

BEFORE

THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of the)
University of Cincinnati for Certification)
of a Waste Heat Recovery System as an) Case No. 13-1779-EL-REN
Eligible Ohio Renewable Energy)
Resource Generating Facility.)

FINDING AND ORDER

The Commission finds:

- (1) On September 10, 2012, amendments to R.C. 4928.01, 4928.64, and 4928.65, by the 129th General Assembly in Am.Sub.S.B. No. 315, 2011 Ohio SB 315, (SB315) became effective to permit certain types of waste energy recovery systems to be certified as renewable energy resource facilities. SB315 expanded the definition of a renewable energy resource under R.C. 4928.01(A)(37)(a) to include a waste energy recovery system placed into service or retrofitted on or after September 10, 2012. SB315 also amended R.C. 4928.01(A)(37)(a) to prohibit such a system from being eligible for certification as a renewable energy resource facility if it is, or was, included in an energy efficiency program of an electric distribution utility on or after January 1, 2012. Further, SB315 created a special exception under R.C. 4928.01(A)(38)(b) for a waste energy recovery system at a state institution of higher education that was placed into service in 2002 through 2004. R.C. 4928.01(A)(38)(b) now expressly defines a "[w]aste energy recovery system" to include "[a] facility at a state institution of higher education as defined in section 3345.011 of the Revised Code that recovers waste heat from electricity-producing engines or combustion turbines and that simultaneously uses the recovered heat to produce steam, provided that the facility was placed into service between January 1, 2002, and December 31, 2004."
- (2) On October 15, 2013, the University of Cincinnati (UC or Applicant) filed a supplement to its application for certification of its waste heat recovery (WHR) system (System or Facility) installed at its Central Utility Plant (Plant), located at 3000 Glendora Avenue in Cincinnati, Ohio, as an eligible

Ohio renewable energy resource generating facility. On October 16, 2013, UC filed the formal application for certification of its WHR System.

- (3) According to the application, UC is a state institution of higher education as defined in R.C. 3345.011, and operates a WHR System at its Cincinnati campus that captures waste heat off its steam and generation systems and uses that waste heat to produce more steam for additional generation. The WHR System consists of three generating units with a summed nameplate capacity for the entire Plant of 48 MW and an in-service date of June 1, 2004 for each of the three units. UC asserts that its System meets the definition of a WHR system that qualifies for renewable energy credits (RECs) as a renewable energy resources under R.C. 4928.01(A)(38). UC requests that for every 7,555.7 lbs. of 600 PSIG superheated steam created by the recovery of waste heat, 1 MWh of potential electric generation be projected, based upon the average heat rate for a steam turbine as reported by the Energy Information Administration. UC states that it will not use either of its previous approved renewable energy certifications, 10-BIO-OH-GATS-0074 or 10-CMM-OH-GATS-0472, at the same time as any granted under the instant WHR application, and will provide a 60-day notice to Staff prior to using either of the above certificates. Further, UC states that the Facility, consisting of the combustion turbines, waste heat boilers, auxiliary burners and steam turbine generator, has never been awarded any efficiency payment or credit pursuant to R.C. 4928.66.
- (4) On February 8, 2013, the attorney examiner issued an entry suspending the 60-day automatic approval process, pursuant to Ohio Adm.Code 4901:1-40-04(F)(2), as the application presents novel issues regarding the certification of a WHR system, and Staff had requested additional time to investigate the application.
- (5) On August 13, 2014, Staff filed its review of the application recommending approval with certain conditions. Staff reports that electricity is generated at the Facility with two natural gas fired combustion turbine generators, rated at 12.5 MW each, and a single 24 MW steam driven turbine generator. Additionally, a 1.8 MW diesel generator is

available for emergency and black start purposes. Heat from each gas-fired turbine's exhaust gas is captured via dedicated heat recovery steam generators (HRSGs), capable of producing 600 PSIG steam at 750°F. Each HRSG is equipped with auxiliary natural gas burners, which account for approximately 25 percent of the facility's steam production. The high pressure steam can be used to power a 24 MW steam-driven turbine generator, or the steam pressure can be reduced to 125 PSIG and used for campus heating purposes. The Application proposes to determine a kWh equivalent for the 600 PSIG, 750°F steam produced by the HRSGs by using the steam's corresponding enthalpy value of 1,378.57 Btu/lb. and an average heat rate for natural gas fired steam turbine generators of 10,416 kWh/Btu. The product of these, and the pounds of steam produced, would be used as the kWh equivalent to determine the number of RECs produced. Staff notes that UC did not request any of the actual electrical generation of the facility be considered renewable for REC purposes, and reports that the electrical output from each electric generator is individually metered with utility grade meters. Staff also confirmed the in-service dates for both of the natural gas-fired turbine generators and the steam-powered turbine generator as June 1, 2004, and notes that the Plant has interconnections with the electric grid of Duke Energy Ohio.

- (6) Staff recommends that UC's WHR System be certified as a renewable generating facility with an initial date of October 15, 2013, for the creation of RECs, but that only 80 percent of the net electrical generation output of the Facility's combustion turbine generators be recognized as renewable. This reduction in percentage is based on the steam conversion efficiency of the Facility's HRSGs. Staff also recommends that none of the net electricity production from the steam-driven generator be recognized as renewable. Further, Staff notes that should the Facility cease producing steam by the recovery of waste heat from the electric generating turbines, the Facility's certification should be revoked.
- (7) On August 19, 2014, UC filed a response to Staff's recommendations stating that Staff's computation of the Facility's thermal equivalent is acceptable to the Applicant.

No comments or objections to the application or Staff's recommendations have been filed in this proceeding.

- (8) Based upon the application, supplements, and Staff's report, the Commission finds that the application should be approved consistent with Staff's recommendations. UC is a state institution of higher education under R.C. 3345.011, and the Facility that produces steam through the recovery of waste heat was placed into service between January 1, 2002, and December 31, 2004. The Facility, therefore, qualifies as a renewable energy resource under R.C. 4928.01(A)(37)(a)(ix) and 4928.01(A)(38)(b), for the purpose of granting RECs, and is hereby certified as an eligible Ohio renewable energy resource generating facility. As a condition of such certification, the Applicant is hereby directed to notify the Commission within 30 days of any substantive change in the Facility's operational characteristics. Failure to provide such notice may result in revocation of the Facility's certification.

It is, therefore,

ORDERED, That, UC's application for certification of its WHR System as an eligible Ohio renewable energy resource generating facility be granted, effective October 15, 2013, consistent with Staff's recommendations. It is, further,

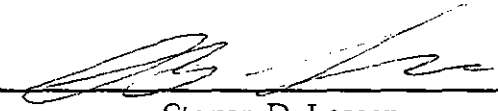
ORDERED, That the Commission's Docketing Division issue a certificate to the Applicant for this Facility. It is, further,

ORDERED, That a copy of this Finding and Order be served upon all parties of record in this case.

THE PUBLIC UTILITIES COMMISSION OF OHIO

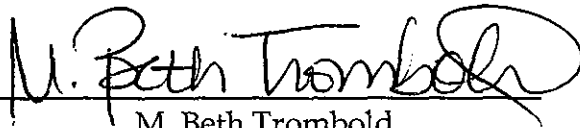


Thomas W. Johnson, Chairman



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RMB/dah

Entered in the Journal

DEC. 03 2014



Barcy F. McNeal
Secretary