COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

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)
Investigation by the Department on its own)
Motion as to the propriety of the rates and)
charges set forth in M.D.T.E No. 17, filed with)
the Department on May 5, 2000 to become) D.T.E. 98-57, Phase III
effective June 4 and June 6, 2000 by New)
England Telephone and Telegraph Company)
d/b/a Bell Atlantic – Massachusetts)
_____)

REBUTTAL PANEL TESTIMONY
OF BELL ATLANTIC - MASSACHUSETTS
ON TARIFF No. 17
DIGITAL SUBSCRIBER LINE COMPLIANCE FILING
and LINE SHARING FILING

Members of the Panel:

David J. Kelly
Bruce Meacham
Amy Stern

James Virga

John White

July 19, 2000

PURPOSE OF THE TESTIMONY

Q. What is the purpose of this testimony?

A. The purpose of this testimony is to address issues relating to Bell Atlantic-Massachusetts' ("BA-MA") Digital Subscriber Line ("DSL") and Line Sharing tariffs raised in the Direct Panel Testimony of Patricia D. Kravtin, Joseph P. Riolo, Robert Williams and Michael Clancy, filed on behalf of Rhythms Links, Inc. and Covad Communications Company ("RLI/Covad"), as well as the Direct Testimony of Terry Landers on behalf of Digital Broadband Communications ("DBC") and William Salvatore on behalf of AT&T Communications of New England ("ATT"). In their respective testimony, those parties claim that BA-MA's proposed tariffs would competitively disadvantage competitive local exchange carriers ("CLECs") and recommend several modifications to BA-MA's proposed terms, conditions, and rates for the service offerings. In addition, some parties raise issues relating to BA-MA's costs for those services. Those claims are without merit. As explained below, BA-MA's DSL and Line Sharing tariff filings are reasonable and appropriate, and fully satisfy the requirements set forth by the Federal Communications Commission ("FCC") in its Line Sharing Order and UNE Remand Order, in accordance with the Telecommunications Act of 1996 ("Act"). Moreover, the costs associated with BA-MA's proposed DSL and Line Sharing rates and charges were developed in accordance with the approved TELRIC cost methodology.

THE WITNESS PANEL
Q. Please identify the members of the Panel.

A. The members of this panel, in alphabetical order, are: Mr. David J. Kelly, Mr. Bruce Meacham, Ms. Amy Stern, Mr. James Virga and Mr. John White.

Q. Please describe the current position, educational background and professional experience of each of the individual panel members.

A. Mr. David J. Kelly is currently Director – Program One in the Network Services Organization for Bell Atlantic. In his current position, which he has held since 1997, Mr. Kelly is responsible for implementation of all wholesale products and service from the operational perspective. Mr. Kelly earned his Bachelor of Arts degree in Tufts University and M.B.A. from Boston College. He has 22 years of experience in New England Telephone, NYNEX and Bell Atlantic. During that time, Mr. Kelly has held a variety of positions of increasing responsibility in Provisioning Systems Planning, Work Center Planning, and Project Management and Implementation. He previously testified in Massachusetts in the cost onset portion of the Consolidated Arbitrations proceeding. Mr. Kely has also testified in Rhode Island, Maine, New Hampshire, Vermont, Maryland, and New York.

Mr. Bruce Meacham is a Senior Specialist – Service Costs in Bell Atlantic's Finance Department with responsibility for serving as a witness on nonrecurring cost studies. Ms. Amy Stern is employed by Bell Atlantic as Director - Telecom Industry Services for the entire Bell Atlantic service area. Both Mr. Meacham and Ms. Stern submitted Direct Testimony on June 15, 2000, in this proceeding, and complete descriptions of their current positions, educational background, and professional experience are contained in their testimony.

Mr. James Virga is employed by Bell Atlantic as Senior Specialist - Regulatory Policy, in which he is responsible for providing regulatory support to the Bell Atlantic business units regarding interpretation of Federal and State Commission Orders and guiding implementation in accordance with those rules. Prior to his present assignment, Mr. Virga was Staff Director, Network Operations Support. One of his responsibilities was the development of the processes and practices necessary

for the implementation of collocation in NYNEX. Mr. Virga has 20 years experience with New York Telephone, NYNEX and Bell Atlantic starting as a Switching Equipment Technician in 1980. During that time, he has held a variety of positions with increasing responsibility in Network Operations, Network Operations Support, Operations Planning and Regulatory Policy. Mr. Virga earned his Bachelors of Professional Studies degree in Telecommunications in 1999.

Mr. John White is Executive Director within the Bell Atlantic Wholesale Services organization, reporting to the Network Services Department. In that position, he is responsible for the introduction of wholesale digital services with a focus on the technical support required for xDSL-compatible loops. Before joining the wholesale organization in June 1999, Mr. White worked in the Bell Atlantic Technology organization as the Executive Director, Transport Technology Planning.

Mr. White has been employed by Bell Atlantic or by its affiliates and predecessor companies since 1966. Before joining the Company, he worked for a number of engineering and construction firms involved in the construction of roads and sewers. During the first twelve years of his career at New York Telephone, Mr. White was directly involved in virtually every aspects of outside plant engineering. From 1979 to 1994, he held managerial positions in Construction, Installation and Maintenance, as well as Engineering in both line and staff capacities.

Mr. White studied engineering at the University of Buffalo. He received a Bachelors in Business Administration in 1977, and a Masters in Business Administration in 1984 from Pace University, where he has also continued graduate work from 1993 to 1998, with a dual major in Finance and Economics as part of a Doctor of Professional Studies program.

DSL AND LINE SHARING PROVISIONING ISSUES
General Terms and Conditions
Q. Do you agree with RLI/Covad’s assertion that BA-MA’s proposed DSL loop definitions and standards are arbitrary and discriminatory and would impede competition?

A. No. In its proposed tariff, BA-MA describes the specific transmission speeds that are characteristic of ADSL and HDSL technology. Those technical specifications reflect current industry standards relating to the functionality of that technology, and do not limit CLEC service offerings. Accordingly, the definitions for ADSL and HDSL are not restrictive and would not impede a CLEC’s ability to compete in the marketplace, as RLI/Covad incorrectly claim. Likewise, the speed at which Bell Atlantic offers its retail Infospeed® product is not an issue.

Section 5.4.1.A.2 of BA-MA’s proposed tariff refers to the loop lengths for the digital links provided by BA-MA. They too are based on accepted industry standards that ensure the loops will adequately support the data transmitted over those facilities. Specifically, the HDSL digital two-wire link is designed to work on loops up to 12,000 feet, and the ADSL digital two-wire link is developed based on two variations is – one that is less than 12,000 feet and another that is less than 18,000 feet. All data service providers, including a Bell Atlantic affiliate, would be subject to these same loop engineering standards, thereby eliminating any potential competitive disadvantage for CLECs. In addition, these technical parameters would not interfere or conflict with any FCC requirement that CLECs should not be restricted in the types of services they may offer over unbundled network elements ("UNEs").

Q. RLI/Covad contend that BA-MA’s proposed tariff provision (Section 5.4.3.B) permitting termination of the CLEC’s link if it "creates interference or impairment" with other BA-MA facilities or services is unnecessary and arbitrary. Do you agree?

A. No. Although the FCC in its Line Sharing Order recognizes certain technology as presumably acceptable for deployment, this does not eliminate the need to include tariff terms enabling BA-MA to discontinue service if the service and/or equipment is not functioning properly when implemented and would significantly degrade or

impair the performance of the customer's voice service. The FCC was clear that line shared services were not to interefere with voice service. As stated by the FCC, "it is in all carriers' interest … to deploy new technologies that will not cause service compatibility problems." Line Sharing Order, at ¶202. In addition, if RLI/Covad are correct in asserting that interference is unlikely when approved technology is used, then the potential for abuse, as RLI/Covad alleges, is remote. Therefore, the inclusion of this provision poses minimal risk to CLECs, but affords maximum protection to customers who should not be denied their telephone (voice) services in the case of a data-related service problem.

Q. RLI/Covad recommend that BA-MA bear the burden of proof in demonstrating that a CLEC's DSL or line sharing technology would significantly degrade other services. Do you agree?

A. No. The CLEC is responsible for selecting technology that will transmit data without causing harm to the network. Therefore, the CLEC should be aware of the relevant technical requirements, and, if necessary, should be prepared to demonstrate that its technology either complies with industry standards, is approved by another state or federal regulatory commission, or is being used in another jurisdiction for a comparable purpose. RLI/Covad's proposal would unfairly shift that burden to BA-MA. This is inappropriate because BA-MA would not even know the type of equipment used by the CLEC in providing its services and thus should not be held responsible for justifying its performance. As set forth in its proposed tariff, BA-MA should, however, have the ability to protect the integrity of its retail and wholesale services by suspending the CLEC's data service if it would "significantly degrade" the network in accordance with FCC guidelines. Line Sharing Order, at ¶ 84. However, there are certain things that by definition should be known, such as the fact that removing a load coil on loops over 18,000 feet will degrade voice, and should not have to be proven on a case- by-case basis.

Q. RLI/Covad allege that BA-MA's proposed tariff restricts CLECs to offering ADSL and HDSL over either pre-qualified links or over DDL links. Please respond.

A. BA-MA requires that a pre-qualified link or DDL link be used to ensure that the CLECs obtain loops that will support their underlying ADSL or HDSL offerings and do not interfere with other services. This is a reasonable requirement which would ensure that the loop to which the CLEC subscribes meets all of the necessary characteristics (e.g., it is a copper loop of a certain lengths with load coils and/or bridge taps at particular points), thereby benefiting the CLEC and its customers. To do otherwise would jeopardize the CLEC's ability to provision DSL services. Accordingly, this requirement would not contravene any FCC rules, as RLI/Covad contend, because it would not impede the CLECs from using those qualified or conditioned loops to make new technically feasible services available with DSL technology.

Q. What other provisions do RLI/Covad contend would restrict CLECs' provision of DSL service offerings?

A. RLI/Covad point to BA-MA's use of Bell Atlantic Technical Reference, BA-TR-72575, to establish its provisioning obligations as patently unfair and violative of FCC orders. RLI/Covad argue that by utilizing those guidelines, BA-MA can control the competitive arena with no effective oversight. This is an absurd argument since the purpose of that provision is to utilize an established document to define BA-MA's responsibilities in the tariff in an efficient, effective manner. TR-72575 is appropriate choice because it accurately captures accepted industry standards. Moreover, that document is publicly available, and subsequent updates would be accessible to keep pace with changing technology. To the extent that this technical reference raises issues about BA-MA's provisioning of DSL services, they may be addressed in this proceeding. Absent specific and legitimate concerns raised by RLI/Covad or other parties, BA-MA's use of TR-72575 should not be disqualified. Those standards have certainly not harmed the deployment of thousands of DSL loops to date.

Intervals
Wholesale Provisioning Of Line Sharing

Q. RLI/Covad state that the interval for line sharing should be three business days between now and September, 2000, two business days between September and year-end, and one business day thereafter. DBC also asserts that there is sufficient evidence showing that a shorter provisioning interval is feasible. Do you agree with either of the respective testimony?

A. No. The interval needs to be longer because of all of the steps BA-MA must take to install a circuit. As RLI/Covad and DBC are well aware, a line sharing service order goes through a number of BA-MA Operational Support systems ("OSS") and service centers. These systems and centers identify the assigned cable and pair, update inventories needed for maintenance and network management purposes, update retail records to reflect the shared use of the line, update billing systems, and send the order through the Work Force Administrator ("WFA") to obtain a dispatch for a central office ("CO") technician. In some cases, dispatch of an outside technician is required as well.

Furthermore, many service order processing steps are necessarily manual based on the current state of systems and order quality. The FCC in adopting the Line Sharing Order recognized the fact that all the necessary OSS functionality for the implementation of line sharing would not be available and that work-arounds would be necessary until these systems could be developed and deployed.

Q. Please describe the proposed provisioning process.

A. The following describes the daily activities for the six business day interval:

Day 0. The BA-MA Service Representative (the "Service Rep") gets the service order. The CLEC sends in 3 forms: the Local Service Request ("LSR") form, the End User form, and the loop service form. The TISOC must check these forms for accuracy and completeness. For example, it must make sure the address is complete and the loop has been pre-qualified. If everything is accurate and complete based on information available to the TISOC, the Service Representative performs an inquiry on the retail service to make sure there are no pending orders for other activity on that line, or other complications. At any step along the way, if there is inaccurate or conflicting information, the Service Representative researches and tries to resolve it. If it cannot be resolved, the Service Representative sends the order back to the Data Local Exchange Carrier ("DLEC") for resolution and the clock is stopped. Assuming the order is "clean," the Service Representative then obtains a circuit ID and creates two service orders, one to update the retail records and identify the service as a line shared service, and one for the wholesale service.

Day One. Facilities assignment takes place. New tie pairs are assigned to connect the voice and data pair to the splitter or to the collocation node, depending upon the CLEC’s choice of Splitter Option A or Option C. (As described below, CLECs have two options regarding splitter collocation: in their own arrangement (Option A) or in BA-MA’s space (Option C).) New tie pairs are also assigned to bring the voice channel back from the splitter or collocation node to the Main Distributing Frame ("MDF"), in order to maintain the connection with the switch. Inventory systems used for maintenance and provisioning are updated to reflect these new assignments so that technicians can locate the service to perform any necessary installations and repairs. For some lines, this facilities assignment goes smoothly. However, in many cases, an error is detected and the service order "falls out" and must get manually fixed. Some of these errors are due to human error, and some are due to the newness of the service. Examples of this include situations where the telephone number cannot be found in BA-MA’s system, the cable and pair cannot be found, the slot on the splitter that the DLEC requested be used is already taken, or the loop is found to be not qualified, even though it was listed as qualified on the LSR. Also, CLECs frequently change facilities assignments for reasons unknown to Bell Atlantic. These problems, which may be caused by human errors by BA-MA or DLEC personnel, include things as transposing numbers, BA-MA TISOC errors in translating from the LSR to the service order, pre-existing inaccuracies in the BA-MA inventory or CLEC databases,

faulty stenciling by the CLEC at its collocation node, and errors in CLEC collocation assignment. BA-NY's service centers may take up to two days working with the CLEC and internal personnel researching and tracking down and fixing these errors. Once the assignment is completed, the order flows to the RCCC, which coordinates the installation and to the FOMS systems that generate work orders for the frame.

Days Two, Three and Four. These are the days set aside for the frame to do the wiring and testing. In some cases, if the assignment problems described above take time to resolve, the frame does not receive the work order until day three or four. Even if everything goes smoothly, and the frame gets the order on Day Two, it can not necessarily process it immediately. The reason for this is that the frame personnel, like the outside installation forces, have a queuing system to balance their workload with their available forces. For outside installation dispatches, the system used is the SMARTS clock, which queues orders on a first-come, first-serve basis for the relevant serving area. The frame does not have a SMARTS clock system, but it also has the same "force to load" balancing considerations, and a similar queuing of work orders on a first-come, first-serve basis. Further complicating the matter is the fact that in some cases, COs are not staffed, and personnel need to be dispatched out to work on the distribution frame. Thus, not every CO will be able to wire the service the minute the work order is entered into the system, as the DLECs would have the Commission believe.

The work done by the frame must be done with great care. For example, a line sharing circuit may be wired to the wrong splitter, or may be wired backwards through the splitter if the frame technician is not careful or if the splitter is identified or labeled incorrectly. When the frame technician receives the work order from FOMS, she scans the order for accuracy. At the frame, she must use a load coil detector to verify that the cable pair is not loaded. If it is loaded, or has other complications, it will be turned back to the coordination bureau for further investigation. If it is "OK," the technician will perform a half tap at the Office Equipment and cross-connect to the splitter-POTs terminal. The telephone number is then verified at the splitter line terminal. If there is no dial tone, or an incorrect number, the technician will undo the work and go back to the coordination bureau for further direction. If everything tests "OK," the technician will cross-connect the splitter line terminals to the tie cable that goes back to the original cable and pair. The technician then performs telephone number and dial tone checks at the original cable and pair and at the protector. Again, if problems occur, the technician goes back to the coordination bureau for further direction. It is possible at this point that there is a wiring problem at either the DLEC's end or BA-MA's end of the service which must be resolved, taking additional time. Once the new wiring is successfully laid in, the "dead" jumpers (connecting the cable and pair in the old arrangement from the frame to the switch) are removed. The technician completes the order in the FOMS system, which ultimately generates the updates to the inventory and billing systems.

In addition, on Days Two, Three and Four, an outside installation dispatch may be required in some cases. For example, a Maintenance Test Unit ("MTU") may be installed at the end user's NID, and the service will be unacceptable to the customer due to interference on the line. A dispatch would be required to remove the MTU.

Day Five. The BA-MA coordination bureau tests the service. They post the test results on a web site for viewing. Like the frame and the outside installation forces, the bureau may also have force to load balancing considerations that may require additional time.

Day Six. The bureau will perform final tests, verify that the splitter is in place, and test with the frame technicians. They also work with the DLEC to resolve other issues. The circuit is turned over to the DLEC and orders are completed in BA-MA systems to update inventory, maintenance and repair systems and billing.

Q. Please comment on RLI/Covad and DBC's proposals for provisioning line-sharing

arrangements.

A. RLI/Covad and DBC's proposals ignore the fact that significant front and back-end work must occur relating to facilities assignment and inventory when provisioning a line-shared loop. In fact, RLI/Covad incorrectly assert that there is only some simple CO wiring associated with line sharing. RLI/Covad and DBC also fail to acknowledge that force to load balancing considerations for the frame technicians who do the wiring, similar to that used by outside technicians under the SMARTS clock. Finally, they ignore the fact that there are quality checks built into the process, such as researching problems with bad cable facility assignments ("CFAs"), and testing, which take additional time, but result in a higher rate of orders being completed and lines working properly. Based on Bell Atlantic's actual experience with UNE DSL loops, there is clearly added value in taking some extra steps to ensure quality assurance by bringing more orders toward completion by the committed due date. Under RLI/Covad and DBC's proposals, many of the quality and timeliness steps would have to be eliminated, resulting in fewer met due dates and less accurate work.

Although processes may become more mechanized as modifications to certain OSS that accommodate line sharing are completed, those modifications are still being planned and developed. In the meantime, there are many mechanized and manual steps, as noted above, that are necessary to process a CLEC line sharing service order, and these processes involve much more BA-MA time and effort than RL/Covad and DBC claim. Accordingly, BA-MA's proposal to provision line sharing initially within the standard DSL service interval of six business days, to be followed by consideration of a shorter interval as appropriate after expertise is acquired, systems are updated, etc., is a reasonable approach, particularly in light of BA-MA's (and indeed the whole industry's) lack of firsthand experience with the installation of line-sharing arrangements.

In addition, our experience in New York with provisioning UNEs or the underlying facilities used to provide Advanced Services has shown that the time invested in a quality process is well worthwhile. The New York Public Service Commission ("NYPSC") Collaborative spent months looking at ways to improve quality performance on UNE ADSL compatible loops. As a result of that work, many checks were built into the provisioning process that greatly improved provisioning performance. Accordingly, BA-MA urges the Department to continue with what was learned in New York and allow for sufficient time to do the job properly with these line sharing services. The time for shortening provisioning intervals should only come after we have a better understanding of and more experience with how the service works. If shortened intervals are adopted prematurely, this will only cause customer dissatisfaction.

Q. Could you give some specific examples of quality problems, and meeting time commitment problems, that would occur if BA-MA were forced to use a shorter interval?

A. Yes. The following provides some examples:

(1) The frame technician is about to start the physical wiring work in the central office, when the technician discovers that there is a working pair already on the assigned slot. This could happen for a number of reasons: a labeling error at the collocation node or splitter, a CFA that should have been physically disconnected and was not. Under current procedures, BA-MA will try to research the problem, resolve it, and give the DLEC as much information about the problem as possible, e.g., information about the other working line. As noted above, the proposed shortened intervals will preclude BA-MA from taking these steps and this will lead to end user dissatisfaction.

(2) Once the frame technician completes the wiring work to the splitter, a required continuity test is performed. In those instances where the wires to the splitter have been wired incorrectly the technician's continuity test will not detect the error. Under BA-MA current procedures, the coordination bureau would perform a test that would be able to detect a splitter wiring problem. The bureau would then work

with the frame to fix the problem. Under the shortened intervals that RLI/Covad propose, BA-MA would not have time to send the order to the bureau for this test. The result is that the CLEC and its customer would get the circuit, but it would not work.

Q. Please respond to RLI/Covad's comment at page 46 that their "consumers do not want to wait, and they should not be forced to wait because BA-MA refuses to provide the capacity efficiently."

A. BA-MA is aware that information service provides ("ISPs") are quoting, on average, intervals of three or more weeks to their customers for the installation of DSL service. Therefore, it seems unlikely that BA-MA's proposed six business day interval would be a limiting factor that keeps consumers waiting, especially since there are other overlapping events during that same time period. For example, during that period, the CLEC may order the splitter/filters and have them shipped to the end user for installation. In fact, given how small a factor that interval is in determining the ultimate service date for the end user, one wonders if the only reason RLI/Covad are requesting such an unreasonably short interval is to obtain bill credits under the performance assurance plan.

Q. Are there analogous intervals that should be considered in assessing whether the six business day interval is appropriate?

A. The most analogous service, other than stand-alone DSL UNE loop product, is Infospeed®, which also had an interval of eight business days built into the interval reserved for loop provisioning. Likewise, when the data affiliate (BANDI) is formed it will be subject to the same interval that BA-MA offers to its other wholesale customers. This is consistent with the FCC's Line Sharing Order that the interval be equivalent to the incumbent local exchange carrier's ("ILEC") standard provisioning interval for its retail services.

To determine whether the six business day interval is appropriate, some preliminary Massachusetts data was gathered from the April and May 2000 performance results (C2C reports) for Retail 2-wire xDSL services (Infospeed®). That data indicates as follows:

	Apr-00		May-00	
Performance				
	Observations			
	Performance			
	Observations			
PR-2-01 Average Interval Completed - Total No Dispatch				
	8.76			
	1897			
	6.77			
	2375			
PR-2-02 Average Interval Completed - Total Dispatch				
	12.14			
	526			
	8.96			
	605			

Thus, the data demonstrates that the six business day interval is an aggressive interval for BA-MA to achieve.

Q. Do you agree with RLI/Covads' assertion that outside dispatches are not required?

A. No. As discussed in BA-MA's direct testimony, such dispatches may be required if

the end user does not accept the service because of any real or perceived quality difference on the line. Moreover, BA-MA and the industry are still learning about this new service, and dispatches may be required more frequently than is currently contemplated. Indeed, the preliminary performance data cited above indicate that about 25% of the Infospeed® installations required an outside dispatch. Also, pair swaps, i.e., moving service from fiber or other unqualified loops to qualified spare copper loops, would require an outside dispatch. Currently, pair swaps are not, however, required. If the Department orders otherwise (which it should not), the interval question will have to be revisited.

In addition, CLECs will presumably utilize a variety of DSL technology, some of which BA-MA may not have the ability to test at the CO. As a result, a CLEC may file a trouble report on the line, ultimately requiring a dispatch.

Q. How do you respond to the assertion that BA-MA has plenty of experience providing shared lines because it formerly provisioned Infospeed®?

A. This is incorrect. BA-MA used procedures and systems for its retail offerings that were different from those that are currently used for Data Local Exchange Carriers ("DLECs"). If this were not the case, there would have been no need for the NYPSC to establish the New York Line-Sharing Pilot with Bell Atlantic-New York ("BA-NY") and the DLECs.

In New York, BANDI is currently using the same systems and procedures that the CLECs are using. However, since BANDI is very new, and there may be some very minor differences between the states, additional experience is needed before determining whether a shorter interval should be employed in the future .

Q. Please respond to RLI/Covad’s statements that the New York pilot was not designed to evaluate installation intervals, and that it is BA-NY’s fault not enough circuits were ordered during the trial.

A. These are erroneous statements. The objective of the New York pilot was to test as many work steps as possible at the appropriate stages, including CO wiring, facilities assignment, coordination, and testing. The testing of all work steps involved could have created the "building blocks" and process flows from which intervals could have been built. Furthermore, RLI/Covad are disingenuous in arguing that BA-NY’s alleged failure to provide local service requests ("LSR") on the first targeted date caused the pilot to falter.

As they well-know, the intent of the pilot was to have 300 pilot lines provisioned before the prototype LSR was issued, and additional lines provisioned after it was issued. The LSRs were delivered within a month of schedule and, therefore, still could have added to the total picture at the later stages of the trial if the DLECs attempted to provide more lines. During the pilot, 46 of the total 68 orders placed by DLECs were wired to completion; the remaining 22 were canceled for various reasons. The CLECs actually turned up only 9 of those lines. In any case, regardless of why sufficient orders were not sent, the fact remains that neither BA-NY nor the DLECs gained sufficient experience during the New York pilot to immediately reduce the interval to three business days.

Q. Please respond to the complaint that BA-MA is wrong in stating that agreeing to a six business day interval in the May Agreement on Line Sharing is not sufficient to set intervals here.

A. BA-MA’s intent was not to say that RLI/Covad had no right to litigate the interval here. BA-MA’s intent in citing the earlier agreement was to demonstrate that the six day interval was reasonable even if the CLECs do not find it preferable. If BA-MA had proposed an outrageous interval, such as 45 days, the CLECs would not have signed the agreement and would have pursued the expedited arbitration process, if they thought they could not operate their businesses with a six-business day interval.

Q. RLI/Covad say that for loops that require conditioning, BA-MA should be allowed five business days to complete this work. Do you agree with that?

A. No. In many cases conditioning work is equivalent to a full construction job. Sometimes, as in the case of load coil removal, plant must be reconstructed at numerous locations over several miles. If the job is not done properly, other customers served by those facilities will be also be affected. The May Agreements on Line Sharing between BA-MA and RLI/Covad, as well as others previously signed by some DLECs for conditioning on UNE ADSL loops, call for a 15 business days rather than five days. This is the appropriate interval that should be adopted by the Department.

Q. Please discuss what has happened on the issue of intervals in other jurisdictions.

A. Yes. To the best of Bell Atlantic's knowledge, three other jurisdictions have ruled on this issue: Texas, California and Pennsylvania. A California Arbitrator's Final Decision essentially agrees with BA-MA's proposals, i.e., that line sharing intervals should be set at parity with the wholesale intervals for DSL UNE loops. In Texas (where the ruling was interim), the Commission reached a compromise and ruled for something in between the CLEC and incumbent LEC proposals. In a Pennsylvania Recommended Decision (the "PA RD"), an arbitrator accepted RLI/Covad's arguments and has recommended a series of staggered dates of ever-shorter provisioning intervals. The arbitrator had no choice but to accept one party's position on the issue because the arbitration was established as a "best and final offer" proceeding.

Q. Please explain the compromise position reached in the Texas interim order.

A. The Texas interim order allows additional time for large orders, i.e., requests with 20 or more lines per order or per location have intervals of 15 business days, and are also entitled to Individual Case Basis ("ICB") negotiated intervals when they require conditioning. BA-MA agrees with these aspects of the order, and recommends that similar conditions be adopted in Massachusetts. BA-MA believes, however, that the threshold for a large order should be 10 (not 20) lines. For the reasons described above, the Department should not follow the Texas interim order as it relates to intervals on requests under 20 lines. The order allows only three days for provisioning copper line sharing loops, and only 10 days for provisioning such loops if conditioning is required, which are extremely short intervals especially because line sharing is still in its early stages of development.

Q. Please describe the findings in the PA RD?

A. First, it must be noted that the PA RD has not yet been adopted by the Pennsylvania Public Service Commission ("PPSC") and Bell Atlantic-Pennsylvania ("BA-PA") will be shortly filing its exceptions outlining the reason the PA RD is wrong. Second, the PA RD is based on a number of flawed premises. For example, the arbitrator states that "the work needed to provision line sharing should take place entirely in the CO. Because the actual central office wiring work needed to provision line sharing can be completed in a matter of minutes, BA-PA should be able to coordinate all of that activity to be finished on the same day." As described above, there is much more work involved than a few minutes of wiring in the CO. Nevertheless, the PA RD ignored all of the front and back end work that must occur and ruled in favor of RLI/Covad. No compromise between BA-PA and RLI/Covad's positions was possible because of the nature of the arbitration, i.e., a "best and final offer" proceeding.

Augmenting Cabling And Splitter Capacity

Q. Do you agree with RLI/Covad that the appropriate interval for augmenting splitter capacity is 30 days?

A. No. As stated in BA-MA's direct testimony, a 30-calendar day interval could result in a timeline of as little as 19 work days. This interval is unrealistic and should not be adopted by the Department. Instead, the Department should approve the

76-day interval proposed by BA-MA. That interval is consistent with the standard physical collocation interval adopted by the Department in Phase I of this proceeding. The application of the same interval is appropriate because the work required to implement a line sharing collocation augment is essentially the same as for other collocations arrangements.

The 76-day interval was based on many factors, the most significant and largest of which is the engineering, furnishing, installation and testing of the cabling and frame termination. Neither RLI/Covad nor DBC demonstrate that a shorter timeframe is reasonable or achievable in practice. Moreover, BA-MA should not be required to set installation intervals based on a particular type of equipment installation or service being offered by a customer. All applications for collocation are processed on a first-come, first-served basis subject to the availability of space and facilities. This non-discriminatory treatment of all collocators ensures that every customer, regardless of the technology being used or the equipment being installed has the same opportunity to collocate.

Are RLI/Covad correct in stating that there are no technical reasons that BA-MA cannot install splitters and tie cables in 30 calendar days for line sharing?
A. No. Each of the reasons they give to support the 30-calendar day interval is fundamentally flawed.

First, they rely upon the PA RD and Texas interim order to support this interval. The section of the Texas order cited by RLI/Covad does not address the installation of splitters and only discusses the installation of tie cables. In fact, the order states:

During the interim, the Arbitrators order that the tie cable provisioning intervals provided in SWBTs' existing collocation tariffs shall govern, as this issue is not unique to the High Frequency Portion of the Loop ("HFPL") UNE. Therefore, the appropriate provisioning interval for tie cables, provisioned by SWBT, is equal to the intervals delineated in SWBT's collocation tariff.

The installation of tie cables is a separate function from splitter installation and is not included in the 30 day augment interval in Southwestern Bell Telephone's ("SWBT") Texas tariff. Based on a review of SWBT's tariff, the collocation of splitters would fall under the existing collocation intervals and could vary from a minimum of 75 days to a maximum of 278 days. As for the PA RD, it blindly accepted RLI/Covad's misrepresentation of the Texas order.

Second, RLI/Covad erroneously claim that based on experience, it is clear that ILECs can accomplish installations of simple cross connect/tie cables in 30 days. That assertion has no basis in fact. For the first six months of 2000, the average augment interval in Massachusetts is 68 business days. That average is based on 233 actual completed augment arrangements that included cabling additions. This is in contrast to RLI/Covad's 30-day interval, which is based on mere speculation and not supported by evidence that splitters and tie cables can be installed in COs in 30 days.

Should the Department adopt the 30-calendar day cable augment interval?
No. The collocation augment interval should not be tailored to a specific business or market strategy of a single class of customers. Many customers collocate in BA-MA's central offices in order to provide a wide variety of services. The identical facilities at question in this proceeding are used by all competing carriers in the provision of POTs services, competitive interstate access service and various competitive private line offerings including DSO, DS1 and DS3 arrangements. Line sharing is only one example of services currently provided over these facilities. Likewise, collocation for data services utilizes the same space for equipment, cabling and frame terminations as does any physical or virtual collocation arrangement, including CCOE and SCOPE. Therefore, a decision to modify the current collocation augment interval must be examined the entire collocation augmentation process. It must include all customers in a fair and open forum with participation from all interested parties to ensure any modification to the existing

approved collocation intervals do no adversely impact the needs of all competitive carriers.
If the Department determines that a collocation augment for line sharing is subject to a shorter interval than collocation for the purposes of providing other types of competitive service, unfair treatment of competing carriers would occur. DLECs would be given preferential treatment and would disrupt the management of the available space and facilities and, more importantly, the resources that are required for other forms of collocation for competitors, regardless of the line of business they choose to enter. Providing different augment intervals will make a complex process even more complex and impact the assignment of resources for like collocation work for other CLECs and potentially create different treatment based on the type of business a CLEC/DLEC decides to pursue.

For example, a xDSL provider that ordered voice grade connection on the same day as a CLEC providing POTs would jump ahead of the CLEC POTS provider. In addition, the same resources, both internal and external, would be used to complete the requests causing possible further delay to the overall collation provision process. The current BA-MA collocation interval balances customer demand and BA-MA's ability to coordinate and project mange many different customer requests for collocation augments and new build-outs. BA-MA uses a standard provisioning interval of 76 business days for augments. This standard interval provides the CLEC with the ability to perform all the work necessary in their own network and coordinate their work activities with those of BA-MA and plan their market strategy accordingly.

Q. Would a shorter period to perform collocation augments be necessary to ensure DLEC provisioning of Line Sharing?

A. No. Such an argument assumes that the DLECs are ready in every location to provide line sharing and are simply waiting for BA-MA to complete the collocation augment. This assumption is incorrect. RLI/Covad's claim that a shorter interval for the collocation of splitters is necessary for them to compete is also incorrect. The DLECs themselves must upgrade/install new equipment in their networks, as well as augment their capacity at BA-MA's COs, in order to line share.

Related to the upgrade of the DLECs' equipment are their internal intervals for forecasting, planning, ordering and engineering associated with the installation of equipment. DLECs could integrate the collocation augment interval into their internal planning processes and coordinate these timelines in conjunction with their business plans. In an effort to solve their internal planning problems, the DLECs would like to shift all of the responsibility for the purported delay of their market entry to BA-MA. Any telecommunications carrier should have the ability and tools to effectively monitor and track the inventory of existing capacity. It should be the DLEC that has the responsibility to effectively manage its own network configuration and submit applications to augment existing collocation arrangements to meet their service demand well in advance of the standard 76-day interval. BA-MA should not have to strive to meet unrealistic dates and pay excessive costs for overtime and weekend work activities to meet a proposed interval that is not based upon the factual representation of the scope and magnitude of work required by all parties.

Finally, it would be particularly inappropriate to impose a special, accelerated collocation augment interval in light of the fact that there has been no demonstration that it is necessary in order to serve any DLEC's business needs. Using the standard 76-day interval will simply require that each CLEC assess its business needs and plan accordingly using the timeframes that apply to all collocation requests. This is not unreasonable and cable augments can be accomplished by any CLEC without any inconvenience to customers or disruption of its business plans. Moreover, while RLI/Covad may claim that it will enhance their business plans to receive preferential treatment in collocation matters for line sharing, this would not be fair to other potential collocators not engaged in line sharing. Such disparate treatment is unfair to these other CLECs (purchasing whole loops) and to the customers they serve.

Operational Issues
Splitter Ownership

Q. Should BA-MA provide all of the splitter options requested by RLI/Covad and DBC in their respective testimony, including ILEC ownership of the splitter?

A. No, as explained in BA-MA's direct testimony, BA-MA is not obligated to own splitters on behalf of DLECs. Furthermore, BA-MA demonstrated in detail why such an arrangement would be inefficient and unfair to BA-MA. Nothing in either DBC or RLI/Covad's testimony changes those conclusions. In addition, the same conclusion was reached in the California Arbitrator's Final Decision and the PA RD. Those decisions found that an ILEC had no obligation to assume the financial risks associated with owning splitters, which are only used in the network for line sharing by a CLEC. Recently, the FCC, in recently approving SBC Communications' Section 271 application, clearly stated that an ILEC does not have obligation to make a splitter available in line-sharing arrangements.

Did the FCC find the Main Distribution Frame ("MDF") mounted splitter to be the most efficient network design?

A. No. While the RLI/Covad testimony appears to indicate that the MDF mounted splitter was the preferred option in US West's territory, this was not the case. For splitters that are not in the CLEC's collocation node, the first choice for both BA-MA and US West (and the most widely deployed), is a relay rack mounted splitter terminated on Distributing Frame ("IDF" or "MDF"). These splitters are limited to COs where there is no space for a relay rack mounted splitter.

Q. Why is the MDF mounted splitter the least preferred option at US West?

A. The only MDF mounted splitter available to BA-MA's frame is not NEBS compliant. Moreover, space on MDFs is limited and this application is not applicable to all types of MDFs (e.g., cosmic frame).

Q. Is the installation of a splitter by BA-MA the most efficient way to create access to the high frequency part of the loop?

A. No. It is not. The most efficient way is for splitters to be designed, technically mated and hardwired to Digital Subscriber Line Access Multiplexers ("DSLAMs"). In fact, some vendors already integrate the DSLAMs and splitters, negating the need for a stand-alone splitter. This minimizes stranded investment as technologies evolve. It also synchronizes inventory between DSLAM and splitter installations and ensures the highest quality of service on the data-only leg of the service by hardwiring the connections. At least one CLEC in Massachusetts has decided to use Scenario A, where the splitter is mounted in the CLEC's cage.

Q. Can CLECs obtain access to the high frequency portion of the loop today?

A. Of course. By installing a splitter in a physical or virtual collocation area, voice CLECs can utilize the high frequency portion of the loop.

Q. Are there technical impediments that prevent BA-MA from owning splitters?

A. There are different and evolving technologies for ADSL, RADSL, and MVL, that have different requirements for splitters. In addition, splitters are being deployed with different test capabilities. The CLEC's DSLAMs and test requirements will dictate the splitter type. If BA-MA were to invest in a limited subset of desired-splitter types, either innovation would be stifled or BA-MA would be left with stranded investment as CLECs request newer technology .

Q. Do you agree that BA-MA should be required to adopt practices relative to splitter ownership and installation alternatives that support CLECs' business plans?

A No. There is no requirement imposed by the FCC that incumbent LECs modify, purchase or construct plant that is not justified by sound business economics. BA-MA has the responsibility to provide parity of access to UNEs to all third parties.

BA-MA is not required under the Act or FCC rules to finance CLECs' purchase of facilities.

In addition, there would be no efficiencies realized because in order for CLECs to assign CFAs, as they do today, blocks of each spliter shelf would have to be reserved for each CLEC, thus creating underutilization. Finally, to the extent that CLECs want to share splitters today, they can pool their resources or one CLEC can purchase a splitter and lease it to the others. Thus, there is no reason why BA-MA would need to own the splitters for sharing to occur.

Q. Is line at-a-time design the most efficient design as RL/Covad propose?

A No, it is not. First, that proposal hinges on BA-MA's ownership of the splitter, which, as already stated, will create stranded investment as technology evolves. Second, this design does not consider the fact that many wiring arrangements could be employed by DLECs. This proposal, with its hypothetical simplicity, does not stand up to scrutiny unless only this solution were mandated for all installations and all existing work were rewired or re-inventoried. Since there are multiple DLECs and multiple space and frame arrangements in Wire Centers, any proposal must address all of these various possibilities. The diagrams, attached as an Exhibit to this testimony, demonstrate the true complexities of a line at-a-time proposal when compared to the scenarios offered by BA-MA. Diagram 1 depicts the simplicity with which line sharing could be provisioned in either Scenario A or C, while Diagram 2 depicts the multiplicity of wiring arrangements that would be encountered if the option proposed by RL/Covad were added to the mix.

Q. Does RL/Covad's proposal ensure the continuity of voice service as claimed?

A As indicated above, this situation would only exist if this option was the only one available. Currently, as well as going forward, a DLEC may opt to purchase and install its own splitters because of their unique requirements. BA-MA would then be faced with the issue of managing and wiring for both owned and non-owned splitters. Where voice service is concerned, changes in the voice provider in the mixed scenario RL/Covad advocates would certainly require rewiring, and could result in stranded splitters and cabling. With the scenarios offered by BA-MA, changing voice service would never require rewiring and it is almost a certainty that the churn generated by voice service changes will be significantly higher than those on the data service side.

Regarding disconnection of voice service under Scenario C, the planned Methods and Procedures developed by Bell Atlantic call for Double Tapping or Back Tapping the switch OE equipment to the customer loop facility during initial installation and at any other time when any rearrangement work is performed on a customer's line. Any service interruption to the voice line would be no different from the interruptions a voice customer is subject to during the course of any installation or repair work on their line. The same frame procedures would apply to Scenario A where the splitter is located in the DLEC's collocation space.

Testing Access

Q. Do you agree with RL/Covad's statement that it is more cost effective to dispatch a technician than installing metallic test access units ("MTAUs") across all line shared loops?

A. No. Without knowledge of how many loops in any one office will have line sharing, the number of collocators, the specifics of the Wire Centers MDF layouts (quantity, type, location) and the level of troubles experienced, the statement is pure conjecture. While some COs may be manned and close, many others are unmanned except during dispatch. DSL UNEs with reported troubles can be tested via associated MTAUs and MTUs from centralized locations using hard wired access points. Test results can be compared and evaluated prior to a dispatch to an MDF location at a remote CO that may be 20-30 miles from the centralized test center. Additionally, if an office is unattended for any part of the day, testing can still be performed through the MTAU to determine whether or not a dispatch to the location will be required. The

installation of remote testing will provide test results, in a high level of detail and faster than a dispatch, restoring the end user customer's service more quickly.

Q. Are the hand held test devices as accurate as remote testing through an MTAU, as RLI/Covad assert?

A. No. The range and functionality of hand held devices varies considerably and covers many items. Assuming that the hand held test device has the same test capabilities as the hard wired test head there are a number of significant disadvantages to such a device that can have an impact on service quality and timeliness. The fixed, hard-wired test head's electronic interface insures access to the correct pair, will not disturb adjacent pairs during any test, tests and records time interval and test results, and does not intrude on the voice or data transmission that is required for certain tests without pretesting for presence of voice.

On the other hand, the hand-held device does not provide trouble resolution advice/direction that is available in a centralized system and is limited by the care taken by and the expertise of the individual technician. Hand-held devices can be clamped on the incorrect pair through misreading the stenciling, requires the removal of cross connect (jumpers), and can disrupt ongoing voice and data transmissions if not checked ahead of time. Moreover, while most testers have dedications to a single type of DSLAM, the hand-held devices cannot separate the outside plant loop from the switch, providing isolation between the loop and other devices and services connected to it.

In BA-MA's experience and practice, the use of standardized centralized testing is more efficient than reliance on a multitude of hand held devices of varying capabilities. Software upgrades and corrections are easier to perform. Hand held devices can be lost, stolen, or damaged. They are also more likely to be used incorrectly. Above all, a centralized system allows all users to see similar results. Thus, cooperative testing and trouble resolution is facilitated.

Q. Has BA-MA declined to consider testing at the MDF?

A. No. BA-MA has agreed that when all other tests have failed to resolve a problem, BA-MA will perform testing at the MDF, but to insure the integrity of all CLECs as well as BA-MA customer circuits, this testing will be conducted jointly. This is contained in the May Agreement currently in effect with RL/Covad. The joint testing is especially important in those buildings that contain multiple MDFs and IDFs on multiple floors. Technicians unfamiliar with the layout of a particular building may waste time searching for the location of the needed cable and pair to insure that the correct pair and termination is tested.

Q Does BA-MA permit parties other than BA-MA employees to work on the MDF?

A. Any work performed on active lines on the MDF is performed solely by BA-MA employees. Contractors approved by BA-MA have access to the space where the MDFs are located but only for the purposes of performing additions, modifications or removals of frames without working on services in place.

Q. Rhythms/Covad claim that BA-MA must provide DLECs "direct physical access … to any loop …where the combined voice and data leaves the central office…" in order to comply with Rule 51.319(h)(7)(i). Do you agree?

A. No. They agree that in Scenario A (splitter in cage) BA-MA's test access satisfies BA-MA's obligations under the Rule. However, they attempt to expand the requirements of the Rule by implying that it requires some form of access at an arbitrary point "where the combined voice and data leaves the central office." No such requirement exists. As a preliminary matter, this attempt to expand the requirement is based on the DLEC's business decision not to accept the arrangement that permits the installation of the splitter in their collocation arrangement thereby, providing direct access to the splitter. In any case, there is nothing in

the Rule that requires testing access where the loop leaves the central office. The Rule requires that the incumbent LECs "provide, on a nondiscriminatory basis, physical loop test access points …at the splitter… through a cross connection to the competitor's collocation space, or through a standardized interface… ." Furthermore, the parties discount the fact that even when the splitter is in BA-MA space, BA-MA provides access to test points for both the low and high frequencies. Under this arrangement, the DLECs have access to the higher frequency through a cross connection to its collocation arrangement. This is consistent with the Rule. In addition, the DLECs are offered access to the low frequency portion of the loop through MLT access. This is also consistent with the requirement to provide access to a standard interface. Moreover, DLECs have the ability to deploy their own test equipment as part of the equipment installation process. The Rule requires nothing more.

OSS Issues

Q. Is Bell Atlantic providing preferential access to OSS for its advanced services affiliate?

A. No. Currently, BANDI utilizes the exact same interfaces, process and procedures as every other DLEC. Although BANDI exists only in New York at the present time, the same conditions will apply when it is implemented in Massachusetts.

On page 65, RLI/Covad claim that "the CLECs have been given no real specific information on what the Telcordia solution will provide" for electronic processing of line share orders. Has Bell Atlantic provided this information to the CLECs?

Yes. Currently, CLECs have the ability to, and do, in fact, electronically process their line-sharing orders to BA-MA. Internally, until Bell Atlantic signs a Telcordia agreement enabling 11 OSS to be upgraded, these orders will continue to be handled in a semi-manual mode. At the request of the NYPSC Staff in the New York Collaborative, BA-NY arranged for a Telcordia representative to attend the Operations and Engineering teams' meeting on June 1, 2000 and present to the CLECs the OSS line-sharing enhancements that Telcordia is developing to allow electronic processing of line-sharing orders. The Telcordia representative reviewed the capabilities Telcordia plans to deliver and answered all questions from the collaborative subgroup. All CLECs were given ample notice of Telcordia's participation in this meeting and the opportunity to ask any relevant questions.

Line and Station Transfers

Q. The DLECs have proposed a requirement to provide Line and Station Transfers ("LST") when a customer is served by a loop that suffers interference and a spare copper pair running from the demarcation point at the end-user premises to the serving wire center is available. Should the Department adopt this requirement?

A. No. This is an operational as well as legal issue and such transfers should not be required. In any case, this is not ripe for resolution at this time. By definition, line sharing pertains to the sharing of the high frequency portion of an existing copper loop providing service and not, as CLECs would have it, sharing a loop which an ILEC must create for a CLEC's benefit. Moreover, while BA-MA has agreed to provide a line and station transfer (or "pair swap") for stand-alone DSL loops, it should not be mandated, however, to require it in the line sharing context because of the complexities involved.

First, it should be remembered that one of the primary purposes of Digital Loop Carrier ("DLC" is to serve customers who are at a great distance from the CO. In such cases, remaining copper facilities, which run parallel to the DLC, are often designed with load coils and are not suitable for line sharing. Conditioning is required to remove these loads. This conditioning, however, would also impair the voice grade service provided by BA-MA. In short, LSTs may generate disruption of the voice service being transmitted on the shared loop and require line conditioning.

Second, implementation of LSTs could require the movement of a large number of working lines to provide all copper loops to the requesting CLECs. The fundamental premise of the CLECs' argument for this requirement – that LSTs will allow customers to access high speed data service "without interruption of their voice services" –

is disingenuous and false. Nevertheless, BA-MA agrees to perform LST for all CLECs to the same extent as it may provide them for its own data affiliate, BANDI. Moreover, to the extent such LSTs are provided, BA-MA should be entitled to recover the costs of performing the transfer.

DIGITAL LOOP CARRIER ISSUES
Q. Do you have a general response to the issues the DLECs raised regarding Digital Loop Carrier ("DLC") issues?

A. Yes. As a preliminary matter, it is important to distinguish among three different issues: first, whether DSL transmission technologies can operate on the fiber feeder portion of DLC equipped loops; second, whether line sharing arrangements should encompass such fiber feeder; and third, whether high-speed retail data access services, such as Bell Atlantic's Infospeed® service and competing DLEC services, can be provided over DLC-equipped loops. DLECs have repeatedly blurred these issues.

The answer to the first question is clearly "no." ADSL transmission technology by definition only functions on copper cables. DSL technology in general currently can not be used on an end-to-end basis over loops that are served utilizing fiber or DLC systems or for that matter, a combination of fiber and DLC. DSL requires copper in order to function.

Second, as defined by the FCC, the "Line Sharing Unbundled Network Element" includes only "the high frequency portion of the local loop," which in turn is defined as "the frequency range above the voiceband on a copper loop facility used to carry analog circuit-switched voice and transmissions." Consistent with this definition, the FCC's Rules only address line sharing on copper loop facilities. Although RLI/Covad attempt to do so, they cannot expand the definition of "line sharing" in order to impose line sharing obligations on fiber facilities, such as fiber DLC feeder subloops.

The answer to the third question, whether data access services can be provided on an end-to-end basis over DLC-equipped loops, is a firm "maybe." While some technologies are being explored today, numerous technical and operational issues related to service for multiple carriers will have to be resolved before data services can be offered on a routine basis. One thing is clear, however: BA-MA cannot be required to provide unbundled, wholesale access to such an end-to-end service, since it would necessarily include packet switching equipment (such as DSLAMs) that, as discussed below and in its direct testimony, BA-MA is not required to unbundle. Moreover, BA-MA does not have any DSLAMs in the Remote Terminal Equipment Enclosures ("RTEE") in Massachusetts.

"Line Sharing" For CLECs On Fiber Served Loops
Q. RLI/Covad at pages 81through 83 refer to a "plug and play" approach for placing DSLAM line cards in the DLC electronics at the remote terminal. Is this approach really this simple?

Definitely not. There is no "plug and play" equipment. RLI/Covad only address one small piece of the task of terminating DSL service at the Remote Terminal ("RT") and the separately transporting packetized traffic and digitized voice from an RT back to a central office. They are focusing on DSL electronics, but ignoring the transport requirements. But, the placement of DSLAM electronics at a RT would serve no purpose without the adequate provisioning of data transport between the RT electronics and the central office, as well as the placement of ATM routing capabilities at the CO. The addition of DSL services to the DLC route will require additional transport capacity to send the packetized data from the RT location back to the CO. If this transport is being shared across multiple DLECs, there are additional capacity and planning considerations. Once the data arrives at the CO, ATM routing capability must be added in order to route a customer's specific data service to the appropriate DLEC's packet switching network. This requires the placement of an ATM concentration device (or edge switch) to perform this routing function.

Are there other implications of a "plug and play" scenario related to the RT electronics?
Yes. In addition to the transport and ATM routing functions discussed previously, there are additional factors related to the vendor electronics at the RT. At the May 10th FCC Forum on "Competitive Access to Next Generation Remote Terminals," vendors discussed the complexities associated with integrating full ATM functionality into existing DLC electronics. These complexities, which are not yet developed into hardware, included the ability to administer multiple Permanent Virtual Circuits ("PVCs") with different "Quality of Service" requirements across the line cards. While vendors continue to develop additional DSL capabilities, there was clearly no agreement from the RT electronics vendors that opening up their backplane interfaces was a viable option for achieving so called "plug and play." In addition, vendors highlighted the issues of compatibility between the RT electronics and second party line cards, as well as equipment warranty considerations, as additional obstacles to a "plug and play" environment. Furthermore, having multiple CLECs provide multiple plug-ins at RTs would have a significant negative impact on the overall capacity utilization at the RT.
Can currently deployed vendor DLC electronics support the multiple Asynchronous Transfer Mode ("ATM") options for transport of the requesting carrier's data services over BA-MA's fiber feeder facilities?
A. No. Vendors present at the FCC Forum acknowledged that full support of all of the presently defined ATM classes of service and the accompanying "Quality of Service" requirements would necessitate that the equivalence of ATM edge switch functionality be incorporated into the DLC electronics. Vendors are essentially trying to shoe-horn a packet data service into a DLC that was intended to serve 4 khz voice traffic. As such, existing developments are intended to support a mass market ADSL offering – not the business SDSL-based services offerings that CLECs seek to offer. While vendors at the FCC Forum described support of ATM as the "end game," existing DLC electronics are not designed to support all classes of ATM service and have not incorporated many of the "Quality of Service" parameters that would be required to offer Class A, B and C configurations of ATM. While some DLC vendors are developing features for Available Bit Rate and Unspecified Bit Rate for ADSL (Class D), full support for Constant Bit Rate (Class A) and Variable Bit Rate (Classes B and C) and the associated "Quality of Service" requirements does not currently exist and will require significant future development.

RLI/Covad discuss the provisioning of DSL service from a fiber fed RT and line sharing at the RT in the same context. Are there differences between packetized transport of DSL services from an RT and line sharing at the RT?
Definitely. As noted above the concept of "line sharing" simply does not apply to fiber facilities. Fiber facilities can be provided to CLECs for use in transporting packetized data traffic from the CLEC's remote DSLAM to a CO, but such facilities would be but a single component of an end to end data service that would have to be assemble by the CLEC from wholesale components. It is distinct from shared use of a DLC equipped loop on an end-to-end basis- something that BA-MA is not required to offer.
PACKET SWITCHING ISSUES
Compliance With FCC UNE Remand Order
Q. Do you wish to comment on the questions and representations offered by RLI/Covad regarding BA-MA's recent Collocation at the Remote Terminal Equipment Enclosure ("CRTEE") and Unbundled Sub-loop Arrangement ("USLA") tariffs.

Yes. RLI/Covad's first criticism concerns BA-MA's offer to provide CRTEE collocation in Telephone Company leased space in buildings not owned by the Telephone Company. RLI/Covad points out that they are able to negotiate their own space inside these buildings. BA-MA applauds this approach, but is unclear whether a tariff revision (e.g., removal of leased space from the tariff) has been requested by RLI/Covad. Surely, they are not objecting to having additional alternatives available to them.
RLI/Covad allege that the CRTEE provisions are inadequate regarding refusal of service because of space exhaust. Do you care to comment?
The CRTEE tariff is structured such that the D.T.E. Tariff No. 17 provisions for CO collocator space unavailability apply. Accordingly, no tariff modifications are necessary to accommodate the RLI/Covad request.

RLI/Covad also allege that the CRTEE tariff provisions regarding minimum space requirements and a physical demarcation point are undesirable. Please comment.
Regarding minimum space requirements, CRTEE space is available in quarter rack increments and BA-MA intends to support CRTEE in quarter rack increments. Regarding a physical demarcation point, for physical collocation, a physical demarcation point is always necessary to delineate where the maintenance and repair responsibilities of BA-MA and the CLECs begin and end. For the collocation of transmission equipment, it is logical that this point appears at a frame to facilitate fault isolation and repair.
RLI/Covad object that BA-MA provide and maintain the cabling between the CLEC demarcation point and the Telephone Company cross-connect point. RLI/Covad requests that their personnel be granted the right to perform the cross connections on the BA-MA cross connect points. Please comment.
A. These cables correspond to the Company-provided SAC and IAC cables that have been in place for CO collocation for some time. The connections between the TOPIC and the MDF are analogous to the connections between the POT Bay and Feeder Distributuion Interface ("FDI"). Regarding which company performs the cross connection on the Company cross connect points, several points should be made:

(1) RLI/Covad admits that a cross connection is necessary for each sub-loop element in order to connect each UNE sub-loop element at the RTEE. Their allegation appears to be that their personnel can perform the cross-connection less expensively than BA-MA personnel. RLI/Covad offers no evidence to substantiate this allegation.

(2) Service for non-RLI/Covad customers appears on these cross connection frames. BA-MA would be unable to guarantee the quality of its service to these third party customers if RLI/Covad were allowed access to BA-MA’s cross connection points.

Please comment on RLI/Covad’s objection object to BA-MA’s proposal for recovery of space conditioning costs.
RLI/Covad’s comment is that space conditioning generally should not be required. If RLI/Covad are correct, then generally they will not be assessed charges for space conditioning and RLI/Covad need not be concerned with this provision. Paradoxically, RLI/Covad appear to be concerned. This paradox can be resolved once it is recognized that RLI/Covad plan to request the collocation of DSL related equipment that typically draws significantly more power and generates significantly more heat than POTS related equipment. As RLI/Covad’s witnesses well understand, BA-MA’s RTEE’s have not been designed and powered in contemplation of DSL services. BA-MA should be allowed to recover the costs of any necessary conditioning activities to support this and other unforeseeable equipment requirements.
RLI/Covad suggest that they might have objections to two of the three "application inquiries" created for CRTEE collocation. Do you wish to comment?
Yes. The Serving Address Inquiry provides the range of served addresses to enable the CLEC to determine whether to go forward with collocation at a particular RT. This is analogous to being provided the serving area boundaries of a CO to understand the market opportunity of a collocation arrangement in the CO. The range of serving addresses is a critical piece of information for the CLECs, and BA-MA voluntarily made it available to them to facilitate their decision-making processes. The Preliminary Engineering Records review is intended to be a low cost alternative to the site survey for obtaining some basic data regarding the RTEE (i.e., type of enclosure and easement). This query provides important information to the CLEC regarding space availability and potential site preparation work without incurring the significantly greater expense of the Site Survey Inquiry. Regarding RLI/Covad’s requests for additional information regarding BA-MA’s RTs, it is not clear whether any additional information would be: (a) relevant to the decision to collocate or (b) would not be considered proprietary by BA-MA.
RLI/Covad propose a cabling arrangement to facilitate line sharing access to BA-MA’s feeder and distribution pairs. Please comment.
A. RLI/Covad propose a direct cable connection between the CLEC’s equipment in the RTEE and the Feeder Distribution Interface ("FDI"). BA-MA’s tariff specifies that the CLEC should provide an interconnecting cable between its equipment at the RTEE and its Telephone Company Outside Plant Interconnection Cabinet ("TOPIC") near the FDI. The FDI would be interconnected to the TOPIC under the USLA tariff under D.T.E.

Tariff No. 17. The TOPIC is necessary because: (1) In those cases where the FDI is removed from the Remote Terminal Enclosure, the CLEC will need to install a TOPIC near the FDI to house the CLEC's splitters. The alternative of running BA's voice signal from the FDI to the RTEE to be split and then returning the signal to the FDI to pick up BA's feeder plant introduces voice service degradation; and (2) In those cases where the FDI is at or adjacent to the Remote Terminal Enclosure and the CLEC has collocated equipment in the RTEE, the CLEC will need a TOPIC to perform cross connections to its equipment collocated in the RTEE.

Typically, BA-MA does not include a voice/twisted pair cross connect frame within its RTEEs and accordingly does not design its enclosures, ROW, etc, to accommodate frequent access to perform such cross connections. BA-MA performs its cross connections at the FDI. Accordingly, the CLEC will require a cross connect frame external to the RTEE to perform its cross connections similar to the manner that BA-MA conducts operations. The TOPIC would house this cross connect frame.

In the limited cases where BA-MA does have its FDI within the RTEE, the CLEC can arrange for a cross connect panel/demarc to be installed in the relay rack the CLEC is provided under collocation. In this circumstance, the cross connect panel in the relay rack can be treated as a TOPIC.

Q. RLI/Covad observe that the sub-loop offering filed by BA-MA on May 17, 2000, provides for access to distribution sub-loops. RLI/Covad appear to allege that this is in violation of the remand order and that BA-MA is refusing to provide access to feeder sub-loops. Do you wish to comment?

A. Yes. The UNE Remand Order specifies that sub-loop elements are to be introduced pursuant to customer negotiations. Going beyond the requirements of the UNE Remand Order, BA-MA introduced a distribution sub-loop offering with the understanding that access to BA-MA's copper distribution was the sub-loop element most desired by the DLECs. BA-MA has always been ready to negotiate terms and conditions for a feeder sub-loop element and made a commitment to tariff such an offering, even without negotiations, at the collaborative.

Q. RLI/Covad criticize the requirement that a physical presence (i.e., a TOPIC) near the FDI to obtain access to BA-MA's distribution sub-loops. Please comment.

A. Yes, if the DLEC does not establish a presence near the FDI, BA-MA would not have a place to terminate the distribution sub-loop. This is analogous to an attempt to order a UNE loop to the CO without first arranging collocation in the CO.

Q. Please comment on RLI/Covad's allegation that BA-MA will not allow CLEC's to use existing easements.

A. The Tariff provides that the CLEC must obtain a right of way or easement for its TOPIC. The tariff does not state that the CLEC may not ask for these easements or rights of way from BA-MA or from BA-MA's right of way or licensing group.

Q. RLI/Covad characterize BA-MA's sub-loop application and interconnection process as burdensome, time consuming and expensive. Please comment.

A. The work effort for sub-loop interconnection is comparable to that required for many aspects of CO collocation. Inherently, sub-loop interconnection will be time consuming. The issue is whether BA-MA's provisions are unduly burdensome, time consuming and expensive and the answer is that they are not.

BA-MA's Obligation To Provide Packet Switching As A UNE
Q. Do you agree with the CLECs assessment that the alleged inherent inferiority of longer copper loops and the lack of space in remote terminals require BA-MA to provide expanded access to unbundled packet switching.

A. No. Under current circumstances BA-NY has no obligation to provide unbundled packet switching to DLECs. The FCC requirements are tied to the deployment of DSLAMs

at RTs, which BA-MA has not done as yet. Therefore, the test for unbundled packet switching.

In the UNE Remand Order, the FCC instituted a national policy framework to be used in determining whether particular network elements should be unbundled. Using this framework, the FCC concluded "given the nascent nature of the advanced services marketplace, we will not order unbundling of the packet switching functionality as a general matter." UNE Remand Order, at ¶ 306. The FCC, however, identified and codified one limited exception to this rule under which an ILEC would have to provide nondiscriminatory access to unbundled packet switching. Section 51.319(c)(3)(B) of the FCC rules very clearly states that "[a]n incumbent ILEC shall be required to provide nondiscriminatory access to unbundled packet switching capability only where each of the following conditions are satisfied: (emphasis added)

(1) The incumbent LEC has deployed digital loop carrier ("DLC") systems including, but not limited to, integrated loop carrier or universal digital loop carrier systems; or has deployed any other system in which fiber optic facilities replace copper facilities in the distribution section (e.g., end office to remote terminal, pedestal or environmentally controlled vault);

(2) There are no spare copper loops capable of supporting xDSL services that the requesting carrier seeks to offer;

(3) The incumbent LEC has not permitted the requesting carrier to deploy Digital Subscriber Line Access Multiplexers ("DSLAMs") in the Remote Terminals ("RTs") pedestal, or environmentally controlled vault or other interconnection points (or to take advantage of virtual collocation arrangements at such points); and

The incumbent has deployed packet switching capability for its own use.
Since BA-MA has a tariff provision that allows collocation at RTs and does not have any packet switching capability for its own use, neither condition three or four can be satisfied. Thus, BA-MA is not obligated to provide access to unbundled packet switching under this four-part test. More important, for this test to apply an ILEC must have deployed DSLAMs at its remote. This is not the case for BA-MA.

LINE SPLITTING ISSUES
Q. AT&T contends that BA-MA must allow carriers that purchase the UNE-Platform ("UNE-P") to purchase facilities and equipment that would enable them to simultaneously provide voice and DSL services over a single line. What is BA-MA’s obligation to support line splitting capabilities?

A. None. As required by the FCC’s Line Sharing Order (¶72), BA-MA has an obligation to make the high frequency portion of a loop separately available in instances in which the BA-MA is providing voice service on a particular loop to which the requesting carrier seeks access. Line sharing and Line splitting, however, are not synonymous. Line splitting would involve both the voice and data service being provided by AT&T, or any other DLEC, over a single loop. Such a scenario requires a DLEC to have access to a BA-MA splitter. However, the FCC has explicitly stated that the incumbent LECs may exercise discretion to maintain control over its splitter. Line Sharing Order, at ¶76. BA-MA willingly supports line sharing, however, BA-MA is under no obligation to support "line splitting" capabilities. See AT&T Corp. v. Iowa Utils. Bd., 119 S. Ct. 721, 736 (1999).

Q. Is BA-MA’s understanding of "line splitting" consistent with the FCC’s most recent decisions?

A. Yes. As AT&T should be aware, as part of SBC Communications ("SBC") approved application to enter the Inter-LATA market in Texas, the FCC rejected AT&T's argument that SBC had an obligation to furnish line splitting.

Q. Is BA-MA’s prohibition on line splitting anti-competitive and discriminatory?

A. No. In approving SBC's Section 271 Application in Texas, the FCC considered AT&T's claim of anti-competitive and discriminatory practices by SBC for not allowing AT&T Communications free-for-all access to its network. The FCC concluded:

In the Line Sharing Order, the Commission unbundled the high frequency portion of the loop when the incumbent LEC provides voice service, but did not unbundle the low frequency portion of the loop and did not obligate incumbent LECs to provide xDSL service under the circumstances AT&T describes. Furthermore, as described above, the UNE-P carrier has the right to engage in line splitting on its loop. As a result, a UNE-P carrier can compete [with SWBT's] combined voice and data offering on the same loop by providing a customer with line splitting voice and data service over the UNE-P in the same manner. In sum, we do not find this conduct discriminatory.

See Order Approving SBC's Texas Inter-LATA Application, ¶330.

BA-MA's conduct is consistent with FCC rules. As in the case of SBC Communications, BA-MA has no obligation to provide line splitting in conjunction with its UNE-P offering. It is disingenuous of AT&T to continually raise settled issues.

Q. Do you agree with AT&T's assertion that there are no compelling technical reasons for BA-MA to reject AT&T's proposal for "line splitting?"

A. No. There are significant technical issues associated with the implementation of what AT&T refers to as "line splitting" scenarios. These technical issues span a wide range of items from technical concerns regarding the wiring associated with this configuration to the methods and procedures that will be employed for repair and maintenance and billing in a multiple carrier environment. AT&T's position that there are "no technical limitations" involving line splitting, could give the impression that the process involves nothing more than a customer record change. This is simply not the case.

The various scenarios presented by AT&T would impact the work that needs to be done (e.g., billing, maintenance, etc.) and thereby drive changes in systems and physical configurations. These issues are still ongoing in the New York Collaborative, and should not be decided by the Department without further examination of the myriad of issues. Accordingly, BA-MA is willing to work cooperatively with AT&T, and other DLECs, on these issues.

Q. What action should the Department take regarding AT&T's proposal?

A. The Department must reject AT&T's proposal based on the courts and the FCC's decisions on "line splitting" issues. Aside from seeking unfettered access to BA-MA's network, AT&T is attempting to use this tariff filing to re-litigate settled issues of law. In the Iowa Utilities decision, the Court found, among other things, that " [the Act] does not mandate that incumbent LECs cater to every desire of every requesting carrier". See Iowa Utilities Board v. FCC, 120 F.3d 753 (8th Cir. 1997). Further, the court found that the a CLEC is required "unbundled access only to an incumbent LEC's existing network – not to a yet unbuilt superior one." Id. In this instant, AT&T is demanding that BA-MA build a "superior" network, "cater" to AT&T's requirements, while being fully aware that BA-MA has no legal obligations in the matter.

DSL AND LINE SHARING COSTS AND RATES ISSUES

Splitters

Q. Please respond to RLI/Covad claims that costs and prices be based on the MDF mounted splitter method because it is most efficient, regardless of what method is actually used.

A. At paragraph 145 of its Line Sharing Order, the FCC "[found] it reasonable to establish a presumption that, where the splitter is located within the incumbent LECs' MDF, the cost for a cross connect for entire loops and for the high frequency

portions of loops should be the same". If, however, the splitter is not located in the MDF, then the incumbent LEC should be allowed to adjust the cross-connection charge "to reflect any cost differences arising from the different location of the splitter, compared to the MDF. We would expect that this amount would be only minimally higher than for cross connecting a splitter located within the MDF to the competitive LEC's xDSL equipment".

BA-MA's rate proposal meets this standard. BA-MA's proposal calls for splitters to be mounted on racks, rather than in the MDF. Nevertheless, only two frame cross-connects will be required, either in Option A or in Option C. BA-MA's proposal requires a reasonable amount of cabling for connecting the splitter. For example, other methods may call for a splitter mounted on a cross-connect, which would require many more cross-connects.

In addition, BA has several reasons for not allowing MDF mounted splitters. First, there are presently no NEBS compliant MDF mountable splitters on the market. Second, and more importantly, BA-MA needs to conserve space on its MDFs for providing basic local exchange service, especially in the more congested and dense urban areas. In its March 17, 2000, vacating and remanding the FCC's Advanced Services Order, the District Court of Appeals for the District of Columbia Circuit supported this decision by enabling an incumbent LEC, acting as a landlord, to determine where in its central offices a CLEC can place its equipment.

Q. RLI/Covad claim at page 156 that BA-MA inappropriately intends to charge for splitter maintenance under both Option A (splitter in CLEC cage) and Option C (splitter in BA space). Is their analysis correct?

A. No. As stated on Page 56 of Mr. Meacham's testimony, under Option A, BA-MA is only responsible for the network administration and other support of the line sharing equipment and its integration into the Company's network. Pure maintenance of splitters located in the CLEC collocation arrangement is the responsibility of CLEC personnel. At the time of BA-MA's May 5, 2000, DSL and Line Sharing tariff filing in Massachusetts, a separate cost for network administration and support that excluded the "M" (maintenance), "R" (repair) and testing associated with M and R had not been developed.

Exhibit I to this Rebuttal Testimony provides a revised copy of the Line Sharing Cost Summary (originally submitted as Exhibit II to Mr. Meacham's testimony) showing a separate calculation of the splitter administrative and support monthly cost ($24.99) for Option A.

Q. On Page 164 of their testimony, RLI/Covad recommend their own monthly recurring rate proposal for Splitter Equipment Support. Is the rate RLI/Covad developed in their Exhibit B properly calculated?

A. Absolutely not. The calculations in Exhibit B are flawed in several ways. First and foremost, RLI/Covad is attempting to substitute new cost methodologies in place of those that have already been reviewed and approved by the Department in the Consolidated Arbitration proceedings.

BA-MA developed its splitter installation non-recurring cost based on the purchase of splitters in increments of entire shelves including plug-ins. This is the most economical increment for such purchases. Breaking the purchase order up into separate orders for the shelf and common equipment, and then individually purchasing the 24 splitter cards would drive the shipping and handling costs up to ridiculous levels. These would be extra costs would have to be borne by the CLECs.

Q. RLI/Covad claim that BA-MA's proposed set of charges that would apply on a per shelf or per splitter basis is unduly cumbersome and will not provide CLECs with sufficient flexibility to respond to market forces. How would you respond to that?

A. If RLI/Covad really intends to provide high speed data services to residential customers throughout the state, purchases in increments of 96 splitters per shelf in

a market forecasted to have over 200,000 DSL customers within 5 years should not seem an unacceptable risk. It is, in fact, a startup cost, and the availability and continuity of BA-MA's construction and provisioning resources for every wire center across the state ensures CLECs of a quick market response for their Line Sharing service orders.

Q. Can you comment on CLEC's criticism of the non-recurring installation cost for splitter shelf and splitter card?

A. The CLEC's concerns are unfounded. Under the option whereby a CLEC provides the Splitter Shelf and Splitter Cards, BA-MA has applied a simple, consistent, and approved methodology in calculating the non-recurring installation costs.

Q. Could you explain your response in more detail?

A. As shown on the Cost Study Workpaper, Section 1, Page 1, BA-MA calculates the installation cost for the shelf and splitter cards by applying the EF&I factor (installation factor) to a material investment. While the CLEC provides the actual material, BA-MA uses the material cost of the same type of equipment installed for its own use as a reasonable surrogate for the value of the CLEC equipment.

The DTE-approved installation factor is then applied to the material cost to produce the non-recurring installation cost. The installation factor includes engineering, transportation and warehousing, sales tax, as well as the actual installation hours.

Q. Other than the installation factor, has this methodology been "approved" by the DTE?

A. The use of BA material investment as a surrogate for CLEC-provided material is not a new approach. The exact same methodology was used in Docket 98-57 where BA-MA calculated the installation cost for a Point of Termination (POT) Bay for a CLEC-provided POT Bay. In that instance, BA-MA took the material cost of a relay rack that BA-MA normally purchases for its own use and applied an installation factor. The installation cost was determined by subtracting the material cost of the relay rack from the total installed cost. (See Docket 98-57, Cost Study Part G, Workpaper 2.0, page 2, lines 3 through 6.)

That methodology was not contested by any intervening party during the proceeding and the Department notes in the DTE 98-57 Order, "[a]fter reviewing the cost study in this case, we find that the methodology is consistent with the FCC's TELRIC methodology and Department's findings in the Phase 4-G Order and the Phase 4-I Order. Bell Atlantic has provided complete documentation identifying the source of all of its collocation costs in the work papers accompanying Tariff No. 17." DTE 98-57 Order, at 188.

Q. Please respond to RLI/Covad's claim on page 176 that Jumper and Cross-connect/Tie Cable costs can be minimized depending on the location of the splitter and, therefore, the costs associated with BA-MA's proposed POT Bay/Splitter Termination and Frame Termination Charges are overstated.

A. BA-MA's offering will result in the lowest Jumper and Cross-connect/Tie Cable costs. The placement of the splitter will not affect the cost of cross connect installation, but will affect the number of cross connects required. Presently there are two splitter location options being offered by BA Scenario "A" and "C", and one, which is frame mounted, being proposed by the CLECs.

Scenario "A" places the splitter in the CLEC's collocation arrangement. Scenario "C" places a rack mounted splitter in Bell Atlantic space, as a virtual portion of the Collocation arrangement. Both of these Scenarios require two cross-connections on the frame. Regardless of the location of the splitter, the data must be transmitted between the collocation arrangement and the main frame. The location of the splitter does not affect the distance or the number of jumpers required.

The cables required for line sharing arrangements are at least as long as the SAC cables that are installed in a typical physical collocation arrangement. Instead of the SAC cable having one cable and two frame terminations at each end of the cable, a line sharing arrangement actually includes two separate cables and four frame terminations. This configuration extends the time required to engineer multiple cable runs and designate equipment space for the splitter shelves and bay. However, BA-MA chose to charge only a single SAC cable charge — not two — to recover the costs associated with a line sharing arrangement. Moreover, the SAC rates and costs for this cabling, appropriately based on average lengths, were reviewed by the Department. While the number of tie cables may be reduced, other costs may increase, i.e., costs of added jumper cables on the frame, as well as added costs for utilization of frame space. However, this is not an issue because BA-MA does not provide frame-mounted splitters.

With this in mind, the cost to perform Line Shared cross connection work has been adopted from the MA UNE filing (Filed on February 9, 2000). The fee per cross connection is $11.17; the costs for 2 required cross connections equals $22.34 per line sharing request.

Application-Augment Fee
Q. Is there evidence, as RLI/Covad claim, from other Bell Atlantic proceedings that would indicate a simpler application process for splitters, and therefore a price reduction is in order?

A. No. RLI/Covad’s claim is misleading. Bell Atlantic-New York ("BA-NY) has simplified the collocation application form for splitters. However, BA-NY in no way conceded that costs have declined because of a shorter application form, as indicated in BA-NY’s statement in response to that question in its April 10, 2000, filing in Case No. 98-C-1357 (p.35):

The Collocation Application – Augment fee recovers BA-MA’s costs for processing and engineering the request to augment an existing collocation arrangement. This is precisely the type of activity necessary to facilitate the planning and engineering of cable route, cable terminations, splitter bay, splitter shelves and connector blocks to accommodate line sharing to an existing collocation arrangement. BA-MA still has to process the application, update billing accounts, establish CFAs in BA-MA OSSs, and establish SBNs. The BA-MA Local Collocation Coordinator must still facilitate operational meetings with real estate, central office engineering, and vendor management experts who do site surveys to find appropriate locations; and must plan cable routes, order cables, etc. There is no significant difference in the scope and magnitude of work activities and work function necessary to implement a line sharing arrangement as compared to those required to augment an existing physical collocation arrangement.

BA-NY reviewed these functions in detail with CLECs representatives during the Technical Engineering committee meetings at the New York Line Sharing Collaborative. The CLECs are fully aware of the scope and magnitude of the work activities required.

As for the streamlined application form, the "streamlining" to which RLI/Covad refer was intended to simplify the paperwork required of CLECs, and has absolutely no impact on the work functions BA-NY must perform in processing and engineering the collocation augment. The CLECs raised a concern during the collaborative that there would be a massive work effort required on their part due to the magnitude of collocation requests they intended to submit for establishing line sharing at the existing collocation arrangements. BA-NY was asked by the NYPSC and the CLECs to determine whether the application could be simplified.

BA-NY worked diligently over a four-day period to create a streamlined spreadsheet that included only the required information from the 14-page application that was necessary to engineer and plan a line sharing arrangement. (It was agreed during the New York Collaborative that this streamlined application would be used only for the initial push of line sharing arrangements.) This streamlined spreadsheet was created

with self-populating fields that further reduced the amount of work required by the CLEC to complete an application. It in no way simplified the scope and magnitude of work required by BA-NY, as RLI/Covad assert. The same would be true for BA-MA.

Q. Please respond to RLI/Covad's statement that (1) because direct connection to BA-MA's network at the MDF remains technically feasible, a POT bay is not necessary, (2) that to the extent this Application-Augment fee was applicable under Option A, it should only relate to CLEC augmentation of the number of cross connection pairs from the BA-MA frame to their collocation space, and (3) that a CLEC should be able to use its existing cross-connects to provide the necessary terminations without incurring new charges.

A. A POT bay is the demarcation point between the CLEC's network and BA's network. It is the appropriate point for testing and isolating troubles to each party's network. There may be some confusion on the CLECs part regarding this issue. It is not clear to BA what the concern is. Existing cross-connects do not provide the necessary termination for line sharing. Cables required for line sharing under Option A are provide in accordance with Mass. D.T.E. Tariff No. 17. The application augment fee applies for augmentation of the number of cross-connect pairs for line sharing for both Option A and Option C. Cabling is provided in accordance with Massachusetts D.T.E. Tariff No.17, Part E, Section 2.5.1 (page 23).

Wideband Testing
Q. Starting on Page 138 of their testimony, RLI/Covad BA-MA's Proposed Wideband testing charges (WTS) are inappropriate. How do you respond to these allegations?

A. The need for wideband testing was predicated on internal cost studies relating to the cost of physical dispatches responding to problems in the data portion of a DSL/LS customer complaint. The partial contract refund of $11.2 million from Alcatel relates toAlcatel's failure to build the functionality of the actual test head (MTAU) into each Alcatel DSLAM. Since CLECs would be providing their own DSLAMs, this refund has nothing to do with the costs for testing to provide the wholesale service via the Heikmian system, as reflected in BA-MA's cost studies. There is no relationship between these two costs, and RLI/Covad's argument is an "apples and oranges" comparison.

Q. What costs has BA-MA proposed for testing in line sharing situations?

A. BA-MA has proposed a "Wideband Test Access" cost of $1.90 per line per month. This charge would apply to all line sharing arrangements, whether Scenario A or Scenario C. This charge recovers the costs associated with a MTAU, that provides test access to the shared loop, and with the system that will perform the necessary testing through the MTAU.

Q. How, specifically, does the wideband test system support service assurance on shared lines?

A. In the past, especially with regard to the physical loops, simple MLT testing would normally be adequate to insure the integrity and quality of voice service. With the addition of modems and other electronic devices to the loop, and especially with the advent of line sharing, the simple MLT test no longer permits either a qualitative evaluation of the loop for provisioning purposes or the ability to accurately sectionalize and assign problem responsibility from a service assurance perspective. Complications in trouble isolation are introduced by the fact that there is no standard test signature for ADSL modems. In addition, standard MLT tests cannot identify spectrum or cross-talk problems induced by a variety of unknown different DSL service offerings introduced in unshielded central office cross-connect arrangements.

Q. RLI/Covad claims BA-MA's WTS is not necessary for CLECs that plan to employ their own testing systems in the context of purchasing line-shared loops. Please comment.

A. This is not true. The criticisms leveled by RLI/Covad against BA-MA's Wideband

Test Access charge are premised on the notion that testing is essentially a retail function. In this context, they regard testing as – at best– a function that CLECs should have the option of performing or not performing on their own, or – at worst – a means of imposing on CLECs a cost properly attributable to the retail operations of BA-MA. What this analysis ignores is that testing – while it has important benefits for a retail service – is also a legitimate and indeed necessary function of a wholesale service provider.

Wideband testing was first explored by BA-MA in the context of improving its retail services. However, subsequent analysis established that BA-MA would need to continue to deploy the system, regardless of whether similar systems were separately deployed by CLECs (or by BA-MA) for their own retail data services.

Absent a wideband testing capability, trouble sectionalization, isolation, and repair on shared lines would require multiple dispatches of service technicians to central offices and customers' premises. As a result, BA-MA would incur (and to a significant extent would pass on to CLECs through dispatch charges) even greater costs that would be avoided through the use of a wideband test system.

Aside from reducing BA-MA's overall wholesale costs, a wideband test system will help BA-MA to achieve a higher level of service to its wholesale customers. Indeed, as the Department has made amply clear, BA-MA will be held accountable for the performance, maintenance, and repair of its wholesale services. Accordingly, it must have the tools needed to accomplish this, and must be allowed to recover the costs associated with those tools.

In both of these respects, wideband testing is a reasonable and necessary wholesale function. Such testing supports BA-MA's obligations with respect to provisioning and service assurance on loops used for both voice and data services.

In opposing these charges, CLECs would seem to be seeking to hold BA-MA to high wholesale service standards while refusing to contribute to the cost of achieving such standards.

Q. Is the existence of a wholesale wideband test system inconsistent with the separate testing of their retail services by CLECs or by BA-MA's advanced services affiliate?

A. Not at all.

Q. Please comment on RLI/Covad's claim that, as it currently stands, CLECs will have no access to the system itself and no regular access to the results of tests performed with the system.

A. BA-MA is not instituting the wideband test platform primarily to provide access for the CLEC to test but to permit BA-MA in a forward looking manner to effectively and efficiently deliver the service requested by all parties. Without the wideband test capability, expenses to maintain line shared services would continue to escalate as a result of an increasing number of erroneous dispatches. However, BA-MA has stated that it will provide test results to CLECs as it works with them to trouble shoot problems. In addition, BA-MA will develop enhancements to the RETAS that will provide CLECs with test results of the MLT tests on the baseband of the circuit. In addition, CLECs have multiple options for creating a direct test access arrangement. For example, a CLEC could add a test access unit to a splitter assembly located in its own space, or it could install a test head in its space with the splitters located in BA-MA space (the splitters can be equipped with or without DC blocking), or it could arrange for the installation of a test access unit in BA-MA space in proximity to the splitter locations.

Q. Please comment on RLI/Covad's contention that deployment of the WTS is not consistent with an efficient, forward-looking network.

A. As stated above, absent a wideband testing capability, trouble sectionalization,

isolation, and repair on shared lines would require multiple dispatches of service technicians to central offices and customers' premises. As a result, BA-MA would incur (and to a significant extent would pass on to CLECs through dispatch charges) even greater costs that would be avoided through the use of a wideband test system. Thus, wideband testing supports an efficient network model.

Q. Please comment on RLI/Covad's statement that BA-MA's claims that the use of the test system will result in reduced dispatch costs are not verifiable, and even if they were, it is the CLECs, and not BA-MA that will bear the consequences of their decision to opt out of BA-MA's WTS.

A. Until the industry has had experience with this service and has gathered data on the frequency of failures and the average time to repair failures, a precise demonstration cannot be made. However, making simple assumptions it can be demonstrated that remote test equipment is more cost effective than manual dispatches.

Q. Please coment on RLI/Covad's statement that they will bear the consequences of their decision to opt out of BA-MA's WTS, so BA-MA should not be concerned.

A. This is an interesting point because it brings to mind the fact that even in New York, where RLI/Covad point out that the NYPSC ruled that the WTS charge should be at the option of each CLEC, the NYPSC did state that (1) BA-NY could charge for dispatches, and (2) could apply a lower standard for service metrics to such CLECs. (If the Department follows the NYPSC in the issues of charging for WTS, the Department is urged to adopt these two corollary rulings as well.) So, on the surface it would seem that RLI/Covad are correct, and they will bear the consequences of their decision. However, as BA-NY pointed out in its Petition for Reconsideration to the NYPSC on this issue, there are still hidden costs that BA cannot recover under this approach.

Dispatch charges only recover what might be described as the "primary" costs of a dispatch – that is, the costs associated with the time of the technician who must is dispatched and who performs the necessary work at the central office or in the field. However, dispatches, and the troubles that underlie them, also entail a variety of secondary costs that cannot be readily measured and incorporated into a Department -approved rate. These include the disruption of routine that dispatches entail, the customer dissatisfaction they cause, and the likelihood of disputes between BA-MA and its carrier customers over the appropriateness of imposing the charge in particular cases (disputes that not infrequently may have to be resolved by the Department), and the regulatory friction that results from these disputes. A CLEC will not "internalize" these costs, even though they are caused by the CLEC's decisions to forego WTS; rather, BA-MA will. Avoiding such costs is a legitimate concern of a wholesale service provider. It is, in short, better to avoid dispatches than to assume that they are costless to BA-MA as long as a CLEC pays a dispatch charge.

With respect to service metrics, no metric can be "fine tuned" to the extent assumed in the NYPSC's order. Indeed, since line sharing is a new service, it will be a long time before an adequate database exists that could be used to estimate, even approximately, the diminution of service quality that would result from a CLEC decision to forego WTS. Thus, whatever metrics may be developed to apply to "WTS" and "no WTS" situations, they will necessarily be compromises negotiated in an environment of great uncertainty and regulatory pressure, and will not be able to fulfill either of the Department's objectives: protecting BA-MA's "legitimate interests" and ensuring that CLEC's "recognize and bear" the costs of their decisions.

Engineering, Furnish and Install ("EF&I") Factor
Q. RLI/Covad's Panel claim on Page 154 of their testimony that BA-MA's application of the EF&I (Engineer, Furnish & Install) factor in connection with certain Line Sharing rate elements is inappropriate. Is their claim supportable?

A. No. Although the application of cost factors specific to individual products and services would seem appropriate, the Department has the responsibility for protecting all consumers. As such, BA-MA has historically been required to develop factors that apply costs equitably to a broad spectrum of products and services. The use of an installation factor eliminates the cumbersome and potentially contentious process of developing and validating the engineering, installation and other miscellaneous costs (sales tax on vendor materials, shipping, warehousing, etc.) for every item of equipment included in a cost study. To begin adjusting such factors to account for more or less efficient technologies each time a new product or service is developed would strain both BA-MA's and the Department's ability to track and administer such costs. To go back and revise cost allocations to existing products and services each time a new product or service is introduced would necessitate frequent price and tariff changes. The result would be increased customer confusion and complaints that would have a negative impact on BA-MA and all LECs.

Finally, in spite of the expected demand for DSL and Line Sharing services, the total investment in plant specific to these services is not likely to assume a large enough portion of BA-MA's total annual expenditures in Circuit Digital plant to make a significant difference in the factor even if it were adjusted. The Department has already approved BA-MA's method for determining EF&I factors, and rejected an AT&T proposal to introduce a similar adjustment for dark fiber-related investments in jumper cables.

Loop Conditioning

Q. Is the cost methodology employed by BA-MA for ADSL Conditioning and Line Sharing forward-looking?

A. Yes. As pointed out in response to interrogatory RLI/Covad 1-38, the non-recurring costs being considered in this proceeding are costs associated with a particular service – wholesale ADSL/HDSL-compatible loops and Digital Design Loops. The xDSL technologies at issue in this proceeding are, by definition, copper-based; that is, they can only be utilized over copper cables. It must be assumed that, where required for effective voice transmission, load coils are present on the copper loops. There is no reason that such costs should be based on the same network design (i.e., universal deployment of DLC technology with integrated switch/loop interfaces) as was assumed in the development of recurring costs for the totally different loop types (e.g., 2-wire analog loops used as surrogate for xDSL loops) considered in the Consolidated Arbitrations proceeding.

BA-MA believes that the assumptions underlying its cost studies for ADSL/HDSL-compatible loops are fully appropriate and consistent with applicable regulatory requirements.

Q. RLI/Covad claim that BA-MA's proposed non-recurring charges for bridged tap removal are unreasonable because bridged taps "…should have been eliminated almost 30 years ago…" Do you agree with their assessment?

A. No. First, the FCC's UNE Remand Order has rejected similar claims of CLECs, concluding that "in costing DSL, one must take account of the network on account of which it is being used." That network is a largely copper network, which properly includes the presence of both load coils and bridge taps. Second, current loop design guidelines permit the continued presence of bridged tap in loops, even in redesigned or newly constructed plant. This contradicts RLI/Covad's statement that bridged tap should have been designed out of the loop, or in other words, that bridged tap should not exist at all. The fact is that bridged taps are a permissible and necessary network component, and the need to deal with bridged tap is a normal cost of doing business for all carriers, both ILECs and CLECs. It is unreasonable for RLI/Covad to expect BA-MA to absorb the cost of modifying its network components that rely on copper as a transmission medium in order to support a CLEC's provision of DSL services. This flies in the face of the principle that the cost causer is responsible for cost recovery.

Q. Please comment on RLI/Covad's claim that it would be more efficient to remove

load coils in binder groups of 25 or 50 pairs at a time, thereby reducing the per pair cost of performing this work.

A. Yes. In addition to posing service degradation and disconnection problems, the sort of mass conditioning program proposed by RL/Covad does not make economic sense. This is so because it is highly unlikely that there would be even 25 spare pairs in a single binder group that could simply be disconnected from load coils in a route. While this scenario may play out logically with regard to end section bridge tap, its application to bridged tap in sections prior to the served address, or especially to Load Coils, is virtually impossible to envision. As noted in RLI/Covad's testimony, the use of load coils is restricted to loops generally longer that 18,000 feet. All pairs working on copper back to the wire center at or beyond 18,000 feet have to be loaded for the circuits to function at standards for voice grade purposes. The geographic distribution of working customer distance from the central offices results in only small percentages of customers located at or greater than 18,000 feet. This results in cable cross section sizes due to tapering at these extreme distances being substantially smaller than those closer to the office and certainly less likely to have completely spare 25 pair loaded complements that could be unloaded at the same time.

Attempting to totally unload a 25 pair complement with working customers would impair the working customers' voice service. In addition, it is reasonable to say that there will only be minimal spare loaded pairs available in any loaded cable, let alone entire cable complements, where the loads can be removed from the entire 25 spares simultaneously and all the pairs can be conditioned at once. Unless pairs are unloaded on an as-needed basis, the assumption that removing loads on 25 pairs is possible would necessitate considerable capital expenditures or rearrangement costs to provide relief facilities to serve the customers beyond 18,000 feet who continue to desire to have functioning voice service. Accordingly, it is highly unlikely that BA-MA would encounter in its network the scenario described by RLI/Covad.

Loop Qualification
Do you agree with RLI/Covad's statement that BA-MA should have been creating loop make-ups ("LMU") for all facililites in the LFACs database on a going forward basis since 1985?
No. The intent of completing and conducting an inventory of loop make-ups in LFACs was to facilitate provisioning of designed circuits. While LMUs have been added gradually over the years for those terminals where requests for these circuits have occurred. The Practice cited by RLI/Covad in support of their position also contains a recommendation from Telcordia (Bellcore) that indicates that count make-ups should not be built for terminals that have little possibility of being assigned a data circuit. The reason for this recommendation is that any count make-up once entered must be maintained. Since the network was constructed to support POTs service, the need for loop make-up to support provisioning of these type services was nonexistent. To include all of these LMUs without any need for them would have required a tremendous amount of everyday maintenance activity to retain the accuracy with no perceivable benefits.
Do you agree that CLECs should have direct access to BA-MA's provisioning and facility inventory system under the guise of acquiring information to qualify loops for a specific service offering?
A. No. The basis for the CLECs' request is that they cannot adequately provision their services without having detailed information on multiple characteristics of a specific loop or facilities to a specific terminal. In provisioning DSL, the only critical criteria involved in determining the ability to provision at a specific service rate is that the loop be unloaded, all copper, not be on a pair with a DSSC and not be in a binder group that contains AMI T-1. That data is available today to CLECs. The need for the type of additional information found in LFACS, such as actual lengths, gauges, FDI locations etc, is immaterial since BA-MA meets, at a minimum, standard resistance design or in some case Carrier Serving Area Design Standards. The CLEC is ordering a loop, not the ability to pick and choose an assignment to a specific pair or perform its own assignment processes. Moreover, many of the loops for which the CLECs may be seeking data will not be found in LFACS

because it is not a 100 percent database of loop activity.

Q. RLI/Covad claim that Bell Atlantic is not providing access to all relevant loop information and will not commit to a specific date to implement access to LFACS data. Is this correct?

A. No. On March 2, 2000, BA-NY hosted the first in a series of meetings to determine the DLECs' data requirements for loop information. BA-NY specifically stated that the requirements had to focus on what information was required by the DLECs, not the "system" which may hold the data. Based on these meetings, a joint set of requirements was developed, and agreed upon, on March 24, 2000. At that point, BA-NY had determined that two options were available to retrieve the data from the back end systems. The first utilized a technique known as "screen scraping" and the second required development work by Telcordia. At this point, BA-NY "committed" to an October - December, 2000 deployment of the "screen scraping" and a February, 2001 deployment of the "Telcordia" capability based on signing the contract with Telcordia by June 30, 2000. Under the second alternative, Telcordia was to deliver software to BA-NY by December, 2000. The two alternatives have a significant cost differential, and to date the DLECs have not finalized their decision as to which solution they want. Since the June 30 "deadline" had passed on OSS line-sharing enhancements, BA-NY cannot yet commit to a deployment date. Whatever is established in New York for access to LFACs would apply equally in Massachusetts.

Q. Please respond to DBC's assertion that 25% of its pre-qualified loops ordered from BA-MA are unfit for use.

A. BA-MA is not familiar with this claim made by DBC in this proceeding. In any event, BA-MA would welcome the opportunity to meet with DBC to review the situation and work toward a resolution of the issue.

Cooperative Testing
Q. Is BA-MA's proposed Cooperative Testing charge based on a forward-looking view of testing procedures?

A. Yes. The work time estimates for Cooperative Testing in Exhibit III to Mr. Meacham's testimony were provided by a Subject Matter Expert in the Regional CLEC Coordination Center (RCCC) / Regional CLEC Maintenance Center (RCMC) with responsibility for the development of the operating procedures for Cooperative Testing. The work time estimates and their probability of occurrence were developed from actual CLEC performance data, and were then reviewed and adjusted for expected improvements in performance resulting from experience in processing CLEC Line Conditioning orders.

Q. What work activities required for Cooperative Testing are the proposed charges designed to recover?

A. A Field Technician will perform routine installation or maintenance activity on a 2 wire digital loop, including a metallic test. The Field Technician will then perform, if requested, a cooperative test. Travel time is not charged to the CLEC since the Field Technician is already at the end-user customer's premises. The Field Technician will:

(1) - call a toll free number provided by the CLEC from the end user's location. The Field Technician will not wait on hold any longer than 5 minutes. After 5 minutes the technician will call the RCCC/RCMC and advise them of the delay.

(2) - perform a cooperative test with the CLEC and receive from the CLEC a serial number. The technician may also request and record the CLEC representative's name or initials. (The test function consists of listening for tone from CLEC, providing a short, grounding both sides of cable pair, etc).

(3) - provide the demarcation information to the CLEC representative and tag the circuit.

(4) - close out the work request or maintenance ticket using a handheld terminal and the Work Force Administration / Dispatch Out (WFA/DO) system. Information is also inserted in the DOCOMP screen.

Steps 1, 2, 3 & 4 will take place on 100% of the dispatches. In 10% of the original dispatches, the test will fail or be inconclusive and the field technician will call the RCCC/RCMC and place the order in "jeopardy". In another 10% of the original dispatches, the technician may choose to call the frame, along with the RCCC/RCMC, and try to clear the trouble. Either of these functions will add additional time.

In approximately 20% of the installation orders, Steps 1 through 4 will be required a second time to complete a previously failed or inconclusive test with the CLEC. The time estimates for the 2nd attempt are shown below. When the cooperative test is completed with steps 1 through 4, only the Field Technician is involved.

1st attempt:

Perform & complete test (100% probability) = 21.53 min (Field Technician)

Perform test – failure (10% probability) = 13.80 min (RCCC/RCMC)

Perform test – failure (10% probability) = 9.84 min (Frame Technician)

Tag circuit (100% probability) = 11.48 min (Field Technician)

2nd attempt:

Travel Time to job – 2nd try (20% probability) = 28.36 min (Field Technician)

Perform & complete test - 2nd try (20% probability) = 21.53 min (Field Technician)

As stated above, Cooperative Testing is optional. BA-MA’s costs reflect that 80% of CLEC Line Conditioning orders will be completed under Cooperative Testing without failure due either to BA-MA line problems or CLEC coordination problems.

Electronics
Q. Please respond to RLI/Covad’s claim that BA-MA’s proposed ISDN Electronics charge is duplicative and based on inadequate cost support.

A. RLI/Covad are incorrect in their assertion that BA-MA’s charge for adding a repeater to extend the range of an ISDN line is duplicative. BA-MA does not already have repeaters on all lines. In addition, BA-MA doesn’t normally offer ISDN beyond 18,000 feet. BA-MA’s proposed ISDN charge is designed to recover only those costs that would be incurred to add Adtran repeaters when requested by CLECs to extend the range of ISDN line to reach CLEC end-user customers.

Contrary to RLI/Covad’s claim that BA-MA’s cost support is inadequate, Workpapers Page 3 and Page 4 of the calculations in the ADSL Conditioning Study contained in Exhibit I of Mr. Meacham’s testimony are fully documented. The material prices were taken directly from Adtran contract X1281OD. The EF&I and other Annual Carrying Charge Factors (ACCFs) have already been approved by the Department in the Consolidated Arbitrations for UNEs. The 30 minute work time for installing the TRI R 3900 NID has already been approved in the NY UNE filings. The 30 minute work time includes travel to the end-user customer premises, gaining entry, removing the existing NID, placing the TRI R 9300 NID and testing. Finally, the Scenario 1 and Scenario 2 weightings were derived from the actual sale of Adtran repeaters for Bell Atlantic – North for the year 1999 (229 TRI-C Line Cards and 54 TRI-C w/MFT Line Cards). The resulting split reflects the number of Central Offices (80%) that already have spare MFT bays (and thus a lower cost) versus the number that require the TRI-C Line Unit with pre-wired MFT bays. The calculations of the costs for each scenario are clearly presented in the Conditioning Study Workpapers.

CONCLUSION

Q. Does this conclude the panel’s testimony?

A. Yes.