

STATE OF ILLINOIS
ILLINOIS COMMERCE COMMISSION
DOCKET NO. 00-0592

OFFICIAL FILE

REHEARING DIRECT TESTIMONY
OF JOHN D. MILEHAM
ON BEHALF OF AMERITECH ILLINOIS
DOCKET NO. 00-0592
Exhibit No. 30

Witness _____

Date 5-11-01 Reporter [Signature]

Q. Please state your name and business address.

A. My name is John D. Mileham. My business address is 2600 Camino Ramon, Room 3S350E, San Ramon, California 94583.

Q. By whom are you employed and in what capacity?

A. I am Technical Manager, Network Services-Data for SBC Management Services, Inc. My current responsibility is project management of the Loop Qualification application on a 13 state basis , including Illinois. In this role I work with SBC Information Services, Outside Plant Engineering, Engineering Planning and other groups to ensure the Loop Qualification application is performing within specifications as well as coordinate desired changes and enhancments. I also host a bi-weekly CLEC Loop Qual Technical Forum where system processes and issues are discussed.

Q. What is the purpose of your testimony?

A. I will respond to the requirement in the Commission's Order dated January 24, 2001 in this case that Ameritech Illinois be required to provide loop qualification information (or "loop makeup information") on up to 10 loops for a single address, even though Ameritech Illinois' current systems only provide – and are only capable of providing – loop qualification information on a single loop per address. I will explain how Ameritech's systems process a request for loop qualification information. Based on the options currently available to CLECs and on modifications that Ameritech will make to

1 the loop qualification process, I demonstrate that it is not necessary to provide the
2 multiple loop qualification that the Commission required. In addition, I demonstrate that
3 the time and costs needed to modify Ameritech's systems to provide the functionality
4 required in the Commission's Order are not justified. Rather, CLECs are better served,
5 and Ameritech's resources are better spent, if Ameritech's loop qualification process is
6 modified in the manner recommended in this testimony.

7
8 **Q. Please describe Ameritech Illinois' loop qualification process.**

9 A. There appears to be some confusion in the record about exactly what information
10 Ameritech Illinois provides to CLECs that make a loop qualification request and what
11 information Ameritech Illinois applies to CLECs that place an actual order for an
12 unbundled loop. In addition, since the Commission issued its January 24, 2001 Order in
13 this case, Ameritech enhanced the loop qualification options available to CLECs. I would
14 like to address some misconceptions and update the record regarding these new options.

15
16 **Q. What options do CLEC now have to submit a loop make-up request?**

17 A. Effective March 24, 2001, CLECs may submit loop qualification requests for xDSL loops
18 through Ameritech's electronic pre-order interfaces (Enhanced Verigate and
19 EDI/CORBA). These systems are part of uniform 13 state process that gives CLECs
20 consistent treatment throughout the SBC regions. The results of the loop qualification
21 requests are returned electronically in real time. As a result, CLECs have real-time
22 access to the actual loop make-up information, where actual information is contained in
23 an electronic database. CLECs can also choose between placing an order based on the
24 information available electronically or requesting a manual look-up of any actual loop

1 make-up information not stored in Ameritech's electronic databases. These changes are
2 more fully described in Mr. Mitchell's testimony.

3
4 **Q. What do you mean when you use the term "Loop Make-Up Information"**

5 A. "Loop make-up information" is a term that applies to any information regarding a given
6 loop's physical characteristics. This information includes a variety of elements such as
7 loop length, wire gauge, loop medium (copper or fiber), and information regarding any
8 bridged tap, load coil, or repeaters present on the loop. This information is useful to
9 CLECs that wish to provide high speed data services using xDSL technologies, using
10 stand-alone loops or "line sharing

11
12 **Q. Since the March 24 release, how is loop make up information provided**
13 **electronically?**

14 A. In an effort to respond to requests for loop make up information, Ameritech now offers
15 CLECs the ability to access information electronically in two ways. First, they may
16 request actual loop make-up information, which is specific loop make-up information for
17 an actual loop. A request for actual loop make up information may be based either on the
18 requested end user's address or a working telephone number ("WTN.") As Mr. Mitchell
19 describes, CLECs may access this information via Enhanced Verigate, EDI/CORBA, or
20 TCNET where available.

21
22 Second, CLECs may choose to access archived actual data, which is housed in
23 Ameritech's Loop Qualification Host database. The Loop Qualification Host database is
24 updated monthly by wire center, and is a snapshot of loop qualification data from LFACS
25 and ARES for the loops in that wire center. CLECs may access this database

1 electronically to retrieve their requested loop make up data via Enhanced Verigate or
2 EDI/CORBA.

3
4 When actual or archived actual information is not contained in these electronic databases,
5 CLECs may request a manual look-up of the actual loop make-up information. If the
6 CLEC chooses the manual look-up option, it can submit a request directly to Outside
7 Plant (“OSP”) Engineering through Ameritech’s Enhanced Verigate or EDI/CORBA
8 interfaces. OSP Engineering will complete the loop qualification request within 3 – 5
9 business days, and update the mechanized loop qualification system for electronic
10 retrieval. In addition, upon request, Ameritech will return the results of manual look-ups
11 to an e-mail address pre-designated by the CLEC.

12
13 **Q. Once Ameritech receives a request for electronic loop qualification information,**
14 **what happens?**

15 A. The first system the CLEC’s loop qualification request goes to is the Ameritech
16 Enterprise Messaging System (“AEMS”). AEMS performs certain “gateway” functions,
17 such as authentication, routing the transaction to the appropriate systems, and recording
18 the request for later tracking. AEMS then forwards the loop qualification request to the
19 Service Access Management System (“SAM.”) SAM is a “middleware” system that
20 provides common access to legacy systems for both wholesale and retail pre-ordering
21 functions. The legacy systems that are accessed by SAM for pre-ordering loop
22 qualification are Ameritech’s Loop Facility Assignment and Control System (“LFACS”)
23 and Ameritech Records and Engineering System (“ARES”). In the Ameritech region,
24 LFACS contains certain loop information, such as terminal addresses, and ARES
25 contains the actual loop make-up information.

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Q. What loop information is returned from LFACS/ARES?

A. The actual loop information that is returned from LFACS/ARES depends on the information that AEMS requests from SAM. In the case where a CLEC has provided a working telephone number (“WTN”), loop make-up for the loop used by that specific WTN will be returned. If there are multiple WTN’s at the address, a CLEC may request and receive loop make-up on each WTN. Therefore, if a premise had two or three working telephone lines, the CLEC can use the WTN search to obtain the actual make-up information for each line.

If a CLEC has provided an address, rather than a WTN, AEMS asks SAM to obtain all terminal information from LFACS at that address, AEMS then takes that information and selects the first loop returned to it. AEMS then uses that loop terminal information to request all remaining loop make-up information from ARES.

In either case, the loop makeup information provides the CLEC with all the data it needs to determine the loop’s ability to support a particular service (including xDSL service), such as: the 26 gauge equivalent loop length; the length of the loop by gauge; the quantity of bridged tap, load coils, and repeaters present on the loop; the length of the feeder cable (“F1”) and the distribution cable (“F2”) respectively; the presence (or absence) of Digital Loop Carrier (“DLC”) equipment in the loop; and the presence of potentially disturbing technologies in the same and/or adjacent binder groups; and other information. This information typically would be returned to the CLEC electronically. CLECs receiving loop qualification information can request a manual look-up of loop makeup information (researched by engineering personnel) that is not contained in Ameritech’s electronic databases through the mechanized interface that initially returns

1 the loop qualification data. The information returned to the CLEC is as complete and
2 accurate as the data contained in Ameritech Illinois' databases and engineering records
3 allows. A complete listing of all data fields which may be returned to CLECs
4 electronically is attached as Schedule JDM-1.

5
6 **Q. Does the loop qualification information relate to an actual loop or a theoretical**
7 **loop?**

8 A. There is no mechanized source of theoretical loop makeup in Ameritech Illinois. Prior to
9 March 24, 2001, actual loop makeup originating in the LFACS and ARES OSS systems
10 was the only type of mechanized loop qualification available to CLECs. As of March 24,
11 2001 CLECs in Illinois have access to two types of mechanized loop makeup
12 information: "Actual" loop makeup as described above, and "archived actual" (loop
13 makeup data from the LFACS and ARES systems that is stored in the loop qualification
14 database for up to 30 days). Archived Actual data allows a faster real time response to
15 loop requests, as it has been pre-pulled from backend OSS's and stored in a dedicated
16 database.

17
18 **Q. Is the actual, archived actual, or manual loop makeup information that Ameritech**
19 **Illinois provides to a CLEC the same information it would provide to its retail unit**
20 **or advanced services affiliate (Ameritech Advanced Data Services, or AADS), and is**
21 **it retrieved in the same manner and in the same time intervals?**

22 A. Yes it is. Information pertaining to the identification of the requestor (AECN number) is
23 stored internally along with the record of each request for audit purposes, but is not used
24 in any way in the execution of the request. And in the case of a manual loop request the
25 requestor identification is suppressed and not presented to the person fulfilling the

1 request. In this way the Loop Qualification system is completely blind to the source of
2 each request.

3
4 **Q. Is there a possibility today that by returning information on the first loop the**
5 **systems find, Ameritech Illinois could provide CLECs with loop make-up data on a**
6 **loop that is not suitable for xDSL service, even though a “non-loaded” loop that is**
7 **ready for xDSL service also serves that address?**

8 A. It is possible at this time.

9
10 **Q. Was there an enhancement performed to Loop Qualification in the Southwestern**
11 **Bell Telephone Company (SWBT) region to seek out and return loop makeup on**
12 **xDSL-capable loops in preference to non xDSL-capable loops at each address?**

13 A. Yes, on April 3, 2001, SWBT implemented an enhancement to the loop qualification
14 system, which had been developed and subjected to internal testing before being
15 implemented. With this enhancement, the loop qualification system searches records in
16 LFACS for a non-loaded copper loop connected to the requested address for which actual
17 loop makeup information exists. If the search finds a non-loaded copper loop with loop
18 makeup information, it will retrieve the makeup information for that loop and return it to
19 the requesting carrier. The LFACS search performed by the loop qualification system
20 continues as long as possible, consistent with the DataGate interface timeout for the pre-
21 order loop qualification inquiry, until either (a) the system locates a non-loaded copper
22 loop with loop information loaded in LFACS; or, (b) the system completes the search of
23 all loops to the requested premise.¹ In the event that the search does not locate a non-

¹ The timeout in the middleware interface for a loop qualification inquiry is 120 seconds; if a response is not provided to the interface in this time, the interface will return an error message.

1 loaded copper loop with actual loop makeup information, the loop qualification system
2 returns loop makeup information on a loop connected to the requested premise in the
3 following priority order: (1) a loaded copper loop; (2) Digital Added Main Line
4 (“DAML”); (3) Digital Loop Carrier (“DLC”). With this enhancement, the loop
5 qualification system in the SWBT region operates in a manner similar to the LFACS
6 provisioning logic (described by Mr. Zills in his rehearing testimony), in that it searches
7 for the same type of loop that LFACS would provision if a carrier requested an xDSL-
8 capable loop. A non-loaded copper loop is the type of loop that LFACS would look to
9 provision if a CLEC actually ordered an xDSL-capable loop provisioned to that address.
10 Consistent with the *UNE Remand Order*, the loop qualification system searches LFACS
11 for loop makeup information on loops connected from the serving central office to the
12 requested premise address.²

13
14 **Q. Is a similar enhancement being planned for Ameritech Illinois?**

15 A. Yes, a similar enhancement is presently being considered for Ameritech Illinois. The
16 SBC Information Technology group is presently performing research and writing
17 requirements for such an enhancement. Because of the inherent differences in the
18 *components and interfaces between Ameritech Illinois and the SWBT region Loop*

Thus, the loop qualification search is designed to return information to the CLEC interface within 120 seconds.

² See *UNE Remand Order*, 15 FCC Rcd at 3885, ¶ 427 (“[A]n incumbent LEC must provide the requesting carrier with nondiscriminatory access to the same detailed information about *the loop* that is available to the incumbent, so that the requesting carrier can make an independent judgment about whether *the loop* is capable of supporting the advanced services equipment the requesting carrier intends to install.”) (emphasis added); 47 C.F.R. § 51.319(a)(1) (“The local loop network element is defined as a transmission facility between a distribution frame (or its equivalent) in an incumbent LEC central office and the loop demarcation point at an end-user customer premises...”).

1 Qualification systems, the Ameritech Illinois version, while maintaining the same search
2 logic and results as in SWBT will be built into SAM and AEMS middleware as opposed
3 to Datagate in SWBT. In both Ameritech Illinois and SWBT this enhancement involves
4 no modifications to LFACS and thus avoids any risk of changing the existing assignment
5 and provisioning process. We have established a special team to address the situation.
6 They have a target to provide business requirements followed by system requirements
7 and implementation as soon as possible. The development and implementation of this
8 enhancement is being given the highest priority. Once implemented, the enhancement
9 would provide the same benefit to CLECs as the April 3 SWBT enhancement by ensuring
10 that the loop qualification system would search for a non-loaded copper loop as its first
11 preference.

12
13 **Q. The Commission's January 24 Order currently requires Ameritech Illinois to**
14 **provide loop qualification information on up to 10 loops per address. Is that**
15 **possible?**

16 A. Not with the current system. The current system provides LMU on a single loop
17 connected to the designated address or WTN today. Moreover, as I explain below and
18 Ameritech Illinois' other witnesses discuss, the changes necessary to comply with the
19 Order would be so expensive and extensive as to effectively require Ameritech Illinois to
20 develop an entirely new loop qualification database and loop qualification system. The
21 systems requiring modifications are: *Enhanced Verigate, EDI/CORBA, TCNET, AEMS,*
22 *SAM, DSL Loop Host and Gateway Services* as well as the all of the interfaces between
23 these systems.

1 Q. What benefits would the CLECs gain from receiving loop makeup on up to 10 loops
2 per address?

3 A. The benefits from providing loop makeup on up to 10 loops per address, if any, would be
4 questionable at best. First, keep in mind that the LFACS and ARES OSS keep loop
5 makeup on "connected through" loops only. These are loops, whether actively in use or
6 spare, which have been cross connected to form complete circuits from the central office
7 through to the customer address. In the case of residences there are typically only 1-3
8 such lines allocated per address, which all originate from the same central office and
9 therefore share many characteristics such as length, gauge and presence of load coils.
10 The CLEC, by "selecting" and placing an order on one of these loops, as the Order
11 contemplates, would not only lose all the benefits of the optimization process used by
12 LFACS at the provisioning stage, but also would be eliminating the possibility that the
13 ordering system, with its extensive ability to perform line and station transfers (LSTs)
14 and to create new loops from separate pieces (as Mr. Zills discusses) could actually
15 provision a better loop for the xDSL service desired than *any* of the "connected through"
16 loops that could be returned at the loop qualification stage. The loop qualification
17 process returns LMU on existing loops. By contrast, the ordering process considers
18 various adjustments and modifications to either create a better loop than exists today or
19 create a loop where none existed before.

20
21 Thus, the information returned at the loop qualification stage is both overinclusive and
22 underinclusive, and would be so regardless of whether Ameritech Illinois returned LMU
23 on 1 loop or 10. The information is underinclusive because it concerns "connected
24 through" loops only, which leaves out loops that could be created, and are regularly
25 created by Ameritech Illinois, through a line and station transfer or other facilities

1 modification. The information is overinclusive (at least for stand-alone DSL-capable
2 loops) because it is not limited to available loops but rather also includes working,
3 assigned loops that would not be available for ordering unless the customer moved right
4 away.

5
6 **Q. If the logic used by LFACS in selecting a loop to fill an actual CLEC order is more
7 precise than the logic used at the loop qualification stage, why not apply the LFACS
8 ordering/provisioning logic at the loop qualification stage as well?**

9 **A.** There are several reasons. First, as Mr. Mitchell explains in his testimony, the
10 information that a CLEC provides on an actual order is much more detailed than the
11 information that it provides on a loop qualification request, which is merely an address or
12 a WTN. The industry has agreed on this difference between the information to be
13 provided at each stage, and that difference benefits CLECs by allowing them to submit a
14 loop qualification request without gathering and submitting all of the data necessary for
15 an actual loop order.

16
17 Second, as I noted above, we are considering and writing requirements for an
18 enhancement to Ameritech Illinois' loop qualification system that would enable it to
19 search for information on a non-loaded copper loop – which is what the CLECs want in
20 order to provide xDSL service – in preference to a loaded copper loop or a fiber loop.
21 Such an enhancement, having already been tested and rolled out in the SWBT 8-state
22 region, should be doable; by contrast, neither Ameritech Illinois nor SWBT has had to
23 provide LMU on multiple loops before, and whether that can be done and how it could be
24 done with minimal interference to existing systems remains on open question.

25

1 *The Necessary and Impair Tests*

2 **Q. Where does the FCC define the “necessary” and “impair” tests that apply under**
3 **Section 251(d) when deciding whether to require unbundling of a network element?**

4 A. Those tests are discussed in the *UNE Remand Order* and in FCC Rule 317 (47 C.F.R. §
5 51.317). I will focus on the factors under the “impair” test in Rule 317(b). These factors
6 are considered by comparing the results if a proposed network element were required to
7 be unbundled to the results if the CLEC relied on alternatives to that proposed element.
8 The alternatives to be compared here are (i) requiring Ameritech Illinois to give loop
9 qualification information on up to 10 loops per address and to “implement a method of
10 identification for each of the up to ten loops” so that the CLEC can “verify” that when it
11 places an order it is receiving the “same loop” it identified in the qualification stage
12 (Order at 90), versus (ii) maintaining the status quo and the systems and processes
13 Ameritech Illinois has already developed for loop qualification and ordering (including
14 the March 24 enhancements and the planned SWBT-type enhancement discussed above).

15
16 **Q. The first two factors under the impair test are “Cost, including all costs that**
17 **requesting carriers may incur when using the alternative elements to provide the**
18 **services it seeks to offer” and “Timeliness, including the time associated with**
19 **entering a market as well as the time to expand service to more customers.” Please**
20 **discuss the cost and timeliness impact of a 10-loop requirement.**

21 A. I’m sure the CLECs will discuss the alleged cost and timeliness impact of their proposed
22 additional requirements from their perspective in their testimony, so I will focus on the
23 costs to Ameritech Illinois. If the Order remains as is, the costs to Ameritech Illinois,
24 both in dollars and in diversion of resources from other important OSS projects, would be
25 significant.

1
2 Ameritech Illinois would have to fundamentally change the way its systems search for
3 loop qualification data. The system is not currently designed to search for multiple loops
4 at once or for second-best, third-best, or other loops (the April 3 SWBT loop qualification
5 enhancement does incorporate a “prioritization” of sorts in the types of loops it searches
6 for, but it still properly returns data on only one loop). In all likelihood, the only way to
7 provide information on multiple loops in the short run would be to perform multiple
8 manual look-ups, which of course raises both Ameritech Illinois’ and the CLECs’ costs
9 and slows down the process. (currently a manual look-up takes 3-5 days to process for
10 one loop). Increased DSL pre-ordering volumes and the addition of requests of up to 10
11 look-ups per request would impact our engineering organization (by, among other things,
12 diverting personnel to the manual look-up process) and detrimentally slow loop
13 qualification response times for all CLECs.

14
15 Ameritech Illinois also would have to modify both its loop qualification and loop
16 ordering processes, or establish entirely new processes, to meet the Order’s current
17 requirement to allow CLECs to “identify” a loop at the qualification stage and order that
18 “same loop.” The current systems simply do not work that way for actual loops. Indeed,
19 if a CLEC had to be allowed to place an order against a particular loop it saw during the
20 loop qualification stage, the current ordering system – which picks the best loop for the
21 CLEC based on the service it wants to provide and – would be useless. Rather, orders
22 for a “particular” loop could have to be processed manually, adding delays and costs on
23 all sides. This would greatly complicate the ordering process and cause delays for all
24 CLECs, not just the few who are interested in multiple loop information.

1 **Q. Another set of factors in the “impair” analysis is Quality, Ubiquity, and Impact on**
2 **network operations. Do these favor providing loop qualification information on one**
3 **loop or multiple loops?**

4 A. These factors do not clearly favor any additional requirements beyond those now in
5 place. It is not clear to me that providing information on multiple loops would directly
6 affect the equality of the actual service the CLEC provides or the ubiquity with which the
7 CLEC can provide it. There would be an adverse impact on network operations if
8 Ameritech Illinois must provide qualification on multiple loops, as it would slow down
9 the pre-ordering and ordering processes by requiring much more manual intervention.

10
11 **Q. Another set of factors in the “impair” analysis are found in FCC Rule 317(b)(3).**
12 **These factors ask whether the proposed requirements would promote the rapid**
13 **introduction of competition; promote facilities-based competition, investment, and**
14 **innovation; promote reduced regulation; provide certainty to CLECs regarding the**
15 **availability of the element; and whether the requirement would be administratively**
16 **practical to apply. Do these factors favor the CLECs’ proposal?**

17 A. No. The CLECs may claim that multi-loop qualification information will promote rapid
18 competition, but as I noted above the system and procedures changes required by their
19 proposal would likely lead to a slower provision of information than exists today. As for
20 facilities-based competition, it is difficult to imagine any unbundling requirement that
21 would promote such competition, as increased unbundling requirements gives CLECs
22 less and less of an incentive to develop facilities-based alternatives to the incumbent’s
23 network. The CLEC proposal would not promote reduced regulation, as it by definition
24 adds a new requirement to the existing regulatory regime. Nor will the CLEC proposal
25 provide certainty regarding the availability of a network element, as certainty as to the

1 availability of any particular loop can exist only when the loop is actually ordered, not
2 before. Finally, the CLEC proposal would not be administratively practical to apply, as
3 there will inevitably be disputes regarding how many loops are actually available at any
4 one address.

5
6 **Q. Please summarize your testimony.**

7 A. The CLEC request for qualification information on multiple loops would require changes
8 to existing systems and procedures, at substantial costs in dollars and diverted resources,
9 for little or no practical benefit to CLECs. Ameritech Illinois has spent millions of
10 dollars over the years creating and maintaining its loop assignment systems, and to
11 suddenly have to toss most or all of that work away and begin on anew, largely manual
12 system would be more wasteful than beneficial.

13
14 **Q. Does this conclude your rehearing direct testimony?**

15 A. Yes.

1 Schedule JDM-1

Loop Qualification Data Elements		Ameritech Illinois
1	Total Loop length	X
2	Loop length by segment (F1, F2)	X
3	Loop length by gauge	X
4	26 gauge equivalent loop length	X
5	Quantity of load coils	X
6	Length of bridged taps	X
7	Loop Medium Type	X
8	Overall Qualification Status	X
9	Source of data	'A'
10	Location of load coils	X
11	Presence of repeaters	X
12	Location of repeaters	X
13	Type of repeaters	
14	Quantity of repeaters	X
15	Type of plant (aerial or buried)	X
16	Location of bridged tap	X
17	Quantity of bridged tap by occurrence	X
18	Location of bridged tap by occurrence	X
19	Location of range extenders	X
20	Location of pair gain devices	
21	Presence of disturbers in same or adjacent binder groups	X
22	Presence of Remote Switching Unit (RSS)	X
23	Location of Remote Switching Unit (RSS)	
24	Type of Remote Switching Unit (RSS)	
25	Resistance zone	X
26	Presence of ADSL Capable Remote Terminal (RT)	X
27	Presence of Non-ADSL Capable Remote Terminal (RT)	
28	Availability of ADSL capable RT	X
29	Target deployment date of ADSL capable RT	X
30	Location of ADSL capable RT by address	X
31	Location of ADSL capable RT by CLI	X
32	Type of Digital Loop Carrier (DLC)	X
33	Location of non-ADSL capable RT by address	X
34	Location of non-ADSL capable RT by CLI	X
35	Wire Center Code (NPANXX)	X
36	Taper Code	X
37	Build Date	
38	Date Record was Last Accessed	
39	Reference Number	Echoed back
40	Loop Length (Copper)	
41	Loop Length (Fiber)	