



EXECUTIVE DEPARTMENT

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CITY OF CAMBRIDGE
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November 7, 1994

To The Honorable, The City Council:

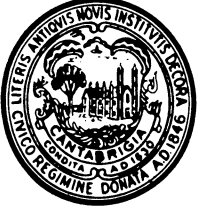
Please find attached a response to Awaiting Report Item No. 7, regarding issues with wood burning stoves, received from Environmental Program Director Elizabeth Epstein as well as Commissioner of Health and Hospitals Melvin H. Chalfen.

Very truly yours,

A handwritten signature in black ink, appearing to read "Robert W. Healy", is written over the typed name.

Robert W. Healy
City Manager

RWH/mev
attachment



CITY OF CAMBRIDGE

ENVIRONMENTAL PROGRAM

57 Inman Street • Cambridge MA 02139 • 617.349.4604

To: Robert W. Healy, City Manager
From: Elizabeth Epstein, Director, Environmental Program *EE*
Melvin H. Chalfen, M.D., Commissioner of Health and Hospitals *MHC*
Date: November 2, 1994
Re: Council Order #28, dated 4/11/94 re: Evaluation of Emissions from Wood Burning

Over the past several months the Environmental Program, the Commissioner of Health and Hospitals, the Inspectional Services Department and the License Commission have been working to address the issue of commercial wood burning in Cambridge. This work has focused primarily on wood burning ovens and grills at Cambridge restaurants. We have been contacting communities around the country to determine how wood burning is being addressed elsewhere, and we have gathered a fair amount of information about regulatory efforts in other parts of the country. In addition, we have been working for many months with a nationally recognized consultant to evaluate air emissions from wood burning ovens and grills at Marino's Restaurant in North Cambridge. Dr. John Spengler of the Harvard School of Public Health surveyed the cooking facilities and operations at Marino's Restaurant and reviewed reports of health and nuisance concerns of neighbors in the vicinity of the restaurant. As a result of his analysis, Dr. Spengler made recommendations to install a state-of-the-art emissions control system to address wood smoke and odor associated with cooking operations at Marino's. The restaurant has elected to install the equipment and adopt the monitoring and maintenance program recommended by Dr. Spengler. We are working closely with Marino's to assess the operations of the system once it is in place. We are continuing to work on developing recommendations for how wood smoke should be addressed in the City.

As Dr. Spengler pointed out in his report, the health literature supports the idea that wood burning can be harmful to health, especially regarding health effects from particulates, such as decreased lung function and increased respiratory illness. Extensive research has been done by the American Lung Association in Colorado, which has taken on the issue of particulate levels in the state. There are questions, however, about the contribution of wood burning to particulate levels in the Cambridge area, since the overall levels are in compliance with the federal standard. American Lung Association researchers surveyed the scientific literature and concluded that adverse health effects may be experienced at particulate levels below the federal standard.

There are currently no federal or state guidelines for commercial wood burning ovens or grills or for residential fireplaces. EPA has developed regulations for manufacturers of woodstoves used for home heating. All woodstoves must meet the agency's emissions standard for particulate matter. This only applies to the purchase of manufactured woodstoves, not residential fire places or commercial wood-burning appliances. Although less numerous than residential fireplaces, commercial wood burning operations are still a concern because of the volume of wood burned on a daily basis. In Cambridge, wood burning is not a primary source of heat for homes, as it is in other parts of the country, such as Colorado or Vermont.

We have found that in all of the cases we have identified, local or county-level regulations of wood burning heating or cooking equipment have been promulgated in an attempt to achieve federal air quality standards. Generally, local actions are taken only in those areas trying to comply with the federal particulates standard where that standard is currently exceeded, since wood burning results in high particulate emissions. Massachusetts does not currently exceed the federal standard for particulates. In the case of wood-fired cooking (as opposed to burning wood for heating purposes

only), relatively high volatile organic compound (VOC) emissions can result. Yet, relative to other sources of VOCs (e.g., gas stations, dry cleaners, autos, etc.) emissions from wood-fired cooking activities are likely a very small contributor to VOC exceedances in the Boston region. VOCs are known as "ozone precursors" in that they contribute to the formation of ground-level ozone, another Primary Pollutant regulated at the federal level.

Probably the most aggressive regulatory program in the country pertaining to restaurant emissions is that of Southern California. The Los Angeles area, which has the worst air quality in the nation, is in non-compliance for several Primary Air Pollutants, including ozone, thus the state authorizes local air quality management districts to take those measures deemed necessary for the region to come into compliance. The South Coast Air Quality Management District (SCAQMD) handles air quality issues for Los Angeles and Orange Counties and parts of San Bernardino and Riverside Counties. In September 1994 the SCAQMD released Proposed Rule 1138, a new regulation requiring stringent emissions protocol for restaurants in the district. This rule is one of the more drastic methods being considered in an attempt to bring the area into compliance for VOCs and subsequently ozone.

A series of public meetings have been held, and a final proposed rule is due in November. The rule will affect approximately 6,000 of the 30,000 restaurants in the four-county area. The SCAQMD has stated that the region's 30,000 restaurants release 13.7 tons of particulates as well as 19 tons of VOCs per day, which is approximately equivalent to the daily VOC emissions of oil refineries in the district. The proposed regulations apply only to restaurants with broilers or grills in which food comes in direct contact with an open flame, not "griddles," such as those used at a McDonald's, and restaurants cooking more than 50 pounds of meat, including seafood and poultry, in addition to 25 pounds of non-meat food products. Restaurant owners fear that the required equipment will be prohibitively expensive. We will follow up to find out how this regulation proceeds and to determine the effectiveness and impacts of the rule.

An example of a county-wide regulation resulting from non-attainment of federal particulates standards (PM_{10}) are recent regulations put forth by the Pima County (Arizona) Department of Environmental Quality. In November 1993 the county revised its air quality regulations (Title 17), tightening emissions standards for PM_{10} , ozone precursors and carbon monoxide. The county is not in compliance for PM_{10} or carbon monoxide. Particulates are a significant problem because the proximity of desert areas results in a high PM_{10} background in Arizona. The new regulations will apply to all sources in the county, including restaurants.

The main focus of the Pima County restrictions targets VOCs from industry (copper mining is a key industry in the county) as well as dry cleaners and auto body shops, however the more stringent PM_{10} standards on individual sources will affect a number of industries. The new regulations cover new and existing business, which are required to incorporate air pollution control equipment to contain or reduce emissions.

The State of Colorado, where a high proportion of homes are heated by wood burning appliances, has instituted a program in several counties in which a ban on wood burning is in effect on high pollution days. This is another example of efforts to comply with the federal particulate standard through locally-enforced programs.

Residential wood-burning is strictly regulated in Aspen/Pitkin County, Colorado through Ordinance No. 74, passed in 1992. The ordinance established the Aspen/Pitkin County Fireplace and Woodstove Regulations. The ordinance requires those applying for building permits to file for a fireplace/woodstove permit with the Aspen/Pitkin County Environmental Health Department.

The regulations apply to the City of Aspen and Pitkin County, the provisions of which include:

- New buildings may have up to two natural gas-fired devices and an unlimited number of decorative fireplaces;
- Coal may not be used as a fuel;
- New homes may not be built with wood-burning fireplaces;
- If renovations on a home with an existing fireplace will require work on the fire box, the fireplace must be converted to gas;
- If renovations on a home with a non-certified woodstove will require moving it, the woodstove must be replaced with a certified woodstove; and
- In rural areas only, new residences may install one wood-burning fireplace and one natural gas fireplace per building.

The ordinance also called for the establishment of a Clean Air Advisory Board for the City of Aspen and Pitkin County. The Board has the power to: grant variances, conduct hearings on air quality standards, hear appeals of Environmental Health Department decisions, and recommend amendments to air quality standards and regulations.

One section of the ordinance applies to restaurants; it requires that all charbroil grills installed on or after January 1, 1993 install air pollution control devices to reduce PM₁₀ by 90% or more. Exempted from this are replacements of charbroilers by a new broiler with an equal or smaller burning surface area. This section of the ordinance applies to seasonal businesses too. Restaurant owners must maintain records of installation date, manufacturer's recommended maintenance guidelines and actual maintenance performed.

Existing charbroilers installed after April 25, 1983 and before January 1, 1993 in restaurants that cook high-fat meat must install a "grooved griddle" or pollution control devices capable of achieving emissions equivalent to a grooved griddle. If restaurants claim that they do not serve high-fat meat, the Aspen/Pitkin Environmental Health Department can inspect such facilities at random.

In conclusion, the programs initiated in other cities that we have investigated may offer guidance in our efforts to assess the need for a local regulation in Cambridge. Although the context is different, we may find that successful program elements are worthy of consideration for Cambridge. As these programs are in their initial phases of implementation, we expect that in the near future we will be able to benefit from their experience.

In addition to following up with the progress of the above mentioned programs, we will continue to further evaluate the status of public policy on wood burning emissions as well as to develop recommendations for appropriate actions for the City in regulating wood burning.

Consent Agenda #23

8-482

Response to an Awaiting Report Item
No. Seven, regarding issues with
wood burning stoves.

11/14/94 Report accepted
and placed on file
Referred to the
Environment Committee
11/22/94 Copy sent to
Environment Committee (w)

In City Council,

November 7, 1994

Charter Right
exercised by
Councilman Yoney