularly sulfur dioxide and fine particulate matter.[15]

SURCCo argues that the EPA's grant of the PSD permit violated the Executive Order on Environmental Justice.[16] The issuance of the PSD permit is governed by the Administrative Procedures Act, which applies the "arbitrary and capricious" standard of judicial review.[17] The court discussed each issue concerning the PSD permit individually.

A. Prevention of Significant Deterioration

The PSD permit is required to prevent significant deterioration of air quality in each region. PSD permits are intended to assure that certain pollutants do not exceed the allowable increments of additional air pollutants or lead to the exceeding of National Ambient Air Standards in areas designated as attainment or unclassifiable.[18] Guayama has been designated as an attainment area for sulfur dioxide and an unclassifiable area for fine particulate matter.[19] Primarily, the purpose of the PSD program is to achieve a balance between "economic growth" and the "preservation of existing clean air resources."[20]

1. Facility will not contribute to excess air pollution

In order for the EPA to grant a PSD permit, the owner or operator of the proposed facility must meet several prerequisites, two of which are issues in this case.[21] First, to attain a permit the owner must "demonstrate...that emissions from construction or operation of such facility will not cause, or contribute to, air pollution in excess" of the increments or the National Ambient Air Quality Standards.[22] The ways in which to satisfy this requirement are through air quality modeling and ambient air monitoring. However, the EPA may choose to waive the air monitoring requirement if "the emissions increase of the pollutant from the new source...would

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[15] 42 U.S.C. §§ 7475, 7479, (1995).

[16] *See* Exec. Order No. 12,898: 59 Fed. Reg. 7629 (1994).

[17] 5 U.S.C. § 706(2)(A) (1966); Clean Air Act, §101, as amended, 42 U.S.C. § 7401 (1995).

[18] 42 U.S.C. §§ 7471, 7473 (1995).

[19] 40 C.F.R. § 81.355 (2000).

[20] 42 U.S.C. § 7470(3) (1995).

[21] *EPA*, 202 F.3d at 446.

[22] 42 U.S.C. § 7475 (a)(3) (1995); 40 C.F.R. § 52.21(k) (2000).

cause, in any area, air quality impacts less than" certain de minimis monitoring levels.[23]

AES used approved air quality modeling techniques to forecast emissions of sulfur dioxide and fine particular matter from the proposed power plant. The predicted fine particulate matter emissions were above the designated significant impact level and the de minimis monitoring levels. The EPA required AES to conduct a full impact analysis and ambient air monitoring of that pollutant.[24] After both analyses were conducted, the tests indicated that the proposed plant would not cause or contribute to a violation of the National Ambient Air Quality Standards or the PSD increments, thus passing the first prerequisite.[25]

2. Best Available Control Technology (BACT)

Next, no emitting facility may be constructed unless the "proposed facility is subject to the best available control technology for each pollutant subject to regulation."[26]

The purpose of BACT is to create an emissions limitation "based on the maximum degree of reduction for each pollutant subject to regulation under the Act that would be emitted from any proposed major stationary source."[27] The Administrator, on a case-by-case basis, takes into account energy, environmental, and economic impacts to determine achievability for such source through application of production processes or available methods, systems, and techniques.[28]

A combination of three proven control techniques were proposed by AES including: circulating fluidized bed boilers with limestone injection; low sulfur coal; and a dry scrubber. AES claims that such a combination will lead to "one of the world's cleanest coal-fired power plants."[29] EPA accepted the combination as the BACT.

B. Review by the EPA of Post-Permit Analysis

On April 4, 1997, the EPA then conducted public hearings and received written submissions for review when it announced its intention to issue the PSD permit to AES. In response to community concerns, the EPA conditioned the permit on AES's

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[23] 40 C.F.R. § 52.21 (i)(8)(i) (2000).

[24] *EPA*, 202 F.3d at 446.

[25] *Id.*

[26] 42 U.S.C. § 7475 (a)(4) (1995).

[27] 40 C.F.R. § 52.21 (b)(12) (2000).

[28] *Id.*

[29] *EPA*, 202 F.3d at 446.

conducting post-permit multi-source modeling and ambient air monitoring of sulfur dioxide. Yet, such tests were not required by the regulation or the Act.[30]

SURCCo argues that the post-permit analysis that took place denied them the right to comment on the data collected from the testing. However, there is no legal requirement that the public have the opportunity to comment on data from the post-permit analysis. EPA's conduct followed the protocols and models at which the regulations allow the EPA to require post-operation monitoring.[31] The court noted the unusual nature of SURCCo's argument, but presumed that it conformed with SURCCo's belief that full impact analysis should be required before issuance of the permit, rather than after.[32] The Court held that the EPA did not have to conduct ambient air quality analysis, as SURCCo argues, in order to determine whether SURCCo reached attainment under the Clean Air Act in regards to sulfur dioxide emissions, before issuing the PSD permit authorizing the construction of AES.[33]

C. Sulfur Dioxide

EPA granted exemption from conducting full impact analysis of sulfur dioxide emissions to AES, even though the proposed controls were never tested. SURCCo's argument stated that since the EPA had not tested such a combination of controls, the EPA should have conducted a full impact analysis before issuing the final permit. The EPA's reasoning for exemption, despite SURCCo's evidence that emissions were above the threshold level, focuses on the EPA's own air quality model. AES's permit still required them to limit the facility's sulfur dioxide emissions rate to extremely low levels. In addition, since each component of the combination control techniques were tested and previously used, the EPA did not arbitrarily accept the new combinations of controls.[34] The Court held the EPA acted reasonably under the Clean Air Act and related regulations.

D. Fine Particulate Matter

Additionally, SURCCo failed to show that fine particular matter analysis conducted by AES for the PSD permit authorizing the construction of the power plant was flawed due to the use of old and unrepresentative data.[35] SURCCo argued that

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[30] *EPA*, 202 F.3d at 447.

[31] Clean Air Act, § 101, as amended, 42 U.S.C. § 7401 (1995).

[32] Christopher Wilson, *Recent Developments in Environmental Law, Clean Air Act: Prevention of Significant Deterioration Permits*, 13 TUL. ENVTL. L.J. 507 (2000).

[33] *Id.*

[34] Wilson, *supra* n. 32 at 507.

[35] *EPA*, 202 F.3d at 443.

AES should use more accurate and recent data that would demonstrate that the fine particulate matter standard in the area would be exceeded by the new facility. The EPA countered this argument by stating that AES complied with the modeling and monitoring requirements and did, in fact, use the most recent data available to it prior to its permit application.[36] Additionally, the EPA regulations do not require AES to consider post-application data.[37] Furthermore, AES and the EPA established that the more recent data relied upon by SURCCo failed to be representative, and when corrected, the results reflected AES analysis that standards would not be exceeded. Additionally, the EPA acted properly by requesting AES to submit and use the revised limits on fine particulate matter.[38]

E. President's Order on Environmental Justice

The final issue discussed by the First Circuit Court of Appeals was the President's Order on Environmental Justice. The Order requires that federal agencies, to the greatest extent possible, identify and address disproportionately high and adverse human health or environmental effects of programs and activities on minority and low-income populations.[39] The violations alleged by SURCCo failed to provide a basis for revoking the PSD permit because the Order's intent centers on improving internal management of the executive branch. Therefore, the Order does not create a right to judicial review and the permit could not be reviewed or revoked on the basis thereof.

III. Court's Analysis

The First Circuit of the United States Court of Appeals held that SURCCo's petition presented no basis to conclude that the EPA's grant of a PSD permit to AES was arbitrary or capricious, and thereby denied the petition. However, the court stressed that the citizens of Guayama may indeed have valid concerns about the quality of air in their particular region. The court cited *Pan American Grain Manufacturing Co. v. United States Environmental Protection Agency* stating, "in each instance the EPA presented reasoned explanations ... notwithstanding petitioner's objections. Moreover, petitioner's criticisms ... involve areas in which the EPA's expertise is heavily complicated, and we may not substitute our judgment for that of the Administrator."[40] Therefore, it may be said that the findings made by

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[36] *Id.* at 448.

[37] *Id.*

[38] Wilson, *supra* n. 32 at 507.

[39] *See* Exec. Order No. 12,898; 59 Fed. Reg. 7629 (1994).

[40] 202 F.3d at 449 (quoting *Pan Am. Grain v. U.S. EPA*, 95 F.3d 101 (1996)).

the EPA should be given deference due to the level of expertise held by the EPA. The First District Court of Appeals concluded by stating that the permit issued here was particularly stringent, and it may be due in large part to the participation of the area residents.[41]

IV. Conclusion and Effects on Future Cases

Based on 1997 data, Puerto Rico consumes 190,000 short tons of coal annually, all of which are imported.[42] The use of coal will increase with the construction of the new coal-burning cogeneration plant to be built by AES. Puerto Rico Electric Power Authority (PREPA) generates ninety-eight percent of the island's electricity.[43] PREPA is the sole distributor of electric power on the island. However, PREPA hopes to increase electric capacity to over 5,800 megawatts by 2001 to prevent a power shortage before it occurs.[44]

There is a fear of a possible power deficit occurring within the next five years in Puerto Rico. The fear is caused by the expansion of the economy.[45] Economical expansion of this magnitude requires Puerto Rico to depend on investments of $1.9 billion to provide adequate electricity.[46] In fact, the demand is rising at nearly 3.5 percent per year; therefore, necessitating more power.[47] The decision by the First Circuit Court of Appeals in *SURRCo* improved the prospects for avoiding a power deficit by approving the construction of the controversial coal-fired cogeneration plant to be built by AES.

The grant of the PSD permit to allow construction of the 454-megawatt cogeneration plant in Guayama makes it possible for PREPA to meet the growing demand for electric power. The current case may have a positive influence on other areas concerned with the construction of cogeneration plants. Based on the court's decision to sustain the grant of the PSD permit to AES in the current case, and given the plants restrictions on high levels of pollution, the community is less likely to incur a shortage of electric power to the area and more likely to realize increased economic benefits, despite ecological concerns.

If the EPA continues to grant PSD permits that allow the construction of coal-burning power plants, we may see a competition begin to develop in the coal industry.

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[41] *EPA*, at 449.

[42] Energy Information Administration, *Electricity* <http://www.eia.doe.gov/emeu/cabs/prico.html> (accessed Feb. 12, 2001).

[43] *Id.*

[44] *Id.*

[45] *Id.*

[46] *Id.*

[47] *Id.*

There is a current movement to restructure the United States' electricity generation markets to make them more competitive. Since more than eighty-seven percent of total domestic coal consumption is used for generation by utilities, coal accounts for more then fifty-six percent of the United States' utility power generation.[48] Restructuring of the electric power industry is expected to result in renewed pressure for cutting cost and consolidation in the coal industry.[49] Such consolidation may lead energy producers to realize favorable economic returns through reductions in costs and future gains in productivity resulting from computerization of administrative tasks and continuing improvements in production technology.[50] Coal mine operators and owners may begin to see shorter contract durations and face an uncertain customer base; therefore, the pressure for industry consolidation increases.[51]

Coal producers will need to practice risk management to provide a mechanism for risk hedging and for price discovery.[52] Restructuring in the coal industry will bring forth changes in the business relationships among coal producers, railroads, and power generators, which creates incentives for alliances and converging of energy markets.[53]

As for the SURCCo case application to South Carolina, it is important to understand South Carolina's role in the coal industry. Energy plays a primary role in South Carolina's economic success, just as in Puerto Rico. South Carolina's annual coal consumption in the industrial sector doubled during the years from 1977 to 1997, with electric utilities increasing coal consumption by 87.4%.[54] Utility companies accounted for a total of eighty-six percent of all coal consumed in South Carolina in the year of 1997.[55] It is apparent that the use of coal is present in both Puerto Rico and in South Carolina at a higher rates than previous years, hence the need for the EPA to issue the PSD permit for the construction of power plants. However, it is also of enormous importance that, if the EPA does continue to grant such permits, the EPA must also, without reservation, continue to uphold the stringent standards that were applied in *SURRCo v. EPA*.[56]

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[48] Energy Information Administration, *Challenges of Electric Power Industry Restructuring for Fuel Suppliers Executive Summary* <http://www.eia.doe.gov/cneaf/electricity/chg_str_fuel/execsumm.html> (accessed Feb. 12, 2001).

[49] *Id.*

[50] *Id.*

[51] *Id.*

[52] *Id.*

[53] *Id.*

[54] 1999 SC Energy Use Profile, *Section 5: Coal* <www.state.sc.us/energy/PDF/1999eup.polf> (accessed Feb. 12, 2001).

[55] *Id.*

[56] *EPA*, 202 F.3d 443.

In conclusion, the stringent application shown by the EPA in granting the PSD permit requiring various analysis testing appears as a strong precautionary tool for fighting the negative effects of coal-burning plants. Although coal is a cheap commodity that has unfortunate side effects, Puerto Rico needs power plants to support its livelihood. The decision by the United States First Circuit Court of Appeals and the concern shown by the community may leave Puerto Rico slightly dirty from the coal, but it does allow Puerto Rico an opportunity to prosper alongside its economy.

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