

D.P.U. 94-111

Petition of New York Cellular Geographic Service Area, Inc. for exemption of certain lands and structures to be used for transmission of telecommunications services from the operation of the zoning by-laws of the Town of Rowley.

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FOR: NEW YORK CELLULAR GEOGRAPHIC  
SERVICE AREA, INC.  
Petitioner

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## I. INTRODUCTION

On June 1, 1994, New York Cellular Geographic Service Area, Inc. ("NYNEX Mobile" or "Company") filed with the Department of Public Utilities ("Department") a petition for exemption of certain lands and structures to be used for transmission of telecommunication services from the operation of the zoning by-law of the Town of Rowley ("Rowley" or "Town"). NYNEX Mobile seeks to install and operate cellular radio and microwave antennas and an equipment storage building on a parcel of land owned by the Town of Rowley. The antennas and equipment storage building would be used to provide cellular telephone services. The filing was made pursuant to the provisions of G.L. c. 40A, §3, which authorizes the Department to exempt public service corporations from local zoning ordinances or by-laws if the Department finds that the proposed use of the land or structure is reasonably necessary for the convenience or welfare of the public.

The site of the Company's proposed facilities, located on Prospect Hill in Rowley, is a parcel of land owned by the Town and currently used as the site for a municipal water tank Exhs. Company-1, at 3; Company-2-1). NYNEX Mobile expects to enter into a license agreement with the Town of Rowley to construct, maintain and operate the proposed facility on the aforementioned parcel (Exh. Company-1, at 3).

During the development of the evidentiary record in this proceeding, NYNEX Mobile sought an exemption<sup>1</sup> from Sections 1.2.1, 3.1, and 3.3 of the Rowley zoning by-law, which

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<sup>1</sup> NYNEX Mobile previously sought a use variance and site plan approval under the Rowley zoning by-law to erect the proposed facility (Exh. Company-1, at 4).  
(continued...)

require conformity of land use, buildings and structures to said by-law and limit allowed uses in the Central Business District and the Outlying District,<sup>2</sup> and to the extent necessary from Sections 5.1.1.1, 5.1.1.1.2, 5.1.2.1, and 5.5.2 of the Rowley zoning by-law, pertaining to lot width and frontage, and Section 6.6 of the by-law, requiring site plan approval (Exhs. Company-1, at 4-5; Company-1-1, supp.). In its final memorandum in support of the petition ("Brief"), the Company also sought an exemption from any other sections of the by-law that could impede construction (Brief at n.2).

## II. PROCEDURAL HISTORY

After due notice, the Department held a public hearing in Rowley on August 10, 1994, to receive public comment on the Company's petition. In support of its petition, the Company presented the testimony of Arthur Dee, Senior Project Manager for NYNEX Mobile Communications Company,<sup>3</sup> and Michael Murray, Radio Frequency Engineer for NYNEX Mobile.

Petitions to intervene were filed by Daniel and Bonnie Bochicchio ("the Bochicchios") and Carol L. Powers ("Powers"). The hearing officer denied both petitions, but allowed the

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<sup>1</sup>(...continued)

NYNEX Mobile stated that the Rowley Zoning Board of Appeals allowed NYNEX Mobile to withdraw the application without prejudice, after the Board determined that it was not authorized to grant the requested variance as the Rowley zoning by-law prohibits use variances (id.).

<sup>2</sup> Most of the proposed site, including the portion on which NYNEX Mobile would erect the proposed facility, is located within the Outlying District as designated by the by-law (Exh. Company-1, attached plans). However, a portion of the site near and including the site frontage on Route 133, which portion NYNEX Mobile would use for roadway and utility access to the proposed facility, is located within the Central Business District as designated by the by-law (id.).

<sup>3</sup> NYNEX Mobile Communications Company is the parent corporation of NYNEX Mobile.

Bochicchios and Powers leave to participate in the proceeding as limited participants by submission of briefs on all matters raised in their petitions (Procedural Order, October 4, 1994).<sup>4</sup>

The record includes 31 exhibits submitted by the Company, consisting of the Company's petition and responses to information requests, and one additional exhibit entered into the record by the Department. The Company filed its brief on December 13, 1994. No other briefs were submitted.

### III. STANDARD OF REVIEW

In its petition for a zoning exemption, the Company seeks approval under G.L. c. 40A, § 3, which in pertinent part, provides:

Lands or structures used, or to be used by a public service corporation may be exempted in particular respects from the operation of a zoning ordinance or by-law if, upon petition of the corporation, the [D]epartment of [P]ublic [U]tilities shall, after notice given pursuant to section eleven and public hearing in the town or city, determine the exemptions required and find that the present or proposed use of the land or structure is reasonably necessary for the convenience or welfare of the public...

Under G.L. c. 40A, § 3, the Company first must qualify as a public service corporation (see Save the Bay, Inc. v. Department of Public Utilities, 366 Mass. 667 (1975)), and establish that it requires an exemption from the local zoning ordinance or by-laws. The Company then must demonstrate that the present or proposed use of the land or structure is reasonably necessary for the public convenience or welfare.

In determining whether a company qualifies as a "public service corporation" for purposes of G.L. c. 40A, § 3, the Supreme Judicial Court has stated:

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<sup>4</sup> Both petitions raised aesthetic, historic and health related issues, and noted that the petitioners' health concerns were related to the proximity of young families to the proposed site.

among the pertinent considerations are whether the corporation is organized pursuant to an appropriate franchise from the State to provide for a necessity or convenience to the general public which could not be furnished through the ordinary channels of private business; whether the corporation is subject to the requisite degree of governmental control and regulation; and the nature of the public benefit to be derived from the service provided.

Save the Bay, *supra*, at 680.

In determining whether the present or proposed use is reasonably necessary for the public convenience or welfare, the Department must balance the interests of the general public against the local interest. *Id.*, at 685-686; Town of Truro v. Department of Public Utilities, 365 Mass. 407 (1974). Specifically, the Department is empowered and required to undertake "a broad and balanced consideration of all aspects of the general public interest and welfare and not merely [make an] examination of the local and individual interests which might be affected." New York Central Railroad v. Department of Public Utilities, 347 Mass. 586, 592 (1964). When reviewing a petition for a zoning exemption under G.L. c. 40A, § 3, the Department is empowered and required to consider the public effects of the requested exemption in the State as a whole and upon the territory served by the applicant. Save the Bay, *supra*, at 685; New York Central Railroad, *supra*, at 592.

With respect to the particular site chosen by a petitioner, G.L. c. 40A, § 3 does not require the petitioner to demonstrate that its preferred site is the best possible alternative, nor does the statute require the Department to consider and reject every possible alternative site presented. Martarano v. Department of Public Utilities, 401 Mass. 257, 265 (1987); New York Central Railroad, *supra*, at 591; Wenham v. Department of Public Utilities, 333 Mass. 15, 17 (1955). Rather, the availability of alternative sites, the efforts necessary to secure them, and the relative

advantages and disadvantages of those sites are matters of fact bearing solely upon the main issue of whether the preferred site is reasonably necessary for the convenience or welfare of the public.

Id.

Therefore, when making a determination as to whether a petitioner's present or proposed use is reasonably necessary for the public convenience or welfare, the Department examines: (1) the present or proposed use and any alternatives or alternative sites identified; (2) the need for, or public benefits of, the present or proposed use; and (3) the environmental impacts or any other impacts of the present or proposed use. See New York Cellular Geographic Service Area, Inc., D.P.U. 94-44, at 16-21 (1995); New York Cellular Geographic Service Area, Inc., D.P.U. 93-206, at 19-22 (1994); Tennessee Gas Pipeline Company, D.P.U. 85-207, at 20-25.

After examining these three issues, the Department balances the interests of the general public against the local interest, and determines whether the present or proposed use is reasonably necessary for the convenience or welfare of the public.

In addition, the Massachusetts Environmental Policy Act ("MEPA") provides that "[a]ny determination made by an agency of the commonwealth shall include a finding describing the environmental impact, if any, of the project and a finding that all feasible measures have been taken to avoid or minimize said impact." G.L. c. 30, § 61. Pursuant to 301 C.M.R. 11.01(3), these findings are necessary when an Environmental Impact Report ("EIR") is submitted by the company to the Secretary of Environmental Affairs, and should be based on such EIR. When an EIR is not required, c. 30, § 61 findings are not necessary. 301 C.M.R. 11.01(3).<sup>5</sup>

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<sup>5</sup> The record indicates that no EIR was required for the proposed project (Exh. Company-1-5).

#### IV. DESCRIPTION OF THE COMPANY'S PROPOSAL

##### A. Need for the Proposed Facilities

The Company stated that, under licenses granted by the Federal Communications Commission ("FCC"), it operates a comprehensive network of cellular communications facilities in eastern Massachusetts within a specific radio frequency bandwidth assigned by the FCC (Exh. Company-1, at 2).<sup>6</sup> The Company explained that, with use of cellular technology, customers communicate by radio with a local cellular radio transmission station ("cell site") using low power transmitters, typically accessible within a range of up to six to eight miles from the cell site, and that the remainder of the telephone connection beyond the local cell site is provided via microwave relay transmission equipment and/or traditional land line telephone service (id.).

The Company stated that the nearest existing NYNEX Mobile cell site serving the Rowley area is located to the west on Long Hill in Georgetown, 3.29 miles from the proposed site (Exh. Company-1-4F; Tr. at 10). The Company indicated that the four next-nearest NYNEX Mobile cell sites are located in various directions from the proposed site at distances ranging from 8.48 to 11.25 miles (Exh. Company-1-4F).<sup>7</sup>

The Company stated that the proposed facility is necessary in order to allow NYNEX Mobile to fully serve its existing and potential customers in the Rowley area and those travelling

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<sup>6</sup> The Company stated that the two cellular telephone providers in the area, NYNEX Mobile and Southwestern Bell Telephone Company d/b/a Cellular One, each are assigned 416 channels (Exh. Company-2-1).

<sup>7</sup> NYNEX Mobile identified the relative distances and the locations of the cell sites as: (1) 11.25 miles north to the Amesbury cell site; (2) 8.48 miles southwest to the Middleton cell site; (3) 9.75 miles south to the Beverly cell site; and (4) 9.82 miles southeast to the Manchester cell site (Exh. Company-1-4F).



along Routes 1, 1A and 133 in the Rowley and Ipswich area (Exh. Company-1-4). The Company explained that, due to the distances between existing NYNEX Mobile cell sites, there is a "hole" in NYNEX Mobile coverage encompassing the above area (id.). The Company's witness, Mr. Murray, further indicated that the topography of the region contributes, in particular, to unsatisfactory cellular telephone service in portions of Rowley and Ipswich (Tr. at 22). He noted that hills in Rowley, including Prospect Hill near Rowley center and Hunsley Hill to the west of Route 1, block the signal from the Long Hill cell site and thereby preclude adequate signal strength at some locations in Rowley center as well as along portions of Routes 1, 1A and 133 in Rowley and Ipswich (id.).

NYNEX Mobile explained that a minimum signal strength is required to provide satisfactory coverage at a given location (Exh. Company-2-6).<sup>8</sup> NYNEX Mobile stated that signal strengths below the required level result in calls that are scratchy, soft and with interference, and in calls that could be dropped while in progress (id.).

The company provided computer generated mapping to support its position that signal strength currently is below satisfactory levels in portions of the Rowley-Ipswich area

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<sup>8</sup> NYNEX Mobile considers signal strength levels greater than -80 dBm to be satisfactory to serve both hand-held and car phone systems (Exh. Company-2-6).

("target area") (id.; Exh. Company-1-4D).<sup>9</sup> Mr Murray testified that the signal deteriorates when travelling into some areas along Route 133 and into Rowley center, such that eventually customers cannot make phone calls (Tr. at 22).<sup>10</sup>

B. The Proposed Project and Alternatives

The Company stated that, after a careful site selection process and consultation with town officials, it selected the proposed tower site on the top of Prospect Hill in Rowley (Exh. Company-1, at 3). The Company explained that the proposed tower and equipment building would be located to the rear and side of the existing active water tank on the site, as viewed from the vicinity of the site entrance on Route 133 and from nearby Rowley center (Exh. Company-1-7E; Tr. at 10, 28-29).

The Company asserted that the principal attraction of the proposed site is its location and its topographical elevation, relative to the identified target area (Exh. Company-1, at 3; Exh. Company-1-3). The Company stated that installation of the proposed facilities at the proposed site would increase signal strength in the target area, thereby correcting gaps in service coverage

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<sup>9</sup> The Company indicated that, based on its computer simulation studies and on radio frequency tests, signal strength of greater than -80 dBm presently is not achieved along nearly all of Routes 1A and 133 through Rowley and Ipswich and in areas east of Route 1A (Brief at 4-5, citing, Exh. Company-1-4D).

<sup>10</sup> The Company argued that an increase in power at one or more existing cell sites would not be a practical solution for providing coverage to the target area, due to the nature of cellular systems (Brief at 7). The Company explained that cellular systems depend upon the reuse of frequencies and therefore require closely spaced, low-power stations in order to avoid potential interference with the functioning of other NYNEX Mobile cell sites (id., citing, Tr. at 21).

(Tr. at 23-24).<sup>11</sup> The Company added that a line-of-sight microwave connection to the Long Hill cell site would be possible from a height of 90 feet on the proposed tower (Tr. at 59, 61).

The Company also asserted that the proposed site offers benefits with respect to land use and provision of public benefits (Exh. Company-1-3). The Company stated that the use of the proposed site would be compatible with surrounding land uses because the site is located within a parcel of property distant from residential areas (*id.*).<sup>12,13</sup> The Company further noted that, consistent with expected terms of its license agreement with Rowley, the Town's safety departments would have use of the proposed installation on Prospect Hill for mounting communications equipment, thereby eliminating existing gaps in police and fire communications (Tr. at 13-16).

According to the Company, it considered alternatives to the proposed site including: (1) Hunsley Hill in Rowley, located west of the proposed site; and (2) three sites in Ipswich, located south and southeast of the proposed site (Exhs. Company-1-3, Company-1-3,Supp). The Company stated that the Hunsley Hill site -- considered at the request of area residents and members of the Rowley Historic District Commission -- is located too close to the existing Long Hill cell site to serve as a reasonable or adequate alternative to the proposed site (Exh. Company-

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<sup>11</sup> The Company indicated that its computer simulation studies demonstrate that operation of the proposed facilities would increase signal strength above -80.0 dBm in much of the target area (Brief at 4-5, citing, Exh. Company-1-4C).

<sup>12</sup> The Company indicated that the tower site is approximately 1,500 feet from the closest inhabited structure (Exh. Company-1-8).

<sup>13</sup> The Company indicated that the Massachusetts Historical Commission has concluded that the proposed project would have no adverse impact on the historic or archeological resources of Massachusetts (Exh. Company-3-1). See Sec. IV.C.3, below.

1-3, supp.; Tr. at 22-23). Citing a NYNEX Mobile computer simulation, Mr. Murray explained that the signal coverage capability from a new facility at Hunsley Hill would largely overlap that already provided from Long Hill (id.). The Company concluded that the Hunsley Hill site would not provide an expanded coverage capability comparable to that of the proposed site, particularly along Routes 133 and 1A in Ipswich and Rowley and to the east toward Plum Island Sound (Exh. Company-1-3, supp.).

With respect to the alternative sites in Ipswich, the Company stated that landowners were unwilling to make sites available in two cases, including a town-owned site and a privately owned site, both located northwest of Ipswich center (Exh. Company-2-7). The Company conducted a computer simulation for the third site, a privately held site on Old English Road to the east of Ipswich center ("Old English Road site"), and concluded that the Old English Road site would not provide adequate coverage in portions of the target area north of Ipswich, along Routes 1A and 133 in Rowley (id., attachment).<sup>14</sup>

The Company indicated that the proposed NYNEX Mobile facilities would include: (1) a 180-foot high, free-standing, lattice tower; (2) nine cellular radio panel antennas;

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<sup>14</sup> The Department notes that the Company did not address whether the proposed site or the Old English Road site would result in a larger expansion of service (see Exh. Company-3-1). The Company acknowledged that use of the Old English Road site would enable it to expand coverage to areas south and east of Ipswich center that currently do not have adequate signal and would not have adequate signal with use of the proposed site (id.). However, the Department notes that the computer simulation for the Old English Road site shows remaining gaps in coverage between that site and the Manchester cell site -- the next nearest cell site to the southeast (Exh. Company-2-7, attachment).

(3) one microwave dish antenna;<sup>15</sup> and (4) a prefabricated equipment building 12 feet wide by 26 feet long by 10 feet high (Exhs. Company-1, at 3; Company-2-1; Tr. at 59; Brief at 1-2). The project also would include a 12 foot by 12 foot building to house the Town of Rowley's communications equipment (Tr. at 8).<sup>16</sup>

The Company explained that the Rowley cell site would be divided into three sectors, covering portions of a complete 360-degree circle, with three sets of cellular radio antennas mounted in rectangular arrays at the top of the tower (Exh. Company-2-1). The Company further stated that each sector would include three antennas<sup>17</sup> -- two receiving antennas that would receive signals from the cellular user in the area and one transmitting antenna that would transmit from the cell site back to the user (id.). NYNEX Mobile indicated that a maximum number of 45 channels with a maximum power output of 100 watts per channel would be divided among the three sectors (id.).<sup>18</sup>

The Company stated that the microwave antenna would be a two-foot diameter dish-shaped antenna that would transmit and receive microwave signals to and from the Company's Long Hill cell site (Tr. at 61, 62). The Company further stated that the microwave antenna would be installed at a height of approximately 90 feet on the proposed tower (id. at 61).

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<sup>15</sup> The Company stated that it may install a second microwave dish antenna in the future (Tr. at 61; Brief at 9).

<sup>16</sup> The Company indicated that, as part of the proposed facilities, the Town would place up to five "whip" type antennas on the proposed tower (Exh. Company-3-2b).

<sup>17</sup> The Company also indicated that each of the cellular radio antennas would be a rectangular panel, approximately 18 inches wide by 48 inches high (Tr. at 59).

<sup>18</sup> The Company indicated that initially it would assign 22 channels to the proposed cell site (Exh. Company-2-1).

With regard to tower height, the Company considered the alternative of installing a shorter tower, possibly less visible from the surrounding community (Exh. Company-2-9b). The Company provided NYNEX Mobile computer simulations of signal coverage for a 150-foot high tower and a 120-foot high tower, and indicated that the expansion of coverage with the 150-foot high tower, as compared to that with the proposed 180-foot high tower, would be less along the Route 1A/Route 133 corridor through Ipswich and along Route 1A north of Rowley, as well as to the east over coastal and off-shore areas (id.).<sup>19</sup>

The Company stated that new electric and telephone lines would be installed along the access road for operation of the proposed facilities (id. at 9). The Company noted that no night-time lighting would be required on the tower (id. at 60).

C. Impacts of the Proposed Project

NYNEX Mobile, Powers and members of the public addressed or raised concerns about a number of possible project impacts including: (1) the potential health risks from radiation emissions of the proposed facilities; (2) safety risks from unauthorized access to the site; and (3) the visual impacts of the proposed tower and antennas. In accordance with its responsibilities to undertake a broad and balanced consideration of the general public interest and welfare, the Department addresses each of these issues below.

1. Health

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<sup>19</sup> The simulations show that the areas along Routes 1A and 133 that would lose coverage with the shorter tower include portions of Ipswich center, which is near the margins of expanded coverage for the proposed project, and broader areas south and east of Ipswich center (Exhs. Company-1-4C; Company-2-9A; Company-2-9B).

Powers raised questions regarding the potential long-term health risks resulting from exposure to cellular radio and microwave frequency radiation emissions ("RF emissions") (Tr. at 31-33, 41). Noting that a number of small children reside in the area, Powers stated that adverse health impacts may be discovered in the future, and that the lease between NYNEX Mobile and the Town should include disclosure and indemnification provisions related to any such impacts that become known (id. at 32, 41).

The Company asserted that the operation of the proposed facilities would pose no adverse health impacts (Brief at 10). The Company explained that the possible effect of human exposure to RF emissions would be an elevation of body temperature,<sup>20</sup> but that RF emissions from the proposed facility would be at safe levels, in compliance with RF emission exposure limits set by the Massachusetts Department of Public Health ("MDPH") and the Massachusetts Department of Labor and Industries ("MDLI") (Exhs. Company-1-6; Company-1-9; Company-1-10; Company-2-3, attachment; Company-2-4; Company-2-5).<sup>21</sup>

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<sup>20</sup> The Company stated that a rise in body temperature as a result of RF emissions would be seen as an increase in the body's metabolic rate (Exh. Company-2-3, attachment at 8). The Company added that the MDLI occupational exposure limit is equivalent to an increase in heat input to the body of 0.4 watts per kilogram of body weight, or less, and noted for comparison that the increase in metabolic rate due to standing from a seated position also is about 0.4 watts per kilogram (id.).

<sup>21</sup> The Company indicated that the MDPH RF emission exposure limit for public exposure is (1) 1.0 milliwatt per square centimeter ("mW/cm<sup>2</sup>") for the microwave frequency, and (2) 0.587 mW/cm<sup>2</sup> for the cellular radio frequency (Exh. Company-2-3, attachment at 3). The Company also indicated that the MDLI occupational RF emission exposure limit is greater and is (1) 5.0 mW/cm<sup>2</sup> for the microwave frequency, and (2) 2.93 mW/cm<sup>2</sup> for the cellular radio frequency (id.). The MDPH and MDLI RF emission public exposure limits are equivalent to the American National Standard Institute ("ANSI") exposure limits for cellular radio frequencies, and more stringent than ANSI limits for higher microwave frequencies (id.).

NYNEX Mobile stated that, consistent with MDPH and MDLI requirements, it calculated potential RF emission exposure levels for the proposed facility based on conservative assumptions which overpredict exposure levels (Exhs. Company-1-5A; Company-2-3, attachment at 9).<sup>22</sup> The Company's calculations show that the RF emission exposure levels resulting from operation of the proposed facility would be substantially less than MDPH and MDLI limits (Exh. Company-1-5A).<sup>23</sup>

In addition, the Company provided a report prepared by a health physicist, Donald Haes, which also estimated RF emission exposure levels ("Haes Report") (Exh. Company-2-3, attachment). The Company indicated that the Haes Report also assumed that 45 cellular radio channels would be operating at full power and that all antennas would be co-located, but assumed that the antennas would be pointed toward the horizon rather than the ground (id.). The Company stated that the Haes Report considered both existing and proposed sources of RF emissions for the site, including measured levels of ambient RF emissions and the

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<sup>22</sup> The Company indicated that it calculated cellular radio exposure levels assuming simultaneous operation of 45 channels at a maximum power of 100 watts each, with all antennas directed toward the same point on the ground instead of the proposed design that would divide the channels between three sectors (Exhs. Company-2-3, attachment at 9; Company-1-5A). The Company indicated that it also calculated microwave exposure levels assuming that the antenna is directed toward the ground, noting that the microwave transmission actually would be contained in a focused beam toward the Long Hill cell site with virtually no microwave energy present at ground level (Exhs. Company-1-5A; Company-2-3, attachment at 2; Company-2-4).

<sup>23</sup> The Company calculated that the exposure levels of cellular radio frequency radiation emissions at ground level under the antennas would be 0.05 mW/cm<sup>2</sup>, and at the property boundary and at the closest location potentially occupied by the public less than 0.05 mW/cm<sup>2</sup> (Exh. Company-1-5A). The Company also calculated that exposure levels of the microwave frequency radiation emissions would be 0.094 mW/cm<sup>2</sup> at ground level under the antennas and less at the nearest property boundary and nearest dwelling (id.).



added RF emissions from the proposed operation of cellular radio and microwave frequencies (id.).<sup>24</sup> The Company stated that under conservative assumptions, the Haes Report concluded that ground-level RF emission exposure levels resulting from operation of the proposed facilities would be lower than those calculated by the Company (id.).<sup>25</sup> However, the Company added that the Haes Report recommended that public access to the antennas should be restricted in order to prevent exposure to RF emissions possibly in excess of MDPH limits (id.).

## 2. Safety

The Company asserted that the proposed facilities would pose minimal risk from the standpoint of site safety (Brief at 10). The Company stated that, to inhibit unauthorized entry, the proposed tower and equipment building would be surrounded by an eight-foot high, two-inch mesh heavy duty chain link fence topped with barbed wire angled away from the installation (Exh. Company-1-16). The Company added that it is not aware of any physical injury to trespassers at any of its existing sites (Brief at 10; Exh. Company-1-16).

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<sup>24</sup> The Company indicated that it measured an ambient RF emission level at the proposed site of 0.0009 mW/cm<sup>2</sup>, 0.15 percent of MDPH limits for public exposure (Exh. Company-2-3, attachment at 7). The Company noted that because the RF emissions from the proposed facilities would be less than one-third of allowable limits, the MDPH regulations do not require that the Company consider ambient measurements or the cumulative impact of cellular radio and microwave frequency radiation (Tr. at 40-41).

<sup>25</sup> The Haes Report estimated that the maximum ground-level RF emission exposure level would be 0.00038 mW/cm<sup>2</sup>, or 0.07 percent of the MDPH limit for public exposure, at a distance of 150 feet from the proposed tower (Exh. Company-2-3, attachment at 1). The Haes Report also indicated that, when combined with the existing background RF level of 0.0009 mW/cm<sup>2</sup>, the estimated maximum total ground-level RF emission exposure level would be approximately 0.0013 mW/cm<sup>2</sup>, or 0.22 percent of the MDPH limit for public exposure (id.).

In addition, the Company claimed that none of its existing cell sites has experienced structural failure, including during coastal storms and hurricanes (Brief at 10, citing, Exh. DPU-1, at 21).<sup>26</sup>

3. Visual

Powers and members of the public, including a local historical agency official, expressed concern that installation of the proposed facilities would have a negative impact on the character of the Town (Tr. at 19, 31-33, 56-58). Powers and one member of the public further explained their concerns, testifying that the proposed tower would be incongruous with an early colonial village, that dish antennas would be incompatible with the small town setting, and that the proposed hilltop location for the tower currently forms a visual backdrop for the town center when approaching along Route 1A from the north (Tr. at 31, 56-57, 58).

The Company noted that, in response to project notification from NYNEX Mobile, the Massachusetts Historical Commission ("MHC") and the Rowley Historic District Commission had provided correspondence indicating that the proposed site is adjacent to the Rowley Center Local Historic District (Exhs. Company-1-5C, Company-1-7, supp.).<sup>27,28</sup> However, the Company

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<sup>26</sup> Pursuant to 220 C.M.R. §1.10(3), "Documentary Evidence: Incorporated by Reference," the Department moves and enters into the record as Exhibit DPU-1, page 21 of the transcript of the hearing held on October 31, 1994 in D.P.U. 94-44.

<sup>27</sup> The MHC stated that the town center and outlying area has a high degree of integrity and is an unusually intact example of an early 19th century meetinghouse village (Exh. Company-1-5C).

<sup>28</sup> At its July 18, 1994 meeting, the Rowley Historic District Commission voted to oppose siting the proposed facilities on Prospect Hill, suggesting use of Hunsley Hill instead (Exh. Company-1-7, supp.). In testimony at the public hearing, however, Robert Morse, Chairman of the Rowley Board of Selectmen, stated that the Board of Selectmen supports  
(continued...)

indicated that the MHC, after conducting a site visit, concluded that the proposed project would have no adverse impact on the historic or archeological resources of Massachusetts (Exh. Company-3-1).<sup>29</sup>

Based on its own analysis of potential visual impacts,<sup>30</sup> the Company asserted that the aesthetic impact of the proposed facilities would be minimal (Brief at 8). The Company stated that the proposed tower location is surrounded by mature trees, which would screen all but the top portion of the proposed tower from all vantage points (Exh. Company-2-8; Brief at 9). The Company further stated that it would use a tapered latticework design and galvanized steel construction, which weathers to a sky grey color, in order to diminish the visibility of the proposed tower (Exhs. Company-2-9a; Company-2-9c; Brief at 8).

#### 4. Other

A member of the public also questioned whether operation of the proposed facilities would interfere with other communication frequencies (Tr. at 54-55). The Company responded that its frequencies would not interfere with other communication frequencies, but that if such interference occurred and could not be corrected, the Company would cease operation at the cell site (id. at 54).

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<sup>28</sup>(...continued)

use of the proposed site for the NYNEX Mobile project (Tr. at 11-13).

<sup>29</sup> The MHC's determination of no adverse impact was conditioned on NYNEX Mobile not using the tower for other than its own equipment and that of the Town (Exh. Company-3-1).

<sup>30</sup> The Company placed a crane at the proposed tower location to simulate its visibility, and took photographs of the proposed site from numerous vantage points (Exhs. Company-1-7, supp.; Company-2-8).

The Company indicated that the proposed facility would produce no audible noise beyond the site boundary, excepting normal construction noise from intermittent work over a two-month period (Exh. Company-1-11). The Company added that the proposed facility would cause no traffic disruption during or after construction (id.).

V. ANALYSIS AND FINDINGS

G.L. c. 40A, § 3, authorizes the Department to grant to public service corporations exemptions from local zoning ordinances or by-laws if the Department determines that the exemption is required and finds that the present or proposed use of the land or structure is reasonably necessary for the convenience or welfare of the public. NYNEX Mobile satisfies the statutory definition of a public service corporation as a result of its having been licensed by the FCC and granted a certificate of public convenience and necessity ("certificate") by the Department to construct and operate a cellular mobile telephone service. Boston Cellular Geographic Service Area, Inc., D.P.U. 1565/84-21, pp. 2, 14 (1984); New York Cellular Geographic Service Area, Inc., D.P.U. 87-224 (1984). In Boston Cellular Geographic Service Area, Inc., D.P.U. 1565/84-21 (1984), the Department found that the FCC had found an immediate public need for cellular radio, and, in granting Boston Cellular Geographic Service Area, Inc. the certificate, the Department concurred that such a need exists. Id., p. 4.

The Department previously has found that its specific regulation of a company's rates, rules, and practices qualifies such a company as a public service corporation under G.L. c. 40A, § 3. See American Telephone and Telegraph Company, D.P.U. 1336 (1983); American Telephone and Telegraph Company, D.P.U. 1245 (1983). Prior to August, 1994, the

Department had regulated radio common carrier operations, rates, terms and conditions under G.L. c. 159 and 220 C.M.R. §§ 35.00 et seq.

On August 10, 1993, however, the President of the United States signed into law the Omnibus Budget Reconciliation Act (Pub. L. No 103-66), which amended the Federal Communications Act of 1934 by preempting state and local entry and rate regulation of both commercial and private mobile radio services ("CMRS"). Due to a grandfather clause in the federal law, the preemption became effective in Massachusetts on August 10, 1994. Under the new law, states may continue to regulate other terms and conditions of CMRS companies, and may continue to regulate rates of CMRS companies if the FCC approves a state's petition to continue rate regulation. By Order of August 5, 1994, the Department decided not to petition the FCC for authority to continue rate regulation, nor regulation of other terms and conditions, of radio common carriers, based on the competitiveness of the radio common carrier industry in Massachusetts. Regulations of Commercial Mobile Radio Services, D.P.U. 94-73 (1994). In addition, the Department repealed 220 C.M.R. §§ 35.00 et seq. Id.

Although the Department no longer regulates the rates, terms or conditions of radio common carriers in Massachusetts, the Department has previously determined that NYNEX Mobile is a public service corporation. New York Geographic Service Area, Inc., D.P.U. 90-12 (1990). In addition, NYNEX Mobile is subject to regulation and control by the FCC. The Department, therefore, finds that NYNEX Mobile is subject to the requisite degree of governmental control and regulation required under the definition of a public service corporation. Thus, NYNEX Mobile qualifies as a public service corporation under the Court's directive in Save

the Bay, and is, therefore, entitled to seek the requested exemption from sections of the Rowley zoning by-laws.

As discussed above, the Company's petition seeks exemption from specific zoning by-laws of the Town. Based on its review of the zoning by-laws, the Department concludes that Sections 1.2.1, 3.1, 3.3, 5.1.1.1, 5.1.1.1.2, 5.1.2.1 and 5.5.2 of the by-laws could impede construction and implementation of the Company's proposed cellular telecommunications facility. Therefore, the Department finds that the Company's proposed construction would require exemptions from Sections 1.2.1, 3.1, 3.3, 5.1.1.1, 5.1.1.1.2, 5.1.2.1 and 5.5.2 of the Rowley zoning by-laws.

In regard to the Company's request for exemptions from Section 6.6 of the zoning by-law, the Department notes that Section 6.6 requires submission of a site plan in conjunction with any review of a use change by the Board of Appeals, the Planning Board or the Board of Selectmen under the zoning by-law -- a requirement that apparently would be applicable to any approval of the proposed project under the by-law. In any case, the Town of Rowley selectmen have discussed a license agreement to allow installation of the proposed NYNEX Mobile cell site on Town-owned land, and, therefore, presumably are not concerned on behalf of the Town about an exemption from that section of the zoning by-law. Accordingly, the Department here finds that the Company's proposed construction would require exemption from Section 6.6 of the Rowley zoning by-laws.

Having found that NYNEX Mobile meets the appropriate criteria of a public service corporation, the Department examines whether the proposed use of the land and structures set

forth in its petition is reasonably necessary for the convenience or welfare of the public. With respect to the need for, and the public benefits of, the proposed facility, the Department previously has determined that the construction of NYNEX Mobile's radio system is in the public interest. See Boston Cellular Geographic Service Area, Inc., D.P.U. 1565/84-21 (1984). The record demonstrates that the NYNEX Mobile cellular network is not satisfactory to meet customers' needs within portions of Rowley and Ipswich, including sections of Routes 1, 1A, and 133. After consideration of alternative sites and alternative tower heights, NYNEX Mobile concluded that operation of the proposed 180-foot high tower facility at the proposed site would provide the required service. According to the record, the proposed construction of the telecommunications facilities will significantly improve NYNEX Mobile's ability to provide adequate service to customers in the Rowley-Ipswich area including sections of Routes 1, 1A, and 133.

The record further indicates that the Company has considered possible environmental and land use impacts of the proposed Rowley facility that may be of concern to the surrounding community, including issues of visual impact, safety, and traffic. To that extent, the Company:

- (1) would site the facility on a parcel currently used for a municipal water tank;
- (2) would site the facility in a location removed from existing residences and other buildings occupied by humans;
- (3) would locate the proposed facility in an existing cleared area screened by mature woods;
- (4) would place the proposed microwave dish antenna at a height of 90 feet on the proposed tower,

close to the hilltop tree line as viewed from vantage points in the surrounding community;<sup>31</sup> and (5) would secure the site against unauthorized entry.

With respect to public health impacts, the Company conducted a detailed analysis of radio frequencies and microwave emissions indicating no adverse effects. Specifically, the record demonstrates that the RF emission exposure levels in the area with the operation at maximum power output of the proposed facilities would be significantly less than the maximum allowable exposure levels. The record does not contain evidence to support a claim that the proposed facility would have any adverse public health impacts.

The Department finds that the general public interest in constructing a telecommunication tower and related service building to provide cellular phone service to the Rowley-Ipswich area, including sections of Routes 1, 1A and 133, outweighs the minimal impacts of the Company's

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<sup>31</sup> Testimony at the public hearing included concern about the possible visual impacts of multiple dish antennas, as sometimes are present on telecommunications towers. Although the Company indicated it may install an additional microwave dish antenna on the proposed Rowley tower in the future, the Department notes that the Company is proposing to install one dish antenna at the present time, and has presented no evidence to support a Department finding that one or more additional dish antennas would be reasonably necessary for the convenience or welfare of the public. We further note that a significant change in the proposed facility from that which has been described in the instant petition would require further review.

Accordingly, should the Company plan a change to the proposed facility that includes (1) placement of an additional dish or similar antenna on the tower, (2) replacement of the initial dish antenna with a larger antenna, or (3) relocation of the initial dish antenna to a higher position on the tower, the Company should request clarification from the Department as to whether the planned change is of sufficient significance to require a new petition to the Department, or file a new petition with the Department, or in the alternative seek applicable zoning approvals from the Town. We note that, to support a request for clarification as to the significance of a planned change, it would be useful for NYNEX Mobile to include evidence of consultation with the Town concerning the planned change and possible steps to minimize or mitigate any related visual impacts.



proposed project on the local community. Accordingly, the Department finds, pursuant to G.L. c. 40A, § 3, that the proposed telecommunication tower and related service building, are reasonably necessary for the convenience or welfare of the public.

VI. ORDER

Accordingly, after due notice, hearing and consideration, it is hereby

ORDERED: That the proposed 180-foot high telecommunications tower and associated service building, as described in the Company's petition and exhibits, are necessary for the purposes alleged by the Company, and will serve the public convenience and are consistent with the public interest pursuant to G.L. c. 164, § 72; and it is

FURTHER ORDERED: That the Company's petitions be allowed and that the proposed construction and related facilities, as described in the Company's exhibits on file with the Department, be exempt from the operation of the following sections of the zoning ordinance of the Town of Rowley, pursuant to G.L. c. 40A, § 3, to the extent that the construction and related facilities are used for the transmission of telecommunications services: Sections 1.2.1, 3.1, 3.3, 5.1.1.1, 5.1.1.1.2, 5.1.2.1, 5.5.2, and 6.6 of the Town of Rowley Zoning By-laws; and it is

FURTHER ORDERED: That the Company shall obtain all governmental approvals necessary for this project before its construction commences; and it is

FURTHER ORDERED: That the Company shall not use the proposed tower for other than its own equipment and that of the Town of Rowley; and it is

FURTHER ORDERED: That the Secretary of the Department shall transmit a certified copy of this Order to the Town Clerk of the Town of Rowley; and that NYNEX Mobile shall

serve a copy of this Order upon the Board of Selectmen, Planning Board, Historic District Commission and Conservation Commission of the Town of Rowley within five business days of its issuance and shall certify to the Secretary of the Department within ten business days of its issuance that such service has been accomplished.

By Order of the Department,

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Kenneth Gordon, Chairman

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Mary Clark Webster, Commissioner

Appeal as to matters of law from any final decision, order or ruling of the Commission may be taken to the Supreme Judicial Court by an aggrieved party in interest by the filing of a written petition praying that the Order of the Commission be modified or set aside in whole or in part.

Such petition for appeal shall be filed with the Secretary of the Commission within twenty days after the date of service of the decision, order or ruling of the Commission, or within such further time as the Commission may allow upon request filed prior to the expiration of twenty days after the date of service of said decision, order or ruling. Within ten days after such petition has been filed, the appealing party shall enter the appeal in the Supreme Judicial Court sitting in Suffolk County by filing a copy thereof with the Clerk of said Court. (Sec. 5, Chapter 25, G.L. Ter. Ed., as most recently amended by Chapter 485 of the Acts of 1971).