Exhibit No:
Issues:
Witness: Wesley Pool
Type of Exhibit: Rebuttal Testimony
Sponsoring Party: Southwestern Bell Telephone, L.P., d/b/a SBC Missouri
Case No: TO-2005-0336

SOUTHWESTERN BELL TELEPHONE, L.P.,
d/b/a SBC MISSOURI

CASE NO. TO-2005-0336

REBUTTAL TESTIMONY

OF

WESLEY POOL

Dallas, Texas
May 19, 2005

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Southwestern Bell Telephone, L.P., d/b/a SBC Missouri's Petition for Compulsory Arbitration of Unresolved Issues for a Successor Agreement to the Missouri 271 Agreement ("M2A")	))))	Case No. TO-2005-0336

AFFIDAVIT WESLEY POOL

STATE OF TEXAS)

COUNTY OF DALLAS)

I, Wesley Pool, of lawful age, being duly sworn, depose and state:

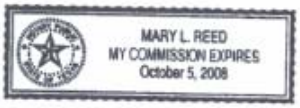
1. My name is Wesley Pool. am presently Area Manager-Collocation for SBC Operations, Inc.

2. Attached hereto and made a part hereof for all purposes is my Rebuttal Testimony.

3. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct to the best of my knowledge and belief.

Wesley Pool

Subscribed and sworn to before me this 12th day of May, 2005.



Notary Public

My Commission Expires: October 5, 2008

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I. INTRODUCTION

Q. STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Wesley Pool. My business address is 308 S. Akard St., Dallas, Texas, 75202.

Q. ARE YOU THE SAME WESLEY POOL WHO FILED DIRECT TESTIMONY ON BEHALF OF SBC MISSOURI IN THIS DOCKET?

A. Yes, I am.

II. EXECUTIVE SUMMARY

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. The purpose of my Rebuttal Testimony is to refute certain statements made by various CLEC witnesses in their Direct Testimony in this docket. Specifically, I will address statements made by AT&T witness Henson, CLEC Coalition witness Krabill, Sprint witness Fox, and MCIm witness Price.

AT&T's witness Henson and MCIm's witness Price both propose power metering as a method of measuring and billing for DC power on a "consumed" basis. In my testimony I have outlined the reasons that power metering is not the most appropriate or accurate method of measuring DC power. I have clearly stated that power metering does not take into account the expensive power infrastructure that SBC Missouri must have in place to meet the demands of the CLECs requested amount of power. Based on these reasons it is SBC Missouri's recommendation that the Missouri Commission rule in favor of SBC Missouri.

Sprint's witness Fox proposes language that implies SBC Missouri does not allow collocation multifunctional equipment and or switching equipment. In my testimony I have identified that SBC Missouri does not seek to disallow the

collocation of multifunctional or switching equipment. To the contrary, SBC Missouri allows the collocation of such equipment with applicable law.

CLEC Coalition witness Krabill states in her direct testimony that a CLEC should not have to pay for the removal of cable in overhead racking until such work is completed. I have clearly outlined the reasoning that the removal of cable in overhead racking is important from a network reliability and safety standpoint. SBC Missouri's witness Roman Smith outlines the importance for paying for the removal of cabling upon submitting the request to decommission. Based on the reasons outlined by myself and Mr. Smith it is the recommendation of SBC Missouri that the Missouri Commission rule in SBC Missouri's favor, thus requiring payment for the removal of cable upon making such request.

III. COLLOCATION – POWER METERING ISSUES

AT&T Collocation Issue 1
Issue Statement: *Should AT&T, at its option, be allowed to implement power metering in its collocation space in SBC Missouri's locations?*

MCIm Physical and Virtual Collocation Issue 2
Issue Statement: *Should MCIm be charged on a metered basis for power in Collocation spaces?*

Q. AT&T's WITNESS, MR. HENSON, DESCRIBES THE USE OF ELECTRICAL POWER AS BEING SIMILAR TO THE RELATIONSHIP BETWEEN A POWER COMPANY AND THE TYPICAL RESIDENTIAL CUSTOMER. IS MR. HENSONS COMPARISON ACCURATE?

A. No. DC power provided in a collocation cage and AC power supplied to a typical residential customer are not equivalent. As I stated in my direct testimony, the hallmarks of our excellent DC power infrastructure are the battery plants and AC emergency generators. Pool direct, pp. 13-14. Both of these are vital to providing power when commercial power fails. It is important to note that both are

expensive, and both require a large amount of time to engineer and install. A power company providing power to a typical residence does not incur the expense of converting AC power to DC power nor does it supply a residence with battery plants or AC emergency generators to supply that residence with power during an outage.

Q. IS IT TRUE THAT ELECTRICAL POWER CAN BE MEASURED IN A COLLOCATION SPACE?

A. Yes. However, as SBC Missouri's affiliate, SBC Illinois, has experienced, power metering is expensive and inaccurate. Power metering is expensive to both CLECs and SBC Missouri to implement, requiring much additional equipment and expensive labor to change the current method of delivering DC power. Additional problems include its inaccuracy, inefficient use of the central office DC power infrastructure, potential congestion of cable racking, potential for network reliability problems, and finally, the maintenance of the new metering equipment that is susceptible to failure.

In addition, as I discussed in my direct testimony, SBC Illinois learned that a Power Metering Unit ("PMU") can sometimes fail and thus not capture power usage while the unit is out of service. Pool Direct, pp. 7-8.

Q. AT&T PROPOSES THREE TYPES OF METERING DEVICES. PLEASE DESCRIBE SOME OF THE PROBLEMS ASSOCIATED WITH EACH DEVICE.

A. The first device identified by AT&T is the Split Core Transducer. A Split Core Transducer is a device that is placed around a power cable to read the electro-magnetic frequency emitting from the cable. Split Core Transducers ("SCT") are sensitive to magnetic fields from adjacent cables and it would be difficult to

provide enough separation for interaction not to occur. The Split Core Transducer must be calibrated to compensate for any interference. The problem with this is that the amount of interference can and will vary based on where the SCT is placed. Varying amounts of power traveling through adjacent power cables or equipment can cause varying amounts of interference and make it difficult to accurately calibrate the SCT. In addition to the initial calibration of the SCT, additional re-calibration would be required any time equipment or cabling that emits a magnetic field is placed or removed within the vicinity of the SCT. This is a manual process that would require a qualified individual to physically re-calibrate the SCT any and every time that the magnetic fields surrounding the SCT change.

The second device identified by AT&T is the hand-held meter which is a device that can be used to measure the amount of power used at a single point in time. However, the hand-held meter used to measure a rate of usage at a single point in time assumes that the usage identified in that single snap shot remains uniform over a period of time (minute, hour, day, week, month, year). In addition to the possibility of not accurately reflecting the actual usage of the CLEC, the hand-held meter would require a costly and manual process to be established for the reading of meters, compilation of the data, and generation of a bill for the DC power consumed by the CLEC.

Finally, the experience of SBC Illinois demonstrated that the shunt based method of power metering proposed by AT&T is inaccurate and does not capture all of the power consumed by the CLEC. In 2002, Telcordia conducted a study of

SBC Illinois' return side power metering, and its findings were significant. I discussed these negative findings in my direct testimony, and I discuss them again later in this testimony.

Q. AT&T's WITNESS (HENSON DIRECT, PP. 23-24) DESCRIBES ANY ATTEMPT TO EQUATE THE SIZING OF THE DC POWER DELIVERY ARRANGEMENT TO THE USAGE OF DC POWER AS INAPPROPRIATE AND NOT COST BASED. DOES SBC MISSOURI AGREE WITH THIS STATEMENT?

A. No. The proposals presented by AT&T through its witness Mr. Henson are ill-advised, fundamentally unfair, and would be much more difficult to administer than SBC Missouri's proposal. AT&T seeks to shift its collocation costs to SBC Missouri, while SBC Missouri proposes to allow AT&T the opportunity to easily reduce its ordered power (and thus collocation power costs) by the simple replacement of fuses at the BDFB. SBC Missouri's proposal is simple and complies with applicable federal law. AT&T, on the other hand, proposes to scrap the manner in which power is currently provided and billed and replace it with various inconsistent proposals that are termed as "power metering," but include a power auditing scheme and various forms of spot-checking. In the end, AT&T offers nothing more than a series of proposals in which it would pay for power based on "estimates" of power consumed that have little basis in the realities of power provisioning. If any of AT&T's proposals were adopted, it would allow AT&T to order large amounts of power capacity (100 amps, for example) requiring excessive SBC Missouri investment, but pay only for a small fraction of that power, based on unreliable estimates of current use. While AT&T makes claims that it is being overcharged for power or that somehow SBC Missouri is over-recovering its costs, it offers no proof whatsoever.

If, as seems to be the case, AT&T has over-ordered power capacity, the proper recourse is not to make SBC Missouri pay for AT&T's mistake, but to have AT&T reduce its power arrangements. If AT&T believes that it will need the additional capacity that it has ordered, and wants SBC Missouri to stand ready to provide that capacity, then AT&T should pay for what it has ordered. Otherwise, SBC Missouri is being forced to assume the risk that AT&T's projected power growth is accurate.

Q. CAN YOU SUMMARIZE THE ERRORS IN MR. HENSON'S TESTIMONY THAT AT&T'S ORDERS FOR DC POWER DO NOT IMPACT HOW SBC MISSOURI "MODIFIES" ITS POWER INFRASTRUCTURE?

A. Mr. Henson's testimony attempts to mislead this Commission to believe that CLECs' orders for DC power do not impact how SBC Missouri augments its CO power infrastructure. What makes Mr. Henson's statements and generalizations incorrect is that he drastically over-simplifies SBC Missouri's task of providing DC power to CLECs. His testimony suggests that the issue concerns just a single order for power by a CLEC, which should supposedly be easy enough for SBC Missouri to handle. Reality presents a much different picture in that SBC Missouri must provide numerous CLECs with the power they order in every CO where collocation exists. In reality, the CO power infrastructure is expensive, finite in capacity, and difficult to augment. SBC Missouri has made a large investment in its DC power infrastructure and deserves to recover its investment, both because it serves CLECs' power usage today and because it will serve any additional future usage the CLEC expects to be able to present, at any time, up to the fused amount the CLEC chose to order.

Q. MR. HENSON TESTIFIES AT PAGE 26 THAT SBC MISSOURI'S DC POWER ENGINEER DOES NOT MODIFY THE DC POWER PLANT INFRASTRUCTURE BASED ON CLEC ORDERS FOR POWER. IS HE CORRECT?

A. No, he is wrong. SBC Missouri's internal planning guidelines for augmenting its AC generator, battery, and rectifier plants clearly take into account power ordered by CLECs as part of their collocation arrangements. SBC Missouri's guide for DC power states that "[p]rojected kW requirements for an engineering period of 10 years shall be determined and evaluated in conjunction with established customer base, economics, regulatory requirements, company requirements, and network reliability issues." One of the main regulatory requirements imposed on SBC Missouri under the Federal Telecommunications Act of 1996 ("the Act") is that pursuant to section 251(c)(6), the ILEC must provide collocation space in its central offices to CLECs. A major part of that requirement is to make power available to those CLECs so that the CLECs can run their equipment. Thus, the central office ("CO") power engineer looks at every DC power order from AT&T and all other CLEC orders in order to meet the "regulatory requirements" that the new generator will have to support. The power engineer has no idea when AT&T or any other CLEC will draw the power it has ordered because CLECs are not required to submit power forecasts to SBC Missouri. Therefore, the power engineer must assume that since the CLEC ordered the power, the CLEC will want the ability to draw the power that the CLEC ordered.

Q. CAN YOU EXPLAIN HOW MR. HENSON'S DIRECT TESTIMONY MISCHARACTERIZES THE IMPACT THAT CLEC ORDERS FOR DC POWER HAVE ON SBC MISSOURI'S DECISIONS TO MODIFY ITS POWER INFRASTRUCTURE?

A. The CO power engineer is primarily tasked with ensuring that adequate and redundant power capacity exists for all network elements in a central office. However, the CO power engineer also must spend SBC Missouri's capital investment wisely when augmenting a CO's power capacity. It is extremely difficult for the CO power engineer to balance these two competing demands, especially when the engineer has no control over timing or magnitude of CLEC's demands for more power from the CO power infrastructure. In order to meet regulatory requirements, the CO power engineer must assume that AT&T or any CLEC can increase its demand for DC power up to its fused amount at any time. One can only imagine the uproar that AT&T would raise with this Commission if, during an extraordinary demand period, AT&T could not serve its customers because of a shortage of power. In that circumstance, AT&T would demand to know why the power capacity that it ordered was not available. AT&T would not tolerate being told by SBC Missouri that SBC Missouri did not think AT&T really wanted to use the capacity it had ordered. AT&T cannot have it both ways, wanting to pay for what they "use" today, but forcing SBC Missouri to provide AT&T's entire ordered fused capacity at any time.

Q. BOTH AT&T AND MCIM'S WITNESSES STATE THAT THE ILLINOIS COMMISSION HAS ADOPTED A POWER METERING APPROACH FOR COLLOCATION. ARE YOU FAMILIAR WITH SBC ILLINOIS' EXPERIENCE WITH POWER METERING?

A. Yes. I described SBC Illinois' experience in my direct testimony. Pool Direct, pp. 6-8. SBC Illinois implemented power metering. However, as a result of the many problems that arose from this implementation, the power metering system has

generally been deemed a failure. SBC Missouri has learned, through the Illinois experience, that power metering is expensive, dangerous and inaccurate.

Q. CAN YOU ELABORATE?

A. Yes, that metering failed in part because significant amounts of current flowed to the CO grounding system. While it is perfectly normal that current flowing on CO frames drain to the CO grounding system (grounding is necessary to prevent damage to equipment), frame ground leakage is "consumed amperage" that should, but could not, be measured by the power metering system. The firm hired by SBC Illinois for the power metering project – a leading vendor in the industry – designed its system to operate on the "return side" of the CLEC equipment. In other words, the measuring devices measured power that had passed through CLEC equipment. Once the system was in place, however, SBC Illinois and its vendor learned that some CLEC equipment power circuit boards were leaking extraordinary amounts of amperage "to ground" through the CO grounding system. The DC current leaking to ground bypasses the return-side measuring devices and is therefore not measured. Thus, a "return side" metering system will never accurately measure CLEC power usage. As stated in my direct testimony on pages 7-8, an independent third party calculated the error to be as high as 30% to 50%.

Q. MCIM'S WITNESS PRICE STATES THAT THE METERING ARRANGEMENT IN ILLINOIS IS ONE THAT HAS BEEN USED BY BOTH SBC ILLINOIS AND MCIM FOR SOME TIME WITHOUT COMPLAINT FROM EITHER PARTY. DOES SBC MISSOURI AGREE WITH THIS STATEMENT?

A. No. In fact, SBC Illinois has repeatedly stated its concerns that power metering is costly and inaccurate. Moreover, as I stated in my direct testimony, Telcordia

Technologies ("Telcordia:") conducted a study of SBC Illinois' return side power metering, and its findings were significant. Telcordia concluded that "it is not possible to obtain accurate power metering on the return side of the DC distribution."[1] In addition, Telcordia concluded that the magnitude of the inaccuracies was significant: "It seems that the error in metering could be about 30%-50% of the measured values."[2]

Q. PLEASE SUMMARIZE YOUR ANALYSIS OF MR. HENSON'S TESTIMONY REGARDING DECISIONS IN ILLINOIS, GEORGIA, AND TENNESSEE.

A. Mr. Henson's use of decisions from arbitrations in these states does not support AT&T's attempt to force SBC Missouri to implement a vague form of power auditing. As I have shown, SBC Illinois' experience with power measurement is not what AT&T proposes for Missouri at all. Mr. Henson does not provide any details from either the Georgia or Tennessee decisions to demonstrate they are similar to what AT&T wants in Missouri. In short, Mr. Henson's cites from the Georgia and Tennessee Commissions do not directly support AT&T's vague power metering proposal.

Q. PLEASE DESCRIBE SBC MISSOURI'S PROPOSAL TO HELP AT&T AND OTHER CLECS REDUCE THEIR POWER COSTS.

A. SBC Missouri's proposal for helping reduce its power consumption costs is very simple. A CLEC wishing to change its power requirements need only submit a request to change its fuse size in the BDFB. This would involve a SBC Missouri approved power vendor changing the fuses out, one at a time, during a

[1] "Frame Ground Currents at SBC Collocated Equipment," Telcordia Technologies, November 2002, p. 24.
[2] Id.

maintenance window timeframe. Unlike the drastic changes required to transition the current DC power distribution architecture to a power metering architecture as proposed by AT&T, power reduction is simple and relatively inexpensive for the CLEC, and does not pose a significant risk to SBC Missouri personnel or to CLEC's and SBC Missouri's network reliability.

Q. MR. HENSON TESTIFIES THAT METERING IS THE ONLY WAY TO CHARGE A CLEC FOR POWER ACTUALLY USED. (HENSON, DIRECT, P. 29). IS HE CORRECT?

A. No. More importantly, the FCC disagrees with this statement by Mr. Henson as well. As I stated in my direct testimony on pages 15-16, the FCC's Second Report and Order (FCC 97-208, adopted June 9, 1997) stated that ILECs need not provide power on a measured basis. Mr. Henson asserts that, "It is vital to meter the amps because this is the only way to ensure that the CLEC pays for the DC Power that it actually causes SBC Missouri to provide." (Henson Direct, p. 27). SBC Missouri's current method of fusing, however, reasonably ensures that a CLEC will not be charged for more power than it has ordered. In the event the CLEC did exceed its ordered power amount, the fuse at the BDFB would blow. Under SBC Missouri's proposal, if the CLEC does not need all the power capacity that it has ordered, it can avoid paying for that excess capacity by reducing the fuse size.

Q. MCIM STATES THAT IT SHOULD ONLY BE CHARGED FOR POWER THAT IT USES AND THAT IT IS A BASIC PRINCIPLE OF CAUSATION AND RECOVERY THAT THE COST CAUSER SHOULD PAY FOR WHAT IS USED AND CONSUMED, BUT NOT MORE. DOES SBC MISSOURI AGREE?

A. No. As previously stated in my direct testimony, the hallmarks of our excellent DC power infrastructure are the battery plants and AC emergency generators.

Both of these are vital to providing power when commercial power fails. It is important to note that both are expensive, and both require significant time to engineer and install. More importantly, both battery standby time and generator capacity are augmented (i.e., "added" or "increased") in large chunks at a time. When MCIm requests a specific amount of power SBC Missouri ensures that adequate power plant capacity exists and is dedicated to provide MCIm with the total amount of power ordered.

Q. AT&T'S WITNESS MR. HENSON TESTIFIES THAT THE IMPLEMENTATION OF METERING IN ILLINOIS RESULTED IN "DRAMATIC" COST SAVINGS TO AT&T RESULTING FROM SBC ILLINOIS CEASING "OVERCHARGES" FOR POWER (HENSON DIRECT, PAGE 15). IS THAT TRUE?

A. Absolutely not. Just because AT&T or any CLEC is now able to get the same functionality for less than it did before power metering does not mean SBC Illinois was overcharging before.

Q. DO YOU FIND THE EVIDENCE PROVIDED BY MR. PRICE COMPELLING WITH REGARD TO MCIM'S COMPARISON OF POWER BILLING IN TEXAS AND ILLINOIS?

A. No. Mr. Price compares billing data for collocation arrangements in Texas to those of collocation arrangements in Illinois where power is inaccurately metered. Additionally, Mr. Price testifies that power metering allows for CLECs to operate more efficiently with regard to power costs. As I stated in my direct testimony Power metering is expensive to both CLECs and SBC Missouri to implement, requiring much additional equipment and expensive labor to change the current method of delivering DC power. Additional problems include its inefficient use of the central office DC power infrastructure, potential congestion of cable racking, potential for network reliability problems, and finally, the maintenance of

the new metering equipment that is susceptible to failure. As I previously stated, just because a CLEC is able to get the same functionality for less than it did before power metering does not mean that power metering is the most accurate or even appropriate method of billing for DC power.

Q. CAN YOU SUMMARIZE YOUR DISAGREEMENT WITH MR. HENSON'S POWER METERING PROPOSALS ON BEHALF OF AT&T?

A. As I discussed in my direct testimony, AT&T's contract language is vague; it is not clear if AT&T is proposing "power metering," where all the amps AT&T uses are measured via a shunt, or "power auditing," where measurements are taken that hopefully represent AT&T's usage. Whether AT&T proposes power metering or power auditing, both of these methods are flawed because they require the installation of significant amounts of equipment, would involve labor costs to implement, would impact network reliability for both AT&T, other CLECs, and SBC Missouri, and, in the end, would not accomplish the goal of accurately measuring the power AT&T is using. I have also explained that Mr. Henson's testimony was not correct in his assumptions that CLEC orders for power do not impact SBC Missouri's DC power infrastructure. Although AT&T's proposal is ill-defined, it is clear that AT&T is seeking to get collocation power at a huge, and unfair, discount.

IV. <u>COLLOCATION ISSUES NO LONGER AT ISSUE</u>

Q. HAVE SOME OF THE CLEC COALITION COLLOCATION ISSUES BEEN RESOLVED BETWEEN THE PARTIES?

A. It is my understanding that the following CLEC Coalition Physical and Virtual Collocation Issues 1, 2, 3 and 4 have been fully resolved between the parties:

CLEC Coalition Physical and Virtual Collocation Issue 1
Issue Statement: *Should a CLEC be allowed, at its option, to place its own mini-BDFB in its physical collocation space?*

CLEC Coalition Physical and Virtual Collocation Issue 2
Issue Statement: *Should the agreement specify that SBC will not bill for redundant power?*

CLEC Coalition Physical and Virtual Collocation Issue 3
Issue Statement: *Should CC, at its option, be allowed to implement power metering in its collocation space residing in SBC Kansas' locations for the sole purpose of utilizing such equipment as a tool for SBC to bill the CLEC for power consumption ?*

CLEC Coalition Physical and Virtual Collocation Issue 4
Issue Statement: *Should a CLEC be permitted the option of having DC power charges based on the total rated ampere capacity of the equipment in the collo cage?*

Q. HAVE SOME OF THE SPRINT COLLOCATION ISSUES BEEN RESOLVED BETWEEN THE PARTIES?

A. It is my understanding that the following Sprint Physical Issues 7 and Virtual Collocation Issues 1, 2 have been fully resolved between the parties:

Sprint Physical Collocation Issue 7, Virtual Collocation Issue 2
Issue Statements: *Can SBC Missouri exclude collocation of switching equipment?*

Sprint Virtual Collocation Issue 1
Issue Statement: *Is SBC MISSOURI required to allow any or all multifunctional equipment by Sprint?*

V. <u>DECOMMISSIONING</u>

CLEC Coalition Physical and Virtual Collocation Issue 5
Issue Statement: *Should the ICA delineate specific requirements for partial collocation space decommissioning and removal of unneeded cables and equipment?*

Q. CLEC COALITION WITNESS KRABILL STATES THAT CABLE IS A REUSABLE RESOURCE FOR SBC AND THAT SBC CAN LEAVE DISCONNECTED CABLE IN THE CABLE RACK TO USE IN THE FUTURE. DOES SBC MISSOURI AGREE?

A. No. Leaving disconnected cabling in SBC Missouri's cable racks to reuse in the future would require that any future use of that cabling would utilize the same type and length of cabling. Furthermore, leaving disconnected cabling in the cable racking would eventually congest/clog the cable rack ultimately blocking the path for SBC Missouri as well as other CLECs.

Q. WITNESS KRABILL ALSO STATES IN HER TESTIMONY THAT "SBC WOULD TAP INTO THE CABLE AND MOVE IT TO ANOTHER CAGE." IS IT WITHIN SBC MISSOURI'S ENGINEERING PRACTICES TO SPLICE INTERCONNECTION CABLING OR POWER CABLING IN THE CABLE RACK FOR REUSE?

A. Absolutely not. Splicing cabling in the cable rack for reuse would potentially create network safety and reliability issues. Splicing of power cabling in the overhead racking would create potential electrical and fire hazards and this is not a risk that SBC Missouri is willing to take. Additionally, the splicing of power and interconnection cabling in the overhead racking would create potential network reliability issues by creating a possible point of failure.

Q. DOES SBC MISSOURI IMMEDIATELY REMOVE DISCONNECTED CABLING FROM ITS CABLE RACKS?

A. As I explained in my direct testimony, in an attempt to minimize decommissioning costs, SBC Missouri decommissions space in the most efficient way possible. This process may include completing several decommissions at the same time, and may require SBC Missouri's putting off a decommissioning job until it is not only most cost effective, but also feasible to do. Pool Direct, p. 22.

VII. CONCLUSION

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes it does.