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VERMONT SUPERIOR COURT
CHITTENDEN UNIT
CIVIL DIVISION

ALTERIS RENEWABLES, INC.
Plaintiff

v.

VERMONT DEPARTMENT OF TAXES
Defendant

Docket No. S0208-11 CnC

RULING ON APPEAL

Alteris Renewables, Inc. (Alteris) appeals from Formal Ruling 2011-03, dated February 1, 2011 and issued by the Vermont Department of Taxes (the Department) concluding that racks that hold photovoltaic modules at the Ferrisburgh Solar Farm are not “directly and exclusively” used in the solar power manufacturing process, and are thus ineligible for a sales and use tax exemption under 32 V.S.A. § 9741(14). Karen Tyler, Esq. represents Alteris; Assistant Attorney General Danforth Cardozo, III represents the Department.

Background

The parties agree that the Department’s findings should not be set aside unless “clearly erroneous.” Morton Bldgs., Inc. v. Vt. Dep’t of Taxes, 167 Vt. 371, 374 (1997) (citing Bigelow v. Dep’t of Taxes, 163 Vt. 33, 35 (1994)). However, the Department’s Formal Ruling does not include findings of fact in any great detail. Still, the facts in this case are relatively simple and largely undisputed—the dispute in this case is essentially

entirely legal.¹ The Ferrisburgh Solar Farm is a solar photovoltaic (PV) power generating plant that provides electricity exclusively for sale to Vermont utilities through the Vermont Sustainably Priced Energy Enterprise Development (SPEED) Program. The plant, like all PV systems, is composed of an assembly of components that work together to produce electricity. A PV “array” is composed of PV modules mounted on support and orientation equipment. It is undisputed that the Department has previously ruled that the PV modules are exempt under § 9741(14). Although some solar plants use “mobile” support and orientation equipment (i.e., equipment that tracks the sun’s position and reorients the PV modules throughout the day to maintain an optimum position for solar energy absorption), the Ferrisburgh Solar Farm uses “fixed” support and orientation equipment (i.e., equipment that holds the PV modules in a fixed position at an angle toward the sun calculated to maximize the amount of solar energy that the modules can absorb from a fixed position).

The Ferrisburgh Solar Farm’s fixed support and orientation equipment consists of steel and aluminum racks that hold the PV modules at 30 degrees facing solar south. To the best of Alteris’s knowledge, no operating PV generating plant has ever been built without the use of support and orientation equipment. Support and orientation equipment—whether “fixed” or “mobile”—is necessary to form the PV array, and essential to effective and efficient solar power production.

Discussion

¹ The Department does argue that Alteris has provided only a “cursory and vague” description of the racks in this case. Although there might be situations where a party seeking exemption might need to supply that level of detail in order to meet its burden to establish eligibility for exemption, the court fails to see how this could be one of those cases. The court therefore rejects the Department’s assertion that Formal Ruling 2011-03 should be affirmed just because Alteris has not supplied more detail about the racks.

Exemptions from taxation are to be strictly construed. In re Middlebury College Sales and Use Tax, 137 Vt. 28, 31 (1979). The burden is on the taxpayer to establish eligibility for an exemption. Id. The Commissioner’s determination should not be set aside unless “clearly erroneous.” Morton Bldgs., Inc. v. Vt. Dep’t of Taxes, 167 Vt. 371, 374 (1997). “[A]bsent compelling indication of error, the interpretation of a statute by the administrative body responsible for its execution will be sustained on appeal.” Id. (quoting Burlington Elec. Dep’t v. Dep’t of Taxes, 154 Vt. 332, 337 (1990)).

Vermont law provides an exemption from sales and use tax for the retail sales and use of “machinery and equipment for use or consumption directly and exclusively, except for isolated or occasional uses, in the manufacture of tangible personal property for sale” 32 V.S.A. § 9741(14). For the purposes of the sales and use tax, “tangible personal property” includes electricity. Id. § 9701(7). There appears to be no dispute that a PV power generating plant involves the “manufacture” of electricity, presumably since it involves acquiring a raw material (solar radiation) and transforming it into an altered form (electricity) for use. *See* Wetterau, Inc. v. Dep’t of Taxes, 141 Vt. 324, 328–29 (1982) (discussing general definition of “manufacture”).² Neither does there appear to be any dispute that the steel and aluminum racks are “machinery” or “equipment,” or that the Ferrisburgh Solar Farm manufactures electricity “for sale.”

² The Regulations define “manufacturing” as one of four things: (1) industrial processing; (2) food processing; (3) mineral extraction; or (4) information processing. Tax Dept. Reg. § 1.9741(14)-2(B), *available at* <http://www.state.vt.us/tax/pdf.word.excel/legal/regs/SU.finals.11012010.pdf>. The Department notes that the production of electricity generation must be “industrial processing” because it does not fit in any of the other categories. “Industrial processing” is “an integrated series of operations, usually involving machinery and equipment, which changes the form, composition or character of tangible personal property by physical, chemical or other means.” Id. § 1.9741(14)-2(C). The Department argues that the racks have no role in extracting electricity from solar energy, but instead only hold the PV modules. The court takes that position to be part of the Department’s argument that the racks are not used “directly” in the manufacture of electricity.

Rather, the sole dispute in this appeal is whether the steel and aluminum racks are used “directly and exclusively” for the manufacture of electricity. In its Formal Ruling, the Department concluded that they are not, reasoning as follows:

In determining whether machinery and equipment is directly used one of the factors considered is whether there is an active casual [sic] relationship between the use of the machinery and equipment in question and the production of the product. Reg. § 1.9741(14)-4. It is not evident that the aluminum racks, as described in your request, have an active causal relationship to the production of electricity or are uniquely suited to the purpose of holding the photovoltaic modules. In fact, electricity could be generated without mounting the panels at all. Moreover, it appears that the racks could as easily be used as a mounting system for other purposes, for example, as frames for positioning signs, lighting or audio equipment and therefore, are not “use[d] . . . in the manufacturing process.” Unlike the type of rack that moves in order to track the sun for maximum solar gain, these are stationary and serve merely a housing function not integral to the production of electricity. Buildings and fixtures used to house manufacturing operations are not considered to be directly and exclusively used in manufacturing, even if they are personal property. Reg. § 1.9741(14)-4(D)(1). Although photovoltaic modules not supported by racks will not provide optimal performance, as with other structures supporting other manufacturing operations, the racks are not a part of the manufacturing process and are subject to sales tax.

Formal Ruling 2011-03 at 1–2 (footnote omitted).

The parties have not cited, and the court has not found, any Vermont court opinion interpreting the phrase “directly and exclusively” in the context of § 9741(14).³ However, both parties cite the Department’s Sales and Use Tax Regulations, upon which the Formal Ruling also relied. The Regulations include some guidance on determining whether machinery and equipment is “directly” used:

1. In determining whether machinery and equipment is directly used, the following factors are considered together with other relevant facts and circumstances:

³ What constitutes “direct” use for the purpose of sales and use tax exemptions has been the subject of numerous cases in other jurisdictions. *See generally* Annotation, What Constitutes Direct Use Within the Meaning of Statute Exempting from Sales and Use Taxes Equipment Directly Used in Production of Tangible Personal Property, 3 A.L.R. 4th 1129 (1981).

- (a) The active causal relationship that exists between the use of the machinery and equipment in question and the production of a product;
 - (b) Whether the machinery and equipment in question operates with an exempt machine or piece of equipment to complete or facilitate an integrated and synchronized system;
 - (c) Whether the machinery and equipment in question guarantees the integrity or quality of the manufactured product;
 - (d) The physical proximity of the machinery and equipment in question to the production process; lack of physical proximity by itself will not establish that a use is not direct.
2. The fact that particular machinery or equipment may be considered essential to the conduct of the business of manufacturing because its use is required either by law or practical necessity does not, of itself, mean that the machinery or equipment is “used directly” in the manufacturing operation. . . .

Tax Dept. Reg. § 1.9741(14)-4(B), *available at* <http://www.state.vt.us/tax/pdf.word.excel/legal/regs/SU.finals.11012010.pdf>. The Regulations also include several examples of direct and indirect uses, although none of them relate to electricity generation in general or solar power generating plants specifically. *See id.* § 1.9741(14)-4(B)(3), (B)(4), (D).

Alteris argues that the Ferrisburgh Solar Farm support and orientation equipment “operates with an exempt . . . piece of equipment to complete or facilitate an integrated and synchronized system.” The court agrees, and concludes that this factor, which is not mentioned in Formal Ruling 2011-03, has significant if not controlling weight in the analysis. On appeal, the Department argues that this factor does not apply because, according to the Department, the racks “operate” with nothing, and instead merely hold the PV modules. Alteris replies that the definition of “operate” does not require movement, and that the racks do “operate” because they perform a function and produce a desired effect as a component of the PV arrays—namely, they increase the power output of the PV modules. The court agrees with Alteris and declines to adopt the Department’s narrow reading of the term “operate.” The court concludes that the racks in

this case operate with the PV modules—which are exempt—to complete or facilitate an integrated and synchronized system for electricity generation.

Alteris does not rely on the third factor: whether the machinery or equipment in question guarantees the integrity or quality of the manufactured product. While conceding that electricity production would be less efficient without the racks, the Department argues that the racks do not guarantee the integrity or quality of the electricity produced at the Ferrisburgh Solar Farm. Alteris apparently concedes that the racks do not affect the integrity or quality of the electricity produced at the Ferrisburgh Solar Farm, but maintains that machinery or equipment need not do so in order to be used “directly.” The court agrees with Alteris on this point, and concludes that the third factor is neutral in this case. The Department concedes that the racks hold the PV modules, thus the fourth factor weighs in favor of concluding that the racks are used “directly.”

The parties disagree as to whether an “active causal relationship” exists between the use of the racks and the production of electricity. Alteris argues that the racks are “actively” involved in the production process because they change the position of the PV modules so that they can absorb the maximum possible amount of solar energy. Alteris further contends that the racks have a “causal” relationship to production because their use directly results in the enlargement of the generating plant’s power output to a commercially viable level.

The Department apparently argues that the racks do not “change the position” of the PV modules, but are stationary and only hold the modules in one orientation. The court does not read Alteris’s position to be that the racks track the sun—it is undisputed that they are “fixed.” Alteris’s position is that the racks “change the position” of the PV

modules as compared to their orientation without the racks. To the extent the Department suggested in Formal Ruling 2011-03, and argues on appeal, that “mobile” support and orientation equipment is the only type of support and orientation equipment that could contribute to an “active” relationship between the use of that equipment and the production of electricity, the court disagrees.

Nothing in § 9741(14) or in the Regulations requires equipment to move in order to be “directly” used. The court reads the word “active” in the Regulations to describe the *relationship* between the use of the equipment at issue and the production of a product. Since the Department seems to concede that mobile support and orientation equipment has an active relationship to the production of electricity, the court can discern no reason why fixed support and orientation equipment does not have the same relationship.

The court also rejects the Department’s assertion that the racks do not have a “causal” relationship with the production of electricity. The heart of this argument appears to be that the racks themselves do not produce electricity, and that the PV modules could produce some electricity even without the racks. Although both of these statements are true, the court does not believe they support the Department’s conclusion. While support and orientation equipment may not produce electricity, the amount of electricity a PV module produces depends in part on its orientation. The court finds that to be ample evidence of a causal relationship between support and orientation equipment and the production of electricity from PV modules.

This conclusion is consistent with decisions from other jurisdictions. Like Vermont, Iowa’s tax regulations include inquiry into whether there is an “active causal

relationship” between the use of the property and the activity involved. The Sherwin-Williams Co. v. Iowa Dep’t of Revenue, 789 N.W.2d 417, 433 (Iowa 2010). One of the questions in Sherwin-Williams was whether spectrographic color-matching machines located at retail stores and used to determine paint mixing formulas were “directly used” in processing. Id. The tax department concluded that they were not, reasoning that the machines do not contact the base or final product the consumer purchases, do not change the substance or color of the paint, and provide only a formula for mixing the paint. Id. at 432. The Iowa Supreme Court held that conclusion to be “wholly unjustifiable.” Id. at 433. The court concluded, among other things, that “the color-matching machine has an active causal connection to the processing of the paint, dictating the type and amount of colorant and base paint used in that process.” Id.

The Sherwin-Williams case makes clear that the concept of an “active causal relationship” does not require the equipment at issue to change the form, composition or character of tangible personal property. Thus, although the racks themselves do not convert solar radiation into electricity, that fact alone is not determinative. *See* Niagara Mohawk Power Corp. v. Wanamaker, 144 N.Y.S.2d 458, 462 (N.Y. App. Div. 1955) (“The walls of the boiler have a ‘passive’ function in one sense. The important thing is that all parts of the plant contribute, continuously and vitally, to production, and they are all integrated and harmonized.”). The same is true with respect to the fact that the PV modules could produce some electricity even without the racks. The retailers in Sherwin-Williams could produce paint even without the spectrographic color-matching machines, but without those machines, achieving the desired color might involve a great deal more

time and effort.⁴ Similarly, the PV modules at the Ferrisburgh Solar Farm could still produce some electricity even if left on the ground, but it would take much longer to produce the same amount of electricity as would be generated if the modules were positioned to optimize the incident solar radiation.

Of course, the fact that particular machinery or equipment may be considered essential to the conduct of the business of manufacturing because its use is a practical necessity does not, of itself, mean that the machinery or equipment is “used directly” in the manufacturing operation. Tax Dept. Reg. § 1.9741(14)-4(B)(2). This language does not preclude consideration of whether equipment is practically necessary in a manufacturing operation. Nor does this language support reading Vermont’s regulations or § 9741(14) as providing exemptions only for equipment that actually works a physical change in tangible personal property. If that were the case, there would be no need for the various factors set out in Tax Dept. Reg. § 1.9741(14)-4(B). In light of all of the relevant facts and circumstances, the court concludes that the racks are used “directly” in the manufacture of electricity.

As the Department points out, it is not enough that the racks be used “directly” in the manufacture of tangible personal property for sale; they must also be used “exclusively” for that purpose. On appeal, however, the Department seems to concede that the racks are used “exclusively” in the manufacturing process. To the extent Formal Ruling 2011-03 took the position that the racks were not used “exclusively” in manufacturing electricity, the court disagrees. The test is not whether the racks are uniquely suited to holding the PV modules, or whether they could be used for some other

⁴ Using Alteris’s language: without the color-matching machines, it would not be “commercially viable” for Sherwin-Williams to offer the spectrum of colors that it does.

purpose. Just because an electric motor is not uniquely suited to stirring paint base and colorant, or because it could also be used for innumerable other purposes, does not mean that it might not be used “exclusively” in manufacturing paint. Here, the evidence is that the racks are used 100% of the time to support and orient the PV modules. The racks are therefore used “exclusively” in manufacturing electricity.

Finally, the Department argues that the racks in this case are “fixtures” that “house” the PV modules. It is true that, “[g]enerally, buildings and fixtures used to house manufacturing operations are not directly and exclusively used in manufacturing even if they are personal property.” Tax Dept. Reg. § 1.9741(14)-4(D)(1). The court concludes that the racks do not “house” manufacturing operations at the Ferrisburgh Solar Farm because, by definition, a solar farm must operate without being “housed.” In any case, the racks would not lose their exemption because the court has already concluded that they are directly and exclusively used in manufacturing. *See id.* (“Personal property that is directly and exclusively used in the manufacturing process will not lose its exemption based on the fact that such property also houses the manufacturing process.”).

Order

The Department’s conclusion in Formal Ruling 2011-03 is clearly erroneous and cannot be sustained on appeal. The support and orientation equipment at the Ferrisburgh Solar Farm is exempt from Vermont sales and use tax under 32 V.S.A. § 9741(14) because it is directly and exclusively used in the “manufacture” of electricity for sale. The decision of the Tax Department is reversed. The parties are directed to submit a proposed final order for the court’s signature within ten days.

Dated at Burlington this 22nd day of June, 2011.

Helen M. Toor
Superior Court Judge