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ENVIR. APPEALS BOARD

July 7, 2006

Hand-Delivered

Ms. Eurika Durr
U.S. Environmental Protection Agency
Clerk of the Board
Environmental Appeals Board
Colorado Building
1341 G Street, N.W., Suite 600
Washington, D.C. 20005

RE: Petition for Review
SCE&G—Cope Station
NPDES Permit No. SC0045772

Dear Ms. Durr:

Enclosed for filing in the above-captioned matter are the original and three copies (exhibits exceed 30 pages) of the South Carolina Electric & Gas Company's Petition for Review of NPDES Permit No. SC0045772, issued on June 5, 2006.

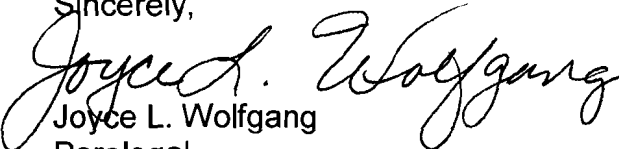
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An additional copy of these documents is included for date-stamping and returning to us with our courier. Thank you for your assistance.

Sincerely,


Joyce L. Wolfgang
Paralegal

Enclosures

cc: James D. Giattin, Director
Water Management Division
U.S. EPA Region 4

Alton Boozer, Chief
Bureau of Water
SCDHEC

BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.

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ENVIR. APPEALS BOARD

IN RE:

South Carolina Electric & Gas
Company—Cope Station

NPDES Permit No. SC0045772

PETITION FOR REVIEW

Original

TABLE OF CONTENTS

Introduction	3
Factual and Statutory Background	4
Threshold Procedural Requirements	5
Issues Presented for Review	6
Argument	7
Conclusion	15
List of Exhibits	16

INTRODUCTION

Pursuant to 40 C.F.R. § 124.19(a), South Carolina Electric & Gas Company (hereinafter "SCE&G") petitions for review of the conditions of National Pollutant Discharge Elimination System (NPDES) Permit No. SC0045772, which was issued to SCE&G by the United States Environmental Protection Agency Region 4 on June 5, 2006, and received by SCE&G on June 7, 2006. The permit at issue in this proceeding authorizes SCE&G to discharge wastewater from its Cope, South Carolina, facility to the South Fork Edisto River. A copy of the permit is attached as Exhibit A.

SCE&G contends that certain permit conditions are based on clearly erroneous findings of fact and conclusions of law or demonstrate an exercise of discretion or an important policy consideration warranting Environmental Appeals Board review. Specifically, SCE&G challenges the following permit conditions:

1. The monthly average and daily maximum limits for mercury (permit page 1-2).
2. The monthly average and daily maximum limits for iron and manganese (permit page 1-2).

FACTUAL AND STATUTORY BACKGROUND

SCE&G produces electricity by coal combustion at its Cope facility, located in Orangeburg County, South Carolina. The facility wastewater discharge is from cooling tower blowdown, low volume waste, coal pile runoff, and ash scrubber waste area runoff. The average flow from the facility is 0.57 million gallons per day (MGD).

SCE&G's previous NPDES permit was issued by the South Carolina Department of Health and Environmental Control (SCDHEC) on August 27, 2002, and expired May 31, 2004. SCE&G timely submitted an application for renewal of the permit. SCDHEC prepared a draft NPDES permit and rationale document dated February 25, 2004. SCE&G commented on the draft SCDHEC permit, and SCDHEC provided responses to those comments in a letter dated August 13, 2004.

Before the DHEC permit could be put on public notice, EPA withdrew SCDHEC's authorization to administer the NPDES permit program in South Carolina. EPA took over responsibility for issuing NPDES permits to several facilities, including SCE&G's Cope facility. Although SCDHEC's authorization has since been restored, permits for which EPA assumed responsibility are being issued by EPA.

EPA issued a draft permit for SCE&G's Cope facility on December 28, 2005. A copy of the draft permit and the accompanying Fact Sheet is attached as Exhibit B. SCE&G timely provided comments on the draft. Those comments are attached as Exhibit C.

EPA issued the final permit on June 5, 2006. The permit included the Agency's responses to the written comments submitted by SCE&G. (Exhibit A, Amendment to Fact Sheet.)

THRESHOLD PROCEDURAL REQUIREMENTS

SCE&G satisfies the threshold requirements for filing a petition for review under Part 124, to wit:

1. SCE&G has standing to petition for review of the permit decision because it participated in the public comment period on the permit. See 40 C.F.R. § 124.19(a); *see also* Exhibit B.
2. The issues raised by SCE&G in this petition were raised during the public comment period and therefore were preserved for review. See Exhibit B, pp. 2-4.

ISSUES PRESENTED FOR REVIEW

- I. EPA erred in imposing mercury discharge limits because the facility's discharge has no reasonable potential to cause or contribute to an in-stream excursion.
- II. EPA erred in imposing iron and manganese discharge limits because the facility's discharge has no reasonable potential to cause or contribute to an in-stream excursion.

ARGUMENT

- I. EPA erred in imposing mercury discharge limits because the facility's discharge has no reasonable potential to cause or contribute to an in-stream excursion.

The final permit imposes total mercury limits of 0.0510 µg/l (monthly average) and 0.1020 µg/l (daily maximum). SCE&G contends that there is no reasonable potential for the facility's discharge to cause or contribute to an in-stream excursion above the State's water quality standard for mercury. See 40 C.F.R. § 122.44(d) (ii). Accordingly, no mercury limits should have been imposed in the permit.

SCE&G's Cope station has an average discharge of 0.57 million gallons per day (MGD). The receiving stream, the South Fork Edisto River, has an average annual flow of 776.100 cubic feet per second (cfs) at SCE&G's discharge point. SCE&G's prior permit, issued by SCDHEC, contained only monitoring and reporting requirements for mercury.

In the draft permit, EPA stated that there was a drinking water intake downstream of the facility and determined that the applicable water quality standard was 0.050 µg/l, which is the human health-based standard for organism and water consumption. See S.C. Code Ann. Regs. § 61-68 Appendix. EPA allowed no credit for dilution of the effluent with the receiving stream, citing the fact that the receiving stream is on the state's CWA Section 303(d) list for mercury. See Exhibit B at p. 8.

SCE&G commented on the draft permit and objected to EPA's use of the mercury standard with no dilution where the cause of the fish consumption impairment in the stream is methyl mercury, not total mercury. SCE&G attached its earlier

comments on the SCDHEC draft permit, which requested that the full flow rate of the Edisto River be used to calculate reasonable potential. See Exhibit C at pp. 2-3.

In the final Permit, EPA amended the Fact Sheet to apply the Water Quality Standard for human health-organism only, noting that the agency had obtained new information pertaining to the location of the nearest downstream drinking water intake. However, EPA still refused to allow in-stream dilution to determine reasonable potential. Exhibit A, Amendment to Fact Sheet, p. 1.

In evaluating whether a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative or numeric criterion of a State water quality standard, the permitting authority must consider (1) existing controls on point and nonpoint sources of pollution; (2) the variability of the pollutant or pollutant parameter in the effluent; (3) the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity); and (4) where appropriate, the dilution of the effluent in the receiving water. 40 C.F.R. § 122.44(d) (ii).

In this case, EPA refused to consider dilution of the effluent in the receiving water because the Edisto River is on the State's CWA Section 303(d) list as impaired for mercury. This refusal was erroneous for a number of reasons.

First, EPA has cited no authority for the proposition that the listing of a waterbody on the Section 303(d) list precludes consideration of dilution. Indeed, SCE&G's review of several guidance documents for setting effluent standards -- the Federal Register notice promulgating 40 C.F.R. § 122.44(d)(ii) (54 F.R. 23868 (June 2, 1989)), EPA's NPDES Permit Writer's Manual (EPA-833-B-96-003, December 1996), and EPA's Technical Support Document for Water Quality-based Toxics Control (EPA/505-2-90-

001, March 1991) – indicates that dilution should be considered for any streams with adequate flow, provided that a mixing zone is not otherwise prohibited. EPA's Fact Sheet for the draft permit states that an April 6, 2005, letter from the SCDHEC General Counsel provided authority for EPA to give credit for mixing zones. (Exhibit C, Fact Sheet at p. 4.) Indeed, a mixing zone based on SCE&G's CORMIX modeling information was used in the development of whole effluent toxicity limits for this permit. EPA has provided no cogent reason that a mixing zone should not be allowed to determine mercury limits as well.

Second, even if a prohibition against using dilution were generally applied when a stream is on the State's 303(d) list, that prohibition should not apply in this instance. For most parameters on South Carolina's 303(d) list, a stream is listed as impaired if water quality monitoring indicates that the applicable standard is not attained, *e.g.*, a stream is listed as impaired for recreational use if more than 10% of water sampled for fecal coliform exceeds 400/100 ml. (See State of South Carolina's 2004 Integrated Report, Part I: Listing of Impaired Waters, p. 6, attached as Exhibit D.) Streams are listed as impaired for mercury, however, solely based on the occurrence of advisories on human consumption for the stream. (Exhibit D, p. 6.)¹

Mercury in fish tissues, which is the basis for the issuance of consumption advisories, is primarily organic mercury (methylmercury). See Mercury Update: Impact on Fish Advisories (EPA-823-F-01-011, June 2001). The State's water quality standard, however, is for total mercury. EPA has provided no explanation or justification for using

¹ The same principle is apparently applied to the listing for shellfish consumption. However, the shellfish advisories themselves are based on measured fecal coliform levels in shellfish harvesting areas, not on an observed effect on the shellfish. Likewise, a stream that exhibits biological impairment is listed as "BIO" in the 303(d) list until a pollutant responsible for the impairment is identified. However, the nonspecific "BIO" listing is not directly correlated to limits in NPDES permits.

a perceived problem of methylmercury bioaccumulation to impose effluent limits for total mercury, much less for citing a perceived problem of methylmercury bioaccumulation to disallow dilution in the calculation of reasonable potential. Indeed, EPA's own recommended water quality criterion for human health—organism consumption *is a methylmercury fish tissue residue criterion of 0.3 mg/kg.* (National Recommended Water Quality Criteria, EPA 2006.) In the scientific document supporting the recommended water quality criterion, EPA deferred further efforts to derive a water quality standard for methylmercury, noting that the agency did not yet have sufficient data to predict methylmercury bioaccumulation based on a particular total mercury concentration in water. See Water Quality Criterion for the Protection of Human Health: Methylmercury, EPA-823-R-01-001 (January 2001), available at <http://www.epa.gov/waterscience/criteria/methylmercury/document.html>.²

In SCDHEC's most recent triennial review of water quality standards, a commenter asked that SCDHEC develop a methylmercury standard for human health protection. SCDHEC declined to do so until EPA published an implementation document that would guide development of a water quality standard (a health-based number for the water column) based on methylmercury measured in fish. SCDHEC's response to comments stated:

² "Because EPA did not use national, empirically derived methylmercury [bioaccumulation factors] to establish today's section 304(a) recommended methylmercury water quality criterion, EPA has deferred further efforts to derive national BAFs for methylmercury at this time. EPA notes, however, that there may be adequate field data for some waterbodies or geographical regions on which to base accurate predictive, site specific methylmercury BAFs. EPA may reconsider developing national methylmercury BAFs in the future once more field data is available for a broader range of species and aquatic ecosystems, or once more information is available describing the mechanisms that affect bioaccumulation. Such information could enable EPA to more accurately predict methylmercury bioaccumulation on a broader scale given a certain total mercury concentration in water." Water Quality Criterion for the Protection of Human Health: Methylmercury, EPA-823-R-01-001 (January 2001), at 6-5.

The Department has carefully considered the commenters' statements regarding the adoption of the methyl mercury criterion for human health protection. We understand that since this is the first time that the EPA has recommended that the direct route of exposure for bioaccumulative pollutants, which until this criterion has always been addressed through the water column number, be recommended as the state water quality standard, there would be many concerns and questions regarding its implementation. The Department has made the decision to delay its adoption of the methyl mercury criterion until EPA has published its implementation document for the methyl mercury criterion. We believe in the scientific validity of the criterion and are assured that the EPA will have the implementation document published in the foreseeable future and will begin adoption of the recommended criterion either in the next triennial review or as an independent regulatory revision in the interval between the triennials if the EPA publishes its guidance document soon. The Department will retain the current human health mercury criterion.

Attachment D – Summary of Public Comments and Departmental Responses for Proposed Amendment of R.61-68, Water Classifications and Standards, Document No. 2855, December 11, 2003. This document is attached as Exhibit E.

To date, neither EPA nor SCDHEC has developed a translation methodology to predict the relationship, if any, between total mercury in the water column and methylmercury in fish tissues. Therefore, it is scientifically unsupportable to presume that a stream's impairment for fish consumption precludes use of dilution in calculating total mercury discharge limits. SCE&G notes that TMDLs developed for the State of Georgia used the EPA-recommended fish tissue concentrations, stream-specific data, and assumptions about fish consumption to calculate specific limits for mercury. Further, Georgia appears to have used EPA's methylmercury criteria document to take a number of streams off its 303(d) list. See documents listed at http://www.gaepd.org/Documents/techguide_wpb.html#tmdl. See also Ga. Code Ann. § 391-3-6-.03 (5) (e) (vii).

Even if dilution were not allowed, EPA has imposed an indefensible daily maximum value for mercury. EPA arbitrarily selected two times the calculated monthly average based on "best professional judgment." As more fully described in SCE&G's comments on the SCDHEC draft permit and SCDHEC's response (Exhibit F at p. 2), the maximum value should be a calculated number based on the coefficient of variation of the effluent concentration, not a guess. Calculating the daily maximum, even with dilution improperly excluded from consideration, yields a value of 0.12 µg/l—not the 0.102 µg/l stated in the permit.

Finally, even if dilution were not allowed, the absence of a predictive relationship between total mercury in the effluent and methylmercury accumulation in fish tissue requires that a permit condition no more stringent than monitoring and reporting be imposed. As with any permit, EPA would retain the right to reopen the permit if the monitoring indicated a reasonable potential to adversely affect water quality.

Because EPA improperly disallowed the use of dilution to calculate SCE&G's permit limits, and improperly imposed end-of-pipe total mercury limits for this discharge, EPA's decision should be reversed.

II. EPA erred in imposing iron and manganese discharge limits because the facility's discharge has no reasonable potential to cause or contribute to an in-stream excursion.

In the draft permit, EPA imposed the South Carolina water quality criteria for iron and manganese based on the "human health—water and organism" standard. Those standards are 0.30 mg/l for iron and 0.050 for manganese. S.C. Code Regs. § 61-68

Appendix.³ As EPA stated in its discussion of mercury, the water and organism standard may be applied when there is a drinking water intake downstream of the facility. In its comments on the draft permit, SCE&G noted that the Cope station is not above a drinking water intake, so the water and organism consumption criteria do not apply.

In the Amendments to the Fact Sheet accompanying the final permit, EPA agreed with SCE&G that this facility is not above a drinking water intake. EPA revised the statement of applicable water quality standards for iron and manganese to 1000 µg/l and 100 µg/l, respectively. However, EPA noted that SCDHEC had sent in-stream data indicating that samples from Edisto River upstream of the SCE&G facility (at Monitoring Station E-011) "at times" exceeded the in-stream standard for iron and manganese. The median values of the most recent samples from Station E-011 (958 µg/l for iron and 41 µg/l for manganese) did not exceed the in-stream standard.⁴ (Amendment to Fact Sheet, Exhibit A, p. 2.) As stated in EPA's draft NPDES permit (Fact Sheet, Exhibit B, p.6), the background 90th percentile for iron was 930 µg/l,⁵ and the value for manganese was 66.4 µg/l. All of these values are below the applicable water quality standards for iron and manganese.

³ SCE&G notes that although the manganese standard for human health—water and organism consumption is set at 100 µg/l, a note to the table states that this value is not based on toxic effects, but is intended to minimize objectionable qualities such as laundry stains and objectionable tastes in beverages. S.C. Regs. § 61-68 Appendix "Nonpriority Pollutants" n. N.

⁴ EPA stated in the Amendment to Fact Sheet (Exhibit A) that the agency received new monitoring data from SCDHEC dated February 1, 2006. The sampling data was not provided as part of the permit, nor has it been shared with SCE&G.

⁵ This value was listed as 903 µg/l in the draft permit EPA put out for public comment. Both values are below the in-stream standard of 1000 µg/l.

EPA also noted that concentrations of iron and manganese from SCE&G's on-site groundwater wells "approach and in some instances exceed" the water quality standards. This water, when used in facility processes, becomes part of the effluent stream and is accounted for in the discharge monitoring data submitted by the facility in the NPDES permit application. It is necessarily already part of any reasonable potential evaluation. Therefore, it is inappropriate to "double-count" these values as though they provide some independent reason to think in-stream standards might be exceeded.

Despite all of the data that shows standards are not exceeded in the stream, EPA inexplicably imposed permit limits of 0.0 mg/l above upstream levels in the receiving waterbody. This was error, as the background reported values do not exceed the applicable water quality standards, nor is the South Fork Edisto River listed on the state's 303(d) list as impaired for iron or manganese. Indeed, Monitoring Station E-011 is approximately 15 miles upstream of the SCE&G facility; samples collected from that Station do not indicate that the receiving stream is "impaired" for these constituents. Further, EPA noted the median concentration levels of iron and manganese of 958 µg/l and 41 µg/l, respectively, and incorrectly concluded that natural background levels in the receiving waterbody exceed the applicable water quality standard. (Amendment to Fact Sheet, Exhibit A, p. 3.) With the standards set at 1000 µg/l for iron and 100 µg/l for manganese, natural background levels in the receiving waterbody do not exceed the water quality standard.

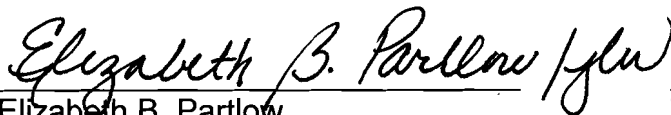
What EPA was required to do, and failed to do, was to perform an analysis of whether SCE&G's discharge has a reasonable potential to cause or contribute to an excursion above in-stream standards. That analysis, based on the concentrations

present in the receiving stream and the discharge characteristics from SCE&G's own monitoring data, would show clearly no reasonable potential to cause water quality standards to be exceeded. Accordingly, the limits for iron and manganese should be deleted from the permit.

CONCLUSION

For the reasons set forth herein, SCE&G requests that its petition for review be granted and that the Environmental Appeals Board issue an order remanding the mercury, iron, and manganese conditions to EPA Region 4 for modification. SCE&G requests that permit limits for mercury, iron, and manganese be deleted in their entirety from this permit.

The permit conditions listed above are contested and severable. SCE&G requests that these conditions be stayed in accordance with 40 C.F.R. §§ 142.16 and 124.60.



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July 7, 2006

LIST OF EXHIBITS

- A EPA Final NPDES Permit No. SC0045772 dated June 5, 2006, with cover letter, description of EAB appeal procedures, and Amendment to Fact Sheet.
- B EPA Draft NPDES Permit No. SC0045772 dated December 28, 2005, with cover letter, public notice, and Fact Sheet.
- C SCE&G's comments, dated February 10, 2006, on Draft NPDES Permit.
- D State of South Carolina's 2004 Integrated Report, Part I: Listing of Impaired Waters.
- E Attachment D – Summary of Public Comments and Departmental Responses for Proposed Amendment of R.61-68, Water Classifications and Standards, Document No. 2855, December 11, 2003.
- F SCDHEC response dated August 13, 2004, to SCE&G's comments on SCDHEC draft permit.

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