COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-1: Identify the following values used by AT&T in planning its network:

a. the route to air ratio for inter-office facilities;

b. the actual number of minutes per month, per DS0 level switched access trunk;

c. the investment per DSO level trunk port;

d. the investment per installed OC-48 ADM multiplexer (equipped with 48 DS3s and equipped with 12 DS3s;

e. the investment per installed foot of fiber;

f. the tandem common equipment investment;

g. the switch installation multiplier;

h. the power investment per switch;

i. the cost of construction per square foot of a wire center building;

j. the price per square foot of land that contains switch buildings;

k. the busy hour fraction of daily usage;

l. the annual to daily usage reduction factor;

m. the installed terminal multiplexer investment per OC3;

n. the interoffice facility wire center EF&I fully loaded labor rate per hour in Massachusetts;

o. the installed cost of an OC-48 regenerator;

p. interoffice facility fiber optic regeneration spacing;

q. optical distribution panel cost to connect 24 fibers to the transmission equipment; and,

r. the number of hours required to install the equipment associated with the interoffice transmission systems.

Respondent: R. Mercer

RESPONSE: AT&T objects to this information request on the grounds that it is overbroad, unduly burdensome, irrelevant and not reasonably calculated to lead to the discovery of admissible evidence. This case involves Verizon-MA's forward-looking economic costs to provide UNEs. AT&T's own operational experience to date is not relevant to that issue.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-2: Provide all documents concerning, referring or relating to the derivation of the $35.00 per hour loaded labor cost associated with NID and drop installation as referenced on page 156 of the Inputs Portfolio.

Respondent:R. Mercer/J. Donovan

RESPONSE: There are no workpapers or other documentation that have not already been provided. As discussed in the HAI Inputs Portfolio, the labor rate excludes exempt material loadings which normally include the material cost of the Aerial Drop Wire.

In general, the HAI 5.2a-MA Model assumes a fully loaded labor rate for construction workers of $55.00 per hour (see *HAI Inputs Portfolio*, Section 7). This cost was reduced to reflect the lower labor cost for an installer/repair technician, rather than a construction worker, the lower motor vehicle loadings associated with an installer/repair technician, rather than heavy construction vehicles, and was reduced to avoid double counting exempt materials which include the costs for NID cases, lightning protectors, drop wire materials, block terminals, and other hardware items accounted for elsewhere in the model. Thus, the loaded labor rate was reduced from $55.00 per hour to $35.00 per hour, based on the extensive experience of members of the engineering support team.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-3: Identify the expert outside plant engineers and estimators used to project the amount of time necessary to attach a drop wire clamp at a utility pole, string the drop, and attach a drop wire clamp at a house or building as described on page 16 of the Inputs Portfolio. Provide all documents concerning or supporting these time estimates and how they were used or derived.

Respondent:R. Mercer/J. Donovan

RESPONSE: Members of the panel of outside plant experts included the following persons:

Mr. Lawrence Bonwick
Mr. Ernest Carter
Mr. John Donovan
Mr. Dean Fassett
Mr. Thomas Madden
Mr. Joseph Riolo
Mr. Joaquin Sueiro
Mr. James Wells

The assigned values for aerial and buried drop placement rates were not based on documents, but were based on the considerable experience of the above listed panel of experts who have a combined total of hundreds of years of hands-on experience in outside plant.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-4: Provide the underlying data used in the calculation of the occupancy rates shown on page 48 of the Inputs Portfolio.

Respondent:R. Mercer

RESPONSE: The underlying data used to calculate occupancy rates is the U.S. Census Bureau's 1990, STF3, "Population and Housing Summary." This data can be obtained from the U.S. Bureau of the Census, U.S. Department of Commerce, Washington, D.C.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-5: Explain in detail how switching costs are calculated in HAI 5.2a. Include in your answer the source and derivation of each of the cost points used to determine the switching curve(s) used to calculate switching costs. Provide copies of all invoices, catalogues, published estimates or other documents referred to in determining the switching cost curve(s). To the extent HAI 5.2a relies on any prices or data adopted by the FCC in the USF Inputs Order, provide all analysis generated to determine whether these inputs are appropriate for Massachusetts.

Respondent:R. Mercer

RESPONSE: Sections 4.1.9 and 4.1.10 of the HM 5.2a-MA HIP explain how the formula A+B*L is used to calculate switching investment, where "L" is the line capacity of the switch, and "A" and "B" are user-adjustable inputs whose default values are based on switching prices determined by the FCC in its USF Inputs Order (referred to as the *Tenth Report and Order* in this information request). Details of the derivation of the formula A+B*L and its values are provided in Section 6.5.3.1 of the HM 5.2a-MA Model Description.

The HM 5.2a-MA does not rely on switch curves.

AT&T does not know whether the FCC conducted any analysis specifically to determine switch costs in Massachusetts. However, as described by the FCC, the analysis it did conduct to determine switch costs included a broad cross-section of switch costs in many states, ". . . publicly available data on the cost of purchasing and installing switches that was compiled by the Commission, in conjunction with the work of Gabel and Kennedy, and the Bureau of Economic Analysis (BEA) of the U.S. Department of Commerce. This information was gathered from depreciation reports filed by LECs at the Commission."[1] Paragraphs 299-319 of the FCC's *Tenth Report and Order* provide a detailed explanation of how the FCC used the switch cost data it gathered to determine appropriate switch cost inputs.

---

[1] *Tenth Report and Order*, para. 290 (footnotes omitted).

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-6: Provide the rationale for and all documents, studies and workpapers used in the determination of the distribution and feeder sharing fractions for aerial, buried and underground plant in Massachusetts.

Respondent:R. Mercer/J. Donovan

RESPONSE: The rationale for distribution and feeder structure sharing fractions for aerial, buried and underground plant in Massachusetts are fully discussed on or about pages 71 through 72 of Mr. Donovan's Direct Testimony.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-7: Explain in detail how feature costs are developed by HAI 5.2a. In your answer, specify each feature included in the cost estimate and the cost associated with that feature. Provide copies of all documents, studies, or workpapers generated in determining these feature costs.

Respondent:R. Mercer

RESPONSE: HM 5.2a-MA does not separately develop costs for features.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-8: Provide all documents concerning, referring or relating to the determination of the forward looking network operations factor of 50%, referenced on page 132 of the Inputs Portfolio.

Respondent:R. Mercer

RESPONSE: Appendix D of the HM 5.2a-MA HIP provides a detailed explanation of the support for the forward-looking network operations factor default value.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-9: Page 158 of the Inputs Portfolio states the Regional Labor Adjustment Factor was normalized for Massachusetts at 1.09. Was the factor normalized in the 1997 National Construction Estimator 45th Edition?

Respondent: R. Mercer/J. Donovan

RESPONSE: The premise for this question is incorrect. The Labor Adjustment Factor was not set at 1.09, as is clear from the User Adjustable Inputs Tab in the HAI 5.2a-MA Model filed in this proceeding.

The Inputs Portfolio states that a user could make an adjustment, and one possible source would indicate that a value of 1.09 could be considered appropriate. The HAI 5.2a-MA Inputs Portfolio specifically states the following:

Regional Labor Adjustment Factor:

Direct Labor costs vary among regions in the United States. A variety of sources can be used for labor adjustment factors.[2] *The following statewide labor adjustment factor indexes can be used as default values.*

Even though this factor was not utilized in the Model filed in this proceeding, the use of the word "normalized" did not appear, nor was it appropriate in the *1997 National Construction Estimator 45th Edition*.

[2] See, for example, R.S. Means Company, Inc., *Square Foot Costs, 18th Annual Edition,* 1996, p.429-433.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-10: In each and every instance where John Donovan's testimony provides specific costs obtained from suppliers or contractors:

a. identify the source of each such estimate presented and a description of the equipment or service reflected in the cost;

b. for each cost obtained from a third-party, state whether the cost includes shipping and taxes, and if so indicate the amount allowed for each;

c. state whether the cost includes any volume discounts, and if so provide the volumes required to obtain the discounts;

d. state the date on which the estimate was obtained and the name of the person who obtained it; and,

e. provide copies of all invoices, contracts, catalogues, published estimates or other documents referencing the supplier and contractor costs presented by Mr. Donovan, along with a copy of all workpapers and backups generated in collecting this cost information.

Respondent:J. Donovan

RESPONSE: See response to VZ-ATT 1-80.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-11: Identify each and every cost estimate AT&T provided to the developers of the default inputs used in HAI 5.2a or any earlier version of the model, and provide all documents, workpapers and backups generated in assembling and providing this information.

Respondent: R. Mercer

RESPONSE: AT&T objects to the portion of this information request that seeks information regarding earlier versions of the HAI Model, on the grounds that it seeks information that is irrelevant and not reasonably calculated to lead to discovery of admissible evidence.

AT&T also objects to this information request insofar as it requests the production of information that AT&T has already made available. With respect to HM 5.2a, the support – including the source – of each default input is listed in the HM 5.2a-MA HIP. By reading the HM 5.2a-MA HIP, Verizon-MA can determine those default inputs that were obtained from AT&T.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-12: Identify the basis for the material, direct labor and engineering costs presented by Mr. Donovan in his analysis of the installed copper cable costs. Provide copies of all invoices, contracts, catalogues, published estimates or other documents referred to or relied upon in determining these inputs, along with a statement of all factors that support the cost figures used by Mr. Donovan. Provide a copy of all workpapers and backups generated in this analysis.

Respondent:J. Donovan

RESPONSE: For the many reasons listed in the response to VZ-ATT 1-80, the default values recommended are not based on invoices, contracts, catalogs, published estimates, or other documents.

The bases for the material, direct labor, and engineering costs were thoroughly described by Mr. Donovan, including tests for reasonableness. No additional information is available.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-13: Provide copies of all invoices, contracts, catalogues, published estimates or other documents referred to or relied upon in determining the central office DLC equipment material and labor costs identified in the testimony of John Donovan, along with a statement of all factors that support these costs in all computations performed to generate them. Provide a copy of all workpapers and backups generated in determining these costs.

Respondent:J. Donovan

RESPONSE: For the many reasons listed in the response to VZ-ATT 1-80, the default values recommended are not based on invoices, contracts, catalogs, published estimates, or other materials. Several members of the engineering team, especially Mr. Donovan, have extensive experience in purchasing DLC equipment. An extensive, detailed breakdown of subassembly pricing was provided in Mr. Donovan's testimony, as well as in the HAI Inputs Portfolio. No additional information is available. See also the responses to VZ-ATT 1-47 and VZ-ATT 1-90.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-14: Robert A. Mercer states at page 46, footnote 4 of his direct testimony that additional remote terminals and SAIs are supplied whenever the actual line count in a serving area exceeds 1,800 lines. Describe in detail the process used to add this additional equipment and to calculate the associated investment.

Respondent:R. Mercer

RESPONSE: SAIs are not sized based on 1,800 lines. As stated in Section 5.3.8 of the HAI Model Description:

> *SAI investment is determined by the number of distribution and feeder pairs required to be served. The Model equips multiple SAIs if the pair requirement exceeds the maximum SAI capacity.*
>
> * * *
>
> *The Distribution Module sizes and calculates the investment in the SAIs required in each serving area based on the number of distribution and feeder pairs required to serve both the main and outlier clusters and the urban/non-urban characteristic of the serving area. . . . It is the installed investment in an SAI, stated as a function of the number of distribution and feeder pairs served by the SAI. The Model equips each serving area with one or more SAIs. The number required is determined by comparing the total "in" and "out" lines demand to 7,200, which is the maximum number of pairs that can be supported by a single SAI.*

For RTs, the Model adds RTs when the number of lines served exceeds the capacity of the largest RT. With the existing default value, this allows an RT to have an initial increment of 672 lines and two additional increments of 672 lines each for a maximum size of 2,016 lines, reduced by fill to approximately 1,800 lines. The 1,800 line criteria was established based on approximately 90% utilization of a maximum-sized IDLC RT of 2,016 lines. The FCC has agreed with, and has also adopted, the 1,800 line criteria as a default value in its Synthesis Model.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-15: Provide AT&T's investment cost per foot for fiber feeder cable installed in Massachusetts.

Respondent: R. Mercer

RESPONSE: AT&T objects to this information request on the grounds that it is irrelevant and not reasonably calculated to lead to the discovery of admissible evidence. This case involves Verizon-MA's forward-looking economic costs to provide UNEs. AT&T's own operational experience to date is not relevant to that issue.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-16: Describe in detail how HAI 5.2a calculates the investment required to engineer the interoffice rings modeled.

Respondent: R. Mercer

RESPONSE: Section 5.5 of the HM 5.2a-MA Model describes in detail how the Model calculates interoffice rings and how the number of nodes and add-drop multiplexers are determined.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-17: Describe in detail how the interface rings modeled in HAI 5.2a are designed, how many nodes are included, how many add – drop multiplexers are included and in what locations. In your answer, explain how is the ring capacity determined, and identify the total expected number of DS3's on a ring. If the total expected number of DS3's or a ring is not set in the model, explain in detail how HAI 5.2a:

a. determines whether ring capacity is exceeded on any link;

b. includes wideband or broadband electronic cross-connection devices and if so, identify how HAI 5.2a determines their capacity;

c. ring to ring interconnection is created in HAI 5.2a;

d. interconnection to local IOF and loop facilities is created in HAI 5.2a;

e. identify where HAI 5.2a algorithms that perform these calculations are located; and,

f. provide all documents, studies, or workpapers generated in developing the algorithms that calculate interoffice investment.

Respondent: R. Mercer

RESPONSE: Section 6.5 of the HM 5.2a-MA Model describes in detail how the Model calculates interoffice rings and how the number of nodes and add-drop multiplexers are determined.

a. The Model builds ring capacity sufficient to meet demand.

b. See Section 4.4.11 of the HM 5.2a-MA HIP and the calculations found in Switching I/O Module, "wire center investment" Worksheet.

c. Ring connection is described in detail in Section 6.5.3.2 of the HM 5.2a-MA Model Description.

d. Calculations that perform this function can be found in the Switching and I/O Module, "wire center investment" Worksheet and the Distribution Module, "calculations" Worksheet.

e. Algorithms can be found in the Master xls file, Module 1.

f. There are no workpapers other than the code and algorithms found in the Master xls file, the descriptions found in Appendix D to the Model Description, and the calculations found in the referenced Modules and Worksheets.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-18: Explain in detail the basis for the fiber feeder investment per foot inputs used in HAI 5.2a, including specifically a description of the analysis of RUS data identified at page 64 of the Inputs Portfolio. Provide a complete copy of the "analysis of data involving fiber cable" that was performed, along with copies of all workpapers, backups, and drafts prepared in connection with that analysis. Identify who conducted this analysis, when it was conducted, and the methodology used to complete the analysis.

Respondent: R. Mercer/J. Donovan

RESPONSE: The basis for the fiber feeder investment per foot inputs used in HAI 5.2a-MA is fully explained in Mr. Donovan's and Dr. Mercer's direct testimonies and attachments, including the HAI 5.2a-MA Inputs Portfolio.

Workpapers associated with the analysis of RUS data are included as an attachment to this response as Winzipped Excel file IR2-18.zip (due to its voluminous nature, this attachment is only being provided in electronic format) which includes a tab containing the raw data which may be downloaded from the NRRI Internet site at:

http://www.nrri.ohio-state.edu/data.htm;

as well as an analysis of that data as described in the HAI 5.2-NY Inputs portfolio in paragraph 3.4.2.

The NRRI data has been available for some time, as has been quoted in various portions of the FCC Tenth Report and Order (FCC 99-304). See, for example, footnote 573:

> [573] *Inputs Public Notice at 7. See David Gabel and Scott Kennedy, Estimating the Cost of Switching and Cables Based on Publicly Available Data, National Regulatory Research Institute NRRI 98-09, April 1998, (NRRI Study). Dr. Gabel and Mr. Kennedy are consultants for the Commission in this proceeding.*

The additional analysis cited in the HAI 5.2a-MA Inputs Portfolio was performed by Mr. John C. Donovan, a witness in this proceeding. The analysis was done from the time the Gabel/Kennedy data became available. The raw data is available from the NRRI web site, and may be replicated.

The analysis of data is based on a least squares regression, using the Intercept and Slope functions available in Excel.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-19: Explain where and how HAI 5.2a calculates the investment required for test equipment (and the associated capital costs and expenses), and describe in detail the inputs and algorithms used to determine these investments and expenses.

Respondent: R. Mercer

RESPONSE: Equipment for testing is included in plant non-specific network related expenses. A description can be found in Section 6.6.3 of the HM 5.2a-MA Model Description. Calculations can be found in the Expense Module, "98 Actuals" Worksheet.

The inputs and algorithms used to determine these investments and expenses are described in detail using widely used formula employed by a well-known and popular spreadsheet software, Excel by Microsoft.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-20: Explain where and how HAI 5.2a calculates the investment required for housing central office equipment (and the associated capital costs and expenses) and describe in detail the inputs and algorithms used to determine this investment and expense.

Respondent: R. Mercer

RESPONSE: Calculations for investment related to housing central office equipment can be found in the Switching and I/O Module, "wire center investment" Worksheet. A description can be found in Section 6.5 of the HM 5.2a-MA Model Description and Section 4.2 of the HM 5.2a-MA HIP.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-21: Explain where and how HAI 5.2a calculates the investment required for land and buildings used as general support (i.e., the portion not used to house central office equipment) and associated capital costs and expenses and describe in detail the inputs and algorithms used to determine these investments and expenses.

Respondent: R. Mercer

RESPONSE: The inputs and algorithms are described fully in Section 6.6.3.2(b) of the HM 5.2a-MA Model Description, with the proviso that the reference to 1996 in that section should be 1998 (Section 6.6.3.2 might be more appropriately titled "General Support, Variable Support, and Uncollectibles," rather than the current title of "Non-Network Related Expenses," as the calculations described there pertain to both network-related and non-network related expenses). The calculations that determine the level of General Support investment and expenses in each General Support category, and the amount of such expenses that are network related, are shown in the 1998 "Actuals" Worksheet of the Expense Module output. The results of those calculations are used by numerous cells in other worksheets to assign the costs to individual UNEs. Verizon-MA can use the trace function in conjunction with the 1998 "Actuals" Worksheet to follow the flow of these calculations.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-22: Explain where and how HAI 5.2a calculates the investment required for computers (and associated capital costs and expenses), and describe in detail the inputs and algorithms used to determine these investments and expenses.

Respondent: R. Mercer

RESPONSE: See response to VZ-ATT 2-21.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-23: Explain where and how HAI 5.2a calculates the investment required for vehicles and work equipment (and associated capital costs and expenses), and describe in detail the inputs and algorithms used to determine these investments and expenses.

Respondent: R. Mercer

RESPONSE: See response to VZ-ATT 2-21.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-24: Referring to Appendix C of the Inputs Portfolio, provide all workpapers and other documents supporting the development of the Expense-to-Investment Ratios for the following Network Expense accounts:

a. 6212 Digital Electronic Expense
b. 6230 Operator Systems Expense
c. 6232 Circuit Equipment Expense
d. 6351 Public
e. 6362 Other Terminal Equipment
f. 6411 Poles
g. 6421 Aerial Cable
h. 6422 Underground Cable
i. 6423 Buried Cable
j. 6426 Intrabuilding Cable
k. 6431 Aerial Wire
l. 6441 Conduit Systems.

For each item a through l above, explain in detail the basis for why the data used is appropriate for the Massachusetts cost studies at issue in this case.

Respondent: R. Mercer

As noted in Appendix E, the data origin for the accounts are: New England Telephone Company Incremental Cost Study (switching and circuit operating expenses), HAI Consultant (NID), FCC 1996 ARMIS 43-03 (everything else).

RESPONSE:

The *1993 New Hampshire Incremental Cost Study,* was filed by New England Telephone Company in compliance with New Hampshire Public Utility Commission's Order Number 20,082, Docket 89-010/85-182, March 11, 1991. It is a publicly available document that can be obtained using the above citation.

ARMIS reports are publicly available from the FCC.

Lacking specific data from individual incumbent LECs, one of the assumptions made regarding default inputs in the HAI Model is that, in general, all Tier 1 LECs exhibit, and will continue to exhibit as forward looking providers of telecommunications services, many similar characteristics. For example, they are all large telecommunications companies whose purchases of telecommunications equipment command similar discounts, each installs similar large networks, employs similar network design characteristics and similar technology, and each serves a very large customer base whose demographic and geographic characteristics exhibit close similarities across the network. Thus, barring credible evidence to the contrary, the developers of the HAI Model believe that the inputs to the Model represent reasonable assumptions that can be applied to all Tier 1 incumbent LECs.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-25: Please explain where and how the investment required for office equipment (and associated capital costs and expenses) is calculated in HAI 5.2a and describe in detail the inputs and algorithms used to determine these investments and expenses.

Respondent: R. Mercer

RESPONSE: See response to VZ-ATT 2-21.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-26: As referenced in Appendix C of the Inputs Portfolio, HAI 5.2a multiplies the embedded amount of Carrier-to-Carrier Customer Service expenses by 70% to get an amount of $1.69 per line per year. Please provide

a. the basis for, and all workpapers and documents concerning, referring or relating to the 70% value;

b. all workpapers and documents supporting the derived amount of $1.69 per line per year. Include a complete documentation of both the numerator and the denominator of the amount determined prior to the application of the 70% figure discussed in part a) above;

c. the complete rationale for assuming that the carrier customer-related billing expenses incurred by Verizon to serve IXC access services is appropriate to use as the billing expenses Verizon will incur to serve purchasers of UNEs;

d. the complete rationale for assuming that the carrier customer-related billing inquiry expenses incurred by Verizon to serve IXC access services is appropriate to use as the billing inquiry expenses Verizon will incur to serve purchasers of UNEs; and,

e. the complete rationale for assuming that the carrier customer-related payment and collections expenses incurred by Verizon to serve IXC access services is appropriate to use as the payment and collections expenses Verizon will incur to serve purchasers of UNEs.

Respondent: R. Mercer

RESPONSE:

a. The 70% value was based on the expertise of HAI in consultation over a period of years with others in the telecommunications field. AT&T has no workpapers responsive to this request.

b. See attached.

c. Being a carrier to carrier channel, access should be more indicative of the UNE experience than the retail channel.

d. See response to part “c” above.

e. See response to part “c” above.

f. See response to part “c” above.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-27: Identify the "sources" that provided price quotes for NIDs, along with copies of such quotes, and all worksheets and calculations used to develop or to verify the material and installation costs as referenced in the Inputs Portfolio on pages 11 through 14.

Respondent: R. Mercer/J. Donovan

RESPONSE: See response to VZ-ATT 1-80, attachment pages:

FASSETT 9

FASSETT 138

FASSETT 149

FASSETT 233.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-28: Provide a copy of "Bellcore's BOC Notes on the Networks - 1997" referenced in the Inputs Portfolio.

Respondent: R. Mercer/J. Donovan

RESPONSE: "Bellcore Notes on the Networks – Issue 3," December 1997, is a copyrighted publication of Telcordia (formerly Bellcore). AT&T is not authorized to provide copies of Telcordia publications to other parties. The publication is commercially available from Telcordia. Please note that the citations in the Imputs Portfolio have identical page numbers to the October 2000 edition, with the exception that the HIP footnote referring to page 12-4 corresponds to pages 12-3 and 12-4 in the October 2000 edition.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-29: Provide complete copies of the "suburban and rural buried drop placement" quotes, and all worksheets and calculations used to develop or to verify the material and installation costs, as referenced on page 16 of the Inputs Portfolio.

Respondent: R. Mercer/J. Donovan

RESPONSE: See response to VZ-ATT 1-80, attachment pages:

FASSETT 7
FASSETT 77
FASSETT 90
FASSETT 91
FASSETT 123
FASSETT 129
FASSETT 133
FASSETT 136
FASSETT 140
FASSETT 144
FASSETT 166
FASSETT 212
FASSETT 230
FASSETT 232
FASSETT 238
FASSETT 243
FASSETT 260
FASSETT 263
FASSETT 265
FASSETT 270
FASSETT 276
FASSETT 281
FASSETT 286
FASSETT 291
FASSETT 388
FASSETT 444.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-30: Provide the names, and complete copies, of the "verifiable forward looking alternatives from public sources or ILECS" referenced on page 16 of the Inputs Portfolio.

Respondent: R. Mercer/J. Donovan

RESPONSE: This request appears to seek information regarding *Buried Drop Placement*.

> The sentence in question reads, "Because buried drops are rare in urban areas, the expert opinion of outside plant experts was used ***in lieu of*** verifiable forward looking alternatives from public sources or ILECs." [emphasis added].

As stated in the cited sentence, expert opinion was used in the case of urban areas, not public sources or ILECs.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-31: Provide the list of "architects and builders" that ATT had "conversations with" regarding trenching referenced on page 18 of the Inputs Portfolio

Respondent: R. Mercer/J. Donovan

RESPONSE: See response to VZ-ATT 1-80, attachment pages:

FASSETT 50
FASSETT 51
FASSETT 52
FASSETT 53
FASSETT 61
FASSETT 105
FASSETT 106
FASSETT 112
FASSETT 122
FASSETT 123
FASSETT 124
FASSETT 125
FASSETT 126
FASSETT 127
FASSETT 128
FASSETT 129
FASSETT 130
FASSETT 131
FASSETT 133
FASSETT 134
FASSETT 136
FASSETT 137
FASSETT 138
FASSETT 139
FASSETT 144
FASSETT 145
FASSETT 148
FASSETT 149
FASSETT 166
FASSETT 167
FASSETT 168
FASSETT 169
FASSETT 170
FASSETT 283
FASSETT 284
FASSETT 442
FASSETT 443
FASSETT 444.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-32: Provide complete copies of the "1995 Common Carrier Statistics" and "1995 Statistical Abstract of the United States" referenced on page 18 of the Inputs Portfolio. Also include all workpapers and calculations used to develop or to verify the average lines per business location.

Respondent: R. Mercer

RESPONSE: Both documents are quite voluminous and are publicly available. Verizon-MA can obtain copies of the "1995 Common Carrier Statistics" from the FCC, or by downloading the document from the FCC's web site (http://www.fcc.gov). The "1995 Statistical Abstract of the United States" is published by the U.S. Census Bureau, Department of Commerce, and can be obtained from the U.S. Government Printing Office, Washington, D.C.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-33: Identify the "sources" that provided price quotes for drop wire cost per foot, and provide copies of such quotes, and all worksheets and calculations used to develop or to verify the material costs referenced on page 20 of the Inputs Portfolio.

Respondent: R. Mercer/J. Donovan

RESPONSE: See response to VZ-ATT 1-80, attachment pages:

FASSETT 1
FASSETT 107
FASSETT 233
FASSETT 247.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-34: Provide a copy of the "actual quote for materials," along with all worksheets and calculations used to develop or to verify the costs referenced on page 22 of the Inputs Portfolio.

Respondent: R. Mercer/J. Donovan

RESPONSE: This request appears to request information regarding the sentence, "An actual quote for materials was obtained at $0.18/ft. for 12 pair 24 gauge cable, and $0.12/ft. for 6 pair 24 gauge cable."

With that assumption, see response to VZ-ATT 1-80, attachment pages:

FASSETT 121
FASSETT 233
FASSETT 234.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-35: Referring to page 22 of the Inputs Portfolio, provide:

a. copies of the installed cable costs that were "reviewed" to estimate the installed cost of copper cable for sizes of 400 pairs and larger; and,

b. all worksheets, calculations, analyses or other written documents that were reviewed or prepared to develop or to verify the copper cable costs.

Respondent: R. Mercer/J. Donovan

RESPONSE: See response to VZ-ATT 1-94.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-36: Identify the "several sources" that provided the pole prices as referenced on page 24 of the Inputs Portfolio. Also, provide all worksheets and calculations used to develop or verify these costs.

Respondent: R. Mercer/J. Donovan

RESPONSE: See response to VZ-ATT 1-80, attachment pages:

FASSETT 2
FASSETT 77
FASSETT 91
FASSETT 224
FASSETT 235
FASSETT 237
FASSETT 241
FASSETT 246
FASSETT 255
FASSETT 256
FASSETT 257
FASSETT 286
FASSETT 293
FASSETT 295
FASSETT 306.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-37: Provide all data used to support the assumption that installed buried filled cable is 1.04 times as expensive as non-filled buried cable as referenced on page 26 of the Inputs Portfolio.

Respondent: R. Mercer/J. Donovan

RESPONSE: This parameter was based on expert engineering opinion, and was verified by reviewing proprietary data from other states. The proprietary data cannot be produced due to third-party protective orders in the jurisdictions where the data was acquired.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-38: Identify the "several suppliers" that provided material prices for 4" PVC, along with copies the price quotes, and all worksheets and calculations used to develop or verify the material costs as referenced on pages 26-27 of the Inputs Portfolio.

Respondent: R. Mercer/J. Donovan

RESPONSE: See the response to VZ-ATT 1-95.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-39: Referring to the claim made on page 30 of the Inputs Portfolio that "many buried structures are available to the LEC at no charge," identify each person that was contacted that confirmed or verified this claim and provide copies of all documents reflecting these contacts.

Respondent: R. Mercer/J. Donovan

RESPONSE: See response to VZ-ATT 1-80, attachment pages:

FASSETT 50
FASSETT 51
FASSETT 52
FASSETT 53
FASSETT 61
FASSETT 105
FASSETT 106
FASSETT 112
FASSETT 122
FASSETT 123
FASSETT 124
FASSETT 125
FASSETT 126
FASSETT 127
FASSETT 128
FASSETT 129
FASSETT 130
FASSETT 131
FASSETT 133
FASSETT 134
FASSETT 136
FASSETT 137
FASSETT 138
FASSETT 139
FASSETT 144
FASSETT 145
FASSETT 148
FASSETT 149
FASSETT 166
FASSETT 167
FASSETT 168
FASSETT 169
FASSETT 170
FASSETT 283
FASSETT 284
FASSETT 442
FASSETT 443
FASSETT 444.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-40: Referring to page 30 of the Inputs Portfolio, provide the number of lines in HAI 5.2a that are assumed to be in a "campus environment."

Respondent: R. Mercer/J. Donovan

RESPONSE: The relevant paragraph from the HAI 5.2a-MA Inputs Portfolio states the following:

> *§2.5.1 Distribution Structure Fractions*
>
> *Underground Cable:*
>
> *Underground cable, conduit, and manholes are primarily used for feeder and interoffice transport cables, not for distribution cable.*
>
> *In a "campus environment," where underground structure is used, it is owned and operated by the owner of the campus and not the ILEC. The cable is treated as Intrabuilding Network Cable between buildings on one customer's premises, and the cost of such cable is not included in the model.*

The purpose of this paragraph in the HIP is to provide a number of substantiating reasons why there should not be a significant amount of underground structure dedicated solely to distribution cable. One of the situations where a casual observer might notice underground conduit for distribution cable could be in a campus environment – thus, the explanation.

The HAI 5.2a-MA utilizes analyses of line density per geographic area to alter costs. There is no explicit "campus" designation. Therefore it is not possible to provide the number of lines in the cost model that are assumed to be in a "campus environment." The model would conservatively assume the need to place distribution cable, and would use structure costs according to the appropriate density zone, with the preponderance of structure being aerial and buried, even though such structure and cable would actually be owned by the customer owning the campus.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-41: Referring to page 35 of the Inputs Portfolio, explain in detail whether and how the use of a distribution multiplier of 1.0 accounts for difficult soil conditions.

Respondent: R. Mercer/J. Donovan

RESPONSE: The last paragraph of this section of the HAI 5.2a-MA Inputs Portfolio states as follows:

> *While the typical response to difficult soil conditions is often to simply route cable around those conditions, which could be reflected in this parameter, HM5.2a-MA instead treats the effect of difficult soil conditions as a multiplier of placement cost - see Parameter 6.5, Surface Texture Multiplier. Therefore, the distribution distance multiplier is set to 1.0.*

There are two possible means for dealing with difficult soil conditions. An engineer can call for the routing around difficult soil conditions, thereby adding length to both cable and structure, or the engineer can pay for additional costs to excavate within the difficult soil condition. This parameter addresses the route-around alternative, and is not used in the filed runs of the HAI 5.2a-MA Model. Instead, difficult soil conditions are cared for via the 257 varieties of soil texture difficulty factors discussed in Section 6.5 of the HAI 5.2a-MA Inputs Portfolio.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-42: Referring to page 37 of the Inputs Portfolio, identify the independent contractors, the state in which they conduct business, and the information received from them, along with all documents, price quotes, worksheets and calculations used to develop the rock saw/trenching ratio used to determine the hard rock placement multiplier of 3.5.

Respondent: R. Mercer/J. Donovan

RESPONSE: See the response to VZ-ATT 1-97.

The Hard Rock and Soft Rock Multipliers were developed, as described in the HAI 5.2-NY Inputs Portfolio, utilizing information obtained from eight (8) contractors who supplied both Frost Wheel or Rock Saw costs per foot, as well as Normal Trenching costs per foot.

Contractor	Frost Wheel or Rock Saw Rural & Suburban	Normal Trenching 24"	Difficult Trenching Ratio	
g	$5.75	$4.38	1.3	
n	$5.75	$3.18	1.8	
l	$4.50	$2.40	1.9	
o	$15.00	$7.00	2.1	Soft Rock = 2.0
q	$8.00	$3.25	2.5	
p	$8.50	$3.00	2.8	
i	$18.00	$5.00	3.6	Hard Rock = 3.5
k	$16.00	$3.50	4.6	

Given that explanation, information requested regarding the rock saw/trenching ratio and the hard rock placement multiplier of 3.5 is included in the attachment to VZ-ATT 1-80, attachment pages:

FASSETT 6
FASSETT 76
FASSETT 77
FASSETT 86
FASSETT 87
FASSETT 88
FASSETT 90
FASSETT 229
FASSETT 230
FASSETT 231
FASSETT 232
FASSETT 239
FASSETT 244
FASSETT 259
FASSETT 260
FASSETT 262
FASSETT 263
FASSETT 264
FASSETT 265
FASSETT 386
FASSETT 387.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-43: Referring to page 37 of the Inputs Portfolio, identify the independent contractors, the state in which they conduct business, and the information received from them, along with copies all documents, price quotes, worksheets and calculations used to develop the rock saw/trenching ratio and used to determine the soft rock placement multiplier of 2.0.

Respondent: R. Mercer/J. Donovan

RESPONSE: See response to VZ-ATT 2-42.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-44: Describe in detail all efforts undertaken by AT&T to validate the use of a Main Feeder Route/Air Multiplier of 1.27 and to ensure that this multiplier estimates sufficient cable lengths to accommodate obstructions and route diversions that exist in the real world as referenced on page 39 of the Inputs Portfolio. Provide all documents concerning, referring or relating to the development of this input.

Respondent: R. Mercer

RESPONSE: See the support portion of Section 2.7.8 of the HM 5.2a-MA HIP. HM 5.2a-MA invokes this parameter only when feeder steering is enabled, and the Model's recommended setting is disable feeder steering, as is shown in Section 2.7.7 of the HM 5.2a-MA HIP.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-45: Provide all documents, workpapers, calculations, and analyses performed by PNR Associates, Inc. in determining the aspect ratio for each cluster as referenced on page 40 of the Inputs Portfolio.

Respondent: R. Mercer

RESPONSE: There are no workpapers or analyses involved in calculating the aspect ratio for each cluster. The aspect ratio for a given cluster is simply the ratio of the length to the width of the minimum bounding rectangle of the cluster.

To the extent that the question is seeking any software or documentation that is the intellectual property of PNR, AT&T is not able to provide such information, but states that such material is commercially available from PNR.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-46: Provide the following with respect to the "experienced outside plant experts" that developed the installed cost of a T1 repeater as referenced on page 41 of the Inputs Portfolio:

a. the identity of the "experts";

b. copies of all instructions, survey forms, workpapers, and documents used by the "experts" to develop the cost;

c. copies of all vendor (supplier) information provided to the "experts" to develop the cost;

d. a list of the vendors contacted;

e. a breakdown of the cost into equipment cost and installation cost;

f. the list price of the equipment before the discount was subtracted; and,

g. the discount.

Respondent: R. Mercer/J. Donovan

RESPONSE:

a. The following experienced outside plant experts worked to develop the installed cost of a T1 repeater:

Mr. Ernest Carter
Mr. John Donovan
Mr. Dean Fassett
Mr. Thomas Madden
Mr. Joseph Riolo
Mr. James Wells

b. Instructions and survey forms were not required because this work was done in direct collaboration with all six experts involved.

c. See reply to item “e” below.

d. Costs were based on Seiscor S-24DU equipment.

e. The data is shown in an attached Excel workfile included with this response.

f. See reply to item “e” above.

g. See reply to item “e” above.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-47: Referring to page 41 of the Inputs Portfolio, explain in detail how the T1 cost developed by the "experts" was validated by AT&T, and provide copies of all workpapers, documents, and calculations reviewed or used to develop or verify the accuracy of the T1 cost presented.

Respondent: R. Mercer/J. Donovan

RESPONSE: AT&T objects to this information request on the basis that it is unclear as to what T1 cost Verizon-MA is referring. Subject to and without waiving it objection, AT&T states that it assumes the request pertains to the same T1 repeater cost addressed in VZ-ATT 2-46. If so, the team of outside plant experts developed costs in sufficient detail, based on their extensive experience in this area, and were confident that the costs were appropriate. No independent validation effort was deemed necessary.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-48: Provide the following with respect to the "experienced outside plant experts" that developed each of the installed costs of a T1 for an Integrated COT; and RT Cabinet and Commons, and a Channel Unit Investment per Subscriber as referenced on page 42 of the Inputs Portfolio:

a. the identity of the "experts";

b. copies of all instructions, survey forms, workpapers, and documents used by the "experts" to develop the cost;

c. copies of all vendor information provided to the "experts" to develop the cost;

d. a list of the vendors contacted;

e. a breakdown of the cost into equipment cost and installation cost;

f. the list price of the equipment before the discount was subtracted;

g. the discount.

Respondent: R. Mercer/J. Donovan

RESPONSE: a. The following experienced outside plant experts worked to develop the installed cost of a T1 repeater.:

Mr. Ernest Carter
Mr. John Donovan
Mr. Dean Fassett
Mr. Thomas Madden
Mr. Joseph Riolo
Mr. James Wells

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-49: Referring to page 42 of the Inputs Portfolio, explain in detail how the installed cost of a T1 for an Integrated COT and RT Cabinet and Commons, and a Channel Unit Investment per Subscriber were validated by AT&T and provide all workpapers and other documents that were prepared or reviewed to develop or to validate these costs.

Respondent: R. Mercer/J. Donovan

RESPONSE: The team of outside plant experts was able to develop costs in sufficient detail, based on their extensive experience in this area, to be confident that they represent appropriate costs. No independent validation effort was deemed necessary.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-50: Provide the following with respect to the "experienced outside plant experts" that developed each of the installed costs of a T1 Transceiver as referenced on page 43 of the Inputs Portfolio:

a. the identity of the "experts";

b. copies of all instructions, survey forms, workpapers, and documents used by the "experts" to develop the cost;

c. copies of all vendor information provided to the "experts" to develop the cost;

d. a list of the vendors contacted;

e. a breakdown of the cost into equipment cost and installation cost;

f. the list price of the equipment before the discount was subtracted;

g. the discount.

Respondent: R. Mercer/J. Donovan

RESPONSE:

a. The following experienced outside plant experts worked to develop the installed cost of a T1 repeater.:

Mr. Ernest Carter
Mr. John Donovan
Mr. Dean Fassett
Mr. Thomas Madden
Mr. Joseph Riolo
Mr. James Wells

b. Instructions and survey forms were not required because this work was done in direct collaboration with all six experts involved.

c. See reply to item "e" below.

d. Costs were based on Seiscor S-24DU equipment.

e. See attachment to the response to VZ-ATT 2-46.

f. See reply to item "e" above.

g. See reply to item "e" above.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-51: Explain how the installed cost of the T1 Transceiver was validated by AT&T. Please provide all workpapers and documents that were prepared or reviewed to determine or validate this cost.

Respondent: R. Mercer/J. Donovan

RESPONSE: The team of outside plant experts was able to develop costs in sufficient detail, based on their extensive experience in this area, to be confident that they represent appropriate costs. No independent validation effort was deemed necessary.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-52: Provide a complete copy of the "AT&T Outside Plant Engineering Handbook, August 1994" referenced on page 59, footnote 28 of the Inputs Portfolio.

Respondent: R. Mercer/J. Donovan

RESPONSE: A copy of Lucent Technologies' "Outside Plant Engineering Handbook," document number 900-200-318, cannot be supplied because the document is protected under copyright law. If Verizon-MA does not have the document available in its own libraries, it can be ordered from Lucent Technologies either by telephone or online at: http://www.lucentdocs.com.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-53: Provide all workpapers, including any electronic files, showing the calculations that were used to develop the Pole Investments shown on page 54 of the Inputs Portfolio by using the data from the FCC web site referenced in footnote 24. Provide all the data used and explain in detail the methodology used to develop the costs shown.

Respondent: R. Mercer/J. Donovan

RESPONSE: The data is shown in an Excel workfile included with this response.

The methodology involves a direct plotting of data.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-54: Referring to page 56, footnote 25 of the Inputs Portfolio, provide a list of the locations and jobs that the "experts" placed 8 fiber cables in a single 4" PVC duct without innerduct. In addition, please provide the identity of the "experts" referenced.

Respondent: R. Mercer/J. Donovan

RESPONSE: AT&T is unable to provide the exact list of locations and jobs where 8 fiber cables were placed in a single 4" PVC duct without innerduct.

The two outside plant engineering experts working with the HAI Model were Joseph P. Riolo and John C. Donovan. The first trial of the procedure was accomplished in the 1985 time period. Corporate video tapes were made at the time to demonstrate the new method, and those methods were incorporated into NYNEX methods and procedures by Mr. Donovan at the time. The initial locations were in midtown Manhattan in the vicinity of 54th St. and Madison Avenue. The location of numerous situation where 8 fiber cables are in a single 4" PVC duct without innerduct should be reflected in Verizon's own outside plant continuing property records. In addition, Verizon staff members and witnesses may be familiar with this method.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-55: Does HAI 5.2a include costs for outerduct associated with buried cable? If your answer is yes, please provide a list of the costs included.

Respondent: R. Mercer/J. Donovan

RESPONSE: HAI 5.2a implicitly includes these costs.

The only appropriate use of outerduct for buried cable is for additional sheath protection in soil conditions involving special, difficult soil conditions, such as *Slaty*, *Very Shaly* or *Extremely Shaly* environments, where the shifting of such soil might otherwise cause some chafing of cable sheath. The use of outerduct involves approximately $0.30 per foot in additional material, and is most productively placed via the slit outerduct placing method, wherein outerduct is slit, cable is fed into the outerduct, and the outerduct with fiber optic cable is plowed into the ground in one continuous operation. Mr. Donovan is experienced in using this method. The additional costs for *Slaty*, *Very Shaly*, and *Extremely Shaly* conditions are accounted for in the HAI 5.2a-MA Model via Surface Texture Multipliers (See HIP para. 6.5.). The multipliers are 350% for *Slaty*, 150% for *Very Shaly*, and 200% for *Extremely Shaly*. These multipliers more than compensate for the additional cost of the outerduct and associated placing methods.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-56: Does HAI 5.2a include costs for outerduct associated with any other type of cable? If your answer is yes, please provide a list of all costs included.

Respondent: R. Mercer/J. Donovan

RESPONSE: No. Generally accepted outside plant practice only calls for the use of outerduct as indicated in the response to VZ-ATT 2-55.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-57: Referring to the Inputs Portfolio, page 83, section 4.1.6., show in detail how the MDF Investment is included in the calculations for fixed and per-line switch investment. Provide all workpapers and documents concerning, referring or relating to this calculation.

Respondent: R. Mercer

RESPONSE: The FCC included MDF investment in its calculations for switch investment. Addressing this issue, the FCC stated: ". . . in order to account for the cost of MDF and power equipment omitted from the RUS information, we conclude that the cost of switches reported in the RUS data should be increased by eight percent."[3]

[3] *Tenth Report and Order*, para. 305.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-58: Explain where HAI 5.2a accounts for Product Management expenses (USOA 6611) and provide all workpapers detailing the development of the factor or value used in the model runs sponsored by AT&T witness Dr. Robert Mercer.

Respondent: R. Mercer

RESPONSE: Product Management expenses are Customer Operations Expenses (non-network related expenses). A discussion of how non-network related expenses are accounted for can be found in Section 6.6.3 of the HM 5.2a-MA Model Description. Input for the Product Management expense can be found in the Expense Module, "ARMIS input" worksheet. Calculation of the Product Management factor can be found in the Expense Module, "98 Actuals" worksheet. There are no workpapers responsive to this request.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-59: Explain where HAI 5.2a accounts for Sales expenses (USOA 6612) and provide all workpapers detailing the development of the factor or value used in the model runs sponsored by Dr. Mercer.

Respondent: R. Mercer

RESPONSE: Product Sales expenses are Customer Operations Expenses (non-network related). A discussion of how non-network related expenses are accounted for can be found in Section 6.6.3 of the HM 5.2a-MA Model Description. Input for Product Sales expenses can be found in the Expense Module, "ARMIS input" worksheet. Calculation of the Product sales factor can be found in the Expense Module, "98 Actuals" worksheet.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-60: Explain where HAI 5.2a accounts for Advertising expenses (USOA 6613) and provide all workpapers detailing the development of the factor or value used in the model runs sponsored by Dr. Mercer.

Respondent: R. Mercer

RESPONSE: Advertising expenses are Customer Operations Expenses (non-network related). A discussion of how non-network related expenses are accounted for can be found in Section 6.6.3 of the HM 5.2a-MA Model Description. Input for the Advertising expense can be found in the Expense Module, "ARMIS input" worksheet. Calculation of Advertising factor can be found in the Expense Module, "98 Actuals" worksheet.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-61: Explain where HAI 5.2a accounts for Public Service Commission Assessments expenses (USOA 7240.1) and provide all workpapers detailing the development of the factor or value used in the model runs sponsored by Dr. Mercer.

Respondent: R. Mercer

RESPONSE: It is possible that HAI 5.2a accounts for these expenses in a variety of places. However, because Verizon-MA has not made clear exactly what expenses it categorizes as being in this account, AT&T is unable to provide a more precise answer to this question.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-62: In HAI 5.2a, what percentage of end office switches have tandem functionality and perform tandem functions? Provide the basis upon which this percentage was determined and all documents, data sources, workpapers, and calculations concerning, referring or relating to the development of the percentage.

Respondent: R. Mercer

RESPONSE: End offices having tandem functionality is a user adjustable input. See Section 4.2.2 of the HM 5.2a-MA HIP for the recommended percentage and support.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-63: Explain in detail how HAI 5.2a calculates the investment required for switches that are designated as end office/tandem switches. Please identify where in the workpapers or outputs from HAI 5.2a this calculation is reflected.

Respondent: R. Mercer

RESPONSE: HM 5.2a-MA does not designate particular switches as being joint end office/tandem switches. The Tandem/EO Wire Center Common Factor (Section 4.2.2, HM 5.2a-MA HIP) allows the user to specify the percent of tandem switch common investment that is already accounted for by EO switch common investment because the EO and tandem functions are provided by the same switch. The calculation does not pertain to particular EO or tandem switches; it applies that user-designated factor to the total tandem switch common investment. The calculation takes place in the Switching/IO Module, tandem and STP investment Worksheet.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-64: Provide a complete copy in paper and electronic format of the "Special LERG Extract Data (SLED)" used as the basis for input for HAI 5.2a.

Respondent: R. Mercer

RESPONSE: The Special LERG Extract Data ("SLED") is a Telcordia (formerly Bellcore) copyrighted publication. AT&T is not authorized to provide copies of Telcordia publications to other parties. The SLED is commercially available from Telcordia.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-65: Provide a list of switching entities, by Common Language Location Identifier (CLLI) codes, that were used in HAI 5.2a. In addition, list all entities that were part of the SLED, but not included in HAI 5.2, and state the reason why each one was excluded.

Respondent: R. Mercer

RESPONSE: Verizon-MA can obtain a list of switching entities by CLLI code from the Expense Module output when the HM 5.2a-MA is run in "Summarize by Wire Center" mode.

The reason why a Verizon-MA Wire Center ("WC") may not have been listed in the Model would be if Business Location Research ("BLR") did not provide WC boundaries for that particular Verizon-MA WC.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-66: In HAI 5.2a, what percentage of distribution cable is considered riser cable?

Respondent: R. Mercer/J. Donovan

RESPONSE: HM 5.2a-MA does not provide a break down of the percentage of cable that is riser cable. Riser cable is assumed in place of normal distribution cable when the Model determines that the cluster in question corresponds to a high-rise residential or business building.

35% of the distribution cable in density zone 5,000-10,000 access lines per square mile is considered block/building/riser cable.

65% of the distribution cable in density zone 10,000+ access lines per square mile is considered block/building/riser cable.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-67: Provide the line counts per CLLI used in HAI 5.2a and the number of lines designated as residential, business, non-switched, and private line by CLLI.

Respondent: R. Mercer

RESPONSE: This information is provided in the Expense Module output, "investment inputs" worksheet.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-68: The Model Description indicates that there are two methods for costing out end office switching systems. In one method, the model utilizes explicit combinations of host, remotes, and standalones; in the other, the model assumes a blended portfolio of switch technologies. Please indicate which method is used to develop the end office switching costs in HAI 5.2a. Indicate precisely where in the model this method is "set" and what the user-adjustable inputs are for the "A" and "B" values. Provide all back-up data, vendor quotes, workpapers, and documents used to develop the "A" and "B" values.

Respondent: R. Mercer

RESPONSE: HM 5.2a-MA uses the blended portfolio of switch technologies. The method is set through the user-adjustable input described in Section 4.10.2 of the HM 5.2a-MA HIP, and appears as a check box titled “Use Host-Remote Assignments” at the bottom of the “Host-Remote Assignment” Screen under “Switching Inputs.” When, as in the default case, the box is not checked, the blended portfolio is used. The user-adjustable values for the “A” and “B” parameters are described in Sections 4.1.9 and 4.1.10, respectively, of the HM 5.2a-MA HIP. The default values of these parameters are set to $371,074 and $87, respectively. These values are determined from the FCC values for the fixed and per-line cost of host and remote switches, weighted according to the number of each kind of switch used by Verizon-MA. There are no additional work papers beyond the extensive discussion of switch cost inputs contained in the FCC Inputs Order.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-69: Provide the vendor name and model of the 720 port capacity STP used as the basis of the STP investments in HAI 5.2a. Also provide complete copies all vendor quotes, calculations, contracts, and correspondence that was used as the basis for determining the STP investment used in HAI 5.2a.

Respondent: R. Mercer

RESPONSE: HM 5.2a-MA does not select any one model or particular vendor's product. It estimates investment based on forward-looking costs. Reference to a particular model or vendor product in the HIP is only to lend support to the validity of the recommended forward-looking input value.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-70: Does HAI 5.2a assume operator tandem functionality is performed by tandems dedicated solely for the purpose of providing operator services? If your answer is yes, provide the number of tandems used by the model, and the associated investments. If your answer is no, provide a detailed explanation of how the operator services' tandem functionality is handled in the model, and provide the number of switches, types of switches, and their associated investments that provide this functionality.

Respondent: R. Mercer

RESPONSE: Operator tandems are assumed to be located where local tandems are located and function solely as operator tandems.

The number of operator tandems is not reported by HM 5.2a, but the calculation that determines the number of operator tandems and associated investment can be found in the Switching/IO Module, tandem and STP investment Worksheet.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-71: Provide a hard (paper) copy of the data contained in the workfile "ring_io" of HAI 5.2a described in the Model Description for all rings used to develop the costs within HAI 5.2a.

Respondent: R. Mercer

RESPONSE: When Verizon-MA runs HM 5.2a, a workfile will be produced from which Verizon-MA can print a hard copy.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-72: Provide the following data for all rings used to develop costs within HAI 5.2a:

a. the set of wire centers that comprise each ring, including the "central" wire center (host, gateway, or tandem, depending on the ring);

b. the identification of each wire center and the nodes (other wire centers) to which it connects;

c. the distance between each wire center and the nodes to which it connects;

d. a list of the wire centers served by spurs and their associated spur distances;

e. a list of the wire centers that serve as inter-ring-system connector nodes and their associated inter-ring-system connector distance;

f. a list of the wire center pairs that serve as ring connectors and their associated ring connector distances;

g. the total number of ring connectors;

h. the total ring connector distance; and,

i. the total number of rings that include the tandem as a node.

Respondent: R. Mercer

RESPONSE: All of the above information can be obtained by Verizon-MA from the Workfile, "ring i/o" worksheet.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-73: Provide a complete list of each type of equipment, along with its corresponding price, comprising the ring terminal equipment located in the wire center by HAI5.2a. Also provide the source for the equipment configuration and all supporting documents, vendor information, quotes, workpapers, and calculations.

Respondent: R. Mercer

RESPONSE: Ring terminal equipment consists of ADMs and digital cross connects in each wire center. Investment in ADMs and digital cross connects, and support for the recommended input, can be found in Section 4 of the HM 5.2a-MA HIP. Appendix D of the HM 5.2a-MA Model Description describes in detail the process used to determine SONET rings that connect host, stand-alone and tandem switches. Calculations can be found in the "master.xls" file, Module 1.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-74: Referring to the Inputs Portfolio, 4.1.7, page 83, provide all back-up data, vendor quotes, correspondence, and calculations used to develop the $30.00 per line "Analog Line Circuit Offset for DLC Lines."

Respondent: R. Mercer

RESPONSE: The value calculated for Analog Line Circuit Offset for DLC Lines by the FCC in the *Tenth Report and Order* is the same value estimated by HAI based on HAI's experience and oral discussions with many persons in the telecommunications industry over a number of years.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-75: Provide the line sizes for each of the SAIs in HAI 5.2a and identify the number of SAIs that require 7,200 pair capacity.

Respondent: R. Mercer/J. Donovan

RESPONSE: The line sizes for each of the SAIs in HM 5.2a, both indoor SAIs and outdoor SAIs, are set forth in Section 2.9 of the HM 5.2a-MA HIP.

The Model calculates 246 7,200-pair SAIs for Verizon-MA.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-76: Referring to the Inputs Portfolio, Section 4.1.7, page 83, explain how the DLC remote terminal can provide POTS service without line cards. Provide all vendor materials, correspondence, analyses, workpapers and documents that support this claim.

Respondent: R. Mercer/J. Donovan

RESPONSE: A forward looking network calls for Integrated DLC ("IDLC") as the most cost effective technology. IDLC does not require an analog to digital line card in both the DLC Remote Terminal and in the Analog Line Port of the Digital Switch. An analog to digital line card is only required at the DLC Remote Terminal. Once the analog copper signal is converted to digital, it is processed throughout the system as a digital signal.

The cost for the analog to digital line card in the DLC Remote Terminal is included in the HAI 5.2a-MA Model as discussed in Section 3.5.5.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-77: Referring to the "Switch Installation Multiplier" shown in the Inputs Portfolio, pages 83-84, Section 4.1.8, explain in detail how the MDF Investment is included in the calculations for fixed and per-line switch investment. Please provide all workpapers and documents concerning, referring or relating to this calculation.

Respondent: R. Mercer

RESPONSE: MDF investment is described in Section 4.1.6 of the HM 5.2a-MA HIP. See also the response to VZ-ATT 2-57.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-78: Referring to the Inputs Portfolio, page 85, Section 4.1.11, provide all data sources, vendor information, and documents that the "subject matter experts" used to develop the Processor Feature Loading Multiplier. Also identify the number of "experts" consulted, and all notes, correspondence, and provide survey forms used in the consultations.

Respondent: R. Mercer

RESPONSE: There is no specific individual, or number of "experts," consulted to determine the default input for the Processor Feature Loading Multiplier. The default input is based on the expertise of HAI and is supported by oral discussions held in the normal course of business with many telecommunications consultants, persons from AT&T and persons from various incumbent local exchange carriers.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-79: Referring to the Inputs Portfolio, page 85, Section 4.1.11, provide all documents and workpapers concerning, referring or relating to AT&T or MCI's validation of the Processor Feature Loading Multiplier.

Respondent: R. Mercer

RESPONSE: The Processor Feature Loading Multiplier was developed based on the collective experience and judgment of the subject matter experts consulted on this subject and was validated as discussed in the response to VZ-ATT 2-78. AT&T has no further documents or workpapers responsive to this request.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-80: Referring to the Inputs Portfolio, page 85, Section 4.1.12, provide all data sources, vendor information, and documents that the "subject matter experts" used to develop the Business Penetration Ratio and identify the "experts" consulted, and all notes, correspondence, and survey forms used in the consultations.

Respondent: R. Mercer

RESPONSE: AT&T cannot provide an exact number of subject matter experts consulted by HAI that led to the estimate of Business Penetration Ratio. The Business Penetration Ration was developed through discussions with AT&T and MCI subject matter experts that took place in a variety of contexts over a number of years. AT&T has no documents responsive to this request.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-81: Referring to the Inputs Portfolio, page 85, Section 4.1.12, explain whether AT&T has validated or attempted to validate the Business Penetration Ratio Multiplier and provide all documents and workpapers concerning, referring or relating there.

Respondent: R. Mercer

RESPONSE: See response to VZ-ATT 2-79.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-82: Provide all documents supporting the per Square Foot Construction Costs shown on page 87, Section 4.2.5 of the Inputs Portfolio.

Respondent: R. Mercer

RESPONSE: The input estimate was developed based on HAI expertise and knowledge acquired during numerous oral discussions that persons at HAI have had with other consultants in the telecommunications field, with persons knowledgeable in construction costs, and with subject matter experts from competitive access providers, CLEC and ILEC organizations, all of which have take place over a number of years. The "Overview" of the HM 5.2a-MA HIP provides an explanation of the difficulty in obtaining citable documentation for many local exchange network costs.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-83: Referring to the Inputs Portfolio, page 87, Section 4.2.5, explain whether AT&T has validated or attempted to validate the Construction Costs shown and provide all documents and workpapers concerning, referring or relating there.

Respondent: R. Mercer

RESPONSE: See response to VZ-ATT 2-79.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-84: Provide all documents concerning or supporting the Land Price per Square Foot shown on pages 87-88, Section 4.2.6 of the Inputs Portfolio.

Respondent: R. Mercer

RESPONSE: See response to VZ-ATT 2-79.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-85: Referring to the Inputs Portfolio, pages 87-88, Section 4.2.6, explain whether AT&T has validated or attempted to validate the Land Prices in any way and provide all documents and workpapers concerning, referring or relating there.

Respondent: R. Mercer

RESPONSE: See response to VZ-ATT 2-79.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-86: Network switches and/or end user customers often require high capacity inter-office ("IOF") transport channels (DS1, DS3, OC3...) that extend across more than one IOF ring. For example, this occurs whenever the central offices at the end points of the required facility are not on a single ring.

a. describe the equipment configurations assumed in HAI 5.2a to create these necessary inter-ring connections and provide specific details for the ring interconnection configuration HAI 5.2a provides for each of the following common high capacity channels: DS1, DS3, OC3;

b. identify all costs estimated within HAI 5.2a (investment and expense) to provide each configuration;

c. explain in detail how HAI 5.2a estimates the total number of ring interconnections of each type are required in a study area;

d. how can a user determine the number of ring interconnections estimated by the model for a specific study area; and,

e. where in the output reports generated by HAI 5.2a can this information be located.

Respondent: R. Mercer

RESPONSE: Without expressing an opinion as to the validity of the introductory statement contained in this information request, AT&T responds as follows:

a. HM 5.2a-MA equips additional ADMs and digital cross connects for ring interconnections. See also response to VZ-ATT 2-73.

Investment in ADMs and digital cross connects can be found in Section 4 of the HM 5.2a-MA HIP, and in the Switching/IO Module, tandem and STP investment Worksheet.

HM 5.2a-MA uses a software program located in Module 1 of the master.xls file to compute the total number of ring interconnections in any given study area. The software program employs an algorithm that, when run, determines which nodes interconnect with each other to form rings. Once rings are formed, some of them are isolated from their serving tandem. The program then examines these isolated rings and selects a node that will interconnect with any other node that is known to exist on a ring with tandem connectivity.

d. The number of ring interconnections can be found in the Workfile, "ring i/o" Worksheet.

e. See response to item "d" above.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-87: The Verizon MA IOF network must provide unbundled high capacity IOF channels at all standard optical channel rates: OC3, OC12, OC48.

a. does HAI 5.2a estimate a cost for these mandated unbundled elements? Can an estimate for these elements be derived from the model outputs?

b. how does HAI 5.2A estimate demand for these elements?

c. describe the specific algorithms, inputs and/or outputs involved in estimating the cost of these elements?

Respondent: R. Mercer

RESPONSE: Without expressing an opinion as to the validity of the introductory statement contained in this information request, AT&T responds as follows:

a. AT&T objects to this request because the Model does not report such estimates and it would require a burdensome special project to reprogram and rewrite portions of HM 5.2a-MA to report such estimates.

The total switched traffic carried by Verizon-MA, whatever its point of origin or destination, is used by the model in estimating the amount of interoffice facilities required. There is no separate estimate of demand for specific circuit types.

c. See response to item "a" above.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-88: When HAI 5.2a determines that two end office switches are necessary in a single a wire center, does HAI 5.2a include two switch fixed investment amounts for that wire center, in addition to the $87 per line investment, in determining the switching cost? If so, please identify where in HAI 5.2a spreadsheets this calculation takes place, and where in HAI 5.2a outputs it can be verified that these costs are included in the total estimated switch investment.

Respondent: R. Mercer

RESPONSE: The calculation can be found in Switching I/O Module, wire center investment Worksheet and can be verified in the calculations formula in the wire center investment Worksheet.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-89: Provide a list of each wire center, by CLLI code, where HAI 5.2a estimates that more than one end office switch is required.

Respondent: R. Mercer

RESPONSE:

BSTNMABO
BSTNMAHA
CMBRMAWA
LWRNMACA
MLDNMAEL
SPFDMAWO
WRCSMACE

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-90: The Inputs Portfolio, page 81, describes the calculation of end office switch fixed and per line investment. In calculating this investment:

a. identify what percentage of lines are assumed on GR-303 peripherals;

b. identify what percentage of lines are assumed on TR-008 peripherals;

c. identify what percentage of lines are assumed on analog line units;

d. identify what percentage of trunks are assumed to be digital trunks; and,

e. identify what percentage of trunks are assumed to be analog trunks.

Respondent: R. Mercer

RESPONSE: The common investment of $371,074 is the weighted average of the remote and non-remote fixed investment determined by the FCC in its *Tenth Report and Order* (paragraph 296), where the weights are a function of the Verizon-MA mix of remotes and non-remotes. *See* Section 4.1.9 of the HM 5.2a-MA HIP. In the same paragraph the FCC also adopted the $87 per line value. *See* Section 4.1.10 of the HM 5.2a-MA HIP. Thus, the values used in HM 5.2a-MA are based on FCC findings. These switch investments were determined by the FCC based on switches purchased between 1989-1996, which was prior to general availability of GR303-compliant digital loop carrier. The FCC's analysis did not specify the percentages of lines or trunks by type. AT&T, however, has calculated from ARMIS reports that approximately 18% of the lines were on digital loop carrier, with the remaining 78% on analog lines units. Similar data contained in ARMIS can be used for determining the percentage of analog and digital trunks.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-91: Has AT&T employed the use of splitter shelves and splitter cards in the provisioning of DSL service? If the answer is yes, please provide all documents:

a. identifying each vendor's material price to AT&T for both the shelf and the individual splitter cards;

b. identifying charges for any engineering, provisioning, installation, acceptance-testing type of activities performed by each vendor;

c. explain any non-material activities performed by vendors and/or AT&T;

d. identify the number of units of both the shelf and splitter cards purchased in 1999; and,

e. identify the expected number of units to be purchased in the current year.

Respondent:W. Salvatore/F. Lombardi

RESPONSE: AT&T objects to this information request on the grounds that it is irrelevant and not reasonably calculated to lead to the discovery of admissible evidence. This case involves Verizon-MA's forward-looking economic costs to provide UNEs. AT&T's own operational experience to date is not relevant to that issue.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-92: Referring to the Inputs Portfolio, page 86, Section 4.2.3, show in detail how the Power Investment is included in the calculations for fixed and per-line switch investment and provide all workpapers and documents concerning, referring or relating to this calculation.

Respondent: R. Mercer

RESPONSE:

See response to VZ-ATT 2-57.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-93: State the total number of SONET rings calculated by HAI 5.2a for Massachusetts.

Respondent: R. Mercer

RESPONSE: 20

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: May 29, 2001

VZ-ATT 2-94: Provide all back-up documentation that supports the switching investment allocation of 70% to usage and 30% to ports in HAI 5.2a.

Respondent: R. Mercer

RESPONSE: This allocation is based on HAI's experience and discussions over the years with other experts in the industry. AT&T has no documents responsive to this request.