



CITY OF MANHATTAN BEACH

1400 Highland Avenue
Manhattan Beach, California 90266

MEMORANDUM

TO: Mayor and Members of the City Council

FROM: Sona Kalapura Coffee, Environmental Programs Manager

CC: Quinn M. Barrow, City Attorney

DATE: June 3, 2014

SUBJECT: Electronic Cigarettes

In connection with proposed Ordinance 14-0008, which appears as General Business Item 17 on tonight's City Council agenda, this memorandum summarizes research regarding the use of electronic cigarettes.

A. Electronic cigarettes, commonly known as e-cigarettes, e-cigars, e-cigarillos, e-pipes, and e-hookahs, are battery operated devices, designed to be used in the same manner as conventional tobacco products, and some of which are designed to look like conventional cigarettes. Electronic cigarettes employ the use of a cartridge, generally containing up to twenty (20) milligrams of nicotine, to deliver vaporized nicotine to users. Some cartridges used by electronic cigarettes can be re-filled with liquid nicotine solution, creating the potential for exposure to dangerous concentrations of nicotine. Yamin, C.K., Bitton A., and Bates, D.W. "E-Cigarettes: A Rapidly Growing Internet Phenomenon." *Annals of Internal Medicine*, 153:607-609, 2010.

B. The U.S. Food and Drug Administration ("FDA") conducted laboratory analysis of electronic cigarettes and found the following: 1) diethylene glycol, an ingredient used in antifreeze and toxic to humans, was found in one cartridge; 2) certain tobacco-specific nitrosamines, which are human carcinogens, were detected in half of the samples tested; 3) tobacco-specific impurities suspected of being harmful to humans—anabasine, myosmine, and β -nicotyrine—were detected in a majority of the samples tested; 4) all but one tested cartridge labeled as containing no nicotine did in fact contain low levels of nicotine; 5) three identically labeled cartridges emitted markedly different amounts of nicotine with each puff (nicotine levels per one hundred (100) millilitres puff ranged dramatically from 26.8 to 43.2 micrograms nicotine); and 6) one high-nicotine cartridge delivered twice as much nicotine to users as was delivered by a nicotine inhalation product approved by the FDA for use as a smoking cessation aid, which was used as a control. U.S. Food and Drug Administration. Letter Re: Evaluation of E-Cigarettes. 2009. <http://www.fda.gov/downloads/drugs/scienceresearch/>

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ucm173250.pdf).

C. The FDA has raised concerns that electronic cigarettes, which are often marketed in appealing flavors, can increase nicotine addiction among young people and may lead youth to try conventional tobacco products. U.S. Food and Drug Administration. *E-Cigarette: Questions and Answers*. 2010. www.fda.gov/forconsumers/consumerupdates/ucm225210.htm.

D. The FDA has also raised concerns that electronic cigarettes are marketed and sold to young people and are readily accessible online and via mall kiosks. U.S. Food and Drug Administration. *News Release, FDA and Public Health Experts Warn About Electronic Cigarettes*. July 22, 2009. www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm173222.htm.

E. A study published in the American Journal of Public Health found similar results to the FDA testing and concluded that the electronic cigarettes tested so far have demonstrated “poor quality control; toxic contaminants, albeit at low levels; misrepresentation of the nicotine delivered; and insufficient evidence of the overall public health benefit.” Cobb, N.K., Byron, J., and Abrams, D.B., et al. “Novel Nicotine Delivery Systems and Public Health: The Rise of the ‘E-Cigarette.’” *American Journal of Public Health*, 100 (12): 2340-2342, 2010.

F. Clinical studies about the safety and efficacy of electronic cigarettes for their intended use have not been submitted to the FDA, and for this reason, consumers currently have no way of knowing: 1) whether electronic cigarettes are safe for their intended use; 2) what types or concentrations of potentially harmful chemicals the products contain; or 3) what dose of nicotine the products deliver. U.S. Food and Drug Administration. *FDA Warns Of Health Risk Posed By E-Cigarettes*. 2009. www.fda.gov/downloads/forconsumers/consumerupdates/UCM173430.pdf.

G. The World Medical Association has determined that electronic cigarettes “are not comparable to scientifically-proven methods of smoking cessation” and that “neither their value as therapeutic aids for smoking cessation nor their safety as cigarette replacements is established.” World Medical Association. *Statement on Electronic Cigarettes and Other Electronic Nicotine Delivery Systems*. October 2012. [www.wma.net/en/30publications/10policies/e19/index.html.pdf?print-media-type&footer-right=\[page\]/\[toPage\]](http://www.wma.net/en/30publications/10policies/e19/index.html.pdf?print-media-type&footer-right=[page]/[toPage])).

H. Between 2010 and 2011, rates of both awareness and use of unregulated electronic cigarettes by adults increased significantly. King, B.A., Alam, S., and

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Promoff, G., et al. "Awareness and Ever Use of Electronic Cigarettes Among U.S. Adults, 2010-2011." *Nicotine and Tobacco Research*.

J. A study published in the *Journal of Environmental and Public Health* suggests that electronic cigarettes "may have the capacity to 're-normalize' tobacco use in a demographic that has had significant denormalization of tobacco use previously." McMillen, R., Maduka, J., and Winickoff, J. "Use of Emerging Tobacco Products in the United States." *Journal of Environmental and Public Health*.

L. Recent newspaper reports from across the nation indicate that electronic cigarettes have a propensity for exploding while charging or in use. These explosions have caused severe burns and physical injuries to users. Additionally, these explosions have caused property damage. CBS News. "Electronic Cigarette Explodes in Man's Mouth, Causes Serious Injuries." February 16, 2012. <http://www.cbsnews.com/news/electronic-cigarette-explodes-in-mans-mouth-causes-serious-injuries>; Fox 13 News. "E-Cigarette Explodes While Charging." December 9, 2013. <http://fox13now.com/2013/12/09/e-cigarette-explodes-while-charging>.