



## NEEDHAM BOARD OF HEALTH



June 16, 2016

Town of Needham, Board of Selectmen  
Needham Town Hall  
1471 Highland Avenue  
Needham, MA 02492

Dear Chair Marianne Cooley, Vice Chair Dan Matthews, and Board of Selectmen Members,

Verizon Wireless has proposed the installation of 12 small cell antennas on utility poles in Needham's public right of way in order to improve capacity and coverage of Verizon Wireless service in the area. According to information submitted to the Board of Selectmen by the company, Verizon Wireless has selected the 12 locations because the current signal strength in these areas is below Verizon Wireless' network requirements.

During a Board of Selectmen meeting and noticed public hearing on the installation proposal from Verizon wireless on May 30<sup>th</sup>, residents communicated their concerns about the perceived health effects of radiofrequency (RF) emission and exposure from the small cell technology. These concerns were amplified by a number of phone calls and emails in the days following that hearing.

At its meeting on May 30<sup>th</sup>, the Needham Board of Selectmen asked for the Board of Health to please review materials and discuss the possible health impacts of Verizon's proposal, and to please submit information back to the Selectmen for their consideration. The Needham Board of Health is charged by the Massachusetts General Court to protect the public's health under its authority to make reasonable health regulations<sup>1</sup> and to "examine all nuisances, sources of filth and causes of sickness"<sup>2</sup>.

The Board of Health, at its publicly posted and noticed meeting in the morning on Friday June 16<sup>th</sup>, discussed the Verizon proposal and the possible health impacts of that proposal. In advance of the meeting, the Board of Health and its staff members in the Public Health Division reviewed:

- Verizon wireless's submission to the Board of Selectmen;
- the project analysis and report by Donald L. Haes, Jr., Ph.D., CHP as an outside expert retained by Verizon;
- a letter to the Board of Selectmen from Joshua P. Lanzetta, an attorney at McLane Middleton, providing an overview of Verizon's installation request;
- a 2015 report from the Environmental Health & Safety program at Harvard University on "Cell Phone Towers and Radiofrequency (RF) Radiation Safety";
- a 2007 "Workgroup Report: Base Stations and Wireless Networks: Radiofrequency (RF) Exposures and Health Consequences" published in the *Environmental Health Perspectives*

<sup>1</sup> M.G.L. ch. 111, s.31, available at: <https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXVI/Chapter111/Section31>

<sup>2</sup> M.G.L. ch. 111, s.122, available at: <https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXVI/Chapter111/Section122>

- journal of the National Institute of Environmental Health Sciences; and
- nearly a dozen scientific studies and medical journal articles about RF and health.

As further background, US Federal Communication Commission (FCC) <sup>3</sup> and the Massachusetts Department of Public Health (105 CMR 122.000) <sup>4</sup> set radiofrequency exposure limits that cellular communication companies have to follow. Verizon Wireless has submitted a report by a third-party radiation safety specialist (Donald Haes, referenced above) that determined all 12 small unit antennas are estimated to have RF emissions less than 45% of the Maximum Permissible Exposure.<sup>5</sup> Currently, Needham has approximately 67 FCC registered antenna towers, and there may be more antennas which are not registered.<sup>6</sup>

Based upon its review, analysis, and discussion, the Board of Health finds that **there is not conclusive evidence that exposure to small cellular site/mobile phone base stations' RF non-ionizing radiation is detrimental to human health.**

The installation proposal from Verizon Wireless and the report from Donald Haes do leave open some questions which are important to answer, and we believe that Verizon Wireless should provide the Board of Selectmen, Board of Health, and Needham residents, answers to the following questions and concerns:

- The percent Maximum Permissible Exposure from the radiation safety specialist report by Donald Haes was computed with 6' above ground level (AGL) and 16' AGL. To confirm, the 6' and 16' AGL represent the height at which one could come in contact with the radiation, not the height of the proposed antennas?
- The radiation exposure level graph that Donald Haes includes in his project analysis and report (Figure 3A, 3B, etc) would benefit from additional clarification and explanation of the exposure drop-off and rebound within the 1-25 ft. range.
- Would Verizon Wireless please provide specifications for the small cell units? Are there vertical radiation patterns for the omni-directional antenna?
- Omni-directional antennas radiate at 360°. Would Verizon Wireless please provide more specific radiation patterns for the omni-directional antennas beyond Appendix A from the radiation safety specialist report? What is the distance covered by each small-cell unit?

Pending the answers and explanations of the above questions, and if there are additional questions and concerns from Needham residents at the next scheduled Board of Selectmen hearing on June 27, 2017, the Board of Health believes the Board of Selectmen may wish consider the retention of an outside expert with appropriate health physicist credentials to conduct a further analysis of the Verizon Wireless submission and the Donald Haes report.

Additionally, the Board of Health and the Public Health Division staff members believe that the Town of Needham should consider the development of guidelines or best practices for future Small Cell Site development and placement. This document might outline relevant regulations

<sup>3</sup> <http://transition.fcc.gov/cgb/consumerfacts/rfexposure.pdf>

<sup>4</sup> <http://www.mass.gov/eohhs/docs/dph/regs/105cmr122.pdf>

<sup>5</sup> Haes, Donald L. RE: Proposed installations of radio base station antennas and associated equipment for the Verizon Wireless Small Cell Personal Wireless Services facilities to be located on 12 different utility poles in Needham, MA. 1 April 2017.

<sup>6</sup> *FCC Registered Cell Phone and Antenna Towers in Needham, Massachusetts*. N.p., n.d. Web. 30 May 2017.

and building procedures, articulate Needham guidance and preferred siting choices, and increase the information available to all residents.

The Board of Health is pleased to be of assistance in this matter, and offers its services to the Town in future hearings or public discussions to help residents understand the health impacts of the proposed project.

Thank you for your attention.

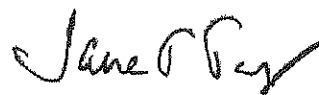
Sincerely,



Edward Cosgrove, PhD



Stephen Epstein, MD, MPP



Jane Fogg, MD, MPH

CC: *Timothy Muir McDonald, Director of Health and Human Services*  
*Tara Gurge, Assistant Public Health Director*  
*Kate Fitzpatrick, Town Manager*  
*Christopher Coleman, Assistant Town Manager/Director of Operations*  
*Helenka Lepkowski Opstrum, Environmental Health Intern*  
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