

**VERIZON PENNSYLVANIA INC.'S RESPONSE TO THE LIBERTY CONSULTING  
GROUP'S FINAL REPORT FOR THE AUDIT OF  
VERIZON PENNSYLVANIA INC.'S NETWORK MODERNIZATION  
PLAN IMPLEMENTATION PROGRESS**

**Docket No. D-06SPA022**

**July 31, 2008**

Verizon Pennsylvania Inc. ("Verizon") provides the following response to the Liberty Consulting Group's ("Liberty") Final Report for the Audit of Verizon Pennsylvania Inc.'s Network Modernization Plan Implementation Progress, submitted to the Bureau of Audits on June 16, 2008.

**INTRODUCTION**

Verizon appreciates and agrees with Liberty's conclusion that Verizon has met its 2006 Network Modernization Plan commitments. Indeed, Verizon believes it has completely met its commitments and that Liberty's thorough review of Verizon's facilities and performance confirms that compliance. Verizon further notes and agrees with Liberty's conclusion that the extent of broadband availability in Verizon's territory is actually higher than Verizon has conservatively reported.

Verizon further agrees with many of Liberty's findings and recommendations to improve the data gathering and reporting process, and will work actively to implement them. For example, Verizon agrees that its present reporting methodology understates the extent of broadband availability for loops over 12kft and welcomes Liberty's endorsement to develop a methodology to include in the broadband availability percentage those loops between 12 and 18kft that are capable of broadband speeds through DSL service. As suggested by Liberty, and agreed to by Staff in the audit workshop of June 12, 2008, Verizon plans to report availability for those loops in its next biennial update to achieve an even more complete view of the extent of broadband availability in Verizon's territory. (Recommendation 1-6). Verizon also agrees with Liberty's recommendation that it should include in future biennial updates FiOS lines that are not already counted in the broadband DSL availability category, to provide an even more complete report of the extent of broadband availability, and is currently implementing the systems to do so. (Recommendation 1-7). Verizon agrees with Liberty's recommendation that additional internal controls will ensure more accurate reporting of financial and capital budget data in future biennial updates and is planning to implement those controls. (Recommendations 4-3, 5-2).

Verizon respectfully disagrees, however, with certain portions of the NMP audit report. The general areas of Verizon's disagreement are detailed below.

First, Verizon disagrees with Liberty's recommendations that it should mechanize its fiber facility records and conduct an extensive manual audit of its working and spare fiber facilities. (Recommendations 1-1, 1-2, 3-1, 3-2). The facts do not demonstrate a need for, or

any benefit to be gained by, diverting the considerable time and resources that would be required for mechanization and auditing that is not needed to improve performance. Liberty's audit has already confirmed that Verizon has a near-perfect record of performance in provisioning fiber-based services in commercially reasonable time frames. This record of performance already demonstrates that Verizon's recordkeeping methodology and its inventory of spare fiber are sufficient to allow it to meet its commitments. Verizon respectfully submits that it is not an efficient or productive use of resources to require Verizon to mechanize its records or conduct an audit that is not needed to improve Verizon's performance, and that those resources are better spent elsewhere.

Second, Verizon strongly disagrees with Liberty's recommendations to discount Verizon's reported broadband availability percentages, despite the fact that Verizon unquestionably has installed the required equipment to provide broadband service and is capable of providing service for all of the lines it has counted. For example, Verizon disagrees that the percentage of broadband-available lines should be discounted as a penalty for failing to fill 100% of orders within the required interval (10 days of a customer's request for 1.544 Mbps and above, and 60 days for 45 Mbps and above). (Recommendation 1-3). It is unrealistic and contrary to the Commission's performance standards in other areas to expect 100% perfect performance. Further, arbitrarily reducing the broadband availability percentage based on a few instances of modestly longer provisioning intervals, when facilities are clearly in place to make broadband service available to all lines in a given area, skews the data and may mislead readers who are looking to the Update for a true picture of broadband availability. At the June 12, 2008 workshop, Verizon and Staff agreed to continue to discuss how the provisioning performance data might be monitored and used without using it to reduce the broadband availability percentages. Further, Verizon agrees with Liberty that in the future loops over 12kft that are capable of providing broadband speeds should also be counted.

Third, Verizon disagrees with that portion of the report that exceeds the scope of the audit by suggesting that Verizon has not provided adequate information to demonstrate that it will remain on schedule to meet the 2015 NMP broadband commitments. (Recommendation 5-1). The purpose of this audit was to ensure that Verizon has accurately reported on its compliance in the 2006 Sixth Biennial Update, not to speculate as to whether Verizon will (or will not) be able to meet its statutory obligations fully eight years from now. Verizon has continued to meet and even exceed its interim deployment benchmarks and there is no basis to predict that Verizon will fail to devote sufficient resources to this matter. Further, as Liberty recognizes (Executive Summary p. 2), any prediction of future performance must take into account the fact that technology is constantly changing and improving. Liberty's own report shows that it is incorrect to presume that broadband service cannot be provided on loops over 12kft, because a large percentage of those loops are already capable of broadband speeds. Technology has and will continue to develop and improve, which makes it speculative to predict the technology that will be used to achieve 2015 broadband availability. Moreover, the reporting guidelines do not require the level of reporting of capital deployment budgeting that Liberty recommends in this finding and applicable law prohibits the Commission from increasing reporting requirements.

## **RESPONSES TO SPECIFIC FINDINGS**

As requested in Staff's letter of July 10, 2008, Verizon responds to each recommendation from the NMP audit report as follows:

**Liberty Finding and Recommendation 1-1:** Liberty concludes that Verizon uses assumption rather than actual data to report its results toward meeting the NMP requirement to provision broadband service at data speeds of 45 Mbps or greater within a commercially reasonable timeframe because Verizon relies on its near-perfect record of provisioning performance to show that it is capable of meeting that commitment. Liberty recommends instead that Verizon be required to verify that it has sufficient spare fiber capacity in all of its central offices to meet its stated level of compliance with the NMP commitments prior to issuing future biennial updates.

**Verizon Response 1.1:** Verizon strongly disagrees with Liberty's conclusion that Verizon uses an "assumption" to conclude that it is capable of provisioning services with speeds of 45 Mbps and greater within a commercially reasonable timeframe for 100% of its access lines. To the contrary, Verizon's conclusion is based on actual data, audited and verified by Liberty, and those facts show that Verizon is provisioning 45 Mbps and greater orders well within the commercially reasonable 45 to 60 day timeframe. Further, Verizon already has effective practices in place to track spare fiber and augment it as needed. Verizon respectfully suggests that Liberty's recommendation of an audit of spare fiber – an expensive and time-consuming process – would be an unnecessary diversion of resources that are better spent elsewhere.

In particular, there is no basis to conclude that Verizon's present spare fiber inventory and its existing practices for tracking and augmenting spare fiber are insufficient. Since the Chapter 30 legislation was enacted in 1994, Verizon has made a tremendous investment of over \$10 billion in Pennsylvania. As Verizon explained in response to Data Requests (DRs) #71, #125 and #164, Verizon's engineers follow long standing policies and practices when provisioning the fiber network. For example, Verizon's outside plant engineers routinely monitor the spare fiber facilities on each route. In addition, the engineers routinely track demand, both short and long term, to forecast growth. The combination of this data is used to trigger fiber relief jobs prior to fiber facility exhaust. These practices have been more than effective in providing a robust network providing 45mbps and faster services to its end users ordering such services.

Verizon's record of performance in provisioning fiber-based services further demonstrates that Verizon's procedures are working. The combination of Verizon's investment and its policy and procedures has enabled it to provision orders for DS3 and above services throughout its territory within commercially reasonable timeframes. As reported in the revised Sixth Biennial Update, Verizon's provisioning intervals for those services averaged **(Begin Proprietary)** **(End Proprietary)** days in 2005 and **(Begin Proprietary)** **(End Proprietary)** days in 2006. Liberty itself acknowledges that in 2006 Verizon provisioned orders for services at speeds of 45 Mbps or greater in 60 business days over **(Begin Proprietary)** **(End Proprietary)** % of the time. (Table 1-2).

In contrast to this demonstrated actual capability to provision services in a timely manner, Liberty only speculates that Verizon may not have sufficient spare fiber available, and that the presence of available fiber must be verified with a "specific study." Requiring such a study would be an unnecessary diversion of resources. Verizon's actual performance is already more than a reasonable basis to conclude that Verizon can make these higher speed services available

to all of its access lines in the required timeframes. Further, to the extent Verizon's time and resources are diverted into conducting unnecessary studies that cannot enhance what is already practically perfect performance, those resources are not available to provide broadband service more quickly to customers who do not presently have access to the services they demand. Verizon respectfully submits that it is not efficient or productive to require Verizon to expend resources in needless verification of a fact that has already been proven by Verizon's record of performance. Verizon does not plan to conduct such an audit.

**Liberty Finding and Recommendation 1-2:** Liberty concludes that Verizon does not have a mechanized or standardized method for inventorying its fiber cable facilities. Liberty recommends that Verizon implement the systems and software required to mechanize Verizon's fiber facility records. Until such a mechanized system is developed and operational, Liberty recommends that Verizon standardize the method used for maintaining the manual fiber facility records.

**Verizon Response to 1-2:** Verizon disagrees with this finding and recommendation. While it is correct that Verizon's inventory of fiber facilities is kept manually in accordance with the local methods that have proven effective, there are good reasons for Verizon to maintain its records in a manual manner and no demonstrated need to expend the time and resources to develop the mechanized system recommended by Liberty.

Each fiber facility assignment results from an individually engineered project. As a result, each associated fiber assignment is performed manually. Each engineer maintains his or her own records regarding fibers and their status (e.g., working, spare, planned for use or planned for reinforcement). Although the records of each engineer may look slightly different, they all contain the same fundamental data.

Most importantly, the system works, as demonstrated by the fact that Verizon is able to provision fiber-based services throughout its territory in a timely manner, as discussed in more detail in response to Finding 1-1 above.

Verizon does not plan to develop a mechanized recordkeeping system of the type recommended by Liberty. First, there is no factual basis to require Verizon to expend the considerable time and resources that would be required to create a mechanized system for which Verizon has no business need and which would not improve Verizon's already near perfect provisioning performance. As discussed in response to Finding 1-1, diverting resources for unnecessary systems work would decrease the resources available to bring broadband services more quickly to customers who presently lack access. Second, the Commission lacks the authority to impose such a requirement. Nothing in Act 183 or Verizon's alternative regulation plan requires Verizon to maintain a mechanized inventory of fiber facility records. Further, it is well-established under Pennsylvania law that the Commission may not micro-manage a utility's operations, particularly where, as here, the company is meeting its legal obligations. Because Verizon has existing manual processes that work, as evidenced by the provisioning results, no changes to its fiber inventory methods are warranted.

**Liberty Finding and Recommendation 1-3:** Although there was no requirement to report provisioning performance, Verizon reported its average intervals to provision 1.544 Mbps and 45 Mbps service as helpful background information. Liberty concludes that Verizon's reporting of average intervals provides incomplete and potentially misleading information regarding Verizon's actual service performance compared to the NMP commitments. Liberty recommends that the reported broadband availability percentages be adjusted (i.e., reduced) to account for the percentage of orders that did not meet the required provisioning intervals (10 days of a customer's request for 1.544 Mbps and above, and 60 days for 45 Mbps and above) during the reporting period. Liberty also recommends that Verizon report the percentage of orders provisioned within the required provisioning interval and the average time it took to provision the orders that did not meet the required interval in future biennial updates, which Liberty views as more "useful" information.

**Verizon Response to 1-3:** Verizon strongly disagrees with this finding and recommendation. Liberty takes issue with Verizon's reporting of information that Verizon was not required to report and for which there was no clear guidance from PaPUC Staff. Liberty further compounds this error by suggesting that this data be used to reduce Verizon's broadband availability percentage as a penalty for failing to achieve perfect provisioning performance, despite the fact that Verizon unquestionably has installed the required equipment to provide broadband service and is able to provide service within the statutory time period.

Verizon disagrees that reporting its average provisioning intervals for 1.544 Mbps and 45 Mbps service provides incomplete or potentially misleading information. The information cannot be "incomplete," since there is no requirement to report provisioning intervals at all, either in the statutes or in any applicable PaPUC Order. Verizon voluntarily included the data in this report to provide the auditor with additional information. The information cannot be "misleading" because Verizon clearly disclosed that this data was "average provisioning intervals" and in no way was there intention to mislead a reader of the report. In the absence of clear and distinct PaPUC guidelines, Verizon applied its best judgment and reported provisioning interval metrics that it reasonably uses in the normal course of business and clearly disclosed what it was reporting. Further, there is no basis to require Verizon to report additional information about its intervals. There is no requirement to report intervals, and the Commission has not provided specific guidance on how they should reported. Act 183 prohibits any increase in reporting requirements beyond those in place as of July 1, 2004.

In any event, there is no basis in the statute or the plan to adjust Verizon's reporting of the percentage of its total lines to which it has made broadband available by an amount equal to the percentage of Verizon's actual orders that exceeded the 10 business day interval. First, both the statute and the plan require the deployment of network facilities to enable Verizon to provide broadband service within 10 days. They do not impose a standard of perfection in provisioning. Even if the equipment is in place through which broadband service can be provided in 10 days, expecting Verizon to provision 100% of orders perfectly on time is unrealistic, is contrary to the Commission's own retail and wholesale performance standards in other areas and is unsupported by the plan or statute. Second, this recommendation ignores the fact that the number of lines for which a broadband service is actually ordered in a given year is but a small percentage of the

total number of lines for which broadband has been made “available” in statutory terms across the Commonwealth. Notably, even where broadband is “available” from Verizon, many customers do not choose to purchase the service and many others order broadband service from Verizon’s competitors. Making a downward adjustment to the overall availability percentage based on orders for a small subset of all of the lines to which broadband is available is an apples-to-oranges exercise because there is no direct correlation drawn between the percentage of orders exceeding the interval and the total percentage of broadband available lines. Finally, arbitrarily reducing the broadband availability percentage based on a few instances of modestly longer provisioning intervals, when the equipment is clearly in place to make broadband service available to all lines in a given area, skews the data and may mislead readers who are looking to the Update for a true picture of broadband availability. Certainly, Verizon can be expected to provision broadband with average intervals that meet statutory intervals.

In discussions with Staff at the Audit workshop on June 12, 2008, it was agreed that the inclusion of average completion intervals in the biennial updates is useful in determining provisioning performance. Future updates will also show the percentage of orders meeting the ten day and sixty day interval, respectively, along with information on the orders that missed the provisioning interval. Prospective discussions with Staff will establish benchmarks for the percentage of orders completed within the specified interval that are consistent with other reporting benchmarks currently in place. This information will not, however, be used to reduce the broadband availability percentage. As Liberty states in their report, once these benchmarks are agreed upon, Finding and Recommendation 1-3 will be resolved.

**Liberty Finding and Recommendation 1-4:** Liberty concludes that Verizon’s methods for determining the results reported in its biennial updates need additional quality checks for accuracy. Liberty recommends that Verizon mechanize the NMP reporting process and calculations as much as possible in order to minimize the impact of human error and that Verizon implement an internal audit process that reviews the information reported in the Verizon biennial updates before issuing them and maintain a full audit trail of all the data and figures Verizon reports in its biennial updates.

**Verizon Response to 1-4:** Verizon agrees with this finding in that a small number of inadvertent errors were made in the reporting of some data as cited by Liberty. However, Verizon does not agree with Liberty’s recommendation to mechanize the NMP reporting process.

The reporting errors that were discovered in the NMP report have been corrected in revisions to the Sixth Biennial Update filed September 17, 2007 and April 22, 2008.

As Liberty points out in this finding, none of the errors identified affect Verizon’s ability to meet its NMP commitments. Notwithstanding the lack of any substantive effect, it is Verizon’s policy always to provide accurate reporting to the Commission. Despite the inadvertent reporting errors, Verizon disagrees with any implication that a full audit trail of all reported data and figures reported in the Sixth Biennial NMP Update was not maintained. All back up data, business rules and processes used in compiling this report have been provided to Liberty during this audit. It is the availability of this full audit trail that enabled Liberty to discover these

reporting errors. Verizon will continue to maintain a full and complete audit trail for future updates.

Verizon does not agree that the reporting process should be mechanized and does not believe it is practical or even possible to attempt to mechanize a data gathering process from such a vast number of different sources. Verizon will address the issue raised by Liberty by devoting additional personnel/resources to review/audit future NMP biennial updates to improve their accuracy.

**Liberty Finding and Recommendation 1-5:** Liberty concludes that the broadband customer count data provided by Verizon in its Sixth Biennial Update did not provide information that is useful or reliable. Liberty recommends that Verizon reach an agreement with the Commission Staff on what data must be reported in future biennial updates to provide useful information on the utilization of broadband services and the growth of these services over time.

**Verizon Response to 1-5:** Verizon agrees that the broadband customer count data provided in the Sixth Biennial Update was not particularly useful. There was no intent to misreport or overstate customer counts in the Sixth Biennial Update; because the Commission requires “customer” counts, Verizon made its best effort to count broadband customers as accurately as possible.

As Liberty points out, Verizon is in the process of developing an automated process to count broadband customers to comply with an FCC Order in Docket No. 07-38. It is anticipated that this process will be in place for use in the next update scheduled to be filed in June 2009.

**Liberty Finding and Recommendation 1-6:** Liberty concludes that Verizon’s method for determining broadband availability at 1.544 Mbps or greater does not accurately reflect actual broadband availability in Pennsylvania. Liberty recommends that Verizon implement a revised broadband availability identification process that more accurately represents Verizon’s ability to support broadband DSL service in its network.

**Verizon Response to 1-6:** Verizon agrees that the current criteria for determining broadband capability for loops results in a considerable understatement of Verizon’s broadband availability. As Liberty points out, Verizon has repeatedly stated during this audit that its methodology of counting all loops less than or equal to 12kft as capable of delivering 1.544 Mbps broadband service is a result of a September 17, 2003 Commission order in Docket No. P-00930715F0002. Verizon agrees that this order does not reflect the most accurate measurement of broadband availability but actually results in a very conservative understatement of Verizon’s broadband availability status.

In Liberty’s analysis of Verizon’s loop test data for this audit, fully **(Begin Proprietary)** **(End Proprietary)** of the loops less than or equal to 18kft **(Begin Proprietary)** **(End Proprietary)** loops less than or equal to 18kft are capable of carrying DSL at broadband compliant speeds. Under Verizon’s methodology from the Sixth Biennial Update and consistent

with a September 17, 2003 Commission order in Docket No. P-00930715F0002, Verizon counted only those loops that are less than or equal to 12kft as DSL broadband capable ((**Begin Proprietary**) (**End Proprietary**) loops less than or equal to 12kft). Clearly, Verizon's existing method of calculating broadband deployment is very conservative. Verizon agrees with Liberty's conclusion that using measured broadband ability reveals Verizon's broadband deployment is significantly more robust than Verizon reported. Indeed, Verizon's most recent internal study shows that the percentage of loops less than or equal to 18kft capable of broadband speeds is actually much higher than (**Begin Proprietary**) (**End Proprietary**).

At the June 12, 2008 workshop, Verizon and Staff agreed that in future biennial updates, performance based testing will be used to determine the actual broadband capacity of lines up to 18kft in order to calculate broadband availability. Verizon will initially adjust broadband availability below 12kft to match the performance based testing, but will modify that adjustment upon confirmation that line conditioning (e.g., removing bridged taps, dropping defective pairs) enables broadband provisioning within 10 business days.

**Liberty Finding and Recommendation 1-7:** Liberty concludes that Verizon did not include all of its FiOS lines in the calculation of the percentage of broadband capable lines in its Sixth Biennial Update. Liberty recommends that Verizon implement the systems development necessary to include all of its FiOS lines in future biennial updates.

**Verizon Response to 1-7:** Verizon agrees with this finding. Verizon did not include all of its FiOS lines because a labor-intensive manual process was required to sort out those FiOS lines where broadband DSL was also available, to avoid double-counting. Further, while the result was a conservative view of broadband availability, Verizon was able to meet its broadband commitments without counting all FiOS lines. However, Verizon agrees that all such lines should be counted in the future if broadband is available through FiOS. Verizon is developing a mechanized DSL/FiOS counting process that is anticipated to be in place to determine the end of year 2008 status for the biennial update which will be filed in June 2009.

**Liberty Finding and Recommendation 1-8:** Liberty concludes that Verizon's methods for converting FiOS facilities to access line quantities and for reporting rural DSL availability in the Sixth Biennial Update may distort Verizon's reported broadband availability. Liberty recommends that Verizon use a universal standard unit for calculating Verizon's broadband availability percentage in future biennial updates.

**Verizon Response to 1-8:** Liberty takes issue with Verizon's current process of counting each FiOS working telephone number as a separate access line for broadband availability calculations. But Verizon consistently counts each working telephone number as a separate access line, regardless of the serving technology, and so its methodology is consistent and reasonable. Liberty's recommendation seeks to introduce inconsistency by requiring Verizon to count fiber-served lines differently from those served by copper facilities. Verizon's business rules counted working telephone numbers at FiOS-served addresses. Verizon (1) has consistently applied its

business rules irrespective of the type of serving facilities and (2) is complying with the PaPUC's reporting requirements for broadband availability in terms of access lines.

As Verizon understands Liberty's logic in the finding, if a FiOS provisioned home has more than one working telephone number, the home should only be counted as a single access line (rather than counting one access line per working telephone number). The following example demonstrates the flaw in that logic: Suppose that a traditional copper-provisioned home is served by a 5 pair loop, less than 12kft in length, that has two working telephone numbers. Verizon's business rules count two access lines in the numerator and denominator to calculate broadband availability. To the best of Verizon's knowledge, Liberty had no concerns about this business rule. Although not affecting the broadband availability formula, that loop still has available capacity for three more broadband capable telephone numbers. Suppose, conversely, a Fiber to the Premise (FTTP) provisioned home served by a fiber loop also has two working telephone numbers. Verizon's business rules count two access lines in the numerator and denominator to calculate broadband availability – just like a traditional copper-provisioned home. Similarly, although not affecting the broadband availability formula, that FTTP loop still has available capacity for more broadband capable telephone numbers.

Chapter 30 is technology neutral, so it makes no difference in calculating broadband deployment if a customer is served by copper or fiber facilities. Verizon's business rules are consistent in their calculation of broadband availability regardless of the technology used to provision service.

**Liberty Finding and Recommendation 1-9:** Liberty concludes that Verizon's results for broadband availability in its Sixth Biennial Update include lines that are not readily available for broadband service. Liberty recommends that Verizon include only lines readily available to support broadband service in the numerator of the percentage availability calculation.

**Verizon Response to 1-9:** Verizon strongly disagrees with this finding. Liberty is referring to a situation where an area has been upgraded for broadband availability, but a temporary facilities exhaust may delay orders for broadband services until the capacity of the facilities is augmented (normally a very quick process). Verizon monitors DSL capacity and initiates a relief job using a "10 weeks to exhaust" criteria. This process is designed to maintain spare DSL capacity by triggering a DSL relief job in a timely manner, prior to exhaust. Occasionally, unexpected customer demand can outpace DSL capacity resulting in a short delay in provisioning DSL service in a particular area. Following what is typically a few days, spare DSL capacity is restored. Liberty suggests that where a location is subject to a temporary facilities exhaust at the time the biennial report is being prepared, those lines should not be counted as broadband available. Verizon disagrees. Verizon believes complying with the audit's finding would have the unintended consequence of (1) misleading readers of the NMP updates by reducing reported broadband availability based on transient DSL capacity exhausts when the equipment is largely in place to provide broadband service in the area and (2) penalizing Verizon for following generally accepted engineering practices.

The only practical way to avoid temporary facility shortages (and therefore, following this finding's logic to be able to claim "credit" for its broadband investment and deployment), would

be for Verizon to provision DSL on a one:one basis for all access lines. Such ratios defy long held traffic engineering principles. Further demonstrating the illogic of such a requirement, if a rate base rate of return regulated company were to build its facilities in this manner, Verizon has no doubt that an audit would roundly criticize that company for wasteful, unnecessary over-engineering, having the effect of unnecessarily increasing the rate base (and therefore customer rates) in order to avoid any possibility of facility exhausts. Certainly this would not be cost effective and defies decades-old traffic engineering standards employed by all telecommunications companies.

Finally, it is important to note that the practical impact of temporary exhausts is nominal. For example, as of late April 2008, of the thousands of DSL equipment locations, there were a mere **(Begin Proprietary)** **(End Proprietary)** sites with a temporary shortage of spare facilities. On a base of millions of lines, the impact is nominal at best.

**Liberty Finding and Recommendation 1-10:** Liberty concludes that information provided by Verizon's Golden Source database regarding line qualification for DSL is not consistent with information provided by Verizon's online website. Liberty recommends that Verizon use consistent data sources for reporting broadband availability in the biennial updates and for reporting broadband availability on Verizon's website, including only lines that are readily available for the provision of broadband service.

**Verizon Response to 1-10:** Verizon disagrees with this finding. First, there is not a significant difference between the information provided by Verizon's Golden Source database and the website information. As described in response to Preliminary Finding #38 and Data Request #323, a logic issue in the Overlay code and how it populated Golden Source was discovered and resolved. Because of this logic issue, certain lines were showing up as not qualified in Golden Source when they really should have been designated as qualified, creating a discrepancy with the website information that has since been corrected.

Second, Golden Source is the only report of DSL qualification that can, as a practical matter, be used as a measurement for the purposes required by the biennial updates. The website responds to queries about individual telephone numbers, but it cannot generate the kind of comprehensive report needed to prepare the biennial updates.

Third, any remaining differences between information available on a particular telephone number in Golden Source versus a response that might be given to a website query (following the correction of the logic issue discussed above) would be due to the type of temporary exhaust issues mentioned in response to Finding 1-9. While a temporary facilities exhaust may cause a particular line to show DSL not available on the website, while it continues to show as qualified in Golden Source, as discussed in Response 1-9, these situations are remedied almost immediately so that Verizon can meet current demand for the service. Further, the number of lines that may experience a temporary exhaust at any given time is negligible in comparison to the total universe of lines for which Verizon has made the investment in network facilities to support broadband availability.

For all of these reasons, Verizon continues to maintain that Golden Source is the best source of information on the lines that have DSL available at broadband speeds.

**Liberty Finding and Recommendation 1-11:** Liberty concludes that Verizon is not consistent in its treatment of orders delayed due to customer-caused reasons when reporting the percentage of access lines available for broadband service within ten business days at data speeds of 1.544 Mbps or greater. Liberty recommends that Verizon exclude all orders that were delayed for customer-caused reasons from the performance calculation.

**Verizon Response to 1-11:** Verizon agrees with this finding that it does not exclude orders delayed for customer-caused reasons for DSL when calculating average provisioning intervals for broadband compliant services. However, although Verizon agrees in principle with this recommendation, practically Verizon cannot agree to implement it because it does not have the information available to do so.

Although Verizon has the capability to exclude FiOS orders delayed for customer-caused reasons, Verizon does not have a mechanized method for excluding DSL orders delayed for customer caused reasons. After this issue was raised in the audit, Verizon examined its DSL provisioning systems and data elements in an attempt to find an efficient means to exclude “customer-caused” delayed orders from DSL provisioning results. Based on that research, however, the systems cannot presently exclude those “customer-caused” orders and there is no practicable way to change the systems to do so without extensive and costly system and data element changes.

**Liberty Finding and Recommendation 1-12:** Liberty was unable to replicate Verizon’s reported results for broadband and rural DSL availability in its Sixth Biennial Update. Liberty recommends that Verizon more clearly document the process used to calculate the broadband availability percentages reported in the biennial updates to provide a clear audit trail to support the results.

**Verizon Response to 1-12:** Verizon disagrees with this finding because Verizon provided Liberty with the information from which Liberty should have been able to replicate Verizon’s results. In the case of broadband availability, Verizon pointed out the following errors in Liberty’s calculations in Preliminary Finding #23. First, Liberty improperly included FiOS working lines in the total number of rural access lines, adding lines inappropriately to the denominator in the broadband availability calculation. Second, Liberty improperly excluded 3 categories of lines from the numerator in the broadband availability calculations:

- PARTS SUSPEN,
- COND QUALIFIED >0<=12KFT and
- LOAD COIL >0<=12KFT.

There is no indication in Liberty’s finding that it applied Verizon’s corrections and continued to fail to replicate the rural broadband numbers. Verizon believes that had Liberty modified its

calculations as described above, it would have been able to replicate Verizon's reported availability percentages.

In response to Preliminary Finding #22, Verizon identified four rural wire centers that were improperly excluded from Liberty's calculation of rural DSL availability. There is no indication that Liberty revised its calculation based on Verizon's identified correction or the corrected data from December 2006 instead of November 2006. As stated in response to Preliminary Finding #22, Verizon believes these two modifications would result in a match between the rural business DSL availability calculation of Verizon and Liberty.

Verizon respectfully takes exception to Liberty's characterization in this finding regarding a "lack of quality found in this and many other VPA reported results." With the exception of a small number of inadvertent reporting errors out of the thousands of data elements reported, Verizon has taken great pains to ensure the complete and accurate reporting on the status of its NMP commitments and requirements.

Verizon's broadband availability and rural DSL availability calculations are correct and fully documented.

**Liberty Finding and Recommendation 1-13:** Liberty concludes that the DSL customer count data provided by Verizon in its biennial updates does not appear to provide information useful for determining the number of in-service DSL lines or the growth of DSL service in Pennsylvania. Liberty recommends that Verizon report the number of DSL lines in service at the end of the reporting period disaggregated by each of the three exchange classifications in addition to (or in lieu of) reporting the number of internet service providers and content providers in future biennial updates. Liberty also recommends that Verizon report the number of DSL lines in service at the end of the reporting period for the past two biennial updates to provide the information needed to determine the growth rate for DSL service.

**Verizon Response to 1-13:** Verizon agrees that the DSL customer count data provided in the Sixth Biennial Update is not useful in the determination of DSL line growth in Pennsylvania. Verizon has complied with the Commission's reporting requirements, in this case, reporting customer count data. Verizon's customers are the Internet Service Providers (ISPs) and Content Providers (CPs). DSL end users are customers of ISPs and CPs. Verizon cannot force ISPs/CPs to provide their end user (i.e., customer) information. As a result, Verizon's customer data can not be used to glean much in the way of DSL penetration.

This issue was resolved at the audit workshop on June 12, 2008. As agreed to with Staff, Verizon will provide DSL lines in service, disaggregated by each of the three exchange classifications, instead of the number of customers in service, beginning with the 2008 biennial update to be filed June 2009. As a result, the Commission can more easily discern DSL penetration and growth.

**Liberty Finding and Recommendation 1-14:** Liberty concludes that Verizon's reported results for broadband availability in or adjacent to the nearest right-of-way for public schools, healthcare facilities, and industrial parks in its Sixth Biennial Update do not accurately represent Verizon's actual progress. Liberty recommends that Verizon propose a definition of the requirements of the NMP commitment to have broadband facilities in or adjacent to the nearest right-of-way for public schools, health care facilities, and industrial parks and obtain agreement on this definition from the Commission Staff.

**Verizon Response to 1-14:** Verizon disagrees with this finding. Verizon acknowledges that out of a total of nearly 4000 public schools, industrial parks and/or healthcare facilities, Liberty has identified ten public schools, industrial parks and/or healthcare facilities that Verizon has inadvertently overlooked in its broadband deployment to the nearest rights of way. Verizon's best efforts resulted in a 99.6% performance, as pointed out in the response to Preliminary Finding #14. Verizon both appreciates Liberty's help and has plans in place to build to those ten locations.

Verizon has constructed fiber facilities to the adjacent right of way of the public schools, industrial parks and/or healthcare facilities. Even if Liberty or Staff disagree with Verizon's definition of "adjacent right of way" Verizon has demonstrated (and Liberty has audited) the ability to deploy 45 Mbps and higher speed services that require fiber in an average of **(Begin Proprietary) (End Proprietary)** days. Certainly this documented performance removes any doubt that Verizon's definition of adjacent is reasonable and workable.

This issue was resolved at the audit workshop of June 12, 2008. Verizon and Staff agreed that "adjacent" would be interpreted to mean o that facilities are in place to allow for the provision of broadband services to those institutions within the required interval (10 business days for 1.544 Mbps and 60 business days for DS3 and higher services). Verizon further committed to continuing to place broadband facilities adjacent to all qualifying public schools, health care facilities, and industrial parks.

**Liberty Finding and Recommendation 1-15:** Liberty notes that based on its interpretation of Act 183, Verizon indicated that it is no longer legally required to place fiber in or adjacent to the nearest right-of-way for any new public schools, health care facilities, or industrial parks constructed after December 31, 2005. Liberty recommends that the requirements for compliance with the NMP commitment to have broadband facilities in or adjacent to the nearest right-of-way for public schools, health care facilities, and industrial parks be resolved.

**Verizon Response to 1-15:** This issue was resolved at the audit workshop on June 12, 2008 as described in Verizon's response to Finding 1-14 above.

**Liberty Finding and Recommendation 1-16:** Liberty concludes that Verizon's process for provisioning broadband facilities in or adjacent to the nearest right-of-way for public schools, health care facilities, and industrial parks does not provide an audit trail to enable verification that Verizon has complied with this NMP commitment. Liberty recommends that Verizon

develop an updated centralized master list of public schools, health care facilities, and industrial parks and continue to update this list when new facilities are added and others are retired.

**Verizon Response to 1-16:** Verizon and Staff reached agreement on this issue at the audit workshop on June 12, 2008. Verizon will maintain the updated list of qualifying public schools, healthcare facilities and industrial parks in order to demonstrate its continuing compliance with the requirement to place broadband facilities adjacent to these institutions as described in Verizon's response to Finding 1-14 above.

**Liberty Finding and Recommendation 1-17:** Liberty concludes that the fiber optic cable conductor miles reported by Verizon in its Sixth Biennial Update do not depict the actual conductor miles available for service in Pennsylvania. Liberty recommends that Verizon modify reporting of fiber facilities that Verizon has deployed and that are available for customer service in future biennial updates to account for fiber cable conductor miles that have been retired.

**Verizon Response to 1-17:** Verizon disagrees that the fiber data reported for 2005 and 2006 do not depict actual conductor miles available for service in PA.

Verizon has complied with the Commission's reporting requirements, in particular, Reporting Guideline #3 from the Commission's Order in Docket #M-00930441 entered May 17, 1999 which states "The biennial updates should report present and projected upgrades to switches, fiber deployment, intelligent signaling, and ISDN availability." Those guidelines make no mention of reporting fiber available *for service* in Pennsylvania. However, Verizon provided the fiber optic cable conductor mile information on page 19 of the Sixth Biennial Update for 2005 and 2006 using "net additions," including any fiber retired during those respective years. The chart on page 20 may not include net additions for years previous to 2005.

As agreed to with Staff at the June 12<sup>th</sup> audit workshop, Verizon will provide fiber conductor mile net additions, which provides the fiber available for customer service, in future biennial updates. Since there is no requirement to report historical fiber additions, Verizon will cease to include that chart in future biennial updates.

**Liberty Finding and Recommendation 3-1:** Liberty concludes that Verizon's Network Engineering Fiber Optic Cable Inventory Records do not accurately reflect the number of actual working fibers or the number of spare fibers in Verizon's network. Liberty recommends that Verizon conduct a statewide internal audit to compare the working and spare fibers in the central office to Verizon fiber facilities inventory records and update the facility inventory records so that they accurately reflect the actual working and spare fiber strands in Verizon's network.

**Verizon Response to 3-1:** Verizon disagrees with this finding and the recommendation.

Liberty bases its finding on its observation that out of a sample of 466 fiber strands:

- 89 fiber strands were indicated to be working but were actually spare

- 98 fibers reported to be spare appeared to be in use as they were found to have fiber jumpers terminated on them.

As Verizon has explained in Data Request #235 and Preliminary Findings #33 and #35, these observations do not indicate a systematic lack of spare fiber capacity. First, the location of an additional 89 spare fiber strands simply means that Verizon had *more* spare fiber than its inventory records indicated. Second, Verizon explained that the presence of the fiber jumpers does not mean that the fiber is not spare. Third, this is a very small sample in comparison to the total amount of fiber in Verizon's network. Fourth, and most important, Verizon's actual performance in filling orders for high capacity fiber-based services within commercially reasonable time frames demonstrates that Verizon has adequate spare fiber to meet its customers' needs. Said differently, any inadvertent fiber inventory errors have not prevented Verizon from meeting its network modernization commitments. There is no reason to incur the time and expense of a manually intensive audit attempting to ensure a perfect match between the fiber inventory records to the actual working and spare fibers in the field.

The issues raised by Liberty in this Finding are not material, have not affected Verizon's ability to provide timely fiber-based services to its customers and do not warrant the expense and diversion of resources to conduct a statewide internal audit. Further, to the extent Verizon's time and resources are diverted into conducting an unnecessary audit to create perfect paper records, a level of perfection that serves no real world purpose, those resources are not available to provide other broadband service more quickly to customers who do not presently have access to the services they demand. Verizon respectfully submits that it is not efficient or productive to require Verizon to expend resources in needless audit to correct an issue that does not impact Verizon's record of performance.

**Liberty Finding and Recommendation 4-1:** Liberty concludes that Verizon did not adequately define or consistently report capital broadband investment in the Verizon Sixth Biennial Update, dated July 2, 2007. Liberty recommends that Verizon report the composition of capital expenditures consistently in its biennial updates and explicitly label the types of capital expenditures reported.

**Verizon Response to 4-1:** Verizon disagrees with this finding.

Verizon is not subject to any capital expenditure commitment and is not required by the statute or its plan to expend a particular level of capital, or to expend capital for specific purposes. The reporting guidelines do not require the specific definitions of capital investment categories discussed in this Finding and those guidelines did not direct that "broadband" expenditures be separated from overall network expenditures in the manner this Finding now seems to expect. Verizon's reporting of its capital expenditures in the Sixth Biennial Update is not inconsistent with the Commission's reporting requirements. Moreover, since Act 183 prohibits the Commission from increasing its biennial update reporting requirements, there is no basis to recommend that capital expenditure reporting requirements be increased beyond what was required by the original guidelines.

Verizon's method of reporting its capital expenditures in the Sixth Biennial Update is reasonable and consistent with financial reporting practices.

As a result of discussions with Staff at the audit workshop on June 12, 2008, Verizon agrees to be clearer in its reporting of capital investment in future biennial updates by using consistent terms and definitions of those terms.

**Liberty Finding and Recommendation 4-2:** Liberty concludes that in the Verizon Sixth Biennial Update, dated July 2, 2007, Verizon reported capital investment in categories that do not allow a determination of the total Pennsylvania investment by network technology. Liberty recommends that Verizon work with the Commission Staff to achieve agreement on the categories of capital investment to be reported in future biennial updates.

**Verizon Response to 4-2:** Verizon disagrees with this finding.

There is no requirement in the statute or NMP for Verizon to report capital expenditures by network technology or to aggregate or disaggregate its financial information in any particular way, and Act 183 prohibits increasing Verizon's reporting requirements. The reporting requirement for capital expenditures is to "provide the level of capital investment being made to develop the broadband network." There is no requirement to report capital expenditures by network technology.

Following discussions with Staff at the audit workshop on June 12, 2008, Verizon agrees to be clearer in the reporting of capital investment in the broadband network in future biennial updates as described in the response to 4-2 above.

**Liberty Finding and Recommendation 4-3:** Liberty concludes that Verizon overstated the 2006 FTTP capital expenditures in its Verizon Sixth Biennial Update and recommends that Verizon review internal controls, validation of work documents, and staffing to ensure accurate reporting of the financial data in Verizon's biennial updates.

**Verizon Response to 4-3:** Verizon agrees with Liberty that there were inadvertent errors made in the reporting of 2006 FTTP capital expenditures in the Sixth Biennial Update. An error was made in an excel formula, and another in adding investment totals that resulted in these reporting errata. Verizon acknowledges and agrees with the importance of reporting accuracy in the NMP Biennial Updates and it is Verizon's policy to accurately report information the Commission.

Verizon agrees with Liberty's recommendation that additional internal controls will ensure accurate reporting of financial data in future biennial updates. Those internal controls will be utilized for the next biennial update to be filed in June 2009.

**Liberty Finding and Recommendation 5-1:** Liberty concludes that the Verizon Sixth Biennial Update reported a projected capital commitment budget that fails to provide the Commission an adequate view of the capital requirements and construction plans required to remain on schedule

to meet the 2015 NMP broadband commitments. Liberty recommends that Verizon provide sufficient information in the biennial updates to support its ability to meet its 2015 NMP commitments, in addition to providing its projected commitment budget for the first year after the reporting period.

**Verizon Response to 5-1:** Verizon disagrees with this finding. Verizon's capital investment reporting complied with the reporting guidelines and the statute prohibits increasing Verizon's reporting obligations. Moreover, Liberty's finding making speculative predictions about future compliance with broadband obligations is beyond the scope of the Audit. It is also factually incorrect. Liberty's estimate that it will take 14-16 years to build out rural areas is unsupported and grossly excessive. Verizon strongly disagrees with this finding for the following reasons.

First, Liberty and Staff's authority under this Audit is to ensure Verizon's accuracy in reporting its network modernization plan implementation progress in the Sixth Biennial Update, and specifically whether Verizon is in compliance with its 2006 obligations. The audit's purpose does not include providing subjective predictions of future events – namely whether Verizon will (or will not) be able to meet its statutory obligations fully eight years from now. Verizon has met and even exceeded all interim deployment benchmarks set by statute and/or Commission order, and has devoted financial resources to achieve those goals. There is no reason, based on Verizon's past behavior, to predict that Verizon will not continue to meet its obligations going forward.

Second, Liberty's presumption regarding the magnitude of the work required going forward is faulty based on the facts known today, and only highlights the difficulty of attempting to make audit findings predicting future events that are beyond the audit's scope. Liberty erroneously presumes that **(Begin Proprietary)** **(End Proprietary)** rural lines still require provisioning of broadband via new remote terminals or FTTP. This presumption is contrary to the facts that have been provided through this audit. All but **(Begin Proprietary)** **(End Proprietary)** of those lines already have access to DSL and have loop lengths between 12kft and 18kft. It is not a foregone conclusion that new RT construction or FTTP will be necessary to make broadband speeds available to those lines. To the contrary, as stated in Verizon's response to Preliminary Finding #39, Verizon's loop studies demonstrate that **(Begin Proprietary)** **(End Proprietary)** of Central Office loops up to 18kft can now receive DSL at broadband compliant speeds (e.g., 1.544 Mbps downstream/128 Kbps upstream). As Verizon further noted in PF #39, DSL technology has improved and that technology trend is expected to continue to improve broadband availability on those lines to fully 100%. This leaves only about **(Begin Proprietary)** **(End Proprietary)** lines not included in the above category. Under a worst case scenario with nearly 8 years remaining until EOY 2015, approximately **(Begin Proprietary)** **(End Proprietary)** of those lines per year would have to be made broadband capable, clearly in line with Liberty's derived pace of **(Begin Proprietary)** **(End Proprietary)** lines per year. In addition, in the Sixth Biennial Update, Verizon projected that over **(Begin Proprietary)** **(End Proprietary)** rural access lines would become broadband capable as a result of the 2008 FTTP program. Although the year should have shown 2007, Verizon will gain incremental broadband capable rural lines in the 2008 FTTP build, and indeed, any additional rural FTTP builds. And of course another difficulty of predicting the

future is that Liberty cannot account for the possibility of other technological developments that might be used to bring broadband to these lines more quickly and cost effectively. Finally, the Biennial Update reporting guidelines simply require Verizon to report “projected levels of capital investment,” which Verizon did report. The guidelines do not require the level of reporting Liberty recommends in this finding, and applicable law prohibits the Commission from increasing reporting requirements.

Nonetheless, Verizon agreed, at the audit workshop on June 12, 2008, to provide projected capital investment one additional year beyond that which is currently provided, resolving this issue.

**Liberty Finding and Recommendation 5-2:** Liberty concludes that Verizon misreported the projected levels of 2007 capital investment for the DSL, FTTP, and SONET ring IntelliLight budget categories in the Verizon Sixth Biennial Update. Liberty recommends that Verizon review internal controls, validation, and staffing to ensure accurate reporting of the capital budget data in Verizon’s biennial updates.

**Verizon Response to 5-2:** Verizon agrees with this finding that there were inadvertent errors made in the reporting of projected capital investment in the Sixth Biennial Update.

Errors were discovered in the calculation and transcription of a few of the reported numbers in the final budget view. Verizon acknowledges and agrees with the importance of reporting accuracy in the NMP Biennial Updates and it is Verizon’s policy to accurately report information to the Commission.

Verizon agrees with Liberty’s recommendation that additional internal controls and validation will ensure accurate reporting of capital budget data in future Biennial Updates.

## CONCLUSION

In summary, Verizon agrees with Liberty that its 2006 NMP commitments have been met. As stated above, Verizon has agreed to revise some of its processes related to the gathering and reporting of data, which will be implemented prior to filing the next biennial update in June 2009. Verizon also met with Liberty and Staff at the June 12, 2008 workshop and agreed to acceptable resolutions of many of the recommendations, as discussed above. Finally, Verizon has provided the rationale for declining the remaining recommendations.