STATE OF NEW YORK

DIVISION OF TAX APPEALS

In the Matter of the Petition	:	
of	:	
LEVEL 3 COMMUNICATIONS, LLC	:	DETERMINATION DTA NO. 820259
for Revision of a Determination or for Refund of Sales and Use Taxes under Articles 28 and 29 of the Tax Law for the Period July 1, 1998 through March 31, 2001.	:	

Petitioner, Level 3 Communications, LLC, 1025 Eldorado Boulevard, Broomfield, Colorado 80021, filed a petition for revision of a determination or for refund of sales and use taxes under Articles 28 and 29 of the Tax Law for the period July 1, 1998 through March 31, 2001.

A hearing was held before Winifred M. Maloney, Administrative Law Judge, at the offices of the Division of Tax Appeals, 500 Federal Street, Troy, New York, on September 28, 2005 at 10:30 A.M. and continued to completion on September 29, 2005, with all briefs to be submitted by May 12, 2006, which date began the six-month period for the issuance of this determination. Petitioner appeared by Herzog, Engstrom & Koplovitz PC (Keith J. Roland, Esq., of counsel). The Division of Taxation appeared by Mark F. Volk, Esq. (James Della Porta, Esq., of counsel).

***ISSUE*S**

I. Whether petitioner's purchases of various items of tangible personal property used at its central office sites were exempt from sales and use taxes pursuant to the telecommunications exemption under Tax Law former § 1115(a)(12) for the period prior to September 1, 2000 or Tax Law § 1115(a)(12-a) for the period on or after September 1, 2000.

II. Whether petitioner's purchase of services rendered for the servicing of tangible personal property located in one of its central offices is exempt from sales and use taxes pursuant to Tax Law § 1105-B.

FINDINGS OF FACT

1. Petitioner, Level 3 Communications, LLC ("Level 3"), is a national telecommunications carrier providing service in New York State. On March 6, 1998, it was issued a Certificate of Public Convenience and Necessity by the New York State Public Service Commission ("PSC"), in Case No. 97-C-2183. Pursuant to this certificate, Level 3 is authorized to operate in New York State as a facilities-based common carrier and reseller of telephone service, including local exchange and dial-tone services. Petitioner files tariffs with the PSC and is subject to the jurisdiction of the Public Service Commission.

2. Among the services provided by petitioner in New York State are voice termination telecom service; Voice Over Internet Protocol ("VOIP"), a voice grade enhanced service; 800 toll free telecom service; private line telecom services; and Internet access which provides connectivity to the Internet backbone. Petitioner also employs packet switching technology, also known as Internet Protocol ("IP") technology, to transport telecommunications traffic across the country, with the IP technology used for both voice and data applications. In packet switching, the voice is broken into packets of binary code at the beginning of the telephone call in city A. Each packet has a header on it. The packets may be shipped over many circuits in the network to their destination in city B, where they are reconstructed in the proper sequence and the caller's voice is heard by the recipient of the call. In traditional circuit-based switching, when a call is placed, a continuous line (circuit) is opened between point A and point B. While the parties are speaking, the circuit is 100 percent dedicated to the conversation.

3. Level 3 has established seven central offices in New York State, where it operates its telecommunications switching and transmission equipment.[1] That telecommunications equipment, including, *inter alia*, switches and routers, performs switching, transmission, re-transmission, routing and amplifying of telephone signals.

4. Collocation is the industry-wide practice of telecommunications carriers placing their switching and transmission devices in the central offices of other carriers, for the purpose of interconnecting the two carriers' networks.[2] Interconnection is essential for the operation of the national telecommunications network. The principal method of achieving interconnection between telecommunications carriers is through collocation at central offices.[3]

5. Telecommunications carriers such as Verizon New York, Inc. ("Verizon") provide interconnection services to other carriers at their central offices. Verizon tariffs the offering of collocation in its central offices. In all of its New York State central offices, except for the 100 Williams Street site, petitioner provides collocation services to other telecommunications carriers. The collocation service provided by petitioner in its central offices is the same type of collocation service which Verizon provides to interconnecting carriers in Verizon's central offices. Petitioner's collocation service permits other telecommunications carriers to locate their telecommunications switching and transmission equipment in the Level 3 central office so that these carriers can interconnect with petitioner's network. In addition, the collocation services

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[1] Four of petitioner's New York State central offices are located in New York City at 100 Williams Street, 111 8th Street, 85 10th Avenue, also known as 76 9th Avenue, and 100 Church Street and the other three central offices are located in Garden City, Albany and Buffalo.

[2] 47 USC § 251(c)(1) provides that "[e]ach telecommunications carrier has the duty to interconnect directly or indirectly with the facilities and equipment of other telecommunications carriers."

[3] 47 USC § 251(c)(6) requires the provision of collocation "on rates, terms, and conditions that are just, reasonable, and nondiscriminatory, for physical collocation of equipment necessary for interconnection or access to unbundled network elements at the premises of the local exchange carrier . . . ."

provided by petitioner also allow collocators to connect directly to one another using petitioner's transmission facilities. The service which allows carrier-to-carrier interconnection is called cross-connect service. That cross-connect service is provided through petitioner's equipment located in the collocation area, with the digital cross-connection equipment powered by petitioner's direct current ("DC") power equipment installed in the collocation area. Verizon also provides cross-connect service in its New York central offices and tariffs same.

6. The provision of collocation service by petitioner is ancillary to its main business, which is providing telecommunications, with approximately 80 to 90 percent of petitioner's revenues coming from the provision of its own telecommunications services to its customers. As a general rule, petitioner does not sell collocation as a stand alone service, and its customers generally do not buy only collocation service. Rather the collocator generally also buys telecommunications service from petitioner.

7. By refund claim dated May 23, 2001, petitioner sought a refund of sales and use taxes in the amount of $1,069,035.85 consisting of tax paid, during the period July 1, 1998 through March 31, 2001, on purchases claimed to be exempt central office telecommunications equipment and services from 45 vendors, including, *inter ali*a, ADC Telecommunications, Liebert Corporation, Cactus Integration Group, Marconi, Reltec Lorain Products Division, Power & Telephone Supply, Peco II, GE Supply, Graybar Electric and Walker & Associates, in one or more of the following categories: central office switch equipment, remote electronics, fiber optic cable, conduit, test equipment, network tools, backup power equipment and other facility equipment.

8. While conducting a sales tax audit at petitioner's Broomfield, Colorado offices, the Division of Taxation ("Division") also conducted a field audit of petitioner's refund claim. In

order to save time, given the large number of vendors and purchase invoices involved, the auditor, his supervisor and petitioner's tax manager, James Erwin, agreed to a detailed analysis of some vendors' invoices and a test period analysis of the remaining vendors' invoices. In conducting the test period analysis of a vendor's invoices, the auditor used the least number of invoices which had the largest purchase amounts to review and determine whether the items purchased were exempt from tax. The auditor neither requested nor received a tour of any Level 3 central office facility.

9. In conjunction with his review of petitioner's refund claim, the auditor conducted a detailed analysis of all the purchase invoices issued by Liebert Corporation and Cactus Integration Group and a test period analysis of the purchase invoices issued by ADC Telecommunications, Marconi Communications, Reltec Lorain Products Division, Power & Telephone Supply, Peco II, GE Supply, Graybar Electric and Walker & Associates. The results of the auditor's analysis, as reflected in his work papers, can be summarized as follows:

a. Liebert Corporation ("Liebert") - 11 invoices reviewed, 100 percent of the purchases determined to be taxable purchases of HVAC units.

b. ADC Telecommunications ("ADC") - 17 of 159 invoices reviewed, 27 percent of the purchases determined to be taxable purchases of fiber guide system and frames, the remainder of the purchases determined to be nontaxable.

c. Cactus Integration Group ("Cactus") - 17 invoices reviewed, 100 percent of the purchases determined to be taxable because it appeared that the vendor did not charge sales tax on some of the invoices and the invoices reflected purchases of batteries (power supplies) and labor.

d. Marconi Communications ("Marconi") - 5 of 21 invoices reviewed, 100 percent of the purchases determined to be taxable purchases of power supply equipment.

e. Reltec Lorain Products Division ("Reltec Lorain") - 7 of 22 invoices reviewed, 100 percent of the purchases determined to be taxable purchases of power supply equipment.

f. Power & Telephone Supply - 5 of 27 invoices reviewed, 100 percent of the purchases determined to be taxable purchases of power supply equipment.

g. Peco II - 5 of 15 invoices reviewed, 100 percent of the purchases determined to be taxable purchases of power supply equipment.

h. GE Supply - 5 of 23 invoices reviewed, 100 percent of the purchases determined to be taxable purchases of common electrical supplies ("all electric power related").

i. Graybar Electric ("Graybar") - 6 of 66 invoices reviewed, 54.28 percent of the purchases determined to be taxable purchases of common electrical supplies ("some power related parts"), the remainder of the purchases determined to be nontaxable.

j. Walker & Associates - 5 of 14 invoices reviewed, 100 percent of the purchases determined to be taxable purchases of common electrical supplies.

10. As a result of the auditor's review of documents related to the refund claim, the Division approved a refund of sales tax in the amount of $615,360.18,[4] in a letter dated September 5, 2003. The balance of the refund claim, $453,675.67, was denied by the Division because it related "to power supplies, HVAC (heating, ventilation and air conditioning), and various other purchases" that did not qualify under the telecommunications exemption.

[4] The Division also advised petitioner that before a refund "can be issued" in this amount, petitioner's "outstanding assessments must be satisfied" in the total amount of $1,610.93 consisting of assessment number L022374550 in the amount of $1,610.93.

11. On September 29, 2003, petitioner filed a Request for Conciliation Conference contesting only the Division's denial of a refund in the amount of $311,512.66 related to the sales taxes paid on central office telecommunications equipment purchases from the following vendors:

Vendor	Amount of Claim	Amount Approved	Conciliation Request
Liebert Corporation	$170,920.74	$0.00	$170,920.74
ADC Telecommunications	104,621.55	76,490.09	28,131.46
Cactus Integration Group	45,002.09	0.00	45,002.09
Marconi Communications	25,929.08	0.00	25,929.68
Reltec Lorain Products Div.	14,951.23	0.00	14,951.23
Power & Telephone Supply	10,334.96	0.00	10,334.96
Peco II	9,830.93	0.00	9,830.93
GE Supply	2,971.97	0.00	2,971.97
Graybar Electric	2,584.23	1,188.75	1,395.48
Walker & Associates	2,044.12	0.00	2,044.12
Totals	$389,190.09	$77,678.84	$311,512.66

The purchases of equipment from these vendors fell into three general categories: environmental control equipment (Liebert); power equipment (Liebert, Cactus, Marconi, Reltec Lorain, Power & Telephone Supply, Peco II, GE Supply, Graybar and Walker & Associates) and cable management equipment (ADC).

12. Following a conciliation conference held on February 4, 2004, the Division issued a Conciliation Order (CMS No. 198868), dated September 24, 2004, denying petitioner's refund request and sustaining the notice of partial denial of the refund claim.

13. Petitioner is challenging the Division's denial of a refund of sales tax totaling $311,512.66 paid on purchases of equipment falling into the three categories of environmental

control equipment ("HVAC equipment"), power equipment and cable management equipment, from the above-named ten vendors during the period July 1, 1998 through March 31, 2001.

14. Since February 1998, Travis Gulliver has been employed by petitioner as the manager of the engineering and construction for North American facilities. His responsibilities at Level 3 include supervising the infrastructure and DC power design within petitioner's technical facilities, the architectural, mechanical and electric designs, and the management of the construction of the technical facilities. Prior to his employment at Level 3, Mr. Gulliver was employed for five years at the Fort Worth, Texas architectural and engineering consulting firm Carter & Burgess, as construction program manager responsible for the oversight of the mechanical, electrical, architectural, structural and, when required, civil design and engineering associated with the construction of out-of-the-ground communications buildings for the firm's various telecommunications clients such as MCI, and WorldCom.

15. Mr. Gulliver has worked on the engineering and design of over 30 of petitioner's central offices located throughout the United States and Southern Canada. He was the construction program manager for three of petitioner's New York City central offices, i.e., 111 8th Avenue, 85 10th Avenue and 100 Williams Street, and its Garden City central office, in 1998 and 1999. As construction program manager, he was responsible for the engineering, design and construction of the facilities, including the choice of environmental control, power and cable management equipment installed at those central office sites. At the hearing, Mr. Gulliver testified about the engineering, design and construction of petitioner's central offices.

16. In general, petitioner leases the sites at which its central office are located. However, petitioner purchased the building located at 85 10th Avenue in New York City. Petitioner's central office sites are chosen for their structural characteristics such as the ability to support

heavy equipment and 20 to 30 foot high ceilings, the amount of power available from the local utility and the availability of ancillary space, outside the leased space to house items such as the generator, fuel tanks, the dry coolers, or in certain instances, chillers and cooling towers. Petitioner's New York State central office facilities occupy a portion of a floor at the 100 Church Street and 111 8th Avenue, New York City locations, a whole floor at the 100 Williams Street, New York City location, a part of a building at the Garden City location and the entire building at the 85 10th Avenue, New York City, Albany and Buffalo locations.

17. A central office facility contains equipment rooms, i.e., the DC power and switching rooms, and a small amount of general office space. Petitioner's switching rooms are large open rooms containing rows and rows of 19-inch and 23-inch relay racks on which its switching and transmission equipment is mounted. Generally, in central office facilities where collocation is provided, petitioner's switching and transmission devices and its collocation customers' switching and transmission devices are located in the same big room, with a floor to ceiling fence providing security for petitioner's switching and transmitting devices. However, at the 111 8th Avenue, New York City central office site, petitioner's devices are located on one side of the DC power room and the collocators' devices are located on the other side.

18. At the 111 8th Avenue, New York City and Garden City central office sites, on the basis of square footage only, petitioner's switching area and the collocators' switching area each occupy the same amount of space. At the Albany and Buffalo central office sites, the collocators' switching area occupies only 60 to 70 percent of the amount of square footage occupied by the Level 3 switching area. The collocation space within a switching room has aisles and walkways between the rows of cabinets containing the collocators' switching and

transmission equipment.[5] The collocation area houses not only collocator switching devices, but also, in some cases, petitioner's switching devices and cross-connect facilities. On the Level 3 side of a switching room, there is a much denser utilization of space because it is just rows and rows of relay racks containing switching and transmission equipment.

19. Petitioner's central office is at the very core of the operations of its telecommunications network. The central office contains multiple pieces of electronic switching and transmission equipment, all of which are internally linked together by fiber optic and coaxial cabling. The failure of any of the switching or transmission equipment, or the cables linking the various components, would cause a failure in the production of telephone service. Accordingly, the operation and function of the electronics - the switching and transmission equipment - going into a Level 3 central office drives the design of that facility and the choice of environmental control equipment, power supply equipment and cable management equipment installed there.

20. Environmental control is the process of simultaneously controlling the temperature, relative humidity, air-cleanliness and air motion of petitioner's central offices in order to meet the requirements of the manufacturers of the telecommunications switching and transmission devices installed in the central office, and to comply with telecommunications, also known as telecom, industry standards.

21. In general, petitioner's central office environmental control equipment consists of a dry cooler mounted on the roof of the building, and multiple computer room air conditioners - CRAC units- distributed, and installed close to the heat generating transmission and switching devices, in the central office switching rooms and adjacent collocation areas and also in the DC

[5] A collocation customer may put its equipment in one or more cabinets for security purposes. The aisles and walkways in the collocation space provide access for the collocators' employees so that they may service the equipment in the cabinets.

power room near the DC batteries. Within all of petitioner's central office facilities located throughout the United States, all the electronics sit on an 18-inch or greater raised floor. That raised floor is used as the air planter (air plenum) to supply the cold air to the equipment. CRAC units are installed around the perimeter of the central office space where switching and transmission devices are located. The CRAC units (downflow units), containing fans, compressors, humidifiers, dehumidifiers and the intelligence of the HVAC system, provide cooling by blowing cool air under the raised flooring on which all of the electronics sit in petitioner's switching room and the adjacent collocation areas. CRAC units (upflow units) housed in the DC power room provide cooling by blowing cool air out of the top of the units into the room because the DC power room does not have a raised floor due to the weight of the DC batteries and the DC power equipment located there and there is not any duct work. CRAC units are needed in the DC power room because heat is generated by the DC batteries, as the commercial alternating current ("AC") power is converted to DC power. A chilled water or glycol loop runs from the CRAC units to the dry cooler element of the HVAC equipment. The dry cooler is installed on the roof of the central office in order to exchange heat with the outside atmosphere. Approximately six to seven percent of the output of the dry cooler is used to cool general office space adjoining the central office equipment rooms. Petitioner's employees are not permanently stationed in the central office equipment rooms, and instead have limited access to those areas restricted to performing maintenance and trouble shooting functions.

22. Manufacturers of the switching and transmission devices used by petitioner in its central offices set forth operational specifications, including critical climate control parameters (temperature and humidity) in their product literature. The manufacturers' specifications list operational ranges for petitioner's switching and transmission equipment as 32 degrees

Fahrenheit to 104 degrees Fahrenheit and 10 percent to 90 percent relative humidity.[6] These requirements comply with the national Telecordia (formerly Bellcore) specifications for the telecom industry. In addition to the manufacturers' specifications, telecommunications industry standards specify that central office equipment should be maintained in an atmosphere of 72 degrees Fahrenheit and 50 percent relative humidity. Each Level 3 central office in New York State is designed to meet the industry standards 24 hours a day, 365 days per year, as are the central offices of all other telecommunications carriers.

23. The HVAC equipment used to environmentally control petitioner's central offices is not the same type of HVAC equipment which would be used to provide cooling for general office space. Ordinary office air conditioning systems have different operating characteristics from systems installed in telephone central offices, and are simply not capable of handling the high density heat load in a computer room or other similar application.[7] The central office HVAC units are built primarily to handle "sensible load", which is dry heat, the type generated by the switching and transmission devices. In contrast, general office space HVAC equipment is built to handle "latent load", which has a significant amount of humidity, and is "people related". The Liebert HVAC equipment purchased by petitioner is not built to handle "latent load" but is specifically designed for computer rooms with tight temperature tolerances.[8] The central office HVAC units installed by Level 3 are much more robust than standard office cooling units, and

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[6] The record includes the operational specifications of various switching and transmission devices manufactured by Nortel, Lucent Technologies and Cisco (Petitioner's exhibits "7" through "11").

[7] Electronic switching devices, such as those used by petitioner, are essentially computers.

[8] Computers and telecommunications equipment generate large quantities of heat in small areas, 6 to 10 times the heat density of normal office space, Liebert's HVAC equipment is designed to react to changes in heat load and prevent temperature fluctuations which can adversely affect the operation of the computer and telecommunications equipment.

must constantly operate at full efficiency around the clock, unlike general commercial space equipment which needs to operate only ten hours a day, five days a week.

24. The HVAC system installed in each Level 3 central office is specifically designed to accommodate the needs of that central office, particularly the needs of the electronic equipment to be housed in that central office. Specifically, the electronic equipment manufacturers' operational specifications, including information on the amount of heat generated by the equipment, are the basis for each Level 3 central office HVAC system design configuration. The HVAC equipment purchased, installed and configured by petitioner, in each of its central offices, was designed by its manufacturer to specifically handle the type of dry heat produced by switching and transmission devices sited in that central office, and not to provide general cooling and comfort for petitioner's employees working at that location.

25. The environmental control equipment installed in each of petitioner's central offices performs several functions. The first function is to control the temperature in the central office's switching and collocation areas, where tremendous amounts of heat are generated by the switching and transmission equipment. If the specifically designed HVAC equipment was not installed and arranged in the proper configuration in each central office's switching and collocation areas, within a very short period of time, the heat buildup from normal switching and transmission device operation would exceed the manufacturer's temperature limits of 104 degrees Fahrenheit, with the temperature continuing to rise exponentially - perhaps to up to 200 degrees Fahrenheit or more. Under those circumstances, the switching and transmission equipment could not operate reliably, and as the heat increased, that switching and transmission equipment would shut itself off automatically to prevent "burning up". Without the temperature

control provided by the environmental control equipment, the switching and transmission devices in petitioner's central offices would fail or shut down.

26. The second function performed by the environmental control equipment is to prevent static discharge which can have a devastating effect on the operability of central office switching equipment. Static electricity discharge can occur when the ambient air in a central office gets too dry, and accordingly, telecommunications equipment manufacturers specify required levels of ambient relative humidity. The environmental control equipment installed by petitioner in the central offices is specifically designed, by the manufacturer, to comply with the telecommunications equipment manufacturers' specifications, and industry standards, by introducing moisture when needed in order to avoid severe damage to, or failure of, the switching and transmission equipment. Without the environment control equipment, the ambient humidity surrounding the switching and transmission devices would drop to a point where static discharges were created, which would harm or destroy the switching and transmission devices.

27. The last function of the environmental control equipment installed in each of petitioner's central offices is to filter the air to control dust particles in the switching and collocation areas, because exposure of the switching and transmission devices to dust particles can cause severe damage. Dust will clog up the inlet areas for the switching and transmission equipment venting areas (the fans), causing the switching and transmission equipment to overheat and breakdown. Dust also poses a threat to the integrity of the fiber optic cabling located in a central office. If dust becomes attached to any of such cabling, there can be interference with, and loss in, signal effectiveness throughout the central office. The type of air filters used in the environmental control equipment installed in central offices and data centers have much smaller membranes in order to filter out smaller particulates than HVAC units used

for other applications. At each central office site, petitioner's employees change the filters in the CRAC units biweekly. Once a week, petitioner's employees use an anti-static cloth to dust the equipment in the switching room as an additional measure.

28. A review of the Liebert invoices in the record indicates that petitioner purchased the following pieces of environmental control equipment for its central offices in Garden City and New York City during the period at issue: Challenger 3 upflow units, Liebert dry coolers, dry coolers, Deluxe System 3 downflow and Deluxe System 3 downflow AHU units, Deluxe System 3 upflow units and Liebert Deluxe System 3 units.

29. Each building in which a Level 3 central office is located receives AC power from the local power utility. That AC power comes into the building through a main disconnect switch in the basement of the building, goes through an automatic transfer switch[9] and then arrives at the main switchboard in petitioner's central office. From that central office main switchboard, the AC power is distributed to the lights, the air conditioning units, the DC power plant and the uninterruptible power supply ("UPS") plant.

30. The power equipment at issue here includes a variety of items such as power systems, rectifiers, DC batteries, circuit breakers, fuse panels and fuses. Some of the power equipment is used to produce DC power for switching devices that operate on direct current. The typical voltage for DC power is negative 48 volt DC. The remaining power equipment is used to provide the AC power for the switching devices that operate on alternating current. Petitioner's power equipment is also used to provide required power to collocators' equipment. Some of the collocators' devices use alternating current and their other devices use direct current.

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[9] The automatic transfer switch is designed to switch between the utility normal power and the generator emergency power when an anomaly in the utility power occurs, i.e., a power failure.

31. The predominant use of all the power equipment in each central office is related to the production of direct current for the DC power plant. The DC power plant is made up of rectifiers, batteries, power distribution frames and a data gathering unit which measures the voltage as it goes through the DC power plant and is distributed to the battery distribution circuit breaker bay. The AC power is fed from the central office's main switchboard into multiple rectifiers located in the DC power plant. To produce direct current, the DC power plant uses these rectifiers to convert the alternating current received from the local public utility into direct current. The DC power flows through a large number of batteries, tied to common copper buses, and the power distribution frames, and, then out of the DC power plant through large cables to the battery distribution circuit breaker bay ("BDCBB"), a large panel board weighing about 3,000 pounds, located on the switching room floor. Out of the battery distribution circuit breaker bay, there are rows of circuit breakers from which the DC power is distributed to the switching equipment. There are battery distribution circuit breaker bays at the end of every line-up of relay racks to which the switching devices are mounted.

32. The DC power equipment, including the DC batteries, are hard wired and directly connected to the switching and transmission devices. For safety reasons, the DC power plant equipment, including the DC storage batteries, are located in a separate room adjacent to the room which holds the switching and transmission devices, due to the need to vent the batteries and because the DC power plant has a lot of exposed copper wiring.

33. The DC power plant serves and supports only switching and transmission devices. Its primary purpose and use is in connection with petitioner's own switching and transmission devices, which use only DC power. In some central offices, petitioner uses common power equipment to provide DC power to both its switching and transmission devices and collocator

switching and transmission devices. While in other central offices, there is a separate DC power plant dedicated to serving petitioner's devices and a separate DC power plant dedicated to serving collocator devices which operate on direct current. In the Buffalo and Albany central offices, there is one common DC plant, the predominant use of which is for petitioner's switching and transmission equipment. In the Garden City central office, there are two separate plants, one of which serves the Level 3 equipment and the other of which serves the collocator equipment. At the 100 Williams Street, New York City central office, there is no collocation, so the entire DC power plant is for petitioner. The 111 8th Avenue, New York City central office facility was originally built with two separate DC power plants, one dedicated to petitioner's equipment and the other dedicated to the collocation equipment. However, petitioner's requirements for its own switching and transmission equipment outgrew its DC power plant, and petitioner has begun to also take DC power from the plant built to serve the collocation equipment.

34. To assure the continued supply of direct current in the event of a commercial power outage, petitioner's central office power equipment includes a large number of DC storage batteries which provide a four-hour emergency backup in the event of a loss of commercial power. This four-hour backup is required by telecommunications industry standards for central offices which have a backup generator.

35. A separate set of DC batteries serves as a filter to smooth out fluctuations in the commercial AC power and remove the "noise" that commercial power often carries.[10] Switching and transmission devices utilizing alternating current are very sensitive and will not operate if

[10] Noise is another term for harmonic distortions that can be caused in the public utility plant or by equipment using AC power which actually puts the noise back into the electrical system of a building, such as the crackle, buzz and lines that appear on a television screen when a vacuum cleaner is operated while the television is on.

there is noise in the AC power feed. Separate DC batteries are also used in conjunction with the AC power equipment to provide emergency power in case of a brownout, blackout, or other interruption in the commercial AC power supply. Telecommunications industry standards require a 15-minute emergency power backup for alternating current powered devices. It would not be possible to have consistent, reliable, continuous and dependable operation of the switching and transmission devices which utilize alternating current without the immediate availability of the backup DC batteries.

36. Manufacturers of electronic equipment which uses AC power, such as Cisco, specify that the AC power must be "clean power." To provide the clean power to the switching and electronic equipment which operates on alternating current, petitioner has installed an uninterruptible power supply (UPS) as a component of the power equipment. The specific function of the UPS is to clean and filter AC power obtained from the local utility so that it can be safely and reliably utilized by the devices which operate on alternating current. This filtering process occurs in the UPS, where a rectifier component converts incoming AC power to DC power. Then in parallel, the DC power supports charging of the batteries and powering of the inverter, which converts the DC power back to AC power. The inverter compensates for commercial AC power input irregularities (voltage, distortion, frequency). If commercial power conditions exceed the inverter tolerances, the inverter utilizes the battery source, rather than the rectifier output source, until the commercial power returns to within the tolerances for which the inverter can correct.

37. The UPS distributes 280-volt three-phase AC power to a power distribution unit ("PDU"). It is petitioner's policy to have two UPSs (UPS-A and UPS-B) feed into each PDU for redundancy purposes. Within the PDU there are dual transformers that reduce the power down

to 280-volt single phase, a static transfer switch and a panel board distribution section that has circuit breakers that feed to the electronics equipment. A PDU can service one or more pieces of equipment which uses AC power, it is purely based upon the power requirements of the electronics being connected. It is petitioner's policy to always install two PDUs at a minimum for redundancy purposes.

38. The UPS is located in either the DC power room or out on the raised floor in the switching area, depending upon the central office facility. At the 111 8th Avenue, New York City central office, the UPS units are located in the DC power room. The power distribution units are located as close as possible to the switching equipment out on the raised floor in the switching area. The uninterruptible power supply serves only collocators' switching and transmission devices, not those of Level 3. Without the protection against commercial power spikes and surges provided by the UPS, central office switching and transmission devices which operate on alternating current could be severely damaged, resulting in the complete failure of operation.

39. Petitioner purchased power equipment from Liebert, Cactus, Marconi, Reltec Lorain, Power & Telephone Supply, Peco II, GE Supply, Graybar and Walker & Associates during the period in issue. With the exception of Liebert, all of these vendors supplied DC power equipment to petitioner.

40. Liebert supplied AC power equipment to petitioner during the period in issue. A review of the Liebert purchase invoices indicates that petitioner purchased battery cabinets, breakers, series 600 single module UPS equipment, load bus synchronization and fault devices, load bus synchronization and fault tolerance devices, static transfer switches, reconditioned UPS equipment, UPS precision power control equipment and series 600 load bus synchronization

devices. The battery cabinets are used to store the batteries associated with the UPS. A load bus synchronization device is used to tie two or more UPSs together so that they can act as a harmonious unit.

41. The record includes all seventeen purchase invoices issued by Cactus to petitioner during the period in issue. Three invoices reflect petitioner's purchases of 48 volt DC batteries for the 100 Williams Street and 111 8th Avenue, New York City central offices and the Garden City central office. One invoice, dated December 22, 1998, reflects the billing for Cactus personnel's performance of services related to the "New York Enron" collocation suite located in petitioner's 111 8th Avenue, New York City central office in November and December 1998. This invoice lists the names of the Cactus personnel who performed the services, their respective job titles, the weeks in which they performed the services, the number of hours, the hourly rate and the cost of the services performed by each individual. The remaining 13 invoices, dated from December 22, 1998 through April 27, 1999, reflect petitioner's purchase of "materials" for various collocation suites in New York City. None of these remaining invoices list the specific items supplied by Cactus to petitioner.

42. DC power items purchased from Marconi were used by petitioner in its construction of DC power plants. The record includes five of the twenty-one purchase invoices issued by Marconi to petitioner during the period in issue. A review of these invoices indicates that petitioner purchased battery distribution fuse bays ("BDFB"), control power boards, supplemental bays, 800 amp rectifiers, front panel VFD display assemblies, 10,000 amp shunts, a battery distribution fuse bay system, spare parts kits and spare bolt-in 600 amp fuses for its 100 Williams Street, New York City, Garden City and Buffalo central offices. A battery distribution fuse bay is a frame that accepts feeders (power cables) from the 48 volt battery plant and

distributes the power through branch fuses to the load (the switching and transmission devices). Like the battery distribution circuit breaker bay, the BDFB is usually located near the equipment it serves. A control power board is the control mechanism in the DC power plant. Supplemental bays are the actual distribution bays that distribute DC power from the DC power plant to the battery distribution circuit breaker bay or the battery distribution fuse bay. The front panel VFD display assembly is the device in the DC power plant that monitors the amps and volts at which that plant is currently running. The 10,000 amp shunt is a disconnect and is put in the DC power plant to shut it off in an over-current situation. The bolt-in 600 amp fuse is the actual fuse that bolts into the supplemental bay to protect against over-current delivery of power to the battery distribution circuit breaker bays.

43. The record includes seven of the twenty-two invoices issued by Reltec Lorain to petitioner for DC power equipment purchases during the period in issue. A review of these invoices indicates that petitioner purchased mini-battery distribution fuse bay power systems, power systems for the DC power plant, battery distribution fuse bays, 4 load mini-battery distribution breaker bays, circuit breaker panels and flotrol rectifiers for its 111 8th Avenue and 100 Williams Street, New York City central offices. The power systems and rectifiers were used in the DC power plants and the remaining items were used to distribute the DC power to the switching and transmission equipment and were located near those devices.

44. The record includes five of the twenty-seven invoices issued by Power & Telephone Supply to petitioner for purchases of DC power equipment during the period in issue. A review of these invoices indicates that petitioner purchased KTV dual fuse panels, 20 amp isolated dual fuse panels, 70 amp fuse panels, type 70 5 amp fuses, Furrell type 600v AC fuses, 12-ply cord lacing, plastic isolators, 22-gauge electrical cable, 16-by-32 pin wire wrap blocks, wall brackets

and five-ounce cans of touch-up paint. The equipment purchased from Power & Telephone Supply would be located on the switching room floor. A KTV dual fuse panel is a type of fuse panel that is mounted within the relay rack to distribute the tertiary DC power to the switching equipment in that rack. The 20 amp fuse and 70 amp fuse panels are also mounted in the relay racks to distribute the DC power to the switching equipment in that rack. Fuses are electrical devices consisting of a strip of fusible metal that melts to interrupt an electrical circuit when the current exceeds the rated level of use. 12-ply cord lacing is the wax-coated string that is used to tie the DC power cables to the relay racks so they will not fall off the rack. Plastic isolators are used to hold the copper bus off of the wall or off of another piece of metal to which it is mounted so that the current cannot pass from that bus into the building. Plastic isolators are just a means of isolating electricity. 22-gauge electrical cable is used for the communications services in the data gathering unit or between the fuse panels and tying back to the battery distribution circuit breaker bay so that the battery distribution circuit breaker bay can monitor the status of that fuse panel. The 16-by-32 pin wire wrap block is the actual block used to tie the alarm cabling from the fuse panel. The 22-gauge wiring goes back to that block and those wires are twisted onto the front of that block. Then the alarms are cross-connected into a more robust cable. The wall bracket is used to mount the ground bus bar. The touch-up paint is used to cover any scratches on the equipment that might occur during construction.

45. The record includes five of the fifteen purchase invoices issued by Peco II to petitioner during the period in issue. Peco II sold customized DC power equipment to Level 3. A review of the invoices indicates that petitioner purchased a battery distribution fuse breaker bay, 500-amp distribution bays for the DC power plant, 2 load battery distribution fuse breaker

bays and a 143N front access with rectifier modules DC power plant for the 111 8th Avenue and the 100 Williams Street, New York City and the Garden City central offices.

46. The record includes five of the twenty-three purchase invoices issued by GE Supply to petitioner during the period in issue. A review of the invoices indicates that petitioner purchased, among other items, H-tap connections, heat shrink, heat shrink end caps, ring lugs, various size lugs, 300-volt indicating fuses, hold down expansion guides, cable tray ground clamps, components of the ladder racking system, 125-volt indicating fuses, telephone fuses, dummy fuses, insulated ring lugs and 2/0 wire for its 100 Williams Street, New York City, Garden City, Albany and Buffalo central offices. GE Supply sold items associated with the DC power cabling to Level 3. An H-tap connection is used to connect one size of DC power cabling to a larger size of DC power cable. This is done when the size of the DC power cable running to the ladder rack is larger than the cable needed to power the equipment on that rack. Heat shrink is used when a lug is attached to the end of the cable. The heat shrink (plastic tubing) is slid over the connection point between the barrel of the lug and the insulation on the wire and after it is heated with a heat gun, it shrinks to fit. A lug is something that sticks out onto which a wire may be connected by wrapping around or soldering. A 300-volt indicating fuse is used on the front of the DC power plant and has an indicator to indicate when the fuse is blown. A cable tray ground clamp is used to ground the cable ladder to the relay racks. The ladder racking purchased from GE is part of the cable management system and is used to support the inter-facility cable on a different horizontal plane. A dummy fuse is just a blank put into positions on the front of the DC power plant where a fuse is not being installed to safely cover the copper connection points. The 2/0 wiring is DC power cabling used to connect the battery distribution circuit breaker bay to the equipment.

47. The record includes four of the sixty-six purchase invoices issued by Graybar to petitioner during the period at issue. Graybar sold miscellaneous telecommunications parts and pieces to petitioner. A review of the invoices indicates that petitioner purchased, among other things, DS3 inter-connection cable, 5 Jack 8p8c ivory plates, Chatsworth panel adapters, 16-port feed-through panels, stranded red 1,000 R wire, cable management panel kits and rackmount isobars for the 85 10th Avenue, 111 8th Avenue and 100 Church Street, New York City central offices. DS3 inter-connection cable is a type of tie cable used to connect the switching and routing equipment together so they can communicate. A category 5 Jack 8P8C ivory is a face plate for delivery of the cabling. A 16-port feed-through panel would be mounted within a relay rack with a cable coming into it from one device and a cable going out of it to another device. The stranded red 1,000 R wire is DC power cabling used to tie the power cable or the DC power battery distribution circuit breaker bays to the electronics equipment.

48. The record includes five of the fourteen purchase invoices issued by Walker & Associates to petitioner during the period at issue. Walker & Associates sold DC power equipment to petitioner. A review of the invoices indicates that petitioner purchased, among other things, coax patch cords, barrel connectors, attenuators, conditional looping plugs, fuses, circuit breakers, cable ties, cross-connect wire, unshielded twisted para-cabling and cross-connect cabling for its 111 8th Avenue, 100 Church Street and 85 10th Avenue, New York City central offices. A patch cord is a short length of wire or fiber cable with connectors on each end used to join communication circuits at a cross-connect. Cross-connecting ties the telecommunications equipment to the telecommunications lines. A barrel connector is a cylindrical connector used to splice together two lengths of thick Ethernet coaxial cable. Ethernet is a local area network that connects various types of telecommunications equipment

within the same locale. An attenuator is a device to reduce signal amplitude by a known amount without introducing distortion. Attenuators are installed in fiber transmission systems to limit the power level received by the photodetector to within the limits of the optical receiver. A conditional looping plug is a loop that has conditioning equipment to obtain the desired line characteristics for voice or data transmissions. Unshielded twisted para-cabling is used to connect various pieces of switching equipment together. Cross-connect equipment is distribution equipment used to terminate and administer communication circuits. In a wire cross-connect, jumper wires or patch cords are used to make circuit connections. In an optical cross-connect, fiber patch cords are used.

49. Cable management is the science and art of managing the extraordinary amount of cables necessary to operate a telecommunications central office and is an essential function in a telecommunications facility. Factors to be considered in designing a cable management system for a central office include the function of the various cables (power versus electronic transmission), and the physical characteristics of the cables themselves, including weight, flexibility and shielding. The transmission cable buried in the street has a metal sheath and is protected. That transmission cable comes into the building in which the central office is located and is routed to the wall on the raised floor within the central office. Then it is spliced to the softer bundled inter-facility cable within the switching room where it is routed to the optical cross-connect frame. From the optical cross-connect frame, the fiber optic cables (also referred to as “fiber jumpers”) run to the actual switching devices.

50. The cable management equipment at issue consists of horizontal troughs and its supports, and various connectors, all of which are designed by the manufacturer, ADC, to hold, and above all protect, the fiber optic cables, which connect the various pieces of switching and

transmission equipment within the central office, and connect that equipment to the fiber distribution frames and fiber optic terminal devices. The cable management system is purchased from ADC by petitioner in six-foot sections of already-manufactured, finished, horizontal segments, similar to Legos or Lincoln Logs. Those segments are assembled and snapped and screwed together on-site, like "building blocks", to make runs longer than six feet through the use of various connectors, joiners, rovers, downspouts, T joints and elbows. This is done because it is easier to create a trough run of 60 feet by connecting ten six-foot segments, than it is to have the manufacturer mold and attempt to ship a single 60 foot trough.

51. In all of petitioner's central offices, the cable management equipment is physically connected to the vertical racks which hold the switching and transmission equipment. Industry standards require that these vertical racks be supported at both the top and bottom. The bottom support comes from placing the racks through the raised flooring and securing them on top of the concrete slab. The cable management system connects to the top of those vertical racks and provides them with additional stability and security.

52. There are three layers of the horizontal cable management system. The bottom level is for the distribution of DC power to the switching equipment. The middle level carries coaxial cabling which distributes digital signals. The third, or top layer, holds the fiber optic cables.

53. The layout of the cable management system carrying fiber optic cables is designed to meet specific engineering criteria, including fiber "bending radiuses" established by the fiber manufacturers to prevent stress on, or breaking apart of, the fiber optic cables, which are constructed of glass and easy to damage or break.[11] Exceeding the bending radius of the fiber

[11] Within each cable, there are numerous strands of optic fibers which carry the fiber optic signals (pulses of light). These strands are made of glass and are easily breakable.

cable results in a "microbend" which would interfere with the transmission of signals. If the bend radiuses of the fiber optic cables were to be exceeded, a significant danger exists that the glass fibers would break, or that a loss of electronic signal strength would occur between the various switching and transmission devices.

54. In addition to securing the vertical racks, the cable management equipment envelopes, protects, and provides physical security for the fiber optic cables connecting the switching and transmission devices in the central office. The fiber optic cables enveloped and protected by the cable management system are explicitly used for the distribution - or transmission - of the telecommunications signals between the various switching and transmission devices in the central office, and as such the fiber optic cables are themselves "transmission equipment". If those fiber optic cables were to be damaged or be broken, the central office as a whole would not function.

55. Another function of the cable management system is to connect the transmission and switching devices in the collocation area to petitioner's switching and transmission devices, so that the various telecommunications networks can be interconnected as required by the Telecommunications Act of 1996.

56. The record includes five of 159 purchase invoices issued by ADC to petitioner during the period in issue. ADC sold cable management systems equipment to petitioner. A review of the invoices indicates that petitioner purchased, among other things, FiberGuide products, NextGeneration Frame products, fiber optic cross-connect block, junction kits, various fiber management pieces, and troughs for its 100 Williams Street and 111 8th Avenue, New York City and Garden City central office sites.

57. The Division prepared a list of 51 customers reflected in petitioner's records as being collocation customers at its New York central offices during the period July 1, 1998 through March 31, 2001. These customers represent some, but not all, of the collocation customers in petitioner's New York central offices during this time. Based upon its review of a list of all of the collocation customers in its New York central offices for a one month period within the audit period, petitioner estimated that 50 percent of those collocation customers may have provided telecommunications services to the public and 50 percent may not have, a result generally reflective of the period at issue.

58. The switching and transmission devices in the collocation area are made by the same manufacturers as Level 3 equipment. Level 3 is contractually obligated to maintain collocation space at 72 degrees Fahrenheit and 50 percent relative humidity to protect the collocator's switching and transmission devices.

59. Power equipment, including generators, rectifiers, harmonic converters, interrupters and power filters, storage batteries, bus bars, cable and wiring, and fuse panels, and equipment racking (which describes cable management equipment) are listed in the Public Service Commission's depreciation schedules for central office equipment.

60. Petitioner submitted 105 proposed findings of fact. Proposed findings of fact "1" through "6", "8" through "16", "18" through "34", "36", "37", "38", "41" through "51", "54", "55", "56", "58", "61" through "73", "91" through "99", "102" and "104" are accepted and incorporated into this determination. Proposed finding of fact "17" is repetitious and has been rejected. Proposed findings of fact "7", "35", "39", "40", "52", "53", "57", "59", "60", "74" through "90", "100", "101", "103", and "105" are ultimate findings of fact, more in the nature of conclusions of law and will be addressed in the conclusions of law.

61. Petitioner has also proposed nine conclusions of law. However, there is no requirement in the law or regulations to rule on them (State Administrative Procedure Act § 307[1]).

CONCLUSIONS OF LAW

A. Tax Law § 1105(a) imposes a sales tax on the receipts from "every retail sale" of tangible personal property. All sales of tangible personal property are presumptively subject to tax pursuant to Tax Law § 1132 (c) "until the contrary is established".

B. Tax Law § 1115(a) lists various items of tangible personal property which are exempt from the imposition of sales tax on receipts from the sale of such items. Included in this list is the so-called "telecommunications exemption". The statutory language setting forth this exemption has three relevant versions for purposes of this determination. First, for the period prior to September 1, 1998, the statutory language at Tax Law former § 1115(a)(12) provided as follows:

> Machinery or equipment for use or consumption directly and predominantly in the production of tangible personal property, gas electricity, refrigeration or steam for sale, by manufacturing, processing, generating, assembling, refining, mining or extracting, *or telephone central office equipment or station apparatus or comparable telegraph equipment for use directly and predominantly in receiving at destination or initiating and switching telephone or telegraph communication,* but not including parts with a useful life of one year or less or tools or supplies used in connection with such machinery, equipment or apparatus. This exemption shall include all pipe, pipeline, drilling rigs, service rigs, vehicles and associated equipment used in the drilling, production and operation of oil, gas and solution mining activities to the point of sale to the first commercial purchaser. (Emphasis added.)

Second, for the two year period running from September 1, 1998 to September 1, 2000, the statutory language at Tax Law former § 1115(a)(12) provided as follows:

> Machinery or equipment for use or consumption directly and predominantly in the production of tangible personal property, gas electricity, refrigeration or steam for sale, by manufacturing, processing, generating, assembling, refining, mining or

> extracting, *or telephone central office equipment or station apparatus or comparable telegraph equipment for use directly and predominantly in receiving at destination or initiating and switching telephone or telegraph communication or in receiving, amplifying, processing, transmitting and retransmitting telephone or telegraph signals,* but not including parts with a useful life of one year or less or tools or supplies used in connection with such machinery, equipment or apparatus. This exemption shall include all pipe, pipeline, drilling rigs, service rigs, vehicles and associated equipment used in the drilling, production and operation of oil, gas, and solution mining activities to the point of sale to the first commercial purchase. (Emphasis added.)

Lastly, for the period on or after September 1, 2000, the statutory language at Tax Law § 1115(a)(12-a) provides as follows:

> Tangible personal property for use or consumption directly and predominantly in the receiving, initiating, amplifying, processing, transmitting, retransmitting, switching or monitoring of switching of telecommunications services for sale or internet access services for sale or any combination thereof. Such tangible personal property exempt under this subdivision shall include, but not be limited to, tangible personal property used or consumed to upgrade systems to allow for the receiving, initiating, amplifying, processing, transmitting, retransmitting, switching or monitoring of switching of telecommunications services for sale or internet access services for sale or any combination thereof. As used in this paragraph, the term "telecommunications services" shall have the same meaning as defined in paragraph (g) of subdivision one of section one hundred eighty-six-e of this chapter.[12]

C. There is no dispute that central office equipment which switches, processes or transmits telephone signals is eligible for the telecommunications exemption set forth in Tax Law former § 1115(a)(12) for the period prior to September 1, 2000 and Tax Law § 1115(a)(12-a) for the period on or after September 1, 2000, and petitioner's purchases of such equipment have not been taxed. This matter involves petitioner's challenge of the Division's partial denial

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[12] Tax Law § 186-e(g) defines "telecommunication services" as "telephony or telegraphy, or telephone or telegraph service, including, but not limited to, any transmission of voice, image, data, information and paging, through the use of wire, cable, fiber-optic, laser, microwave, radio wave, satellite or similar media or any combination thereof and shall include services that are ancillary to the provision of telephone service (such as, but not limited to, dial tone, basic service, directory information, call forwarding, caller-identification, call-waiting and the like) and also include any equipment and services provided therewith. Provided, the definition of telecommunications services shall not apply to separately stated charges for any service which alters the substantive content of the message received by the recipient from that sent."

of petitioner's request for refund of sales and use taxes paid on purchases of tangible personal property and services for its New York State central office sites. The tangible personal property at issue falls into the categories of HVAC equipment, also referred to as environmental control equipment, power equipment and cable management equipment. Petitioner contends that all three categories of equipment qualify for the telecommunications exemption set forth in Tax Law former § 1115(a)(12) for the period prior to September 1, 2000 and Tax Law § 1115(a)(12-a) for the period on or after September 1, 2000. Relying on the standards set forth in ***Matter of Niagara Mohawk Power Corp. v. Wanamaker*** (286 App Div 446, 144 NYS2d 458, ***affd*** 2 NY2d 764, 157 NYS2d 972) and the Tax Appeals Tribunal decision in ***Matter of Peoples Telephone Company, Inc.*** (January 16, 2001), petitioner maintains that all pieces of equipment are eligible for the telecommunications exemption. While petitioner admits that the HVAC equipment, power equipment and cable management equipment do not themselves switch or transmit telecommunications signals, it argues that each piece of equipment in all three categories is integral and causally related to, and absolutely necessary for, the operation of the central office switching and transmission devices. Petitioner further argues that without environmental control equipment, power equipment and cable management equipment, there could be no functioning of those switching and transmission devices and there could be no production of telephone service.

D. The Division maintains that none of the tangible personal property at issue qualifies for the telecommunications exemption under either Tax Law former § 1115(a)(12) for the period prior to September 1, 2000 or Tax Law § 1115(a)(12-a) for the period on or after September 1, 2000. It contends that the items in dispute are not used "directly" in the exempt activities of switching or transmitting signals. They do not switch or transmit signals, but rather provide

collateral support to the equipment that performs these processes. The Division claims that none of the property at issue is physically annexed to the central office equipment that actually switches or transmits. Relying on a decision of the State Tax Commission in ***Matter of Cole Sand and Gravel Corp.*** (January 10, 1983), the Division argues that being "essential to production is not itself determinative of whether such equipment qualifies for the exemption". Here, according to the Division, "At best, the property assists the processes of switching or transmitting", with much of the property having only a "tenuous causal linkage" to switching or transmitting, given the "passive nature" of such property (Division's brief, p. 22). The Division also points out that much of the property performs a protective function. The Division claims that property which merely protects central office equipment that actually switches or transmits signals is by definition at least one step removed from the actual process of switching or transmitting. The Division maintains that its position in this matter is not contrary to the Tribunal's holding in ***Matter of Peoples Telephone Company*** (***supra***). It points out that "the Tribunal in ***Peoples Telephone*** held that 'the enclosure and pedestal of a pay phone . . . are inextricable components of mechanical equipment'" (Division's brief, p. 28). The Division further points out that "'inextricable' means incapable of being disentangled or untied" (Division's brief, p. 28). In the present matter, the Division claims that the items of property at issue are not inextricable components of actual switching or transmission devices, but rather are physically separated from the switching or transmitting equipment. The Division maintains that its classification of taxable and nontaxable telecommunications equipment is eminently reasonable because it is consistent with the terms of the relevant statutes and the case law which focuses on how close causally and physically the property is to the admittedly exempt activity. In the instant matter, the Division asserts that the property's causal and physical connection to

the switching or transmitting processes is "attenuated" and, accordingly, none of the property is used directly in switching or transmitting" (Division's brief, p. 32).

E. It is well established that statutes creating exemptions from tax are to be strictly construed (***see, Matter of Grace v. New York State Tax Commn***, 37 NY2d 193, 371 NYS2d 715, ***lv denied*** 37 NY2d 708, 375 NYS2d 1027; ***Matter of Blue Spruce Farms v. New York State Tax Commn***, 99 AD2d 867, 472 NYS2d 744, ***affd*** 64 NY2d 682, 485 NYS2d 526). However, in addition, the statutory language providing the exemption must be construed in a practical fashion with deference to the legislative intent behind the exemption (***see, Matter of Qualex, Inc.***, Tax Appeals Tribunal, February 23, 1995). As noted in Conclusion of Law "B", the telecommunications exemption has been expanded over the years. In reaching its decision in ***Matter of Peoples Telephone*** (***supra***), the Tax Appeals Tribunal analyzed the statutory language at Tax Law former § 1115(a)(12), as in effect for the period prior to September 1, 1998. Since both parties rely on ***Matter of Peoples Telephone*** (***supra***) to support their respective positions, a review of that earlier matter is appropriate.

F. The taxpayer in ***Matter of Peoples Telephone Company (supra)*** owned and operated pay telephones. At issue was whether the Division properly imposed sales and use tax on the taxpayer's purchases of pay phone pedestals and enclosures or whether the telecommunications exemption applied because they were used directly and predominately to receive and initiate and switch telephone communications. In ***Matter of Peoples Telephone Company*** (Division of Tax Appeals, July 22, 1999), the administrative law judge determined that the purchase of (i) 100 percent of the pedestals and (ii) the enclosures which were used in outdoor installations were exempt from the imposition of sales tax on the basis that they were for use "directly and predominantly" in receiving or initiating and switching telephone communications because:

> Without the pedestals, the computer board would function, if at all, for only a minimum period. Unsupported, unsecured, and unprotected, it is reasonable to conclude that it would fail or be damaged almost immediately without the support, security and protection provided by a pedestal. With regard to the enclosures, petitioner has met its burden that with reference to outdoor installations, the enclosures play a similar function to the pedestals: securing and protecting the computer board from damaging weather. However, with reference to indoor installations, the computer board could function without the installation of an enclosure to protect it from the elements.

G. Both parties took exception to the decision of the administrative law judge in ***Matter of Peoples Telephone Company*** (***supra***). The taxpayer contested the conclusion that the enclosures used at indoor locations did not qualify for the exemption. While conceding that "there is a difference in the degree of protection offered by the indoor and outdoor enclosures", the taxpayer argued on exception to the Tax Appeals Tribunal that the enclosures also provided protection "from vandalism and theft . . . for both indoor and outdoor installations, particularly because the coin return mechanism is built directly into the enclosure". In addition, the taxpayer argued that the enclosures also provided "protection from impact, noise reduction, compliance with the American with Disabilities Act, privacy and a structure to house an electric light fixture" so that the enclosures were "essential to the operation, i.e., the initiation and reception of telephone communication of a pay phone". The Division continued to maintain that 100 percent of the purchases of the enclosures and pedestals were subject to sales tax and argued on its exception to the Tax Appeals Tribunal that "there must be more than a causal link between the [enclosures and pedestals and] . . . initiating and receiving telephone communication." The Division argued that:

(1) The enclosures and pedestals were not "directly" and "predominantly" used in the telephone process;

(2) The enclosures and pedestals were not necessary to the function (a call can be initiated without them), they are not close to the station apparatus that receives or initiates a telephone communication (the metal casing around the telephone protects it from inclement weather, therefore, the enclosure is redundant) and the items do not operate harmoniously with the exempt equipment to create an integrated and synchronized system so that the test in ***Matter of Niagara Mohawk Power Corp. v. Wanamaker*** (***supra***) was unmet;

(3) The protective function of the enclosures and pedestals did not have "an active causal relationship with the station apparatus that actually performs the initiating and receiving of telephone communication";

(4) The enclosures and pedestals were "only for the convenience of the customers" and "not used predominantly in the exempted communication process"; and

(5) The enclosures and pedestals were not "used in the specific technological function of receiving at destination or initiating and switching of telephone communication" and an inquiry "whether the pay phones could be used without the pedestals and enclosures" was an erroneous focus.

H. In ***Matter of Peoples Telephone Company*** (Tax Appeals Tribunal, January 16, 2001), the Tax Appeals Tribunal rejected the Division of Taxation's arguments on exception, granted petitioner's exception, and modified the determination of the administrative law judge by allowing an exemption from the imposition of sales tax for 100% of the taxpayer's purchases of enclosures, including enclosures installed indoors as well as those installed outdoors, the limitation set by the administrative law judge. In deciding that even the purchases of the enclosures used indoors were exempt, the Tribunal noted that "without the security and protection provided by the pedestal and enclosure as well as their use as conduits for wiring,

provision of lighting, and a secure interface with telephone lines, there would be *no meaningful reception or initiation of telephone communication* at the pay phone locations, both outdoor and indoor" (emphasis added). The Tribunal further stated: "it is our determination that the pedestal and enclosure have *an active causal relationship* in the production of telephone communication" despite the Division's objection that they did not actually perform the initiating and receiving of telephone communication (emphasis added). The Tax Appeals Tribunal approved the reasoning set forth in the Court of Appeals decision in ***Matter of Niagara Mohawk Power Corp. v. Wanamaker (supra)*** in deciding what constitutes "directly and exclusively". While noting that "there is no simple test of what constitutes 'directly and exclusively,'" the Tribunal stated that the following three questions should be asked: (1) Is the disputed item necessary to production; (2) How close, physically and causally, is the disputed item to the finished product; and (3) Does the item operate harmoniously to make an integrated and synchronized system with machinery that is clearly exempt. Emphasizing that "a practical construction" of the statutory language should be utilized, the Tribunal concluded:

> Given the synergistic relationship between the component parts of the pay phone, acting together to initiate or receive the telephone communication, the pedestals and enclosures (indoor and outdoor) qualify for the exemption . . . .

Citing language from the decision in ***Matter of Niagara Mohawk Power Corp. v. Wanamaker*** (***supra***, 144 NYS2d, at 462), the Tribunal stressed that "[t]he words 'directly and exclusively' should not be constructed to require the division into theoretically distinct stages of what is in fact continuous and indivisible."

I. Applying the standard established by the Tribunal in ***Matter of Peoples Telephone*** (***supra***) to the facts in this matter, I find that the functions of all three categories of equipment, i.e., the HVAC (environmental control), power and cable management equipment, as described

by Mr. Gulliver's credible testimony, were essential to and had an active causal relationship with the operation of the switching or transmitting equipment.

With respect to the HVAC equipment, it is clear that the dry coolers and CRAC units, which constitute the HVAC equipment, are necessary for the proper functioning of the switching and transmission devices. First, the HVAC equipment prevents temperatures from rising steeply in the equipment rooms and causing damage to and the shut down of the switching and transmission equipment. The CRAC units, specifically designed by the manufacturer to handle the tremendous amounts of dry heat produced by switching and transmission devices, are installed around the perimeter of the switching area where cool air is blown under the raised flooring on which all of the heat generating switching and transmission devices are located. CRAC units housed in the DC power room provide cool blown air out of the top of the units into the room to handle the heat generated by the DC batteries. A chilled water or glycol loop runs from the CRAC units to the roof top dry cooler where the heat is exchanged with the outside temperature. Second, by regulating the amount of humidity in the central office space occupied by the switching and transmission equipment, the HVAC equipment prevents static discharge which can cause serious damage to, or shut down of, the switching and transmission devices. Lastly, the HVAC equipment greatly reduces the ambient dust particles which can damage or shut down the switching and transmission equipment. Working 24 hours a day, 365 days a year, to prevent serious damage to or the shutdown of the switching and transmission equipment, the HVAC equipment operates harmoniously with equipment that is clearly exempt.

With respect to the power equipment, without both the AC and DC power equipment and the backup capabilities made possible by the DC storage batteries, there would be no meaningful switching or receiving of telecommunications signals. Indeed, the switching and transmission

devices would not have power and production could not take place. The sole purpose of both the DC power and the AC power equipment is to convert petitioner's standard electrical service from the local utility to a voltage and amperage compatible with the switching and transmitting equipment. Switching and transmission equipment operating on direct current, cannot, by definition, be connected to AC power. The AC power from the local utility must be converted to useable DC power by the DC power plant, consisting of rectifiers, batteries, power distribution frames and a data gathering unit, and distributed through the battery distribution circuit breaker bays to the switching and transmission equipment operating on DC power. The DC power equipment, including the DC batteries, are hard wired and directly connected to the switching and transmission devices. For safety reasons, the DC power plant equipment, including the DC storage batteries, are located in a separate room adjacent to the switching room where the switching and transmission devices are located. The battery distribution circuit breaker bays are located on the switching room floor at the end of every line-up of relay racks to which the switching devices are mounted. Switching and transmission equipment operating on AC power cannot use the AC power from the local utility because it is not filtered and contains "noise" and harmonic distortions. The UPS, made up of rectifiers, DC batteries and the inverter, cleans and filters the AC power from the local utility. That clean AC power is then distributed by the power distribution units, made up of dual transformers, static transfer switches and panel boards, to the AC powered switching devices. Depending upon the central office facility, the UPS is located in either the DC power room or out on the raised floor in the switching area. The power distribution units are located as close as possible to the switching equipment out in the switching area. The AC and DC power equipment and the DC storage batteries are part of an integrated and synchronized system with equipment that is clearly exempt.

With respect to the cable management system purchased from ADC, it is not raw material as the Division contends. Rather it is equipment used directly in the production of telecommunications signals. The cable management system was specifically designed by ADC to house and protect fiber optic cable, particularly to prevent microbends which would interfere with the transmission of signals. It is purchased as fully formed, stamped-out manufactured troughs in six-foot segments, the pieces of which can be joined with one another and assembled like Lincoln Logs. These segments are snapped and screwed together onsite, because it is easier to create a trough run of 60 feet by connecting ten six-foot segments, than it is to have the manufacturer mold and attempt to ship a single 60-foot trough. As petitioner correctly points out, these pre-formed and shaped troughs and the manufactured brackets used to connect the pieces are indeed like the custom-made wooden staves in ***Matter of Deco Builders, Inc.*** (Tax Appeals Tribunal, May 9, 1991), which were assembled into a penstock "designed to create a water flow with a sufficient force to power the turbine unit to which it was attached." The penstock created from the staves was held by the Tribunal to be equipment used directly in production. The cable management equipment purchased by petitioner serves two purposes. First, it is physically attached to, and provides additional security for, the relay racking which holds the switching and transmission equipment, thus supporting and protecting the switching devices from damage. The cable management equipment also envelopes and provides the protection and security necessary for the fiber optic cables to transmit telephone signals from one piece of transmission or switching equipment to another in the central office. The ladder racking purchased from GE is also an important part of the cable management system. It supports the inter-facility cable going to the optical cross-connect frame in the switching room. The optical cross-connect is essential to the switching of telecommunications signals. From the optical

cross-connect frame, the fiber optic cables run to the switching devices. Clearly, the cable management equipment has an active causal relationship in the production of telecommunications signals at all times.

J. While I have determined that all three categories of equipment are directly involved in the production of telecommunications signals, it is also necessary to determine if each category of equipment is used predominantly for switching and transmission at petitioner's New York State central offices. Petitioner has seven central office sites in New York State. In all but the 100 Williams Street, New York City central office, petitioner provided collocation services during the period in issue. The Division contends that the power equipment and CRAC units located in the collocation areas are not used predominantly to switch or transmit signals. Rather they are used by petitioner to provide nontaxable services, such as a landlord would provide, to the collocation customers for a fee. The Division points out that petitioner provides electricity to the collocation customers and also provides environmental control via CRAC units stationed in the collocation areas. It further points out that petitioner is contractually obligated to provide these services. The Division argues that petitioner is not using the power equipment and the CRAC units located in the collocation areas to provide telecommunications service, but rather nontaxable services.

K. It is clear that the use of the HVAC equipment, power equipment and cable management equipment located at the 100 Williams Street central office is predominantly to switch or transmit telecommunications signals. The HVAC equipment, power equipment and cable management equipment, located in that central office, forms a comprehensive, integrated system with petitioner's switching and transmission equipment, thus allowing the switching or transmitting of telecommunications signals.

L. For the following reasons, I find that the use of the HVAC equipment, power equipment and cable management equipment at each of petitioner's remaining central offices is predominantly to switch or transmit telecommunications signals. Petitioner's main business is providing telecommunications services and its provision of collocation services is ancillary to that business. Petitioner's central office is at the very core of the operations of its telecommunications network. The central office contains multiple pieces of electronic switching and transmission equipment, all of which are internally linked together by fiber optic cable and coaxial cabling. The failure of any of the switching or transmission equipment or the cables linking the various components, would cause a failure in the production of telephone service.

At its remaining New York State central offices, petitioner's switching and transmission devices are located both in its portion and the collocation area of each central office. The collocation services which petitioner provides allow other telecommunications carriers to place their telecommunications switching and transmission equipment, in the collocation area, within its remaining New York State central offices to interconnect their networks with petitioner's nationwide telecommunications network, and also to cross-connect with other telecommunications carriers using petitioner's transmission facilities. Without the collocation services provided by petitioner, the collocators' switching and transmission devices would be unable to switch or transmit telecommunications signals between their networks and either petitioner's telecommunications network or another telecommunications carrier's network and, as a result, there would be no production of end-to-end telecommunications services. Federal law requires petitioner to provide physical collocation of the collocators' equipment necessary for interconnection with its network "on rates, terms and conditions that are just, reasonable and nondiscriminatory" (47 USC § 251[c][6]). Therefore, petitioner must treat its collocation

customers and the switching and transmission devices they place in the collocation areas in the same manner as it treats its own switching and transmission devices. Each central office's DC power plant serves only DC powered switching and transmission devices, which includes all of petitioner's switching and transmission devices and some of the collocators' devices. The UPS provides clean, filtered AC power to the collocators' AC powered switching and transmission devices. Without the DC and AC power equipment, neither the DC nor the AC powered switching and transmission equipment would be able to switch, transmit or receive telecommunications signals. In each central office, CRAC units are placed around the perimeter of the switching area where petitioner's switching and transmitting devices are located and also around the perimeter of the collocation area in order to provide cool air to the switching and transmission devices located in those areas. CRAC units are also placed in the DC power room in order to cool the DC batteries, thereby ensuring that safe, reliable DC power is continuously produced for the DC powered switching and transmission equipment. Clearly, 100 percent of the use of the CRAC units is to maintain the environmental conditions necessary for the support of petitioner's and the collocators' switching and transmission devices. The predominant use of the dry cooler located at each central office is to work in conjunction with the CRAC units to maintain the environmental conditions necessary for the support of petitioner's and the collocators' switching and transmission devices. The cable management equipment protects and supports the inter-facility and fiber optic cables necessary for the switching of telecommunications signals in each central office on a continuous basis. The inter-facility cable transmits telecommunications signals to the optical cross-connect frame in the switching room. From the optical cross-connect frame, the telecommunications signals are transmitted to petitioner's switching devices and the collocator's switching devices. Fiber optic cables also

connect petitioner's switching devices and the collocators' switching devices, thus allowing the switching of telecommunications signals. It is clear that the HVAC equipment, power equipment and cable management equipment, located in the remaining six New York State central offices, forms a comprehensive, integrated system with both petitioner's and the collocators' switching and transmission equipment, thus allowing the switching or transmitting of telecommunications signals.

M. In sum, the items of HVAC equipment, power equipment and cable management equipment at issue protect, support and envelope all switching and transmission devices located in petitioner's New York State central offices. In addition, these items of equipment "are inextricable components of mechanical equipment which operate as a single, integrated and synchronized system with the 'admittedly exempt machinery'" to transmit or switch telecommunications signals (***see, Matter of Peoples Telephone***, ***supra***). The Division's attempt to divide into distinct stages what is continuous and indivisible is based upon a much too narrow construction of the statutory terminology of "directly and predominantly." The Tax Appeals Tribunal rejected this narrow interpretation in ***Matter of Peoples Telephone Company*** (***supra***), and it is rejected here. Accordingly, the items of HVAC equipment, power equipment and cable management equipment qualify for the exemption set forth in Tax Law former § 1115(a)(12) for the period prior to September 1, 2000 and Tax Law § 1115(a)(12-a) for the period on or after September 1, 2000.

N. In addition, although the Division is correct that a taxpayer does not obtain an exemption from sales tax simply by complaining of possible "pyramiding of tax," granting the central office equipment exemption to the HVAC, power and cable management equipment at issue here will "avoid the pyramiding of taxes, i.e., eliminate the imposition of sales tax on

production equipment, leaving the state to collect tax on the 'finished product,' which in this case, is telephone service" (***see, Matter of Peoples Telephone, supra***).

O. As noted in Conclusion of Law "B", Tax Law former § 1115(a)(12) limited the telecommunications exemption to purchases of telephone central office "equipment" or "station apparatus" and not simply any item of "tangible personal property" as specified in the broader exemption effective for the period on or after September 1, 2000. Consequently, the Division may properly treat petitioner's purchases of fuses, power cabling, 22-ply cord lacing, H-tap connections, patch cords, heat shrink material, ring lugs and face plates as subject to sales tax in the period *prior to September 1, 2000*. These items are not like the custom-made wooden staves at issue in ***Matter of Deco Builders, Inc.*** (***supra***), which were assembled into a penstock "designed to create a water flow with a sufficient force to power the turbine unit to which it was attached." The penstock created from the staves was held by the Tribunal to be equipment used directly in production. The fuses, power cabling, 22-ply cord lacing, H-tap connections, patch cords, heat shrink material, ring lugs and face plates at issue were not similarly "unique" and "capable of being used solely for that purpose" in the words of the Tribunal so as to qualify as "machinery and equipment" when used at petitioner's central offices. Rather, these items are more like the "various construction items" at issue in ***Matter of Slattery Associates v. Tully*** (79 AD2d 761, 434 NYS2d 788, ***affd*** 54 NY2d 711, 442 NYS2d 978 [wherein the Court found that such materials were not machinery and equipment" covered by the manufacturing exemption, which has been viewed as a "parallel exemption" to the telecommunications exemption at issue here]; ***see, Matter of Cortelco***, Tax Appeals Tribunal, October 31, 1991; ***see also***, ***Matter of Stoddard Communications, Inc.***, Tax Appeals Tribunal, August 30, 1990).

P. Petitioner is also seeking a refund of sales tax which it paid on the services rendered by Cactus personnel in November and December 1998 at petitioner's 111 8th Avenue, New York City central office. Tax Law § 1105-B(b), in effect prior to March 1, 2000, provided as follows:

> Notwithstanding any other provisions of this article, but not for the purposes of the taxes imposed by section eleven hundred seven or eleven hundred eight or authorized pursuant to the authority of article twenty-nine of this chapter, the taxes imposed by subdivision (c) of section eleven hundred five on receipts from every sale of the services of installing, repairing, maintaining or servicing the tangible personal property described in paragraph twelve of subdivision (a) of section eleven hundred fifteen, including the parts with a useful life of one year or less, tools and supplies described in subdivision (a) of this section, to the extent subject to such tax, shall be paid at the rate of two percent for the period commencing September first, nineteen hundred eighty and ending February twenty-eighth, nineteen hundred eighty-one and such receipts shall be exempt from the tax on sales imposed under subdivision (c) of section eleven hundred five on or after March first, nineteen hundred eighty-one.

Petitioner had the burden of proving that the services rendered by Cactus personnel in November and December 1998 were for servicing tangible personal property exempt from sales and use tax under Tax Law former § 1115(a)(12) for the period prior to September 1, 2000. The only evidence which petitioner introduced was the invoice, dated December 22, 1998, which merely lists the names of the Cactus personnel who performed the services, their respective job titles, the weeks in which they performed the services, the number of hours, the hourly rate and the cost of the services performed by each individual. Petitioner has therefore, failed to meet its burden of proof, and the Division's determination that sales tax was due on petitioner's purchase of services rendered by Cactus personnel at petitioner's 111 8th Avenue, New York City central office was proper (***see***, Tax Law § 1132[c]).

Q. Petitioner paid sales tax on purchases of central office equipment from Liebert, Cactus, Marconi, Reltec Lorain, Power & Telephone Supply, Peco II, GE Supply, Graybar, Walker & Associates and ADC during the period July 1, 1998 through March 31, 2001. The purchases

from these vendors fell into the general categories of HVAC equipment, power equipment and cable management equipment. A review of the record indicates that petitioner purchased items of HVAC equipment and AC power equipment from Liebert during the period at issue. Further review of the record also indicates that petitioner purchased DC power equipment from Cactus, Marconi, Reltec Lorain, Power & Telephone Supply, Peco II, GE Supply, Graybar and Walker & Associates and cable management equipment from ADC and GE Supply during the period at issue. Petitioner is seeking a refund of the sales tax it paid on purchases of items of HVAC equipment, power equipment and cable management equipment from the above-named vendors.

In Conclusion of Law "M", I determined that items of HVAC equipment, power equipment and cable management equipment qualify for exemption from taxation. In Conclusion of Law "O", I determined that fuses, power cabling, 22-ply cord lacing, H-tap connections, patch cords, heat shrink material, ring lugs and face plates were subject to sales tax in the period *prior to September 1, 2000*. Therefore, taking these determinations into consideration, the Division is directed to review the invoices issued by Liebert, Marconi, Reltec Lorain, Power & Telephone Supply, PECO II, GE Supply, Graybar, Walker & Associates and ADC to determine the sales tax due on petitioner's purchases from these vendors and issue a refund accordingly. With respect to petitioner's purchases from Cactus, the record includes all sixteen invoices issued by Cactus, which petitioner claims reflect its purchases of DC power equipment during the period at issue. A review of these purchase invoices indicates that only three invoices contain an itemization of petitioner's purchases of DC power equipment from Cactus, and the remaining thirteen invoices, dated from December 22, 1998 through April 27, 1999, merely identify petitioner's purchases as "materials". Petitioner had the burden of proving

that its materials purchases from Cactus were in fact purchases of DC power equipment for use in its central offices and, therefore, were exempt from taxation under Tax Law former § 1115(a)(12). Petitioner introduced no further evidence concerning its "materials" purchases from Cactus, other than the thirteen invoices reflecting the purchases. Petitioner has therefore, failed to meet its burden of proof, and the Division's determination that sales tax was due on petitioner's purchases of "materials" from Cactus was proper (***see***, Tax Law § 1132[c]). However, with respect to the remaining three invoices issued by Cactus to petitioner, after taking the determinations reached in Conclusions of Law "M" and "O" into consideration, the Division is directed to review these invoices to determine the sales tax due on petitioner's purchases and issue a refund accordingly.

R. The petition of Level 3 Communications, LLC is granted to the extent indicated in Conclusions of Law "M", "O" and "Q"; the Division of Taxation's letter dated September 5, 2003, which is, in effect, a notice of partial refund allowance and notice of determination, is to be modified to so conform, and except as so granted, the petition is in all other respects, denied.

DATED: Troy, New York
November 9, 2006

/s/ Winifred M. Maloney
ADMINISTRATIVE LAW JUDGE