The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
Department of Environmental Quality Engineering
Division of Hazardous Wastes
1 Winter Street, Boston 02108

ANTHONY D. CORTESE, Sc. D.
Commissioner

March, 1983

The Department of Environmental Quality Engineering is proposing regulations for the application of non-hazardous sludge and septage to the land for beneficial uses such as fertilizing or improving the soil. Recycling sludge and septage for agricultural use is a practice which has been demonstrated, approved, and used in many areas of the United States and other parts of the world. The purpose of DEQE's proposed regulations is to enable communities and individuals in Massachusetts to take advantage of this technology and to benefit from the soil building and nutrient resources in sludge and septage in a manner which safeguards the environment, public health, and agricultural resources.

It is estimated that a minimum of 7,000 wet tons of sludge and 5.5 million gallons of septage are generated daily in Massachusetts. Presently these materials are for the most part treated as wastes. Conventional disposal methods are, for sludge, landfilling and incineration and, for septage, co-treatment at wastewater treatment plants or lagooning. The land application regulations will make available an alternative disposition method - one that encourages resource conservation and recovery. Although the cost effectiveness of land application will vary on a case-by-case basis, the direct economic benefits of land application may be estimated by considering the value of sludge and septage as a substitute for commercial fertilizer. Using 1982 fertilizer prices, it is estimated that, on the average, one dry ton of sludge is equivalent to $26 worth of commercial fertilizer.

The Department published a Discussion Draft of these regulations in April, 1981. Four public workshops were held at that time to explain the Discussion Draft and to generate comments. These comments were reviewed by the Sludge Task Force, an interagency advisory group actively involved in the development of the regulations, and were the basis for many of the revisions in the final draft.

The proposed regulations set forth procedures and standards with which land application projects must comply in order to safeguard the environment and public health. In developing these regulations, every effort was made to strike a balance between regulatory requirements necessary to safeguard the environment and public health and a practical application program. As a result, the Department decided to place the major regulatory emphasis on control of the quality of sludge and septage, the site conditions, and the application rate and not to require ground water and crop monitoring.

The major provisions of the final draft regulations are:

1. The Department must approve sludge and septage as being suitable for beneficial use prior to land application.

   a. The responsibility for obtaining such approval lies with the owner or operator of sludge and septage facilities.

   b. Sludge and septage must meet specific standards of quality, based upon the category of intended use. Standards include criteria for the level of pathogen reduction and for concentrations of heavy metals and PCBs.

   c. There are three categories of intended use:

      Type I — Sludge and sludge products for unrestricted public use.

      Type II — Sludge and septage suitable for agricultural use, subject to DEQE approval of the site.

      Type III — Sludge and septage suitable for only non-agricultural use, subject to DEQE approval of the site.

2. Use of Type II or Type III sludge or septage requires DEQE approval of the method of application and the site of application in the form of a Land Application Certificate. (Quality standards for Type I are so high that the material can be used safely in the same manner as a commercial fertilizer or soil conditioner). The Department will seek local board of health concurrence as a prerequisite for approval.

   a. Site must meet certain criteria including soil texture and drainage, slope, depth to groundwater and to bedrock, and buffer distances to public and private water supplies.

   b. Rate of application of sludge or septage is limited by either the nitrogen needs of the crop or specified amounts of heavy metals or PCBs added to the soil, the lowest amount being the limiting factor. Limits for heavy metals and PCBs have been determined on a worst-case basis.

   c. Sludge or septage must be incorporated into soil unless treated by a process to further reduce pathogens.

   d. Special requirements are prescribed for surface application of sludge or septage, application prior to planting crops for direct human consumption, application at the time when crops are growing, grazing cattle, public access, and times of year when application can occur.

3. Storage of Type II or III sludge or septage requires approval of the Department. Stricter requirements are set for storage occurring for more than 42 days in a six month period off the site of a wastewater treatment facility, including approval by the local board of health and DEQE approval of facility plans.

   a. Requirements are established for the protection of ground and surface waters.

   b. Control measures are required to prevent nuisance conditions.

4. Sludge or septage must be transported in a manner which prevents spillage, dripping, and other nuisances.

5. Owners and operators of facilities which generate sludge or septage are required to keep records on the quality and the use of sludge or septage and make an annual report to the Department.

6. Persons using, selling, or distributing Type II or Type III sludge or septage are required to keep records and submit annual reports to the Department.

The Department has prepared an Explanatory Text which explains in detail the revisions to the Discussion Draft and the technical basis for the Department's decisions. Copies of this document may be obtained from Fifi Nessen, DEQE, One Winter Street, Boston, MA 02108, 617-292-5590.

Public hearing will be held on the proposed draft of the Regulations for the Land Application of Sludge and Septage during the first week of April. The public is encouraged to attend these hearings. Comments may also be submitted in writing to the Department, to the attention of Fifi Nessen, One Winter Street Boston, MA 02108, through May 13, 1983.

Schedule of Hearings

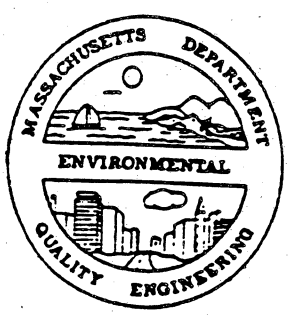
April 7, Danvers, 10 - 12 a.m., Field House, Essex Agricultural and Technical Institute, Maple Street, Danvers

April 11, Lakeville, 10 - 12 a.m., Auditorium, Lakeville Hospital, Route 105, Lakeville

April 12, Worcester, 2 - 4 p.m., Amphitheater #2, University of Massachusetts Medical School, off Rte 9, Worcester

April 14, Amherst, 7 - 9 p.m., Room N - 344, Western Massachusetts Public Health Center, University of Massachusetts Campus, Amherst.

Department of Environmental Quality Engineering
One Winter Street
Boston, Massachusetts 02108



4. S-119

Comm. from Anthony D. Cortese, Commissioner, Exec. Office of Environmental Affairs Re: proposed regulations by the Dept. of Environmental Quality Engineering to apply non-hazardous sludge to the land for fertilization purposes & soil improvement.

Copy sent to the Conservation Commission 3/16/83 mk

In City Council,

March 14, 1983

3/14/83
Placed on File
Copy to Conservation Commission