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January 6, 1999

Ms. Magalie R. Salas
Secretary
Federal Communications Commission
445 Twelfth Street, S.W.
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Washington, DC 20554

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

**Ex Parte: Comments of GTE on Cost Model Input Workshops: Universal Service – CC
Docket No. 96-45 and Forward-Looking Mechanism for Non-Rural LECs –
CC Docket No. 97-160**

Dear Ms. Salas,

On December 10 and 11, 1998 the Common Carrier Bureau conducted the second and third of several workshops on input values to be used to estimate forward-looking costs for purposes of determining universal service support. Attached are GTE's comments regarding the topics discussed in the workshop – outside plant and expense inputs. Copies of these comments are being provided to the staff of the Common Carrier Bureau.

Pursuant to Section 1.1206(a)(1) of the Commission's rules, and original and one copy of this letter are being submitted to the Office of the Secretary. Please associate this notification with the record in the proceeding indicated above.

If you have any questions regarding this matter, please call me at (202) 463-5293.

Sincerely,

W. Scott Randolph
Director - Regulatory Matters

cc: Craig Brown
Steve Burnett
Paula-Ann Cech
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**GTE COMMENTS
Universal Service
FCC Cost Model Input Workshop
December 10-11, 1998**

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The Common Carrier Bureau invited public participation in two Universal Service Cost Model Input Workshops held on December 10 and 11, 1998. The purpose of the two Workshops was to discuss, respectively, specific FCC Cost Model inputs relating to plant specific and non-specific expenses and material cost inputs. GTE welcomes the opportunity to provide comments on the inputs discussed at these workshops and to offer alternative suggestions for the development of these specific cost model inputs. Based upon the expectation that the FCC Model will comply with guidelines set forth in the Universal Service Order,¹ GTE's comments focus on basic modeling concerns and input development for the categories discussed during the Workshops.

At this time, the Commission Staff has tentatively scheduled one additional workshop for January 18, 1999 to address structure cost inputs. Although the workshop agenda has addressed the majority of the items that the Commission has characterized as inputs, there are still items such as engineering inputs and customer location data that have not been discussed and are not on the remaining agenda.² Therefore, GTE reserves the right to discuss

¹ In the Matter of Federal-State Joint Board on Universal Service, Forward-Looking Mechanism for High Cost Support for Non-Rural LECs, Report and Order, CC Docket No. 96-45, FCC 97-157, 12 FCC Rcd 8776, 8912 (1997) ("Universal Service Order"), ¶ 250.

² The Commission has included in the input value phase of this proceeding certain platform-related issues, including the selection of the customer location algorithm and a geo-coding database. GTE believes that these

in subsequent comments any concerns with the development of items not covered in the FCC Workshops.

More importantly, GTE intends to fully review all inputs, their derivation and their use once a finalized FCC Model is available. As GTE argued in its Petition for Reconsideration of the Fifth Report and Order

“A cost model cannot be properly developed by simply evaluating its piece parts. The whole model and the results it produces must be evaluated, as well as how the modules within the model function in relation to each other.”³

It is crucial that sufficient time be given to thoroughly review all of the inputs and resultant outputs in concert with the final algorithms contained in all the modules.

Finally, the remaining workshop schedule provides for a discussion of structure issues and the potential for an “open day” to discuss additional issues. GTE requests that the open day be scheduled primarily to address customer location data, which is perhaps the most critical issue yet to be addressed as well as other input issues not yet discussed including cost of money, depreciation, engineering assumptions, and tax related inputs.

items are more appropriately characterized as platform issues. Geocode data is a pre-processing step, not a user adjustable input within the FCC Model. Absent the geocode data and associated customer location algorithm, the FCC Model platform is incomplete. Petition of GTE for Reconsideration of the Commission’s Fifth Report and Order, December 18, 1998, CC Docket Nos. 96-45 and 97-160, Murphy affidavit at paras. 21-23.

³ Petition of GTE for Reconsideration of the Commission’s Fifth Report and Order, December 18, 1998, CC Docket 96-45, at 2.

Model Issues

While GTE sees a need to correlate the inputs with the modules within the FCC Model that use the inputs, the present version of the model requires the user to coordinate and populate two sets of inputs, one structured for HCPM modules and one structured for HAI modules. In numerous instances the inputs required are repetitious, structured differently, apparently the same but defined differently, undefined, unnecessary or incompatible. The FCC Model should be modified to require only a single set of inputs which are well defined so the user can understand how the input is intended to be used by the model and may anticipate the impact on results.

Additionally, it is imperative that there is consistency in inputs and how they are used between modules. One example that demonstrates these inconsistencies is the cable cost inputs used in the loop module and the switch module. It is GTE's assumption that the Commission Staff's preliminary outside plant inputs and the ongoing development of outside plant inputs for the distribution and feeder for the loop module will result in outside plant defaults in the switch module based on the same empirical data. However the cable costs for the interoffice portion of the switch module (added from the HAI model) are defined differently than the cable costs in the loop module. Unless such differences between these modules are resolved while developing the inputs, the resulting cost will be incorrect.

Finally, there is also a Switch Module issue not addressed in the switching inputs workshop that significantly affects GTE's ability to model its network. GTE

has experienced a problem using the HAI model to design and develop costs for its present corporate structure which, in a number of instances, consists of separate study areas. Specifically, GTE has not been able to do host/remote assignments or interoffice trunking across study area boundaries. This design fault will affect numerous incumbent local exchange carriers ("ILECs") and could seriously affect the validity of the results. In its Fifth Report and Order, the Commission stated "In the inputs stage of this proceeding we will weigh the benefits and costs of using the LERG database to determine switch type."⁴ GTE supports the use of the LERG database which contains a number of GTE cross-boundary host/remote and interoffice trunking and believes that the FCC Model must be modified to incorporate its use.

Outside Plant Inputs

GTE generally agrees with the Commission Staff's approach to developing inputs. They have based most of their preliminary inputs on data gathered from ILECs and have requested that all ILECs provide more data to establish a consistent and sufficiently large data set upon which to base the final range of inputs. Under separate cover, GTE is providing material prices for the DLC, SAI, fiber and copper cables and related materials as requested by the Staff. While the preliminary prices developed by the Staff for these items was a good start,

⁴ In the Matter of Federal-State Joint Board on Universal Service, Forward-Looking Mechanism for High Cost Support for Non-Rural LECs, CC Docket Nos. 96-45, 97-160, Fifth Report and Order, FCC 98-279 (released October 28, 1998), ("Fifth Report and Order"), ¶76.

now that the ILECs are providing actual prices paid, a data set of these prices should serve as the basis for the development of the input values.

The DLC prices provided by GTE and other ILECs as part of these workshops are the correct data to use to develop default input values for the forward-looking technology at prices being paid today. While some parties may propose using the HAI default values, these inputs are not supported by validated empirical data.

GTE supports Staff's approach to gather the actual prices paid by the ILECs and to base inputs on these prices as such an approach is fully in compliance with the Universal Service Order.⁵ Any attempt to convince Staff to adopt or to use unsupported inputs or "opinion of experts" inputs from the HAI model should be rejected by Staff. For example, HAI uses unrealistically low power and site preparation costs when one considers that the major components of a site preparation study include many of the following: clear and level, cut and fill, furnish new fill, rock excavation, tree and stump removal, culvert and pipe, anti-vegetation material and weed control, fencing, gates, asphalt and concrete, retaining walls, steps, placement of Remote Terminal, pour pad, place cross-connect box if external, trench to power source, mount and wire Evergood (or equivalent), circuit breaker box w/ meter base, place and test grounding field, mount and wire security light, landscape, engineering and craft labor, electrical inspection and permits, easement and permits where required. In addition, HAI CO DLC terminal common equipment contains no analog to digital conversion

⁵ Universal Service Order at 8899, ¶ 224.

equipment that is required in a forward-looking network with UNE capabilities. The Staff should continue the approach it has initiated to develop inputs based on a database of empirical data gathered from the ILECs.

Fill Factors

In general, fill factors are a function of several parameters especially growth rates. Because growth rates vary widely, GTE recommends that this input be at least company and state specific.

It is difficult to comment on the distribution fill factor inputs in the distribution design of the FCC Model because they reflect a number of assumptions that are at odds with any actual network design on a forward-looking basis. While GTE does not believe that it is appropriate for the FCC Model to reflect only occupied housing, if the FCC Model is to be limited in this manner, then the fill factors for the distribution plant should be lowered in the less dense zones to at least to the HAI levels. This is necessary in order to provide some flexibility within the network to attempt to meet maintenance, repair and other service standards dictated by state commissions. Even by applying the lower fill factors, the distribution plant will still be insufficient to respond effectively to existing and new customer service demands.

Similarly, the combined copper and fiber fill factor inputs in the feeder design are also difficult to address because they too reflect the assumption that the network is being built to meet only a current demand which is at odds with any actual network design on a forward-looking basis. In addition, without being able to run sensitivities for the feeder fill inputs in any GTE company it is not

possible to quantify these concerns. Specifically, there is a very significant difference between an 85% fiber fill and an 85% copper fill. To be most accurate, separate fill factors should be used. However, if the difference in outputs is insignificant a single fill factor could be acceptable. Once GTE obtains actual input data for customer locations and the cluster module, sensitivity analyses will be run to determine if a composite fill factor has any significant impact in cost results.

The development of fill factors using BCPM and HAI default factors is inappropriate due to the simple fact that the fill factors are defined and used differently by each model. BCPM applies distribution fill factors to an estimate of ultimate demand, whereas HAI applies distribution fill factors to an estimate of current demand. BCPM designs and builds distribution plant to meet ultimate demand as defined by generally accepted provisioning guidelines⁶ [2 lines per housing unit and at least 5 lines per business location] which allows 100% fill factors. In contrast, HAI only provides plant facilities to current subscribers with no spare to accommodate maintenance, repair, relocation or new service demands. As a result, distribution fill factors must be set at very low levels to compensate.

BCPM feeder cables are sized to accommodate the number of working lines based on total residential, business and special access lines. The size of the feeder cables is based on the number of actual working lines adjusted by a variable engineering factor that includes growth. HAI only applies the feeder fill

⁶ Outside Plant Engineering Handbook, Lucent Technologies, released October 1996 at 3-11 (Interface Cable Sizing Guidelines).

factors to the in-service lines to determine next available feeder cable size.

Therefore, developing an input value that is based upon these inputs is like trying to average apples and bananas.

Design Inputs

The FCC Model allows T1 on copper to be used to serve remote terminals. As extensively discussed in GTE's Petition for Reconsideration of the Fifth Report and Order,⁷ T1 on copper is not a forward-looking technology and its use is inconsistent with engineering standards. Given the current model design, in order for the FCC Model to consider only forward-looking technologies, GTE strongly suggests that in conjunction with a T1 terminal cost adjustment, variables copper_t1_xover and t1_fiber_xover be set at values to negate the selection of T1 over copper facilities. GTE also suggests that the variable max_copper_distance be set to 12kft.

Since the FCC Model documentation does not define many of the other inputs, Staff needs to provide the users with a reference to obtain the definition of each input and an explanation of how the model uses each input. GTE requests that Staff provide this information at the next workshop so interested parties have an opportunity to comment.

Cable / Placement Costs

The Staff recommends that the input for copper cable/placement cost in the FCC Model be based on a regression model. It is unclear as to why this is necessary when actual data is available. The Commission Staff should utilize the ILECs' costs provided in response to the cable/placement data request in lieu

of regression-derived costs. GTE generally supports the Staff's method of collecting actual cost data from the ILECs in order to develop input ranges.

Expense Inputs

GTE supports the use of actual ARMIS data to develop expense to investment ratios. However, the proposed inputs were based on a small sample of non-rural ILECs. GTE recommends that these inputs be separately calculated by company and by state.

GTE has several concerns regarding the expense inputs contemplated for use in the FCC Model, including both modeling issues and input development. Again, the need to address the consistency of inputs and their use in the FCC Model is of utmost importance. As stated in GTE's Petition for Reconsideration of the Fifth Report and Order,

In melding various modules to form the new FCC Model, internal consistencies seem to have been ignored. For example, the FCC Model uses Annual Charge Factors ("ACFs") inconsistently in its HCPM Module and in its HAI Expense Module. As indicated in the HCPM Module documentation, the ACFs in the HCPM Module consist of both capital expenses and operating expenses. Capital expenses and operating expenses are affected by factors such as capital structures, depreciation lives, salvage values and operating conditions. Any changes to those factors should affect the ACFs in the HCPM Module (and thereby affect the investment results from the FCC Model) because of the role of the ACFs in the loop optimization routine. These factors are included in the FCC Model's HAI Expense Module as user adjustable inputs. Altering the input values in the HAI Expense Module, however, does not cause the expected changes in the FCC Model output because there is no consistency or link between the HCPM Module and the HAI Expense Module. As a result, changes in factors in its HAI Expense Module do not flow through to its HCPM

⁷ Affidavit of Francis J. Murphy at 28, ¶¶ 55-59.

Module to affect the expected changes in the Model outputs.⁸

In addition, there are three expense factors with unsupported HAI defaults that were designed to decrease actual telephone company expenses. They are the forward-looking network operations factor, the alternative central office switching expense factor and the alternative circuit equipment factor. The basic logic HAI uses for these expense reductions is that they reflect “substantial savings opportunities posed by new technologies.” From the time the Hatfield model was first contested, GTE has shown in numerous state proceedings⁹ that the “new technologies” have been used for years and the expense “reductions” alluded to by Hatfield developers are already reflected in the current ARMIS data. In fact, the Hatfield logic is now about two years old and therefore, by its own definition the expense reductions must now be reflected in the current ARMIS data. Therefore, the forward-looking network operations factor should be 100

⁸ Affidavit of Jason Zhang at 5, ¶11. Additional discussions of GTE’s concern regarding the use of ACF factors are described in the Affidavit of Subhendu Roy at 5-8, ¶¶15-20.

⁹ Before the Idaho Public Utilities Commission, Docket No. GNR-T-97-22, Direct Rebuttal Testimony of Robert Cellupica, March 2, 1998; Before the Kentucky Public Service Commission, Administrative Case No. 360, Rebuttal Testimony of Robert Cellupica, February 26, 1998; Before the Public Utility Commission of Texas, Docket No. 18515, Rebuttal Testimony of Robert Cellupica, February 27, 1998; Before the Florida Public Service Commission, Docket No. 980696-TP, Rebuttal Testimony of Francis Murphy, September 2, 1998; Before the Washington Utilities and Transportation Commission, Docket No. UT 980369/70/71, Response Testimony of Francis Murphy, August 3, 1998; Before the Public Service Commission of South Carolina, Docket No. 97-239-C, Rebuttal Testimony of Francis Murphy, March 2, 1998.

percent and the other two factors should be equal to the ratio of the ARMIS expense account to the investment account.

In its Petition for Reconsideration of the Fifth Report and Order, GTE described some problems it encountered with the development of the customer support allocator: "In both expense modules, the network support investments are reduced by a factor (1 - 'Total Operations General Support Allocator') and the general support investments are reduced by a factor 'Office Worker General Support Allocator.'"¹⁰ This presumably removes the fraction that can be ascribed to corporate and customer operations expenses. There is no justification for removing these expenses and reallocating them to corporate and customer expenses since corporate expenses are ultimately allocated to UNEs in the same way the support expenses are allocated. A cause for even greater concern is that it does not appear that the expenses removed above were reintroduced in developing the Corporate overhead factor or the Bill/Billing Inquiry expenses, thus excluding a large portion of the support expenses in the cost calculations."¹¹

In light of numerous problems found in the HAI expense module, many of which can be corrected only after extensive modifications, GTE recommends Staff incorporate the BCPM expense module into the FCC Model in lieu of the HAI expense module.¹²

¹⁰ Affidavit of Subhendu Roy at 13, ¶31.

¹¹ *Ibid.* at 13, ¶31.

¹² BellSouth Corporation's Petition for Reconsideration, December 18, 1998, at 5.