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

FEB 19 2008

OFFICE OF
AIR AND RADIATION

Nilaksh Kothari
General Manager
Manitowoc Public Utilities
P.O. Box 1090
Manitowoc, Wisconsin 54221-1090

Re: CAIR Applicability Determination for Custer Energy Center simple-cycle combustion turbine, located in Manitowoc, Wisconsin.

Dear Mr. Kothari:

This letter is EPA's determination of applicability, under 40 CFR 40 C.F.R. 97.104(a)(1), 97.204(a)(1), and 97.304(a)(1) of the Clean Air Interstate Rule (CAIR) Federal Implementation Plans (FIPs)[1], for the simple-cycle combustion turbine (CT) located in the Custer Energy Center (Custer) in Manitowoc, Wisconsin. This applicability determination is in response to your June 15, 2007 letter where Manitowoc Public Utilities (MPU) requested a determination by EPA under CAIR and the CAIR FIP that the Custer CT is not a unit to which the requirements of the EPA-administered-CAIR trading programs apply. In support of your request, you explained in a September 15, 2007 telephone conversation the documents attached to your June15, 2007 letter. As discussed below, EPA has determined that the Custer CT is not a CAIR unit.

Background

MPU is a municipally owned utility with its principle place of business in Manitowoc, Wisconsin, which sells electricity to approximately 16,000 customers. MPU owns and operates the Custer Energy Center, consisting of the CT, which is a General Electric MS-5001, Frame 5, simple-cycle combustion turbine and serves a generator that produces electricity for sale. According to MPU, GE Design Data sheet, GEK 41346 (which MPU attached to its June 15, 2007 letter) sets forth the manufacturer's specifications for the Custer CT when firing natural gas.[2] The Custer CT is primarily fueled by natural gas, with No. 2 fuel oil as a backup fuel. The

[1] When Manitowoc Public Utilities submitted this applicability determination request, EPA's CAIR FIPs for NOx annual, SO_2, and NOx ozone season were in effect in Wisconsin. EPA recently approved Wisconsin's CAIR State Implementation Plan (SIP) revisions providing for participation in the EPA-administered CAIR trading programs and incorporating by reference most of the provisions of EPA's CAIR model trading rules. MPU and Wisconsin have continued to indicate a strong interest in EPA responding to the applicability determination request. Under these circumstances, EPA is responding to the request and referencing both the relevant provisions in the CAIR FIPs and the comparable provisions in the CAIR model rules (which are essentially identical to the cited CAIR FIP provisions).

[2] MPU's June 15.2007 letter at page 3 and attachment 1, page 0-3.

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unit has a permit condition limiting the fuel oil to a sulfur content of 0.50%, and NO_x emissions are controlled by the use of water injection when the system operates above the minimum load.

Originally constructed in May 1973, the Custer CT was operated in Puerto Rico for approximately 10 years by General Electric Corporation. The unit was then sold to Union Carbide and moved to New Orleans, Louisiana, where the unit was reconstructed and operated. In the late 1990's, the CT was refurbished by Quesco Turbomachinery Services, an independent engineering and mechanical services group, located in Houston, Texas, and was then sold to MPU, which moved and installed the unit at the Custer Energy Center in Manitowoc, Wisconsin in 1999.

The GE Design Data sheet (which, according to MPU, applies to the Custer CT when firing natural gas) indicates that the unit has a "base nameplate rating" of 23.7 MWe at ISO conditions, which is the generating capacity that can be sustained on a continuous level. The manufacturer's design data also indicates that the unit has a "peak nameplate rating" of 25.5 MWe and a "maximum generating capability" of 25.90 KW at ISO conditions, performances that can be affected by altitude and ambient temperature but that cannot be sustained on a continuous basis.[3]

Since the CT's construction and installation in 1993, it was moved from Puerto Rico to Louisiana, where it was reconstructed and operated, and was then refurbished, moved again, and installed at its current location in Wisconsin. There is no record evidence and apparently no information available, about the precise type of work done on the unit before or after each move. However, there is no indication that the unit's generator was physically changed in a way that would result in an increase in the maximum electrical generating capacity of the unit operating on a steady state basis and during continuous operation.

According to the Energy Information Administration (EIA) and presumably based on information submitted to an owner of the Custer CT, the CT has a net gross capacity of 24.5 MWe.[4] In addition, the permit issued by the Wisconsin Department of Natural Resources (DNR) refers to the CT as a 24.5 MWe unit, and permit conditions limit the unit's generating capacity to the same level.[5] Further, the CT can be called into service by the Midwest Independent Transmission System Operator (MISO) to satisfy reliability issues. MISO rated the CT at a maximum operational output of 23 MWe.[6] Finally, MPU supplied historical data indicating that in the last six years the CT operated for very few hours, with maximum output power ranging between 5 and 21.4 MWe/hr.[7]

MPU requested a determination that the applicability provisions of the EPA-administered CAIR trading programs do not apply to the Custer CT because the unit does not serve a generator with a nameplate capacity of more than 25 MWe producing electricity for sale.

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[3] Id.
[4] MPU's June 15, 2007 letter, at 3.
[5] MPU's June 15, 2007 letter at 3 and Attachment 2 (Wisconsin DNR Permit No. 98-RV-153) at 2 and 9.
[6] MPU's June 15, 2007 letter at 4.
[7] Id.

EPA's Determination

CAIR FIP trading programs for NOx annual, SO_2, and NOx ozone season emissions apply to:

> any stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine serving at any time, since the later of November 15, 1990 or the start-up of the unit's combustion chamber, a generator with nameplate capacity of more than 25 MWe producing electricity for sale. 40 CFR 97.104(a)(1), 97.204(a)(1), and 97.304(a)(1).[8]

In turn, nameplate capacity is defined in 40 CFR 97.102, 97.202, and 97.304:[9]

> *Nameplate capacity* means, starting from the initial installation of a generator, the maximum electrical generating output (in MWe) that the generator is capable of producing on a steady state basis and during continuous operation (when not restricted by seasonal or other deratings) as of such installation as specified by the manufacturer of the generator or, starting from the completion of any subsequent physical change in the generator resulting in an increase in the maximum electrical generating output (in MWe) that the generator is capable of producing on a steady state basis and during continuous operation (when not restricted by seasonal or other deratings), such increased maximum amount as of such completion as specified by the person conducting the physical change.

As discussed above, according to the CT manufacturer's design data, the Custer CT initially had a "base nameplate rating" of 23.7 MWe firing natural gas, which is the generating capacity that can be sustained on a continuous level and thus is synonymous with the CAIR definition of "nameplate capacity" as of initial installation. Further, there is no record evidence that, after initial installation, the unit's generator was physically changed in a way that would increase that generating capacity. Moreover, while there is information indicating that the unit has been rated higher than 23.7 MWe, the highest rating (24.5 MWe) was less than 25 MWe. EPA therefore finds, based on the record evidence, that the Custer CT has a nameplate capacity that does not exceed 25 MWe. Consequently, EPA concludes that the Custer Energy Center CT does not meet the applicability criteria in 40 CFR 97.104(a)(1), 97.204(a)(1), and 97.304(a)(1)[10] that a unit serve a generator with a nameplate capacity greater than 25 MWe producing electricity for sale and so is not a CAIR unit, to which the requirements of the EPA-administered CAIR trading programs apply.

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[8] See also 40 CFR 96.104(a)(1), 96.204(a)(1), and 96.304(a)(1), which are the comparable citations for the CAIR model rules.

[9] See also 40 CFR 96.102, 96.202, and 96.302 (definition of "nameplate capacity"), which are the comparable citations for the CAIR model rules.

[10] See also 40 CFR 96.104(a)(1), 96.204(a)(1), and 96.304(a)(1), which are the comparable citations for the CAIR model rules.

EPA's determination in this letter relies on the accuracy and completeness of MPU's June 15, 2007 letter and explanations in the September 15, 2007 telephone call and is appealable under part 40 CFR Part 78. If you have any questions regarding this correspondence, please contact Ruben Deza, at (202) 343-9364.

Sincerely,

Sam Napolitano, Director
Clean Air Markets Division

cc: Andy Seeber, Wisconsin DNR
Constantine Blathras, EPA Region V
Louis Nichols, EPA Clean Air Markets Division
Ruben Deza, PhD, EPA Clean Air Markets Division