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December 18, 1998

**BY HAND DELIVERY**

Magalie Roman Salas  
Secretary  
Federal Communications Commission  
TW-A325  
445 Twelfth Street, S.W.  
Washington, D.C. 20554

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DEC 18 1998

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

Re: CC Docket Nos. 96-45 and 97-160

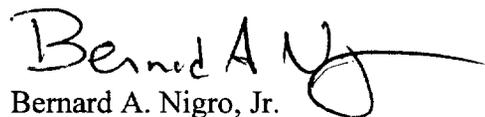
Dear Ms. Salas:

On behalf of GTE Service Corporation attached herewith is an original and fourteen copies of the Petition of GTE for Reconsideration of the Commission's Fifth Report and Order in the above-referenced matter.

Kindly date-stamp the additional, marked copy of this cover letter and return it in the envelope provided.

Should you require any additional information, please contact the undersigned.

Sincerely,



Bernard A. Nigro, Jr.  
Attorney for  
GTE SERVICE CORPORATION

BAN:maj  
Enclosures

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**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Federal-State Joint Board on Universal Service	)	CC Docket No. 96-45
	)	
Forward-Looking Mechanism for High Cost Support for Non-Rural LEC's	)	CC Docket No. 97-160
	)	

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

**PETITION OF GTE FOR  
RECONSIDERATION OF THE  
COMMISSION'S FIFTH REPORT AND ORDER**

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December 18, 1998

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## SUMMARY

The Fifth Report and Order (and the FCC Model is adopts) is arbitrary, capricious and not otherwise in accordance with law for several reasons. First, the Commission did not give GTE an opportunity to analyze and comment on the FCC Model before adopting it. Since the release of the Universal Service Order in July 1997, GTE and other parties have submitted comments and evidence on the BCPM, HAI and HCPM models. The FCC Model is a new cost model. The Commission was therefore obligated to make a complete and operable FCC Model formally available for public review and comment before adopting it. By failing to do so, the Commission prevented GTE from analyzing the Model and submitting evidence about it.

The administrative record of this proceeding also does not support the Commission's decision. In the Universal Service Order, the Commission said that a cost model must be based on information that is fully available to the Commission and all interested parties, capable of being reasonably applied, reliable, and must produce dependable cost information. The FCC Model, in its current form, fails each of these standards. The FCC Model cannot be fully analyzed due to missing data, algorithms and other critical information, and does not produce cost estimates that can be verified.

The FCC Model also fails several of the Commission's ten cost model criteria. Its use of copper loops up to 18,000 feet and copper based T-1 DLC technology violate Criterion One, as does its failure to produce wire center line counts and average loop lengths that equal the ILECs actual line counts and loop lengths. The FCC Model does not cost out every network function, in violation of Criterion Two. It violates Criterion Six by

constructing a network that serves only occupied households, and ignores unoccupied housing units. The FCC Model violates Criteria Eight and Nine because all of its underlying data are not and have never been available for inspection and verification, and the Model itself cannot be evaluated due to the missing data.

Finally, the FCC Model does not work correctly. Because of problems and inconsistencies in its structure and logic, those parts of the Model that can be reviewed produce inaccurate and illogical cost estimates.

For these reasons, the Commission should set aside the Order, finish the development of all aspects of the Model (platform and inputs) so that the Model is complete, disclose all underlying data and information necessary for GTE to evaluate and run the Model for all states, and then give GTE and other parties the opportunity to comment on it.

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

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Federal-State Joint Board on Universal Service	)	CC Docket No. 96-45
	)	
Forward-Looking Mechanism for High Cost Support for Non-Rural LEC's	)	CC Docket No. 97-160
	)	

**PETITION OF GTE FOR  
RECONSIDERATION OF THE  
COMMISSION'S FIFTH REPORT AND ORDER**

GTE Service Corporation and its affiliated domestic telephone operating companies ("GTE"), pursuant to 47 U.S.C. § 405 and 47 C.F.R. § 1.429, respectfully petition the Federal Communications Commission (the "Commission") to reconsider and set aside its Fifth Report and Order (the "Order") in the above-captioned docket.<sup>1/</sup>

**I. INTRODUCTION**

In this petition, GTE urges the Commission to correct serious flaws both in the way the Order and its cost model platform were adopted and in the platform itself. Since July

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<sup>1/</sup> In the Matter of Federal-State Joint Board on Universal Service, In the Matter of Forward-Looking Mechanism for High Cost Support for Non-Rural LECs, CC Docket No. 96-45, 97-160, *Fifth Report and Order*, FCC 98-279 (rel. Oct. 28, 1998). The GTE affiliated domestic telephone operating companies are GTE Alaska, Incorporated, GTE Arkansas Incorporated, GTE California Incorporated, GTE Florida Incorporated, GTE Hawaiian Telephone Company Incorporated, GTE Midwest Incorporated, GTE North Incorporated, GTE Northwest Incorporated, GTE South Incorporated, GTE Southwest Incorporated, Contel of Minnesota, Inc., GTE West Coast Incorporated, and Contel of the South, Inc.

1997, the Commission has expressly directed GTE and other parties to comment on three cost models – BCPM, HAI (formerly known as Hatfield), and TECM -- and, later in 1997, parts of a fourth model known as HCPM. TECM was quickly dismissed. Thus, the administrative record in this proceeding is devoted to BCPM, HAI and HCPM. Notwithstanding this record, the Commission's Order adopts a fifth model ("FCC Model" or "Model") -- a so-called "synthesized" model platform comprised of a new combination of elements from BCPM, HAI and HCPM, new optimization routines, new software interfaces, and new algorithms.<sup>2/</sup> The Commission developed this new Model on its own initiative and without subjecting it to prior public inspection or comment.

The Commission seriously erred by failing to give GTE an opportunity to file comments on the Model before adopting it. By failing to subject the new Model to public comment, the Commission prevented GTE from submitting evidence about its shortcomings, thereby engaging in arbitrary and capricious rulemaking. In addition, the FCC Model is not supported by the evidence in the record, and violates the Commission's own rules, including its ten cost model criteria.

From a modeling perspective, the new Model in its current form is severely flawed. 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. Yet, the whole of the FCC Model is, in

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<sup>2/</sup> This Petition and the affidavits attached hereto are based on the Order and versions of the FCC Model that predate the updated version that the Commission posted on its website yesterday, December 17, 1998. GTE has not had an opportunity to examine the December 17 version thoroughly. Thus, GTE reserves the right to supplement this Petition and the accompanying affidavits.

significant respects, a virtual "black box," not subject to meaningful analysis or testing. The parts of the Model that can be examined are incomplete, still being developed, not open to comprehensive inspection or evaluation, and do not yet operate reliably. The discrete modules that the Commission has cobbled together do not form a model that can be understood by the parties, or produce cost estimates that can be evaluated. For example, the Model fails sensitivity tests – when major inputs are adjusted, the results produced by the Model remain static in many instances, and in others produce illogical cost estimates that cannot be explained. Moreover, the Commission has deferred developing some of the Model's key components, including an algorithm to locate customers, until the inputs phase of this proceeding. This "wait until later" approach is problematic because a stable model platform cannot be evaluated in the absence of a complete set of algorithms and model inputs.

The remedy for these defects is to grant this Petition and set aside the Order. The Commission should then finish the development of the Model as a whole (platform and inputs), release all of its underlying data and information, so that GTE can evaluate it as a whole and run it for all states, and allow GTE to submit its comments.

## **II. FACTUAL BACKGROUND**

The Commission opened this docket to establish an explicit federal mechanism to preserve and advance universal service.<sup>3/</sup> To that end, the Commission solicited interested parties to submit cost models that could be used to estimate the cost to build and operate

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<sup>3/</sup> 47 U.S.C. § 254.

a network that provides universal service.<sup>4/</sup> Three such models were originally filed with the Commission: the Benchmark Cost Proxy Model ("BCPM"), sponsored by US West, Pacific Bell and Sprint; the Hatfield Model (now known as HAI), sponsored by AT&T and MCI; and the Telecom Economic Cost Model ("TECM"), submitted by the New Jersey Ratepayer Advocate.

**A. The Universal Service Order**

The Commission issued its initial Report and Order on universal service on May 8, 1997, wherein it described the federal plan to support universal service.<sup>5/</sup> The Commission ruled, among other things, that the federal support mechanism would be based on a cost proxy model that projects the "forward-looking economic cost" of the network, not its actual costs.<sup>6/</sup>

The Universal Service Order also addressed the three cost proxy models that had been filed. By May 1997, the Commission had conducted a four-month investigation into BCPM, HAI and TECM, conducted public workshops on the workings of the models, and reviewed the comments, analyses and evidence submitted by interested parties. Based

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<sup>4/</sup> In the Matter of Federal-State Joint Board on Universal Service, CC Docket No. 96-45, *Public Notice*, DA 96-2091 (rel. Dec. 12, 1996).

<sup>5/</sup> In the Matter of Federal-State Joint Board on Universal Service, CC Docket No. 96-45, *Report and Order*, FCC 97-157 (rel. June 4, 1997) ("Universal Service Order").

<sup>6/</sup> *Id.* at ¶¶ 241-49. GTE challenged that and other aspects of the Universal Service Order, and an appeal is pending before the United States Court of Appeals for the Fifth Circuit. *Texas Office of Public Utility Counsel v. Federal Communications Commission*, No. 97-60421 (5th Cir. 1997). GTE has stated before and reiterates here that cost proxy models by definition will not provide accurate calculations of the costs of providing universal service because they do not reflect a company's actual costs, and that the accurate estimation of actual costs should be the goal of this Commission.

on the evidentiary record at that time, the Commission dismissed TECM, concluded that neither BCPM nor HAI provided sufficiently dependable cost information to enable the Commission either to adopt or reject them, but directed that the development of BCPM and HAI continue.<sup>7/</sup> The Commission said that neither model could be adopted because they were "not sufficiently reliable."<sup>8/</sup> Similarly, the Commission said that it must be able to "reasonably apply" a model before it can be adopted, and that the "wide divergence and frequent changes in the data provided" by the models' sponsors precluded the reasonable application of either model.<sup>9/</sup> The Commission specifically faulted the HAI model because it was based on information that had not been "fully available to the Commission and all interested parties," criticizing in particular that AT&T had not even filed one of its key algorithms.<sup>10/</sup> Finally, the Commission noted that its efforts to study the BCPM and HAI models had been "severely hampered by the delays in their submission to the Commission and the constant updating of the models to correct technical problems, such as missing data."<sup>11/</sup>

The Commission then established definitive modeling standards for BCPM and HAI. These standards became known as the Universal Service Order's ten criteria. These

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<sup>7/</sup> Universal Service Order at ¶¶ 241, 244.

<sup>8/</sup> *Id.* at ¶ 26.

<sup>9/</sup> *Id.* at ¶ 241.

<sup>10/</sup> *Id.* at ¶ 242.

<sup>11/</sup> *Id.* at ¶ 243.

criteria had to be satisfied for any cost model to be adopted by the Commission.<sup>12/</sup> The Commission reiterated in subsequent notices that these criteria were a prerequisite to any model's selection.<sup>13/</sup>

Two months later, the Commission issued a further rulemaking notice establishing a "staged workplan" with respect to the BCPM and HAI models.<sup>14/</sup> The FNPRM reiterated that a model had to contain all information needed for its successful operation, so that it generated sufficiently reliable results in its current form.<sup>15/</sup> Moreover, all parties and the Commission had to be able to compare and contrast each model's structure and input values because a valid comparison to competing models was deemed essential to selecting the best platform.<sup>16/</sup> GTE and other interested parties then embarked upon 15 months of exhaustive review and comment on the BCPM and HAI models. Limited comments were also filed on a collection of modules, known as the Hybrid Cost Proxy

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<sup>12/</sup> *Id.* at ¶ 250 ("we agree that all methodologies used to calculate the forward-looking economic cost of providing universal service . . . must meet the following criteria").

<sup>13/</sup> See In the Matter of Federal-State Joint Board on Universal Service, CC Docket No. 96-45, *Public Notice*, DA 97-1912 (rel. Sept. 3, 1997) ("Switching Notice") ("The Commission has established criteria for its forward-looking economic cost mechanism."); *Public Notice*, DA 97-2372 (rel. Nov. 13, 1997) ("Outside Plant Notice") ("The Commission established its criterion in the Universal Service Order, and has stated that models must comply."); *Public Notice*, DA 98-217 (rel. Feb. 27, 1998) ("State Model Notice") (state models must comply with the ten criteria).

<sup>14/</sup> In the Matter of Federal-State Joint Board on Universal Service, CC Docket Nos. 96-45, *Further Notice of Proposed Rulemaking*, FCC 97-256 (rel. July 18, 1997), at ¶ 5 ("FNPRM").

<sup>15/</sup> *Id.* at ¶ 9.

<sup>16/</sup> *Id.* at ¶ 15.

Model ("HCPM"), developed by the staff of the Common Carrier Bureau.<sup>17/</sup>

**B. The Fifth Report and Order**

The Commission released the Fifth Report and Order on October 28, 1998 ("Order"), therein establishing the Commission's next set of rules applicable to the federal universal service mechanism.<sup>18/</sup> The Commission formally announced that it had elected to adopt a so-called "synthesized" model platform based on elements of the three existing models: BCPM, HAI and HCPM. The Order does not claim, however, that the Model is reliable, fully developed, can be reasonably applied, or generates reliable cost estimates. Yet, the Order definitively establishes that this is the cost model that will be used in the federal mechanism to calculate forward-looking costs. Even as of this late date, the Commission has yet to make the entire Model available to the public on its website.<sup>19/</sup>

**III. ARGUMENT**

**A. The Adoption Of The FCC Model Was Procedurally Defective Because The Commission Did Not Give GTE An Opportunity To Analyze And Comment On The FCC Model Before Adopting It**

Given the impending deadline for implementation of the federal support mechanism, it was imperative that the Commission ensure that its procedures provided GTE (and all

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<sup>17/</sup> Outside Plant Notice at ¶¶ 2-3.

<sup>18/</sup> The Fifth Report and Order was later published in the Federal Register on November 18, 1998.

<sup>19/</sup> See Order at ¶ 92; Affidavit of Francis J. Murphy at ¶¶ 13, 17 ("Murphy at ¶ \_\_\_") (Attachment A); Affidavit of Christian M. Dippon at ¶ 4 ("Dippon at ¶ \_\_\_") (Attachment B); Affidavit of Jason Zhang at ¶ 7 ("Zhang at ¶ \_\_\_") (Attachment D); Affidavit of Subhendu Roy at ¶ 6 ("Roy at ¶ \_\_\_") (Attachment E). As stated in the affidavits of Messrs. Murphy, Dippon, Zhang and Roy, the December 17 version of the Model mentioned in note 2 above is, to the best of GTE's knowledge, still incomplete.

interested parties) notice and an opportunity to comment upon the Commission's new Model, and that the new rule (as embodied in the Order and the Model it adopts for purposes of calculating support) is supported by the record.<sup>20/</sup> Instead, the Commission violated several fundamental legal principles applicable to administrative rulemaking by adopting the Model without subjecting it to public comment.<sup>21/</sup> Perhaps most importantly, the Commission has deprived GTE of its fundamental right to submit evidence and comment upon the FCC Model before its adoption. Thus, the Order and Model, as currently adopted, is arbitrary, capricious, an abuse of discretion, and not otherwise in accordance with law.<sup>22/</sup>

The Commission's own regulations, which it violated, prescribe the procedures that it should have followed in promulgating the Order and adopting the new (albeit still incomplete) Model.<sup>23/</sup> Those regulations require the Commission to commence a rulemaking by publishing a notice stating "either the terms or substance of the proposed rule or a description of the subjects and issues involved."<sup>24/</sup> The Commission's notice had to alert potential commenters, like GTE, that the FCC Model was "on the table," and would

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<sup>20/</sup> See *McLouth Steel Products Corp. v. Thomas*, 838 F.2d 1317, 1319 (D.C. Cir. 1988) (model constituted agency rule because it had present day binding effect on agency's decisions).

<sup>21/</sup> See 5 U.S.C. § 553; 47 C.F.R. § 1.411 *et seq.*

<sup>22/</sup> See 5 U.S.C. § 706(2).

<sup>23/</sup> See 47 C.F.R. § 1.411-1.430 (embodying the statutory requirements of Section 553 of the Administrative Procedure Act, 47 U.S.C. § 553 *et seq.*).

<sup>24/</sup> 47 C.F.R. § 1.413.

be reflected in the Commission's final rule.<sup>25/</sup> The notice had to afford GTE the opportunity to provide comments and develop evidence in the record on the Model.

Although the Commission's Order need not be identical to the rule proposed, it must be the "logical outgrowth" of what was published.<sup>26/</sup> Notice is legally deficient if an issue is addressed "only in the most general terms."<sup>27/</sup> Moreover, the Order cannot have materially altered the issues raised by the notice, nor have substantially departed from the terms or substance of the proposed rule.<sup>28/</sup> If the new FCC Model constitutes a sharp deviation from what was proposed, GTE will not have had a fair or adequate opportunity for comment.<sup>29/</sup> Thus, the essential inquiry is simple: did GTE have "a fair opportunity to present [its] views on the contents of the final plan."<sup>30/</sup> In this case, the answer is no.

The Commission gave GTE no opportunity to file comments on the FCC Model before adopting it. The Model represents the Commission's own work product, inserted after the close of the comment period. GTE did not have (and has not yet had) a chance to submit evidence into the record on the new FCC Model, including its novel combination

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<sup>25/</sup> See *American Medical Ass'n v. United States*, 887 F.2d 760, 768 (D.C. Cir. 1989) (relevant inquiry is whether commenters would have knowledge that issue in which they were interested was "on the table").

<sup>26/</sup> See *Kooritzky v. Reich*, 17 F.3d 1509, 1513 (D.C. Cir. 1994) (rule struck because it was not the logical outgrowth of the public notice).

<sup>27/</sup> *Id.*

<sup>28/</sup> See *Chocolate Manufacturers Ass'n of United States v. Block*, 755 F.2d 1098, 1104 (4th Cir. 1985) (notice is inadequate if final rule materially alters the issues involved in the rulemaking or substantially departs from the terms or substance of the rule).

<sup>29/</sup> See *Shell Oil Co. v. E.P.A.*, 950 F.2d 741, 747 (D.C. Cir. 1991).

<sup>30/</sup> See *Chocolate Manufacturer's Ass'n*, 755 F.2d at 1104 (emphasis added).

of modules from BCPM, HAI and HCPM, its new optimization routines, its new algorithms, and its new software interfaces, because the Commission made an incomplete version of the FCC Model available to the public in November 1998,<sup>31/</sup> after the Order was issued and long after the comment period in this proceeding had closed.

The significance of the Commission's failure becomes clear when one considers the comments and evidence that GTE (and other parties) submitted on BCPM and HAI. The Commission rightly gave GTE and (all other parties) several months to analyze each version of those models after they had been publicly filed.

As the record reflects, GTE conducted extensive analyses of and submitted comprehensive comments on the BCPM and HAI models, and more limited analysis (due to the Commission's abbreviated pleading cycle) on the partial HCPM.<sup>32/</sup> GTE analyzed the economic validity of the models. GTE also examined whether the models adhered to accepted engineering standards and if the mechanics of the models were correct. GTE reviewed default values and the corresponding support to determine if they were based upon empirical data and sound engineering principles. GTE scrutinized input values to ensure that they were incorporated correctly into the models' algorithms. GTE conducted validation tests on the reasonableness of the outputs. In all cases, particular attention was paid to the ten criteria in the Universal Service Order, as well as the various Report and Orders, Notices of Proposed Rulemaking, and Public Notices issued by the Commission.

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<sup>31/</sup> Murphy at ¶¶ 11, 13; Dippon at ¶4; Zhang at ¶6; Roy at ¶¶ 4-6.

<sup>32/</sup> Murphy at ¶ 4; Dippon at ¶ 1.

By precluding GTE from performing these types of tests on the FCC Model and submitting GTE's results before the Commission adopted it, the Commission has deprived GTE of important substantive rights. Among other things, it prevented GTE from putting evidence before the Commission that is material to its decision on the merits of the FCC Model.<sup>33/</sup>

The Commission cannot defend its failure to make the Model available for comment by claiming that it is merely a combination of elements and modules that GTE has seen before, nor rely on evidence pertaining to discrete BCPM, HAI or HCPM modules. A cost model is significantly more than the sum of its individual modules.<sup>34/</sup> By purportedly combining "the best elements from each of the three models currently in the record,"<sup>35/</sup> the Commission created a new model with unique characteristics. Indeed, the Commission has assembled the Model with components that were not designed to work together.<sup>36/</sup> If the in-depth analysis of BCPM and HAI have shown anything, it is that a cost model's

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<sup>33/</sup> This has also prejudiced GTE's right to judicial review of the Order based on such evidence. As the record stands today, GTE would be unable to cite to any GTE evidence specifically critical of the FCC Model. GTE cannot be faulted for that absence of evidence, as it cannot be expected to submit data relating to a model that was never available (and effectively remains unavailable) during the comment period. See Murphy at ¶¶ 13-31; Dippon at ¶ 3-5, 16-17, 22; Affidavit of Robert Clinesmith at ¶¶ 6-7 ("Clinesmith at ¶\_\_") (Attachment C); Zhang at ¶¶ 5-6; Roy at ¶¶ 5-7.

<sup>34/</sup> Murphy at ¶ 19; Zhang at ¶ 10.

<sup>35/</sup> Order at ¶ 4.

<sup>36/</sup> Murphy at ¶ 15. "This combination of four different modules from different models, plus the addition of a brand new interface module, makes it impossible for the user to run the Model as mandated in the Order, because there is no single location where these modules come together. The HCPM and interface modules, along with some of the inputs, are available on the FCC web site (although, as noted above, these modules are changing constantly)." *Id.* at ¶ 16.

assumptions, algorithms and modules must work closely together. Each is designed with the other in mind. Thus, it is the Model as a whole and how its parts function together within the Model that is critical to evaluating whether it produces reliable estimates.<sup>37/</sup> The Commission should not simply pick and choose the elements it likes from different models, slap them together and expect the resulting new "model" to work.

Even if the Commission had given GTE notice and an opportunity to comment on the FCC Model prior to the Order, it is clear that GTE could not have properly evaluated it.<sup>38/</sup> The FCC Model does not contain the data that is needed to run it and obtain results; the documentation explaining the Model's underlying assumptions and algorithms is incomplete; all of the modules, as modified by the Order, are not available for review; it is unclear which version of certain modules are now considered the latest within the context of the Order; the Model appears to produce illogical results; and the Model is still changing and is therefore incomplete.<sup>39/</sup>

In fact, the FCC Model is so new that a working version does not exist, and some of the Model's modules have yet to be completed.<sup>40/</sup> As noted in one of the Commission's early notices, a comparison of the Model's structure and input values to those of BCPM,

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<sup>37/</sup> Murphy at ¶ 19.

<sup>38/</sup> Murphy at ¶ 13, 15-22; Dippon at ¶¶ 3-5, 16-17, 22; Clinesmith at ¶¶ 9-10; Zhang at ¶¶ 5-6, 8-9; Roy at ¶ 5-7.

<sup>39/</sup> *Id.*

<sup>40/</sup> *Id.*

HAI, and HCPM is "essential" to evaluating a model.<sup>41/</sup> But, the FCC Model cannot be compared to anything because it is not only being continually revised, it is not yet operational.<sup>42/</sup>

In an effort to evaluate the FCC Model for purposes of this Petition, GTE filed on November 30, 1998, a Freedom of Information Act ("FOIA") request and an Emergency Motion of GTE for Disclosure of Data and Information to Permit Public Review and Extension of Time seeking the materials and information that GTE needs to properly evaluate the FCC Model. On December 17, 1998, the Commission denied in part and granted in part GTE's motion and FOIA request.<sup>43/</sup> The information that Commission has agreed to provide may provide insight to the Model, but has not yet been turned over to GTE. Thus, GTE intends to seek leave to supplement this Petition based on that information. It appears, however, that much of the critical information sought in the requests will not be produced and will never be made available for public review. GTE's efforts to obtain this information independently from third parties also has been futile.<sup>44/</sup> As a result, GTE will be unable to evaluate the FCC Model fully even in connection with this Petition.<sup>45/</sup>

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<sup>41/</sup> FNPRM at ¶ 15.

<sup>42/</sup> See Murphy at ¶ 15; Dippon at ¶ 4, 17, 22, 31; Zhang at ¶¶ 5, 7; Roy at ¶¶ 5-6.

<sup>43/</sup> In the Matter of Federal-State Board on Universal Service, CC Docket No. 96-45, Order, DA 98-2567 (rel Dec. 17, 1998).

<sup>44/</sup> See Clinesmith at ¶¶ 7, 9-12.

<sup>45/</sup> See Murphy at ¶¶ 13-31; Dippon at ¶¶ 3-5, 16-17, 22.

In summary, GTE must be given a reasonable opportunity to perform the same types of analyses on the FCC Model as were performed on BCPM and HAI. The Commission must then allow GTE to submit the results of that analysis -- GTE's evidence about the suitability of the FCC Model -- into the record for consideration by the Commission before it adopts a model.

**B. The FCC Model Is Not Supported By The Record**

The Commission's new Model must be supported by the evidence in the record.<sup>46/</sup> A rule that is based on inadequate data, or secret data that in critical degree is known only to the Commission is arbitrary and capricious.<sup>47/</sup> When an agency adopts a rule consisting of a predictive model -- such as the new FCC Model -- the agency must be able, indeed is compelled, to provide a full and analytical defense of that model based on the evidence in the record.<sup>48/</sup> There must be a rational connection between the factual inputs, modeling assumptions, modeling results, and the conclusions drawn from those results.<sup>49/</sup> The model must work properly and generate reliable results, because imprecise calculations may rise to such a level that any agency action based upon it becomes arbitrary, capricious, and not otherwise in accordance with law.<sup>50/</sup>

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<sup>46/</sup> See *National Black Media Coalition v. F.C.C.*, 791 F.2d 1016, 1023 (2d Cir. 1986).

<sup>47/</sup> *Id.*

<sup>48/</sup> *Eagle-Pitcher Industries v. E.P.A.*, 759 F.2d 905, 921 (D.C. Cir. 1985).

<sup>49/</sup> *Sierra Club v. Costle*, 657 F.2d 298, 333 (D.C. Cir. 1981).

<sup>50/</sup> See *Tex Tin Corp. v. E.P.A.*, 992 F.2d 353, 354 (D.C. Cir. 1993) (results of mathematical model may be so imprecise as to render action arbitrary and capricious); *Small Refiner Lead Phase-Down Task Force v. E.P.A.*, 705 F.2d 526, 535 (D.C. Cir. 1983)  
(continued...)

The Commission's adoption of the new (as yet incomplete) Model is arbitrary and capricious because the record of this proceeding since May 1997 relates exclusively to the model platforms of BCPM, HAI and HCPM.<sup>51/</sup> Thousands of pages of comments and other evidence pertain to BCPM and HAI, and to a much lesser extent HCPM, but none of it relates specifically to the new FCC Model. Indeed, given that only an incomplete version of the Model was available with the release of the Order, no party could have submitted comments on the new FCC Model.

Since GTE has been unable to evaluate the FCC Model, as explained in Section III.A above, there also appears to be no legally sufficient way that the Commission could have evaluated it based on the record, and determined that it is "sufficiently developed," "sufficiently reliable," can be "reasonably applied," or generates "reliable results."<sup>52/</sup> The fact that the Commission is still changing the data and algorithms underlying the FCC Model, updating it nearly on a daily basis, and has not yet made the data and algorithms underlying the Model available to the public is even stronger proof that the Commission should not have adopted it. While the Commission may have undisclosed, internal evidence to support its conclusion that the FCC Model platform works (a most unlikely

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50/ (...continued)

(court may strike down model so oversimplified that agency's conclusions from it are unreasonable).

51/ The FNPRM also references the TECM, which subsequently was dropped from consideration. FNPRM at ¶ 11.

52/ Universal Service Order at ¶ 250.

event, as demonstrated by the affidavits attached hereto), it may not rely on such evidence.<sup>53/</sup>

**C. The FCC Model Violates Prior Commission Orders**

The FCC Model is also arbitrary and capricious because it violates the Commission's own rules, including the Universal Service Order.<sup>54/</sup>

The Universal Service Order established that interstate universal service support would be calculated through the use of a cost proxy model and identified the definitive standards to which the cost model must adhere, namely the ten criteria in paragraph 250.<sup>55/</sup> In subsequent notices and orders, the Commission reiterated that these requirements had to be met for a cost model to be selected to calculate universal service support.<sup>56/</sup> Even GTE's limited review and analysis of the FCC Model establishes that it fails to conform in many critical respects to the cost model criteria established by the Commission.

**1. The FCC Model Violates Criterion One**

In recognition of the 1996 Act's explicit directive to "encourage the reasonable and timely deployment of advanced services to all Americans,"<sup>57/</sup> the first of the Commission's

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<sup>53/</sup> *National Black Media Coalition*, 791 F.2d at 1023-24.

<sup>54/</sup> See *National Cable Television v. F.C.C.*, 747 F.2d 1503, 1509 (D.C. Cir. 1984); *Way of Life Television Network v. F.C.C.*, 593 F.2d 1356, 1359 (D.C. Cir. 1979) (well settled that agency's failure to follow regulations is fatal to deviant action); *Carter v. Sullivan*, 909 F.2d 1201, 1202 (8th Cir. 1990) (failure to follow binding rules is reversible abuse of discretion).

<sup>55/</sup> Universal Service Order at ¶ 250.

<sup>56/</sup> See *supra* note 13.

<sup>57/</sup> 47 U.S.C. § 706(a).

ten cost model criteria mandates that the cost model's loop design "should not impede the provision of advanced services."<sup>58/</sup> The Commission defined the loop to permit the transmission of "digital signals needed to provide services such as ISDN, ADSL, HDSL, and DS-1 level signals."<sup>59/</sup> The Order disregards the congressional mandate (as well as its own and industry accepted design standards) by adopting a copper loop length standard of 18,000 feet.<sup>60/</sup>

For many years, local exchange carriers have adhered to a carrier serving area ("CSA") standard limiting the copper loop to 12,000 feet.<sup>61/</sup> The CSA standard evolved to ensure that the telephone network could readily provide advanced services such as ISDN, ADSL, and HDSL services.<sup>62/</sup> The use of an 18,000 foot loop standard in the FCC Model effectively precludes the provision of digital and advanced telecommunications services of the sort mandated by the Commission.<sup>63/</sup> If the network reflected in the FCC Model were actually to be built, the provisioning of advanced services such as ISDN, HDSL, and ADSL

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<sup>58/</sup> Universal Service Order at ¶ 250.

<sup>59/</sup> In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1995, CC Docket No. 96-98, First Report and Order, FCC 96-325 (rel. Aug. 8, 1996), at ¶ 380.

<sup>60/</sup> In all other cost models under consideration, the loop length is a user adjustable input, not a fixed platform requirement. Murphy at ¶ 44.

<sup>61/</sup> See Bellcore Notes on the Networks, Issue 3, Dec. 1997, SR 2275, pp. 12-17; AT&T Outside Plant Engineering Handbook, Aug. 1994, Section 13.1.

<sup>62/</sup> See DSC Litespan Practice, OSP 363-205-010, Issue 6, July 1997, p. 42.

<sup>63/</sup> Murphy at ¶¶ 46, 48, 50.

to many customers would be impeded by labor intensive and expensive loop conditioning to produce acceptable signal quality.<sup>64/</sup>

The FCC's first cost model criterion also mandates that "the technology assumed in the cost study must be least-cost, most-efficient, and reasonable technology for providing supporting services that is currently being deployed."<sup>65/</sup> The FCC Model violates this standard by modeling outdated and expensive copper-based T-1 DLC technology.<sup>66/</sup> In addition to being costly and obsolete, use of this technology is not practical for ADSL applications because of the extremely limited bandwidth.<sup>67/</sup> The limited bandwidth of copper-based T-1 DLC technology further impedes the provision of advanced services on the FCC Model's technologically deficient loop.<sup>68/</sup> The Model also does not properly account for the trade-off between investments and expenses -- and thereby minimize costs -- because it determines expenses after an independent determination of investments.<sup>69/</sup>

Under Criterion One, a cost model's wire center line counts and average loop length should equal the wire center line counts and average loop length of the actual ILECs'

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<sup>64/</sup> Murphy at ¶¶ 46, 48.

<sup>65/</sup> Universal Service Order at ¶ 250(1).

<sup>66/</sup> Murphy at ¶¶ 55 - 57.

<sup>67/</sup> *Id.* at ¶ 56.

<sup>68/</sup> *Id.*

<sup>69/</sup> Dippon at ¶ 32.

networks. The Order, however, expressly disavows any effort to verify the Model's results with any existing ILEC network.<sup>70/</sup>

## **2. The FCC Model Violates Criterion Two**

Standard modeling principles require that every network function or element have an associated cost.<sup>71/</sup> The Commission cited this cost principle when it adopted the FCC Model, noting that the development of accurate forward-looking costs required the Commission to "look at all of the costs and cost-causative factors that go into building a network."<sup>72/</sup> However, the FCC Model falls short of meeting the Commission's own mandatory standards. For example, the FCC Model fails to provide any investment for the fundamental functions necessary to provide service in a wholesale and retail environment, such as Operation Support Systems ("OSS") and testing facilities.<sup>73/</sup> Nor does the FCC Model include the capitalized labor costs for trunk installation or the costs associated with certain SS7 signaling links.<sup>74/</sup> Such cost model omissions result in severely understated cost estimates and further underscore the incomplete nature of the FCC Model.

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<sup>70/</sup> Order at ¶ 66.

<sup>71/</sup> Universal Service Order at ¶ 250(2).

<sup>72/</sup> Order at ¶ 11.

<sup>73/</sup> Murphy at ¶ 78; Dippon at ¶ 33.

<sup>74/</sup> Murphy at ¶¶ 79-80; Dippon at ¶ 33.

### **3. The FCC Model Violates Criterion Six**

Criterion Six requires that the cost model estimate the cost of providing service for all businesses and households in a geographic region.<sup>75/</sup> This criterion is consistent with the Commission's mandate that the cost model adhere to sound economic engineering design standards.<sup>76/</sup> Once again, the FCC Model departs from Commission's own directives, as well as regulatory service standards, by constructing a network that serves only occupied dwellings, instead of all housing units.<sup>77/</sup> The modeled network does not contain sufficient capacity to provide service upon demand to presently unoccupied or new locations.<sup>78/</sup> By failing to model sufficient capacity to accommodate the service demands of the existing customer base, the FCC Model violates the Commission's cost model standards and would impose lengthy service delays on new customers or those in the process of relocating.<sup>79/</sup>

### **4. The FCC Model Violates Criteria Eight And Nine**

The Commission has recognized that it is fundamental to the analysis of any cost model that the underlying formulae and computer software be available for review and comment, and that "[a]ll underlying data should be verifiable, engineering

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<sup>75/</sup> Universal Service Order at ¶ 250(6).

<sup>76/</sup> Order at ¶ 65.

<sup>77/</sup> Murphy at ¶¶ 65-66; Dippon at ¶ 35.

<sup>78/</sup> Dippon at ¶ 35.

<sup>79/</sup> Murphy at ¶ 66.

assumptions reasonable, and outputs plausible."<sup>80/</sup> The Commission has also recognized that a cost model should permit the user "to examine and modify the critical assumptions and engineering principles."<sup>81/</sup> Aside from the procedural necessity of affording interested parties the opportunity to comment on the Commission's proposed rules,<sup>82/</sup> these criteria serve the essential function of permitting validation of the model and its output. The FCC Model fails these basic criteria. At no time prior to adoption was the FCC Model released to the public for review or subject to any independent analysis or validation. Moreover, a complete analysis of the FCC Model is still not possible because the Model is missing (i) documentation relating to its source code, (ii) a list defining each variable and how and where it is used, (iii) the customer location database, and (iv) a reasonable database of input values.<sup>83/</sup> The geocoding information and database that is the foundation for the Model's clustering has never been made available. In the absence of this underlying data, the FCC Model is largely impenetrable.

GTE has conducted a limited analysis of the FCC Model's Switching Module.

This analysis establishes that the Switching Module does not conform to accepted

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<sup>80/</sup> See Universal Service Order ¶ 250(8); In the Matter of Federal-State Joint Board on Universal Service, CC Docket No. 96-45, *Second Recommended Decision*, FCC 98J-7 (rel. Nov. 25, 1998), at ¶ 55. See also *National Black Media Coalition*, 791 F.2d at 1023-24 (reliance on unpublished data violated notice provision).

<sup>81/</sup> Universal Service Order at ¶ 250(9).

<sup>82/</sup> 47 C.F.R. §§ 1.412-13.

<sup>83/</sup> See Murphy at ¶ 13; Dippon at ¶ 22-24, 28, 36; Zhang at ¶ 9; Roy at ¶ 7.

industry engineering practices.<sup>84/</sup> The FCC Model's line to trunk ratio of 24:1 is four times the industry standard.<sup>85/</sup> Modeling only one trunk for every twenty four lines will result in insufficient trunk facilities to serve existing demand.<sup>86/</sup> This excessively high line to trunk ratio does not reflect reasonable engineering assumptions as required by Criterion Eight.<sup>87/</sup> The Switching Module is also violative of the Commission's Order, which required that the modeled network "ensure adequate switching capacity . . . to process all calls that are expected to be made at peak periods."<sup>88/</sup> By ignoring busy season switch and trunk design principles, the FCC Model does not produce sufficient trunks to handle peak volumes on the modeled network.<sup>89/</sup>

**D. The FCC Model Does Not Work Correctly**

In addition to the procedural infirmities associated with the adoption of the FCC Model, GTE's limited review has revealed several methodological errors that prevent the FCC Model from working correctly. The expert affidavits appended to this petition set forth in detail the many problems and inconsistencies contained in the FCC Model's structure and logic.<sup>90/</sup> The results of these methodological errors (individually and

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<sup>84/</sup> See Murphy at ¶ 69.

<sup>85/</sup> *Id.*

<sup>86/</sup> *Id.*

<sup>87/</sup> *Id.*

<sup>88/</sup> Order at ¶ 21.

<sup>89/</sup> Murphy at ¶¶ 69, 74.

<sup>90/</sup> Murphy at ¶¶ 20-41; Zhang at ¶¶ 8-27; Roy at ¶¶ 7-37.

collectively) are inaccurate and illogical cost estimates that cannot be explained.<sup>91/</sup> A model that does not work correctly cannot be rationally applied to the network that will be providing universal service, nor can it be used rationally to calculate GTE's (or any other ILEC's) share of universal service support.<sup>92/</sup>

#### **IV. CONCLUSION**

In its Order, the Commission adopted a new Model, which was (and remains) incomplete and incapable of proper evaluation. The FCC Model was adopted before GTE and other parties had an opportunity to analyze and comment on the Model and whether it produces reliable cost estimates, and violates the Commission's prior orders. Accordingly, GTE respectfully requests that the Commission reconsider and set aside its Order, finish the development of all aspects of the Model (platform and inputs) so that the Model is complete and fully operational, disclose all underlying data and

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<sup>91/</sup> Murphy at ¶ 13; Zhang at ¶ 9; Roy at ¶ 7.

<sup>92/</sup> See *Tex Tin Corp.*, 992 F.2d at 354.

information necessary for GTE to evaluate and run the Model for all states, and then give GTE and other parties the opportunity to comment on it.

Respectfully submitted,

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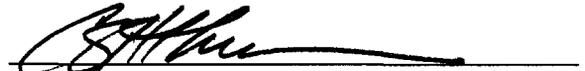
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December 18, 1998

## CERTIFICATE OF SERVICE

I, Christopher S. Huther, do hereby certify that on this 18th day of December, 1998, I have caused a copy of the foregoing GTE Service Corporation's Petition for Reconsideration of the Commission's Fifth Report and Order to be served, via hand delivery upon the persons listed on the attached service list.



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