UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF
AIR AND RADIATION

OCT 14 2002

Mr. John Hanlon
Plant Manager
Lowell Cogeneration Company, LP
282 Western Avenue
Lowell, Massachusetts 01851

Dear Mr. Hanlon,

This letter represents U. S. EPA's determination of applicability under §72.6(c) of the Acid Rain regulations for Unit 001 at the Lowell Cogeneration plant ("Lowell Cogen") (Facility ID (ORISPL) 010802) in Massachusetts, which is owned by Lowell Cogeneration Company LP ("Lowell"). This determination is made in response to Lowell's October 25, 2001 request for a determination. Lowell provided additional information through submissions dated November 16 and 20, 2001 and August 19 and September 5, 2002. In its October 25, 2001 letter, Lowell also requests that, if the unit is subject to the Acid Rain Program, the deadline for compliance for the unit be extended from January 1, 2000 to January 1, 2002 to provide additional time for upgrading of the unit's continuous emission monitoring system ("CEMS").

Background

Lowell Cogen Unit 001 commenced commercial operation in September 1989 and sold electricity and steam. The unit includes a 25 MWe combustion turbine, which is capable of combusting natural gas and fuel oil, and a duct burner, which exhausts into a heat recovery steam generator (HRSG). The HRSG, in turn, serves a 8.5 MWe steam turbine, for a total of 33.5 MWe nameplate capacity for the unit.[1] Steam is extracted from the steam turbine for use in industrial processing. At commencement of operation, the unit had a power purchase agreement to sell all of its electricity to Commonwealth Electric Company (Commonwealth Electric) and a steam purchase agreement to sell steam to Joan Fabrics for use in fabric dyeing and heating needs. Subsequent steam purchase agreements were reached in December 1997 with UAE Lowell Power for heating needs and with the Freudenberg Nonwovens Group for fabric drying

[1] Lowell suggests that the capacities of the combustion turbine and the steam turbine should be considered separately. In determining the nameplate capacity of a combined cycle system, such as Lowell Cogen Unit 001, EPA treats the combustion turbine and the duct burner as a single combustion device and sums the capacities of the combustion turbine and the steam turbine. EPA takes this approach because all of this equipment operates together and the duct burner and the steam turbine cannot produce electricity or steam without the combustion turbine. Since the total nameplate capacity of Lowell Cogen Unit 001 exceeds 25 MW, the unit does not qualify for an exemption from the Acid Rain Program as a pre-November 15, 1990 unit with nameplate capacity of 25 MW or less. See 40 CFR 72.2 (definition of "existing unit").

and heating needs. The unit uses energy sequentially in that some of the energy used to generate electricity was also used to produce steam for processing. The unit therefore qualifies as a "cogeneration facility" under §72.2, i.e., a unit that has "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")).

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).

Lowell states that Lowell Cogen Unit 001 was initially exempt from the Acid Rain Program under §72.6(b)(5), which applies to a qualifying facility with qualifying power purchase commitment. The unit is a qualifying cogeneration facility (under section 3(17)(C) of the Federal Power Act). See Consolidated Power Co., 35 FERC ¶62,139 (1986) and Lowell Cogeneration Company, LP, 76 FERC ¶62,199 (1996) (certification and recertification of Lowell Cogen Unit 001 as a qualifying facility). According to Lowell, the unit had, as of November 15, 1990, a "qualifying power purchase commitment" (as defined under §72.2) to sell electricity to Commonwealth Electric and therefore was an unaffected unit.

Lowell notes that Lowell Cogen Unit 001 no longer operates under its original power purchase agreement. The original agreement with Commonwealth Electric was signed on September 29, 1986 and supplemented and restated on March 30, 1987. Under the March 30, 1987 agreement, Commonwealth Electric was required to buy, and Lowell was required to sell to Commonwealth Electric, the electrical output of a combined cycle unit "capable of generating approximately 25,000 Kilowatts."[2] The electricity was to be purchased at specified prices adjusted to reflect fuel costs and load factor.

On September 16, 1994, the parties signed a restructured agreement that replaced the March 30, 1987 agreement and became effective on January 1, 1995 after approval by the Massachusetts Department of Public Utilities. The September 16, 1994 agreement provided to two periods: one ending December 31, 2000 where Commonwealth Electric was no longer required to buy, and Lowell was no longer required to sell to Commonwealth Electric, the electrical output of Lowell Cogen; and the second starting January 1, 2001 where Commonwealth Electric and Lowell resumed their respective buy and sell obligations. The start of the second period could be accelerated by a call back by Commonwealth Electric. During the first period, Lowell was allowed to sell the electrical output of the unit to third parties, except

[2] Power Sale Agreement at 1 (March 30, 1987).

that sales within Commonwealth Electric's service area or to a Commonwealth Electric customer required Commonwealth Electric's consent. Although the agreement allowed sales to third parties, the agreement also stated that Lowell and Commonwealth Electric anticipated that Lowell would be unable to make such sales.[3] Further, Commonwealth Electric had the right of first refusal with regard to any electrical output of Lowell Cogen. According to Lowell, the unit was dispatched off-line by Commonwealth Electric during 1995 (except for a short performance run in January 1995) and 1996, produced electricity in 1997 for sale at negotiated rates to third parties during less than 10 days in June, July, and August, and did not generate electricity during 1998 and 1999. See Lowell Cogeneration Company-LP, Monthly Plant Performance Log, January, 1992-October, 2001 (pages for 1995-1999).

On July 2, 1999, the parties signed an agreement that amended and restated the September 16, 1994 agreement and that became effective on December 1, 1999 upon approval by the Massachusetts Department of Public Utilities. The July 2, 1999 agreement provides that, except during periods for which Commonwealth Electric calls back the electrical output of Lowell Cogen, Commonwealth Electric is not required to buy, and Lowell is not required to sell to Commonwealth Electric, the electrical output of the unit. Commonwealth Electric may initiate a call-back period at any time for specific periods comprising one or more full months. Commonwealth Electric makes a fixed payment per month to Lowell for the call-back rights and pays Lowell for the electrical output during any call-back period.[4] According to Lowell, Lowell Cogen generated and sold electricity to third parties at market prices in 2000 and thereafter.

Lowell suggests that the changes to the original power purchase agreement cannot impact the unit's exemption from the Acid Rain Program. According to Lowell, so long as the unit remains a qualifying facility, the unit would be exempt regardless of whether the original power purchase agreement remains in place.

EPA's Determinations

1. Applicability of the Acid Rain Program

Section 72.6(b)(5) exempts from the Acid Rain Program a unit that: is a "qualifying facility" under the Federal Power Act; has, as of November 15, 1990, a "qualifying power purchase commitment" to sell at least 15% of its total planned net capacity; and consists of units with total net output capacity not exceeding 130% of total planned net capacity. Under §72.2, "power purchase commitment" includes, among other things, a contract that commits a utility to purchase electricity from a facility. Further, such a contract is a "qualifying power purchase commitment" only if it: is in effect on November 15, 1990; commits a utility to purchase

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[3] Restructured Power Sale Agreement at 19 (September 16, 1994).

[4] Amended and Restated Power Sale Agreement by and Between Lowell Cogeneration Company Limited Partnership and Commonwealth Electric Company at 4 (July 2, 1999). When Commonwealth Electric issues a callback notice to purchase all electricity generated by Lowell Cogen Unit 001, the utility must pay an additional 25% of the fixed payment and reimburse Lowell Cogen for all documented variable expenses related to the generation. Id. at 1-2.

electricity from a facility with specified terms and conditions; and is not subsequently revised to make certain changes. In particular, the contract may not be revised to make either of the following types of changes: (1) a change of the identity of the electricity purchaser and the identity of the steam purchaser and facility location after the commencement of commercial operation; or (2) to allow the costs of compliance with the Acid Rain Program to be shifted to the purchaser. 40 CFR 72.2 (definitions of "power purchase commitment" and "qualifying power purchase commitment").

As noted above, Lowell Cogen is a qualifying facility. Further, the March 30, 1987 agreement required Commonwealth Electric to purchase 100 percent of Lowell Cogen's total planned net output capacity. While the March 30, 1987 agreement did not state the precise amount of the total planned capacity and instead referred to a unit of "approximately 25,000 Kilowatts"[5], the unit had already been approved in 1986 as a qualifying facility with "electric power production capacity of 27 MW." Consolidated Power Co., 35 FERC at 62,198. After 1990, the unit's capacity was increased to 35.5 MW or 124 percent of the planned 27 MW capacity referenced in the qualifying-facility determination. In addition, the March 30, 1987 agreement was a "power sales agreement" in that it committed Commonwealth Electric to buy electricity from Lowell Cogen under specified terms and conditions, including prices for capacity and energy. Thus, EPA agrees that Lowell Cogen was initially exempt from the Acid Rain Program under §72.6(b)(5).

EPA rejects Lowell's claim that changes to the original power purchase agreement for Lowell Cogen cannot impact the unit's exemption under §72.6(b)(5). EPA notes that the inability of owner of qualifying facilities to shift Acid Rain Program compliance costs to electricity purchasers was the basis for the statutory exemption, implemented in §72.6(b)(5), for certain qualifying facilities. See March 22, 1990 Congressional Record at S3027-28 (statement by Senator Wirth that "[g]randfathering these units is fair" because they are "under contract or have accepted price bids" and so cannot "pass on extra costs of allowances the way a regulated utility can."). As EPA has explained:

> Based on the legislative history, EPA believes that changes that would allow compliance costs to be passed through should result in forfeiture of the exemption. 58 FR 15634, 15640 (1993).

Consequently, EPA built into the definition of "qualifying power purchase commitment" ongoing limitations on the types of changes that could be made -- without eliminating the exemption – in the power purchase commitment that was in place as of November 15, 1990. Just as a unit must retain its "qualifying facility" status under the Federal Power Act in order to remain exempt under §72.6(b)(5), the unit's power purchase commitment must continue to be a "qualifying power purchase commitment" in order for the exemption to continue.

EPA therefore considered the nature of the changes from the March 30, 1987 agreement made in the September 16, 1994 and July 22, 1999 agreements between Lowell and Commonwealth Electric. As discussed below, EPA finds that the changes in the July 22, 1999

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[5] Power Sale Agreement at 1 (March 30, 1987).

agreement allow for the shifting of Acid Rain Program costs to the electricity purchaser and that, as a result, Lowell Cogen Unit 001 no longer had a qualifying power purchase commitment as of the December 1, 1999 effective date of that agreement.

Both the September 16, 1994 and July 22, 1999 agreements removed Commonwealth Electric's obligation to buy the electrical output of Lowell Cogen and authorized Lowell to sell the electrical output to third parties at prices, which are unregulated because of Lowell Cogen's qualifying facility status. However, the September 16, 1994 agreement limited Lowell's ability to sell to third parties in that such sales generally required Commonwealth Electric's consent. During the period that the agreement was effective, Lowell Cogen produced little electricity for sale to Commonwealth Electric, which dispatched Lowell Cogen off-line except for a very limited performance run, and for sale to third parties, for whom electricity was produced for less than 10 days. Consequently, the provisions of the September 16, 1994 agreement that might have allowed pass through of Acid Rain Program compliance costs were virtually unused.

In contrast, the July 22, 1999 agreement removed the limitation on Lowell's ability to sell to third parties, and Lowell soon thereafter began making such sales. In anticipation of making third party sales, Lowell sought, and obtained from the Federal Energy Regulatory Commission, authority to sell energy and capacity to third parties at market-based rates even if Lowell Cogen were to lose its qualifying status. Lowell Cogeneration Company Limited Partnership, 80 FERC ¶61,052 (1997). With Commonwealth Electric's obligation to purchase the electricity removed and Lowell able to sell electricity to third parties at market prices, it is difficult to see how there can be a basis for concluding that costs cannot be shifted to a new purchaser of electricity. EPA therefore finds that Lowell Cogen Unit 001 lost its exemption from the Acid Rain Program under §72.6(b)(5) as of December 1, 1999, effective date of the July 22, 1999 agreement.

EPA also finds that Lowell Cogen Unit 001 does not meet the requirements for an exemption under §72.6(b)(4). Under that provision, an exemption is available to a cogeneration unit that commenced construction on or prior to November 15, 1990 and that did not provide electricity for sale on an annual basis in an amount more than one-third of its potential electrical output capacity (PEOC) or more than 219,000 MWe-hours. In addition to this initial sales criterion, a unit then must not have sales exceeding this threshold on a rolling three-year average basis. As discussed above, Lowell Cogen Unit 001 is a cogeneration unit that commenced construction before November 15, 1990. The unit's PEOC is 27.93 MWe [6], and one-third of the unit's PEOC is 81,556 MWe-hours.[7]

In the first year of operation (1989), the unit sold 220,018 MWe-hours, which exceeds the 219,000 MWe-hours threshold. The unit, therefore, failed in 1989 to meet the initial sales

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[6] The PEOC equals the unit's maximum design heat input capacity of 286 x 10^6 Btu/hr times 1/3 (reflecting the assumed efficiency rate for the unit), divided by 3,413 (reflecting the assumed heat rate), and divided by 1,000 (converting to MWe). See 40 CFR part 72, appendix D.

[7] This figure is calculated by multiplying the PEOC by 8,760 (the number of hours in a year) and then multiplying again by 1/3.

criterion for an exemption under §72.6(b)(4) of supplying less than the threshold amount of electricity.

In summary, Lowell Cogen Unit 001 never qualified for an exemption under §72.6(b)(4), lost the exemption under §72.6(b)(5), and is not covered by any other exemption. The unit became subject to the Acid Rain Program starting December 1, 1999. As an affected unit, the unit must comply with all applicable requirements under the Acid Rain Program, including the requirements to apply for and receive an Acid Rain Permit (under Part 72), to monitor and report sulfur dioxide, nitrogen oxide, and carbon dioxide emissions and heat input (under Part 75) within 90 days of the loss of the exemption under §72.6(b)(5)[8], and to hold allowances to cover sulfur dioxide emissions (under Parts 72 and 73).

2. Extension of Deadline for Compliance With Acid Rain Program

Lowell requests that EPA extend the "applicability date" for Lowell Cogen Unit 001 be extended from January 1, 2000 to January 1, 2002 in order to allow time "to upgrade both the software and hardware portions" of the unit's emission monitoring system. In its request, Lowell is apparently referring to the January 1, 2000 deadline for compliance with the requirement under the Acid Rain Program to hold allowances at least equal to the unit's sulfur dioxide emissions. The unit was an affected unit since December 1, 1999 and was required to meet the allowance-holding requirement starting on the unit's CEMS certification deadline (i.e., February 29, 2000). See 40 CFR 72.9(c)(3)(iv).

Lowell does not cite any provision of the Acid Rain Program regulations under which the company may request, or under which EPA is authorized to grant, an extension of the allowance-holding requirement. EPA maintains that the Agency does not have any such authority.

EPA's determinations in this letter rely on the accuracy and completeness of the information provided by Lowell in submissions dated October 25, November 16 and 20, 2001 and August 19 and September 5, 2002 and are appealable under Part 78. The applicable regulations (40 CFR 72.6(c)(1)) require you to send copies of this letter to each owner and operator of Lowell Cogen Unit 001. If you have any further questions concerning this letter or general question concerning the Acid Rain Program, please contact Martin Husk of EPA's Clean Air Markets Division at (202) 564-9165.

Sincerely,

Peter Tsirigotis, Acting Director
Clean Air Markets Division

cc: Ian Cohen, USEPA Region 1
Karen Regis, Massachusetts DEP
James Belsky, Massachusetts DEP

[8] See 40 CFR 75.4(c).