STATE OF NEW YORK

DIVISION OF TAX APPEALS

In the Matter of the Petitions	:	
of	:	
BT CAPITAL CORP.	:	DETERMINATION DTA NOS. 807195
for Redetermination of Deficiencies or for Refund of Corporation Franchise Tax under Article 9-A of the Tax Law for the Years 1984 through 1987.	:	AND 807686

Petitioner, BT Capital Corp., 280 Park Avenue, New York, New York 10015, filed petitions for redetermination of deficiencies or for refund of corporation franchise tax under Article 9-A of the Tax Law for the years 1984 through 1987.

A hearing was held before Dennis M. Galliher, Administrative Law Judge, at the offices of the Division of Tax Appeals, Riverfront Professional Tower, 500 Federal Street, Troy, New York, on August 7, 1990 at 1:15 P.M., with all briefs to be submitted by December 17, 1990. Petitioner filed its brief on October 19, 1990, the Division of Taxation filed its response on November 20, 1990, and petitioner filed its reply brief on December 20, 1990. Petitioner appeared by Chadbourne and Parke, Esqs. (Charles K. O'Neill, Esq., and Robin Meigel, Esq., of counsel). The Division of Taxation appeared by William F. Collins, Esq. (James Della Porta, Esq., of counsel).

ISSUE

Whether a hydroelectric facility constitutes property principally used in the production of goods by manufacturing or processing for purposes of entitlement to the investment tax credit afforded under Article 9-A, former section 210.12(b) of the Tax Law.

FINDINGS OF FACT

Petitioner, BT Capital Corp., is a Delaware corporation. During the years at issue, petitioner was a limited partner in Black River Hydro Associates, a New York limited partnership (the "Partnership"), which had constructed three separate hydroelectric facilities all

located in Lewis County, New York (the "Facilities"). The Partnership operated the Facilities during the years at issue.

On its New York State Corporation Franchise Tax Report (Form CT-3) for each of the subject years, petitioner listed its principal business activity as "small business investment corporation". Petitioner was not formed for, nor is it principally engaged in, the business of supplying water, steam, gas, or electricity, or principally engaged in two or more of such businesses. Petitioner does not sell gas, electricity, steam, water, refrigeration, telephony or telegraphy, or furnish gas, electricity, steam, water, refrigeration, telephony or telegraphy services.

Petitioner claimed an investment tax credit in regard to the Partnership's Facilities on its New York franchise tax returns for the years at issue.

The Facilities were constructed by the Partnership after December 31, 1968, are depreciable pursuant to section 167 of the Internal Revenue Code, have a useful life of four years or more, were acquired by purchase as defined in section 179(d) of the Internal Revenue Code, and have a situs in New York State.

On May 20, 1988, the Division of Taxation issued to petitioner six notices of deficiency, asserting additional corporation franchise tax due for the years 1984, 1985 and 1986, plus interest. On December 8, 1989, the Division issued to petitioner two notices of deficiency asserting additional corporation franchise tax due for the year 1987, plus interest. The notices are listed as follows:

Year	Notice No.[1]	Tax
1984	C880520090N	$116,793.00
1984	C880520091M	27,504.00
1985	C880520092N	369,695.00
1985	C880520093M	62,848.00
1986	C880520094N	131,221.00

[1] Those notice numbers ending with the letter "M" represent Metropolitan Transportation Business Tax Surcharge increases resulting (mathematically) from the basic franchise tax adjustments at issue herein.

1986	C880520095M	22,307.00
1987	C891019041N	7,351.00
1987	C891019042M	1,255.00

The sole basis for the deficiencies asserted by the Division of Taxation and remaining at issue for the subject years is whether or not the property for which petitioner claimed an investment tax credit (three hydroelectric facilities) is qualified property pursuant to section 210.12(b) of the New York Tax Law and 20 NYCRR 5-2.2(a) of the regulations applicable thereto.[2]

The three Facilities in question are all located within a 3.5-mile stretch of the Black River. These Facilities, known as Port Leyden Hydro ("Port Leyden"), Denley Hydro ("Denley") and Rock Island Hydro ("Rock Island"), are all comprised essentially of the same type of equipment.

Petitioner presented the testimony of one John Cordes, a civil engineer who was the project engineer for the design, construction, equipment purchase and installation at each of the Facilities. He described

how a hydroelectric facility uses water to turn a turbine generator and produce electricity. Each of the facilities is located at its own dam on the Black River. The water from the river flows into an intake passageway (essentially a tunnel) and emerges from the same passageway at a lower elevation (the tailrace). The difference in elevation (the "drop" or amount of "head") is a key determinant in the amount of electricity which can be produced.[3] Within the passageway, the water flows past a water wheel which extends from a turbine shaft protruding through the

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[2]The parties, by their representatives, entered into stipulations as to certain facts relevant to these proceedings. Such stipulated facts are reflected in Findings of Fact "1", "2", "3", "4" and "6".

[3]The subject Facilities are known as "low head projects", having relatively small output capacity, to wit, 2.2 megawatts at Port Leyden, 1.6 megawatts at Denley and 1.9 megawatts at Rock Island.

water passageway. The flowing water strikes the blades on the water wheel and turns the connected turbine shaft. The turbine shaft is coupled to a generator shaft just outside the water passageway. The generator shaft, in turn, extends into a generator where, inside, it is attached to a rotor. The rotor is housed within and turns inside of a stator and electricity results (see, Finding of Fact "11", infra). From the generator, the electricity passes through a conduit copper wire to a substation where the voltage level is stepped up to a level compatible with that of the public utility transmission grid. The conduit is then interconnected to the public utility grid and the amount of electricity, measured in kilowatt hours by a meter owned and maintained by the public utility, is calculated. The entire output of each of the Facilities is sold to Niagara Mohawk Power Corporation ("Niagara Mohawk") pursuant to three separate long-term contracts.

Petitioner also presented the testimony of Christopher Turner, president of a consulting firm known as The Turner Group. Prior to forming

The Turner Group, Mr. Turner was employed by Niagara Mohawk for some 25 years, during which time his job duties required him to become familiar with Niagara Mohawk's methods of purchasing and selling electricity. Mr. Turner described the two current markets for the wholesale purchase of electricity by utilities, to wit purchases from other utilities and purchases from non-utility suppliers such as the Partnership. Mr. Turner noted that purchases from non-utility suppliers have increased in emphasis since the passage of the (Federal) Public Utility Regulatory Policy Act of 1978 ("PURPA") (Pub L 95-617), and amendments to New York State's Energy Law and Public Service Law (Public Service Law § 66-c [L 1980, ch 553; L 1981, ch 843]).[4] Mr. Turner also described the New York Power Pool (the

[4]The record does not provide extensive detail as to these enactments. However, the same were discussed at some length in Matter of Consolidated Edison Co. v. Public Service Commission (63 NY2d 424, 483 NYS2d 153, appeal dismissed 470 US 1075, 105 S Ct 1831). In 1980, the New York Legislature enacted section 66-c of the Public Service Law ("PSL"). Similar to the Public Utility Regulatory Policies Act of 1978 ("PURPA") (Pub L 95-617) enacted by the Federal government on the national level, the purpose of PSL § 66-c was to promote the

"Power Pool") as an association of seven investor-owned utilities and the New York State Power Authority which together provide electricity to virtually all of the State of New York. The Power Pool interacts with power pools in other states and with Canadian enterprises so as to buy and sell electricity from each other on the basis of the relative economics at the time of the transaction. Measurement, for pricing purposes in these transactions, is by the kilowatt hour. Mr. Turner described Niagara Mohawk's policy of negotiating long-term contracts for the purchase of electricity from non-utility suppliers such as the Partnership. Under these contracts, the measurement for pricing purposes is also the kilowatt hour.

In addition to the foregoing, petitioner presented the testimony of Dr. Charles Holbrow, professor of physics at Colgate University. Dr. Holbrow testified as an expert witness as to the characteristics and properties of electricity. Dr. Holbrow testified that all matter is electrical in nature, and that the various configurations of matter are determined by the electrical interactions of fundamental particles making up atoms, namely a core nucleus consisting of uncharged neutrons and positively-charged protons, surrounded by a shell of negatively-charged electrons. Dr. Holbrow testified that the word "matter" is used by physicists

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State energy goals of development of alternative energy production facilities, cogeneration facilities, and hydroelectric facilities in order to reduce the dependence on traditional fossil fuels (Matter of Consolidated Edison Co. v. Public Service Commission, 63 NY2d 424, 483 NYS2d 153, 154-155). To foster this development, PURPA and PSL § 66-c required electric utilities to purchase electric power produced by independent power producers, such as the Partnership, that qualified under the law at purchase rates that were just, nondiscriminatory and in furtherance of the public policy underlying the legislation. Both PURPA and PSL § 66-c were enacted in recognition that one of the central problems that hindered the development of alternative energy sources was the traditional electric utilities' reluctance to buy power from such alternative power producers (id., 483 NYS2d at 154; FERC v. Mississippi, 456 US 742, 749-751).

PURPA required that the purchase rate not exceed the purchasing utilities' avoided costs; that is, the amount it would have cost the utility to generate the same energy it bought from the qualifying facility had that purchase not been made (Matter of Consolidated Edison Co. v. Public Service Commn., supra, 483 NYS2d at 155, n. 2). However, PSL § 66-c provided a further incentive to energy developers by requiring a minimum purchase price of six cents per kilowatt hour for electricity which at times could exceed a utility's avoided-cost purchase rate inasmuch as the avoided-cost rate varied by utility and over time depending on market conditions (id.).

to describe those objects, including electrons, which have mass and other properties when at rest. Dr. Holbrow noted that an electron in fact has mass, has a well-defined charge and can be weighed. He also

indicated that a distinction can be made between matter and radiation (see, footnote "5", infra).

Dr. Holbrow described the commercial generation of electricity, such as is done at the Facilities, as being an activity which by the rotation of the rotor within the stator causes the otherwise random oscillation pattern (or motional state) of the electrons within the rotor field to be reconfigured into an ordered oscillation pattern. This reordering of the electrons continues, in turn, to be effected along the electrons in the conduit line to the transformer and thereafter into the utility grid. Dr. Holbrow noted that the generator must be in operation for this new configuration of electrons to be effected and thereafter maintained.

SUMMARY OF THE PARTIES' POSITIONS

The Division of Taxation argues that the Facilities do not meet the statutory criteria necessary to qualify for the investment tax credit. The Division argues first that electricity does not constitute a "good" for purposes of the credit, citing specifically to certain sections of Tax Law Article 28. Further, even assuming that electricity constitutes a "good", the Division maintains that a hydroelectric facility is not engaged in "manufacturing" or "processing" for purposes of the subject credit. The Division places emphasis on the distinction between the franchise tax on utilities (Tax Law, art 9, § 186) and the franchise tax imposed under Article 9-A. More specifically, the Division maintains that since Article 9, section 186 contains no investment tax credit for the generation of electricity, there is thus a legislative intent that no investment credit should be available in general for the generation of electricity. Finally, the Division argues that Matter of Leisure Vue, Inc. v. Commissioner of Taxation and Finance (___ AD2d ___, 568 NYS2d 175) is determinative of the issue.

Petitioner argues, by contrast, that the term "good" is not defined in the Tax Law, going on to argue that where such term is commonly defined, electricity falls

within the ambit of being a "good". Petitioner notes that electricity has all of the qualities and attributes commonly associated with a "good" and has, in a long line of cases, been recognized as a "good". In addition, petitioner argues that the generation of electricity falls within the definition of manufacturing or processing, likening such activity to, inter alia, commercial snowmaking. Petitioner argues that the electricity results from the action of the equipment in question intervening in the path of the flowing stream of water and over and through which the water progresses. Petitioner explains the process to be that the mass of the water above the equipment is greater than the mass of the water pouring out below, with such difference in mass being equivalent to the mechanical energy extracted from the water and converted into electrical energy by the activity of the rotor and stator within the generator. In sum, petitioner notes that greater mass has been imparted to the electrons associated with the copper molecules within the conduit wire and that such altered quality or configuration of electrons constitutes the produced good, i.e., electricity.

CONCLUSIONS OF LAW

A. Tax Law former § 210(12)(b) provides, in pertinent part, that:

> "(i) A credit shall be allowed under this subdivision with respect to tangible personal property and other tangible property...which are...principally used by the taxpayer in the production of goods by manufacturing [or] processing....
>
> (ii) For purposes of this paragraph...[m]anufacturing shall mean the process of working raw materials into wares suitable for use or which gives new shapes, new quality or new combinations to matter which already has gone through some artificial process by the use of machinery, tools, appliances and other similar equipment" (emphasis supplied).

This manner of statutory presentation leads most logically to an analysis in two stages, to wit, first whether electricity is a "good" and, in turn (and if so), whether such "good" is "produced" by "manufacturing" or "processing".

B. Neither Tax Law Article 9-A nor its implementing regulations (20 NYCRR 5-2.2[a]) define the terms "goods", "materials" or "matter" for purposes of the credit in question. Prior to Matter of Leisure Vue, Inc. v. Commissioner of Taxation and Finance (___ AD2d ___, 568 NYS2d 175) there was little guidance offered by direct case law. In Leisure Vue, the Appellate

Division noted the same, concluding that "[i]n these circumstances, the ordinary, everyday meaning of these terms is to be applied." The Court then turned to the dictionary to define the subject terms, as follows:

> - "goods" as meaning "tangible, movable, personal property having intrinsic value" (Webster's Third New International Dictionary 978 [unabridged 1981]);
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> - "matter" as meaning "the substance of which a physical object is composed" (Webster's Ninth New Collegiate Dictionary 734 [1988]), or as "the substance that is considered to constitute the observable universe" (Webster's Third New International Dictionary 1394 [unabridged 1981]); and
>
> - "material" as meaning "relating to, derived from, or consisting of matter" (Webster's Ninth New Collegiate Dictionary 733 [1988]).

C. As to whether electricity is a "good" within the meaning of Tax Law § 210.12(b)(i), neither party disputes that the commonly understood meaning of the term should control. The Division, however, maintains that the concept of "goods" as commonly understood does not encompass electricity. For its position, the Division cites Leisure Vue (supra). The Division also argues (by brief) that because electricity is excluded from the definition of tangible personal property for sales tax purposes under Tax Law Article 28 (see Tax Law § 1101[b][6]), it is not properly viewed as "goods" for purposes of the Tax Law in general. The Division also maintains the absence of an investment tax credit from Article 9, section 186 (franchise tax on utilities) evinces a legislative intent that such credit, although provided for under Article 9-A, is not available with regard to an Article 9-A taxpayer such as petitioner investing in a hydroelectric facility. Each of these positions is rejected.

Addressed first is the Division's argument that Matter of Leisure Vue (supra) is determinative. Notwithstanding the concession by the taxpayer in Leisure Vue that electromagnetic waves are intangible, or the Tax Appeals Tribunal's conclusion (as confirmed by the Appellate Division) that such waves do not constitute matter, the Division argues in its brief that "[r]adio waves like electricity are matter" and, more specifically, that "radio waves are more similar to electricity than electricity is to corporeal tangible personal property as commonly understood." While, as described above, Leisure Vue does provide guidance as to the meaning of the terms in question ("goods", "manufacturing" and "processing"), its result is

not determinative. The taxpayer in Leisure Vue provided paid television service to its subscribers, and sought an investment tax credit on equipment it used to "down convert" or reduce original electromagnetic wave signals emitted by transmission companies to widths compatible with its subscribing customers' televisions. The Tribunal denied the claimed credit concluding that "electromagnetic waves were not 'matter' within the meaning of the statute nor was the result of the down-conversion 'goods' within the meaning of the statute." The Appellate Division confirmed this reasoning holding the credit did not apply to the down-conversion equipment because it "simply narrows the width of intangible electromagnetic signals." Contrasting the two matters, in this case it is the electricity itself which is the product made and marketed, while in Leisure Vue the product or service was television programming and not the down-converted electromagnetic waves themselves. Here, the electricity itself held the marketable value, while the electromagnetic waves in Leisure Vue served as the means of transmission but were not themselves the item of value. Further, while the electromagnetic waves in Leisure Vue were conceded in that case to be intangible, the evidence in this case shows that electricity is tangible and requires a conduit for its transmission from place to place.[5]

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[5]On this question of tangibility, Dr. Holbrow testified as follows:

Q "Is electricity tangible matter?
A Yes. The electric charge which I consider forms the basic elements of electricity are definitely tangible matter.
Q What is it that causes you to conclude that?
A Well, that it has mass, that's very basic. One can make a distinction between radiation and matter. Radiation also has mass; radiation is an evanescent phenomenon. Light is radiation; it has a very slight amount of mass, has extremely transitory life, originates and is absorbed by matter; always travels at the speed of light.

A physicist makes a distinction between matter and radiation. We use the word matter for those objects which have mass and other properties when at rest. In 1989, the Nobel Prize for physics was awarded to a man who created a device that held a single electron in an experimental configuration for nine months.

Q When you talk about radiation, are you talking about the difference between electromagnetic radiation --
A Certainly.
Q Electromagnetic radiation, is that something that can be stored like

In sum, denial of the credit on equipment used to

down-size electromagnetic waves does not mandate denial on equipment used to generate electricity. In addition, it is noteworthy that the taxpayer in Leisure Vue used its equipment to redirect and modify an existing electromagnetic signal which it (the taxpayer) did not originate, generate, manufacture or produce. Hence, Leisure Vue is distinguishable on more than one ground.

The Division's arguments centered on provisions of the sales tax law (Article 28) are not persuasive. It is true that electricity is excluded from the definition of tangible personal property under Article 28. Tax Law § 1101(b)(6) provides:

> "Tangible Personal Property. Corporeal personal property of any nature. However, except for purposes of the tax imposed by subdivision (b) of section eleven hundred five, such term shall not include gas, electricity, refrigeration and steam." (Emphasis added.)

Tax Law § 1105(a) imposes the sales tax on receipts from sales of tangible personal property except as otherwise provided. Section 1105(b) imposes sales tax on receipts from sales of, inter alia, electricity and electric service. Specifically excluding electricity from tangible personal property per section 1101(b)(6) suggests by implication that the Legislature viewed electricity as tangible personal property which, without such exclusion, would be taxable under both subdivisions (a) and (b) of section 1105.[6] In sum, the need to exclude electricity from the

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electricity?

A No. Electromagnetic radiation is evanescent like noise. You can make it; it's either there or it's not. The sounds of my voice are not stored in my chest. I have a machine that generates them and then dissipates them. Very much the same thing is true of lights; it's not a stored phenomenon.

Q Are electromagnetic signals used in television?

A Electromagnetism is a wide range of phenomena. That's one of them." (Emphasis added.)

[6]Here, the Partnership of which petitioner is a member is engaged entirely in the wholesale selling of electricity to a public utility (Niagara Mohawk) and is clearly not engaged in a sale of electric service.

definition

of tangible personal property supports the conclusion that electricity is, and is commonly thought of as, tangible personal property. (See, Niagara Mohawk Power Corp. v. Wanamaker, 286 App Div 446, 144 NYS2d 458 [4th Dept 1955], affd 2 NY2d 764, 157 NYS2d 972.)

The Division also argues that since an investment tax credit is not available under Article 9, section 186 (franchise tax on utilities), there is a legislative intent to prohibit qualification for such a credit, though available under Article 9-A, on property involved in the generation of electricity. This argument is rejected. Suffice it to say that Article 9 presents an entirely different (gross receipts) type of tax than the net income franchise tax imposed by Article 9-A. There is no challenge that petitioner was in any way not an Article 9-A filer fully entitled to any of the benefits, including investment tax credit (if otherwise qualified under the terms of the credit itself), afforded under Article 9-A. In addition, the legislative history surrounding enactment of the subject credit, viewed in light of the evolution in importance of projects such as the Facilities due to legislative action subsequent to enactment of the investment credit, dispels the argument that the Legislature intended the credit not to be available with respect to a hydroelectric facility (see, Conclusion of Law "J", infra).

D. In addition to the foregoing, a significant line of Supreme Court and other tax cases supports the conclusion that electricity is a good as that term is commonly understood (i.e., that it is tangible, movable, personal property having intrinsic value). In Utah Power and Light Co. v. Pfost (286 US 165) the Supreme Court described electricity in the following terms:

> "[T]hat it has actual content of some kind is clear, since it is susceptible of mechanical measurement with the necessary certainty to permit quantitative units to be fixed for purposes of barter, sale, and exchange. However lacking it may be in body or substance, electrical energy, nonetheless, possesses many of the ordinary tokens of materiality. It is subject to known laws; manifests definite and predictable characteristics; may be transmitted from the place of production to the point of use and there made to serve many of the practical needs of life." (Id. at 180; cf., Ashwander v. Tennessee Valley, 297 US 288 [electrical energy produced by falling water constitutes property belonging to the United States].)

In Curry v. Alabama Power Co. (243 Ala 53) the Alabama Supreme Court, in concluding

that a corporation engaged in the generation and distribution of electricity was a manufacturing corporation for purposes of use tax exemption on machines used to manufacture tangible personalty, found that:

> "[E]lectricity consists of negative electrons. Electrons have mass or weight. Electricity can be tasted. It can be detected by the sense of smell. It can be perceived by touch. A sufficient charge will tear a hole in the body as it enters and as it leaves." (Id. at 526; see also, State Tax Commission v. Marcus J. Lawrence Memorial Hospital, 108 Ariz 198 [1972] [gas, electricity and water "can be seen, weighed, measured, felt, and in other ways are perceptible to the senses", are within the definition of "all personal property" exempt from transaction privilege taxes when purchased by charitable or government operated hospitals].)

E. Coupling the aforementioned definitions, the descriptive testimony as provided by Dr. Holbrow, the balance of testimony regarding the marketing of electricity, and the noted case law leaves clear that electricity falls within the definition of a "good". It is of no moment that the electron is an item of matter too "small" to be apprehended by the naked eye. It is not enough, thus, to deny the claimed credit merely because the good produced (electricity) is of a different type than other goods more readily apprehended (e.g., a manufactured bar of steel), or is constituted solely of items of matter too small to be seen. Electricity is admittedly tangible, it is moveable from place to place via conduit wires, and it has intrinsic value being a desired commodity marketed daily in thousands of transactions. Upon the foregoing, electricity in its commercially made and marketed sense, is a good for purposes of the investment tax credit.

F. Having concluded that electricity is a good leads to the second stage of analysis, namely whether such "good" is produced by "manufacturing" or "processing" within the meaning and intent of Tax Law § 210.12(b)(ii). On this issue, the Division points out that the term "generating" does not appear in former section 210.12(b), but does appear in Article 28 at section 1115(a)(12) in the same sentence as "electricity". According to the Division, this suggests that a hydroelectric facility is engaged exclusively in the activity of "generating", that "generating" is an activity entirely different from "manufacturing" or "processing", and that applying such latter terms to the activity ongoing at a hydroelectric facility is not permissible. This argument, which seeks to draw a parallel between provisions of Article 9-A and Article 28, is not persuasive. Section 1115(a)(12) exempts from sales tax machinery and equipment used

in the production of a number of specific items for sale (i.e., "tangible personal property, gas, electricity, refrigeration or steam"), while section 210.12(b) provides a credit on investments in tangible personal property and other tangible property used in the production of the generic group of items known as "goods". Both sections list various terms describing the methods of producing the items (e.g., manufacturing, processing, etc.). Section 1115(a)(12) includes among such methods the term "generating"; section 210.12(b) does not include this term. However, the absence of the term "generating" from section 210.12(b) is not fatal to entitlement to the subject credit. As described in Conclusion of Law "C" (supra), electricity was specifically focused upon and dealt with in the drafting of Article 28 (Tax Law §§ 1101[b][6]; 1105[a], [b]). Thus, it is hardly surprising to find terminology (i.e., "generating") specifically related to electricity. By comparison, since electricity production by entities other than public utilities subject to tax under Article 9 was not a particular focus of attention when the investment tax credit was enacted (see, Conclusion of Law "J", infra), the absence of the specific terms "electricity" and "generating" from section 210.12(b), and the use of the broader term "goods", is similarly not surprising. Finally, and in the same vein, there is no compelling reason to conclude that the term "generating" in the same list of terms as "manufacturing" and "processing" means such terms have mutually exclusive as opposed to potentially overlapping meanings, or to conclude other than that the Legislature only sought to be comprehensive in its drafting of the investment tax credit.[7]

G. It is clear that the good in question, electricity, would not exist in its desired commercially bought, sold and utilized form, absent intervention of the Facilities. The process of hydroelectric power generation, as described by Dr. Holbrow, involves directing water with a

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[7]The parties have argued this case on the basis of "manufacturing" or "processing". It would seem, though, that a viable argument could be made based on the term "extracting" as contained in the statute. In general, while extracting is thought of as nearly synonymous with the term "mining", the electricity produced at the Facilities is, in essence, extracted from the energy resident in the flowing water via intervention of the turbine and generator. Thus, it could be argued (at least lexicographically) that the Facilities produced a good by "extraction" thereby leaving petitioner entitled to the credit at issue.

given mass to fall or flow from above over turbine blades and into the river below. The mass of the water above the turbine is greater than the mass of the water which pours out below, with such mass difference being equivalent to the energy extracted from the water via the turbine blades placed in the

flowing water's path. The extracted mass or energy is transferred via the rotating turbine shaft to the generator where, as the result of the rotation of the rotor within the stator, the naturally occurring random oscillation of the electrons in the copper wires is reordered such that the same electrons oscillate in a coherent, regular manner. As a result of imparting the mass energy equivalent in the flowing water, the state of the electrons in the generator is materially altered so as to give those electrons a new quality, a higher energy state. The copper molecules remain copper molecules, but their quality has been altered by the described transfer of energy -- greater mass has been imparted to them and electricity in the desired commercial sense has been produced. Stated in sum, absent intervention and operation of the Facilities, the mechanical energy inherent in the flowing stream would not be transformed into electricity.

As early as 1892, the New York Court of Appeals addressed the issue of whether a company which generated electricity by the combustion of coal was a manufacturing company entitled to exemption from certain franchise taxes (as afforded to manufacturing corporations). In People ex rel Brush Illuminating Elec. Co. v. Wemple (129 NY 543, 29 NE 808), the Court stated:

> "According to the common understanding, the electricity or thing which produces the results from which the corporation derives its income is generated or produced by the application of power to machinery, and thus, by means of a process wholly artificial, the relator is enabled to sell the product of its operations to its customers.
>
> Passing by the refinements of scientific discussion as to the nature of electricity, it would seem to be common sense to hold that a corporation that does all this is in every just sense of the term, a manufacturing corporation." (Id. at 553 [emphasis added].)

The Court further stated:

> "This company, whose character we are considering, sells the electricity it

> makes, or 'brings into being,' as a commodity. It provides the lamps or appliances for the use of its customers by means of which the light is produced. It sells them the electricity, measures it as it is delivered, and is paid according to the quantity furnished. Whatever electricity may be, it seems absolutely within the power and under the control of the company that brings it into being. It is compelled, by the process employed, to come into being. It is secured, stored, poured out or liberated at will. Its manifestations are both seen and felt. It moves with incredible velocity and power." (Id. at 556 [emphasis added].)

Absent the generating equipment, commercially usable electricity is, as the Court in Utah Power (supra) observed, a mere "potentiality" (id. at 180). In Curry v. Alabama Power Co. (supra), the given definition of manufacturing was:

> "'[t]he production of articles for use from raw or prepared materials by giving these materials new forms, qualities, properties, or combinations, whether by hand, labor or by machinery.'" (Id. at 523.)

The Court in Curry held that the production of electricity constituted manufacturing, as follows:

> "According to the above definition[s] of the word 'manufacture', we are constrained to consider and declare an electric light company a manufacturing corporation to all intents and purposes. It is no answer to this argument to say that electricity exists in a state in nature, and that a corporation engaged in the electric light business collects and gathers such electricity. This does not fully or exactly express the process by which such corporations are able to make, sell and deliver something useful and valuable. The electricity that exists in nature is of a very different quality from that produced by means of machinery." (Id. at 523-524.)

The Curry opinion cites with approval and quotes from the New York Court of Appeals decision in Brush Illuminating Elec. Co. v. Wemple (supra). Specifically observed by the Court in Curry is that making "electricity" involved the "application of labor and skill to materials that exist in the natural state [giving] them a new quality or characteristic and adapt[ing] them to new uses; and the process by which this result is brought about is called 'manufacturing,' whether the change is accomplished by manual labor or by means of machinery..." (id. at 523). Directly quoting the Brush Court:

> "[t]he material from which all manufactured things originate exists in a natural state; but the manufacturer, by the application to these materials of labor and skill, gives to them a new and useful property. The electricity which is generated and transmitted by the operation of the relator...is a very different thing from that mysterious element that is said to pervade nature." (Id. at 524-525.)

H. It would be difficult to reconcile a different result here with that reached by the (former) State Tax Commission in Matter of Plattekill Mountain Ski Center, Inc. (March 9,

1984 [TSB-H-85(28)C]). In Plattekill, the petitioner operated snowmaking equipment which forced water droplets out into the air which droplets froze due to the naturally cold temperature and fell as snow. The Commission concluded that the production of snow by snowmaking equipment constituted manufacturing for purposes of the investment tax credit. The Commission cited People v. Knickerbocker Ice Co. (99 NY 181 [1885], 1 NE 669), involving the distinction between equipment which extracted ice in its natural state from equipment which produced ice by artificial means, noting that:

> "manufacturing...require[s] the production of some article, thing or object by skill or labor out of raw material, or from matter which has already been subjected to artificial forces, or to which something has been added to change its natural course."

Both in snowmaking and in electricity generation, the motional state of water molecules and electrons in copper molecules, respectively, are caused to be altered so as to arrive at a commercially desired end product.[8] In light of all of the foregoing, it is concluded that the

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[8]When questioned about the snowmaking process, Dr. Holbrow testified as follows:

Q "Dr. Holbrow, the process of snow making, what is happening there when the water is being changed from water to snow?
A You're talking about the kind of commercial thing that ski runs have when they spray water into reasonably cold air?
Q Yes.
A In that case there's some evaporation going on from the water, which has the effect of carrying out the more active molecules, which when this happens the molecules that are left are -- let's see. How do I say this? In liquid water, random motion of the molecules overcomes the electrical attraction between the molecules. That's what you mean by warming things up. When you cool them by evaporation, you've reduced the thermal energy in the droplets and the electrical force between the molecules can now dominate. It turns out because of the shape of the atoms and the way they are arranged in water, they will lock into a certain alignment and crystalize [sic], what is called crystalization [sic].
Q The molecules that you had before you have after?
A Yes.
Q Are you reconfiguring the molecules?
A Yes."

Facilities are producing electricity by manufacturing.

I. In passing, it is also clear that the activity in question falls within the definition of "processing". The term "processing" has been defined as:

> "an operation whereby raw material is subjected to some special treatment, by artificial or natural means, which transforms or alters its form, state or condition" (Matter of Hudson Cold Storage and Freezer Corp, State Tax Commn., September 9, 1983; Niagara Frontier Services, Inc., Tax Appeals Tribunal, August 9, 1990).

By comparison, the change or alteration to the motional state of the electrons here is at least as substantial as the process of controlled banana ripening at issue in Niagara Frontier Services, Inc. (supra). In Niagara Frontier, inedible fruit was processed in a banana ripening room into edible commercially viable goods (bananas). Here, the motional state

of the electrons was artificially altered to produce commercially saleable electricity. In short, the bananas were still bananas and the electrons in the copper molecules were still electrons in copper molecules; however, as the result of the respective processes applied, the state of each was materially altered such that the desired commercially viable commodity resulted.

J. Finally, extending availability of the subject credit to taxpayers such as petitioner is entirely consistent with the legislative background in this area. The investment tax credit was enacted in 1969, replacing a then-existing double depreciation incentive (L 1969, ch 1072; compare, L 1968, ch 873). This enactment of the investment tax credit preceded by nearly ten years the Federal Public Utility Regulatory Policy Act of 1978 ("PURPA"). Two years after PURPA was enacted, New York amended its Energy Law and its Public Service Law to promote the development of alternative energy facilities (L 1980, ch 553). In turn, the Public Service Law was again amended, in 1981, to specifically include small hydroelectric facilities (L 1981, ch 843). Public Service Law § 66-c(1) (as so amended) provided as follows:

> "It is hereby declared to be the policy of this state that it is in the public interest to encourage the development of alternative energy production facilities, cogeneration facilities and small hydro facilities in order to conserve our finite and expensive energy resources and to provide for their most efficient utilization." (Emphasis added.)

Prior to this time, electricity was produced primarily by regulated utilities taxed under Article 9 of the Tax Law, under which article there was (and is) no investment tax credit provision like that contained in Article 9-A. The emergence in importance of facilities such as those here described was a direct result hoped for in the enactment of PURPA and Public Service Law § 66-c (see Footnote "4", supra). Taken together, the terms under which the credit is available (Tax Law § 210.12[b]), coupled with the expressed aims of the above-described legislation, are consistent with the conclusion that the facilities in question are well within the ambit of those investment activities which the investment tax credit would be aimed at encouraging. In short, if the credit had been drafted on an explicit activity-by-activity basis (a less flexible adaptable approach) as opposed to the rather generic manner in which actually drafted, facilities such as those involved here would surely have been included.

K. The petition of BT Capital Corp. is hereby granted and the notices of deficiency dated May 20, 1988 and December 8, 1989 are cancelled.

DATED: Troy, New York

10/10/91

ADMINISTRATIVE LAW JUDGE