

DEP/DWPC WASTEWATER RESIDUALS GUIDANCE DOCUMENT NO. 89-1
COMPOSTING OPERATIONS WITHIN ZONES OF CONTRIBUTION
(ZONE 2) AND INTERIM WELL HEAD PROTECTION AREAS
(INTERIM ZONE 2)

This paper is intended to address the concern that the requirements of regulations for Land Application of Sludge and Septage (310 CMR 32.00) regarding short and long term storage of sludge and septage are too restrictive when applied to sludge products such as compost. Therefore, this document is intended to provide an approach which is realistic yet conforms to the requirements of the regulations.

First and foremost the Department is committed to the protection and preservation of ground water resources throughout the Commonwealth. The intent of this paper is to address those situations where existing or proposed municipal wastewater treatment facilities are sited within a Zone 2 or interim zone 2 and are contemplating installing composting operations to beneficially reuse the sludge product. An interim zone 2 is defined as an interim area of special protection around public water supplies equal to a radius of one half mile (2640 feet) around a well head unless or until a hydrogeological study shows the boundaries of the zone of contribution to the well to be otherwise.

Background

The current land application regulations, 310 CMR 32.00 (2) state “Sludge or septage shall not be stored anywhere within a radius of two thousand five hundred (2500) feet or any location under which there is an existing, planned, or potential groundwater public water supply unless either;

- a) a hydrogeologic study confirms that the stored material will not result in the contamination of groundwater; or
- b) the sludge or septage is stored in watertight containers or by other methods which prevent leakage”.

Additionally, sludge or septage is precluded from being stored anywhere within a radius of 500 feet of a private drinking water supply well unless stored in watertight containers or by another comparable method to prevent leakage.

The land application regulations 310 CMR 32.31 also addresses the issue of long-term storage of sludge and septage. As stated, “sludge or septage may not be stored for more than 42 days within any six month period unless given prior written approval of the Board of Health of the city or town at which the site is located. The previous sentence shall not apply to such storage of sludge at a site of a wastewater treatment facility which generated all of such sludge if such a facility has a permit from the Department pursuant to M.G.L. c.21, s.43”.

Discussion

To date an assumption has been made that the term “sludge” also applies to a product produced from sludge. Thus a strict interpretation of 310 CMR 32.00 would require that all composting operations and storage be located either outside of the zone 2 or interim zone 2 and/or storage would have to be in watertight containers. Clearly strict interpretation of these regulations could place an extreme economic burden on a municipality, one which may already be treating and discharging treated effluent to a zone 2 or interim zone 2 area.

The basis for this policy is the recognition that a composted product is fundamentally different in quality and physical structure than raw or dewatered sludge cake and as such poses less of an environmental threat if properly managed. The approach presented therefore would allow composting and storage of sludge compost in a zone 2 or interim zone 2 area providing that special measures be taken regarding design and monitoring of these facilities. The policy complies with 310 CMR 32.3 (2) in that the composting operation and product storage will require “other methods which prevent leakage”.

Policy

In order to ensure that a planned composting facility will not negatively impact a public or private water supply well and would be within the legal framework of the land application regulations, the following minimum design requirements must be met when a facility is proposed within a zone 2 or interim zone 2 area.

1. Sludge or septage prior to mixing with any amendment for the purposes of composting must be stored in watertight containers.
2. Upon being mixed with bulking agent for the purposes of composting sludge, the sludge shall be considered as compost in the “active” stage. All active, curing, and finished compost processing and storage must comply with the following conditions:
 - a. Must be located on an impermeable pad properly graded to allow collection of all runoff from the pad and divert rainwater away from it.
 - b. All runoff from the pad will be collected, stored, treated, or disposed of in a manner approved by the Department.
 - c. All piles of compost must be covered to minimize potential leachate generation.
 - d. A monitoring system, approved by the Department, must be designed and installed at the composting facility to detect any potential

migration of contaminants caused by leachate and/or runoff from the overall facility.

3. The aforementioned policy shall not be interpreted to apply to long-term compost storage (indefinitely) within zone 2 areas. Such storage should only be for the purposes of providing adequate time to distribute the product in the event of a temporary lack of available distribution markets. Compost storage time should be only that period of time necessary to adequately distribute the product, not to exceed a six (6) month period.

The policy also does not relieve the proponent from providing redundancy in the case of composting process failure as provided in previous policy. That policy requires provision for a disposition alternative capable of accommodating about 6 months sludge production.