

ORIGINAL

IN THE SUPREME COURT OF OHIO

The Ohio Environmental Council)
)
)
Appellant,)
)
v.)
)
The Public Utilities Commission)
Of Ohio,)
)
Appellee.)

Case No. 10-1977

Appeal from the Public
Utilities Commission of Ohio
Case No. 09-1940-EL-REN

**BRIEF OF AMICUS CURIAE, BUCKEYE FOREST COUNCIL, IN SUPPORT
OF MERIT BRIEF OF APPELLANT, OHIO ENVIRONMENTAL COUNCIL**

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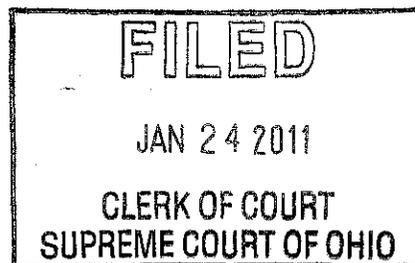
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5..... *In the Matter of the Application of Beckjord For Certification as an Eligible Ohio Renewable Energy Resource Generating Facility, PUCO Case No. 09-1023-EL-REN.*

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STATUTES; REGULATIONS:

Passim..... R.C. 4928.64(A)(35)

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MISCELLANEOUS:

4..... Bergman, Richard, et al: *Primer on Wood Biomass for Energy*, produced by the U.S. Department of Agriculture Forest Service and the Forest Products Laboratory, page 1 (January 2008)

3..... Bioenergy Feedstock Information Network, *Forestry Residue - Harvesting*, Oak Ridge National Laboratory

Passim..... U.S. Department of Energy, U.S. Energy Information Administration, Ohio Electricity Profile, 2008 Edition, DOE/EIA-0348(01)/2 (released March 2010)

2..... US Forest Service Directive – *Timber Management, R2 SUPPLEMENT 2400-96-2*, page 7 of 7 (Effective Date December 16, 1996)

Passim..... Widmann, R.H.; Butler, B.J.; Balsler, D. 2010. *Ohio's forest resources, 2008. Res. Note NRS-63. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station*

STATEMENT OF FACTS

Buckeye Forest Council (BFC) is Ohio's preeminent grassroots organization dedicated to protecting Ohio's native forests and their inhabitants, with over 200 members statewide. Buckeye Forest Council uses education, advocacy and organizing to prioritize forest preservation and low-impact recreation above logging and resource extraction. Buckeye Forest Council has taken a pointed interest in the biomass certification cases that have arisen before the Public Utilities Commission of Ohio, and has intervened as a party in several of the proceedings.

On December 11, 2009, FirstEnergy Solutions Corp. (FES) filed the present application to receive renewable certification for its Burger facility. On May 20, 2010, the Ohio Environmental Council (OEC), the Office of the Ohio's Consumers' Counsel, and the Environmental Law & Policy Center filed a Joint Motion to Dismiss the application, and in the alternative, a Motion for an Evidentiary Hearing on the application. The Joint Motion to Dismiss argued that FES had not met its burden of proof and failed to demonstrate that its facility qualified as a "renewable energy resource" facility under Ohio law. On August 11, 2010, the Commission issued an Opinion and Order certifying the Burger facility and rejecting the OEC/OCC/ELPC Joint Motion to Dismiss. Subsequently, the OEC filed the present appeal now before this Court.

ARGUMENT

Proposition of Law No. I:

The Commission Erred When The Burger Application Was Certified Because The Certification Order Failed To Consider Ohio Administrative Code Rule 4901:1-40-01(E), Which Requires A Demonstration That Fuel Is Available On A Renewable Basis In Order To Qualify As Biomass.

The Commission failed to require FirstEnergy to demonstrate that its fuel of

choice is (or would be) available on a renewable basis, as is required under O.A.C. 4901:1-40-01(E), and FirstEnergy failed to make any such demonstration, either in its Burger application or the accompanying proceedings. Because of this fact, there was never any demonstration that the fuel-to-be-used actually qualified as “biomass” under O.A.C. 4901:1-40-01(E) or R.C. 4928.64(A)(35). The Commission’s certification of the Burger facility as an eligible Ohio renewable energy generating facility was therefore in error and should be reversed by this Court.

R.C. 4928.64 provides that utilities must generate at least 12.5 percent of annual power sales from renewable energy resources. R.C. 4928.64(A)(35) includes “biomass energy” as an eligible renewable resource. O.A.C. 4901:1-40-01 (E), effective on the date of FirstEnergy’s initial Application, defines “biomass energy” for purposes of compliance with 4928.64, as “energy produced from organic material derived from plants or animals and available on a renewable basis[.]” O.A.C. 4901:1-40-01(E) (emphasis added). The following portions of this brief demonstrate that the “availability on a renewable basis” requirement cannot merely be shrugged off by the Commission and by applicants as a mere presumption neither worth inquiring into nor applying.

A. Ohio Forest Resources Provide A Limited Source Of Potential Biomass.

According to the USDA Forest Service, an estimated 483,554,000 cubic feet (ft³) of total net annual wood growth occurred in Ohio’s forestlands in 2008.¹ This cubic footage figure equates to approximately 8,688,862 green tons of net annual forest growth in 2008.² However,

¹ Widmann, R.H.; Butler, B.J.; Balsler, D. 2010. *Ohio’s forest resources, 2008. Res. Note NRS-63. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station*, at page 1; available at: http://www.nrs.fs.fed.us/pubs/rn/rn_nrs63.pdf.

² There are 2.3 tons in one stacked cord of wood. US forest Service Directive – *Timber Management, R2 SUPPLEMENT 2400-96-2*, page 7 of 7 (Effective Date December 16, 1996); <http://www.fs.fed.us/im/directives/field/r2/fsm/2400/2430-2431.doc>. One cord is equivalent to 128 cubic feet. Id. Therefore the 483,554,000 cubic feet of estimated Ohio annual net forest

the above net annual growth figures do not account for 2008 tree removals from Ohio's forestlands (e.g., from timbering operations or land use changes). Ohio forestland tree removals for 2008 totaled 234,357,000 cubic feet, or 4,211,102 green tons.³ When 2008 net forestland growth accounts for 2008 removals, Ohio is left with approximately 4,477,760 green tons of forest growth for 2008.⁴

In addition, forest residues provide relatively little potential as biomass feedstock. "Forest residues" are defined as "Primary forestry residues include logging residues from conventional harvest operations, forest management and land clearing. It also includes wood materials removed from timberlands and other forest lands as a result of fuel treatments (removal of excess biomass) and cutting of trees directly for fuel wood."⁵ Information obtained from the United States Department of Energy indicates that Ohio forests alone may be able to provide little more than 38.5MW of forest residue fuel total. Conversion of the total material stated in the 2007 Forest Inventory for Ohio indicates that 500,067 dry tons of forest residue are available each year.⁶ Using the 13,000 green tons required to produce 1MW as stated in notes 9

growth amounts to approximately 8,688,862 tons. Calculation: 483,554,000 ft³ (/) 128 ft³ per cord = 3,777,766 cords of wood, (x) 2.3 tons per cord = 8,688,862 tons annual net growth in 2008.

³ See Widmann, et al., supra, at page 1; available at: http://www.nrs.fs.fed.us/pubs/rn/rn_nrs63.pdf. Total removal equal "harvest removals" + "other removals." The 224,458,000 cubic feet of annual harvest removals + 9,899,000 cubic feet "other removals" in Ohio in 2008 amount to approximately 4,211,102 tons. Calculation: (224,458,000 ft³ "harvest removals" + 9,899,000 ft³ "other removals") (/) 128 ft³ per cord = 1,830,914 cords of wood, (x) 2.3 tons per cord = 4,211,102 tons of wood harvested in 2008.

⁴ Calculation: 8,688,862 green tons net growth - 4,211,102 green tons removed = 4,477,760 green tons.

⁵ Bioenergy Feedstock Information Network, *Forestry Residue - Harvesting*, Oak Ridge National Laboratory; available at: <http://bioenergy.ornl.gov/main.aspx>.

⁶ <http://foatpp:s/fs/fed/is/fido/index.html> (500,074 bone dry tons forest residue) Half of which is available for use (/) 0.5=250,037/(1-45% moisture c green tons of residue (/) 13,000 tons per MW = 38.5MW.

& 10, infra, it appears that Ohio forest residues are capable of sustaining the generation of only 38.5MW of electricity annually. This number is of course dwarfed by the amount of potential biomass MWs pending and certified as “renewable” biomass generating facilities in Ohio.

B. Burger Will Require Approximately 3,689,712 Green Tons Of Wood Per Year, Or 82% Of Ohio’s Un-Used Forest Growth To Provide Less Than 1% Of Ohio’s Generating Capacity.

The Burger Application contemplates firing up to 100% biomass at up to a 90% capacity factor in the two 156MW Units 4 and 5.⁷ It bears mentioning that 312MW at 90% capacity is only a tiny fraction of Ohio’s 33,492MW of total net peak generating capacity. Burger represents merely a fraction of 1% Ohio’s capacity, or .08% of Ohio’s total net peak capacity to be precise.⁸ However, in order to maintain the 312MW and 90% capacity output from Burger units 4 and 5, the plant will need to obtain a shockingly large and steady amount of wood fuel. The calculation is as follows: According to the U.S. Dept. of Agriculture Forest Service and the Forest Products Laboratory, approximately 1.5 green tons of wood per-hour are needed to consistently maintain the generation of 1MW of electricity.⁹ Therefore, each megawatt of capacity requires approximately 13,000 green tons of wood annually.¹⁰ Thus, the Burger plant would require 3,689,712 green tons of wood annually to maintain the 312MW at 90% capacity

⁷ Application at G.10. and I.1.

⁸ U.S. Department of Energy, U.S. Energy Information Administration, Ohio Electricity Profile, 2008 Edition, DOE/EIA-0348(01)/2 (released March 2010); available at: http://www.eia.doe.gov/cneaf/electricity/st_profiles/ohio.html. Calculation: 281MW (/) 33,492MW net summer capacity = .008 or 00.08% of Ohio’s net summer capacity.

⁹ Bergman, Richard, et al: *Primer on Wood Biomass for Energy*, produced by the U.S. Department of Agriculture Forest Service and the Forest Products Laboratory, page 1 (January 2008); http://www.fpl.fs.fed.us/documnts/tmu/biomass_energy/primer_on_wood_biomass_for_energy.pdf.

¹⁰ 1MW = 1.5 green tons (x) 24 hours (x) 365days = 13,140, or approximately 13,000 green tons per MW.

output contemplated in the Application.¹¹ Put in context, Burger's annual fuel demand equals approximately 82% of the portion of Ohio's 2008 forest growth that was left standing (i.e., was not removed by timbering or land use changes).¹² This massive demand for forest resources is anything but renewable, and only underscores the fact that the Commission erred by not demanding a showing of availability on a renewable basis pursuant to O.A.C. 4901:1-40-01(E) and R.C. 4928.64(A)(35).

C. The Wood Fuel Demand Of The Biomass Applications Certified By Or Pending Before The Commission Will Require Approximately 28,879,092 Green Tons Of Wood Per Year, Or 645% Of Ohio's Un-Used Forest Growth For A Mere 7% Of Ohio's Generating Capacity.

Including Burger, there are at least 2,442MW worth of solid biomass currently either certified or pending PUCO certification.¹³ If each certified and pending MW were operated at a hypothetical 90% capacity factor, 28,879,092 green tons of woody biomass would be required on an annual basis.¹⁴ This figure amounts to an astounding 645% of Ohio's 2008 net annual

¹¹ 1.5 green tons (x) 312 MW (x) 24 hours (x) 365 days (x) .90 capacity factor = 3,689,712 tons green wood.

¹² Calculation: 3,689,712 tons potential Burger demand (/) 4,477,760 tons 2008 non-removed growth = 0.824 or 82% of non-removed 2008 Ohio Forest Land growth.

¹³ This figure takes into account the maximum percentages of biomass co-firing requested for certification in the relevant Applications. See Zimmer, 09-1878-EL-REN, 1-10% of heat supplied, 1,300MW nameplate capacity, (Application at G.10., I.); Miami Fort, 09-1877-EL-REN, 1-10% of heat supplied, 1,020 nameplate capacity, (Application at G.10., I.); Beckjord, 09-1023-EL-REN, 1-100% of heat supplied, 1,125MW nameplate capacity, (Application at G.10., I.); Killen, 09-0891-EL-REN, up to 10% of heat supplied, 600MW nameplate capacity, (Application at G.10., I.); Burger, 09-1940-EL-REN, 51-100% of heat supplied, 312MW nameplate capacity, (Application at G.10., I.); Bay Shore Unit 1, 09-1042-EL-REN, 0-25% of heat supplied, 136MW nameplate capacity (Application at G.10., I.); Conesville Unit 3, 09-1860-EL-REN, up to 100% of heat supplied, 165MW nameplate capacity, (Application at G.10., I.); Muskingum River, 10-0911-EL-REN, up to ~15% heat supplied, 1,425MW nameplate capacity, (Application at G.10.a., I.); Picway, 10-387-EL-REN, 5-100% of heat supplied, 100MW nameplate capacity, (Application at G.10., I.); South Point, 09-1043-EL-REN, 100% of heat supplied, 200MW nameplate capacity, (Application at G.10., I.).

¹⁴ Calculation: 1.5 green tons (x) 2,442MW (x) 24 hours (x) 365days (x) .90 capacity factor = 28,879,092 tons of green wood per year.

non-removed forestland growth.¹⁵ Harvesting at this rate would denude all Ohio forestland within just a few short years and would be anything but renewable. For added perspective, data provided by the U.S. Department of Energy reveals that 2,442MW is equal to only 7% of Ohio's net peak generating capacity.¹⁶ Yet again, the Commission's error in failing to apply its own definition of biomass – by failing to require a showing that the fuel selected by an applicant is available on a renewable basis – is underlined in stark terms.

CONCLUSION

The facts outlined above should clearly demonstrate to the Court that Ohio's forest resources cannot merely be presumed to be available on a renewable basis. The Commission unreasonably and unlawfully failed to apply its own regulations regarding the definition of "biomass," and the certification it granted to the Burger facility should therefore be reversed and vacated.

Respectfully Submitted


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¹⁵ Calculation: 28,879,092 green tons potential Ohio MW demand (/) 4,477,760 green tons 2008 net annual non-removed growth = 6.45 or 645% of non-removed 2008 Ohio net annual forestland growth.

¹⁶ U.S. Department of Energy, U.S. Energy Information Administration, Ohio Electricity Profile, 2008 Edition, DOE/EIA-0348(01)/2 (released March 2010); available at: http://www.eia.doe.gov/cneaf/electricity/st_profiles/ohio.html. Calculation: 2,442MW (/) 33,492MW net summer capacity = .07 or 7%.

CERTIFICATE OF SERVICE

I hereby certify that a true copy of the foregoing has been served upon the following parties by first class and/or electronic mail this 24th day of January, 2011.



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