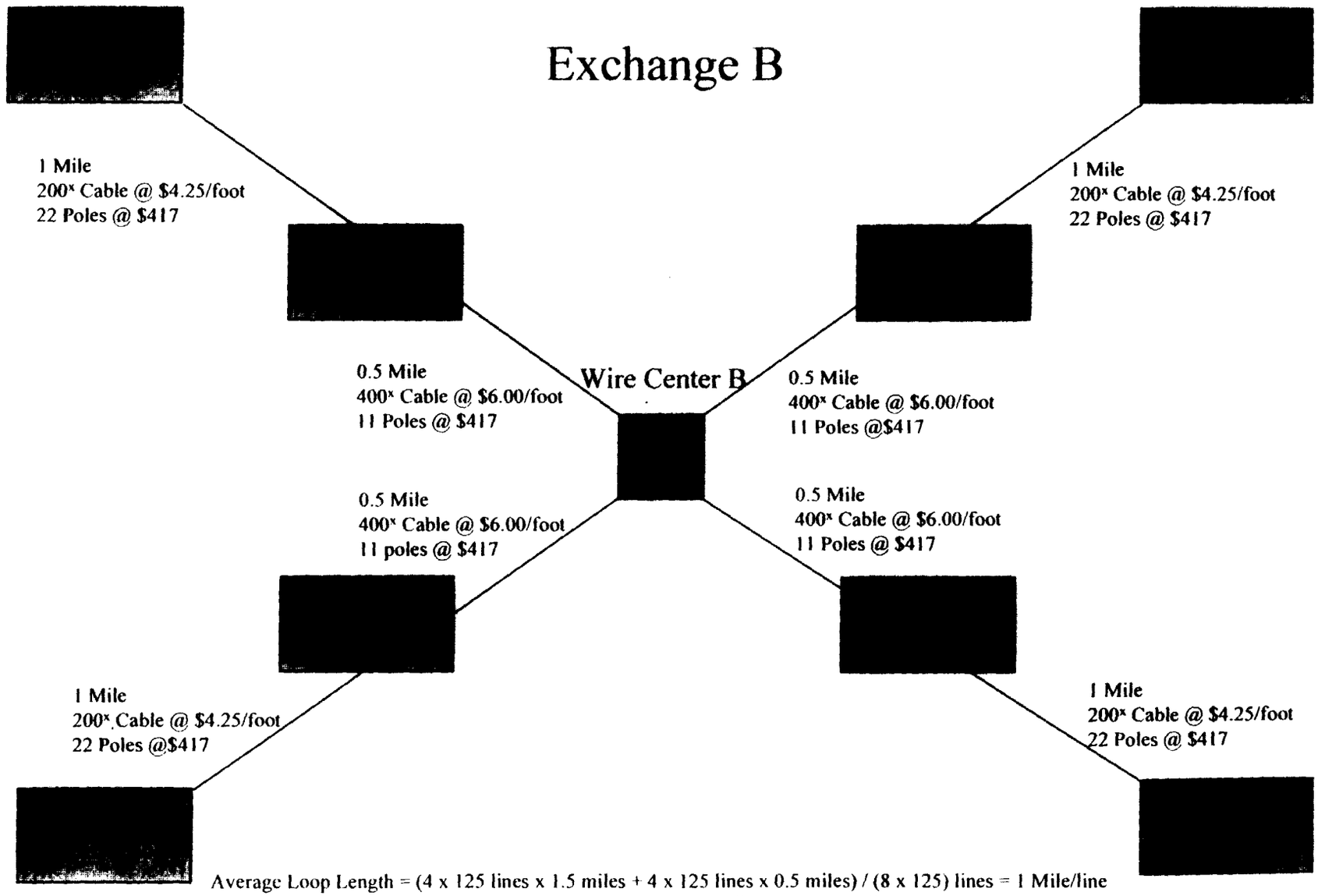


Average Loop Length = (4 x 125 lines x 1.5 miles + 4 x 125 lines x 0.5 miles) / (8 x 125) lines = 1 Mile/line
Total Route Length = 4 routes x 1.5 miles/route = 6 Miles

# AVERAGE vs TOTAL

## Exchange A

- **Average Loop Length = 1 Mile**
- Total Route Length = 1 Mile

- **Average Loop Investment = $76.29**
- Total Loop Investment = $76,287

## Exchange B

- **Average Loop Length = 1 Mile**
- Total Route Length = 6 Miles

- **Average Loop Investment = $208.16**
- Total Loop Investment = $208,164

DOCKET NO. 18515

| | | |
|---|---|---|
| COMPLIANCE PROCEEDING FOR | § | PUBLIC UTILITY |
| IMPLEMENTATION OF THE TEXAS | § | COMMISSION |
| HIGH COST UNIVERSAL SERVICE PLAN | § | OF TEXAS |

SUPPLEMENTAL REPLY TESTIMONY

of

FRANCIS J. MURPHY
NETWORK ENGINEERING CONSULTING, INC.

on behalf of

GTE SOUTHWEST INCORPORATED

File Date: June 10, 1998

**FRANCIS J. MURPHY**

1 Q. PLEASE STATE YOUR NAME, EMPLOYER AND BUSINESS ADDRESS.

2 A. My name is Francis J. Murphy. The purpose of my testimony is to reply on behalf of GTE
3 to the supplemental testimony filed on June 5, 1998, by Robert A. Mercer on behalf of
4 AT&T Communications of the Southwest, Inc. and MCI Telecommunications Corporation.
5

6 Q. ON PAGE 4 OF HIS SUPPLEMENTAL TESTIMONY, DR. MERCER STATES THAT:
7 "THE STAFF INPUT VALUES PRESENTED IN ORDER NO. 10 AND 11 DO NOT
8 IMPACT THE LOOP LENGTH CALCULATION; THEREFORE, FOR EACH MODEL
9 THE DEFAULT AND ORDER NO. 10/11 LOOP LENGTH RESULTS ARE THE
10 SAME."[1] IS THIS TRUE FOR THE HAI MODEL?

11 A. No. The average loop lengths produced by HAI for the "Default" and "Staff Inputs" runs for
12 many of the selected offices are, in fact, different as shown in GTE's June 5 and June 8
13 responses. It appears that the model runs produced under Dr. Mercer's direction did not
14 reflect the Staff's Order No. 10 recommendation that the "Wireless Investment Cap Enable"
15 user adjustable input be set to enabled. When this option is selected, the loop lengths in wire
16 centers where the wireless cap is invoked will change by as much as 27% as a result of
17 calculations that are carried out in the R50a_distribution.xls module.
18

19 Q. ON PAGE 12 OF HIS TESTIMONY, DR. MERCER DESCRIBES THE METHODOLOGY
20 FOR CALCULATING THE PER MINUTE COSTS OF THE SIGNALING COMPONENT

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[1]Mercer Supplemental Testimony, Page 4, at 15-17.

1 OF THE NETWORK. DOES THE APPROACH DESCRIBED BY DR. MERCER
2 PRODUCE, ACCURATE PER MINUTE OF USE SIGNALING COSTS?
3 A. No, the approach does not produce accurate per minute of use costs for the signaling
4 network. When calculating SS7 signaling costs (the numerator of the equation), the HAI
5 Model does not include interLATA links because they are not part of the local exchange
6 network.[2] The denominator of the equation is total dial equipment minutes (DEMs) that the
7 ILECs report to the FCC. Included in this total DEM count is both intrastate and interstate
8 minutes of use.[3] Thus, the numerator excludes costs associated with interLATA traffic, yet
9 the denominator is inflated to include interLATA minutes of use. This results in an
10 understatement of the per minute of use costs for the signaling network.
11
12 Q. ON PAGE 29 OF HIS TESTIMONY, DR. MERCER STATES THAT THE HAI MODEL
13 DOES NOT INCLUDE THE COSTS ASSOCIATED WITH THE TRUNKS OR THE
14 TANDEMS REQUIRED TO CARRY DIRECTORY ASSISTANCE, OPERATOR
15 SERVICES AND E911 TRAFFIC. DO YOU AGREE THAT THESE COSTS SHOULD
16 BE EXCLUDED FROM THE MODEL?
17 A. On the contrary, I believe these costs must be included in a Universal Service cost model in
18 order to comply with the FCC definition of supported services.[4] Merely having a loop and
19 dial tone does not guarantee access to these mandated services. This is due to the fact that
20 these services are typically provided via centralized operator facilities that are homed on

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[2]HAI Model Description, Footnote 12.

[3]HAI Inputs Portfolio 5.0a, Section 4.3.7 and 4.3.8.

[4]Report and Order, In the Matter of Feder-State Joint Board on Universal Service, Before the Federal Communications Commission, CC Docket No. 96-45, May 8, 1997, Paragraph 56.

1 specific tandem switches. In addition, access to these tandems from local service wire
2 centers is provided on trunks that are dedicated solely to these services. Since the HAI
3 Model does not account for these dedicated trunks or tandem switches, customers in fact do
4 not have access to these services as required by the FCC. The exclusion of these trunk and
5 tandem costs form the Model causes the HAI cost results to be understated.
6
7 Q. DOES THIS CONCLUDE YOUR TESTIMONY?
8 A. Yes.

## CERTIFICATE OF SERVICE

I hereby certify that on this 11th day of September, 1998, I caused copies of the foregoing Reply of GTE to be hand delivered to the following:

Sheryl Todd (3 copies)
Common Carrier Bureau
Federal Communications Commission
2100 M Street, N.W., 8th Floor
Washington, D.C. 20554

ITS
1231 20th Street, N.W.
Washington, D.C. 20036

Robin Walker

Robin B. Walker