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May 5, 1998

Ms. Magalie Roman Salas  
Secretary  
Federal Communications Commission  
1919 M. St., NW, Room 222  
Washington, D.C. 20554

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MAY - 5 1998

RE: Ex Parte Presentation - Proxy Cost Models  
CC Docket No. 96-45

Dear Ms. Salas:

On May 4, 1998, AT&T and MCI (the HAI Model Sponsors or "HMS") met with Joe Banschler, Gary Biglaisier, Craig Brown, Bryan Clopton, Chuck Keller, Katie King, Bob Loube, Jeff Prisbrey, Bill Sharkey, Donald Stockdale, and Brad Wimmer of the FCC, with Charlie Bolle of South Dakota, Sandra Makeef of Iowa, David Rosenbaum of Nebraska, Brian Roberts of California and Barry Payne of Indiana participating by telephone. The HMS were represented by Richard Clarke and Mike Lieberman of AT&T and Chris Frentrup of MCI.

The purpose of this meeting was to discuss the current methodologies used by the various cost proxy models to determine distribution cable distances, and to suggest several minor adjustments that could be made to the HAI Model's input processes that could improve still further its accuracy in engineering appropriate amounts of loop distribution plant.

The first issue addressed arises when cluster areas that are not rectangular with boundaries running North, South, East and West (N/S/E/W) are processed through the models. If such a cluster happened to fall completely within a BCPM grid, the BCPM would assume the engineered distribution area to be a square, and located at the "road centroid" of the grid - regardless of whether any customers or roads existed at that location. The HAI Model would engineer the distribution area as a rectangle, with aspect ratio and area equal to the aspect ratio and area of the underlying cluster, and located at the same centroid as the underlying cluster. A difficulty with both of these methods is that a different amount of cable may be needed to engineer plant to an elongated or irregular cluster, than a regular square or rectangle. Thus, while the HAI Model is more flexible than the BCPM in engineering rectangles, rather than just squares, improvement remains possible.

At this meeting, the HMS described a methodology whereby PNR (the cluster data supplier to the HAI Model) would determine the rotated minimum bounding rectangle that most closely matches the natural height and width of the cluster (i.e., height and width measured along the actual major and minor axes of cluster, and not necessarily the N/S/E/W axes), and would input to the HAI Model the aspect ratio of this more closely fitting rectangle. Several viewgraphs displaying this process are attached. Although, on average, the empirical effect of this enhancement on calculated distribution

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cable lengths is small, it improves the representational nature of the HAI Model's distribution plant engineering – particularly for clusters that both extremely elongated and have major and minor axes that are maximally rotated from N/S/E/W.

A second issue addressed at this meeting is whether the HAI Distribution Module engineers plant quantities that are adequate to reach customers that may be located towards the extreme vertices of clusters. As a threshold matter, the HMS observed that several of the empirical statements made by Sprint in a recent series of ex parte filings on this matter appear to be greatly exaggerated, and based on an apparently incorrect understanding of the geocoding and distribution plant engineering practices of the HAI Model.

It is first important to note that geocode points whose location is determined by PNR's "CB Boundary" surrogate method will generally exhibit greater dispersion than the actual underlying customer locations.<sup>1</sup> Thus, even if there are clusters where HAI-engineered distribution plant is insufficient to reach to the very edges of the cluster, it is quite possible that this plant is adequate to reach to actual customer locations within the cluster. Furthermore, even within clusters customers are clustered. Thus, the cluster's total cable budget quite possibly is adequate to reach all of the customer locations. To determine on an appropriate basis the empirical magnitude of these potential puts and takes, it would be extremely useful if ILECs would provide their actual loop lengths across a sufficiently wide sample of wire centers. Indeed, in Nevada where the issues raised by Sprint first were surfaced, Nevada Bell has indicated that the HAI Model has tended to model loop lengths that exceed those actually existing.<sup>2</sup>

Second, it is important to understand the relationship between strand mapping distance (calculated when geocode points are strung together) and distribution route distance. In particular, because geocode points are offset roughly 50 feet from road centerlines, strand mapping distances will incorporate not just distribution route distances, but substantial portions of drop distances as well.

The HMS currently are studying the empirical nature of these several issues using geocode data from a sample of states. Preliminary analyses suggest that the net effect of these items is likely to be quite small. Furthermore, due to the flexibility of the HAI Model's data input processes and distribution plant engineering processes, adjustments to correct any under- or over-engineering of distribution plant will be extremely simple to implement. Indeed, strand mapping mechanisms already exist in PNR's Spatial Cluster Module code that was introduced into the public record of this proceeding,<sup>3</sup> and discussions of these processes have been continued in several subsequent filings by the HMS.<sup>4</sup>

To further assist the Commission in evaluating the theoretical and empirical nature of these issues using actual cluster data, the HMS are including with this filing an Excel spreadsheet containing cluster records from Nevada. The HMS will be filing additional empirical analyses as they become available.

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<sup>1</sup> See, AT&T ex parte submission of April 3, 1998 for an empirical analysis of the conservative effect of using surrogate methodologies over actual geocodes.

<sup>2</sup> See the attached affidavit of Michael Hurst. Note, too, that loop lengths in forward-looking networks generally may vary from those in embedded networks.

<sup>3</sup> See, MCI ex parte filing of September 30, 1997 and AT&T ex parte filing of January 13, 1998.

<sup>4</sup> See, e.g., AT&T ex parte submission of February 13, 1998.

Two copies of this Notice are being submitted to the Secretary of the FCC in accordance with Section 1.1206(a)(2) of the Commission's rules. The materials presented at this meeting are attached. A copy of the diskette is being supplied to ITS.

Sincerely,

*Richard N. Clarke / ha*

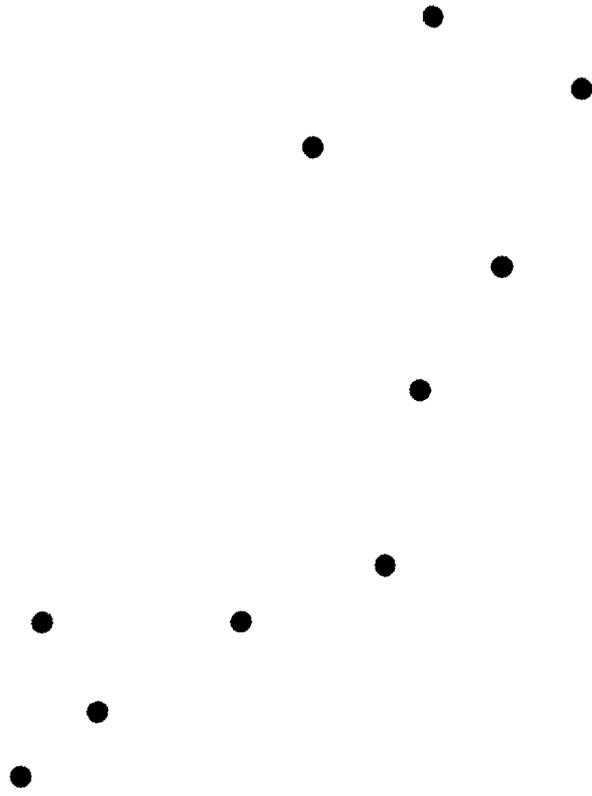
Richard N. Clarke

**Attachments**

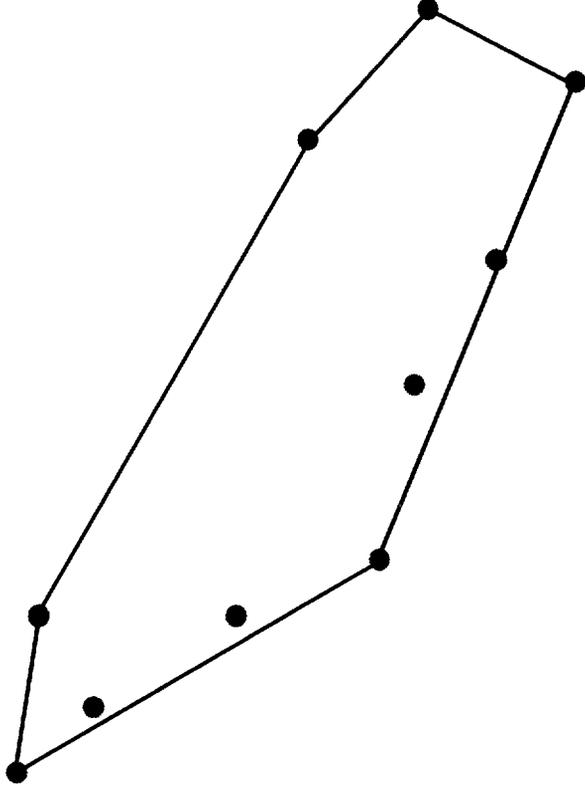
cc: Joe Banscher      Gary Biglaiser      Craig Brown  
Brian Clopton      Chuck Keller      Katie King  
Bob Loubé      Jeff Prsbrey      Bill Sharkey  
Richard Smith      Don StockdaleBrad Wimmer  
Richard Metger      James Schlichting      Lisa Gelb  
Mike Riordan      Pat DeGraba      Natalie Wales  
Sheryl Todd

Charlie Bolle      Sandra Makeef      David Rosenbaum  
Brian Roberts      Barry Payne      Rowland Curry  
Gary Fogelman

# Configuration of Geocode Points Suggested in Sprint Example



# Configuration of Geocode Points Suggested in Sprint Example

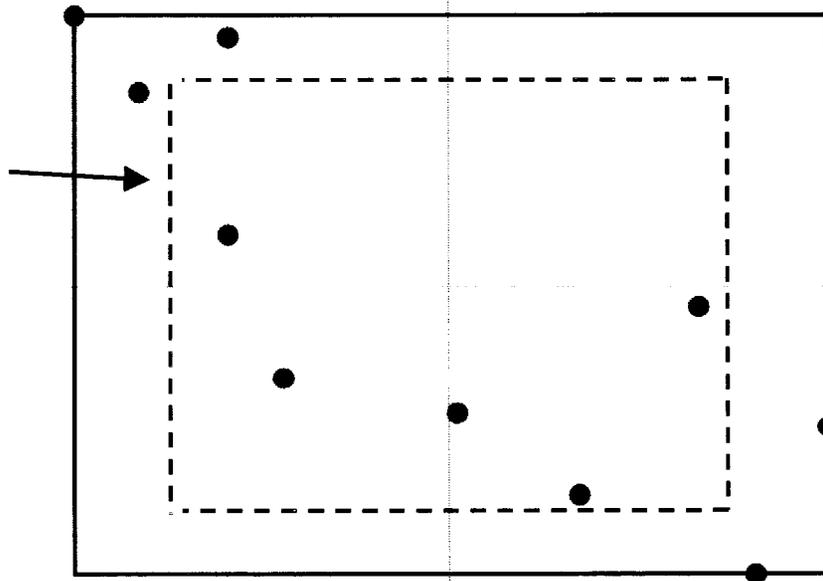


Cluster Polygon Area = 3,070,000



# Current HAI Practice: Rectangle Boundaries Oriented N/S and E/W

Modeled Served  
Area = 3,070,000

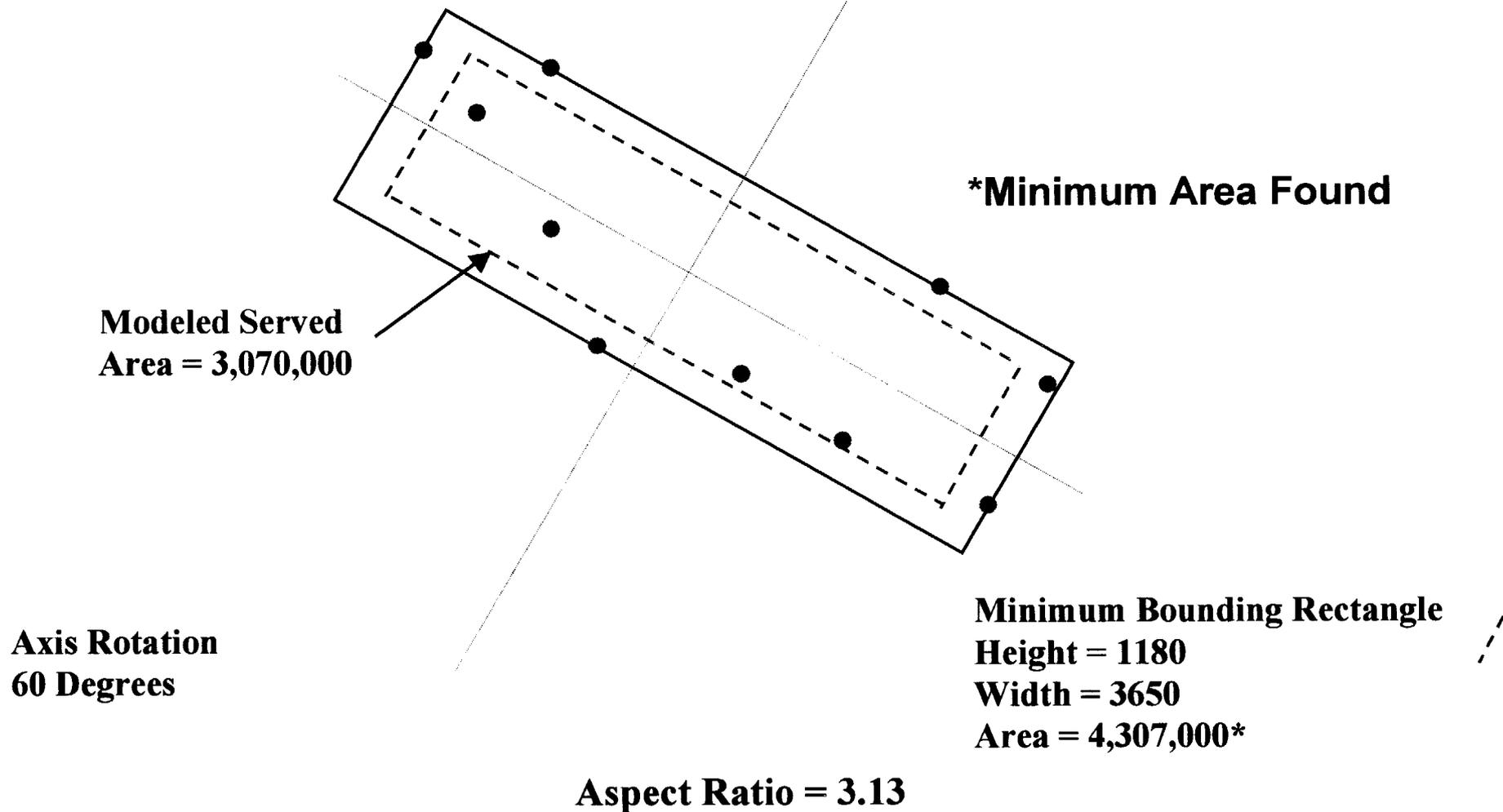


Axis Rotation  
0 Degrees

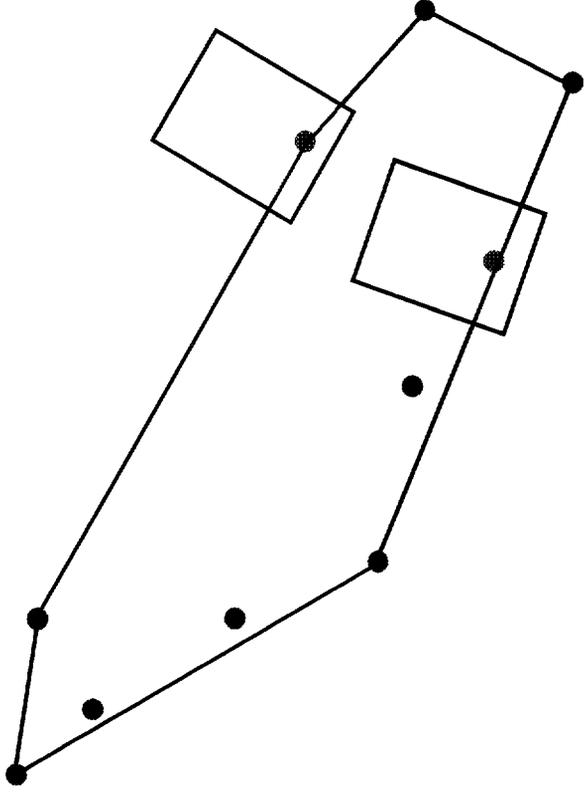
Minimum Bounding Rectangle  
Height = 2470  
Width = 2700  
Area = 6,669,000

Aspect Ratio = 0.79

# Rotate Rectangle Searching for Minimum Bounding Rectangle of Minimum Area



# Configuration Customer Lots Underlying Geocode Points



## **DECLARATION OF MICHAEL P. HURST**

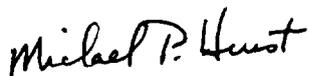
1. MICHAEL P. HURST, of lawful age, declare as follows:
2. I am a Senior Attorney employed by AT&T Corp. My business address is 795 Folsom Street, San Francisco, California 94107. My telephone number is (415) 587-4716.
3. I represent AT&T Communications of Nevada, Inc. in two proceedings in which the Nevada Public Utilities Commission ("Nevada Commission") has adopted the HAI Model for use both in calculating a universal service fund subsidy, and for estimating the cost of unbundled network elements. These proceedings are docket numbers 96-5018 and 96-9035.
4. As a result of the investigation into the reasonableness of the cost estimates that the HAI Model 5.0 produces, the Nevada Commission has identified a modified version of the model as the one all parties must use in preparing their company specific universal service fund and unbundled network elements cost estimates.
5. During the workshops, both informal and formal before the Nevada Commission, the Regulatory Operations Staff raised the issue that the loop lengths calculated in the model were significantly longer for each wirecenter than the wirecenter average loop lengths Nevada Bell estimated in its own studies, particularly in the more rural wirecenters. The Regulatory Operations Staff, Nevada Bell, and Central Telephone Company d/b/a/ Sprint of Nevada all brought experts to these workshops to address this and other issues.
6. Nevada Bell challenges the accuracy of the model on the basis that the loop lengths calculated in the model are unreasonable on the basis that such loop lengths are longer than Nevada Bell's estimates, particularly in the rural wirecenters.
7. These loop length differences begin to merge in the urban wirecenters.
8. Further discovery and investigation of this issue is under way before the Nevada

Declaration of Michael P. Hurst  
May 1, 1998

Commission in these proceedings.

9. I declare under penalty of perjury that the foregoing is true and correct.

Michael Hurst

Handwritten signature of Michael P. Hurst in cursive script.

May 1, 1998

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This page has been substituted for one of the following:

o An oversize page or document (such as a map) which was too large to be scanned into the RIPS system.

o Microfilm, microform, certain photographs or videotape.

o Other materials which, for one reason or another, could not be scanned into the RIPS system.

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1 Docket 7E