STATE OF VERMONT
PUBLIC SERVICE BOARD

Docket No. 6318

Investigation of Geographically Deaveraged Unbundled Network Prices	))	Hearing at Montpelier, Vermont February 29, 2000

Order entered: 10/12/2000

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ORDER RE: GEOGRAPHIC DEAVERAGING OF UNBUNDLED NETWORK ELEMENTS

Summary

This docket presents the Public Service Board ("Board") with the task of geographic deaveraging of wholesale prices of unbundled network elements ("UNEs") offered by New England Telephone and Telegraph Company, d/b/a Bell Atlantic-Vermont ("BA-VT"). This is an important task because it should better align costs and rates, thereby promoting local exchange competition based upon the purchase of UNEs. The decision in this docket is also important because it may lead BA-VT to deaverage its retail rates.

I recommend that the Board establish zoned prices solely for the loop UNE, and not for other UNEs, such as switching and transport. I recommend the creation of three UNE zones, "rural," "suburban", and "urban," based upon line density. I recommend that the Board review

UNE zone assignments in conjunction with wholesale rate reviews that are already planned under Docket 5713.

I also recommend that the Board apply for an FCC waiver to provide uniform federal high cost support levels within the rural zone, but only following certification of a competitive carrier as eligible for federal support in Docket 5918. I also recommend that the Board decide in Docket 5918, and not here, whether a carrier must serve an entire UNE zone in order to qualify for Eligible Telecommunications Carrier status.

I further recommend that deaveraged UNE zones ordered in this docket should be incorporated into BA-VT's Statement of Generally Available Terms and into all new interconnection agreements.

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PROPOSED DECISION

Procedural History

This docket was opened on December 9, 1999, to comply with an order of the Federal Communications Commission ("FCC"), the content of which is discussed below. The parties have filed testimony and rebuttal testimony. A technical hearing was held on February 29, 2000. The parties have filed briefs and reply briefs.

Legal Background

In its August 1996 "Local Competition Order," the FCC noted that sections 251 and 252 of the federal Telecommunications Act of 1996[1] ("Act") mandate that rates for interconnection and unbundled elements be "based on the cost . . . of providing the interconnection of network elements."[2] The FCC noted that geographic rate averaging is simple to administer and prevents unreasonable or unlawful rate differences, but that where it occurs in both high-cost and low-cost areas, it could distort competitors' decisions whether to lease unbundled elements or build their own facilities.[3]

1. 47 U.S.C. §§ 251 and 252.

2. 47 U.S.C. § 252(d)(1)(a)(i); *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, First Report and Order, FCC 96-325 (August 8, 1996) ("*Competition Order*"); Brevitz pf. at 4.

3. *Competition Order*, above, at ¶ 758; *see also,* Brevitz pf. at 14; tr. 2/29/00 at 25-26 (Anglin).

The resulting FCC rules require each state public utility commission to establish different rates for interconnection and UNEs in "at least three defined geographic areas within the state to reflect geographic cost differences."[4]

The U.S. Court of Appeals for the Eighth Circuit issued an interim stay,[5] and then a final stay of the deaveraging rule.[6] However, on January 25, 1999, the U.S. Supreme Court reversed the relevant portion of the Eighth Circuit's decision and remanded the case to the Eighth Circuit.[7] The FCC then established a further stay[8] that expired on May 1, 2000.[9] As a result, after a stay of several years, Vermont must now comply with section 51.507(f) of the FCC's rules and must establish different rates for interconnection and UNEs in at least three geographic areas to reflect geographic cost differences. It is undisputed that the obligation to deaverage UNE zones applies at the moment solely to the 82 exchanges operated by BA-VT, and does not apply to other incumbent local exchange carriers in Vermont.

Where states have established three UNE zones, the FCC has also provided an opportunity to alter the manner in which the FCC "targets" federal universal service support. This is discussed in more detail below.

Positions of the Parties

As a result of settlement discussions among the parties in advance of the evidentiary hearing in this docket, very few issues regarding the geographic deaveraging of UNE rates are in dispute.

The DPS

4. 47 C.F.R. § 51.507(f). An exception, not relevant in Vermont, exists where a carrier had in place density-related zone pricing plans for special access and switched transport (under 47 C.F.R. § 69.123), or cost-related zone plans established pursuant to state law. No such plan currently exists in Vermont. Anglin pf. at 6.

5. *Iowa Utilities Board v. FCC*, 96 F. 3d 1116 (8th Cir. 1996).

6. *Iowa Utilities Board v. FCC*, 120 F.3d 753, 800, 819-20 (8th Cir. 1997); Brevitz pf. at 5.

7. *AT&T v. Iowa Utilities Board.*, 526 U.S. 336 (1999).

8. *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, Deaveraged Rate Zones for Unbundled Network Elements*, 14 F.C.C.R. 8300 (FCC 99-86, May 7, 1999)

9. *In re Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Ninth Report and Order and Eighteenth Order on Reconsideration, Nov. 2, 1999 (FCC 99-306)("Ninth Report and Order") ¶ 34.

The Department of Public Service ("DPS") asserts that loop costs should be deaveraged, but that the geographic cost differences for other UNEs, such as switching and trunking, do not justify deaveraging. The DPS also asserts that UNE zones should be defined as combinations of wire centers and that three geographic zones should be defined, characterized as "urban," "suburban," and "rural."

The DPS urges that wire centers be assigned to the rural zone only if federal universal service support is directed to that wire center.[10] Therefore, the DPS recommends basing zone assignments upon the results of the federal "High Cost Proxy Model" ("HCPM"), a forward-looking model used by the FCC in calculating and distributing universal service support to nonrural carriers.[11] The HCPM produces an estimate of loop cost for each wire center in Vermont, and those data are available to the public. The rural UNE zone would consist of wire centers with costs above the threshold for federal support.

For the urban zone, the DPS recommends inclusion only of the Burlington and Winooski wire centers. The DPS recommends a suburban zone consisting of approximately a dozen wire centers, and a rural zone that includes all of BA-VT's remaining wire centers, identified as described above.[12] The DPS also suggests that UNE zone boundaries should be reviewed annually, as the FCC model regularly processes changes in underlying line count data.

The DPS also recommends that the Board seek a waiver from the FCC so that federal high cost support will be uniform, on a per line basis, throughout all wire centers within the rural zone. Such waivers are contemplated in the FCC's rules. After such a waiver is granted, federal support would, as now, remain "portable" to competitive carriers, but the amount of that support, per line per month, would not vary from one rural wire center to another.

The DPS claims numerous benefits, including appropriate consideration to a number of cost factors, such as technology, terrain, soil type and loop length. By using such cost data, the DPS

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10. DPS Brief at 9; DPS Reply Brief at 2; Brevitz pf. at 10; tr. 2/29/00 at 171-72 (Brevitz). In some of its filings, the DPS claims that divisions between zones should be made at "meaningful break points." *E.g.*, DPS Reply Brief at 2. I presume for the present analysis that the DPS consistently intends that the "meaningful break point" between the rural and suburban zones is to be defined by the threshold of federal support eligibility, and not by the quantitative cost separation of ordinally adjacent wire centers.

11. Brevitz pf. at 11.

12. Exh. DPS-2.

argues that state policy will further competitive entry into the local exchange market by aligning high cost service areas with high cost support, and thereby sending appropriate cost and pricing signals to potential competitors. The DPS also contends that its approach better supports a waiver from the FCC's "targeting" requirements so that high cost support is available in equal amounts to all carriers serving customers in the high cost rural zone. The DPS claims that its plan is a specific and predictable mechanism that promotes economic stability and predictability.

The DPS does not believe that any changes are currently needed to the Vermont Universal Service Fund, nor would changes be needed as a result of this docket.

Bell Atlantic

BA-VT agrees with most of the DPS's positions stated above. It strongly disagrees, however, about the best method to assign wire centers to the suburban and rural zones. BA-VT opposes use of the HCPM model. Instead, it proposes sorting the non-urban wire centers solely by access line density. As does the DPS, BA-VT proposes using natural "break points" to separate the wire centers in the rural, suburban and urban zones.[13] Using these results, BA-VT would then apply the cost study results from Docket 5713[14] to define the actual UNE prices in each zone.[15]

As a result, BA-VT would establish an urban zone with a loop UNE rate of $15.48, a suburban zone at $18.67, and a rural zone at $40.56.[16] BA-VT also asks the Board to declare that competitive carriers must provide service throughout an entire UNE zone if they are to receive federal universal service support. Finally, BA-VT also opposes annual review of UNE

13. Anglin pf. at 4; exh. BA-VT-2.

14. In Docket No. 5713, the Board ordered BA-VT to use its own cost model, with some modifications, to calculate recurring costs. Docket No. 5713, Order of 2/4/00 at 61.

15. Tr. 2/29/00 at 214 (Brevitz).

16. Brevitz pf. at 8. These rates would be revised due to orders issued in Dockets 5713 and 5900 after the record closed in this docket.

On April 4, 2000, BA-VT filed a revised Statement of Generally Available Terms and Conditions ("SGAT") in those dockets. The contents of that filing strongly suggest that the final compliance filing in this docket will have prices considerably lower than those listed above. Attached to the SGAT was a cost study that reports link costs for BA-VT's current definition of urban, suburban and rural areas. Those costs, for a two-wire analog voice grade line, were: $7.72 in the urban zone; $8.35 in the suburban zone; and $21.63 in the rural zone. Attachment 1, Exhibit Part A, page 1. The resulting averaged loop price in the SGAT itself was $14.41 per month, a figure that is lower than all of the prices listed above, even in the urban zone. SGAT page 5-51.

zones, and recommends that they be reviewed concurrently with wholesale price reviews, the frequency of which is currently under consideration in Docket 5713.

AT&T

AT&T Communications of New England, Inc. ("AT&T") agrees with the DPS and with BA-VT on many issues. On the question of defining rural and suburban UNE zones, AT&T contends that it should not make a significant difference whether BA-VT's or the Department's proposal is adopted. In the end, however, AT&T supports the DPS position and the use of the HCPM model.[17] AT&T strongly opposes BA-VT's request that competitive carriers receiving universal service support be required to serve an entire UNE zone.

Findings of Fact and Discussion

Based on the testimony and exhibits presented in this case, I report the following findings of fact and conclusions to the Public Service Board in accordance with the provisions of 30 V.S.A. § 8. This Proposal for Decision has been served on all parties to this proceeding in accordance with 3 V.S.A. § 811.

Loop Prices Only

It is undisputed that costs for UNEs other than the loop do not vary substantially by location or geographic area.[18] I conclude that only loop rates should be geographically deaveraged. Other UNE prices, such as for switching and trunking, should not be deaveraged.

Zone Boundaries

The parties are agreed that UNE zones should be constructed as aggregations of wire center serving areas. That is, they recommend that no UNE zone boundary should divide any wire

17. AT&T Brief at 5.

18. Anglin pf. at 2; tr. 2/29/00 at 69 (Anglin); tr. 2/29/00 at 169 (Brevitz). The "loop" is defined as the facility, however derived, that runs from and includes the vertical side of a main distribution frame or digital service cross-connect in an end-office wire center to a protector, commonly called a Network Interface Device, or its equivalent in or at an end-user's premises. Anglin pf. at 2.

center.[19] If UNE zones were defined to include areas smaller than wire centers, it would require the amassing and analysis of data below the wire center level. This would entail considerable time and expense. Furthermore, even if sub-wire-center information were available, it would increase billing complexity.[20]

This recommendation, while sensible, imposes some limits on the goal set forth by the FCC that the zones be based upon cost.[21] Even within a single wire center, particularly a rural wire center, costs can vary significantly, particularly with loop length (the factor that the parties have agreed has a highly variable cost across wire centers). Any wire center therefore will include some low-cost customers with short loops who live near the central office (or a fiber node) and some customers with long loops who live in the remoter corners of the exchange. Yet the parties recommend that UNE zones be built up as aggregations of wire centers, thereby disregarding the cost differences within every wire center. Since the UNE price for each loop in a given wire center would be the same,[22] the parties' recommendation overlooks some potentially significant cost differences and thereby fails in a significant way to reach the FCC's announced goal of rational economic pricing for UNEs. The record is not sufficient to determine the relative magnitudes of the cost variations overlooked within wire centers as compared to the recognized cost variations among wire centers.

Nevertheless, I accord significant weight to the unanimous recommendation of the parties, largely because there is no practicable alternative.[23] I conclude that defining UNE zones as aggregations of wire centers is reasonable since the benefits of administrative simplicity outweigh the problems created by overlooking cost differences.[24]

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19. Tr. 2/29/00 at 28, 70-71 (Anglin); tr. 2/29/00 at 169 (Brevitz).

20. Anglin pf. at 7; tr. 2/29/00 at 69-71 (Anglin); tr. 2/29/00 at 169 (Brevitz).

21. 47 C.F.R. § 51.507(f).

22. Colorado has addressed this problem by defining UNE zones using a combination of wire center identity and customer distance from the central office. At least some UNE zones in Colorado have "base rate" bands near the central office where UNE prices are lower.

23. The time deadline imposed by the FCC is also a factor. Developing a record on costs at the sub-wire-center level would require an extended investigation, and the Board would miss by many months the FCC's May, 2000 deadline to establish three zones.

24. If the Board shares these misgivings, it might provisionally approve UNE zones here and then direct a further investigation into whether something like the Colorado model should be adopted.

The Board's opening Order asked whether the concept of a clearly defined wire center, electronically distinct from every other wire center, is stable enough to serve as a basis for geographic deaveraging over a three-to-five-year time horizon. The existing network architecture depends fundamentally for the routing of calls upon the relationship between wire centers and numerical codes. BA-VT has no plans to change the way it deploys its network architecture using wire centers assigned to a specific geographic area or to change the way it uses wire centers to establish geographic rate centers. Like other telecommunications carriers, BA-VT uses "NXX" codes to designate a geographic area to which the telephone numbers are assigned.[25] While it is theoretically possible that some carriers are now or soon will be serving customers from wire centers not traditionally associated with that customer's location, nothing in the record indicates that this trend, if it exists, has made significant progress. Moreover, there may be regulatory issues associated with any such service.[26] I conclude that the definition of a wire center is stable enough to serve as a basis for geographic deaveraging of UNE rates over the next three to five years. In any case, the issue can be revisited when the Board conducts a triennial review of wholesale prices, as recommended in Docket No. 5713.

Background on Federal Support and UNE Zones

Federal Support Methodology

The DPS has argued repeatedly that the Board should define UNE zones in a way that is "informed by"[27] and "coordinated with"[28] the federal universal service support. That FCC method has several steps:[29]

25. Fenoff pf. at 2.

26. *E.g.*, Docket No. 6209, which is examining the use of virtual NXX codes for terminating local traffic at locations not within the exchange area for a wire center.

27. DPS Brief at 23.

28. Brevitz pf. at 6.

29. *See generally*, Brevitz pf. at 15-16.

1. Total support to BA-VT is equal to 76% of the amount by which Vermont's average cost exceeds an amount (currently $32.18) equal to 135% of the nationwide average cost. This calculation produces a support amount of approximately $10.6 million.[30]
2. The FCC calculates a support amount that would be generated if support were given to every BA-VT wire center separately, based upon the same $32.18 benchmark. This amount is larger than the amount calculated in step 1, because support is calculated over smaller areas, and the costs of high cost wire centers are not offset by averaging with low-cost wire centers.
3. The amount of support actually available from step 2 above is "pro-rated" for each wire center over the amount calculated in step 2. Currently the proration factor for Vermont is approximately 50%. The resulting total support amount again equals the amount from step 1 above, but now the support has been assigned proportionally to all high cost wire centers.
4. Support is then made "portable" so that any Eligible Telecommunications Carrier ("ETC") actually serving customers in any of BA-VT's wire centers can receive the support.
    (a) To the extent that BA-VT retains a customer, it retains the support.
    (b) ETCs using their own facilities are eligible for all of the support, on a per-customer basis.
    (c) ETCs using UNEs are eligible for all of the support, on a per-customer basis, but not to exceed the UNE price.[31]

For example, the FCC might calculate in step 1 that BA-VT should receive $15 million of support per year. However, if support were calculated at the wire center level, as in step 2, there might be an apparent need for $30 million of support. The "targeting" procedure would then apply a 50% pro-rata reduction to the individual support amounts by wire center (from step 2). The result is support pro-rated distribution of support to each wire center and a state total equal

30. The amount has increased since the record closed in this docket.

31. *In re Universal Service Joint Board*, CC Docket 96-45, Report and Order of 5/4/97 (FCC 97-157), at ¶¶ 174, 287; Ninth Report and Order, released 11/2/99, ¶ 91.

to the $15 million actually available. So, for example, $30 of federal support might be available for every customer served in the Chelsea wire center. That $30 of support is then made "portable" to any ETC who may capture a customer in Chelsea.[32]

Reassigning Wire Centers

If a wire center were moved from one zone to another, that decision might have three effects:

1. The UNE loop price for a loop will be the price for the zone to which the wire center is assigned, not the price for the zone from which it was moved.
2. The average cost of the new and old zones will change, but perhaps not significantly.
3. Federal universal service support for a customer in that wire center could be altered.[33]

Defining the UNE Pricing Zones

Three Zones

The parties are also in agreement that Vermont should have three UNE pricing zones, denominated "urban," "suburban," and "rural."[34] The FCC's rules hold out the possibility that two zones could be created,[35] but the parties have not recommended that the Board seek the waiver that would be required from the FCC. I agree with the parties, and I conclude that three zones should be established.

The Urban Zone

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32. Given the support for Vermont and Vermont's cost structure, an ETC that captures a BA-VT customer in a high cost wire center might expect to receive up to $30 per month in federal universal service support. Conversely, an ETC serving a customer in a lower cost wire center like Bennington would not receive any federal support.

33. Tr. 2/29/00 at 74-75 (Anglin). Federal support would be altered only if the FCC has granted a waiver to Vermont, as discussed below.

34. Anglin pf. at 6; tr. 2/29/00 at 72 (Anglin); tr. 2/29/00 at 169-70 (Brevitz); exh. DPS-3 and BA-VT-3.

35. The FCC's stay order indicated that the FCC would consider waivers submitted by states "on a case by case basis" where the state had determined that particular facts and circumstances indicated that only two zones should be adopted. *Deaveraged Rate Zones for Unbundled Network Elements*, CC Docket No. 96-98, Stay Order, 14 FCC Rcd. 8300, at ¶ 7 (FCC 98-86) (released May 7, 1999).

Despite their methodological differences, both the DPS and BA-VT agree that the Burlington and Winooski wire centers should, at least initially, constitute the urban zone.[36] Both parties perceive these two wire centers as substantially more dense, and having substantially lower costs, than other BA-VT wire centers. They also believe there is a "natural break point" separating Burlington and Winooski from other BA-VT wire centers.[37] BA-VT reports that Burlington and Winooski have line densities in excess of 650 lines per square mile. The closest competitor is a wire center with less than 250 lines per square mile.[38]

If the Board is to establish an urban zone with only a small number of low-cost wire centers, that decision could have significant consequences. By defining the zone with high customer density and low average loop costs, the parties have effectively determined that UNE loop prices in the urban zone will be significantly lower than UNE loop prices in the rural zone.[39] Other choices were possible. For example, if the urban and rural zones were defined to include 40 wire centers each and the suburban zone to include only five, the resulting UNE prices across the state would have been relatively uniform.

A low UNE loop price in the urban zone could affect BA-VT's retail pricing policy. BA-VT does not currently deaverage its retail residential rates. Following UNE price deaveraging, however, a competitive local exchange carrier ("CLEC") that serves Burlington and Winooski through UNEs will have lower costs and thus a larger potential profit margin.[40] Over the next few years, this could put competitive pressure on BA-VT to lower retail rates in Burlington and Winooski.[41]

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36. Tr. 2/29/00 at 50 (Anglin); tr. 2/29/00 at 170 (Brevitz).

37. Anglin pf. at 6; tr. 2/29/00 at 170, 208 (Brevitz).

38. Exh. BA-VT-3C.

39. As noted above, the parties have also made a similar decision in defining the suburban zone as approximately a dozen near-urban wire centers. BA-VT's estimated UNE price for its suburban zone exceeds its estimated urban price by only a few dollars. Both are significantly below the recommended price for the rural zone.

40. Given the proposed UNE prices in the suburban zone, the same principle would apply there, with slightly reduced force.

41. Over the longer term, a similar pressure to deaverage retail could arise even without UNE deaveraging. Because of the pricing structures in Burlington and Winooski, BA-VT could eventually face significant facilities-based competition in those areas. Facilities-based competition, however, eliminates, rather than reduces, the incumbent's revenue stream from affected customers. Therefore, on a per-customer basis, facilities-based

(continued...)

BA-VT has stated that at some future time it may file tariffs to deaverage its retail rates, lowering rates in the urban zone and raising them in the higher cost zones on a revenue neutral basis.[42] Also, to the extent that retail rate deaveraging produces rates in rural areas that are not reasonably comparable to urban rates, the Board may then perceive a greater need to seek legislative authority for a high cost program within the Vermont Universal Service Fund.[43]

I recommend that the Board accept the agreement of the parties and define the urban zone as consisting solely of the Burlington and Winooski wire centers. I base this recommendation primarily upon the fact that the parties have unanimously so recommended, but also upon the fact that Burlington and Winooski have line densities that are substantially higher than any other Vermont exchange and a HCPM cost that is lower than other exchanges. The recommendation is made with the understanding that it may increase pressure for retail deaveraging.

Suburban and Rural Zones - Three Methods

The most hotly contested issue in this docket is whether approximately a half-dozen out of the 80 non-urban wire centers in Vermont properly belong in the rural zone or in the suburban zone.[44] On this issue, BA-VT and the DPS are separated by broad methodological disagreements. The dispute can best be understood by explaining three broad options.

Method One - Density Zones

The first broad option, proposed by BA-VT, is to define UNE zones using a simple line density calculation ("density option"). BA-VT proposes that:

1. The urban zone be defined as wire centers with 650 or more lines per square mile.
2. The suburban zone be defined as wire centers with 66 or more but with less than 650 lines per square mile.

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41. (...continued)
competition could create more pressure to deaverage than UNE-based competition.

42. Fenoff pf. at 3; tr. 2/29/00 at 155 (Fenoff).

43. *See*, 47 U.S.C. §§ 254(b)(3), 254(f).

44. Tr. 2/29/00 at 72-73 (Anglin); tr. 2/29/00 at 170-71 (Brevitz).

3. The rural zone be defined as wire centers with less than 66 lines per square mile.[45]

BA-VT selected the numbers 650 and 66 by observing that they appeared to be natural "break points" in the density data.[46]

While this line density approach is simple, it is not multidimensional. Factors such as terrain and soil type affect cost, but they are not captured.[47] I agree with the DPS that the line density approach does not optimally address the broad goal of this proceeding, to set prices based upon cost. Without further analysis, it is impossible to determine whether the line density approach will reflect the costs of providing access to the relevant services so that economic efficiency is encouraged and proper market signals are sent to potential competitors.[48]

In Docket 5713, BA-VT was directed to use its own costing model to set UNE prices.[49] That decision offers an opportunity here. Because the zones established in this Docket will be populated by wire centers, it would be desirable to develop cost information on a wire center-by-wire center basis for the purpose of defining the UNE zones.[50] The result would be a unified approach to both the geographic zoning and the pricing aspects of UNEs.[51] It would be possible to say, in that event, that each wire center in the rural zone would have a UNE cost higher than the cost of all wire centers in the suburban zone. This result would send consistent and accurate price signals to potential competitors, thereby advancing the policy goals underlying the FCC's mandate to deaverage.

A critical fact, however, is that BA-VT cannot produce cost data from its model on a wire center basis.[52] BA-VT's costing methodology requires that zones be established first. The method then uses loop sampling from within the zones to calculate the costs of service within

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45. Anglin pf. at 5; tr. 2/29/00 at 77-79 .
46. Anglin pf. at 5.
47. Tr. 2/29/00 at 172-73 (Brevitz); tr. 2/29/00 at 77 (Anglin).
48. Brevitz pf. at 14; *see also*, tr. 2/29/00 at 27 (Anglin).
49. Docket No. 5713, Order of 2/4/00 at 61.
50. Brevitz pf. at 14; Anglin pf. rebuttal at 4; tr. 2/29/00 at 37 (Anglin).
51. Tr. 2/29/00 at 215-17 (Brevitz).
52. Brevitz pf. at 9-10; tr. 2/29/00 at 38-42 (Anglin). Bell Atlantic has provided such data in Delaware, a state in the southern portion of the merged Bell Atlantic-NYNEX territory. Tr. 2/29/00 at 39 (Anglin).

each zone.[53] Therefore, establishing UNE zones by using the costing model is not possible at the present time. This is the reason why BA-VT has relied instead upon simple line densities.

Method Two - Published HCPM

The second broad option, advanced by the DPS, is to define the rural zone as consisting of wire centers that currently generate federal universal service support.[54] This requires use of the published costs results from the FCC's "HCPM" cost model, the model currently used by the FCC to determine the amount of federal universal high cost support that is available to "nonrural" carriers serving high cost wire centers.[55] This option can be referred to as the "published HCPM option." BA-VT flatly opposes use of the HCPM cost model in this docket, and indeed opposes the use of the model for anything other than its current use to target federal universal service funds.[56]

HCPM is a "forward-looking" model in that it presupposes the construction of an entirely new and efficient network, retaining from the current network only the location of existing wire centers. It is therefore consistent with the FCC's "TELRIC" methodology,[57] and it has been thoroughly investigated by the FCC, after considerable public input.[58] The HCPM uses several Vermont-specific inputs, including actual central office locations, BA-VT's actual mix of host and remote switches, actual data on terrain and soil type, and a procedure for estimating actual customer locations.[59] In the future, the FCC will use the HCPM to estimate the amount of support available to eligible states based on national default inputs, and then to true up the estimated support figure quarterly based on access line counts reported by carriers serving high cost wire centers within a receiving state.[60]

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53. Tr. 2/29/00 at 28 (Anglin).

54. Brevitz pf. at 18. The DPS characterizes this as "Scenario 1." While the DPS explores Scenario 1 in some detail in its testimony, *see, e.g.*, exh. DPS-2, it actually recommends adoption of "Scenario 2," discussed below.

55. Brevitz pf. at 11, 15.

56. Tr. 2/29/00 at 74 (Anglin).

57. Tr. 2/29/00 at 80-82 (Anglin).

58. Tr. 2/29/00 at 211 (Brevitz).

59. Tr. 2/29/00 at 80-81 (Anglin); tr. 2/29/00 at 172-73, 177, 209-10 (Brevitz). BA-VT ran the HCPM model and reported its results for the Department's use in this proceeding. Customers are assumed to be located within each wire center equally distributed along the actual Vermont road network.

60. Exh. BA-VT-4; tr. 2/29/00 at 52 (Anglin).

As the DPS asserts, the publication of the HCPM data offers Vermont a significant opportunity. If the rural zone were defined in a way that interfaces cleanly with the FCC's distribution of federal high cost support, cost messages to CLECs could be greatly simplified and chances for arbitrage reduced. Thus, for example, if the cost boundary between suburban and rural were chosen at precisely the threshold for federal universal service support, all rural wire centers would be eligible for federal universal service support, and no wire centers in the suburban zone would be eligible. This would significantly simplify the regulatory structure applicable to CLECs and reduce the risk of unintended pricing signals to carriers.[61]

Also, aligning UNE zones with federal support would avoid the risk of arbitrage. Without such an alignment, it is possible that a particular wire center would be considered by the Board to be in the suburban zone, and thus have a moderately low UNE price, while at the same time generating high cost support from the federal program. This could create some confusing price signals for carriers.

Unfortunately, defining UNE zones using the published HCPM cost results presents some formidable difficulties. The most serious problem is that the published HCPM cost data are based upon aged and currently inaccurate line counts. Substantial variations exist between the line counts recently reported by BA-VT and the line counts used by the FCC in calculating costs under the HCPM model. The most egregious difference is in Stratton, where the FCC's line count understated the correct number by more than 99%; but the problem appears widespread. In several wire centers, the FCC count differed from BA-VT's count by more than 20 percent.[62]

The record is insufficient to support any finding that the HCPM model produces accurate results. Although the FCC has used current line counts to "true up" support levels, the FCC has not produced costs based upon the new and accurate line counts. This is important because the HCPM model uses line count data in the early stages of its calculations, when estimating customer

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61. The benefits would be enhanced if a waiver also could be obtained from the FCC. If such a waiver were issued, federal universal service support to CLECs would be uniform throughout the rural zone. With both of these pieces in place, a UNE-based CLEC would face a uniform net price throughout each UNE zone.

62. Exh. DPS-4C.

locations on the road network.[63] Therefore, adopting the published HCPM results would compromise the principal goal of the FCC's deaveraging rule, to align price with cost.[64]

In addition, the record does not support a conclusion that the HCPM model, as it stands, is appropriate to estimate costs in Vermont. The model has been thoroughly evaluated by the FCC, but not by the Board in this or any other docket.[65] Yet the HCPM model contains hundreds of parameters and assumptions. As noted above, there are several Vermont-specific inputs, but further adjustments may be appropriate. For example, in designing the hypothetical forward-looking network for which it will later calculate costs, HCPM makes no explicit allowance for lakes, bays, mountains, or other areas that are impassable.[66] The record in this proceeding does not contain any detailed review of how the HCPM model works nor of how important and accurate are its standard nationwide inputs.

The Board should not use the HCPM model (with or without more accurate line count data) without first evaluating the built-in assumptions in relation to rural areas in Vermont.[67] Such an

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63. The FCC has made more than one correction to its original results published in November, 1999. In January, 2000, the FCC corrected some transcription errors regarding line counts and corrected some computer errors. The January correction still did not, however, use more recent line counts in calculating cost, but again relied on "model lines," a term used by the FCC to describe much older line count data that is in the public domain. Exh. BA-VT-4. The FCC subsequently used current line counts to apply an after-the-fact adjustment to support amounts. Because of confidentiality claims by BA-VT and others, the FCC has never published any results based upon using current and accurate line counts throughout the entire cost estimation process under HCPM. Anglin pf. rebuttal at 6-7; exh. BA-VT-4.

64. The Board might consider adopting the published HCPM data as an interim measure. Such a step, however, presupposes that a subsequent zone revision can be made at reasonable cost when the FCC recalculates costs with accurate line counts. The implications of zone revisions are discussed in detail below.

65. In Docket 5713 there was exhaustive litigation on the Hatfield model, a precursor of the HCPM.

66. Tr. 224-25 (Brevitz). BA-VT has also suggested that Vermont-specific adjustments may be needed to geographic, topographic, and soil conditions assumptions. Anglin pf. at 8. The DPS correctly notes that the HCPM relies upon the actual details of the Vermont road network, and thus implicitly recognizes geography. DPS Reply Brief at 11-12. This feature does account for some of the effects of geography particularly where customers have been naturally clustered by geographic features, such as in mountain valleys. In some cases, this natural clustering of customers may prevent the model from hypothesizing implausible plant configurations. The record does not show, however, that the model otherwise avoids implausible plant configurations based upon natural geographic features. For example, the record does not disclose any feature of the model that would prevent it from routing hypothetical feeder plant over mountain ranges or across lakes. To the extent that real feeder plant must take account of these real limitations, the model will underestimate costs.

67. The DPS argues that the thoroughness of the FCC's review, and BA-VT's opportunity to provide input, somehow make the HCPM model more reliable or useful. *E.g.*, DPS Reply Brief at 4, 6. While this process may have been sufficient for the FCC's own purposes, it does not provide this Board with any understanding of the contested issues nor with any basis to resolve them in Vermont.

evaluation could be far more complex than would be appropriate for a mere compliance matter, as suggested by the DPS. The result would likely be further time consuming litigation on the accuracy of the HCPM model. The gain from such litigation would be minimal, particularly since, pursuant to the Board's decision in Docket 5713, the HCPM model is not used to actually set UNE prices.

My skepticism about use of the HCPM model here is supported by statements of the FCC itself. The FCC has stated that state commissions:

> may find that it is not appropriate to use nationwide values in determining state universal service support or prices for unbundled network elements and may choose instead to use statewide or company-specific values.[68]

More broadly, the FCC has cautioned against "making any claims in other proceedings" based upon the input values in the HCPM model.[69]

The FCC's own hesitancy in applying its own model consistently is an even more fundamental problem. More than four years after passage of the Act, the FCC still has not finally decided whether the HCPM model is appropriate for areas served by "rural carriers."[70] If the FCC ultimately decides that the HCPM model is unsuited to estimate the cost of providing service in rural areas for one kind of company, it is difficult to understand how that model could be useful to estimate the costs of equally rural areas that happen to be served by a larger company.

Another difficulty with using the published HCPM data arises from the fact that the FCC plans to update HCPM support calculations quarterly, based upon quarterly reports of access

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68. *In re Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Tenth Report and Order, FCC 99-304, ¶ 31 note 425 (Nov. 2, 1999)("Tenth Order"); *see also*, Anglin pf. at 8.

69. Tenth Order, FCC 99-304, ¶ 32.

70. The FCC has defined "rural carriers" for universal service purposes consistent with the definition of that term in the Act for purposes of defining the obligations of incumbent carriers. Basically, "rural carrier" means a small independent company. All incumbent local exchange carriers in Vermont are rural carriers, except for BA-VT.

The FCC has promised that it will not implement the HCPM model for rural carriers until 2001 at the earliest, and has suggested that it may not do so at all. The FCC said, in November 1999:

> The support mechanism for rural carriers will remain unchanged at least until January 1, 2001, and reform will be undertaken only after the Commission, the Joint Board, and a Rural Task Force appointed by the Joint Board have selected an appropriate methodology for rural support.

Ninth Report and Order at ¶ 11.

lines.[71] Each time the FCC recalculates USF support using the model, exchanges may become eligible or ineligible for support.[72] Even disregarding the line count accuracy problems, if the Board were today to align UNE zones with federal support, those zones would need to be adjusted soon, possibly as soon as three months thereafter. The DPS recommends that the adjustment be performed annually.[73]

Frequent zone readjustments, however, would have several effects. One salutary effect arises from the fact that the rural zone has high UNE prices but also would have federal universal service support. The DPS correctly observes that during a zone readjustment, when a wire center is reassigned from rural to suburban, or vice-versa, these two economic changes would be in opposing directions, thus reducing economic uncertainty of the CLEC.[74] Nevertheless, frequent zone adjustments could also create uncertainty among CLECs. For wire centers with costs near the current suburban-rural boundary, neither BA-VT nor its competitors would know from year to year what UNE prices will be charged. This would complicate business planning and make UNE payments less predictable.

Annual adjustments to UNE zones also might impose non-trivial process costs on BA-VT and its customers. Moving wire centers into or out of a UNE zone will, in general, alter the average cost of providing loops to that zone. But if the average cost has changed, it may also be desirable to change the UNE loop price, and this in turn may require a new cost study.

The parties may disagree on whether price adjustments would be needed following zone adjustments and on whether a new cost study would be needed to calculate those prices. BA-VT suggested but did not state that such studies might be needed following wire center reassignments.[75] The DPS contends that a new cost study will not be needed.[76] Unfortunately,

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71. Exhibit BA-VT-4; tr. 2/29/00 at 52 (Anglin); *see In re Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Ninth Report and Order, FCC 99-306, ¶ 92 (Nov. 2, 1999).

72. Tr. 2/29/00 at 183-87 (Brevitz).

73. Tr. 2/29/00 at 186-89, 231 (Brevitz).

74. DPS Reply Brief at 8-9.

75. The following colloquy took place during hearings examining a BA-VT witness, Mr. Anglin, regarding an assertion from the DPS that reassigning wire centers to new zones, and calculating new prices, is merely a "ministerial" task:

> Q: Now, reassigning under the Department's approach, reassigning a wire center from primarily -- I think what we are talking about is between rural and suburban. If we reassign one of them

(continued...)

the record is not sufficiently clear to evaluate either issue. Therefore, I am unable to make findings or make recommendations concerning when the reassignment of wire centers would justify the calculation of new UNE prices, how such new prices would be calculated, whether recalculation of prices would require a new cost study, and the cost of such a study.

One possibility is that, following annual UNE zone adjustments, no UNE price adjustments will be needed because errors will be acceptably small. Under that theory, no new cost study would be needed until substantial pricing inaccuracies appear. However, there is nothing in the record concerning the magnitude of the resulting pricing errors. The FCC's model is still somewhat fluid,[77] so the original zone assignments could quickly become obsolete, and many wire centers may need to be reassigned. This could introduce substantial but unmeasured errors in the resulting UNE price.

It is also possible that UNE prices could be easily recalculated. This would be a simple matter, for example, if the BA-VT cost study produces separate loop cost data for each wire center. In that case, a new zone price could be calculated quickly by a simple re-averaging of the prices of the component wire centers. The record is clear, however, that BA-VT's cost studies (which under Docket 5713 are used to set recurring UNE prices) have *not* produced cost data on

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75. (...continued)

> under the Department's approach, that's a fairly ministerial task, isn't it, as opposed to conducting a whole new cost study?
>
> A: Well, in relationship to conducting an entire new cost study, yes, it is.

Tr. 2/29/00 at 88-89. I consider this answer to be ambiguous. The colloquy does not establish whether the witness believed that, following such a reassignment, a new cost study would be required.

76. The following colloquy involved the DPS's witness Brevitz:

> Q. But it's fair to say that the Department and Bell Atlantic-Vermont may disagree as to the frequency of that reassignment?
>
> A. Yes. I think we see it being -- we think that the reassignment could be evaluated perhaps more frequently than the company and we don't think that requires a full-blown inquiry into the reopening of the UNE cost *but simply we can revisit the numbers that determine the access line density per square mile and see if the wire center is still in the appropriate place.*

Tr. 2/29/00 at 170 (Brevitz)(emphasis added).

77. Since the run of the model that the FCC used to determine the distribution of high-cost support in November 1999, the FCC re-ran the model in January 2000, correcting some computer errors and correcting some inaccurate access line data. This resulted in substantial changes in the amount of support distributed. Anglin reb. pf. at 7; exh. BA-VT-4. Future refinements may be smaller, but there is no way to be sure.

a wire center basis.[78] Therefore, I conclude that the needed data are not available to recalculate UNE prices through a simple re-mixing of known costs for each wire center.

In summary, under the present record, the DPS proposal poses a dilemma. If the Board adopts the DPS proposal, it could decide to ignore changes in zone averages caused by wire center reassignments. However, under the present record it is not possible to estimate the size of the error thereby introduced. Alternatively, the Board could decide to adjust prices following each zone reassignment. However, the record does not disclose how costly this choice would be. I conclude, therefore, that adopting the DPS proposal imposes the unmeasured risk of either producing inaccurate prices or expensive cost studies.

UNE zone changes will also require changes to BA-VT's billing systems. I agree with the DPS, however, that the reassignment of a wire center from one zone to another should not require any fundamental change in BA-VT's billing systems. Changes to an input to the billing system would be required, that is, the data inputs describing which wire centers are priced at what level, but if the system were properly designed, this would be a relatively minor task.[79] I conclude BA-VT's billing system can accommodate a change in zone assignments at small cost.[80]

Method Three - Recalculated HCPM

The third broad option, also advanced by the DPS, is a variant of the second. This method once again involves the use of the HCPM cost model, but consists of running the model using current and accurate line count data ("recalculated HCPM option").[81] As before, the DPS would assign wire centers generating federal support to the rural UNE zone. The results, however, are significantly different than the results of the published HCPM option.[82]

The recalculated HCPM option corrects for inaccurate line counts, but it does not achieve the alignment with federal support that the DPS claims is desirable. While recalculation offers

78. Anglin reb. pf. at 4 (cost study based upon sampling of loop characteristics of *representative* wire centers); tr. 2/29/00 at 38, 41-42 (Anglin).

79. BA-VT will also have to notify its customers of pricing changes.

80. Tr. 2/29/00 at 187-88 (Brevitz); tr. 2/29/00 at 70-71 (Anglin).

81. Brevitz pf. at 10; tr. 2/29/00 at 172 (Brevitz); DPS brief at 13.

82. Exh. DPS-1; exh. DPS-2.

potentially greater accuracy and improved match to Vermont cost conditions, the result would no longer align UNE zones with federal universal service support. Federal support, as discussed above, will at least initially be based upon the published but currently inaccurate line count data.[83] Thereafter, while the FCC may update line counts,[84] it may not incorporate the new data in the same manner that the Board would calculate costs based upon the new data.[85] The result could be the same "arbitrage opportunity" and "distorted entry incentive"[86] that the DPS contends results from BA-VT's proposal.

In addition, the recalculated HCPM option suffers from many of the same difficulties discussed above for the published HCPM option. There are still uncertainties about the accuracy of the model itself in Vermont and even about the FCC's confidence in the model. Likewise, this option raises the same issues about the costs associated with frequent adjustments to the zones.

Discussion

I discussed above two possibly significant benefits that could flow from this docket. Unfortunately, neither is attainable. First, it is not possible to align UNE zones with the costing model used to set UNE prices because that model does not produce sufficiently specific data. Second, it is impracticable to align zones with federal universal service. Selection of the published HCPM option would require use of inaccurate data and a model in which the FCC itself apparently has significant doubts. It might also compel frequent and expensive updates, thereby creating uncertain expectations among CLECS. Selection of the recalculated HCPM option would undercut the goal of alignment with federal support.

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83. In their most recent announcements, the FCC has applied more current line counts to each wire center, but only after the underlying costs have been calculated with the old and inaccurate line counts. Since new line counts are generally larger than older line counts, the result is a small proportional increase, performed after the fact, for all support recipients.

84. *See*, tr. 2/29/00 at 179 (Brevitz).

85. In calculating support for 2000, the FCC used current line counts as an after-the-fact adjustment for support only, not for costs.

86. DPS brief at 10.

Finding these two major benefits unattainable, I base my decision primarily upon simplicity. I conclude that the line density method proposed by BA-VT is the simplest approach and should be adopted by the Board.

It is worth noting that the actual zone assignments resulting from the published HCPM option are remarkably similar to the results of the line density option. The two methods agree in all but a half-dozen wire centers.[87] Therefore, it makes little difference to BA-VT's bottom line whether the disputed wire centers are assigned according to its proposal or to the Department's proposal.[88] Apparently, access line density is the major variant in the determination of costs.[89] Therefore the method satisfies the FCC's requirement that UNE zones be based upon cost.[90]

This choice is consistent with the method that BA-VT will use to actually calculate UNE prices, and thus avoids mismatches between zone assignments and cost calculations.[91] It also avoids the need to evaluate the complex HCPM model, and it avoids the need to rely upon secret data or data with known inaccuracies. Also, it avoids the need frequently to recalculate UNE zones and the consequent expenses of frequently conducting a new cost study.

The DPS maintains that using the HCPM to define UNE zones might increase the chances that the FCC will grant a waiver to Vermont.[92] As discussed below, I recommend that a waiver be sought that will make uniform the payment of federal universal service support. However, I consider it speculation that the FCC would be more likely to grant a waiver if UNE zones have been defined by use of the HCPM model. Moreover, even if the speculation were accurate, the possible gain from a waiver does not outweigh the many problems caused by use of the HCPM model itself.

Periodic Review

87. Tr. 2/29/00 at 73-74 (Anglin); DPS Brief at 19. For the Brandon and Fair Haven wire centers, BA-VT recommends assignment to the rural zone, but the DPS supports assignment to the suburban zone. Conversely, for the Derby, Manchester, Newport, Poultney and Windsor wire centers, BA-VT supports assignment to the suburban zone, but the DPS recommends assignment to the rural zone. Exh BA-VT-5.

88. Tr. 2/29/00 at 73-74 (Anglin).

89. Anglin pf. at 4.

90. Anglin pf. at 4; Anglin reb. pf. at 4; tr. 2/29/00 at 29 (Anglin).

91. Tr. 2/29/00 at 215-217 (Brevitz).

92. Tr. 2/29/00 at 217-18 (Brevitz).

A closely related issue is the frequency with which the Board should review existing UNE zone assignments. Both the Department and BA-VT agree that a periodic review should occur.[93] The DPS reasons that periodic review is necessary because certain wire centers are situated close to the break point between the suburban and rural zones in terms of cost, and, over time, the cost of service in a particular wire center may change sufficiently so that a reassignment among zones may be appropriate.[94] BA-VT makes a similar argument, but casts the argument in terms of access line density, its preferred variable.[95]

The DPS and BA-VT disagree, however, about the frequency of the review. BA-VT proposes that a review occur only in conjunction with the periodic review of UNE prices,[96] the frequency of which is still under consideration in Docket 5713.[97] The DPS recommends that a review of the rank order and grouping of wire centers occur on a more frequent basis, preferably annually.[98]

I conclude that UNE zones should be reviewed in conjunction with the review of UNE prices, as that time period may be set in Docket 5713. Given my earlier recommendation to base zones on customer density, there is little reason to revise the zones more frequently than the wholesale rates themselves are revised. Moreover, no party has asserted that the geographic pattern of line density data actually changes significantly from one year to the next.

As it was above, cost is a major factor. I noted above that a regrouping of wire centers may require a new cost study and that such a cost study may be expensive. The Docket 5713 wholesale rate reviews already will incur this cost, and therefore zone reassignments can be included at little or no incremental expense.

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93. Tr. 2/29/00 at 85 (Fenoff); tr. 2/29/00 at 170 (Brevitz).

94. Tr. 2/29/00 at 188-89 (Brevitz).

95. Tr. 2/29/00 at 89 (Anglin).

96. Tr. 2/29/00 at 85 (Fenoff); Anglin reb. pf. at 3.

97. The hearing officer recommended that such a review occur at least every three years. Docket No. 5713, Order of 2/4/00 at 84. The Board discussion, however, invited further comment on that issue, and a final decision has not been issued. *Id.* at 103.

98. Tr. 2/29/00 at 170 (Brevitz); DPS brief at 20, 24. The Department suggests that the annual review be conducted in conjunction with the Board's annual certification to the FCC that BA-VT will use the federal universal service support for the following year in a manner consistent with 47 U.S.C. § 254(e).

Finally, less frequent review of UNE zones should reduce uncertainty among both CLECs and BA-VT. While frequent reviews could lay claim to greater accuracy, they would also increase risk, and this could have a significant deleterious effect upon CLECs who may be considering entry into the Vermont local exchange market.

I do hold some hope that by the time of the next periodic review, the DPS's goal of aligning UNE zones with federal cost calculations will be more practicable. By that time the FCC will have had more time to stabilize the HCPM model and to evaluate its accuracy. I recommend that the Board carefully evaluate at that time whether it is practicable to define the rural zone in a way that includes solely or primarily those wire centers eligible for federal universal service support.

Waivers

The FCC has also provided an opportunity for states that have established three UNE zones to alter the manner in which the FCC "targets" universal service support. Without a waiver, the FCC would target federal high cost support to the highest cost wire centers, with the most support per line going to wire centers with the highest calculated cost. Lower cost wire centers, with costs still above the national benchmark, would generate and be targeted for lower amounts of per-line support. If the funds were targeted without the waiver, more federal support would be available to a competitor entering Tunbridge, for example, than a competitor entering Vergennes, even though the competitor might pay the same UNE price per line in both places. This would create the kind of arbitrage opportunity or distorted entry incentive that the FCC has sought to avoid.

Under an FCC waiver, the FCC would target a uniform amount of support to every wire center in a UNE zone. The Department and BA-VT agree that the Board should seek such a waiver.[99]

A waiver could offer significant benefits. A waiver would allow the Board to align federal universal service support with the price of UNEs. In broad areas of the state with high but uniform UNE prices, federal universal service support would likewise be uniform. Therefore, the net cost to a UNE-based CLEC would be constant over much of the rural portion of the state.

99. Brevitz pf. at 19; Fenoff pf. rebuttal at 3; tr. 2/29/00 at 117 (Fenoff).

This would minimize the opportunity for arbitrage and the distortion of entry incentives.

I agree with the parties. The Board should seek an FCC waiver that levels universal service support across the rural zone in a way that matches the uniformity of the UNE price and thus creates uniform incentives for CLECs throughout the zone.

I do not agree, however, that a waiver must be sought immediately. The effect of a waiver would be to alter the amount of federal payments to ETCs. However, the Board has not to date certified any ETC to compete with BA-VT,[100] nor has any CLEC sought such certification. Therefore, the targeting of support is irrelevant and a waiver would have no immediate effect. With or without a waiver, BA-VT simply will receive all of the support generated by high costs in its service area, without any reduction for CLEC customers.

If a waiver application is delayed, there is a possibility that an ETC could benefit from arbitrage of universal service support over a limited period beginning with ETC certification and ending with the FCC's approval of the waiver. While this could confer some temporary benefits, it should not produce any economically inefficient entry. Any new CLEC ETC will know in advance that a waiver request will be filed, and that should deter the CLEC from entering the market based upon an expectation of long-continued arbitrage.

I recommend that the Board apply for a waiver at the time that it certifies an ETC in Docket 5918 to receive universal service support generated within wire centers served by BA-VT. At that time, a waiver request should be submitted promptly.

Minimum Service Areas

The Board's opening Order asked the parties to consider whether this docket or Docket 5918 should define the minimum service areas of ETCs.[101] If the question is to be decided here, the opening Order also asked whether ETCs should be required to offer ubiquitous services throughout the zones ultimately established in this docket.

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100. In Docket 5918, all incumbent LECs have been designated as ETCs, but no other carriers have sought ETC designation.

101. Order of 12/29/99 at 4-5.

BA-VT requests a Board ruling that a competitive carrier seeking ETC status should be obligated to "demonstrate that it provides ubiquitous services throughout the UNE zone."[102] BA-VT claims this policy would produce more choices for rural Vermont telecommunications users, by reducing the incentive for a new entrant carrier to "cherry pick" more profitable areas to operate, thereby denying this competitive alternative to customers in other areas in the high cost zone while receiving funds from the USF.[103]

The DPS opposes this request and characterizes such a policy as a possible barrier to entry, principally because it would prevent a CLEC from having the ability to enter the market one exchange at a time, while at the same time remaining eligible for universal service.[104] The DPS sees no need in this docket to designate minimum service areas.[105] AT&T also opposes the BA-VT proposal, arguing that it is not competitively neutral.[106]

On the timing question, BA-VT responded that the Board's decision can be made either in this docket or in Docket 5918 at the time that a carrier applies for ETC status.[107] The DPS recommends that the Board wait for a proceeding in which a carrier seeking ETC status is fully engaged before making the determination of the service area applicable to a competitive carrier.[108]

I conclude that the service area issue is better resolved in the context of a particular application from a competitive provider in Docket 5918. No such petition has been filed.[109] Therefore, I recommend that the Board refrain from deciding here whether an ETC must serve an entire UNE zone. Docket 5918 remains open to receive any applications for ETC status, and the issue can be fully litigated when an application is filed.

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102. Tr. 2/29/00 at 129 (Fenoff). In cross examination, the BA-VT witness also suggested that the carrier should be required to "offer" service throughout the area, a possibly less demanding standard. Tr. 2/29/00 at 130 (Fenoff).

103. Fenoff pf. at 4; tr. 2/29/00 at 135, 139 (Fenoff).

104. Tr. 2/29/00 at 213 (Brevitz).

105. DPS Reply Brief at 14.

106. AT&T Brief at 6-7.

107. Fenoff pf. at 4.

108. Brevitz pf. rebuttal at 7.

109. Brevitz reb. pf. at 6.

The issue nevertheless has significance to this docket. The Board should understand how the large UNE zones that I recommend here might narrow the Board's future choices in Docket 5918.

The problem arises from the practical difficulty of finding a common geographic scale for three major policies: pricing for UNEs; universal service; and the minimum service obligations of ETCs. From a competitor's point of view, all three policies ideally would operate on a very small geographic scale. In such a world, regulators would set UNE prices and would calculate universal service support over very small areas, possibly even on a customer-by-customer basis. Regulators might also require CLECs to serve any willing customer within that small geographic area, but that obligation would be virtually painless because the geographic area would be small. Providing ubiquitous service in such a small area would be at most a minor inconvenience to the CLEC and would not be a barrier to entry. Thus CLECs could make targeted entry decisions while at the same time receiving universal service support as "carriers of last resort."

This model would meet the goals of regulators as well. Since it would rely upon accurate cost models and precise financial incentives, it should produce an equal probability of competition everywhere in the state, including rural areas.

There is, however, a practical lower limit for UNE pricing and universal service support. The HCPM model, for example, despite its heroic complexity, does not even attempt to estimate cost at a scale below the wire center. Also, as noted above, the administrative costs on incumbent carriers increase when UNE prices vary within wire centers, and small UNE zones might further exacerbate the pressure for retail deaveraging. As a result, the parties have recommended, and I agree, that the Board establish larger zones.

Larger zones, however, create a new dilemma. One option is to impose on CLECs the obligation to serve any and all willing customers in an entire UNE zone. This zone likely would be larger than any CLEC would willingly choose. As a result, competitors who seek ETC status would be required to serve customers whom they would otherwise bypass. Alternatively, competitors might forego ETC status, thereby losing eligibility for universal service support,

support that is provided to the incumbent carrier. In either event, competition might be impaired by reducing the competitor's ability to provide service at rates equal to the incumbent.[110]

The other option is to refrain from imposing broad service obligations on CLECs and allow them to "cherry pick" by serving only the most lucrative customers or areas within a UNE zone.[111] This violates the assumption that universal service support should be available only to carriers that are willing to serve costly and difficult-to-serve customers. Selecting this option could slow the diffusion of competition in high-cost rural areas, since CLECs will have no legal obligation and no economic incentive to serve unattractive areas. Refraining from service obligations also violates the assumption that underlies the calculation of an average UNE cost for the zone: that buyers will actually purchase some services in areas where costs are below the price as well as from areas where costs are above the price. CLECs thus would have the opportunity to impose above-average costs on the incumbent by purchasing only expensive facilities at averaged prices.

In summary, I recommend that the Board refrain from deciding here whether a carrier must serve an entire UNE zone in order to qualify for ETC status. That decision is best left to Docket 5918. Nevertheless, the Board should understand the dilemma created by any decision to establish large UNE zones that span many exchanges, a dilemma that could constrain future decisions made in Docket 5918.

Applicability of Zones to Interconnection Agreements

Now that UNE zones will exist in Vermont, the question arises as to which documents should recognize those zones. One part of the question can be quickly resolved. The parties are in agreement, and I conclude, that deaveraged UNE rates ordered in this docket should be applied prospectively. That is, deaveraged UNE zones and pricing should be incorporated into BA-VT's Statement of Generally Available Terms ("SGAT"), as well as any new interconnection agreements involving BA-VT.[112]

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110. Tr. 2/29/00 at 128-40 (Fenoff); tr. 2/29/00 at 213 (Brevitz).
111. Fenoff pf. at 4; tr. 2/29/00 at 139 (Fenoff).
112. Fenoff pf. at 2.

The more complex question is the extent to which UNE zones and pricing should be applied to existing interconnection agreements. BA-VT has proposed the new zones should not be applied retroactively to existing contracts, except as those contracts may expressly permit the incorporation of revised UNE rates.[113] The DPS, on the other hand, has expressed concern that failure to apply the new lower urban prices for the loop UNE could give BA-VT an unfair advantage, at least in the event that retail rates are also deaveraged.[114] The DPS argues that since deaveraged, cost-based UNE loop zone rates are an important element of the national pro-competitive framework, newly deaveraged loop rates should be incorporated in existing interconnection agreements as "automatically" as possible.[115]

In general, I agree with BA-VT. There may be interconnection agreements that do not contain any plausible basis to renegotiate or amend their pricing terms. In such cases, the Board should not mandate that the agreements be disturbed. These agreements were entered voluntarily, and all parties to them knew or should have known since 1996 (when the deaveraging requirement was first announced) that UNE deaveraging was a possibility. The Act favors voluntary negotiation of interconnection agreements between telecommunications carriers.[116] The Board has only limited authority over proposed agreements,[117] and the Act does not contain any automatic mechanism for post-approval modification of interconnection agreements.

I conclude, therefore, that the Board should not order that all existing interconnection agreements be amended to include UNE zones. In some cases, CLECs desiring the lower urban UNE loop price may simply need to await the expiration of their existing contracts.[118]

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113. BA-VT Reply Brief at 1.

114. Brevitz reb. pf. at 7-8. The DPS did not raise this issue in its brief.

115. Brevitz reb. pf. at 8.

116. Negotiated agreements need not comply with the requirements of § 251(c), thereby affording the parties greater negotiating flexibility, including the flexibility to agree to terms that § 251 might otherwise prohibit.

117. Although the Board must review the agreement before it may become effective, the Board may only approve or reject the agreement. § 252(e)(1). If the Board should fail to act upon a negotiated agreement within the statutory ninety-day deadline, the agreement is approved. § 252(e)(4). The Board may reject a negotiated agreement only if it finds that the agreement discriminates against a telecommunications carrier that is not a party to the agreement, or that the agreement is not consistent with the public interest, convenience, and necessity. § 252(e)(2).

118. Interconnection agreements typically have a contract term of two to three years. Tr. 2/29/00 at 101 (Fenoff).

In practice, however, CLECs may have a number of means available to quickly obtain the benefits of UNE zone pricing. For at least some interconnection agreements, a change in law triggers either an automatic price adjustment for loops[119] or an obligation to reenter negotiations.[120]

Revision of existing agreements, either through simple amendment of the pricing schedules or through further inter-party negotiations, could create an administrative burden for the Board and the parties. However, if a large number of contract terms come into issue, that will be a sign that many CLEC customers seek the new lower UNE prices in the urban zone. The resulting vigorous local exchange competition, at least in the urban zone, would justify the additional burden.

Conclusion

Based upon the findings and conclusions above, I recommend that the Board:

1. Establish zoned prices solely for the loop UNE, and not for other UNEs, such as switching and transport.
2. Establish UNE zones consisting of aggregations of wire centers.
3. Establish three UNE zones.
4. Establish an urban UNE zone consisting of all wire centers with a line density equal to or greater than 650 lines per square mile and initially containing only the Burlington and Winooski wire centers.
5. Establish a suburban UNE zone consisting of all wire centers with a line density equal to or greater than 66 lines per square mile, but less than 650 lines per square mile.
6. Establish a rural UNE zone consisting of wire centers that are not urban or suburban.

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119. *E.g.*, Interconnection Agreement between BA-VT and National Mobile Communications, Inc., filed April 25, 2000, Exhibit A. This agreement contains an Appendix that includes a Pricing Schedule. The pricing schedule contains a footnote that recognizes that certain prices, including loop prices, are "interim" and "shall be replaced on a prospective basis" upon adoption by the Board of "permanent rates and/or rate structures."

120. The same agreement referred to in the previous footnote obligates the parties to renegotiate in good faith whenever there is a change in applicable law (legislative, regulatory, judicial or other) that "materially affects any material term" of the agreement. ¶ 27.3

7. Plan to review UNE zone assignments in conjunction with Board reviews of prices in BA-VT's SGAT.
8. Apply for an FCC waiver to provide uniform federal high cost support levels within the rural zone after it certifies the first ETC in Docket 5918 to receive universal service support generated within a rural zone wire center presently served by BA-VT.
9. Decide in Docket 5918, and not here, whether a carrier must serve an entire UNE zone in order to qualify for ETC status.
10. Direct that deaveraged UNE zones ordered in this docket be incorporated into BA-VT's SGAT and in all new interconnection agreements.
11. Direct that BA-VT make a compliance filing consistent with the above paragraphs within 60 days. This will give BA-VT time to complete a new cost study for the loop cost in each UNE zone.

DATED at Montpelier, Vermont, this 14th day of September, 2000.

s/Peter Bluhm

Peter M. Bluhm, Esq., Hearing Officer

Board Discussion

We have read the proposed decision and have read and considered the comments filed by the DPS and BA-VT. We conclude that the findings and conclusions of the Hearing Officer should be adopted.

The most significant criticism filed by the DPS concerns footnote 75 of the proposed decision. The DPS claims that the Hearing Officer has misunderstood a portion of the testimony of a BA-VT witness with regard to whether BA-VT contends that cost studies might be needed following wire center reassignments. We conclude that no change is needed to the proposed decision. The meaning of ambiguous testimony is best interpreted by the person who heard that testimony in person, rather than from a transcript. Moreover, the error alleged, even if present, is harmless. Even if the footnote and the text it supports were deleted from the proposed decision, it would not alter the outcome here. If the disputed text were omitted, we would still be unable to determine from the record whether price adjustments would be needed following zone adjustments and whether a new cost study would be needed to calculate those price adjustments.

We have considered BA-VT's suggestion that we revise the proposed decision to suggest that the HCPM's consistency with the hypothetical costing aspects of the FCC's TELRIC methodology is affirmatively a disadvantage in establishing UNE zones. We are not persuaded. While we recognize that the status of TELRIC pricing is in some contexts uncertain, the scenario set out by BA-VT concerning possible court decisions are highly hypothetical and do not appear so immediate as to justify a conclusion that use of TELRIC pricing is a "disadvantage."

The DPS has urged us to affirm the suggestion on page 24 in the proposed decision. The proposed decision recommended that when we perform a periodic review of UNE pricing, that at the same time we carefully evaluate whether it is practicable to define the rural zone in a way that includes solely or primarily those wire centers eligible for federal universal service support. We agree, and we will evaluate the question at that time.

With these comments, we approve and accept the Proposal for Decision.

ORDER

IT IS HEREBY ORDERED, ADJUDGED AND DECREED by the Public Service Board of the State of Vermont that:

1. The findings and conclusions of the Hearing Officer are adopted.
2. BA-VT shall establish zoned prices solely for the loop UNE, and not for other UNEs, such as switching and transport.
3. BA-VT shall establish UNE zones consisting of aggregations of wire centers.
4. BA-VT shall establish three UNE zones.
5. BA-VT shall establish an urban UNE zone consisting of all wire centers with a line density equal to or greater than 650 lines per square mile and initially consisting only of the Burlington and Winooski wire centers.
6. BA-VT shall establish a suburban UNE zone consisting of all wire centers with a line density equal to or greater than 66 lines per square mile, but less than 650 lines per square mile.
7. BA-VT shall establish a rural UNE zone consisting of wire centers that are not urban or suburban.
8. BA-VT shall plan to review UNE zone assignments in conjunction with Board reviews of prices in BA-VT's SGAT.
9. This Board will decide in Docket 5918, and not here, whether a carrier must serve an entire UNE zone in order to qualify for ETC status.
10. The deaveraged UNE zones ordered in this docket shall be incorporated into BA-VT's Statement of Generally Available Terms (SGAT) and into all of BA-VT's new interconnection agreements.
11. BA-VT shall make a compliance filing consistent with this Order within 60 days of the date of this Order.

DATED at Montpelier, Vermont, this 12th day of October, 2000.

s/Michael H. Dworkin	)	
	)	PUBLIC SERVICE
	)	
s/David C. Coen	)	BOARD
	)	
	)	OF VERMONT
	)	

OFFICE OF THE CLERK

Filed: October 12, 2000

Attest: s/Susan M. Hudson
Clerk of the Board

NOTICE TO READERS: Notice to Readers: This decision is subject to revision of technical errors. Readers are requested to notify the Clerk of the Board (by e-mail, telephone, or mail) of any technical errors, in order that any necessary corrections may be made. (E-mail address: Clerk@psb.state.vt.us)

Appeal of this decision to the Supreme Court of Vermont must be filed with the Clerk of the Board within thirty days. Appeal will not stay the effect of this Order, absent further Order by this Board or appropriate action by the Supreme Court of Vermont. Motions for reconsideration or stay, if any, must be filed with the Clerk of the Board within ten days of the date of this decision and order.