

ISSUE DATE: January 5, 2001

DOCKET NO. P-999/CI-00-829

ORDER DIRECTING LECs TO PROVIDE INFORMATION
AND TO GENERATE COST ESTIMATES

STATE OF MINNESOTA PUBLIC UTILITIES COMMISSION

Gregory Scott	Chair
Edward A. Garvey	Commissioner
Joel Jacobs	Commissioner
Marshall Johnson	Commissioner
LeRoy Koppendrayner	Commissioner

In the Matter of the Commission Investigation
of Cost to Decide the Appropriate Level of
Universal Service Support

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PROCEDURAL HISTORY

On July 3, 2000, the Commission issued a Notice of Investigation and Comment Period, inviting suggestions on how to estimate the cost of providing telecommunications services in Minnesota for purposes of establishing a state universal service fund.

The Commission received comments from Citizens Telecommunications of Minnesota, Inc. (Citizens); Sprint Communications Company L.P and Sprint Minnesota, Inc. (jointly, Sprint); AT&T Communications of the Midwest, Inc. (AT&T); Qwest Corporation (Qwest), WorldCom, Inc. (WorldCom); the Office of Attorney General's Residential and Small Business Utilities Division (OAG-RUD), the Minnesota Department of Commerce (the Department), and the Minnesota Independent Coalition (MIC). The Commission received reply comments from the Department, MIC and Qwest.

The matter came before the Commission on December 14, 2000.

FINDINGS AND CONCLUSIONS

I. Background

On August 1, 1995, Minnesota Statute § 237.16, subdivision 9 became effective. That statute directs the Minnesota Public Utilities Commission to establish a fund “designed to preserve the availability of universal service throughout the state.”¹ Subdivision 9 was amended to specify that the fund must be consistent with the federal Telecommunications Act of 1996, section 254(b)(1) to (5) which states:

¹See also 47 U.S.C. §§ 254 (b)(5) and (f) (states may establish mechanisms to “preserve and advance universal service”).

- (1) QUALITY AND RATES. - Quality services should be available at just, reasonable, and affordable rates.
- (2) ACCESS TO ADVANCED SERVICES. - Access to advanced telecommunications and information services should be provided in all regions of the Nation.
- (3) ACCESS IN RURAL AND HIGH COST AREAS. - Consumers in all regions of the Nation, including low-income consumers and those in rural, insular, and high cost areas, should have access to telecommunications and information services, including interexchange services and advanced telecommunications and information services, that are reasonably comparable to those services provided in urban areas and that are available at rates that are reasonably comparable to rates charged for similar services in urban areas.
- (4) EQUITABLE AND NONDISCRIMINATORY CONTRIBUTIONS. - All providers of telecommunications services should make an equitable and nondiscriminatory contribution to the preservation and advancement of universal service.
- (5) SPECIFIC AND PREDICTABLE SUPPORT MECHANISMS. - There should be specific, predictable and sufficient Federal and State mechanisms to preserve and advance universal service.²

One common means of promoting telecommunications services is to subsidize that service in high-cost areas. In order to target such subsidies efficiently, the Commission needs to determine the cost of providing service in various areas. The Commission has initiated this docket to explore how to acquire this information.

The Commission has undertaken similar explorations before. Previously, in response to a federal deadline, the Commission initiated a docket to develop a model for estimating the cost incurred by non-rural³ local exchange carriers (LECs) to provide local exchange service in Minnesota. Docket No. P-999/M-97-909 In the Matter of the State of Minnesota's Possible Election to Conduct Its Own Forward-Looking Economic Cost Study to Determine the Appropriate Level of Universal Service Support. In that docket, the Commission 1) selected the HAI Cost Model, version 5.0a, for the purpose of estimating such costs, 2) made certain changes to the model to reflect state circumstances and state policy, and 3) specified certain inputs to be used in the model.⁴

The current docket differs from Docket No. P-999/M-97-909 in that the current docket is

²47 U.S.C. § 254(b)(1) to (5).

³“The term ‘rural telephone company’ means[, among other definitions,] a local exchange carrier operating entity to the extent that such entity ... provides telephone exchange service ... to fewer than 50,000 access lines....” 47 U.S.C. § 153(47).

⁴In the Matter of the State of Minnesota's Possible Election to Conduct Its Own Forward-Looking Economic Cost Study to Determine the Appropriate Level of Universal Service Support, Docket No. P-999/M-97-909 ORDER ADOPTING COST STUDY (June 4, 1998).

intended to develop a means for estimating the cost for any telephone company – rural or not – to provide local exchange service.

II. Method for Estimating Costs

Commentors offer diverse opinions on how best to determine a LEC's costs. The Department, OAG-RUD and Qwest propose that the Commission use the HAI Cost Model, version 5.0a, as the means for calculating a telephone company's costs. Citizens, in contrast, advocates the use of its own cost model. And Citizens joins other telephone companies in cautioning that cost models in general, and the HAI 5.0a model in particular, can produce inaccurate cost estimates. They raise the following concerns, among others:

- A model that fails to locate customers along roads, and that fails to use a “Minimum Spanning Road Tree” algorithm (a means of measuring the degree of disbursement among points in a plane) for laying out both customer cables and feeder cables, may project insufficient cable to serve customers.
- A model that fails to distinguish between customers that are within 12,000 feet of a telephone company's central office and those that are beyond 12,000 feet may underestimate the need for fiber-optic cable and over-estimate the need for copper cable.
- A model that relies heavily on geocoded data of customer locations (that is, a customer's latitude and longitude) may pose administrative difficulties for rural telephone companies. A disproportionate number of their customers use Post Office Boxes and rural route numbers for addresses. These addresses do not lend themselves to geocoding.
- The HAI model's method of “reshaping” clusters of customers that are irregularly disbursed results in an underestimate in the amount of distribution plant needed.
- The HAI model's method for developing surrogate customer locations (when no geocoded data is available to locate a given customer) results in an underestimate in the amount of distribution plant needed.
- The HAI model's method of modeling the length of the cable connecting the distribution plant to the residence may produce underestimates, especially in rural areas.
- The HAI model's practice of estimating material prices and labor costs on the basis of prices offered by vendors, rather than transactions actually negotiated and consummated by telephone companies, is suspect.

While party comments raise these and other concerns, they provide little insight on the magnitude of the alleged shortcomings. Before addressing this matter further, therefore, the Commission will direct the parties to produce some cost estimates for the Commission's consideration. As the starting point for this analysis, the Commission will direct the parties to use the model approved by the Commission in its prior universal service cost-modeling case, Docket No. P-999/M-97-909. Such estimates should help illuminate the modeling problems alleged above.

III. Model Changes and Inputs

AT&T sponsored the HAI model. According to AT&T, the HAI model will produce more accurate cost estimates if rural LECs provide the following information:

- A list of each company's wire centers.
- Wire center boundaries in a machine-readable format.
- Geocoded data for all customers in each wire center, or at least addresses that are geocodable.
- Line counts, specifying the number of each type in each wire center, including special access lines. LECs should state the line counts in terms of the number of pair-equivalents, and in terms of the number Digital Signal Level 0 (DS0) equivalents.
- DEM and call attempt information for all calls traveling over the LEC network by type (local, intrastate, and interstate).
- Meet point arrangements with the owner of the serving tandem switch and other major carriers.
- An indication whether the wire center is on an interoffice ring, including a list of companies that share that ring.
- An indication for each wire center whether parts of the interoffice courts are shared with another carrier.
- Expense and investment data similar to the type that LECs submit to the Federal Communications Commission's Automated Reporting Management Information System (ARMIS), as listed in the HAI Inputs Portfolio, Appendix C.

The Department argues that various inputs, listed in the Commission's Notice of Investigation, warrant reconsideration. Specifically, the Department proposes a reconsideration of the following variables:

- depreciation,
- cost of capital,
- regional labor factor (the extent to which local labor costs differ from national costs),
- network design parameters and installation costs,
- structure sharing (the extent to which the cost of poles, trenches and other structures can be shared by multiple services),
- expense factors (the proportion of expenses incurred as administrative and overhead expenses) and
- dedicated lines (the proportion of lines dedicated to idle lines).

MIC identified similar variables for reconsideration.

The Commission will direct rural LECs to provide any necessary up-to-date information in time to conduct an analysis of the HAI model's applicability for estimating rural telephone companies' costs. The Commission will direct non-rural LECs to provide similar information, where relevant.

ORDER

1. Rural LECs, and other LECs to the extent relevant, shall provide the most up-to-date information for input into a cost model, as discussed above.
2. Parties shall use the HAI cost model, version 5.0a, to estimate each LEC's cost of providing service.
3. Within 120 days of this Order, parties shall file estimates of the cost of providing service, any initial comments on the various estimates, disputed issues, input issues, and possible model modifications.
4. Parties shall file any reply comments within 45 days of the date for filing initial comments.
5. The Commission's Executive Secretary shall have the authority to vary the times listed above.
6. This Order shall become effective immediately.

BY ORDER OF THE COMMISSION

Burl W. Haar
Executive Secretary

(S E A L)

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