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Executive Director-
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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

February 5, 1998

Ms. Magalie Roman Salas, Secretary
Federal Communications Commission
1919 M Street N.W., Room 222
Washington, D.C. 20554

RE: CC Docket 96-45 and 97-160

Dear Ms. Salas:

Today, of Whit Jordan of BellSouth, Pete Sywenki of Sprint, and Glenn Brown of U S WEST met with Jim Casserly, Senior Legal Advisor to Commissioner Ness. The purpose of the meeting was to discuss the Benchmark Cost Proxy Model. The attached handouts were used during the presentation.

In accordance with Commission Rule 1.1206(a)(2), the original and four copies of this summary of the presentation is being filed with your office. Acknowledgment and date of receipt are requested. A copy of this submission is provided for this purpose. Please contact me if you have questions.

Sincerely,

Glenn Brown

Attachment

cc: Jim Casserly

No. of Copies rec'd 0+3
List ABCDE

Benchmark Cost Proxy Model
BCPM3

Platforms, Issues, Differences:
BCPM3 & Hatfield Model 5.0
February 5, 1998

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WHAT IS THIS PROCEEDING ABOUT?

- Select a Proxy Cost Model Platform.
- Determine Forward-Looking Cost Methodology for an Efficient Network.
- Efficiently Target Support to Rural Customers.
- Meet the Criteria of the 1996 Telcom Act.
- Meet the FCC's Criteria for Proxy Models.
- This Proceeding Is **NOT** About
  - Cost Model Inputs,
  - or the Ultimate Fund Size (Determined by the Inputs).

THE BOTTOM LINE - HOW DO PLATFORM RESULTS COMPARE?

Dollars - Millions

	BCPM3		Hatfield 5.0	
	Default	Common	Common	Default
Ameritech	$ 520	$ 232	$ 202	$ 111
Bell Atlantic	$ 1,047	$ 481	$ 595	$ 340
Bell South	$ 1,649	$ 761	$ 813	$ 480
SBC	$ 1,466	$ 771	$ 619	$ 407
US WEST	$ 1,225	$ 726	$ 629	$ 425
Sprint	$ 823	$ 368	$ 398	$ 240
	$ 6,730	$ 3,339	$ 3,256	$ 2,003

SUMMARY

- In aggregate, with common inputs, the models produce similar results.
- At lower levels there are significant differences in results.
- The real differences between the models include:
  - The accuracy of customer location,
  - The availability of customer location data,
  - The technology used in the models.

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CUSTOMER LOCATION

- The Commission Has Said:
  - *At this point we conclude that we should not select one model over another because both models lack a compelling design algorithm that specifies* <u>*where*</u> *within a CBG* <u>*customers are located*</u>... (5/8/97 Order at 278)

- The Facts Are These:

FACT: Hatfield 5.0 contains NO design algorithm that specifies where within the basic unit of analysis customers are located.

FACT: The much touted "geocoding" of customers is only used to identify the boundary of "clusters" of customers. Once clusters are created, this information is not used again, ancustomers are assumed to be uniformly distributed throughout the cluster.

FACT: Thousands of clusters nationwide are 10, 15, 20 square miles in area or more. Hatfield 5.0 contains NO methods for locating customers within these large land areas. Many populated areas are not included.

FACT: BCPM contains extensive algorithms for locating customers within "grids". Grids are all less than 9 square miles, all are subdivided into quadrants, unpopulated areas are eliminated, distribution areas centered over road (population) centroids, sized to reflect population, etc.

FACT: Ironically, if accurate geocoded information were to become available it would not improve the network design accuracy of Hatfield 5.0 due to the uniform distribution assumptions. BCPM could use such data to more accurately build the network to where customers actually are located

CUSTOMER LOCATION

(CONTINUED)

- The Commission Has Said:
  - *The cost study or model and all underlying data, formulae, computations, and the software associated with the model must be available to all interested parties for review and comment... (5/8/97 Order at 250)*

- The Facts Are These:

FACT: The raw data used by Hatfield for geocoding is proprietary, expensive, and only locates a small fraction of customers in high-cost rural areas.

FACT: All BCPM algorithms and data are public and have been provided on the record.

TECHNICAL SPECIFICATIONS

- Congress and the Commission have said:
  - *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 reasonable comparable to those services that are provided in urban areas...* (1996 Act Section 254(b)(3))
  - *The technology assumed in the cost study or model must be the least-cost, most-efficient, and reasonable technology for providing the supported services...The loop design incorporated into a forward-looking economic cost study or model should not impede the provision of advanced services.* (5/8/97 Order at 250)
- The Facts Are These:
  - **FACT:** The BCPM3 uses a standard and state-of-the-art CSA network architecture. The Hatfield 5.0 uses a non-standard network design which regularly provides copper loops of 18,000 feet or more.
  - **FACT:** The major manufacturer of Digital Loop Carrier endorses the design architecture used by BCPM3.

    CSA design rules call for nonloaded pairs with a maximum physical range of 12,000 feet or 750 ohms conductor loop resistance, whichever occurs first. In the case of 26-gauge wire, this equates to a maximum loop range or 9,000 feet. Today the CSA design rules ensure quality 2-wire voice transmission and the capability to support advanced digital services, including repeaterless digital data service (DDS), ISDN basic rate transmission (2B+D), high-bit-rate digital subscriber line (HDSL). (DSC Litespan Practice OSP 363-20-010 Issue 6, July 1997 at 5.3.1)

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TECHNICAL SPECIFICATIONS

(Continued)

FACT: DSC provides special equipment for situations where copper loop length exceeds the CSA standards. BCPM incorporates this (added cost) equipment in the rare cases where we exceed CSA standards. Hatfield 5.0 does not, even though it uses an 18,000 foot design "standard".

> *There are applications of the Litespan system where it is necessary to serve customers more distant than 12,000 feet (beyond CSA rules) from the RT. The insertion loss at 1 kHz for extended CSA/CDO length loops exceeds common practice and approaches 10 dB, including a 2-dB loss in the Litespan RPOTS channel unit. It is strongly recommended, therefore, that RUVG2 or REUVG channel units be used in any Litespan RT that may be serving any loops longer than 750 ohms.* (DSC Litespan Practice OSP 363-20-010 Issue 6, July 1997 at 5.3.2)

FACT: A recent Bellcore study has found that when copper loops exceed 9,000 feet, the ability to support a 28.8 Kbps modem speed deteriorates dramatically:

> *To achieve a 28.8 Kbps connection on the Public Switched Telephone Network (PSTN), three conditions would always need to be met. One and two are non-loaded cables at both ends of the connection with a length of no more than 9 Kft. The third condition is only one A/D and D/A conversion on the connection.* (Guidelines for High Speed Analog Data Transmission in the Switched Network, TM-25704, December, 1996)

SOME INACCURATE CRITICISMS OF BCPM

- BCPM Does Not Compute Costs for Unbundled Network Elements.
  - FACT: BCPM Computes Costs for ALL Network Elements
  - FACT: BCPM Reporting Module can be programmed to display UNE Costs.
- BCPM Does Not Use Geocoded Locations.
  - FACT: BCPM Uses Geocoded Locations for Roads.
  - FACT: BCPM Uses Publicly Available Customer Location Data at the Census Block Level to Place Customers Along Roads Within "Grid-Cells". Customers Live Along Roads.
  - FACT: BCPM Methodology Is Many Times More Granular and Accurate Than the Hatfield Methodology.
- BCPM Uses Proprietary Data From the SCIS Model.
  - FACT: BCPM Does Not Include Any Portion of SCIS.
  - FACT: All Switching Cost Inputs Are Adjustable by the User.
  - FACT: While SCIS Was Used in the Development of the Default Values Used by the BCPM Sponsors, Any Other Source (e.g., Dr. Gable's Study) Can Be Used As Input.
- BCPM does not accurately estimate lines per serving area.
  - FACT: BCPM is designed to use actual line counts obtained from LECs to build appropriate network, consistent with the May 8th Order.

CONCLUSIONS

- Hatfield 5.0 Fails to Meet Many of the FCC Criteria for Proxy Models, and Congressional Criteria for Network Design.
- BCPM More Accurately Locates Customers and Designs a Superior Least-Cost Forward-Looking Network.
- The FCC Should Select BCPM as the Model Platform for the Next Phase of its Inquiry Regarding Data Inputs.

CRITERIA FROM THE 1996 ACT

1996 ACT CRITERIA	BCPM3	HATFIELD 5.0
Sec. 254(b)(1) Quality services should be available at just, reasonable and affordable rates.	YES	• Builds only to current customers, and ignores need to serve new customers. • Sub-standard network design for voice and data services.
Sec. 254(b)(2) Access to advanced telecommunications and information services should be provided in all regions of the Nation.	YES	• Not capable of delivering 28.8 bps modem service and other advanced services to all customers.
Sec. 254(b)(3) Consumers in all regions of the Nation should have access to services that are reasonably comparable to those provided in urban areas, at reasonably comparable rates.	YES	• Remote rural customers will not have comparable service due to non-standard network design.
Sec. 254(b)(5) There should be specific, predictable and sufficient mechanisms to preserve and advance universal service.	YES	• Unrealistic "structure sharing" assumptions will result in insufficient funding in high-cost rural areas.

THE FCC's MODEL CRITERIA

FCC CRITERIA	BCPM3	HATFIELD 5.0
1. The technology must be least cost, most efficient and should not impede the provision of advanced services.	YES	• Not capable of providing 28.8 bps modem speeds. • Not consistent with generally accepted network design standards.
2. All network functions must have an associated cost.	YES	YES
3. Only long-run forward-looking costs may be included.	YES	YES
4. Rate of return must be current FCC or State prescribed.	YES (To be further developed in Phase II)	YES (To be further developed in Phase II)
5. Depreciation rates must be within FCC-authorized range.	YES (To be further developed in Phase II)	YES (To be further developed in Phase II)
6. Must include cost of serving all businesses and households.	YES	YES
7. Reasonable allocation of joint and common costs.	YES (To be further developed in Phase II)	YES (To be further developed in Phase II)
8. The model and all underlying data, formulae, computations and software must be available to all interested parties. All data must be verifiable, engineering assumptions reasonable, and outputs plausible	YES	• METROMAIL data is proprietary. • Algorithm for converting METROMAIL data to geocoded points is proprietary. • Network engineering not standard. • Shifts more funds to densely populated areas.
9. Must be able to modify critical assumptions and engineering principles.	YES	YES
10. Must deaverage support to the wire center, and if possible, to the CBG, CB or grid cell.	YES	• Support only stated at wire center and density zone levels.