DTE 99-11/99-99 EXECUTIVE SUMMARY

Customers in Massachusetts are taking advantage of new choices in communications services and the companies who provide them. Having these choices comes at a cost, however, in that more and more telephone numbers are needed in Eastern Massachusetts. There are two generally recognized ways of getting new number supplies: split each existing area in two, or overlay existing areas with additional codes.

The Department of Telecommunications and Energy (DTE) today ordered the creation of four new area codes in eastern Massachusetts, in order to ensure that customers will continue to have the communications services they desire.

Creating new area codes is never easy, but the DTE has adopted the least disruptive method for creating new area codes. That method is an "overlay" of new area codes in the same geographic areas served by existing area codes. No customers will have to change their existing telephone numbers as a result of the DTE's decision. The only significant change is that calls that are currently dialed with seven digits will have to be dialed using ten digits (area code plus the seven digit phone number). This change in dialing is required by Federal law. For two years, the DTE has aggressively pursued options to delay the need for new area codes but reluctantly concludes that none of the available options is sufficient for that purpose.

The competitive landscape and hi-tech economy in Massachusetts are growing so fast that new numbers are needed to keep up. The DTE has taken action to make sure that customers can continue to have the communications options that are so important to them.

The Massachusetts Department of Telecommunications and Energy ("DTE") has ordered the creation and implementation of four new area codes in Eastern Massachusetts, one each for the 508, 617, 781, and 978 area codes. Implementation of the new area codes will begin in May of 2001. These new area codes are necessary to satisfy the ever-

increasing demand for wireless services, fax lines, modems, pagers, Internet access lines, and distinctive ring service, as well as to serve the needs of dozens of new telephone companies who compete with Bell Atlantic for local services. The new area codes will use the "overlay" method. In 1997, when the DTE approved the new 781 and 978 area codes, it required a geographic split of the then-existing 617 and 508 area codes. Having considered both the geographic split and overlay alternatives this time, the DTE has relied on the overwhelming public and industry comment in favor of an overlay method. The support of telecommunications carriers for the overlay method contrasts sharply with 1997, when companies who compete with Bell Atlantic favored a geographic split. The numbers of the new area codes will be assigned by the North American Numbering Plan Administrator ("NANPA") in May, 2001.

Under the overlay method, *no customers have to change their existing telephone numbers*. Number change was the biggest customer complaint about the 1997 geographic split option. With an overlay, a new area code is used in the same geographic area served by existing area codes. Overlay means that new telephone lines in the same town, on the same street, or even in the same house, can ultimately have different area codes. That is unavoidable but preferable to half of the existing customers changing their existing numbers. An overlay also has another substantial advantage in that business customers will not face the expense and inconvenience of having to change their stationery, business cards, signs, trucks, advertising, etc. Alarm companies also have indicated that an overlay presents them with fewer complications.

An overlay will require a change in the way that some calls are dialed. With an overlay, all customers will have to dial ten digits (area code+seven-digit phone number) for any calls that are currently dialed with only seven digits. There will be a permissive dialing period of at least four months (longer, if feasible), where local calls dialed with seven digits will continue to go through. Customers will continue to dial all toll and operator service calls with eleven digits (1+area code+seven-digit phone number), as they do today.

Customers' phone bills will not be affected: *The new area codes will not change the rates or calling areas for any customers.* Calls that are local calls today will still be local calls, even if the number called has one of the new area codes.

Over the last two years, the DTE has tried to prevent or delay the introduction of new area codes by considering measures to conserve the existing supply of numbers. After a comprehensive investigation started in March 1998, the DTE has concluded that the conservation measures allowed under Federal law, whether taken singly or in combination, are not sufficient to delay the need for new area codes.

The most promising conservation measures considered by the DTE is called thousands-block number pooling ("TNP"). Under the current national numbering allocation system, numbers are distributed to carriers via exchange codes ("NXXs"), each of which contains 10,000 telephone numbers. Carriers need at least one exchange code for each rate center[(1)] in which they have any customers, even if that carrier has only a few customers in that rate center. Currently there are 202 rate centers in eastern Massachusetts. TNP is a method of conserving telephone numbers by distributing them to carriers more efficiently in blocks of 1,000 instead of in blocks of 10,000, as is done today. The Federal Communications Commission ("FCC") has been investigating national implementation of TNP and has recently mandated that TNP be implemented for wireline (but not wireless) carriers across the country beginning in the fall of 2001. On September 15, 1999, the FCC delegated authority to the DTE to investigate and implement TNP prior to the national implementation date. Since that time, the DTE has been gathering the data necessary to determine whether TNP or other conservation measures will be sufficient to delay the need for new area codes, as well as assessing the technical requirements and schedule for implementing TNP prior to the national implementation date.

In its investigation of TNP, the DTE first had to determine whether there are enough unused exchange codes in each area code (i.e., blocks of 10,000 numbers) to satisfy the needs of wireless carriers. This is because the FCC has exempted wireless carriers from participating in TNP until at least November of 2002, which means that wireless carriers must continue to be assigned telephone numbers in blocks of 10,000 until that time. As the first table, below, demonstrates, neither the 508 nor the 617 area codes have a sufficient supply of exchange codes available to meet the forecast needs of the wireless carriers through the end of 2002. If new area codes are not introduced, customers would soon face a situation where they would be unable to receive new wireless service in 617 and 508 until November of 2002, or later.

Forecast wireless demand for exchange codes:

Total Available

AREA CODE	2000	2001	2002	TOTAL Exchange Codes
508	18	17	19	54
617	26	27	30	83
781	8	11	9	28
978	11	12	14	37

	0
	7
	138
	191

Even if there were enough exchange codes for wireless carriers, the DTE then would need to determine that there are sufficient uncontaminated or lightly-contaminated[(2)] thousand-blocks for use in TNP for wireline carriers. As the second table demonstrates, wireline carriers reported a forecast demand through 2002 that would exceed the thousands-block supply available for reclamation and pooling purposes in three of the four NPAs in question -- all but 978.

Forecast wireline thousand-block demand: Thousand-block supply, wireline only:

< 10%

CODE	2000	2001	2002	Total	**CODE**	Vacant	Contaminated	Total
508	452	644	637	1733	508	776	43	1218
617	634	598	703	1935	617	491	316	807

781	706	641	656	2003	781	1034	543	1577
978	456	553	563	1572	978	1250	441	1691

The raw figures in these tables may seem to suggest that the implementation of TNP potentially could delay the need for new area codes in 978 and 781 until at least 2003. But the data fail to account for the likely entrance and demand from new, heretofore unknown telecommunications providers. Experience has shown that market predictions in telecommunications are, more often than not, overtaken by events. Accordingly, in its order the DTE has called for the introduction of new overlay area codes in 978 and 781 at the same time that new overlay area codes are introduced in 617 and 508. There are several reasons for this decision. First, it is appropriate to change the dialing patterns in the 978 and 781 area codes to match the new dialing pattern resulting from the overlays in 617 and 508. The DTE determined that it could be very confusing for customers to know how to dial calls if there are different dialing patterns in the four eastern Massachusetts area codes. Second, significant customer education must take place before the introduction of new area codes; and the customer education effort will be far more effective if it applies across the board for all of eastern Massachusetts. Third, even with TNP, new area codes in 978 and 781 most likely would be needed in several years anyway. The tables, as noted above, understate likely demand because they only include forecasts from existing companies. New companies entering the market will also need numbers. Fourth, the DTE considered the cost that ordering TNP prior to the national implementation date would impose on Massachusetts ratepayers, which is about $ 8 million. Imposing an $8 million cost on phone customers would be warranted only for commensurate benefit. But such benefit cannot be achieved by TNP at this time.

Another conservation measure that the DTE considered is Rate Center Consolidation ("RCC"). A rate center is a geographic area used to set the price for those calls that are billed according to distance. There are currently 202 rate centers in eastern Massachusetts. RCC would reduce the number of rate centers, thus potentially reducing the amount of excess inventory carriers would need to obtain in order to serve a given geographic area. The drawback of RCC is that it requires an increase in the fixed monthly price that all customers pay for access to the network, in order to compensate for lost toll revenues that result from having larger local calling areas. While the DTE will continue to investigate RCC as a possible method for easing the burden on future area codes and as a possibly more efficient rate structure, the DTE has determined that implementation of

RCC does not forestall the present need for these new area codes. Two RCC plans were filed with the DTE on March 19, 1999. Either of these plans would have taken at least one year to implement. Therefore, even if the DTE had ordered the implementation of one of the RCC plans on the very date that they were filed, we would still need to introduce new area codes. This is because RCC only reduces demand for numbers from wireline companies, it does not create any new exchange codes, which, as noted above, are needed to meet demand for wireless service.

In summary, the DTE is taking action in what has become a national trend as area codes exhaust across the country. As of January 18, 2000, 80 area codes throughout 33 states were in jeopardy. Thirteen other states have already implemented overlays or are scheduled to implement overlays within the next year. The DTE has ordered the implementation of four new overlay area codes in eastern Massachusetts, one each for 508, 617, 781, and 978. The area code implementation will occur in May of 2001. Number pooling, using the national guidelines, will commence in Massachusetts under the timing established by the FCC.

1. [1] A rate center is a geographic location. Each customer is assigned to a particular rate center. The distance between two rate centers is used to calculate the prices for some telecommunications services. There are currently 202 rate centers in Eastern Massachusetts (i.e., all of Massachusetts save for the 413 area code). Under the current system, carriers must obtain at least one full exchange code (i.e., 10,000 numbers) in every rate center in each geographic area they wish to serve. If a carrier wished to serve customers throughout Eastern Massachusetts, the carrier would need to request over two million telephone numbers, no matter how many customers it expected actually to serve. Rate center consolidation would reduce the number of rate centers, thus reducing the amount of excess inventory carriers would need to obtain in order to serve a given geographic area.

2. [2] Under the Industry Numbering Committee's (INC) Thousand Block (NXX-X) Pooling Administration Guidelines, the Department may call for reclamation of any unutilized, or uncontaminated thousand-blocks, as well as any lightly or minimally contaminated thousand-blocks. These minimally contaminated blocks are defined as any thousand-block with ten percent or less of the numbers assigned.