Overview of CAPCOST and the Capital Cost Calculation Process

1. Overview:

The objective of this CAPCOST overview is to:

1. Provide a brief summary of the capital cost calculation and the cost levelization process

2. Identify the three capital cost components, book depreciation expense, cost of money and income tax expense

3. Identify the results of CAPCOST calculations

CAPCOST is software that calculates the recurring capital costs associated with a capital investment. These costs can be used on a stand-alone basis, or converted into a factor. Examples of CAPCOST results are as follows:

For $100,000 of Computer Equipment
Investment, the Annual Capital Costs are $ 23,346

Capital Cost Factor for Account 357C: .23346

2. Description of Capital Cost Components:

Recurring capital costs are composed of three components: depreciation, cost of money (return to investors) and income tax expense. Each of these components is described below.

The capital cost levelization process is described after the discussion of capital cost components.

Depreciation

Two types of depreciation are involved in the calculation of recurring capital costs: book depreciation and tax depreciation.

Book depreciation is the allocation of invested capital to the periods of benefit, and is a direct component of capital costs. Annual book depreciation is calculated using the following formula:

$$\text{Annual Depreciation} = \frac{\text{Total Installed Cost minus Net Salvage Value}}{\text{Estimated Economic Life (Years)}}$$

Tax Depreciation is the schedule of expense deductions used in calculating income tax liability. Income tax regulations allow the use of accelerated tax depreciation and shortened, prescribed tax lives on most new investments. With accelerated tax depreciation, tax depreciation expenses are greater during the earlier years of an asset's life than in later years.

Although tax depreciation is not a component of recurring capital costs, it does effect income tax liability.

Cost of Money

Investor's capital is used to purchase telephone plant, and it is necessary to pay a return to those investors for the use of their capital. This return is the cost of money. Cost of money is calculated as follows:

$$\text{Cost of Money} = \text{Net Plant} \times \text{Weighted Average Cost of Capital}$$

Where: Net plant is calculated by subtracting accumulated depreciation from plant in service, and the weighted average cost of capital is calculated as follows:

Equity Rate of Return	X	% of Equity in Capital Structure	=	Equity Earnings Fraction
Interest Rate	X	% of Debt in Capital Structure	=	Interest Fraction
		100%		Weighted Average Cost of Capital

Income Tax Expense

An income tax is levied on the cost of equity capital, therefore the revenue collected from a service must cover income tax expense.

Earnings on equity capital are adjusted so that there is sufficient revenue to cover the income tax obligation and provide the after-tax rate of return allowed on net plant.

Accelerated tax depreciation and tax deductibility of interest are considered in income tax expense calculations.

3. Overview of Capital Cost Levelization Process

Recurring capital costs for an investment vary directly with that investment's net plant. Therefore, recurring capital costs decline each year as net plant decreases.

Since it would be a troublesome business practice to change prices each year in response to changing capital costs, additional calculations are performed to smooth or "levelize" capital costs over the life of an investment.

Levelizing capital costs is a two step process. First, the present value of the capital costs is calculated. Second, the present value of the capital costs is annuitized over the economic life of the investment. These calculations use the weighted average cost of capital as the discount rate.

The levelization process is illustrated below:

Actual Capital Costs: Based on $ 10,000 Investment and 5 Year Life

Year	Actual Capital Costs
1	$ 3,924
2	3,517
3	3,057
4	2,679
5	2,351
Present Worth	$ 11,718

Note: The discount rate used in these calculations is 11.25%

$ 11,718 annuitized over 5 years at 11.25% = $ 3,190 per year

(11,718 x 5 year 11.25% annuity factor of .27227 = 3,190)

Levelized Capital Costs: Based on Actual Capital Costs on previous page

Year	Levelized Capital Costs
1	$ 3,190
2	3,190
3	3,190
4	3,190
5	3,190

Present Worth $ 11,718

As is illustrated above, the present worth of the actual capital costs equals the present worth of the levelized capital costs.

4. CAPCOST Inputs and Outputs

Overview

Below is an overview of operating the CAPCOST model.

CAPCOST Input Overview

The CAPCOST model requires two types of inputs: "global" and "category" inputs.

Global inputs apply to all types of plant, and require information identifying:

The timing of the study

Financial parameters such as cost of cost of money, cost of debt debt ratio and composite income tax rate

Output filename (optional)

The amount of detail to be printed with the CAPCOST results.

Category inputs apply to each category of plant being studied, and require input identifying:

The number of vintages of plant to be placed

Book to tax differences

Mortality characteristics

Economic life

Number of investment units and or investment dollars

Salvage characteristics

Tax depreciation method and life

A user may input information for multiple categories of plant, and results for each category will be printed separately.

CAPCOST Output Overview

Although the CAPCOST model will print detailed calculations supporting the annual capital costs it produces, these details are not relevant for most cost studies.

The results which are relevant are the present worth / present worth unit (PW/PW Unit) capital costs which are printed on the bottom line of the last page of output printed by CAPCOST, and appear as follows:

Results for a Hypothetical CAPCOST Run

	BOOK DEPR. EXPENSE	POST TAX INCOME	INC TAX EXPENSE	TOTAL CAPCOST
	[Year by Year Results are printed in this area]			
PRES WORTH	27	40	18	86
PW/PW Unit	4.04	5.98	2.73	12.75

In this case, the total PW/PW Unit CAPCOST represents the annual capital cost associated with the investment in this hypothetical CAPCOST run.

A cost analyst would typically add other expense items such as maintenance, gross receipts taxes and ad valorem taxes to the annual capital cost to determine total recurring costs associated with an investment. This addition could be performed manually, or with the ECONS model.

The result of $ 12.75 could also be converted into a capital cost factor by dividing by the investment input for the CAPCOST run, in this case $ 89.04. The calculations are presented below:

Total PW/PW Unit Capital Cost / Investment = Capital Cost Factor

$ 12.75 / 89.04 = .1432 = Capital Cost Factor

NET PRESENT VALUE DEVELOPMENT

In some cases, there is occasion to determine the Net Present Value (NPV) of a stream of costs and to recover those costs at a single point in time, i.e, a nonrecurring charge. The formula used to determine that NPV is as follows:

NPV = Sum of (Yr 1 Costs/(1+COM).5 + Yr 2 Costs/(1+COM)1.5 +
Yr n Costs/(1+COM)(n-1).5)

Year 1 Costs = Levelized Annualized Costs
COM = Cost of Money
n = last study year

For example, if the cost is $10,000 in year 1, and you want to know the NPV of that $10,000 over 7 years, with a discount rate of 10%; the formula would be:

NPV = Sum of ($10,000/1.1).5 + ($10,000/1.1)1.5 + ... ($10,000/1.1)6.5)

NPV = $51,060.40

APPENDIX D

SPECIAL ACCESS OVERHEAD LOADING

LINE	DESCRIPTION	SOURCE	VALUE
1	Revenue Requirment, 11.25 Rate of Return	Workpaper 1, ln.J	290,039,000
	Adjustments		
2	Nonrecurring Revenues	Rate Study	27,258,240
3	Special Construction Revenues	Workpaper 2	138,316
4	ICB Revenues	Workpaper 3	959,269
5	Interstate Special Access Misc. Revenues	Workpaper 4	829,292
6	Total Adjustments	Sum(ln.2..ln.5)	29,185,117
7	Adjusted Revenue Requirement	ln.6 – ln.1	260,853,883
8	Special Access Costs	Cost Study	164,645,802
9	Overhead Loading Factor	ln.8 / ln.9	1.5843

Special Access Revenue Requirement at 11.25%

Date 10-Nov-92

($000)

Ln	Special Access:	Source	Illinois	Indiana	Michigan	Ohio	Wisconsin	Ameritech
1	Net Revenues	43-01 Row 1090	120,271	33,813	70,083	72,393	32,612	329,172
2	Operating Expenses	43-01 Row 1190-1290+1390	82,264	23,947	44,726	40,364	22,088	213,389
3	Other Taxes	43-01 Row 1490	4,966	1,662	3,663	4,600	2,557	17,448
4	FIT	43-01 Row 1590	8,537	2,003	5,828	7,997	1,804	26,169
5	Net Return	Ln 1-Ln 2-Ln 3-Ln 4	24,504	6,201	15,866	19,432	6,163	72,166
6	ANI	43-01 Row 1910	157,549	47,589	88,629	76,244	44,161	414,172
7	ROR	Ln 7/Ln 8	15.55%	13.03%	17.90%	25.49%	13.96%	17.42%

Source: ARMIS 43-01 4th Quarter 1991

Ln	Revenue Requirement Calculation:		Illinois	Indiana	Michigan	Ohio	Wisconsin	Ameritech
A	Authorized Rate Of Return		11.25%	11.25%	11.25%	11.25%	11.25%	
B	Net Return	Ln 6 * Ln A	17,724	5,354	9,971	8,577	4,968	46,594
C	Federal Income Taxes	Ln B *(.34/(1-.34)	9,131	2,758	5,136	4,419	2,559	24,003
D	State Tax Rate		7.20%	4.50%	0.46%	0.00%	7.90%	
E	Gross Up State Rate	Ln D/(1 - Ln D)	0.077586	0.047120	0.004623	0.000000	0.085776	
F	State Taxes	Ln E * (Ln C + Ln B)	2,084	382	70	0	646	3,181
G	Gross Receipts Rate		0.00%	1.11%	1.18%	0.00%	5.60%	
H	Gross Up Gross Receipts	Ln G/(1 - Ln G)	0.000000	0.011211	0.011890	0.000000	0.059322	
I	Gross Receipt Taxes	Ln H * (Ln F+Ln C+Ln B+Ln 2)	0	364	712	0	1,795	2,871
J	Revenue Requirement	Ln I+Ln F+Ln C+Ln B+Ln 2	111,203	32,805	60,615	53,360	32,056	290,039

02-Feb-93

1991 PRESUBSCRIPTION REVENUES (SOURCE: MR4 ACCOUNT 5081-9)

	ILLINOIS	INDIANA	MICHIGAN	OHIO	WISCONSIN	AMERITECH
0191	258,225	56,280	215,844	158,298	91,238	779,885
0291	251,803	76,905	194,455	138,705	86,320	748,188
0391	238,328	88,826	185,383	190,482	96,899	799,918
0491	263,509	116,538	204,147	207,493	136,828	928,515
0591	274,063	88,231	169,368	146,123	80,878	758,663
0691	273,263	84,732	163,659	140,116	59,029	720,799
0791	249,211	77,626	148,297	146,870	97,942	719,946
0891	243,634	71,265	145,986	143,162	90,517	694,564
0991	241,549	83,908	170,627	177,889	106,122	780,095
1091	253,390	86,257	165,874	172,341	128,325	806,187
1191	280,713	72,047	188,566	159,380	107,292	807,998
1291	291,754	86,665	223,848	161,822	97,658	861,747
TOTAL	3,119,442	989,280	2,176,054	1,942,681	1,179,048	9,406,505

WHAT-IF MOVE FROM 5081EURVD_MIE TO 5084EURVD_MSA

1991 SPECIAL CONSTRUCTION REVENUES

	ILLINOIS	INDIANA	MICHIGAN	OHIO	WISCONSIN	REGION
0191	2,266	492	0	350	0	3,108
0291	0	265	5,040	0	0	5,305
0391	10,626	0	51,620	2,045	208	64,499
0491	3,314	5,367	0	4,328	0	13,009
0591	1,024	1,344	460	4,684	0	7,512
0691	1,068	7,045	1,686	0	0	9,799
0791	1,962	0	1,020	0	0	2,982
0891	1,638	0	0	0	0	1,638
0991	1,047	648	1,000	2,499	2,400	7,594
1091	3,313	0	843	0	0	4,156
1191	3,059	455	11,765	1,562	0	16,841
1291	921	0	0	0	952	1,873
TOTAL	30,238	15,616	73,434	15,468	3,560	138,316

DATA SOURCE: CABS BILLING SYSTEM

02-Feb-93

1991 ICB REVENUES

	ILLINOIS SEC 12	ILLINOIS SEC 11	INDIANA	MICHIGAN SEC 11	OHIO SEC 12	WISCONSIN SEC 12	AMERITECH
0191	47,467	1,726	0	1,180	24,027	45	74,445
0291	47,467	1,726	0	1,180	21,908	45	72,326
0391	47,467	1,726	0	1,180	23,354	45	73,772
0491	47,467	1,726	0	1,180	25,917	45	76,335
0591	47,467	1,726	0	1,180	82,910	45	133,328
0691	47,467	1,726	0	0	29,984	45	79,222
0791	47,467	1,156	0	2,793	30,018	45	81,479
0891	47,467	1,726	0	1,180	28,292	45	78,710
0991	47,467	1,726	0	1,180	27,458	45	77,876
1091	47,467	1,726	0	1,180	22,855	45	73,273
1191	47,467	1,726	0	1,180	17,685	45	68,103
1291	47,467	1,726	0	1,180	19,982	45	70,400
TOTAL	569,604	20,142	0	14,593	354,390	540	959,269

1991 PACKET SWITCHED REVENUES

	ILLINOIS	INDIANA	MICHIGAN	OHIO	WISCONSIN	REGION
0191	0	1,024	0	4,965	0	5,989
0291	0	669	0	14,075	0	14,744
0391	0	1,744	0	5,206	0	6,950
0491	0	2,885	0	5,507	0	8,392
0591	0	1,373	0	6,444	0	7,817
0691	0	1,373	0	6,037	0	7,410
0791	0	2,875	0	5,700	0	8,575
0891	0	1,727	0	5,068	0	6,795
0991	0	968	0	5,646	0	6,614
1091	0	1,198	0	5,243	0	6,441
1191	0	562	0	4,559	0	5,121
1291	0	1,576	0	6,037	0	7,613
TOTAL	0	17,974	0	74,487	0	92,461

DATA SOURCE: CABS BILLING SYSTEM

PRICE CAP ITEMS

1991 INTERSTATE SPECIAL ACCESS MISCELLANEOUS REVENUES

	ANALOG	DDS	BASE RATE	DS1	DS3	AUDIO VIDEO	TOTAL *
ILL	224,069	43,711	6,255	128,642	602	3,836	407,115
IND	41,998	4,145	40	3,986	61	0	50,230
MICH	49,695	7,635	101	59,826	101	0	117,358
OHIO	144,245	11,218	569	12,577	60	0	168,669
WISC	40,245	15,269	3,170	27,196	20	20	85,920
TOTAL	500,252	81,978	10,135	232,227	844	3,856	829,292

NON-PRICE CAP ITEMS

1991 INTERSTATE SPECIAL ACCESS CCA AND MVV REVENUES

	ANALOG	DDS	BASE RATE	DS1	DS3	AUDIO VIDEO	TOTAL
ILL	460,566	126,157	3,539	114,796	1,950	0	707,008
IND	87,464	19,127	316	17,063	0	0	123,970
MICH	182,985	33,674	307	34,521	0	0	251,487
OHIO	98,942	45,564	2,328	25,193	67	0	172,094
WISC	56,739	15,985	2,937	29,819	0	0	105,480
TOTAL	886,696	240,507	9,427	221,392	2,017	0	1,360,039

NOTE - THE CCA TOTAL IS $ 955,595
THE MVV TOTAL IS 404,444

* REVISED

DATA SOURCE: CABS BILLING SYSTEM

APPENDIX E

DS1 and DS3 Rate to Cost Ratios

Service Configuration		Monthly	OPP			DCP	
			12 Mo.	36 Mo.	60 Mo.	36 Mo.	60 Mo.

Assumptions:

DS1 Service Configurations in this analysis includes 2 Local Distribution Channels, 2 Channel Mileage Termiations and Channel Mileage.

DS3 Service Configurations in this analysis include 2 Service Packages, the minimum number of Service Channels for each Service Package, 2 Channel Mileage Terminations and Channel Mileage.

DS1 Service Configuratons include the Ameritech average DS1 Channel Mileage of 7 Miles.
DS3 Service Configuratons include the Ameritech average DS3 Channel Mileage of 4 Miles.

DS1 Service							
Illinois DS1 Circuit	Rate/Cost Ratio	1.68	1.55	1.36	1.22	1.51	1.43
Other States DS1 Circuit	Rate/Cost Ratio	1.70	1.59	1.39	1.26	1.53	1.44
All States 384 Circuit	Rate/Cost Ratio	1.33	1.27	1.18	1.10	1.24	1.19
Illinois DS3 Service							
1 Pack w/ 2 Service Channels	Rate/Cost Ratio	1.04	1.15	1.32	1.12	n/a	n/a
2 Pack w/ 2 Service Channels	Rate/Cost Ratio	1.30	1.41	1.59	1.34	n/a	n/a
3 Pack w/ 2 Service Channels	Rate/Cost Ratio	1.62	1.73	1.96	1.57	n/a	n/a
6 Pack w/ 3 Service Channels	Rate/Cost Ratio	1.51	1.56	1.63	1.31	n/a	n/a
12 Pack w/ 7 Service Channels	Rate/Cost Ratio	1.54	1.58	1.73	1.48	n/a	n/a
24 Pack w/ 13 Service Channels	Rate/Cost Ratio	1.68	1.71	2.07	1.98	n/a	n/a
Optical 12 Pack w/ 7 Service Channels	Rate/Cost Ratio	6.92	7.12	4.49	3.39	n/a	n/a
Optical 24 Pack w/ 13 Service Channels	Rate/Cost Ratio	7.15	7.28	4.31	3.33	n/a	n/a

DS1 and DS3 Rate to Cost Ratios

Service Configuration		Monthly	OPP			DCP	
			12 Mo.	36 Mo.	60 Mo.	36 Mo.	60 Mo.
Indiana DS3 Service							
1 Pack w/ 2 Service Channels	Rate/Cost Ratio	1.00	1.00	1.43	1.27	n/a	n/a
2 Pack w/ 2 Service Channels	Rate/Cost Ratio	1.18	1.17	1.56	1.45	n/a	n/a
3 Pack w/ 2 Service Channels	Rate/Cost Ratio	1.47	1.46	1.91	1.81	n/a	n/a
6 Pack w/ 3 Service Channels	Rate/Cost Ratio	1.42	1.41	1.92	1.67	n/a	n/a
12 Pack w/ 7 Service Channels	Rate/Cost Ratio	1.47	1.47	1.83	1.75	n/a	n/a
24 Pack w/ 13 Service Channels	Rate/Cost Ratio	1.73	1.73	2.16	2.09	n/a	n/a
Optical 12 Pack w/ 7 Service Channels	Rate/Cost Ratio	7.94	7.91	5.30	4.63	n/a	n/a
Optical 24 Pack w/ 13 Service Channels	Rate/Cost Ratio	8.41	8.39	5.13	4.16	n/a	n/a
Michigan DS3 Service							
1 Pack w/ 2 Service Channels	Rate/Cost Ratio	1.12	1.09	1.18	1.00	n/a	n/a
2 Pack w/ 2 Service Channels	Rate/Cost Ratio	1.35	1.32	1.52	1.24	n/a	n/a
3 Pack w/ 2 Service Channels	Rate/Cost Ratio	1.75	1.72	2.00	1.63	n/a	n/a
6 Pack w/ 3 Service Channels	Rate/Cost Ratio	1.56	1.55	1.74	1.41	n/a	n/a
12 Pack w/ 7 Service Channels	Rate/Cost Ratio	1.16	1.15	1.64	1.53	n/a	n/a
24 Pack w/ 13 Service Channels	Rate/Cost Ratio	1.73	1.72	2.14	2.06	n/a	n/a
Optical 12 Pack w/ 7 Service Channels	Rate/Cost Ratio	7.48	7.43	4.71	3.52	n/a	n/a
Optical 24 Pack w/ 13 Service Channels	Rate/Cost Ratio	7.56	7.53	4.46	3.28	n/a	n/a

DS1 and DS3 Rate to Cost Ratios

Service Configuration		Monthly	OPP 12 Mo.	OPP 36 Mo.	OPP 60 Mo.	DCP 36 Mo.	DCP 60 Mo.
Ohio DS3 Service							
1 Pack w/ 2 Service Channels	Rate/Cost Ratio	2.06	2.04	1.71	1.40	n/a	n/a
2 Pack w/ 2 Service Channels	Rate/Cost Ratio	2.55	2.53	2.02	1.63	n/a	n/a
3 Pack w/ 2 Service Channels	Rate/Cost Ratio	3.15	3.13	2.44	1.92	n/a	n/a
6 Pack w/ 3 Service Channels	Rate/Cost Ratio	3.32	3.31	2.42	1.92	n/a	n/a
12 Pack w/ 7 Service Channels	Rate/Cost Ratio	2.89	2.89	2.34	1.95	n/a	n/a
24 Pack w/ 13 Service Channels	Rate/Cost Ratio	1.53	1.53	1.85	1.78	n/a	n/a
Optical 12 Pack w/ 7 Service Channels	Rate/Cost Ratio	6.89	6.87	4.27	3.46	n/a	n/a
Optical 24 Pack w/ 13 Service Channels	Rate/Cost Ratio	6.62	6.60	3.89	3.03	n/a	n/a
Wisconsin DS3 Service							
1 Pack w/ 2 Service Channels	Rate/Cost Ratio	1.58	1.56	1.79	1.51	n/a	n/a
2 Pack w/ 2 Service Channels	Rate/Cost Ratio	2.03	2.01	2.26	1.84	n/a	n/a
3 Pack w/ 2 Service Channels	Rate/Cost Ratio	2.58	2.56	2.68	2.16	n/a	n/a
6 Pack w/ 3 Service Channels	Rate/Cost Ratio	2.23	2.22	2.37	1.91	n/a	n/a
12 Pack w/ 7 Service Channels	Rate/Cost Ratio	2.59	2.58	2.38	1.96	n/a	n/a
24 Pack w/ 13 Service Channels	Rate/Cost Ratio	1.73	1.72	2.18	2.13	n/a	n/a
Optical 12 Pack w/ 7 Service Channels	Rate/Cost Ratio	7.76	7.73	4.89	4.04	n/a	n/a
Optical 24 Pack w/ 13 Service Channels	Rate/Cost Ratio	7.58	7.56	4.48	3.58	n/a	n/a

APPENDIX F

ANALYSIS OF AMERITECH CENTRAL OFFICE BUILDOUT
RATE ADJUSTMENT FACTOR

	PER 6/9/93 ORDER	PER RESTATED 6/9/93 ORDER (NOTE 1)
1 DIRECT COSTS (NOTE 2)	$6,497.00	$5,828.00
2 AD VALOREM TAX PER 2/16/93 FILING	$423.00	$423.00
3 GROSS RECEIPTS TAX PER 2/16/93 FILING	$60.00	$60.00
4 OTHER OPERATING EXPENSES (NOTE 2)	$841.00	$170.00
5 RESTATED DIRECT COSTS (L1 – L2 – L3 – L4)	$5,173.00	$5,173.00
6 NET PRESENT VALUE (NPV) (NOTE 2)	$29,684.00	$29,013.00
7 RESTATED DIRECT COSTS ((L5/L1)*L6)	$23,634.81	$25,752.27
8 FILED RATE	$46,900.55	$46,900.55
9 OVERHEAD LOADING FACTOR (L8/L7)	1.9844	1.8212
10 ALLOWABLE OVERHEAD LOADING FACTOR (PER ORDER)	1.8028	1.8028
11 RATE ADJUSTMENT FACTOR EXCLUDING GSF (L10/L9)	90.85%	98.99%
12 REVISED RATE (L11 * L8)	$42,608.83	$46,426.20
13 ALLOWABLE OVERHEAD LOADING FACTOR ADJUSTED FOR GSF (PER ORDER APPENDIX D)	1.7014	1.7014
14 RATE ADJUSTMENT FACTOR INCLUDING GSF CHANGE(L13/L9)	85.74%	93.42%
15 REVISED RATE INCLUDING GSF CHANGE (L14 * L8)	$40,212.26	$43,814.92

NOTE 1: RESTATED 6/3/93 INCLUDES THE APPROPRIATE METHOD FOR REFLECTING CARRIER ACCESS BILLING COSTS IN THE DEVELOPMENT OF THE RAF

NOTE 2: THE DIFFERENCE BETWEEN THE PER ORDER DATA AND THE RESTATED ORDER DATA IS $671 FOR CARRIER ACCESS BILLING COST

APPENDIX G

AMERITECH MODEL OFFICE – Cost of Providing 100 DS1s

1. Nonrecurring Charges	Rate Under Investigation	REQ/ 100 DS1	Total Nonrec.	RAF	RAF'ed Rate	RAF'ed Total Nonrec.
Order Charge	$531.16	1	$531.16	100.00%	$531.16	$531.16
Central Office Buildout	$46,900.55	1	$46,900.55	90.85%	$42,609.15	$42,609.15
Splicing Per Fiber						
Initial Fiber	$193.19	1	$193.19	100.00%	$193.19	$193.19
Subsequent Fibers	$15.06	23	$346.38	100.00%	$15.06	$346.38
Splice Testing						
Initial Fiber	$44.21	1	$44.21	100.00%	$44.21	$44.21
Subsequent Fibers	$2.61	23	$60.03	100.00%	$2.61	$60.03
Cable Placmnt – MH to Vlt.						
First Foot	$209.08	1	$209.08	100.00%	$209.08	$209.08
Per Additional Foot	$1.04	369	$383.76	100.00%	$1.04	$383.76
Cable Placmnt – Vlt. to Node						
First Foot	$78.08	1	$78.08	100.00%	$78.08	$78.08
Per Additional Foot	$0.77	361	$277.97	100.00%	$0.77	$277.97
Total NRC's			$49,024.41			$44,733.01
Equivalent Monthly Payment Over 5 Years @ 11.25 Interest			$1,072.03			$978.19

2. Recurring Charges	Rate Under Investigation	REQ/ 100 DS1s	Total Monthly	RAF	RAF'ed Rate	Total Monthly
CO Floor Space/Sq. Ft.	$7.88	100	$788.00	98.86%	$7.79	$779.00
Riser Space (Per Ft.)	$1.88	362	$680.56	100.00%	$1.88	$680.56
Entrance Conduit (Per Innerduct Ft.)	$0.06	370	$22.20	100.00%	$0.06	$22.20
48 Volt DC Power (per Fuse Amp)	$7.99	15	$119.85	100.00%	$7.99	$119.85
Termination Panel	$317.06	1	$317.06	100.00%	$317.06	$317.06
Electrical Cross Connection DS1	$13.97	100	$1,397.00	100.00%	$13.97	$1,397.00
Total Recurring			$3,324.67			$3,315.67
Total Monthly Cost			$4,396.70			$4,293.86
Mo Cost per DS1			$43.97			$42.94

APPENDIX H

Ameritech Floor Space Charges
1992 Investment Values*

	Sample Central Offices	Investment Value ($000)	Square Feet	$/Sf
Illinois Bell	CHCGILFR	22138.6	249664	88.67
	CHCGILWB	22448.6	204560	109.74
	NBRKILNB	1878.7	22950	81.86
	EGVGILEG	3654.5	35927	101.72
	SPFDILES	9735.7	94542	102.98
	CHMPILCU	2270.7	22217	102.21
	ARLHILUH	7393.7	64863	113.99
	EMHRILET	2463.3	18546	132.82
	ECHGILEH	1036.1	14351	72.20
		73019.9	727620	100.35
Indiana Bell	IPLSINO1	3024.8	41958	72.09
	SBNDIN01	11664.4	170621	68.36
	HMNDINNW	3101.2	61061	50.79
	GARYINGO	4477.8	70272	63.72
	CFVLIN01	3323.5	48732	68.20
	FSHRIN01	1945.6	17917	108.59
	NBVLIN01	1025.5	22093	46.42
	CRMLIN01	2386.0	41400	57.63
	INPLIN01	50465.1	749294	67.35
		81413.9	1223348	66.55
Michigan Bell	DTRTMIBL	32694.2	470883	69.43
	GDRPMIBL	9495.9	256336	37.04
	ANARMIMN	8212.7	164482	49.93
	PNTCMIMN	17775.6	276672	64.25
	DRBRMIFB	4691.9	72080	65.09
	SFLDMIMN	6876.6	80228	85.71
	ABHGMIMN	920.7	20780	44.31
	TROYMIMN	2543.2	54287	46.85
	WRRNMITL	1237.3	29636	41.75
		84448.1	1425384	59.25
Ohio Bell	CLEVOH62	26750.0	468265	57.13
	CLEVOH25	5344.7	98798	54.10
	CLEVOH64	2688.1	58213	46.18
	ECLDOH73	1439.7	36342	39.62
	UPAROH45	627.8	21343	29.41
	WOTNOH88	1496.8	27326	54.78
	NWALOH85	400.5	8400	47.68
	DYTNOH22	3815.5	107449	35.51
	CNTMOH43	2507.4	34460	72.76
		45070.5	860596	52.37

*Investment Value (not reduced by depreciation).

Ameritech Floor Space Charges
1992 Investment Values*

Wisconsin Bell	MILWWI13	27368.7	301858	90.67
	MDSNWI11	4501.1	65371	68.85
	APPLWI01	15364.3	212640	72.25
	MILWWI45	3341.8	39666	84.25
	MDSNWI12	1642	32202	50.99
	MILWWI42	2230.8	49634	44.94
	MDSNWI15	1617.1	25982	62.24
	CDBGWI15	1307.2	24646	53.04
	MNFLWI32	1654.1	25649	64.49
		59027.1	777648	75.90

Corporate Average	342979.5	5014596.0	68.40

*Investment Value (not reduced by depreciation).

APPENDIX I

171 000 | S.F. & C.F. Costs

			UNIT	UNIT COSTS ¼	UNIT COSTS MEDIAN	UNIT COSTS ¾	% OF TOTAL ¼	% OF TOTAL MEDIAN	% OF TOTAL ¾	
600	3100	Total: Mechanical & Electrical	S.F.	13.40	17.90	26.95	22.30%	28.30%	33.30%	600
	3200									
	9000	Per bed or person, total cost	Bed	22,200	28,900	36,700				
610	0010	**OFFICES** Low-Rise (1 to 4 story)	S.F.	47.10	60.35	79.90				610
	0020	Total project costs	C.F.	3.49	4.86	6.55				
	0100	Sitework	S.F.	3.40	6	9.25	5.30%	9.60%	13.70%	
	0500	Masonry		1.59	3.70	7.05	2.90	5.60%	8.40%	
	1800	Equipment		.58	1.06	2.93	1.20%	1.60%	4%	
	2720	Plumbing		1.79	2.70	3.86	3.60%	4.50%	6%	
	2770	Heating, ventilating, air conditioning		3.81	5.35	7.84	7.20%	10.40%	11.90%	
	2900	Electrical		3.98	5.50	7.55	7.40%	9.50%	11%	
	3100	Total: Mechanical & Electrical		8.25	12.25	17.90	14.90%	20.80%	26.80%	
620	0010	**OFFICES** Mid-Rise (5 to 10 story)	S.F.	52.95	65.05	87.25				620
	0020	Total project costs	C.F.	3.63	4.69	6.60				
	2720	Plumbing	S.F.	1.60	2.43	3.50	2.80%	3.60%	4.50%	
	2770	Heating, ventilating, air conditioning		3.94	5.65	9	7.60%	9.30%	11%	
	2900	Electrical		3.36	4.81	7.40	6.50%	8%	10%	
	3100	Total: Mechanical & Electrical		9.50	12.20	20.35	16.70%	20.50%	25.70%	
630	0010	**OFFICES** High-Rise (11 to 20 story)		62.70	79.25	98.30				630
	0020	Total project costs	C.F.	4.01	5.70	8.10				
	2900	Electrical	S.F.	3.13	4.56	7	5.80%	7%	10.50%	
	3100	Total: Mechanical & Electrical		11.45	14.55	24.20	17.20%	21.40%	29.40%	
640	0010	**POLICE STATIONS**		78.40	101	129				640
	0020	Total project costs	C.F.	5.75	7.45	9.90				
	0500	Masonry	S.F.	8.25	12.80	15.65	6.80%	10.60%	13.20%	
	1800	Equipment		1.21	5.20	8.60	2%	5.20%	9.80%	
	2720	Plumbing		4.28	6.25	10.50	5.60%	6.80%	10.70%	
	2770	Heating, ventilating, air conditioning		6.30	8.50	12.10	7%	10.50%	11.90%	
	2900	Electrical		7.85	12.50	15.80	9.40%	11.70%	14.70%	
	3100	Total: Mechanical & Electrical		21.25	26.55	34.70	22.60%	27.50%	33.10%	
650	0010	**POST OFFICES**		63.85	76.20	99.55				650
	0020	Total project costs	C.F.	3.52	4.60	5.45				
	2720	Plumbing	S.F.	2.72	3.44	4.36	4.20%	5.30%	5.60%	
	2770	Heating, ventilating, air conditioning		3.93	5.25	8	6.60%	8%	9.80%	
	2900	Electrical		5	7.05	8.35	7.40%	9.40%	11%	
	3100	Total: Mechanical & Electrical		11	15.10	21	16.50%	21.40%	26.30%	
660	0010	**POWER PLANTS**		375	555	850				660
	0020	Total project costs	C.F.	10.20	18.85	52.10				
	2900	Electrical	S.F.	22.05	57.65	93.80	9.20%	12.30%	18.40%	
	8100	Total: Mechanical & Electrical		66.55	143	322	28.80%	32.50%	52.60%	
670	0010	**RELIGIOUS EDUCATION**		47.65	56.30	69.80				670
	0020	Total project costs	C.F.	2.81	3.97	5.25				
	2720	Plumbing	S.F.	2.02	2.94	4.06	3.90%	4.90%	6.90%	
	2770	Heating, ventilating, air conditioning		4.64	5.50	7.25	8.10%	9.90%	11.20%	
	2900	Electrical		3.62	4.82	6.55	7.20%	8.70%	10.30%	
	3100	Total: Mechanical & Electrical		7.85	10.75	16.15	14.70%	19.70%	22.90%	
690	0010	**RESEARCH** Laboratories and facilities		68.20	103	152				690
	0020	Total project costs	C.F.	4	8.35	12.15				
	1800	Equipment	S.F.	1.63	5.45	13.40	1.20%	4.70%	9%	
	2720	Plumbing		6.95	9.55	13.40	5.20%	8.30%	10.80%	
	2770	Heating, ventilating, air conditioning		6.75	22.05	26	7.20%	16.40%	17.70%	
	2900	Electrical		8.25	11.90	23.60	9.20%	11.50%	16.20%	
	3100	Total: Mechanical & Electrical		17.50	34.95	62.30	20.60%	31.90%	41.70%	
700	0010	**RESTAURANTS**	S.F.	68.15	89.75	116				700
	0020	Total project costs	C.F.	5.95	7.80	9.90				

For expanded coverage of these items see *Means Square Foot Cost Data 1991*