



Virginia
Regulatory
Town Hall

Proposed Regulation Agency Background Document

Agency Name:	Virginia Department of Health
VAC Chapter Number:	12 VAC 5-585
Regulation Title:	Amendments to the Biosolids Use Regulations
Action Title:	Review of Regulatory Package
Date:	June 11, 2004

This information is required pursuant to the Administrative Process Act (§ 9-6.14:9.1 *et seq.* of the *Code of Virginia*), Executive Order Twenty-Five (98), Executive Order Fifty-Eight (99), and the *Virginia Register Form, Style and Procedure Manual*. Please refer to these sources for more information and other materials required to be submitted in the regulatory review package.

Summary

Please provide a brief summary of the proposed new regulation, proposed amendments to an existing regulation, or the regulation proposed to be repealed. There is no need to state each provision or amendment or restate the purpose and intent of the regulation; instead give a summary of the regulatory action and alert the reader to all substantive matters or changes. If applicable, generally describe the existing regulation.

Section 12 VAC 5-585-500 of the *Biosolids Use Regulations* is to be revised to provide for field storage as an alternative to routine storage. The use of smaller temporary storage sites located near land application operations has provided an alternative that minimizes the operational problems associated with larger routine storage facilities. Operation of routine storage facilities, such as the lagoon system once located at the Hanover Industrial Air Park, resulted in liquid management problems and odor concerns leading to the closure of that facility. Many local governments have adopted local ordinances that prevent the construction of new routine storage facilities. However, the approval of temporary storage for biosolids, in excess of that transported to a site during a single day operation and not land applied on that site that day, has required the issuance of variances to the *Regulations* (12 VAC 5-585-90). The issuance of such variances is time consuming and costly. Variances are a case-by-case response to a

situation that could be more effectively and efficiently addressed by a consistent statewide requirement and policy.

Basis

Please identify the state and/or federal source of legal authority to promulgate the regulation. The discussion of this statutory authority should: 1) describe its scope and the extent to which it is mandatory or discretionary; and 2) include a brief statement relating the content of the statutory authority to the specific regulation. In addition, where applicable, please describe the extent to which proposed changes exceed federal minimum requirements. Full citations of legal authority and, if available, web site addresses for locating the text of the cited authority must be provided. Please state that the Office of the Attorney General has certified that the agency has the statutory authority to promulgate the proposed regulation and that it comports with applicable state and/or federal law.

The ***Biosolids Use Regulations (12 VAC 5-585)*** were adopted by the State Board of Health in 1995 pursuant to Section 32.1-164.5 of the *Code of Virginia*. The ***Biosolids Use Regulations (Regulations)*** were subsequently revised, effective on October 15, 1997, in accordance with the Virginia Administrative Process Act (APA). The State Board of Health adopted amendments providing for the collection of land application fees and the reimbursement of local monitoring expenses at its January 31, 2003 meeting. Those amendments became final in March 2003. The State Board of Health approved the submittal of a Notice of Intended Regulatory Action (NOIRA) for an amendment to the *Regulations* concerning field storage at its April 25, 2003 meeting. The draft amendment was presented to the State Board of Health at its October 24, 2003 meeting for its approval as a proposed amendment. The State Board of Health recommended that several revisions be made to the draft amendment, including providing a standard 500 foot buffer zone around the field storage site. Other recommendations included revisions to the draft seasonal storage requirements. The State Board of Health recommendations have been included in the proposed amendment.

Purpose

Please provide a statement explaining the need for the new or amended regulation. This statement must include the rationale or justification of the proposed regulatory action and detail the specific reasons it is essential to protect the health, safety or welfare of citizens. A statement of a general nature is not acceptable, particular rationales must be explicitly discussed. Please include a discussion of the goals of the proposal and the problems the proposal is intended to solve.

The purpose of amending the *Regulations* is to provide uniform standards for design and operation of field storage sites that will prevent the problems of odors and runoff identified as concerns by local governments. The use of smaller field storage sites will greatly reduce the need to use the larger temporary storage facilities that have been approved to date through the variance procedure. Although this amendment to the *Regulations* will eliminate the need to process such variances, site specific comments from local government will continue to be solicited as is currently done in the processing of land application permits.

The *Regulations* provide the means to protect public health from improper and unregulated disposal of sewage sludge. However, the opponents of the land application of biosolids have insisted that local governments enact local ordinances that are more restrictive than the state regulations. This amendment is designed to provide a consistent and uniform set of state requirements that will address a number of issues that local governments must routinely deal with. It is anticipated that the development of state requirements will eliminate the need to develop non-uniform local requirements in these areas of concern and prevent extended litigation brought by permitted entities concerning restrictive local government ordinances that would effectively ban temporary storage of biosolids.

Substance

Please identify and explain the new substantive provisions, the substantive changes to existing sections, or both where appropriate. Please note that a more detailed discussion is required under the statement providing detail of the regulatory action's changes.

The proposed amendment to the *Regulations* will involve the addition of a new section, (12 VAC 5-585-500 E) addressing field storage standards. The land applier may use field storage as an alternative to routine storage during periods of inclement weather, or when the site soils are frozen, or surface saturated. Field storage can be used during winter conditions when there is limited or no nutrient uptake following land application, or land application operations could result in either physical damage to the site soils, or alteration of the site surface, or otherwise increase the surface runoff of particulates. Only dewatered biosolids suitable for land application (Class A or B pathogen control) and established as having minimal odor can be placed into field storage. The quantity of stored biosolids at the storage site will be limited to the amount equivalent to the quantity that would provide the agronomic rate of application, in accordance with the provisions of the *Regulations* (12 VAC 5-585-510), for approved sites within or nearby the property on which the storage site is located. The stored biosolids will be sufficiently dewatered so as to be capable of maintaining a stacking height of at least 4 feet. The ability of the biosolids to stay consolidated during stockpiling is to be verified and documented by the operator of the treatment works producing the biosolids at the source.

Field Storage Areas are to be designed to furnish an impermeable storage surface capable of supporting heavy equipment and sloped to minimize accumulation of precipitation, or other methods of removing accumulated precipitation are to be provided. Management steps must be taken to assure that no ponding of water occurs in contact with biosolids. The stored biosolids shall maintain a sloping surface shape that minimized accumulation of precipitation on the stored biosolids. If biosolids are stored longer than a 14 day period an impervious liner under the stored biosolids, capable of supporting operational equipment will be required. If biosolids are stored longer than 30 days a waterproof covering over the stored biosolids may be required. These standards are designed to prevent contamination of any runoff from around the site. Minimum buffer distances around the storage site to points of access and sources of water are designed to ensure protection of public health. If environmental or public health concerns develop at the

storage location, VDH will require that the biosolids be removed to another site and will remove the approval of the problem field storage site.

Issues

Please provide a statement identifying the issues associated with the proposed regulatory action. The term "issues" means: 1) the primary advantages and disadvantages to the public, such as individual private citizens or businesses, of implementing the new or amended provisions; 2) the primary advantages and disadvantages to the agency or the Commonwealth; and 3) other pertinent matters of interest to the regulated community, government officials, and the public. If there are no disadvantages to the public or the Commonwealth, please include a sentence to that effect.

The Biosolids Use Regulations Advisory Committee has assisted the Virginia Department of Health (VDH) in developing the proposed language. The proposed amendment reflects the recommendations from a majority of committee members. However, several committee members disapproved of the proposed language due to concerns that the field storage sites will not be properly managed. However, the temporary storage sites approved through the variance process to date have not been designed to meet the more strict standards now being proposed and their operation has not resulted in either actual public health effects, or water quality standards violations. Although the majority of the Advisory Committee members were in favor of the draft revision language, several members of the committee requested that more stringent requirements be included and stated that they objected to the field storage amendment without additional restrictions for site management practices limiting biosolids applications in winter months on sites that did have sufficient vegetation established.

Several letters and an e-mail were received providing comments in response to the NOIRA. The comments generally expressed opposition to the amendment, due to concerns that the field storage sites will generate odor and runoff problems and will not be properly inspected. The draft proposed amendment language was available to BURAC members but was not published with the NOIRA and thus was not available to the general public with the NOIRA. Thus, the public was not aware that the regulation amendment established detailed standards for the location and operation of field storage. Members of the BURAC did not comment directly, but the land application contractors support the proposed amendment. The establishment of local biosolids monitors will help address many of the expressed concerns, including providing for frequent inspection of the field storage sites.

The advantage of adopting the requested amendments is that the use of large routine storage facilities will not be necessary and there would be much less incentive to apply biosolids on wet soils or sites just prior to precipitation events. By establishing reasonable requirements for land application operations, the most economical and most beneficial means of sludge management will continue to be available to the owners of sewage treatment works, who are primarily metropolitan governments. There are no known disadvantages to the public or to the Commonwealth.

Fiscal Impact

Please identify the anticipated fiscal impacts and at a minimum include: (a) the projected cost to the state to implement and enforce the proposed regulation, including (i) fund source / fund detail, (ii) budget activity with a cross-reference to program and subprogram, and (iii) a delineation of one-time versus on-going expenditures; (b) the projected cost of the regulation on localities; (c) a description of the individuals, businesses or other entities that are likely to be affected by the regulation; (d) the agency's best estimate of the number of such entities that will be affected; and e) the projected cost of the regulation for affected individuals, businesses, or other entities.

Currently, nearly 200,000 dry tons of biosolids are land applied each year in 20 to 30 Counties, on approximately 42,000 acres of farmland. The potential cost savings and production increases, for the farmers that receive biosolids as a substitute fertilizer at a rate of 5 or more dry tons per acre, has been estimated to range from \$50, to more than \$100, per acre farmed. Routine storage of biosolids results in additional costs of approximately 8 to 10 dollars per ton in comparison to transporting biosolids directly to the land application site. The use of field storage sites located near the land application sites will reduce the storage costs by an estimated 50 % or more. Other adverse weather biosolids management options such as landfill co-disposal and incineration are much more expensive.

Detail of Changes

Please detail any changes, other than strictly editorial changes, that are being proposed. Please detail new substantive provisions, all substantive changes to existing sections, or both where appropriate. This statement should provide a section-by-section description - or cross-walk - of changes implemented by the proposed regulatory action. Where applicable, include citations to the specific sections of an existing regulation being amended and explain the consequences of the proposed changes.

The proposed amendment to the *Regulations* will involve the addition of a new section, 12 VAC (5-585-500 E) addressing field storage standards as follows:

- A. The biosolids owner may use field storage as an alternative to routine storage during periods of inclement weather, or when the site soils are frozen, or surface saturated. Field storage may be used during winter conditions when there is limited or no nutrient uptake, or land application operations could physically alter the site surface or otherwise increase surface runoff of particulates. Only dewatered biosolids suitable for land application (Class A or B pathogen control) and established as having minimal odor [e.g. pH of 11 or more, or digested with a volatile solids level of 60 percent or less or other method approved by the Division of Wastewater Engineering (DWE)] shall be placed into field storage.

- B. Field storage operations shall not result in water quality, public health, or public nuisance problems. If field storage is used, the following requirements and Best Management Practices shall be adhered to:

1. All field storage locations and biosolids sources must be pre-approved by DWE. Field storage locations shall be as remote as practicable and located only in areas identified as having no flooding potential as identified by the County Soil Survey. Sites selected for field storage shall not be located on excessively moist or wetland soils where very low infiltration rates regularly lead to standing water or excessive runoff after storm events, such as Hydrologic Group D soils as indicated by the County Soil Survey. Stockpiles shall not be located on soils with extremely high hydraulic conductivity (such as gravel) resulting in excessive infiltration rates. The design and operation of the field storage site shall be adequately described and approved in accordance with the *Biosolids Use Regulations (Regulations)* (12 VAC 5-585-500 and 620).
2. The local government shall be notified in advance of all proposed field storage locations and provided an opportunity to comment on the proposed site. The Commissioner may consider all comments on the proposed location and deny or revoke approval of any site if it becomes problematic due to odor, health, or water quality issues, in accordance with the provisions of the *Regulations* (12 VAC 5-585-70). Adequate daily records of biosolids quantities stored shall be maintained and reported monthly in accordance with the provisions of the *Regulations*.
3. The quantity of stored biosolids at the storage site shall be limited to the amount equivalent to the quantity that would provide the agronomic rate of application, in accordance with the provisions of the *Regulations* (12 VAC 5-585-510), for approved sites within or nearby to the property on which the storage site is located. The stored biosolids shall be sufficiently dewatered so as to be capable of maintaining a stacking height of at least 4 feet. The ability of the biosolids to stay consolidated during stockpiling is to be verified and documented by the operator of the treatment works producing the biosolids at the source. This consolidation property is to be rechecked at the storage location if the biosolids contain property is to be rechecked at the storage location if the biosolids contain polymers that may be altered during storage such that the biosolids bound water is released. Biosolids may be blended with thickened biosolids at the source treatment facility if they do not have the proper consistency.
4. Field storage areas are to be designed to minimize accumulation of precipitation, or methods of removing accumulated precipitation are to be provided. Management steps must be taken to assure that no ponding of water occurs in contact with biosolids. The stored biosolids shall maintain a sloping surface shape that minimizes accumulation of precipitation on the stored biosolids.
5. The design of field storage sites shall meet the following requirements:
 - a. The distance to seasonal high water table shall be equal to or more than 36 inches, unless a liner with a minimum permeability of 10^{-6} cm./sec and of sufficient strength to support operational equipment and approved by DWE is installed.

- b. The distance to bedrock shall be equal to or greater than 40 inches unless a liner with a minimum permeability of 10^{-6} cm./sec and of sufficient strength to support operational equipment and approved by the DWE is installed.
 - c. In karst topography, DWE may require additional design measures.
 - d. If the average site slope is greater than 6%, adequate surface water diversion methods must be provided and maintained.
 - e. The minimum buffer distances to property lines, occupied residences, and potable wells will be 500 feet. The Commissioner may grant a buffer reduction of up to 250 feet if the affected party agrees to the reduction in writing and the agreement is notarized and submitted to DWE. The minimum distance to surface waters that are flowing in a distinct channel shall be 500 feet.
6. Seasonal restrictions on storage time shall be established in accordance with the design of the field storage site. Biosolids may be stored on an approved field storage site for up to 14 days. If biosolids are stored on an approved field storage site for more than 14 days, a liner base under the stored biosolids shall be maintained during the storage time. The liner base shall be impervious and of sufficient strength to support operational equipment as approved by DWE. If biosolids are to be stored for more than 30 days, a cover over the biosolids equivalent or better to that provided by a 10 mil plastic material, shall be maintained during the storage time. Biosolids stored during the months of April through October shall be removed for permitted use or disposal within 30 days of placement in storage. Biosolids stored during the months of November through March shall be removed for permitted use or disposal within 45 days of placement in storage unless covered. Covered biosolids, stored during the months of November through March, must be removed for permitted use or disposal within 120 days of placement in storage.
7. Operation of the field storage site shall meet the following requirements:
- a. Biosolids must be removed from the storage site within 48 hours if objectionable odors related to the stored biosolids are verified by DWE at any occupied residence on surrounding property.
 - b. Biosolids placed into covered storage are to be of a sufficiently cool temperature to allow placement of covering that will not result in safety or health concerns from a build up of heat, ammonia, or other gases or odors. Only biosolids with a minimum potential for heat build-up, such as stabilized compost, are to be placed in covered storage as incompletely stabilized compost can reheat to the point of catching fire.
 - c. Biosolids stockpiles are to be checked by the generator or its agent at least every 14 days and after severe precipitation events to ensure that runoff controls are in good working order. Any observed excessive slumping, erosion or movement of biosolids is to be corrected within 24 hours. Any ponding or excessive odor at the site is to be

corrected. Appropriate documentation of biosolids stockpile field checks shall be submitted with monthly reports.

- d. Biosolids stored for greater than 45 days shall be re-tested prior to land application for fecal coliform, TKN, and $\text{NH}_3 - \text{N}$.
- e. Following storage without liners, the residual biosolids remaining on the soil should be scraped and removed, the soil at the site shall be tilled to break up compaction, and the site should be cropped to take up nutrients.
- f. DWE may specify further restrictions on field storage at any time it deems necessary.

Alternatives

Please describe the specific alternatives to the proposal considered and the rationale used by the agency to select the least burdensome or intrusive alternative that meets the essential purpose of the action.

The Virginia Department of Health may elect to request the that State Board of Health consider the following alternatives:

1. Do not revise the Biosolids Use Regulations,
2. Revise the entire set of Biosolids Use Regulations, or
3. Revise the section of the Biosolids Use Regulations dealing only with Field Storage to provide specific State requirements.

Although additional requests for revisions to the Biosolids Use Regulations have been submitted by local governments and private individuals, the process of revising the entire set of the Biosolids Use Regulations will likely become a long drawn out process, as the land application of biosolids is a highly controversial subject. Thus, the Virginia Department of Health (VDH) is electing to recommend that only the previously listed section of the Biosolids Use Regulations be revised at this time.

Public Comment

Please summarize all public comment received during the NOIRA comment period and provide the agency response.

The NOIRA for the proposed field storage amendments was published in the *Virginia Register* on August 11, 2003 in Volume 19, Issue 12, Page 3456. A summary of the comments received in response to the notice and the agency response follows:

<p>REPRESENTING</p> <p>Agencies</p>	<p>COMMENTOR</p>	<p>ISSUES</p>
<p>Department of Conservation and Recreation</p>	<p>Joseph H. Maroon, Director</p>	<p>Field storage amendment must be made concurrently with the adoption of management practices amendments including seasonal restrictions on land application.</p>
<p>Hanover County</p>	<p>Richard R. Johnson, County Administrator</p>	<p>The Board of Supervisors opposes the State approval of field storage sites without the use of a variance procedure that includes participation by local government.</p>
<p>Northumberland County</p>	<p>Kenneth D. Eades, County Administrator</p>	<p>The Board of Supervisors opposes the State approval of field storage sites due to concerns about resulting environmental contamination of the soil, ground water and streams.</p>
<p>Middlesex County</p>	<p>Charles M. Culley, County Administrator</p>	<p>The Board of Supervisors opposes the State approval of field storage sites as local government should have more control in order to require sufficient environmental safeguards.</p>
<p>Citizens</p>		
<p>Charlotte County</p>	<p>Dorothy M. Gregory, Madisonville, VA</p>	<p>Opposes land application of biosolids due to possible environmental pollution effects.</p>
<p>Charlotte County</p>	<p>Larry L. Lail, Charlotte Court House, VA</p>	<p>Oppose field storage of Class B Pathogen Control Biosolids due to possible health effects resulting from exposure to pathogens.</p>
<p>Cumberland County</p>	<p>Catherine R. Trammell, RN Farmville, VA</p>	<p>Oppose field storage due to possible health effects resulting from exposure to pathogens and the lack of monitoring of .land application operations.</p>

Contractors		
Recyc Systems, Inc.	Susan Trumbo, Technical Manager	Supports the field storage amendments.
Synagro Mid-Atlantic, Inc.	Steve McMahon, Technical Services Director	Supports the field storage amendments.
Nutri-Blend, Inc.	David Smith, Project Manager	Supports the field storage amendments.
Milton F. Wright Trucking, Inc.	Lloyd E. Wright, Nutrient Management Planner	Supports the field storage amendments.

The comments received from local governments generally opposed the issuance of state approval of field storage sites without an opportunity for local government to object to the site approval. An opportunity for local government input on each request for approval of a field storage site is provided through the proposed amendment. The use of local monitors working with VDH Staff should ensure that local government concerns are properly considered prior to approval of a field storage site. The comments received from concerned citizens generally involved possible health effects from environmental pollution. The proposed amendment provides standards for the location and operation of field storage that will prevent environmental pollution and restrict access to the storage site. The Department of Conservation and Recreation (DCR) objected to the field storage amendment without additional restrictions for site management practices limiting biosolids applications. However, the VDH Staff is currently working with the BURAC to develop an amendment to the *Regulations* that will address the management practices issues raised by DCR.

Clarity of the Regulation

Please provide a statement indicating that the agency, through examination of the regulation and relevant public comments, has determined that the regulation is clearly written and easily understandable by the individuals and entities affected.

In drafting the proposed Regulations, the Board strove to write provisions that are clear and easily understandable by the individuals and entities affected. The Board has determined that the regulations are clearly written and will be easily understood.

Periodic Review

Please supply a schedule setting forth when the agency will initiate a review and re-evaluation to determine if the regulation should be continued, amended, or terminated. The specific and measurable regulatory goals should be outlined with this schedule. The review shall take place no later than three years after the proposed regulation is expected to be effective.

The State Board of Health will review and reevaluate the proposed Regulations within three years of their becoming effective in order to determine whether they should be continued, amended or terminated.

Family Impact Statement

Please provide an analysis of the proposed regulatory action that assesses the potential impact on the institution of the family and family stability including the extent to which the regulatory action will: 1) strengthen or erode the authority and rights of parents in the education, nurturing, and supervision of their children; 2) encourage or discourage economic self-sufficiency, self-pride, and the assumption of responsibility for oneself, one's spouse, and one's children and/or elderly parents; 3) strengthen or erode the marital commitment; and 4) increase or decrease disposable family income.

The proposed regulatory action will have no anticipated or associated impacts on family rights to educate and supervise children. It will not discourage economic self-sufficiency and family responsibilities and commitments or decrease disposable family income.