



November 30, 2009

Paul G. Faler, Chair  
Board of Assessors  
1 Lafayette Street  
Wakefield, MA 01880

Re: New England Power Autotransformers  
Our File 2009-834

Dear Mr. Faler:

You ask whether four large autotransformers purchased by and delivered to New England Power Co. (NEP) at a future substation site in Wakefield prior to January 1, 2009 should have been included in the reported taxable property on the company's 2009 form of list. The company has indicated that the transformers were not in service at the substation on January 1, 2009 but that they were so installed by late summer 2009 and would be reported in the 2010 (FY2011) form of list. You ask whether the Bureau of Local Assessment (BLA) central valuation of construction work in progress (CWIP) of telephone company personal property, as reflected in its May 15, 2009 valuation memo, now governs an electric utility company's CWIP.

NEP claims that as a regulated utility the autotransformers are not part of its rate base until installed, and therefore not included in the reported net book value for FY2010. In addition, the company takes the position that until connected to the system the autotransformers are not taxable machinery used in manufacture of an electric utility corporation. See Massachusetts General Laws Chapter 59, §5, cl. 16(1) (utility corporations subject to property tax only on real estate, poles, wires, underground conduits, pipes and machinery used in manufacture or in supplying or distributing water).

Traditionally electric utilities have been valued at their net book value on the theory that the marketplace for electric utility property is limited to other regulated utilities, which are restricted to a specific return on investment. Where other purchasers may be available and willing to pay more than net book, assessments using reproduction or replacement cost new less depreciation are permissible. See Boston Edison Co. v. Board of Assessors of Boston, 402 Mass. 1, 13-16 (1988); Boston Edison Co. v. Board of Assessors of Watertown, 387 Mass. 298 (1982) appeal after remand 393 Mass. 411 (1984); Montaup Electric Co. v. Board of Assessors of Whitman, 390 Mass. 847 (1984); Tenneco v. Commissioner of Revenue, 9 Mass. App. Tax Bd. Rep. 140 (1988).

Even if net book is the appropriate method of valuing the utility property, the fact that machinery or equipment has not been installed and is not included in the rate base for

regulatory purposes does not mean it need not be reported in a form of list, if it is a type of property subject to taxation. In this case the autotransformers would be taxable as part of the electric generation machinery under Boston Gas Company v. Assessors of Boston, 334 Mass. 549, 565 (1956), if connected to the "great integral machine" used to generate and distribute the electricity. What is less clear is whether the auto transformers that have not been installed and are not part of the system on the January 1, 2009 assessment date are either machinery used in manufacture standing alone, or must be considered part of the system even though not yet connected.

Telephone company CWIP that was the subject of the May 15, 2009 BLA memo was based on the Appellate Tax Board (ATB) decision in the MCI Worldcom case ruling that telephone company CWIP was taxable. However, MCI Worldcom had no CWIP and did not raise the issue of taxability of such property in its appeal, so the recent Supreme Judicial Court decision in that case did not address the CWIP issue. See In the Matter of the Valuation of MCI Worldcom Network Services, Inc., 454 Mass. 635 (2009). The taxation of CWIP was also raised in the Verizon New England ATB appeal, and the decision and findings of fact in that case were issued on October 1, 2009. See In Re Verizon New England, Inc. Consolidated Central Valuation Appeals: Boston and Newton, ATB Docket No. C265966. CWIP was not specifically identified by category of property in the case, but the arguments against the taxability of CWIP raised by Verizon included a claim that CWIP consisting of poles, wires and underground conduits was not taxable because M.G.L. c. 59, §18, Fifth does not impose a tax on such property unless erected upon or laid-in private ways. No argument related to, nor was any property identified as, CWIP composed of "machinery" or machinery parts. Thus, the issue raised in the case of the autotransformers was not addressed in the MCI Worldcom or Verizon New England appeals.

The issue presented with respect to the New England Power (NEP) autotransformers not connected to the electric system does not appear to have been raised or decided by any ATB or appellate court case in the context of the property tax. However, the use of CWIP (including machinery) as it applies to apportionment of income did come up in the context of utility tax returns of this same taxpayer for 1983 and 1984 in Commissioner of Revenue v. New England Power Company, 411 Mass. 418, 420, n. 3 (1991) ("The major components of the 1983 and 1984 CWIP accounts were: land, raw materials, equipment and *machinery*, worker's wages and salaries, employee benefits and the costs of financing ..." [emphasis supplied]).

In that case, the Commissioner calculated the public utility excise due from NEP based on apportioning its total taxable income from all states in which it did business. The specific relevant issue in the case was whether CWIP costs should be included in the property factor of the formula. The Commissioner argued it should not be included because it was not "used ... during the taxable year" as intended by M.G.L. c. 63, §38(d), setting out the formula for apportionment. The ATB and the SJC ruled that the property was so "used" in the sense that the Federal Energy Regulatory Commission (FERC) required that additional capacity for electricity was a necessary part of the system to ensure a continuous flow to meet not only the current, but future needs of the public, the CWIP expenditures fulfilled those requirements,

and the CWIP expenditures indirectly produced some of the revenues generated by the company. See also Department of Revenue Directive 02-11, Directive 2.

The above decision is not dispositive of our issue, however. The standard for determining whether machinery owned by a utility corporation is subject to property tax locally is dependent on whether the machinery is used "in manufacture." This is a much more specific requirement than "used ... during the taxable year." In addition, that decision did not involve the question of whether CWIP was subject to local property tax nor what kind of property was considered CWIP "machinery." Nevertheless, it suggests that CWIP machinery may be "used" in the business or "used" in manufacture even if not "in service."

That conclusion is consistent with a property tax case involving the taxation of the machinery of a manufacturing corporation that had gone out of business and had machinery that was not in "actual use" on the assessment date. In Hamilton Manufacturing Co. v. Lowell, 274 Mass. 477, 484-487 (1931) the machinery had not been dismantled and was capable of being used in the manufacturing process on that date. The SJC determined that such availability for use in manufacturing was within the intent of the language providing only for taxation of machinery "used" in manufacture. The plant in that case had shut down and was in the process of being sold, but there was no evidence that the machinery, which had been used for manufacturing in the past, was dismantled or incapable of functioning in its manufacturing capacity.

If the autotransformers were on site and available for use in the manufacture and distribution of electricity as of January 1, 2009, they would clearly be taxable and should have been reported on the form of list. That would require that they were then capable of operation by connection to the system, and the evidence provided does not suggest that to be the case. The substation necessary to connect the autotransformers to the system did not appear to have been sufficiently constructed to allow such connection.

Assuming such lack of ability to connect to the system, the board of assessors must determine whether the autotransformers standing alone were "machinery used in manufacture" or, arguably, were "wires" on the January 1, 2009 assessment date. (The autotransformers were clearly not poles, underground conduits, pipes or machinery used in supplying and distributing water, otherwise subject to property tax under M.G.L. c. 59, §5, cl. 16(1).) You have provided no description of an autotransformer, but a description in Wikipedia, the internet encyclopedia, indicates that generally an autotransformer is an electrical transformer with a single winding around a core that has at least three electrical connection taps. The single winding of wire of different gauges in the autotransformer acts comparably to the two wire windings of a regular transformer, such that alternating current electricity at a particular voltage coming into the winding creates an electromagnetic field which induces alternating current electricity at a different voltage leaving the winding. The process facilitates the transmission of the electricity over long distance, which may be done more economically at high voltages, but allows for the electricity to be distributed at a lower more usable voltage to the end users. It requires connection to the electric grid to be able to perform its function.

Since a primary component of an autotransformer is its winding, which is technically just a specially designed wire, one could argue that the autotransformer meets the definition of a wire subject to taxation. However, unlike ordinary wire, which primarily acts as a conduit of electricity, the autotransformer is used as a regulator of the electricity, comparable to a gas or water regulator, or compressor, allowing the electric voltage to be stepped up and down. Electricity does flow through the winding wire, but a primary current is modified by the autotransformer resulting in a secondary current of lower or higher voltage. This seems more like machinery or equipment rather than wire. By comparison a toaster is considered an appliance used to heat bread or other food even though the heat is provided by means of electricity flowing through a wire with lots of resistance. We don't think the transformer should be considered wire for purposes of taxation under M.G.L. c. 59, §5, cl. 16(1).

As previously mentioned, autotransformers perform a function when connected to the electric grid and when so connected would appear to be part of the machinery used in the manufacture and distribution of electricity under the Boston Gas Company case. However, when not connected to the grid the autotransformers cannot perform their necessary functions. In fact, in the absence of connection to the grid, autotransformers cannot be considered machinery at all, because they are incapable of performing the function for which they are designed. Unlike machinery that performs a separate function after being connected to a power source, autotransformers are only necessary to perform a function in relation to the generation and distribution of the electricity itself. Thus, it would appear that in the absence of actually being hooked up to the system or capable of being so hooked up, the autotransformers are not machinery in and of themselves. They are more like a component part of machinery until connected to the system.

Even if the standalone autotransformers are machinery when not connected or capable of being connected to the electric grid, it would be difficult to say that the autotransformers themselves are used in manufacture. "Manufacturing" has been defined as

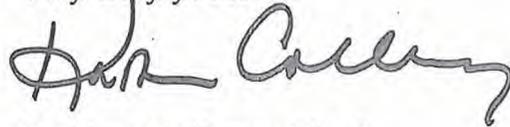
the process of substantially transforming raw or finished materials by hand or machinery, and through human skill and knowledge, into a product possessing a new name, nature and adapted to a new use. 830 CMR 58.2.1(6)(b).

This regulatory definition was derived from cases decided under the manufacturing corporation exemption statutory scheme and has been frequently cited or paraphrased. See William F. Sullivan & Co., Inc. v. Commissioner of Revenue, 413 Mass. 576, 579 (1992) and cases cited therein, and more recently King Crusher Inc. v. Commissioner of Revenue, ATB 2008-38, 43-44 (2008). In the case of an autotransformer connected to the system, electromagnetic induction creates a change in the voltage (driving force) of the electricity in order to move it along the wire, similar to a compressor in a water pipe increasing the driving force of the water to move it along the pipe. It is not changing the electricity into something no longer called electricity.

In conclusion, it appears that the autotransformers are not taxable until they have been installed, are available and are capable of performing the function for which they have been created as part of the great integral machine. This is different from electric generators owned by telephone companies used in providing backup electricity or functional electricity to the system and which may even be mobile devices. Electric generators, including mobile devices, are manufacturing machinery as stand-alone property. The autotransformers do not appear to fit the same description.

I hope this addresses your concerns.

Very truly yours

A handwritten signature in black ink, appearing to read "Kathleen Colleary". The signature is fluid and cursive, with a large initial "K" and a long, sweeping tail.

Kathleen Colleary, Chief  
Bureau of Municipal Finance Law

KC:GAB