



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

OFFICE OF
AIR AND RADIATION

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Dear Mr. McLeod:

This letter represents U.S. EPA's determination of applicability under §72.6(c) of the Acid Rain regulations for Onondaga Cogeneration Limited Partnership's ("OCLP") Onondaga facility ("Onondaga") (Facility ID (ORISPL) 50855) in Syracuse, New York. This is in response to OCLP's February 5, 2002 letter, which EPA is treating as a request for an applicability determination, and supplemental information provided on May 20, June 17, August 14, and September 10, 2002.

Background

Onondaga includes two units (Units 1 and 2), each of which consists of a combustion turbine with an associated duct burner and heat recovery steam generator ("HRSG") and both of which are headered to the same 23 MWe steam turbine. Units 1 and 2 commenced construction in January 1993 and commenced commercial operation in mid-December 1993. The units have nameplate capacities of 45 MWe and 27.35 MWe respectively, and natural gas is the primary fuel for both units, with fuel oil permitted for use as a backup fuel.

Exhaust heat from each unit is ducted to the associated HRSG, and both HRSGs (along with the associated duct burners) produce steam that flows to the steam turbine. From December 1993 until June 2000, steam that flowed through the steam turbine was in turn used by the neighboring Crucible Materials Corporation ("Crucible") facility for steel production purposes. The steam purchase agreement was terminated in 2000, but the control system and piping used to provide steam to Crucible remains in place. Electricity produced by the combustion turbines and the steam turbine was sold to Niagara Mohawk Power Corporation until October 1, 2000 and has been sold to third parties since then.

EPA Determination

Units 1 and 2 are “units,” as defined in §72.2, because they are combustion devices that burn fossil fuel. Further, the units are “cogeneration units,” as defined in §72.2. During 1994-2000, each unit, along with the steam turbine, produced electricity and process steam through sequential use of energy, i.e., by using energy first to generate electricity and then to produce steam for making steel at the Crucible facility. According to OCLP, although the steam purchase agreement was terminated in 2000 and the units now produce only electricity, the equipment needed to produce and deliver process steam is still in place. The units thus continue to have “equipment used to produce electric energy and forms of useful thermal energy (such as heat or steam) for industrial, commercial, heating or cooling purposes, through sequential use of energy” (40 CFR 72.2 (definition of “cogeneration unit”)) and are cogeneration units.

Sections 402(17)(A) and 405(g)(6)(A) of the Clean Air Act include provisions discussing in detail the conditions under which a cogeneration unit is exempt from the Acid Rain Program. See 42 U.S.C 7651a(17)(A) (stating that a cogeneration unit is not a utility unit if it meets certain requirements concerning the purpose of its construction and the amount of electricity that it sells) and 42 U.S.C. 7651d(g)(6)(A) (stating that Clean Air Act Title IV does not apply to a qualifying cogeneration facility that meets certain conditions as of November 15, 1990, the date of enactment of Title IV). EPA interprets these provisions, and §§72.2 and 72.6 of the regulations implementing the provisions, to provide that a cogeneration unit used to produce electricity for sale is a utility unit and thus subject to the Acid Rain Program, unless the unit meets the requirements for an exemption as set forth in §72.6(b).

Under 40 CFR 72.6(b)(4)(ii), a cogeneration unit that commenced construction after November 15, 1990 and sells less than one-third of its potential electrical output capacity (PEOC), or less than 219,000 MWe-hours, on an annual basis to a utility power distribution system is exempt from the Acid Rain Program. If a unit meets this electricity sales threshold for the year in which it commenced commercial operation and thereby qualifies for the exemption, then the unit must continue to meet this electricity sales threshold on a three-year rolling average basis in order to retain the exemption.

Construction commenced on Units 1 and 2 in January, 1993. Unit 1 and its associated duct burner have a total maximum design heat input capacity of 565 mmBtu/hr and a PEOC of 55.2 MWe.¹ One-third of Unit 1’s PEOC is 161,184 MWe-hrs.² Since the exemption under

¹ PEOC for the unit is calculated by adding the maximum design heat input capacities of the combustion turbine and the duct burner for a total of 565×10^6 Btu/hr, dividing by 3 (reflecting the assumed efficiency of the unit), dividing by 3413 (reflecting the assumed heat rate), and dividing by 1000 (converting to MWe). See 40 CFR part 72, appendix D.

§72.6(b)(4)(ii) allows annual (or average annual) electricity sales of up to one-third of a unit's PEOC or 219,000 MWe-hrs, whichever is greater, the electricity sales threshold for the exemption for Unit 1 is 219,000 MWe-hrs. Similarly, Unit 2 and its associated duct burner have a total maximum design heat input capacity of 293 mmBtu/hr and a PEOC of 28.6 MWe.³ One-third of Unit 2's PEOC is 83,512 MWe-hrs,⁴ and, under §72.6(b)(4)(ii), the electricity sales threshold for the exemption for Unit 2 is also 219,000 MWe-hrs.

OCLP provided data for each combustion turbine and for the steam turbine on the annual amounts of electricity sold during 1994-2001.⁵ In determining the annual amounts of electricity sales for Units 1 and 2, EPA must include both the electricity sold from the respective unit's combustion turbine and that unit's share of the electricity sold from the steam turbine, which is served by both combustion turbines. OCLP proposed to apportion, between the two units, the electricity sales from the steam turbine in proportion to the maximum design steam flows for the two combustion turbines. According to OCLP, for hours when the units were generating electricity, they were generally operated together and, except for start-ups and shutdowns, were generally operated at their maximum design levels. Using the maximum design steam flows for the units, Unit 1 accounts for 59.2% of the electricity sold from the steam turbine while Unit 2 accounts for the remaining 40.8% of such electricity. Applying these percentages to the annual amounts of electricity sales from the steam turbine and adding the resulting apportioned amounts to the annual

² This figure is calculated by multiplying the PEOC by 8760, the number of hours in a year, and then dividing by 3. See 40 CFR 72.6(b)(4)(ii).

³ PEOC for the unit was calculated by adding the maximum design heat input capacities of the combustion turbine and the duct burner for a total of 293×10^6 Btu/hr, dividing by 3 (reflecting the assumed efficiency of the unit), dividing by 3413 (reflecting the assumed heat rate), and dividing by 1000 (converting to MWe).

⁴ See n. 2.

⁵ See OCLP's September 10, 2002 submission (OCLP Generation Statistics).

amounts of electricity sales from the appropriate combustion turbine, EPA calculated the total annual amounts of electricity sales from each unit for 1994-2001.⁶

Electricity sales data were not provided for 1993. However, in light of the short time (about two weeks) that the units were operating in 1993, it is reasonable to conclude that each unit sold less than 219,000 MWe-hrs during that year.⁷ However, the three-year average electricity sales for Unit 1 for 1993-1995 exceeded 219,000 MWe-hrs, regardless of the specific level of 1993 sales. For Unit 2, the three-year average electricity sales for 1993-1995 were less than 219,000 MWe-hrs, regardless of the specific level of 1993 sales, but the three-year average electricity sales for 1994-1996 exceeded 219,000 MWe-hrs. Therefore, Unit 1 and Unit 2 became affected units starting on January 1, 1996 and January 1, 1997 respectively. As affected units, Units 1 and 2 must comply each with all applicable requirements of the Acid Rain Program, including the requirements to apply for and receive an Acid Rain permit (under Part 72), to monitor and report emissions (under Part 75) within 90 days of becoming an affected unit⁸, and to hold allowances to cover sulfur dioxide emissions (under Parts 72 and 73).

This determination relies, and is contingent, on the accuracy and completeness of the representations in OCLP's February 5, 2002 letter and supplemental submissions dated May 20, June 17, August 14, and September 10, 2002 and is appealable under Part 78. The applicable regulations require you to send copies of this letter to each owner or operator of Onondaga (40 CFR 72.6(c)(1)). If you have further questions regarding the Acid Rain Program, please contact Robert Miller of EPA's Clean Air Markets Division at (202) 564-9077.

⁶ OCLP's submission rounded Unit 1's and Unit 2's percentage shares of steam flow, and thus their shares of stream turbine electricity sales, to 59% and 41% respectively. EPA's findings below would remain the same if the rounded percentages were used.

⁷ Assuming that each unit commenced operation on December 15, 1993 and operated at maximum load (as reflected by the unit's PEOC) for the rest of the year, the total amount of electricity sold in 1993 could not have exceeded 7,000 MWe-hrs for Unit 1 and 4,000 MWe-hrs for Unit 2.

⁸ See 40 CFR 75.4(c) (2001).

Sincerely,

/s/ (September 25, 2002)

Peter Tsirigotis, Acting Director
Clean Air Markets Division

cc. Reggie Parker, New York State DEP
Gerry DeGaetano, EPA Region 2