

BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA

In re Petition by Regulatory Operations Staff for)
Investigation into Procedures and Methodologies to)
Develop Costs for Bundled and Unbundled)
Telephone Services and Service Elements in Nevada.)

Docket No. 96-9035

At a general session of the Public Utilities
Commission of Nevada, held at its offices on
March 5, 1998.

PRESENT: Chairman Judy M. Sheldrew
Commissioner Timothy Hay
Commissioner Lucy Stewart
Commission Secretary Jeanne Reynolds

Heard: February 2-3, 1998
February 24-25, 1998
Carson City, Nevada

APPEARANCES:

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Sprint/Central Telephone Company - Nevada	Bill Bollinger Kent Dickerson Theresa Harper Richard Pfeiffer Ann Pongracz Brian Staihr Linda Stinar

OPINION AND ORDER

The Public Utilities Commission of Nevada (“Commission”) makes the following findings of fact and conclusions of law:

I. Procedural History

1. On September 27, 1996, the Regulatory Operations Staff of the Commission (“Staff”) filed a Petition, designated as Docket No. 96-9035, requesting an investigation into the procedures and methodologies that should be utilized to develop costs for bundled and unbundled telephone services or service elements in the State of Nevada.
2. On October 9, 1996, the Commission issued a public notice of Docket No. 96-9035 requesting interested parties file written comments on the Petition by October 30, 1996.
3. In response to the public notice, the Commission received written comments relating to the Petition from AT&T Communications of Nevada (“AT&T”), MCI Telecommunications Corporation (“MCI”) and NextLink Nevada (“NextLink”), Nevada Bell, NevTEL, and Sprint/Central Telephone Company - Nevada (“S/CTC-N”).

4. On December 5, 1996, the Commission issued a public notice of workshop and prehearing conference in Docket No. 96-9035 to establish the scope of and procedural schedule for this investigation.
5. On January 9, 1997, the prehearing conference convened in accordance with the public notice. Appearances at the prehearing conference were made by AT&T, AT&T Wireless Services (“AT&T Wireless”), the Attorney General’s Bureau of Consumer Protection - Utility Consumers Advocate (“UCA”),¹ Brooks Fiber Communications (“Brooks Fiber”), Citizens Telecommunications Company of Nevada (“Citizens Telecom”), Contel of California Inc., d/b/a Contel of Nevada,² MCI, MultiTechnology Services, Nevada Bell, NevTel, Prime Cable of Las Vegas and NextLink and the Nevada State Cable Television Association (Prime Cable, et al.), Phoenix Fiberlink of Nevada, S/CTC-N, Sprint Communications (“Sprint”), and Staff
6. On February 11, 1997, the Commission issued a prehearing conference order which set the schedule for prefiled testimony and hearing dates. The parties agreed at the prehearing conference to limit the scope of the hearing to: (1) the procedures and methodologies to be utilized to develop total service, long-run incremental costs; (2) the procedures and methodologies to be utilized to develop total element, long-run incremental costs; (3) the procedures and methodologies to be used to develop avoided costs or wholesale rates for services provided by incumbent local exchange companies to competing telephone companies; and (4) any other costing or pricing issues that are necessary to comply with and implement the provisions of the Telecommunications Act of 1996 and the Commission’s telephone regulations. The parties were also directed to file avoided cost studies and cost studies related to the following: loops, transport, tandem and local switching, common costs, signaling, and operator/directory assistance.³

¹Prior to October 1, 1997, the UCA was known as the Office of Consumer Advocate.

²On April 17, 1997, GTE of Nevada filed a letter requesting that the Commission correct its records to reflect a change in its name from Contel of California, Inc., d/b/a Contel of Nevada to GTE of California Incorporated, d/b/a GTE of Nevada (“GTE”).

³On August 8, 1996, the Federal Communications Commission (“FCC”) released its First Report and Order, Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, FCC 96-325, CC Docket No. 96-98, CC Docket No. 95-185 (“First Report and Order”). The Commission took official notice of this document pursuant to NAC 703.755. (Hearing, June 4, 1997, Tr., p. 636).

7. On February 25, 1997, the Commission issued a notice of hearing and workshop. At the workshop, the Commission would take comments and information on the topics described in the prehearing conference order. At the hearing, the Commission would consider evidence pertaining to the investigation and any other related issues pertaining to Chapters 703 and 704 of the Nevada Revised Statutes (“NRS”) and Nevada Administrative Code (“NAC”).
8. On February 28, 1997, a revised prehearing conference order was issued.
9. A workshop was held as noticed on April 7 to 11, 1997. Appearances were made by AT&T, Brooks Fiber, Citizens Telecom, GTE, MCI, Nevada Bell, NevTel, Prime Cable, et al., S/CTC-N, Staff, and the UCA. The parties discussed the issues of the Petition amongst themselves and kept the Commission apprised of the proceedings.
10. On May 5, 1997, the UCA filed a letter representing that all parties of record to Docket No. 96-9035 indicated their concurrence to extend the testimony filing deadlines from May 5 to May 9, 1997, and from May 19 to May 23, 1997. On May 5, 1997, the Presiding Officer issued an Order extending the dates for filing testimony as requested by the UCA.
11. On June 2, 1997, a hearing commenced in this matter and lasted ten days. Appearances at the hearing were made by AT&T, Brooks Fiber, GTE, MCI, Nevada Bell, Prime Cable, et al., S/CTC-N, Staff, and the UCA.
12. On July 21, 1997, Nevada Bell filed a Motion to Extend Time for Filing Posthearing Briefs. Responses to this Motion were filed by AT&T, MCI, UCA, and Staff. On July 29, 1997, the Commission issued an Order extending the time frame for the filing of posthearing briefs related to costing and pricing issues by seven calendar days. On July 30, 1997, the Commission revised that Order by extending the filing of posthearing briefs an additional seven calendar days.
13. On July 31, 1997, MCI sent a letter to the Commission and parties indicating that it did not intend to file a motion relating to treatment of third-party confidential material.
14. By August 14, 1997, the Commission received posthearing opening briefs relating to costing and pricing issues from AT&T, Brooks Fiber, MCI, Nevada Bell, Prime Cable, et al., S/CTC-N, Staff, and the UCA.

15. On August 19, 1997, the Commission received AT&T's Motion to Strike Portions of Nevada Bell's Opening Brief. On August 26, 1997, the Commission received the Response of Nevada Bell to AT&T's Motion.
16. By August 29, 1997, the Commission received posthearing reply briefs relating to costing and pricing issues from AT&T, MCI, Nevada Bell, Prime Cable, et al., S/CTC-N, Staff, and the UCA.
17. On October 7, 1997, the Commission granted AT&T's Motion to Strike portions of Nevada Bell's Opening Brief. Consequently, page 36, lines 8-15, and Exhibit 2 of that Brief were stricken from the record. On October 22, 1997, Nevada Bell filed a Petition for Reconsideration and Cross-Motion to Strike Regarding Posthearing Briefs of AT&T Communications of Nevada.
18. By December 1, 1997, the Commission had taken no action on the Petition for Reconsideration; therefore, it was deemed denied pursuant to NAC 703.801(5). On December 10, 1997, the Commission denied Nevada Bell's Cross-Motion.
19. On October 30, 1997, the Commission issued an Order addressing the procedures and methods to utilize to develop costs for bundled telephone services.
20. On December 11, 1997, the Commission issued an Order in this docket addressing the cost concept and model to utilize to develop costs for unbundled network elements ("UNEs"). The Commission initially found the Hatfield Model, Version 3.1 to be an appropriate basis upon which further investigation into the method to determine the forward-looking economic costs of UNEs could be conducted. However, the Commission concluded certain modifications would be needed in order to make the Hatfield Model most useful in determining UNE costs for Nevada. Consequently, the Commission solicited comments seeking input on items indicated in the Order and other items as necessary to ensure that the modified model was entirely suitable for purposes of developing costs of UNEs in Nevada.
21. On December 11, 1997, the Commission also issued a Procedural Order intended to solicit comments on ways in which the Hatfield Model could be modified or improved in order to assure the information it produces is applicable to specifics of the Nevada marketplace. In the event that

- consensus was not achieved regarding modifications to the Hatfield Model, a workshop was scheduled.
22. On December 26, 1997, S/CTC-N filed a Petition for Reconsideration of the December 11, 1997, Order. On January 12, 1998, answers to the Petition were filed by AT&T, Nevada Bell, and Staff. By February 4, 1998, the Commission had taken no action on the Petition for Reconsideration; therefore, it was deemed denied pursuant to NAC 703.801(5).
 23. On January 8, 1998, the Commission received comments on switching and interoffice facilities from AT&T, Citizens Telecom, GTE, Nevada Bell, S/CTC-N, and Staff.
 24. On January 14, 1998, the Commission issued a Procedural Order requesting further information on ways to modify the Hatfield Model's switching cost algorithm in order to provide more accurate information regarding the investment cost for switches.
 25. On January 15, 1998, the Commission received comments on distribution of customers and line counts from AT&T, GTE, Nevada Bell, S/CTC-N, and Staff.
 26. On January 16, 1998, the Commission issued a Procedural Order for further information regarding the locations of customers and ways to improve the Hatfield Model's accuracy in assigning census block groups to serving wire centers. On January 21, 1998, the Commission issued a Corrected Procedural Order in this matter.
 27. On January 22, 1998, comments on outside plant investment were filed by AT&T, GTE, Nevada Bell, Prime Cable, et al., S/CTC-N, and Staff.
 28. On January 29, 1998, comments on general support facilities and expenses were filed by AT&T, GTE, Nevada Bell, S/CTC-N, and Staff.
 29. By January 30, 1998, comments pursuant to the Procedural Order dated January 14, 1998, were filed by AT&T, GTE, Nevada Bell, S/CTC-N, and Staff. Also by January 30, 1998, comments pursuant to the Corrected Procedural Order dated January 21, 1998, were filed by AT&T, GTE, Nevada Bell, and S/CTC-N.

30. On February 2, 1998, a duly-noticed workshop commenced in this matter.⁴ Appearances were made by AT&T, Citizens Telecom, GTE, Nevada Bell, Prime Cable, et al., S/CTC-N, Staff, and the UCA. On February 3, 1998, after consideration of comments filed and discussion of model modifications, and following a parties' only conference, a consensus was developed suggesting the Commission find the Hatfield Model, Version 5.0 to be the most appropriate model modification for further discussion in Docket No. 96-9035.⁵
31. On February 4, 1998, the Commission issued a Procedural Order continuing the workshop and directing parties to file comments on inputs to use and modifications to make to the Hatfield Model, Version 5.0.
32. On February 5, 1998, the Commission issued an Order in this docket addressing additional issues in developing UNE cost studies.
33. On February 20, 1998, comments regarding inputs to use and modifications to make to the Hatfield Model, Version 5.0 were filed by Citizens Telecom, GTE, Nevada Bell, Prime Cable, et al., S/CTC-N, and Staff.
34. On February 20, 1998, GTE and Nevada Bell filed Petitions for Reconsideration and Prime Cable, et al. filed a Petition for Clarification of the Commission's Order on February 5, 1998. The Commission has not made a decision on any of these Petitions at this time.
35. On February 24, 1998, the workshop on modifications to make to the Hatfield Model, Version 5.0 continued. Appearances were made by AT&T, Citizens Telecom, GTE, Nevada Bell, Prime Cable, et al., S/CTC-N, and Staff. On February 25, 1998, after the parties had commented on possible model platform changes, the parties agreed to reserve discussion of input values for the Hatfield Model, Version 5.0 until a later date.
36. This order addresses algorithm platform changes to be made to the Hatfield Model, Version 5.0 for UNE costing purposes. A forthcoming procedural order in this docket will detail the procedure for discovery and Commission review of further information in this docket.

⁴All transcript cites in this Order refer to the workshop held February 2-3 and 24-25, 1998, unless specified otherwise.

⁵GTE was the only party at the workshop who voiced opposition to proceeding forward using the Hatfield Model, Version 5.0.

II. Commission Discussion

A. Selection of the Hatfield Model, Version 5.0

37. During the workshop on February 3, 1998, a consensus was developed amongst the parties suggesting that the Commission find the Hatfield Model, Version 5.0 to be the most appropriate model for further discussion of a modified model platform to be used in Docket No. 96-9035.⁶ (Tr., pp. 138-147).
38. The Commission finds that given the modifications inherent in the Hatfield Model, Version 5.0, over the Hatfield Model, Version 3.1, as well as the consensus amongst the parties to proceed in that direction, it is appropriate to analyze Nevada-specific UNE costing using the Hatfield Model, Version 5.0 as the basis for model platform modifications.

B. User Requirements and Further Adjustments to the Hatfield Model, Version 5.0⁷

1. Consensus Changes

39. The following discussions in paragraphs 40 through 46 address modifications to the Hatfield Model, Version 5.0 that AT&T and other parties have agreed upon for use in the Nevada Hatfield Model. With the exception of wire center specific switch investment inputs (*See* paragraph 42 below), the Commission finds the proposed changes reasonable and, therefore, requires these changes.

a. Investment in Poles

40. AT&T stated that investment in poles will be made to depend on the soil type, bedrock and type, and water depth. Overhead for guys, grounding wires, and anchors will be added separately and as one total entry. The resulting investment in poles will take the form of:

Base (A) + Overhead (B) + C*(Soil Type Indicator-1) + D*(Bedrock Indicator-1) + E*(Water Indicator-1), where A through E are constants that can be entered by the user, and B will be separately specified in each density zone. (AT&T Comments, March 3, 1998, pp. 1-2).

⁶GTE was the only party at the workshop who voiced opposition to proceeding forward using the Hatfield Model, Version 5.0.

⁷In this Order, "Hatfield Model, Version 5.0" refers to the model that AT&T provided to the Commission and parties for review and analysis after the February 3, 1998, workshop. "Nevada Hatfield Model" is the name used to refer to the model that reflects both the changes needed as agreed to by consensus and changes which the Commission directs be made, both of which are reflected in this Order.

Staff agreed with this proposal. (Staff Comments, March 2, 1998, p. 2).

b. Drop Investment

41. AT&T stated that drop investment will be made to depend on the depth to the bedrock, surface soil type, and water table depth. (AT&T Comments, March 3, 1998, p. 2). Staff agreed with this proposal. (Staff Comments, March 2, 1998, p. 2).

c. Wire Center Specific Switch Investment Inputs

42. AT&T stated that it will automate the process by which the user can input wire center specific switch investments to replace the ad hoc process with which they have already been provided. (AT&T Comments, March 3, 1998, p. 1). Nevada Bell and S/CTC-N agreed with this proposal. (Nevada Bell Comments, March 2, 1998, p. 1; S/CTC-N Comments, March 3, 1998). As discussed in paragraphs 57 through 63 below, the Nevada Hatfield Model shall not include this change.

d. Line Counts by Wire Center

43. AT&T stated that it will develop a mechanism whereby the user can easily enter residence, business, special, and public line counts by wire center for the purpose of normalizing line counts on a per wire center basis in the Nevada Hatfield Model. (AT&T Comments, March 3, 1998, p. 1). Nevada Bell, Prime Cable, et al., and S/CTC-N agreed with this proposal. (Nevada Bell Comments, March 2, 1998, p. 1; Prime Cable, et al. Comments, February 20, 1998, pp. 3-4; S/CTC-N Comments, March 3, 1998).

e. Wire Center Maps

44. AT&T stated that it will modify the Hatfield Model, Version 5.0 so that all census blocks are mapped to the appropriate wire centers serving such census blocks, using the information provided by the incumbent local exchange carriers' ("ILEC") maps serving those wire centers. (Tr., pp. 163-164, 365-366; AT&T Comments, March 3, 1998, p. 1). In addition, AT&T will modify the Hatfield Model, Version 5.0 for line count normalizing using actual ILEC wire center counts. Prime Cable, et al., Staff, and Nevada Bell agree with this proposal. (Prime Cable, et al.

Comments, February 20, 1998, p. 4; Tr., pp. 335-336; Staff Comments, March 2, 1998, p. 2; Nevada Bell Comments, March 2, 1998, p. 2).

f. Rock Depth and Water Table Thresholds

45. AT&T stated that separate rock depth threshold assignments could be changed to allow for buried copper, buried fiber, and poles, with default values of 24", 36", and 48", respectively. AT&T would also allow for specification of water table thresholds for poles, manholes, and drops. Staff agreed with this proposed modification.⁸ The required changes include these recommendations of Staff.

g. Main Distribution Frame

46. Currently, while the cost of the main distribution frame protector is in the Hatfield Model, Version 5.0, it is not divided between port and loop when the port is identified separately. AT&T agreed during the workshop to modify the Hatfield Model, Version 5.0 by assigning main distribution frame loop protector costs to the loop and not the switching port.

2. Commission Changes

a. Openness

(1) Positions of the Parties

47. Nevada Bell stated that the data used by PNR and Associates, Inc. ("PNR") has not been available for review by interested parties, even under confidentiality agreements. (Nevada Bell Comments, February 20, 1998, p. 7)
48. S/CTC-N put forth a letter on the record from PNR indicating that PNR refused to supply cluster data underlying the Hatfield Model, Version 5.0. (Tr., pp. 33-34). Specifically, S/CTC-N wanted to look at the geocoded points in the model to see if the people that, according to the model, are supposedly in an area, are actually dispersed through that area. (Tr., p. 34).

⁸Staff requested that the Hatfield Model, Version 5.0 be modified to allow separate designation of rock depth threshold assignments for buried copper, buried fiber, underground cable, poles, and buried drops. (Staff Comments, March 2, 1998, p. 2). In addition, Staff requested the Hatfield Model, Version 5.0 be modified to allow separate designation of water table depth threshold assignments for buried copper, buried fiber, underground cable, poles, buried drops, and manholes. (Staff Comments, March 2, 1998, p. 2).

49. AT&T stated that an option for review of the PNR data would be to make it available to the parties at the premises of the vendor without being able to take the data away but rather being able to view it and ask questions about it. (Tr., p. 307).
50. S/CTC-N stated that their experts would need substantial time and access to on-site computer capacity in order to verify the data used by PNR. (Tr., p. 320).

(2) Commission Decision

51. The Commission reaffirms its commitment to openness in the selection of the model platform. Therefore, the Commission finds that the Nevada Hatfield Model shall not be used in Nevada until interested parties have been granted access to the data used by PNR. The Commission also finds that access to this data can be limited to on-site review at PNR in Jenkintown, Pennsylvania. However, the Commission finds that if any party is limited to on-site review, the party must be provided with sufficient access to personnel and other resources, including on-site computer capacity, such that review of the data can proceed in a manner similar to that which would occur if access to the data had not been limited to on-site review.

b. Switching

(1) Identifying Switches

(a) Positions of the Parties

52. Individual switch costs vary based on the vendor and whether the switch is a stand-alone, host, or a remote switch. (Staff Comments, January 8, 1998, pp. 1-2; GTE Comments, January 8, 1998, p. 5; AT&T Comments, January 8, 1998, p. 4; Citizens Telecom Comments, January 8, 1998, p. 1; Nevada Bell Comments, January 8, 1998, p. 10; S/CTC-N Comments, January 8, 1998, p. 3). There are situations in which a host/remote arrangement is more cost-effective than a stand-alone arrangement. (Citizens Telecom Comments, January 8, 1998, p. 2; Nevada Bell Comments, January 8, 1998, pp. 11; S/CTC-N Comments, January 8, 1998, p. 2).
53. The criteria used to determine placement of a host/remote configuration rather than separate stand-alone switches are very complicated. An algorithm reflecting the decision-making process cannot be meaningfully derived. (AT&T Comments, January 8, 1998, pp. 4, 7-8; Nevada Bell Comments, January 8, 1998, pp. 12-14; S/CTC-N Comments, January 8, 1998, p. 5; GTE

- Comments, January 8, 1998, p. 6). As an alternative, AT&T and MCI have modified the Hatfield Model to reflect, to the extent practicable, the economies that result from the use of an efficient mix of host, remote, and stand-alone, switches. Users can specify switch types as inputs to the model, with separate costs for each. (AT&T Comments, January 8, 1998, p. 5).
54. GTE and S/CTC-N recommend using current switch locations and host remote relationships that are documented in the Local Exchange Routing Guide (“LERG”). This reflects the actual forward-looking experiences of the ILEC and reflects such provisioning as the most cost-effective mix of switches. (S/CTC-N Comments, January 8, 1998, p. 3; GTE Comments, January 8, 1998, pp. 6, 11).
55. AT&T indicated the current deployment of switches may not represent a forward-looking deployment, and that, for example, an efficient carrier would place remote switches in wire centers currently using stand-alone switches. (AT&T Comments, January 8, 1998, p. 10). Nevada Bell also indicated that to make an ILEC’s current deployment of switches forward-looking, certain switches, such as DMS-10s, would have to be replaced with investments that are more representative of forward-looking investments, such as remote switches. (Tr., p. 374). Staff indicated it did not have any objections to such an approach. (Tr., p. 374).

(b) Commission Decision

56. Based on the above, the Commission requires that ILECs use the capability of the Hatfield Model, Version 5.0 which allows switches to be separately identified as either a host, remote, or stand-alone switch and that the identification of switches as such shall be based on the ILEC’s current deployment of switches. However, this deployment must be updated to account for forward-looking investment that an efficient carrier could reasonably be expected to make in the foreseeable future.

(2) Switch Investment

(a) Position of the Parties

57. Nevada Bell developed a switching investment curve using ILEC individual switch investment; however, it did not separately identify switches as either host, remote, or stand-alone switches,

- and its analysis contained allegedly competitively sensitive cost data that was redacted. (Nevada Bell Comments, January 8, 1998, pp. 23-24).
58. S/CTC-N did not believe that the Hatfield Model, Version 5.0 allows for individual switch costs so that UNE costs can be deaveraged per previous Commission orders. S/CTC-N requested that the Hatfield Model, Version 5.0 be modified to include switch-specific investment information developed using Bellcore's proprietary Switching Cost Information Systems ("SCIS") model. S/CTC-N requested the Hatfield Model, Version 5.0 be modified to automate the process by which the user can input wire center specific switch investments, to replace the ad hoc process previously provided by AT&T. (S/CTC-N Comments, February 20, 1998, pp. 6-7; S/CTC-N Comments, March 2, 1998, p.2).
59. Citizens Telecom stated that for a small company with rather different types of configurations and network demands than the larger ILECs, Citizens Telecom would prefer modifications to be made using company-specific data; however, Staff's data would be the next best option. (Tr., p. 356).
60. Staff provided the Commission with switching investment recommendations for medium and large companies (derived from depreciation report data compiled by the FCC and Bureau of Economic Analysis) and small companies (derived from RUS contracts). (*See* Staff Comments, February 20, 1998, p. 28). Staff also indicated that its recommended switch investment values include usage variance by including the variance in usage levels across a data set containing a large number of observations taken from actual switches in operation throughout the nation. In this sense, Staff's average unit investment or per line investment vary in usage level just as usage levels vary across the switches operated by the companies from which the data was obtained. Accordingly, Staff's recommended investment values are driven by usage level variance.
61. Staff also indicated that the Hatfield Model, Version 5.0 does produce wire center specific switch cost data and that using the Hatfield Model, Version 5.0 will produce wire center specific switch investment. (Tr., pp. 326-327). AT&T also indicated that the Hatfield Model, Version 5.0 can give switch-specific results for a wire center in terms of costs per minute or cost per port. S/CTC-N indicated it was not aware of this capability. (Tr., p. 263).

(b) Commission Decision

62. Based on the above, the Commission finds that Staff's fixed and per-line switching investment recommendations shall be used as defaults in the Nevada Hatfield Model in place of the Hatfield Model, Version 5.0 default values. In addition, ILECs shall not use the Nevada Hatfield Model in a manner that requires interrupting the normal operations of the model in order to populate it with switch-specific investment information generated through the use of proprietary models such as SCIS or other methods, nor shall the Hatfield Model, Version 5.0 be modified to automate the process by which the user can input wire center specific switch investments.⁹
63. Consistent with the Commission's previous Order in this docket (*See* Docket No. 96-9035, Commission Order, February 5, 1998, ¶¶48-51), ILECs may propose alternative switch investment values. Derivation of these values must conform to the principles set forth in the Commission's previous Order and may not rely upon the use of proprietary models such as SCIS.¹⁰ Finally, to the extent that ILECs propose alternative switching investment values, all other parties must be provided with all supporting data, calculations, workpapers, and other such evidence for purposes of review and replicability. (*See* Commission Order, Docket No. 96-9035, December 11, 1997, ¶54).

c. Features

(1) Positions of the Parties

64. Staff indicates that the default switching investment values of the Hatfield Model, Version 5.0 currently include all features, functions, and capabilities of switch in accordance with the previous Order in this docket. (*See* Docket No. 96-9035, Commission Order, February 5, 1998, ¶¶108-109; Tr., pp. 371-372). S/CTC-N expressed concern that pricing as such could result in cross-

⁹Interrupting the model to input switch-specific investment information does not allow for an appropriate sharing of efficiencies ("averaging") across a host-remote deployment. If the model is stopped and new wire center investments are put in, the cost of the host and remote will have already been averaged. The model will then take those numbers and proceed to treat them in the expense module. If one was to input new wire center numbers, one would need to do that averaging before those numbers are input. (Tr., pp. 323-324).

¹⁰*See* Docket No. 96-9035, Commission Order, December 11, 1997, ¶¶51-57. There is a vast difference between the proprietary nature of the SCIS model and Hatfield Model, Version 5.0. The Hatfield Model, Version 5.0's clustering algorithm is publicly available (Tr., pp. 274-275) and this Order gives parties access to the actual inputs to the clustering algorithm. (*See* paragraph 51 above). On the other hand, the SCIS model algorithms are only available under a significantly oppressive proprietary agreement. (Tr., pp. 299-301).

subsidies, especially with respect to such services as Centrex. (Tr., p. 218; S/CTC-N Comments, February 20, 1998, pp. 9-10). AT&T indicated that such a subsidy would be de minimis. (Tr., p. 219). Nonetheless, AT&T indicated there could be additional labor charges associated with provisioning features such as Centrex. (Tr., p. 219).

(2) Commission Decision

65. The Commission is concerned about the possibility of cross-subsidies. Therefore, while the Commission does not require feature unbundling at this time, the Commission strongly encourages additional investigation into this area, including the extent to which Staff's default investment values may result in cross-subsidies across customers classes, and how the Nevada Hatfield Model may be modified to eliminate such cross-subsidies. The Commission also encourages ILECs to develop alternative switch investment specifications which allow for features unbundling, in accordance with the principles set forth in this and previous Commission Orders in this docket.

d. Poles, Manholes, Handholes, and Pullboxes

(1) Position of the Parties

66. S/CTC-N indicated that the Hatfield Model, Version 5.0 did not place poles in density zones with more than 5,000 lines per square mile. This causes the model to understate loop investment and cost by the amount of aerial structure cost that is eliminated by the model. This is exacerbated by the fact that the Hatfield Model, Version 5.0 assumes an unrealistically high percentage of aerial plant. (S/CTC-N Comments, January 22, 1998, p. 5).
67. GTE stated that the Hatfield Model, Version 5.0 fails to account for an adequate number of handholes or pullboxes, particularly in urban areas, because of the model's treatment of most urban cable as aerial. (GTE Comments, January 22, 1998, p. 11). Nevada Bell also stated that the Hatfield Model, Version 5.0 does not include manholes, handholes, or pullboxes in distribution plant. This omission understates underground conduit costs significantly. (Nevada Bell Comments, January 22, 1998, pp. 14-15). S/CTC-N indicated a similar concern and suggested that the model could be redesigned to include an input table for these items or that conduit or trenching for conduit costs could be adjusted to reflect these additional costs per foot. (S/CTC-N Comments, January 22, 1998, p. 10).

68. AT&T did not agree with the need for putting poles in high density areas. AT&T did indicate, however, that it would make the formula change which would allow for the placement of poles in high density areas. (Tr., p. 224). AT&T indicated it left poles out of distribution plant in the most dense areas because AT&T's outside plant team said that was consistent with the way that outside plant is designed and configured. AT&T indicated that instead of placing poles in the most dense areas, AT&T used block cable that attaches to the side of buildings and riser cable. The Hatfield Model, Version 5.0 includes cost for riser cable running from the serving area interface, located in the basement of buildings, up to the individual floors of the building. Recognizing that its model did not include poles, AT&T included riser cable because it believed that was the most consistent way to know how much plant is required to serve dense areas. (Tr., p. 225).
69. AT&T indicated distribution cable requires no manholes or pullboxes which serve feeder cable almost exclusively. However, if parties can justify this portion of outside plant, the Hatfield Model, Version 5.0 can be adjusted to account for costs by (1) increasing the per-foot cost of cable to account for manhole and other access costs, or (2) adjusting the cost of conduit for underground cable rather than cable costs themselves. This approach is more likely to capture the actual layout of the network and more accurately capture any such costs. (AT&T Comments, January 22, 1998, p. 9). However, AT&T also indicated that modifying the Hatfield Model, Version 5.0 to include pullboxes or manholes would not be a major step. (Tr. at 226).

(2) Commission Decision

70. Based on the above, the Commission finds that the Hatfield Model, Version 5.0 shall be modified to include manholes, handholes, and pullboxes in distribution plant by, for example, including an input table for these items. The Commission does not adopt those parties' proposals which suggest the cost of these items be accounted for by increasing the cost of cable or conduit. The Commission's approach ensures that any element required to produce UNEs has an explicit cost and believes this will assist in the verification and replication of model results.
71. In addition, the Commission finds that it will hold AT&T to its commitment to make the formula change which would allow for the placement of poles in high density areas. However, with regard to the Commission's previous Order in this docket (*See* Docket No. 96-9035, Commission Order,

February 5, 1998, ¶23), ILECs bear the burden of proof concerning least-cost solutions and must demonstrate that any technically feasible alternative will not lead to reduced costs. The Commission notes this burden applies to the use of poles versus block cable and riser cable in high density areas.

e. Cable Cost Equations

(1) Positions of the Parties

72. Staff requested that the Hatfield Model, Version 5.0 be altered so as to enable Staff to utilize the variables present in the various cable cost equations from the Gabel/Kennedy monograph.¹¹ (Staff Comments, March 2, 1998, p. 2). Staff suggested that such changes could be made in a manner that does not prevent the user from utilizing the existing method within the Hatfield Model, Version 5.0. This would be a change that simply adds flexibility to the model. (Tr., p. 390).
73. AT&T concurred with Staff's assessment and indicated that it would put new flexibility in the Hatfield Model, Version 5.0 by creating a set of multipliers or factors that are user inputs. The user could bypass the effect of these multipliers and set investment to some constant value by simply setting the value of the multiplier to zero. (Tr., pp. 391-392). AT&T indicated this approach seemed like a good way to move forward quickly and that actually figuring out what values the user would use for inputs could be left for later. (Tr., p. 393).

(2) Commission Decision

74. Based on the above, the Commission finds that the Hatfield Model, Version 5.0 shall be modified pursuant to Staff's position in paragraph 72 above.

f. Assignment of General Support Costs, Network Operations Costs, Variable Overhead Costs, and Other Taxes

(1) Position of the Parties

75. With the exception of Motor Vehicles, Staff supported a 100% per line assignment to the loop category. (Tr., p. 332; Staff Comments, February 20, 1998, p. 24). This proposed allocation was supported by Nevada Bell, S/CTC-N, and GTE. (Tr., pp. 346, 353, 357). With respect to Motor Vehicles-Capital Costs and Motor Vehicles-Expenses, Staff believed that only 50% of these

¹¹"Estimating the Cost of Switching and Cable Based on Publicly Available Data," by David Gabel and Scott Denndy. A Monograph to be published by the National Regulatory Research Institute, 1998.

expenses ought to be assigned on a per-line basis. (Tr., p. 332; Staff Comments, February 20, 1998, p. 24). However, Staff's recommendation was not based on a study or underlying method. (Tr., p. 332).

(2) Commission Decision

76. The Commission finds that the 100% per line assignment to the loop category agreed upon by Staff, Nevada Bell, S/CTC-N, and GTE is reasonable and should be adopted in the Nevada Hatfield Model. However, since Staff did not have a recommendation for Motor Vehicles-Capital Costs and Motor Vehicles-Expenses that was based on a study or underlying method, the Commission finds that the parties are not bound by Staff's suggestion.

g. Allocation of Network Administration Expense to Loops, Switching, and Interoffice Facilities

(1) Position of the Parties

77. AT&T states that the Hatfield Model, Version 5.0 removes network administration expense from network operations because the relevant ARMIS account 6532 refers to switching and interoffice administration. Accordingly, the appropriate treatment of such expenses is to allocate such expenses specifically to switching and interoffice facilities instead of having them spread across the entire set of network components like the rest of network operations. (Tr., pp. 414-415).
78. S/CTC-N contends that ARMIS account 6532 definitely includes network records, including cable line assignments, which are clearly associated with unbundled loops. Further, the ARMIS account 6532 includes general supervision of various activities, and a portion of those supervision costs are associated with unbundled loops. (Tr., pp. 424-425). According to S/CTC-N, the issue is how to assign this ARMIS account to UNEs. This is a hard-coded calculation which eliminates the possibility of a different assignment than what is programmed into the Hatfield Model, Version 5.0. (Tr., p. 418). S/CTC-N contends that the difference of opinion illustrates the simple point that each party should have the ability to address the percent of this category of expense as an input and make its case accordingly. (Tr., p. 426).

79. Staff believes that if this sub-account has been misplaced, the algorithm within the Hatfield Model, Version 5.0 should be changed. (Tr., p. 423).

(2) Commission Decision

80. At this time, the Commission does not have sufficient information to decide upon the accuracy of the Hatfield Model, Version 5.0's assignment of network administration expenses to loops, switching, and interoffice facilities. Accordingly, the Commission finds that the Hatfield Model, Version 5.0 should be modified in accordance with S/CTC-N's suggestion (*See* paragraph 78 above) to allow for a flexibility of assignment across the various UNEs. As S/CTC-N notes, this will allow each party to make its case by providing the Commission with supporting information in subsequent proceedings. In addition, since no party has proposed a default value other than that implicit in the Hatfield Model, Version 5.0, the Commission finds that the Nevada Hatfield Model shall assume this value as a default value.

h. ARMIS Data

(1) Positions of the Parties

81. S/CTC-N believes that the Hatfield Model, Version 5.0 should be modified to account for additional flexibility with respect to the ARMIS data that the model uses in expense calculations. S/CTC-N believes that if the Hatfield Model, Version 5.0 allows forward-looking costs to be less than ARMIS values, the model should not exclude the possibility that they could be greater. S/CTC-N, however, is not suggesting that values greater than 1996 ARMIS values be entered into the Nevada Hatfield Model. (Tr., p. 418). S/CTC-N's primary point is that parties should be allowed to make the case for their inputs. (Tr., p. 419).
82. AT&T indicated qualified support for S/CTC-N's position. (Tr., p. 419). AT&T stated that while the 1996 ARMIS values that the Hatfield Model, Version 5.0 currently uses are not usually talked about as user inputs, the user can adjust these values if the user wants to argue that they are going to a different expense level. While AT&T did not believe that other values were reasonable, they were values that the user could change. (Tr., p. 419).

(2) Commission Decision

83. The Commission finds that since the 1996 ARMIS data used in expense calculations contains values that can already be changed by the user, no further modification to the Hatfield Model, Version 5.0 is necessary. The user may propose alternative values in accordance with this and previous Commission Orders in this docket.

i. Expense Reductions

(1) Positions of the Parties

84. S/CTC-N requested that the Hatfield Model, Version 5.0 be modified so that the calculations associated with general support investment no longer reduces motor vehicles, garage work equipment, or other work equipment by 49%. S/CTC-N also requested modifications to eliminate the calculations which reduce furniture, office equipment, general purpose computers and buildings by 58%. (Tr., pp. 400-401; S/CTC-N Comments, March 3, 1998, p. 2). S/CTC-N indicated that a method which increases the value of the number upon which the calculation is performed in order to offset the result of the reduction is inappropriate. This method may have unintended effects as the increased number may be referenced elsewhere in the model. S/CTC-N indicated a more direct solution is preferable. (Tr., pp. 421-422).
85. AT&T suggested that if parties do not want the Nevada Hatfield Model to reduce the above expenses, parties may set the value in the calculation so it does not reduce the expenses. This approach would not be a structural change to the model. (Tr., p. 421).

(2) Commission Decision

86. Based on the above, the Commission finds that the Hatfield Model, Version 5.0 should be modified so that the percent reduction associated with the above expenses may be easily modified by the user through, for example, an input sheet rather than direct modification of the calculation which performs the reduction. The Commission believes this will increase the flexibility of the Nevada Hatfield Model as it makes a value that users may already vary more readily changeable.

j. Additional Equipment for Unbundled Loops

(1) Positions of the Parties

87. AT&T stated that it will modify the Hatfield Model, Version 5.0 to allow for the addition of any equipment necessary for the provision of individual unbundled loops served by digital loop carriers (“DLCs”).
88. AT&T indicated that it can unbundle a loop by cross-connecting its cage with an ILEC’s SONET add-drop unit using a DS-1 cross-connect. In addition, ILECs must electronically program and groom the DLC to take one channel and digitalize it and feed it to AT&T’s 24-channel cross-connect. (Tr., pp. 226-227). AT&T also indicated that the controversy concerning additional equipment required to provide unbundled loops centered upon the board in the SONET add-drop unit that is necessary to allow single channel grooming into a DS-1 cross-connect; it may cost more than the regular board that goes into the switch. AT&T also indicated that the most simple solution would be to consult an engineering manual on the SONET add-drop unit and identify the name of the equipment and then determine a price to see if there is a differential in the price for that particular piece of equipment. (Tr., pp. 228-229).
89. S/CTC-N indicated it was not sure if the cost differential AT&T referenced was indeed small. In addition, S/CTC-N indicated that Next Generation Digital Loop Carriers (“NGDLCs”) had to be double-ended in order to serve unbundled loops. (Tr., p. 254).
90. Nevada Bell agreed with S/CTC-N that the Hatfield Model, Version 5.0 should be modified to adequately account for costs of the provision of a single unbundled loop at the central office. (Nevada Bell Comments, March 2, 1998, p. 2).

(2) Commission Decision

91. The Commission finds that AT&T’s approach is reasonable and directs AT&T to modify the Hatfield Model, Version 5.0 to include the additional equipment noted above. Further, to the extent such costs are material, AT&T must account for the costs the ILECs incur in electronically programming and grooming DLCs. Finally, AT&T shall account for any cost differences that may arise in purchasing an unbundled loop in the above manner without switching.
92. The Commission will not require AT&T to perform additional modification to account for the fact that NGDLCs may need to be double-ended in order to serve unbundled loops. Parties shall

review the adequacy of the modification AT&T provides and may bring additional recommendations to the Commission in upcoming proceedings.

k. Non-Recurring Charges (“NRCs”)

(1) Positions of the Parties

93. S/CTC-N is not aware of any application in the Hatfield Model, Version 5.0 that generates forward-looking costs for NRCs. (S/CTC-N Comments, February 20, 1998, p. 13). Therefore, S/CTC-N requests that the Hatfield Model, Version 5.0 be modified to generate forward-looking NRCs.
94. AT&T stated that the Hatfield Model, Version 5.0 does not provide explicit element-by-element cost elements for NRCs. (Tr., pp. 340-343). The NRC calculation is produced outside the model and then input into the model. AT&T believed that its model would work for all ILECs. (Tr., p. 406).
95. S/CTC-N stated that AT&T’s model as such will have hard coding and calculations that other companies may not agree upon. Consequently, S/CTC-N suggested that each individual company use its own side model to conduct the NRC calculations. (Tr., pp. 406-407). In addition, S/CTC-N believed that there may be a need for ILECs to have NRCs at both an Operations Support System (“OSS”) level and at a manual processing level given the sophistication of the companies. (Tr., p. 354).
96. AT&T stated that in a competitive environment, there will be a much greater frequency in carrier changes. Customers are going to move around in far greater numbers and frequencies with the onset of competition. In order to stay competitive, competitive carriers will have to develop a system to automate order placements. (Tr., pp. 410-411).

(2) Commission Decision

97. The Commission orders AT&T to provide parties with the outboard files that can be used to calculate NRCs. However, ILECs are not required to use such capabilities at this time and may submit alternative studies for NRCs as long as such studies comply with the Commission’s previous Order. (*See* Docket No. 96-9035, Commission Order, February 5, 1998, ¶117).

98. The Commission strongly encourages the model platform developers to develop an NRC module for use with the Nevada Hatfield Model. The Commission finds that an NRC module should be developed consistent with the Commission's previous Order (*See* Docket No. 96-9035, February 5, 1998, Order ¶117) and should account for both Electrical Data ("EDI") and Graphical User ("GUI") interfaces.¹²
99. Consistent with the Commission's previous Order in this docket (*See* Docket No. 96-9035, Commission Order, February 5, 1998, ¶117), the Commission finds that NRCs shall be based on provisioning UNEs through a fully automated OSS. In a competitive market, automated systems will be necessary to handle anticipated customer orders.

I. Line Limit on Cluster Size

(1) Position of the Parties

100. Nevada Bell requested that the Hatfield Model, Version 5.0 be modified to include an alternate input database which was developed using a limit on the number of lines in a cluster of 1,200 lines so that a user could use either the existing limit of 1,800 lines or the alternate limit of 1,200 lines. (Nevada Bell Comments, March 2, 1998, p. 1). However, during the workshop Nevada Bell indicated that it was not recommending the change at this time. (Tr., p. 202). Nevada Bell stated it was not prepared to propose a change to lower the cluster limit but would like to see the results of an analysis performed by AT&T that would reduce the limit to 1,200. (Tr., p. 203).

(2) Commission Decision

101. Given Nevada Bell's statement during the workshop, the Commission finds that it is not appropriate to implement Nevada Bell's specific recommendation at this time. Nevada Bell may pursue this matter through discovery and propose a program modification pursuant to a forthcoming procedural order.

C. Applicability

¹²GUI is a user-to-system electronic interface intended for smaller-scale carriers, who seek quick market entry, combined with low investment and an easy-to-use solution. By contrast, the EDI-based interfaces are often preferred by larger carriers. (*See* FCC Memorandum Opinion and Order released August 14, 1997, FCC 97-286, CC Docket No. 96-10, ¶195).

102. During the workshop, Citizens Telecom expressed concern about the applicability of the Nevada Hatfield Model to small LECs. (Tr., p. 384-385). Pursuant to 47 U.S.C. §251(f)(1)(A), obligations of ILECs under 47 U.S.C. §251(c) shall not apply to a rural LEC until such company has received a bona fide request for interconnection services, or network elements, and the Commission determines that such request is not unduly burdensome, is technically feasible, and is consistent with 47 U.S.C. §254. Consequently, the Commission finds that when a rural LEC exemption is lifted, the rural LEC will be given the opportunity to be heard on the applicability of the Nevada Hatfield Model to that rural LEC. This is consistent with the FCC's separate treatment of rural telecommunications carriers from non-rural telecommunications carriers with respect to costing methodologies. (See FCC Report and Order in the Matter of Federal-State Joint Board on Universal Service released May 8, 1997, FCC 97-157, CC Docket No. 96-45, ¶252). **THEREFORE**, based on the foregoing findings of fact and conclusions of law, it is hereby

ORDERED that:

1. AT&T shall make all changes to the Hatfield Model, Version 5.0 consistent with the Commission's decisions above.
2. The parties shall conduct future UNE cost studies consistent with the Commission's decisions above.
3. The procedural schedule for Commission review of non-rural ILECs' UNE cost studies is as follows:
 - (A) Non-rural ILECs will file UNE cost studies and testimony, under new dockets established by the Commission, no later than May 1, 1998.
 - (B) Intervenors will file testimony no later than May 27, 1998.
 - (C) Hearings on the UNE cost studies will commence on June 15, 1998.
4. The Commission retains jurisdiction for the purpose of correcting any errors which may have occurred in the drafting or issuance of this Order.

By the Commission,

JUDY M. SHELDREW, Chairman

TIMOTHY HAY, Commissioner

and Presiding Officer

LUCY STEWART, Commissioner

Attest: _____
JEANNE REYNOLDS,
Commission Secretary

Dated: Carson City, Nevada

(SEAL) _____