Public Comments and Department Response to Public Comments

Amendment of Regulations Pertaining to Biosolids After Transfer from the Department of Health

DEQ Office of Land Application
August 31, 2011

Public Comments and Department Response to Public Comments

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Public Comments and Department Response to Public Comments

Introduction

DEQ received 181 written comments and at the 4 public hearings, 107 oral comments. Comments were received from citizens, local government, utilities and industry. DEQ staff sorted those comments and extracted individual topics addressed by each commenter, resulting in over 1,100 individual comments.

Those individual comments are presented below in general subject categories. DEQ's response to the comments within each subject is presented below all of the comments on the subject. There were some comments that identified a specific citation in the regulation, and each of those comments has been answered individually under Regulatory Citations. The comments are presented alphabetically by subject and commenter's last name.

The staff has made a good faith effort to address each of the comments. However, due to the complexity of many of the comments, a specific point not addressed in the response to a general category may be addressed elsewhere in the document, under another category or under the Regulatory Citation responses.

Subject: Alternative Uses for Biosolids

Commenter: Eveland, Pat, representing Citizens

I would like to associate myself with the comments made by Dave Gibson. There is no way to guarantee that every application of sludge is safe. Not everything that goes down our drains can be safely sanitized for use on our food. To equate sludge to what we normally think of as biosolids is just an attempt to fool the public. Let's concentrate on finding alternative uses for human waste rather than risking the health of our people.

Commenter: Hassan, Khalil, representing Citizens

Instead of spending limited resources discussing setbacks, fee schedules, etc., maybe those resources should be used to find viable alternative uses like converting it to energy. Or a testing protocol that goes far beyond what EPA has done. The agricultural community and citizens of the Commonwealth have a right to know what hazards they are being exposed to be it airborne pathogens, plant uptake or polluted waterways.

Commenter: Kondis, Dr. Edward F., representing Citizens

DEQ notes incineration and landfill are two alternatives to spreading sewage sludge over farmland. However, DEQ fails to mention sewage sludge is an alternative energy source. Sewage sludge is a valuable and sustainable hydrocarbon source for energy which can replace crude imports currently over $100 per barrel.

Commenter: Lorien, Joy, representing Citizens

Myth: There are no other solutions to our septage and sludge disposal crisis. Fact: Sludges and other nonrecyclable wastes can and are being used beneficially as a renewable source of clean energy without environmental impacts.

Commenter: Musick, H. Glen, representing Citizens

Perhaps we should be building electrical power plants that could use this material as a fuel source.

Commenter: Scholder, Jerry, representing W.O.R.M.S. (Worms Operating to Reduce Municipal Sludge)

What I do object to is when Class B biosolids are being dumped into a landfill at considerable expense and harm to the environment while wasting a potentially valuable resource for our land.

I will readily admit that I do not like the idea of Class B biosolids being applied to lands when they could be converted to Class A biosolids with very little additional effort or expense.

This committee needs to be more proactive in researching and encouraging solutions pertaining to recycling of biosolids. Not one person made mention of an innovative, affordable, and environmentally sound method called vermicomposting or vermistablilization of sludge. It makes no sense at all to me to put any class of biosolids onto soils without inoculating that soil with earthworms first. The vermistabilization process on biosolids results in a converted biosolids that meets Part 503 Class A PFRP requirements.

Commenter: Van Drie, Gerhardt, representing Van Drie Trenching

One way to handle the hazards of the unknown toxics in sludge is to confine sludge disposal to as small of an area as possible. It can be done economically by using the Van Drie Trenching Process. Find a ground area where the water table is 20 feet below surface ground level. Trench disposal prevents the sludge from getting to surface waterways where cities obtain their water supply.

DEQ Response to Comments: Alternative Uses for Biosolids

Alternative disposal technologies are still in development in Virginia. House Joint Resolution 694 directed the Biosolids Expert Panel to investigate the capacity of alternative technologies to facilitate the beneficial use of biosolids and their disposal. The Panel discussed many different technologies and the benefits and obstacles of each. The Panel noted that adoption of alternative technologies is often hindered by cost and lack of performance history. Additionally, the overall environmental risk of energy producing technologies has not been proven to be less than that of land application. The Biosolids Expert Panel recommended that additional research and engineering analyses of alternative technologies is needed to fully evaluate the risk-benefit and cost-benefit. At the present time, land application is a viable reuse of biosolids that has been shown to be protective of the environment when applicable laws and regulations are followed.

Subject: Buffers and Setbacks, Health and Odor Related Setback Extensions

Commenter: Anderson, Paul, representing Farmers

Concerned with the drastic buffers being proposed in the draft regulations. There is very little runoff from the application of biosolids. There needs to be a scientific basis for the buffers. There is no evidence for the need for a 400 foot buffer. There needs to be common sense and scientific evidence on these changes, rather than arbitrarily making the changes. Encourage you to look at the use of biosolids and don't over-regulate it.

Commenter: Atwood, Dennis, representing Shenandoah County Water Resources Advisory Committee

VPA-01579 was approved in spite of the presence of three public gathering attractions entirely within or

immediately adjacent to, one of the approved land segments: the North Fork of the Shenandoah River, the publicly owned Meems Bottom Covered Bridge, and a privately owned corn maze. The regulations should require obtaining local government certification for any proposed permit or permit modifications for the land application or storage of biosolids to verify the site(s) and proposed application activity are not proximate to public use areas.

Commenter: Baird, Benjamin, representing Farmers

Can't say anything that hasn't been expressed here tonight. My family has been in the farming business in Virginia since 1839. My two sons will be the 3rd generation raised on a farm using biosolids. The "sludge line" in a field is where you find a drop off in land productivity. There is not a lot that a farmer can do except try to apply enough commercial fertilizers to make up the difference but you end up with runoff of the nutrients. If you allow for the option of a 400 foot buffer to an adjacent property owner, it will become mandatory. They will think that it will do something to eliminate the odor associated with biosolids, but it won't, it what it is. The application of biosolids increases the land's productivity. When you are putting down biosolids there is someone there overseeing the operation? During the application of commercial fertilizers there is no oversight. I echo what has already been stated tonight by other speakers.

Commenter: Bates, J. Barry, representing Farmers

Would like to see the buffers shrunk down. I am in the position that not only does every acre but every foot makes a difference.

Commenter: Beasley, K.M., representing Farmers

Have used biosolids on a small farm in Buckingham County. Never had a problem with neighbors. Odors are always an issue, but increased setbacks do not affect that at all. Use of biosolids has improved the quality of sods on the farm lands in Virginia.

Commenter: Bowen, James, representing Farmers

I farm about 4000 acres in Culpeper County. Have been using sludge about as long as it has been available and never had a problem. I am against the restrictions and increased buffers. The larger buffers will do more harm than good and will result in the increased use of commercial fertilizers. Farmers usually apply more commercial fertilizers than needed so they don’t have to reapply. Suggest that we bring back the concept and use of the Rain Fall Simulators. They showed clearly that there was no movement of materials in those areas using biosolids, but the materials were washed away when commercial fertilizers were applied. Sludge does not move very much once applied. I am against larger buffers.

Commenter: Bowen, Maxwell, representing Farmers

I am from Fauquier County. I am all for sludge. The buffer zones are getting too wide. We are losing a lot of land. That is not doing anybody any good. I have used biosolids for the last 15 years and have had no health effects from the application of biosolids. I just can't get enough of it.

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

The TAC discussion included the following limitations: (1) the request for the increased buffer can only come from an adjacent owner or occupant of a dwelling (not a property owner "in the vicinity" of a biosolids land application site, as described in the Guidance at p. 3); (2) the buffer area may be increased based on site-specific criteria; the amount of the increase should be limited to the minimum amount necessary to address the site-specific criteria but cannot exceed 200 feet; and (3) during the application process the request may be made in any manner; once the permit has been issued, the request must be made to DEQ and processed in accordance with VA Code § 62.1-44.19:3 (E) and (O). HRSD is concerned that the proposed regulatory language does not capture the TAC agreement.

To reflect the TAC agreement, Footnote 3 of Table 2 should read: "Buffer may be extended up to an additional 200 feet by the department and incorporated into the permit at the time it is issued based upon

documented site specific conditions raised by the occupant of the dwelling and identified during the permit application review process consistent with 9VAC25-32-560 B 3 (f) (4). The buffer may be extended further by the department if the regional health director certifies that a buffer in excess of 400 feet is necessary to prevent specific and immediate injury to the health of an individual. Extended buffers do not run with the land, and will be invalid for subsequent occupants of the dwelling."

To reflect the TAC agreement, Footnote 4 of Table 2 should read: "Should the Department receive a written request to extend the buffer beyond the 200 feet after the permit has been issued, such an extension will only be granted after notification to the applicator. Such extensions may require approval for additional storage time and other operational adjustments. In all circumstances, the buffer will not be extended more than an additional 200 feet unless the applicator consents to such extension. If a property owner or occupant living in a dwelling adjacent to a land application site for a buffer extension to address an individual health concern, the Department Buffer may offer in response an extension up to a maximum of 400 feet. A request for an extended buffer must be received by the Department and communicated to the permit holder no later than twenty-four hours before land application commences on the site adjacent to the occupied dwelling. Requests received within twenty-four hours of application will be treated as requests for a voluntary buffer extension by the permit holder consistent with 9VAC25-32-560 B 3 (h). Buffer may exceed 400 feet where an evaluation by the Virginia Department of Health determines that a buffer in excess of 400 feet is necessary to prevent specific and immediate injury to the health of an individual. Extended buffers do not run with the land, and will be invalid for subsequent property owners or occupants.

To reflect the TAC agreement, item f.(3) dealing with waivers should read: (3) Waivers. Waivers from adjacent property residents and or landowners may only be used to reduce buffer distances from occupied dwellings and/or property lines with the presence of an occupied dwelling.

To reflect the TAC agreement, item f.(4) dealing with extended buffer setback distances should read: (4) Extended buffer setback distances. The department may increase buffer requirements based on site specific features, such as agricultural drainage features and site slopes, identified during the permit application review process. Any such buffer increase shall be incorporated into the permit at the time it is issued. For applications where surface applied biosolids are not incorporated, the department (or the local monitor with approval of the department) may require as a site-specific permit condition, extended buffer zone setback distances when necessary to protect odor sensitive receptors. When necessary, buffer zone setback distances from odor sensitive receptors may be extended to 400 feet or more and no biosolids shall be applied within such extended buffer zones. In accordance with 9VAC25-32-100 and 9VAC25-32-490, the board may impose standards and requirements that are more stringent when required to protect public health and the environment, or prevent nuisance conditions from developing, either prior to or during biosolids use operations.

Commenter: Boyd, Claire, representing Farmers

Concerned about the proposed buffers. The increase of the buffers to 400 feet would take out about 75% of area on our farm that we can apply biosolids. I have never read where an odor causes an illness or health effect. We need to promote the valuable use of biosolids, instead of restricting it. It is so much better than the use of commercial fertilizer.

Commenter: Broaddus, C. Bates, representing Farmers

Increasing regulations and buffers are a useless and unnecessary burden on our farm, and science and research has proven that current regulations and buffers are sufficient to meet health concerns. If buffers are allowed to be 400 feet, then soon that will be the required distance. This will mean many small fields will not get biosolids because it will not be worth the effort.

Commenter: Broaddus, John, representing Farmers

Increasing regulations and buffers are nothing but underhanded ways to try to ban biosolids. Besides

buffers make it more difficult to manage my field by creating a small strip that must be fertilized separately and never will match the rest of the field. So please do not allow the buffers to be increased to 400 feet, especially when there is no evidence to support this move.

Commenter: Broaddus, Lynwood, representing Farmers

Adding more regulations and increasing buffers are merely underhanded ways to ban a safe and beneficial recycled product. Buffers create added problems because it creates a separate field, which will never be as productive as the rest of the field.

Very pleased with the use of biosolids. Have used biosolids for several years. The proposed increase in buffers is a concern. A field with an area where biosolids is applied and an area (buffer) where biosolids is not applied looks like two separate fields. The 200 feet is a courtesy and is appropriate. The increase of the buffer from 200 to 400 feet is only going to make the handling and management of the nutrient levels in the field that much more difficult.

Commenter: Chambers, Jennifer, representing Virginia Agribusiness Council

DEQ's proposed automatic extension of buffers beyond the current requirement of 200 feet from an occupied dwelling is an issue of great concern for landowners who utilize biosolids. Unnecessary expansion of buffers to provide extra comfort to those who are concerned about biosolids applications causes real economic and production hardship for landowners who are receiving biosolids, with no scientific or environmental basis for the decision. Each time a buffer is extended, it practically means that less land within a tract can be utilized for biosolids application. For smaller farms and tracts of land, this may result in a loss of economic benefit for the farm or land application company to apply biosolids on the site. For the Commonwealth as a whole, this means more land elsewhere will need to be permitted and have biosolids applied to it, or that other, more costly, means of disposal of solids must be utilized. During the TAC process, it was agreed that the size of the buffer could be extended up to an additional 200 feet by DEQ based on documented site-specific conditions. This was not to be an automatic extension, but rather a considered decision by DEQ based on information presented by the occupant of a dwelling on adjacent property. The extension should not automatically increase the buffer to 400 feet, but rather only by the amount necessary to address the site-specific concern. Additionally, it was agreed that the buffer could be extended beyond 400 feet if the regional health director evaluates and certifies that such an extension is necessary to prevent specific and immediate injury to the health of an individual. DEQ should set a period of time by which the buffer extension request and subsequent decision must be made and the applicator notified prior to applications commencing. This will allow the applicator and the farmer to address alternative storage and transportation of product if necessary. DEQ should reconsider and amend its recently adopted guidance (Water Guidance Memo No. 10-2004, Revision 1 Implementation of Extended Buffers, Coordination of Health Complaints and Waiving of Buffers at Biosolids Land Application Sites, January 5, 2011), which utilizes a presumption in favor of extending the buffer to a blanket 400 feet upon request. Instead, DEQ should rely upon a case-by-case decision and based upon site-specific conditions to extend the buffer up to a maximum of 400 feet total, unless requested and certified by the regional Health Director to be further.

Commenter: Davis, Jr., Ivan P., representing Farmers

Before deciding to use biosolids, I talked to neighbors and researched and studied the use of biosolids. Have used biosolids for 9 years. The use of biosolids has enabled me to keep the farm as a farm. The farm teams with wildlife. Have had no issues from the use of biosolids. Greatly concerned with the proposal to increase the buffers and setbacks to 400 feet. The current rules and regulations have been effective. The use of biosolids is a benefit to us, the environment, and our neighbors. In 2009 the farm received the Chesapeake Bay Improvement Award - Clean Water Award.

Commenter: Elliott, Jr., Carter S., representing Farmers

Extending the buffers beyond what is necessary; just to provide some people with an extra level of

comfort is in my opinion harming all farms. Small farms especially will be affected, as it may not be feasible for the land application company to haul in his equipment for just a few acres here and there. As a result, the land does not get needed nutrients thus leading to a decline in that farm's productivity. In many cases the use of biosolids provides the difference between farm profitability and farm foreclosure. If restrictions are placed on farmers who have been farming for generations to provide new neighbors with an added comfort level, then the farm fails and our rural community will soon get paved over. To put restriction after restriction on the farms are increasingly making it harder for them to stay in business. When you hurt farming, you hurt the entire economy of Virginia. Please don't do anything to further hurt the farmers of Virginia.

Commenter: Fraizer, Katie, representing Virginia Agribusiness Council

I was a member on the regulatory advisory panel for the development of these regulations. I want to thank DEQ and staff for their professionalism and for all of their work on these regulations and working with the agricultural community. As it has been previously stated biosolids is a valuable resource for farmers and the agricultural industry in Virginia. Agriculture and Forestry are the number one industries in Virginia and rely on this product. I agree with the comments made on the buffers tonight. We will be submitting additional comments regarding amendments and minor tweaks to the regulations. Would welcome and encourage the use of a reconvened TAC to consider the recommendations made during the public comment period. We would appreciate the opportunity to work with DEQ in that phase of this effort. We support the biosolids use in the Commonwealth and would like to see this program to be user friendly and scientifically based and one that will allow the continued use of biosolids in the commonwealth wisely and safely.

Commenter: Garber, Jonathan, representing Farmers

Have a small farm in Augusta County. The farm has been in production since 1840. We have applied biosolids on 22 acres for 15 years and have nothing but good to say about the product and its impact on the fields. There have been no complaints or issues associated with our use of biosolids. Increasing the setbacks from 200 to 400 feet no cause buffer will have a drastic impact on the ability of a farmer to apply biosolids. There is no basis for this increased buffer. If it is increased we would no longer be able to apply biosolids to our fields. Our farm is under a Nutrient Management Plan. Urge the adoption of a set of regulations that requires adjacent landowners to show cause for requesting an expanded buffer. This should be based on scientific facts and/or medical conditions. Don't allow emotion or supposition masquerading as scientific fact to take the place of due scientific process.

Commenter: Gardner, Susan, representing Farmers

Veterinary in Bedford County - In practice since 1970 - Never seen an animal hurt or damaged by anything related to the use or application of biosolids. Urge that the regulation consider the science and not be diverted by emotions.

Commenter: Graf, Mary, representing Citizens

According to VDH Dr. Dwight Flammia, "the health department did not sponsor a study to determine what buffer length was appropriate for residences located near biosolids land application sites." He says that most likely, current scientific literature was reviewed, but there is no record of what parameters were used in deciding on the 100-400 foot buffers that are offered. According to another VDH physician, Mark Levine, regarding the issue of defining a safe buffer, "There is no systematic support for the buffers currently in use." He goes on to put forth a 1 1/2 mile buffer from dwellings, churches, schools, etc., based on the distance of the majority of complaints arising from sludge applications. In stark contrast, another VDH physician, Dr. James Burns, suggests that 400 feet is sufficient buffer for anyone, with any condition, "unless their heart is hanging outside their body". The issue of safe buffers is a grave one. Until there is peer-reviewed scientific research on safe buffers, the precautionary approach needs to be implemented in the regulations, requiring at least a one-mile buffer for occupied dwellings in the vicinity of application sites. This very request was made by over two hundred Campbell County citizens in letters to the DEQ. The DEQ response was a form letter that ignored their request.

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Two physicians with VDH, Mark Levine and Dwight Flammia, have declared that there is no scientific evidence that 200 - 400 ft. buffers are protective of health, and so the regulations do not conform to VA Code.

Commenter: Grove, Tim, representing Farmers

I would like to address the proposal to allow adjacent landowners to double the buffers around their homes and property lines without a cause. In a 2008 letter addressed to DEQ from VDH, VDH Deputy Commissioner James Burns writes, "There are no data indicating this increased caution is necessary, but we determined that providing these additional measures might make administering the program more practical...This should minimize the need for individual considerations." The recommended changes will burden land application contractors, Virginia farmers and ultimately the general public in order to lighten the work load for department employees -- all with Br. Burns' admission that there is no scientific or public health justification for the change. Increasing buffer zones will likely be interpreted by the public as a signal that the original distances were not protective. Extended buffers will not satisfy the homeowners who persistently complain about biosolids, and the department will still need to make individual considerations for those residents. VA farmers will lose more acreage to the new setbacks - as much as 4 acres per adjoining house and some smaller fields will be rendered impractical for land application altogether. To replace those lost fields, biosolids contractors will have to permit new farms, engaging more neighboring residents and increasing the footprint of biosolids application in VA.

Commenter: Harris, W.D, representing Farmers

We already have enough regulations. All of these extra buffers just mess up the fertility of the field and we have to come back in with commercial fertilizers to try to manage the fertility of these buffers areas. Biosolids is the best soil builder that we have to put on the land. In areas where biosolids is not used, there will be a whole lot more runoff. With the use of biosolids you get a whole lot more earthworms and therefore more infiltration. Ask for no more regulations.

Commenter: Harvey, Albert W., representing Farmers

My wife and I own 290 acres in the northeast corner of Spotsylvania County with about 100 acres open. When we bought the first 187 acres in 1954, we did not know much about farming but it didn't take long to realize our land was very poor and to grow anything we had to fertilize as heavy as we could. In the last several years, as fertilizer has become more expensive we have stopped raising crops except for hay and pasture for livestock. We were so thankful when someone told us about the biosolids program. It has been a wonderful blessing financially and our fields look better. We have used biosolids on our land for 7 years in full compliance with all federal and state requirements and have not seen any adverse effects to our land, livestock, the wildlife, the water or our family. In addition, we have not had any complaints from our neighbors. Please do not regulate the biosolids program beyond what science and research require, especially in boundaries as all of these areas are non-productive.

Commenter: Hatcher, Roger, representing Farmers

Buffers should treat biosolids as any other commercially available fertilizer. The proposed buffers are designed primarily in an effort to control odor. When the wind is blowing there is no difference between a 10 foot buffer and a 400 foot buffer when looking at odor. The proposed regs are overly restrictive.

Buffers should treat biosolids as any other commercially available fertilizer. The proposed buffers are designed primarily in an effort to control odor. When the wind is blowing there is no difference between a 10 foot buffer and a 400 foot buffer when looking at odor. The proposed regs are overly restrictive. Comparing the acreage lost be increasing a buffer from 200 to 400 feet does not seem too significant on a square 100 acre field with housing along one road front. While this may be typical in some areas of Virginia, it is certainly not the norm, More likely you find situations where long narrow fields are bound by a road. Once totally agricultural, these roads are increasingly attracting development. The resulting impact on the agricultural field across the road is at least 200 feet. The proposed regulation make 400 ft. buffers very easy

to obtain but with no scientific rationale. Even the Virginia State Health Department, which suggested this compromise, agrees that it is not supported by evidence or science.

Commenter: Hatcher, Will, representing Farmers

I am from Cumberland County. Biosolids is not dangerous. The increase of buffers because of odors is not the answer. An extra 200 or 300 feet will not affect the odor. It there is a better use for biosolids rather than land application, I don't know what it is. There needs to be a scientific basis for any proposed buffers.

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

Section 9VAC25-32-560 B 3 f relates to buffer zones. As discussed during the TAC process, an across-the-board increase in the buffers for occupied dwellings beyond 200 feet would impose significant hardships and difficulties for land application, particularly on smaller farms.VDH has consistently asserted that a buffer of 200 feet is more than adequate. Accordingly, there is no health or safety need to increase the buffer beyond 200 feet, and such an increase should only be done in limited circumstances. There should not be a presumption in favor of extending the buffer; any extensions should be case-by-case and based upon site-specific conditions. During the TAC process, it was agreed that the size of the buffer could be extended up to an additional 200 feet by DEQ based on documented site-specific conditions. This was not to be an automatic extension, but rather a considered decision by DEQ based on information presented by the occupant of a dwelling on adjacent property. The extension should not automatically increase the buffer to 400 feet, but rather only by the amount necessary to address the site-specific concern. Additionally, it was agreed that the buffer could be extended beyond 400 feet if the regional health director evaluates and certifies that such an extension is necessary to prevent specific and immediate injury to the health of an individual. The proposed regulation captures the essence of the agreement, but additional details are necessary about the timing and circumstances in which such an extension would take place.

The agreement reached at the TAC included the following limitations: (1) the request for the increased buffer can only come from an adjacent owner or occupant of a dwelling (not a property owner "in the vicinity" of a biosolids land application site, as described in the Guidance at p. 3); (2) the buffer area may be increased based on site-specific criteria; the amount of the increase should be limited to the minimum amount necessary to address the site-specific criteria but cannot exceed 200 feet; and (3) during the application process the request may be made in any manner; once the permit has been issued, the request must be made to DEQ and processed in accordance with VA Code § 62.1-44.19:3 (E) & (O).

Where a land applier voluntarily agrees to extend a buffer or adopt other more restrictive criteria in accordance with 9VAC25-32-560 B 3 h, there is no reason that the agreement should be provided to DEQ. The regulation itself states that these voluntary conditions do not become an enforceable part of the land application permit. Accordingly, there is no reason to include the requirement that such voluntary agreements must be reported to DEQ.

Commenter: Hazelgrove, Joe, representing Farmers

4th Generation Farmer - Century Farm in Cumberland County (Forkland Farm) - For the past 15 years have successfully recycled biosolids and never had an issue with the product or the applicator (Nutri-Blend). Have had numerous inspections on the county, state and federal level. The increase of the buffer to 400 feet would adversely impact and limit our farms productivity. With the current increase in costs, we don't need to lose any economic advantage through the use of biosolids by farmers. Let’s maintain a viable biosolids program.

Commenter: Hewitt, Greg, representing Farmers

I have been farming in Frederick County since 1976. I have about 1200 acres with beef cattle and crops. We must try to have regulations based on science rather than on public perspective. The proposed buffers are excessive.

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Commenter: Jones, V. Rea, representing Farmers

Farming, at best, does not provide a wide margin of profit. With the expense of commercial fertilizer, profitability is further reduced. With enough reduction in farm profit, the sale of land for other than agriculture purposes becomes more and more attractive. The loss of agriculture land and open space is much more of an environmental concern than any of the perceived issues of using biosolids.

Commenter: Kelble, Jeff, representing Shenandoah Riverkeeper

There should be expanded buffers for public access areas.

Commenter: Kondis, Dr. Edward F., representing Citizens

Property owners should be assured of their privacy and health. They should not have to be exposed to odors and airborne particulate matter from sewage sludge. Any citizen should be permitted to request and be granted a setback of at least one-quarter of a mile, 1,320 feet, between their private residence and any field upon which sewage sludge is being spread. DEQ has no real world experimental data to prove any lesser distance is safe for the health of citizens occupying their private residences.

Commenter: Martin, Popie, representing Virginia Blue Ridge Railway Trail

Had requested a greater buffer for the Virginia Blue Ridge Trail but was denied by the Board. A buffer from a public facility would need to be 1,500 feet. There needs to be a long and protected buffer for these types of outdoor public use facilities included in the regulations.

Had requested a greater buffer for the Virginia Blue Ridge Trail but was denied by the Board. There is sound science Research has been done by Dr. Susan Shipman at Duke University Medical Center on the odor from sewage sludge. She found that the odor from Sewage Sludge travels 1,540 feet. A buffer from a public facility would need to be 1,500 feet.

The other issue that was raised at the public hearing was over the use of the trail by health sensitive individuals or immune suppressed individuals. Dr. Alan Rubin, formerly at EPA, noted that there are certain people who are health impaired who should not be near sludge. There needs to be a long and protected buffer for these types of outdoor public use facilities included in the regulations.

Commenter: Martin, Steve and Popie, representing Citizens

It is important to prevent the application of sludge next to facilities that are used by the public. This rule should apply to schools, parks, trails, hospitals, etc. It is particularly important when the public use of the facility occurs out of doors. Aerosols from sludge travel over a distance of at least 535 feet and noxious odors with accompanying health effects can reach over 1600 feet. Therefore the present 400 foot buffer is insufficient protection for the users of public access facilities. A buffer on the order or 2000 feet should be considered.

Commenter: Martin, Steven, representing Virginia Blue Ridge Railway Trail

It is important to prevent the application of sludge near public facilities. This should include schools, parks, trails, hospitals, schools and the like. A buffer of 200 feet from public use facilities or properties is insufficient. This is especially important when there is outside use of a public use facility. Aerosols from sludge travel over a distance of at 535 feet according to studies done and noxious odors with accompanying health effects can travel over 1600 feet, therefore even a 400 foot buffer is insufficient for public access facilities. Recommend that a buffer of 2,000 feet should be required. This should not be a discretionary decision, it needs to be mandatory.

Commenter: McCracken, Phillip, representing Farmers

Have used biosolids since 1984. We have gotten along great with them. The proposed expanded buffers away from rocks and borders will make it almost impossible for the application of biosolids because

of the small area of the fields/farms that will be available for use of biosolids.

Commenter: McEvoy, Mike, representing Western Virginia Water Authority

Would urge that an increased buffer not be mandated.

Commenter: McGuire, Brian, representing Farmers

The regulations that are in place are more than sufficient. The expansion of the buffers from 200 to 400 ft is of a concern. The value of biosolids is approximately $350/acre. The expansion of the buffer would take several hundred acres out of being eligible for biosolids which relates to a substantial amount of money. If biosolids are excluded from these additional acres, then commercial fertilizers or alternatives, such as poultry litter will need to be utilized to manage these areas. The smell associated with poultry litter is significantly stronger than that of biosolids. Current neighbors have been very dissatisfied with the use of poultry litter in the existing smaller buffer areas. After the application of biosolids my neighbors wondered what all of the issues were about, since they couldn't smell anything. However, they were well aware of the odor of the poultry litter that I had used in the buffer areas. The quality of the soil has improved following the use of biosolids. We should give the farmers a thank you for being stance supporters of conservation. Farmers desire a thank you for the food that they put on our tables. If the regulations continue upon agriculture, the concern I have is what is going to happen to the water quality if we continue to dump as a lot of these plants do into landfills. That would be the ultimate environmental disaster. With the use of the current buffers we have lost several 100 acres from land that could receive biosolids.

Commenter: Mills, Jr., John N., representing Farmers

Why increase buffers to deprive the soil of the nutrients in biosolids when there is no scientific basis for doing so?

Commenter: Nance, Bill, representing Farmers

Has been applying biosolids to my farm for 20 years with no adverse impacts. Where you put biosolids is where it stays, it does not leave the application site. The regulation should be reasonable; use sound science and not do anything that will be harmful to farmers.

Commenter: Nelson, Bill, representing Farmers

I am a cash grain farmer and would like to echo the concerns of the previous speakers. Have used biosolids for over 20 years with great results. The recommendation to increase the buffers to 400 feet is really not an option for us. If an adjoining neighbor asks for the increase it will be granted. It does create a hardship. It does essential create two separate fields out of a single field. It will be an extreme hardship with managing the nutrients of the fields, by having to come back with commercial fertilizers. It will be difficult and expensive to try to management the plant nutrients in these increased buffer areas.

Commenter: Osl, Bill, representing Farmers

Have concerns over the regulation of a fragile industry with very thin profit margins (farming). Need to base the regulations on sound science. Do the appropriate cost benefit analysis on the regulations. Agriculture is the number one industry in Virginia. Tighter regulations will hurt agriculture. The expansion of the buffer is an issue. There is no sound basis for the increased buffers. The increase in buffers will cost farmers with no benefit to anyone. Help farmers to compete. Base regulations on sound science. Regulations that are too restrictive do not make sense. Don't play to politics. Use common sense and business friendly approaches.

Commenter: Ott, Morgan, representing Farmers

Biosolids have been used on Fauquier County for about 30 years. There have been no adverse effects. There is nothing that documents that there is a problem. The proposed buffers seem to be a "floating" buffer. The buffer is 200 feet but if a neighbor gets downwind of the application of biosolids the buffer will be

400 feet or 500 feet. It is not a standardized buffer. The proposed buffer violates the constitutional right of the land owner to use his property as he sees fit within reason. Farming and the application of biosolids for the nutritional benefit of his soil and crops to his property seems to a reasonable use. These buffers result in a farmer giving up the right to use his own property to a neighbor. There is no scientific basis for this increased buffer or the buffer around rock outcrops at 25 feet. The buffers of 100 from wells and house are reasonable. There has never been any scientific proof that biosolids is dangerous or toxic when applied as per the previous regulation. The proposed requirements for expansion of the buffers and the potash requirements should be reexamined. Maybe the old way is better.

Commenter: Poe, Ross, representing Farmers

Have used biosolids for over 20 years. Never had a complaint until last year. New neighbors moving into the area that don't know a thing about what it takes to farm just don't want it around. The use of biosolids has helped our and other farmers' bottom line. The proposed expansion of the buffers will take away about a 1/3 of the field area that I use for the application of biosolids. The expansion of the buffers will hurt everyone. The food situation is going to get serious. The buffer should not be 400 feet. Buffers should be set before spreading biosolids. Don't let the neighbors come in at the last minute to demand and get these expanded/extended buffers.

Commenter: Poe, Trish, representing Farmers

I am here to support my husband, Ross Poe and I am also representing 25 horse owners who all buy hay from my husband. He uses biosolids on 200 acres for the production of hay. The problem with these proposed buffers being extended to 400 feet is that it cuts into the land/acreage that can be used for the production of high quality hay. Farming is not an easy business. Farming is all about recycling. I am in favor of the use of biosolids.

Commenter: Powell, Mary, representing Applicators

Farmers should have access to biosolids. Do not over-regulate. Don't go beyond scientific reasoning. Increase of buffers will result in farmers losing access to a large portion of their properties. Management of acreage, some of which may only have partial application of biosolids will be difficult.

Commenter: Raine, Nancy V., representing Citizens

I will address health concerns with land application, having found general references to health in these amendments - they state that the buffer may be extended greater than 400 feet if the health department (VDH) determines it is needed to protect the health of an individual living nearby. I assume that the need for any buffer implies that given the known content of treated sewage sludge buffers are deemed advisable to protect human health and the environment.

We asked for the same set back given state roads for the right-of-way (our driveway) and use of alternate route for delivery of the treated sludge. Neither VDH nor DEQ, apparently, has the authority to do more than make a request to the spreaders for measures that would minimize impact on neighbors. DEQ did make such a request, which was not granted to it by Synagro. In our opinion, this is a case of the tail wagging the dog. If DEQ and VDH must get approval from industry to minimize impact on neighbors, especially in cases where there has been a history of negative impacts on health and quality of life, it is difficult for me to understand in what meaningful way the state agencies are regulating land application.

Commenter: Riddell, Jim, representing Farmers

Have used biosolids for over 25 years. Biosolids is the most regulated and prescriptive material used on the farm today. To my knowledge and based on the available documentation there have been no documented cases of ill health associated with the land application of biosolids. The draft regulations if passed will reduce the amount of land and biosolids that can be used on the farm. Farmers are avid stewards of the land and the water. The expansion of the buffers from 200 ft to 400 feet will be extreme and will restrict the beneficial practice of land applying biosolids. What is the basis and what is the data that

supports this proposed increase? Where is the science based information supporting these proposed amendments? Additional restrictions will limit the use of this beneficial practice. If you will remove these extreme restrictions we will be able to continue to use biosolids in Virginia.

Commenter: Ritchie, Jason, representing Farmers

We have been farming in Fauquier County for 5 generations. We have used biosolids for over 20 years. These proposed extensions of the buffers would wipe out a lot of the beneficial land that we could use biosolids on considering the size of our fields. The buffers around rock outcroppings would also take out a lot of usable land.

Commenter: Rosson, Charles A., representing Farmers

Have used biosolids for over 30 years. I have seen no effect on the family or cattle or neighbors. Concerned about the extension of buffers which will cut down on the field size especially with smaller fields. Another problem with the increase in buffers is the increased areas where commercial fertilizers would have to be used. Commercial fertilizers just can't match the soil nutrient improvement abilities of biosolids.

Commenter: Sharpe, Charles, representing Farmers

I live in Louisa County. My family has been raised hay and cattle for a number of years. We rent a lot of our land and if we make the buffer area larger then what it is it will make it difficult to farm and afford the fertilizers that will be needed for the increased buffer areas. There is a cost factor that needs to be considered. There is no runoff from biosolids. You can see a different line in the grass between where biosolids has been applied and where it is not applied. There is a marked difference in the quality of the crop and the fertility of the soil in the two distinct areas.

Commenter: Smedley, Scott, representing Virginia Biosolids Council

Section 9VAC25-32-560 B 3 f relates to buffer zones. As discussed during the TAC process, an across-the-board increase in the buffers for occupied dwellings beyond 200 feet would impose significant hardships and difficulties for land application, particularly on smaller farms. VDH has consistently asserted that a buffer of 200 feet is more than adequate. Additionally, there is no other science or research that provides any support for extending this buffer any further. The regulations propose to allow an increase in buffer requirements based on site specific features, and that any such buffer increase shall be incorporated into the permit at the time it is issued. The Board was asked during its recent public hearings to base its decision on science and decades of experience that demonstrate the safety of biosolids and their benefits to the environment. The VBC proposes to amend the proposed language by eliminating the following "...When necessary, buffer zone setback distances from odor sensitive receptors may be extended to 400 feet or more and no biosolids shall be applied within such extended buffer zones. In accordance with 9VAC25-32-100 and 9VAC25-32-490, the board may impose standards and requirements that are more stringent when required to protect human health and the environment, or prevent nuisance conditions from developing, either prior to or during biosolids use operations." Additionally, the subsection for monitoring and testing should be eliminated as well.

Commenter: Somerville, Walker, representing Farmers

I am a 6th generation farmer in Culpeper County. I have the 7th and 8th generation already getting involved on the farm as well, our grandchildren. We have a beef cattle operation on the Rapidan River. We have used biosolids without any adverse affects. Biosolids has been a great benefit to our family farming operation. The regulations are sufficient now. We are concerned with the buffers being proposed. We would like to see minimum amount of buffers.

Commenter: Staudinger, Henry J., and Jo Overbey, representing Citizens

DEQ has made clear that it will not identify individuals who may be entitled to extended buffer protection. Instead, it will leave it up to the VDH to identify such individuals only from a pool of individuals who contact it with a request for additional buffers. Since this proposed policy and practice does not ensure

protection to all those who need the extended buffer, the extended buffer right must be extended to everyone in the vicinity of each land application site. Thus, in order to comply with the Code, the regulations must provide: "Unless DEQ has identified all individuals who may be entitled to extended buffer protection, extended buffers must be extended to everyone in the vicinity of each land application site sufficient to ensure that they will not be exposed to sewage sludge constituents."

DEQ should also reconsider its guidance language with respect to reduction or elimination of buffers with written consent from the affected landowner as well as the resident if they do not own the dwelling. It is submitted that no one has the right to waive health protection for children that reside on a property adjacent to a biosolids land application site. It is further submitted that no owner of a property adjacent to a biosolids land application site should have the right to waive health protections for anyone not fully appraised of the risks or who are not in an economic position to waive the health protections set forth in the regulations.

If DEQ ensures identification of everyone entitled to an extended buffer, the regulations would have to ensure that the buffer applied is sufficient to ensure that health is protected. The draft regulations make no provisions for ensuring that extended buffers will be sufficient to ensure that health is protected. This, in order to comply with the Code, the regulations must provide: "If adequate extended buffers are not sufficient to ensure that health is protected, no land applications shall be made on the sites involved."

Provide buffer guidelines sufficient to ensure that health is protected. Failure to make clear that without extended buffers needed to ensure that health is protected, no land application of sewage sludge is allowed. The DEQ Draft Guidance on Biosolids Buffers memo sets forth a number of situations where the Code allows DEQ to extend buffers when needed to ensure that Health is protected. However, the memo fails to make clear that if DEQ fails, for any reason, to extend buffers needed to ensure that health is protected, no lawful land applications can be made. This is the case even if a permit has been issued. In light of DEQ's practice of ignoring this Code prohibition, the Buffer Guidelines are fatally defective.

The Guidance memo gives the false impression that it is VDH's primary responsibility to ensure that health is protected when sewage sludge is land-applied in Virginia. That is simply not the case. That responsibility was clearly transferred to DEQ under the Code. The Memo is based on the false assumption that VDH has scientific support for the adequacy of the proposed buffers, including 400 foot buffers, set forth in the Guidance Memo. The Memo also requires that individuals who need extended buffers request them, without ensuring that all such individuals will be clearly informed of that right. Until that is done, DEQ cannot ensure that health is protected. Under the Code, the responsibility falls on DEQ, not on unsuspecting victims who may not even be aware of the risks. Also, noticeably absent is any reference to adequate buffers to address nuisances if any unincorporated land applications are authorized by regulation and by permit.

The Guidance memo states that VDH holds primary responsibility for health related issues in the Commonwealth, without adding that DEQ holds primary responsibility to ensure that health and the environment are protected when sewage sludge is land-applied in the Commonwealth. The Memo then adds that VDH asserts that regulatory buffers of 100 feet from property lines and 200 feet from occupied dwellings provide adequate protection to the majority of the public. However, VDH did not make such a statement and provided no documentation. Instead, VDH only made that recommendation, with no assertion or documentation that those buffers would ensure that health was protected. Without documentation that such buffers would ensure that health was protected, the Buffer Guidelines are fatally defective.

The Memo indicates that DEQ would implement the extended buffer when requested. DEQ did not put in place a clear directive that the Permit Holder must ensure that all those who may be entitled to these extended buffers (200 from property lines and 400 feet from occupied dwellings) are made aware of this opportunity. Since it did not, based on the draft regulations, no land applications would be allowed under the Code. Without documentation that the extended buffers is sufficient, and with assurance that everyone is aware of the right to secure extended buffers, DEQ cannot ensure that health is protected.

Under the Code of Virginia, if extended buffers are not sufficient to ensure that Health Sensitive Individuals are not exposed, no lawful land applications are possible under issued Permits. Although VDH recommended that the regulations establish 400 ft buffers from occupied dwellings and 200 ft from property lines because of the risks to health sensitive individuals, DEQ declined to do so, leaving those 200 ft buffers from occupied dwellings and 50 ft buffers from property lines. The draft regulations recognize DEQ's authority to impose extended buffers when needed to ensure that health is protected. However, the draft regulations also make clear that this is a may, not shall obligation. This permissive language is consistent with the Code, in that the Board is authorized, not obligated to impose sufficient buffers that ensure that health sensitive individuals are not exposed to sewage sludge. However, the draft regulations do not make clear that when DEQ fails to impose adequate buffers to ensure that such individuals are not exposed, the Code prohibits all land application in the vicinity of such individuals. This must be addressed by inclusion of the following language: "When buffers are not extended by DEQ as needed to ensure that Health Sensitive Individuals will not be exposed to constituents in sewage sludge, no land applications are allowed in the vicinity of health sensitive individuals."

VDH recommended that DEQ establish 400 ft buffers from occupied dwellings and 200 ft between all property lines at which the public may have access and any part of the application site in 2008. However, DEQ failed to include even these inadequate VDH recommendations in the draft regulations. VDH also confirmed that it could not document that a 400 ft buffer would be sufficient to ensure that health sensitive individuals would not be exposed. The draft regulations address this uncertainty as follows: "Buffer may exceed 400 feet where an evaluation by the Virginia Department of Health determines that a buffer in excess of 400 feet is necessary to prevent specific and immediate injury to the health of an individual." Unfortunately the draft regulations require that VDH meet a criteria totally unrelated to DEQ's obligation to ensure that health is protected. If the Code requirement is to be met, the following language must be included by the Board in its amended regulations, the regulations must provide: "If DEQ fails to document that buffers extensions have been put in place to ensure that health is protected, no land applications can be made on any site at which such extended buffers are needed."

With respect to extended buffers from occupied dwellings, DEQ has made clear that it will rely on VDH to establish those buffers. However, this requires that VDH document that any extended buffer it recommends will be sufficient to ensure that health is protected. Thus in order to comply with the Code, the regulations must provide: "Any extended buffer recommended by VDH shall be the minimum buffer for land application unless VDH documents that the recommended buffer will protect health. DEQ must independently verify if additional extended buffers are needed to ensure that health is protected. No land applications shall be made on sites where DEQ has not documented that a sufficient buffer is in place to ensure that health is protected." It remains unclear to what extend DEQ will actually determine whether any extended buffer will actually ensure that health is protected. Thus, in order to comply with the Code, the regulations must also provide: "Where an evaluation by a medical professional determines that a specific buffer is needed to ensure that the health of a person in the vicinity of a land application site is protected, that buffer shall be the minimum buffer unless DEQ is able to document that a lesser buffer would be adequate to ensure that the health of such individual is protected."

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

The proposed buffer language does not adequately reflect the TAC's general consensus on an approach that would allow for automatic extensions of buffers from 200 feet up to 400 feet upon request.

Commenter: Stevick, Stephen M., representing Citizens

Contrary to USEPA regulations, the proposed setbacks do not appear to be risk based, but arbitrary. Absent clear standards for setback requirements, specifically the assumptions regarding the need for setbacks (e.g., contents of sludge, clearly stated public health and environmental considerations requiring setbacks, the basis for setback computations and the specific applicable setback computation) the setback

requirements are arbitrary, inconsistent, and lacking of scientific integrity.

Each right-of-way (ROW) presents a unique circumstance. Unique circumstances require unique standards. For example, setbacks for private driveways and ROWs should take into consideration the unique and often increased exposure to which the user is subjected. That exposure may be significantly different from that experienced on public roads for the following reasons: a. ROWs vary in length: The longer the ROW the greater the exposure; b. ROWs often represent the sole access to one's home or property, thereby subjecting residents, relatives, friends, agents, etc., to repeated, extended exposure and denying user(s) the option of alternatives often afforded users of public roads; c. Sludge may be spread on both sides of the ROW, thereby enveloping the user in a higher risk environment; d. ROW maintenance, gate openings, mail, newspaper delivery, etc. require extended on site presence; and e. ROWs dependent users with health issues or those who are particularly sensitive to the airborne pollutants of sludge or whose medical condition presents greater risk are more subject to the adverse effects of exposure to sludge. Allowing sludge along a private ROW ("along" meaning within the maximum setback allowed under the regulations) should be prohibited, unless holders of the right of way specifically and formally approve of the proposed use.

Commenter: Stratton, Tom, representing Farmers

I have had chronic bronchitis. Different things will attack different people. I visited to a number of farms that applied biosolids, before I applied it on my farm. Increase in setbacks or buffers will have a drastic effect on smaller farms. It would eliminate them from being able to use biosolids.

Commenter: Strother, Charles E., representing Buffers

Concerned that this regulation is very draconian by the extension of the buffers. Our farm borders Sky Meadows State Park. We have a huge amount of woods on our back pasture that is in Sky Meadows State Park. If we have to go to back 400 feet all the way around, approximately 60% of the field we will lose the benefits of putting the biosolids on. The other end of the field is too steep to put biosolids on. We also have a lot of rock outcrops (knolls). The current distances from those are fine. There is no sense to make an "Ivory Tower" solution to extend the buffers around those. I am very much against doing that.

Commenter: Taylor, Claiborne, representing Agri-Services

I have worked with biosolids for over 20 years. First DEQ managed the program and then it got shifted to VDH and now it is going back to DEQ. When DEQ first had the program they originally had buffers that were based on science that were doubled to be extra safe. Those buffers were the same as those in the current regulation. Now it looks like the proposed buffers are going to be double that again so that we will be 4x as safe. This increase is unnecessary. I agree with all the comments made by the previous speakers.

Commenter: Terrell, Miles S., representing Farmers

I live in Caroline County. I have used biosolids for over 30 years. Have had good results, just can't get enough biosolids to use. Don't let the buffer be any larger than it is today.

Commenter: Tignor, Jr. Allen, representing Farmers

Have used biosolids for years with great results. One of the issues that I am concerned with is the increase in buffers which has been raised by previous speakers. I work a lot of small fields, if they are extended too much it eliminates larger areas of the farm where I cannot use biosolids.

Commenter: Trumbo, Susan, representing Recyc Systems

Recyc Systems recognizes the benefit to the Department of having fixed buffers for which they can reference and utilize. However, we believe it was the intent of the TASC for an additional buffer up to 200 foot not a default of 200 foot and a buffer greater than 200 foot would require documentation of a need to be evaluated by the Department of Health. We understood the Department would take into consideration site specific criteria when implementing the additional buffer. Recyc Systems is opposed to implementation of

additional buffers by the Department without prior notice to the permit holder. Consideration must be given by the Department to active field operations. We also note that State Code provides for a 14-day notice to the permit holder by the Department.

We have heard much discussion and comment regarding setbacks from adjoining property lines and residences. It is our opinion that no agreement will be reached nor should it be determined by a polling of stakeholders with the majority winning. Rather the recommendations of experts such as those who served on the Expert Panel and the Technical Advisory Committee must be followed. We note that the Department of Health has consistently supported the 200 foot buffer from residences as protecting health.

Commenter: Turpin, Richard B., representing Citizens

Set backs from property lines, roads, drainage, etc. must be 400 feet.

Commenter: Wagner, Steve, representing Farmers

Excessive regulations such as extended buffers on roads, houses, rivers, etc., are cumbersome already and in need of review. They make applications on small farms (40 acres of less) impossible to apply.

Commenter: Wilkenson, Ricky, representing Farmers

5th Generation Farmer - Extending the buffers as proposed will only hurt the farmer.

Commenter: Willingham, Alton, representing Farmers

Have been using biosolids since it was available in Fauquier County, for 25-30 years. There has been so much work that shows that biosolids is harmless, there doesn't seem to be much reason to talk about it further. There are only 3 ways to dispose of biosolids: put it in the streams, burn it or put it on agricultural land that has been shown totally safe. The use of biosolids has meant a lot to me. I chose to farm. I am 88 years old and hope to stay on the farm for the rest of my life.

The buffers on my farm include a 200 foot buffer along a road which results in a wide space that has different growth of vegetation and serves no purpose. The buffer/setback from my neighbors, a housing development, is also 200 feet. I have asked the neighbors (the Secretary of the Housing development) for a waiver of 100 feet of that buffer. The housing development is set back off of the property line, approximately 1/2 mile. I am dependent on a neighbor to make a decision on what I can do with my land. The buffer should be considered conditional on the soil and the location of houses. I would have to discontinue farming if I had to discontinue the use of biosolids and have to rely on commercial fertilizer. Only complaint I have hear about with the use of biosolids is odor. That is no reason to restrict it. There is no evidence that odor is harmful.

Commenter: Winn, William and Barbara, representing Citizens

Proposed changes of a protective border (buffer area) of application on fields should have provision for 1) intervention by chemically sensitive individuals and 2) implementation by a responsible person involved as well as a public record of such. We further wish the buffer zone be at least 400 ft. wide and include a provision for authority/recording, etc. to increase if needed for special cases.

DEQ Response to Comments: Buffers and Setbacks, Health and Odor Related Setback Extensions

The topic most discussed by commenters was the buffer, or setback distance, from homes and property lines. In the proposed regulation, DEQ incorporated existing guidance established for setbacks from homes and property lines into the regulation. This guidance, developed in concert with VDH, establishes a procedure whereby the standard setback distance from an adjoining occupied dwelling home is 200 feet and 100 feet from a property line. An adjoining resident or landowner can request that the setbacks be doubled in distance to 400 feet from an occupied dwelling and 200 feet from a property line. This extension would be granted "upon request" by the owner or occupant, without a requirement to verify existence of any medical condition.

Comments were split between those asserting the setback distances should not be extended, and those that felt the setback distances should be significantly increased.

The primary focus of comments regarding residence and property line setbacks received from farmers, land appliers and wastewater treatment facilities stated that: 1) the length of the setbacks were not scientifically based; 2) the extended setback distance was only established for administrative convenience; 3) the setback procedure did not conform with the consensus of the TAC; 4) the additional setback request should be evaluated on the basis of the purpose of the request instead of being granted upon request; 5) the ability to request a setback extension on the same day as land application potentially presents a significant operational problem to land appliers and farmers; 6) the additional cost of fertilizing the area in the setback is potentially a hardship to farmers and could limit farm productivity; and 7) the increased distance could eliminate some smaller farms from being able to receive biosolids.

The primary focus of comments from citizens concerned about the use of biosolids stated that: 1) the length of the setbacks are not scientifically based; 2) there is no evidence the setback distances are protective of health, resulting in potentially not satisfying a statutory mandate; and 3) some selective studies have indicated odor from biosolids can travel approximately 1500 feet; thus, setbacks should be larger.

While the setback language in the regulation has been clarified, DEQ does not propose significant changes to the residence or property line setback distances. This is due to the fact that the distances and justification for extension to protect public health is based upon guidance from physicians at VDH with experience in evaluating biosolids setback extension requests. The distances proposed by VDH are based upon the science related to transmission of pathogens, with the addition of a safety factor intended to provide an abundance of caution for those persons whose immune systems have been compromised by illness or other medical conditions.

In its 2008 Report to the Governor and the General Assembly (House Document No. 27), the Governor's Expert Panel on Biosolids stated the following:

> *In early discussions, the Panel agreed that addressing the questions surrounding citizen-reported health symptoms should be its highest priority. In the past 18 months, the Panel uncovered no evidence or literature verifying a causal link between biosolids and illness, recognizing current gaps in the science and knowledge surrounding this issue. These gaps could be reduced through highly controlled epidemiological studies relating to health effects of land applied biosolids, and additional efforts to reduce the limitations in quantifying all the*

> *chemical and biological constituents in biosolids. While the current scientific evidence does not establish a specific chemical or biological agent cause-effect link between citizen health complaints and the land application of biosolids, the Panel does recognize that some individuals residing in close proximity to biosolids land application sites have reported varied adverse health impacts.*

Regarding odor and health impacts:

> *The Panel recognizes that odors from biosolids could potentially impact human health, well being and property values, but could not confirm such an impact or the extent of such an impact based on the current body of scientific literature and information presented directly to this Panel.*
>
> *In response to its findings related to this question, the Panel recommends:*
> *a. The TAC should examine the DEQ regulations pertaining to odor, including considering that municipal biosolids generators be required to have odor control plans.*

Additional information pertaining to the expert panel and the final report can be accessed at http://www.deq.virginia.gov/info/biosolidspanel.html. The panel determined that "as long as biosolids are applied in conformance with all state and federal law and regulations, there is no scientific evidence of any toxic effect to soil organisms, plants grown in treated soils, or to humans (via acute effects or bio-accumulation pathways) from inorganic trace elements (including heavy metals) found at the current concentrations in biosolids."

Historically, VDH responded to reports of adverse health impacts by doubling the setback distances from residences or property lines. VDH did this in conformance with state law and regulations in place at the time. DEQ's proposal to continue the practice of doubling the setback distances, albeit in a different administrative fashion, represents conformity with previous VDH practice and a regulatory precedent that was demonstrated by VDH to be protective of human health and thus statutory requirements. Additionally, DEQ has proposed that odor control plans be required when biosolids are land applied in order to reduce the potential for odor to impact human health.

With respect to the administrative procedure proposed to grant setback extensions upon request, DEQ proposed this procedure based on TAC discussions. When the VDH representative on the TAC suggested <u>all</u> residence and publicly accessible property line buffers be extended based on the difficulty in ensuring all persons with certain medical conditions were identified, the TAC discussed options to address the time lag necessary to evaluate a newly identified health complaint. The concept of granting a standard buffer extension "upon request" rather than a time consuming and unpredictable evaluation process that potentially affects land application operations was generally agreed upon as a reasonable compromise.

With respect to a buffer extension request received after biosolids has been delivered to the field, DEQ responded to a recommendation from the reconvened TAC and included a limitation on the buffer extension request specifying that any such request must occur to DEQ at least 48 hours prior to the commencement of land application. The request must then be communicated to the permittee at least 24 hours prior to land application, unless a request to extend the buffer is received from VDH. DEQ will add this requirement as a permit special condition that establishes this procedure at the time of permit issuance.

To address concerns voiced regarding setbacks from schools, hospitals and other such facilities DEQ added a minimum setback requirement from these "odor sensitive receptors" (defined in the regulation) to be a minimum of 400 feet. The setback from publicly accessible property lines is proposed to be 200 feet. These setbacks are also based on guidance from VDH.

Concerns were expressed about the cost of fertilizing farmland, the inability to fertilize setback areas and the need to substitute alternative fertilizers for these areas. Although there is a benefit to the use of currently "free" fertilizer, the inability to use biosolids in setback areas is potentially offset by the reduced cost of fertilizer in the areas that do receive biosolids as well as the administration of a standard and predictable setback extension procedure. In addition, some commenters expressed concern that some small fields may be ineligible for biosolids application due to setback distances. It is likely that some areas and farm configurations are not optimally situated to take full advantage of fertilization with biosolids.

Subject: DEQ's Handling of Complaints

Commenter: Davis, Donald, representing Citizens

My water supply is from a well in my yard that is 510' deep and the water in it is only 20' below the surface. Last month my neighbor, a dairy farmer, spread biosolids only 100' from my house and 120' from my well. Have those poisons gone into my water supply? Is it safe to drink the water now? If my neighbor spreads biosolids again, in violation of the 200' regulation, who can I call to report the violation?

Commenter: Foster, Ed, representing Citizens

There needs to be a contact person 24/7 and not an answering machine. When sludge is delivered at 3 in the morning and something goes wrong, what good is an answering machine?

DEQ Response to Comments: DEQ's Handling of Complaints

Citizens who wish to report an alleged violation or register a complaint should contact their local DEQ regional office. Regional contact information can be obtained by calling (804) 698-4000 or 1-800-592-5482, or referring to the DEQ website at www.deq.virginia.gov/regions.

§ 62.1-44.19:3.C.9 of the Code of Virginia prescribes that DEQ regulations include procedures for the prompt investigation and disposition of complaints concerning land application of biosolids, including the requirements that (i) holders of permits issued shall report all complaints received by them to DEQ and to the local governing body of the jurisdiction in which the complaint originates, and (ii) localities receiving complaints concerning land application of biosolids shall notify the DEQ and the permit holder. The statute also requires that DEQ maintain a searchable electronic database of complaints received during the current and preceding calendar year, which shall include information detailing each complaint and how it was resolved.

DEQ procedures for handling complaints regarding land application of biosolids are as follows: All complaints received by DEQ are promptly investigated by regional biosolids inspectors. Most complaints require a site visit to collect information. Inspectors assign each complaint a unique identifying number and enter it into a searchable electronic database maintained by DEQ. This

database was initiated in 2008 when the Biosolids program moved to DEQ from VDH. If the complaint occurs after hours, the Pollution Response Program (PREP), which is in place for emergencies and after-hours calls, handles the situation and refers the complaint to biosolids inspectors as required.

Other information entered into the database by inspectors includes: Inspector's Name, Incident Response (IR) number, Date, County, Type of Complaint (Biosolids, Industrial Waste, Poultry or Manure), Permit Number, Site, Location, County contacted, Responsible Party Contacted, Others Present, Responsible Party Name, Reasons for Complaint and Inspection (such as truck traffic, tracking out, buffers, health, odor, signage, runoff, signage), Observations/Comments, Corrective Actions Needed, VA Dept. of Health Regional Director Contacted, VDH Recommendations, Case Status, and Field Inspector ID.

The categories of required information entered into the data base indicate what information the inspectors must collect during their investigations from the complainant, from the site and from all the parties involved. DEQ receives complaints via phone, email and personal contact. Health complaints are referred to VDH for follow up as needed. The data base provides information to guide program decisions and constant review of the complaints allows staff to take proactive steps to resolve issues.

Subject: Emerging Contaminants in Biosolids

Commenter: Clabough, Jeanne W., Ph.D, representing Citizens

I have followed closely the controversy over the use of sewage sludge as a fertilizer on Virginia's farmlands. While this process is a good way to recycle human wastes, there is not enough research data available currently as to the safety or potential harm of certain pathogens, heavy metals, pesticides and other elements that can remain unchanged in "treated" biosolids. For example, prions (the non-living molecules that cause mad cow, scrapie, chronic wasting and Creutzchfeldt-Jakob diseases) are markedly resistant to inactivation by heat, ultraviolet light, x-rays, and even formalin and can lie dormant in soil for years until a suitable host ingest or inhales them passing them on to species that then consume it. Human waste is a cost-effective (and profitable) fertilizer and a convenient way to dispose of sewage, but until a lot more is known, a moratorium should be place on spreading it. The spreading of biosolids should not even be debated. It should be the subject of intensive research into contents, effectiveness of treatments, and long-term consequences. Some such research has already been published in reputable scientific journals and is available to the public and to those responsible for public and environmental safety and quality.

Commenter: Davis, Brandon P., representing Shenandoah County

Adequacy of review of scientific literature: A recent peer-reviewed academic article questions the entire EPA regime which has determined that biosolids are safe for human health and the environment and upon which the Commonwealth has relied for the scientific validity of its biosolids program. The abstract for this article includes: "...Section 40 of the Code of Federal Regulations Part 503 regulates the land application of sewage sludge based on pathogen content...A critical inspection of the pertinent literature, however, reveals that the standards are based on outdated methods, outdated data, inaccurate data, and flawed assumptions, leading to underestimation of risks. The standards are not sufficiently protective...the practice of land application of sewage sludge must be discontinued...Another significant problem with Part 503...is that thousands of new chemicals have been produced, used, and released since 1990, and there are new pathogens of concern that have not been considered since the initial standards went into place...(citation: "A

Critical Review of the U.S. EPA's Risk Assessment for The Land Application of Sewage Sludge," Jennifer M.J. Mathney, New Solutions, Vol. 21(1) 43-56, 2011). Before making final changes to the regulations under revision, DEQ and the SWCB should establish a transparent process whereby the public's confidence in the review and use of pertinent scientific literature is obtained and maintained.

Commenter: Fowler, Jason, representing Self

The study also laid the steps toward further action and the needed conclusion (in my opinion) - which is to end our willful ignorance--to end our denial that sludge is an active collection of toxins. (Reference: EPA Study: Biosolids: Targeted National Sewage Sludge Survey Report - EPA-822-R-08-014). It is time for the state of Virginia to begin awaking from the fantasy that biosolids is both consistent in its chemical composure and entirely safe for the people and the land. We cannot continue ignoring the highly potential hazard that biosolids poses to our communities. It is irresponsible and for some who know better -- I believe it is criminal. The future of our great commonwealth rides on the ability for its leaders to respond to its people. Will you not magnify the voice of the people as we demand for an end to the blind eye and the blank check that has been handed to the municipal sewage management industry? May the Powers that Be in Virginia government and business fall under the grace of GOD in this matter. (Additional scientific studies cited: http://sourcewatch.org/index.php?title=Scientific_Studies_of_Sewage_Sludge; as well as this news report" Anna Werner Investigates: Organic Compost or Toxic Sludge? where Hugh Kaufman, an EPA senior policy analyst also questions the safety of biosolids.

Commenter: Gibson, Dave, representing Citizens

Since the last peer review of USEPAs work on sludge more than 30 years ago, plants have consistently proven to be outstanding factories for antibiotic-resistance and vibrant laboratories for culturing gastroenterological creations which tend to lower immunological response. In the absence of contrary and conclusive evidence that municipal sewage sludge can be safely applied - both chemically and biologically - Virginia's proposed changes expose the public to unreasonable risks.

The proposed amendments would further promulgate management standards for sewage sludge applications which have not been tested or reported to the public. A 2002 National Research Council panel and publication ("Biosolids Applied to Land: Advancing Standards and Practices", 2002) found that "epidemiological studies have not been conducted on exposed populations, such as biosolids appliers, farmers who use biosolids on their fields, and communities near land-application sites" and that "USEPA does not have an adequate program to ensure compliance with the biosolids regulations and has not documented the effectiveness of its prescribed management practices."

Commenter: Henderson, Jim, representing Citizens

The risks incurred in using sludge on agricultural land are subtle and hard to quantify, however experience, research, and common sense show us they are real. These regulations do not require or ensure that the responsible agencies perform "due diligence" in determining the causes of the reported bad results nor that they will adequately evaluate the overall risk to the food chain, the general population, and the environment as required by VA Code.

Commenter: Kirkpatrick, Marcia, representing Madison County Residents

I would hope more could be done to educate the public about the contents of this material, basically urban waste. Everyone needs to know that it is just not processed human excrement (questionable enough), but also every type of household waste, from Drano to rat poison, to say nothing of waste generated by businesses and the numerous industries whose waste disposal is not regulated. Once the deed is done, it isn't reversible, except hopefully, by time. The effects, of course, are not confined to the fields where sludge is spread, but move, through runoff, into streams, affecting wildlife -- some of which is consumed by humans -- and via the streams to the land of many others down the watershed.

Commenter: Kondis, Dr. Edward F., representing Citizens

Public Comments and Department Response to Public Comments

DEQ makes no reference in the proposed regulations to the latest EPA scientific information noting the 120 toxins in sewage sludge from the 2009 TNSSS, even though members of the SWCB voiced concerns. The Internet contains thousands of reports by scientists and health professionals throughout the world voicing concerns about the detrimental effect on human and animal health from toxins found in sewage sludge. DEQ has ignored all this scientific information. DEQ is supposed to protect human health, yet DEQ has no scientific risk assessment study showing that public health is protected. To protect public health, DEQ must determine safe limits for ALL of the toxins identified in sewage sludge. DEQ has never determined these safe limits.

DEQ needs to obtain a legal opinion from the Virginia Attorney General to determine whether spreading sewage sludge containing the specific steroids, pharmaceuticals and hormones, as well as marijuana, cocaine, LSD, and other drugs dumped into city sewers and found in sewage sludge, is a violation of the U.S. Controlled Substances Act.

Commenter: Layton, Katharine, representing Self

Thank you for the notice, but it occurred to me after reading through the attached pages of redundant, misleading, and too often nonsensical summaries that the basic safety issues that have been brought to the attention of all concerned have yet to be properly addressed. I am having great difficulty understanding the purpose of the public comment period if serious comments and concerns are only falling on deaf ears. Is this for real or just a done deal procedure? Once faith in the system is lost, it will be difficult if not impossible to restore. I do not think that this will just go over everyone's heads.

Commenter: Lorien, Joy, representing Citizens

Myth: "Sludge is a fertilizer" - Fact: According to the Federal Clean Water Act, sewage sludge is a pollutant. Myth: "Sludge only contains what's flushed down household drains or toilets." - Fact: Sludge contains industrial hazardous chemical compounds, toxic metals, surfactants, pharmaceuticals, carcinogens, and disease causing pathogens. Every month every business and industry in the country is allowed to discharge 33 pounds of hazardous waste into sewage treatment plants. Most of these contaminants concentrate in the resultant sewage sludge.

Sludge contains regulated amounts of 10 heavy metals, salmonella and fecal coliform. What else might you find in sewage sludge? - Alkylphenols and alkylphenol ethoxyates, dioxins and furans, flame retardants, heavy metals (including some that are not regulated), hormones, steroids, and more.... The question is what are you putting in your mouth when you eat food grown in sludge? The answers to the sludge problem are upstream ones. We shouldn't make such toxic substances if we don't have a way to dispose of them. So, sure, it’s a problem to figure out where to put all of the sewage sludge. But lying that it’s safe and then selling to unsuspecting gardeners ain't the answer.

Myth: Sludge is safe because it is tested." - FACT: Only a fraction of the tens of thousands of man-made chemicals in this complex mixture is tested and regulated. Regulating and monitoring individual components, while ignoring the toxicity of breakdown products and interactions, does not assure safety. A 2002 National Academy of Science (NAS) panel warned that the risks of this unpredictable contaminated waste cannot be reliably assessed.

Commenter: McClain, Rodney, representing Shenandoah County Department of Public Utilities

We have land applied biosolids in Shenandoah County in the past. We now find it less expensive to take the materials to the landfill for disposal. Being conservative, We have to do that for our customers. I do not feel that this is the final and best resolution for biosolids or treated sewage sludge. I support the work that DEQ has done in pulling together this evaluation of the regulation. Concerns have been raised in Shenandoah County regarding the import of biosolids into the county. This concern is primarily because of the unknown composition of the biosolids. I believe that land application of biosolids can be done safely. I would hope that we are not going down the road to shut the door on land application of biosolids.

Public Comments and Department Response to Public Comments

Commenter: Mitchell-Watson, Leslie, representing Friends of the North Fork of the Shenandoah River

Given the largely unknown chemical composition of sewage sludge and the resultant lack of information regarding the fate, transport and effects of these materials, much more stringent regulations are required to ensure the protection of human health and the environment. Sewage treatment plants are not designed to remove many of the chemicals that are currently entering the waste stream - they also end up in the sludge. To ensure the protection of surface and ground water resources, the regulations should require a more complete chemical characterization of sewage sludge. All biosolids permitted for land application should first be monitored for an expanded list of pollutants that are known to occur in sewage sludge. At a minimum, 9VAC25-32-356 should be revised to require biosolids be analyzed for aluminum, barium, beryllium, boron, calcium, manganese and silver (identified by EPA as metals of concerns in sewage sludge). Given the weight of circumstantial evidence indicating the prudence of including additional chemical analyses and the total lack of scientific evidence to support the safety of these materials, a more conservative regulatory approach is warranted. It is time for the burden of proof to be shifted to require that biosolids be proven to be safe prior to being land applied throughout the Commonwealth.

I would echo the comments made by Ms. Hughes, Mr. Atwood, and Ms. Gessner. The revised regulations do not address or alleviate our concerns which remain (1) the largely unknown content of the sludge, (2) application of sludge to geologically and ecologically vulnerable sites, and (3) insufficient requirements in the regulations to protect the environment or human health. We object to the revised regulations because they do not address the failure of the existing regulations to protect the environment both for humans and wildlife. Therefore, we look forward to DEQ publishing revised regulations that protect the environment from land application of sewage sludge.

Commenter: Pence-Lanstot, Amy, representing Madison County Residents

There is not scientific information to deem the land application of biosolids as "safe". Has this procedure been exhaustively and repeatedly tested until there is proof that this will not contaminate the food chain or rivers, streams and creeks that flow into rivers and the bay downstream? I don't believe the chemicals used to treat it can neutralize all the things that are in biosolids. I believe this procedure needs more scientific research before it is released into our environment.

Commenter: Ritchie, Bruce, representing Citizens

I am concerned that "biosolids" are being applied to farmland that is in the human food chain. It appears to me that there are inadequate studies, and ample opportunity for complex chemicals from household cleaners, to industrial wastes, and any number of chemicals/compounds that are not normally in a healthy/natural food chain, to be present. Other concerns include hormones, antibiotics, medicinals, chlorines, heavy metals, and oil/hydrocarbons. There is also the combining of these compounds while they are comingled in our sewage system. It matters little of the crop grown is for animal consumption, if we then eat those animals. I have not heard of any studies locally that have even begun to address the complexity of the chemical issues surrounding sewage sludge, and its addition into living soil/plant systems. We must be guided in our public policy by the precautionary principle...it would be irresponsible to continue to use sewage sludge (biosolids) within the living environment, unless we can account for the overall safety, and the lack of these many dangerous components in our fields/crops. First, do NO HARM! Thank you for doing what is required to ensure the health and safety of our citizens and our environment/food chain.

Commenter: Van Drie, Gerhardt, representing Sludge Watch

Crops absorb pharmaceuticals from sewage sludge spread on farmlands. Agricultural crops can absorb pharmaceuticals found in the water used to irrigate them or the sewage sludge used to fertilize them…When humans consume pharmaceuticals, active traces of those drugs are excreted in their feces and urine. Modern treatment methods for water and sewage do nothing to remove these biologically active chemicals...

DEQ Response to Comments: Emerging Contaminants in Biosolids

The vector attraction and pathogen reduction sampling and testing regulations are consistent with current EPA 503 biosolids treatment requirements. The metals content and nutrients in biosolids are tested monthly both by the generators and the VPA permit holder for the larger generators. Smaller sized generators are required to test at a reduced frequency. There also are non hazardous waste declarations submitted by the generators for their produced biosolids. All of these biosolids treatment practices are designed to be protective of human health and the environment. While research is an ongoing process, these practices are protective due to their conservative design. Research into “emerging pollutants” is an ongoing process in all permitting programs at DEQ and new criteria are adopted when deemed necessary through the Triennial review process and subsequently incorporated into permits.

DEQ retained the regulatory provision that additional sampling and analysis may be required for site-specific or unusual circumstances, but did not add any additional analysis requirements. The regulation maintains broad site-specific authority to request additional information in cases where additional scrutiny is warranted. If evidence that elevated levels of a problematic constituent exists, sampling may be required by DEQ.

With respect to constituents found in the most recent EPA Targeted National Sewage Sludge Survey (TNSSS), EPA does not have information at this time indicating a necessity to restrict application rates or modify the current acceptable limits for land applied biosolids. EPA states that “the results presented in the TNSSS Technical Report do not imply that the concentrations for any analyte are of particular concern to EPA. EPA will use these results to assess potential exposure to these contaminants from sewage sludge.” Although presence of certain targeted analytes was detected, EPA states that “it is not appropriate to speculate on the significance of the results until a proper evaluation has been completed and reviewed.” DEQ will continue to monitor EPA technical surveys to determine if any program changes are appropriate for the Virginia biosolids program.

Subject: Enforcement of Biosolids Regulations and Permits

Commenter: Graf, Charles, representing Citizens

Oversight of the sewage sludge "biosolids" program was transferred by the General Assembly from VDH to DEQ because DEQ would be able to better enforce the regulations. In the regulations draft is a section called "Compliance with Regulations and Disciplinary Action". Nowhere in this section is the word "shall" used, but only the weak and ambiguous word "may". As we're finding out here in Campbell Co., this very wording is allowing the department to say that no disciplinary action will be taken following the mistaken spread on 22 acres. DEQ claims that no harm was done and so there will be no consequences. When I get a speeding ticket and I claim no harm was done, my ticket won't be nullified. I'm responsible for my actions. The word "may" should be removed and replaced with "shall".

Commenter: Graf, Mary, representing Citizens

Regulations need to be able to be enforced. Such words as "may", "discretion", "modifications", "variances", "substantial compliance" render the regulations in fact unenforceable. And therefore lacking the ability to protect human health and the environment as required by VA Code.

The regulations are completely lacking in enforcement. Such words a "may", "discretion", "modifications", "Variances", and "substantial compliance", render the regulations unenforceable, and therefore lacking the ability to protect human health and the environment as required by VA Code.

Commenter: Powell, Mary, representing Applicators

The statewide management of the biosolids program should be consistent across the state. There needs to be consistency and predictability in the interpretation and enforcement of the biosolids regulations throughout the state.

Commenter: Staudinger, Henry J., and Jo Overbey, representing Citizens

DEQ's current view of enforcement policy can best be described as "boys will be boys". If DEQ expects to issue permits that authorize lawful land applications, it must also develop enforcement policies and practices that ensure compliance with the requirements set forth in the Code. Without a clear commitment to enforce the regulations, DEQ cannot ensure that the requirements of the Code are implemented. Without that assurance, there can be no permits that can authorize lawful land applications of sewage sludge in the Commonwealth. There is a history of failing to enforce provisions required to ensure that health and the environment are protected. It ranges from the refusal to ensure that Virginia and Federal requirements that nitrogen not exceed agronomic rates, to Virginia's requirements that phosphorus not exceed agronomic rates, that sewage sludge not be applied on pollution sensitive sites; that health sensitive individuals be protected. DEQ refuses even today to stop applications in the case of permits that clearly fail to authorize any lawful land applications. Unless there is consistent and adequate enforcement of Code and regulatory requirements needed to ensure that the environment, health, safety and welfare are protected, DEQ cannot carry out its mandate to ensure that they are protected. In that case the Code prohibition against land application remains in effect. At a minimum, there needs to be a clear regulatory provision stating that repeated violations, whether or not enforced by DEQ automatically voids any permit held by the Permit Holder and such Permit Holder be precluded from land applying for a period of time. Without such clear language, it is not clear that a permit authorizing lawful land applications can be issued. "In the event of repeated violations of statutory and regulatory requirements by a Permit Holder, in addition to the penalties otherwise provided for, no land applications of sewage sludge may be made under permits issued to the Permit Holder in the Commonwealth of Virginia for a minimum period of five years."

Commenter: Stevick, Stephen M., representing Citizens

Suspected violations of regulations governing the use of treated sewage sludge for agricultural purposes should be handled, in the first order, as potential threats to human health and the environment. Immediate steps should be taken to determine whether or not they have occurred and whether the violation poses a risk to human health or wellbeing, livestock and/or to the environment and what remedial action is appropriate. Such confirmations should include, where appropriate, comprehensive monitoring and testing of the individuals, animals, and environment of concern. Records of these findings and actions should be maintained and be available for public review. Fines and sanctions should not be considered in lieu of, but in addition to, remedial actions to protect human health and the environment.

DEQ Response to Comments: Enforcement of Biosolids Regulations and Permits

The current inspection staff is dedicated to ensuring compliance with issued permits and the permittee is required to give DEQ staff notice prior to land application of biosolids so that unannounced site inspections may be conducted while land application of biosolids is in progress. In order to determine compliance with the law and regulations, DEQ is currently inspecting approximately 80% of the farms where biosolids is applied, and inspecting approximately 70% of the farms during land application activities. DEQ utilizes informal corrective action, as well as

formal enforcement action, if necessary to ensure compliance.

Subject: Environmental Concerns: Water Quality, Karst Topography, TMDLs, Slope and Buffers

Commenter: Atwood, Dennis, representing Shenandoah County Water Resources Advisory Committee

The approval of the land application of imported sewage sludge is contrary to the efforts of the County, and other area stakeholders, to implement the Chesapeake Bay TMDL and WIP requirements to reduce pollutants, particularly phosphorus and nitrogen, entering the streams throughout the Chesapeake Bay watershed. EPA's Chesapeake Bay TMDL was made final on December 29, 2010. VA's Phase I WIP under the Bay TMDL establishes significant reductions in nitrogen (N) and phosphorus (P) throughout the Chesapeake Bay in VA, including the Shenandoah River watershed as part of the Shenandoah-Potomac basin. For the agricultural sector the WIP identifies several specific actions intended to meet the P and N reduction targets. Local governments, as well as farm operators, will be held accountable for level of effort and progress made in meeting the N and P allocations under the Chesapeake Bay TMDL. Imposing externally sourced biosolids on a jurisdiction where the local government disapproves, in part, because it imposes an extra, unplanned, source of N and P. This does harm to, and places an increased burden on our more environmentally responsible farmers, who will be faced with further lowering of their N and P allocations.

The regulations need to include a provision such as: Require that local government certification must be obtained for any proposed permit or permit modifications for the land application or storage of biosolids to verify the site(s) and proposed land application activity does not conflict with N and P allocations and activity or local ordinances required to be developed under the Chesapeake Bay TMDL, the associated VA WIP, and storm water management regulations and other watershed nutrient loading and storm water management mandates as required by EPA or DEQ for waterways which flow through that jurisdiction.

Commenter: Beck, Bobbi, representing Citizens

It seems like absolute insanity to dump sewage sludge into a floodplain near a children's play area. If that doesn't seem like a health risk to you why not just dump it into the river and be done with it. In essence it's the same thing. Certainly a better solution can be found!

Commenter: Brennan, Shannon, representing Self

In general, I would like to say that the further we keep biosolids from water sources and residences, the better. I support any moves in that direction. Having covered the topic of biosolids as a former reported for several years, it always seemed crazy to be dumping so much nitrogen and phosphorus into the Chesapeake Bay watershed when we are supposed to be removing them. I won't even get into the fact that we are largely clueless as to what is in biosolids.

Commenter: Broaddus, Lynwood, representing Farmers

Hillsides need the organic matter to help create a mulch layer, which in turn prevents erosion. But hillsides cannot be spread for fear the biosolids will wash off. The stuff sticks, washing off is not a problem.

Commenter: Burleigh, Mary Ann, representing Citizens

(Conflicts with pending regulations regarding state and federal mandates on TMDL and storm water management regulations for the James River and Chesapeake Bay clean up and other watersheds.) Require obtaining local government certification for any proposed permit or permit modifications for the land application or storage of biosolids to verify the site(s) and proposed land application activity does not conflict with activity or local ordinances required to be developed under the Chesapeake Bay/James River TMDL and storm water management regulations and other watershed nutrient loading and storm water management mandates as required by EPA or DEQ.

Public Comments and Department Response to Public Comments

Commenter: Chambers, Jennifer, representing Virginia Agribusiness Council

DEQ should narrow the new category of buffers in Table 2 for "water supply reservoirs" to "Public water supply reservoirs". Otherwise the term could be construed to include stock ponds and irrigation ponds.

Commenter: Clemmer, Richard, representing Farmers

I ask that you consider increasing the allowable slopes for the application of biosolids as mentioned by a previous speaker. There are a lot of areas where the current restrictions prohibit the use of biosolids where their application would help with soil fertility and would decrease runoff. The material never runs off and stays where it is put.

Commenter: Coulling, Philip, representing Rockbridge Area Conservation Council

In Rockbridge County, areas with Karst geology fall within the maximum pollution potential zone of the 1997 Central Shenandoah Planning District Commission county map based on EPA's DRASTIC model further indicating that Karst is an inappropriate setting for land application of biosolids. EPA relies on individual states to modify the general federal regulatory provisions to address area-specific conditions. Land application of biosolids should not be permitted in areas of Karst geology as mapped in the Virginia Department of Mines, Minerals and Energy Publications # 44, 83 and 167. Any requests for exceptions must be based on a site specific, certified geologic report with sufficient subsurface borings and other evidence that demonstrates that the proposed site is not underlain by, or in hydraulic connection with, Karst geologic conditions.

The prescribed setback from the sinkholes currently visible at the surface in the proposed regulations is inadequate to prevent the migration of sludge constituents either horizontally or vertically into the underlying solution features and fractures inherent in Karst carbonate rocks. The extreme rapidity and distances, and unpredictable pathways of subsurface flow in these aquifers which are widely used as drinking water sources and are home to several endangered Karst-dwelling species in the areas of western Virginia where Karst occurs, makes the risk of harm to human health and the environment from land application of biosolids unacceptable in this geologic setting.

We concur with the findings and recommendations concerning areas of Karst geology of the professional geologists and hydrogeologists in the April 28, 2011 technical memorandum by Frits van der Leeden, et.al.

Commenter: Davis, Brandon P., representing Shenandoah County

Site approval based on Chesapeake Bay TMDL and Storm water Management Regulations: The proposed regulations do not provide assurance that the site(s) and proposed land application activity does not conflict with nitrogen and phosphorus allocations and activity or local ordinances required to be developed under the Chesapeake Bay TMDL, the associated Virginia Watershed Implementation Plan, and storm water management regulations and other watershed nutrient loading and storm water management mandates as required by EPA or DEQ for the North Fork of the Shenandoah River as a component of the Shenandoah/Potomac sub-watershed.

Site approval based on proximity to existing subdivisions and/or places of assembly: VPA-01579 was approved in spite of the presence of three public gathering attractions entirely within or immediately adjacent to, one of the approved land segments: The North Fork of the Shenandoah River, the publicly owned Meems Bottom Covered Bridge, and a privately owned corn maze. The Board of Supervisors continues to be concerned that such permits are approved or modified without regard to adjacent public uses, residential subdivisions and places of assembly.

Commenter: DiJoseph, Lawrence, representing Citizens

I object to the use of sewage sludge in "at risk areas". The 600 acre site in Shenandoah County in

specific. The potential risks have already been noted and will again be brought up in the public hearing this April. Here again we find ourselves with an opportunity to watch our regulatory agencies in this matter, make decisions based on known potential hazards to people and surrounding water ways. I wonder just how they would react if this situation was taking place in their own neighborhoods. I support the Riverkeepers in their efforts to clean up our waterways and to make them safe for use today and to protect the ground water that we will be using in the future. It has already been proven that many areas of farm land have been over fertilized simply because the ground was never tested to see if it really needs more nutrients and what kind. To make things worse the area in question is in a know flood plain. Will all the sludge be washed away in the next spring storm? Do you know for sure? Do we want to take that risk? I for one do not. I can only hope and pray that these controlling agencies will act responsibly, keeping in mind their duty to protect the public, and do what is right for us all. Most of all not be influenced by outside pressures that have other interest in mind.

Commenter: Dixon, Bonnie, representing Madison County Residents

After considerable discussion about the need to exclude cattle from our streams to reduce pollution and emphasis on disposal of human waste in ways that reduce runoff, how can spreading sludge on farm lands make any sense at all?

Commenter: Dixon, Frank, representing Citizens

It appears to me that the proposed regulation works against the state's attempt to clean up the Chesapeake Bay. The state has appropriated funds and conducted numerous studies to find ways to stop polluting the bay. One of the ways the bay is currently being polluted is by rain water runoff from polluted pasture and farm lands. This regulation would appear to increase the amount of pollutants on those lands, thus complicating the bay cleanup effort. This plan is so obviously flawed, I suspect there is skullduggery afoot. I will write to State Attorney General Cuccinelli requesting an immediate investigation to determine if my suspicions are correct. It just doesn't seem possible that the state would work against its own cleanup effort unless there were some sort of payoff involved.

Commenter: Elliott, Judy, representing Citizens

The legislators in Richmond are not doing their duty to protect the citizens of the Commonwealth. The State Constitution - Section 11 reads "It shall be the Commonwealth's policy to protect its atmosphere, lands and waters from pollution, impairment, or destruction, for the benefit and enjoyment and general welfare of the people of the Commonwealth." A lot of these people where they are spreading sludge do not consider this as an "enjoyment". There are a lot of health issues or they are elderly who worry about their health issues that they have every time that sludge is spread.

Commenter: Evans, Kristen Hughes, representing Chesapeake Bay Foundation

Almost 200,000 dry tons of biosolids are land applied to farm fields in Virginia's Chesapeake Bay watershed on an annual basis. While nitrogen and phosphorus content varies considerably, these biosolids contain approximately 19 million pounds of nitrogen and phosphorus, and therefore can pose a significant threat to the Bay's water quality if not properly managed. As part of the watershed wide effort to remove the Chesapeake Bay and its tidal tributaries from the federal impaired waters list, Virginia's Watershed Implementation Plan commits to reducing agricultural nitrogen loads by approximately 6 million pounds and agricultural phosphorus loads by approximately 1 million pounds by 2025. It is therefore critical that biosolids be handled in a manner that prevents the transport of nutrients to surface waters.

The Virginia biosolids regulations continue to rely on the federal U.S. EPA 503(b) regulations with respect to setbacks from surface waters. The federal rules, finalized in 1994, establish a 10 meter (33 feet) setback requirement. CBF recommends that the 33 foot setback be revised to be consistent with surface water setbacks required for poultry litter land application (per 9VAC25-630). Specifically, biosolids should not be applied within 35 feet of a surface water if there is a permanent vegetated buffer in place, or 100 feet without a permanent vegetative buffer. In addition to setbacks from surface waters, setbacks from other

sensitive features should also be consistent with requirements for poultry litter. This revision is necessary so as to not to create an inappropriate competitive advantage for biosolids. Revising the setbacks to be consistent with 9VAC25-630 is also consistent with the VA Watershed Implementation Plan which calls for the establishment of permanent, riparian buffers of at least 35 feet or greater in width on 95 percent of VA's cropland, hay land and pastures.

Commenter: Gardner, Don, representing Farmers

Agriculture and forestry are Virginia's biggest industries. Virginia's agricultural exports are 9th in the Nation. I am a large animal Veterinarian with 41 years of experience. I have studied and researched information about biosolids and its use and application. Decided that it was an appropriate product to use. Farm has received the water quality of the year award and conservation farm of the year award. Participate in a Veterinary Discussion Group for 10 years - Have never heard of a health issue, man or beast related to biosolids. The subject has never come up. Have just brought in 200 acres (2 years ago) that is "new ground", we have been waiting for these regulations to be completed so that this acreage can be permitted to receive biosolids. We cannot afford the commercial fertilizers that would be needed to bring this land into productivity. The current regulations are fine. Increasing the width of the buffers is not necessary. This product does not move. Where it is spread is where it stays. Buffers will not solve the odor problems. Odor moves with the wind. Excessive buffers will cut usable property on a farm. Use of an increased buffer will result in the use of poultry litter or commercial fertilizers on a greater portion of the property. These fertilizers are more mobile than biosolids.

Commenter: Gardner, Sam, representing Farmers

Use of biosolids on steep slopes - Biosolids does not runoff. The best way to get a vegetative growth on a steep slope is to apply biosolids. Recommend that the application of biosolids to steep slopes up to 20 percent slope be allowed in the regulation. Biosolids will stay where they are placed. Commercial fertilizers will runoff if applied to steep slopes.

Commenter: Gessner, Mary, representing Friends of the North Fork of the Shenandoah River

Biosolids application should not be allowed on Karst terrain or in flood plains.

Commenter: Graf, Mary, representing Citizens

There needs to be a permanent pH management plan so that metals and other toxic persistent chemicals can't mobilize, leach into groundwater, or be picked up by plants. It seems this should be the responsibility of the farmer so as to assure the safety of his soil.

Commenter: Hatcher, Roger F., representing Farmers

Related to land reclamation, there are many opportunities to stabilize farm fields with slopes greater than 15 percent by the use of biosolids. Criteria and flexibility should be included to allow this possibility when it is appropriate. I can show you a 30 percent slope established under DMME standards that would not vegetate to the excellent condition it is today without biosolids.

Within the constraints of the 503 Rule, minimize buffers. Buffers on the scale you propose have no control of odors and therefore will not reduce odor complaints. Large buffers actually increase the chance of nutrient runoff into ditches, since commercial fertilizers are usually very soluble compared to biosolids and subject to rapid runoff in heavy rain events.

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

A new category of buffer was added to Table 2 for "water supply reservoirs". This term should be narrowed to "public water supply reservoirs". Otherwise the term could be construed to include stock ponds and irrigation ponds.

Public Comments and Department Response to Public Comments

Neither the Chesapeake Bay TMDL or storm water requirements are specific to biosolids. Biosolids application permits do not allow the discharge of any biosolids constituents into state waters. In fact, many of the elements of the biosolids regulatory program (NMP requirements, setbacks to protect against discharge to state waters; compliance with conservation plans) not only protect against any discharges but are consistent with the requirements of the Bay TMDL and storm water regulatory programs. There is no basis or need for any additional connection between the Bay TMDL and storm water requirements and the biosolids program.

Requirements that ponding must be corrected or that reference ponding should make clear that the requirements only apply if the ponding is taking place in the biosolids staging area (as opposed to anywhere on the farm). See, e.g., 9VAC25-32-545 B 9; 9VAC25-32-550 C 8.

Commenter: Henderson, Roger & Bev, representing Hurricane Hill Event Facility - Bedford

We are greatly concerned that the application of biosolids on adjacent farms may be contaminating our water supply, and it is certainly polluting the air we breathe. We operate an event facility - just last week a bride who has her wedding scheduled here in mid April asked me "are they going to spread biosolids next to you?" Needless to say her outdoor wedding would be ruined by the stench if biosolids were applied just before her wedding. Last year (April 2010) we narrowly avoided such a tragedy when the farmer who rents the hayfield adjacent to us agreed at the last minute to not allow the application of biosolids next to our event facility - they did apply to the rest of the farm, plus the farm across the road. In addition to our health concerns, we feel we have the right to operate our business without being negatively impacted by the thoughtless actions of biosolids applicators. Just last week we were told by a realtor that she is bound to disclose to any prospective buyer if biosolids have been applied to a piece of property listed for sale, PLUS if it is has been applied to adjacent property. If biosolids are so safe, why is this disclosure necessary?? It obviously could impact the sale value of our property. The state of Virginia is allowing shady out of state operators to dump potentially toxic waste on VA farms with little or no oversight - the damage they could be causing could last for years!! Local officials have told me their hands are tied - that it is a state matter. In our opinion the state has failed to protect our health and property rights. Obviously the big bucks donated by Synagro lobbyists and other applicators has influenced their actions (or rather lack of action). Since the legislation is not going to outlaw the spreading of biosolids in Virginia, we urge DEQ to crack down on testing the content of EVERY truckload that is spread - random checks are totally inadequate!!! We would appreciate hearing back from you as to what new regulations are proposed/approved.

Commenter: Hewitt, Greg, representing Farmers

The use of commercial fertilizer in the buffers and around rock breaks without the organic matter found in biosolids to hold it in place increases runoff which runs into the streams. The application of biosolids on the land reduces the amount of runoff.

There is no erosion on the meadows only on the slopes. It is imperative to maintain the organic matter on slopes.

Commenter: Jones, V. Rea, representing Farmers

With the present buffer and drainage restrictions, one cannot spread biosolids near a creek, lake, well, or drainage area. Even a neighbor boundary is buffered unless approval is granted by neighbor to release from requirement. In contrast, there are no restrictions or buffers on spreading of commercial fertilizer.

Commenter: Kelble, Jeff, representing Shenandoah & Potomac River Keepers

Application of sewage sludge on slopes in excess of six percent should be banned. The proposed regulations ban the application of sewage sludge on slopes with grades greater than 15 percent; however, this standard appears arbitrary and does not adequately protect the environment. As the slope increases, the likelihood increases that sewage sludge will run off the slope and either flow into state waters or pool, creating a "hot spot" of sludge in the environment from which toxics may leach. The EPA, when studying the

effects of the land application of sewage sludge, used risk models with slopes of six percent or less. To our knowledge, there have been no scientific studies that have examined the effects on the environment of applying sewage sludge on slopes in excess of six percent. Absent such studies, it would be impossible for the Board to conclude that regulations allowing the application of sewage sludge on slopes in excess of six percent protect the environment, as required by the Virginia Code. As such, the proposed regulations should ban the land application of sewage sludge on slopes in excess of six percent.

Riverkeeper understands the need for the reuse of sewage sludge and biosolids (collectively referred to herein as "sewage sludge") as a soil amendment, but such reuse is only beneficial if done responsibly. Section 62.1-44.19:3 B of the Virginia Code provides that regulations concerning the use of sewage sludge must ensure that "land application, marketing, and distribution of sewage sludge is performed in a manner that will protect public health and the environment..." and that "the escape, flow, or discharge of sewage sludge into state waters, in a manner that would cause pollution of state waters...shall be prevented." In other words, the regulations must protect our water supply.

The buffers provided for in 9VAC25-32-560 - Table 2 must be expanded. The wider the vegetated buffer, the more protection afforded the environment. At a minimum, the proposed regulation should require a 170-foot vegetated buffer for streams and tributaries designed as a Public Water Supply under the Water Quality Standards, perennial streams and other surface waters, and intermittent streams and drainage ditches. Currently, the proposed regulations provide for differing buffers for each of these bodies of water; however, there is no logical basis for distinguishing between differing bodies of water. The most restrictive buffer must apply to all bodies of water, as many perennial streams, drainage ditches and intermittent streams eventually flow into streams and tributaries that are designated as Public Water Supplies under the Water Quality Standards. Therefore, any contaminants contained in perennial or intermittent stream will negatively impact the public water supply. As such, the same buffer requirements should apply.

The proposed regulation should also expand the buffers in 9VAC25-32-560 - Table 2 to rock outcrops and limestone rock outcrops to at least 170 feet and require that they be vegetated, unless these outcrops are not situated on a Karst topography, in which case surface application and incorporation should be banned.

The proposed regulations should prohibit the application, staging and storage of sewage sludge atop Karst topography. We were please to see that the Board included in the proposed regulations a ban on the staging of sewage sludge upon Karst topography; however this ban should be extended to prohibit not only the storage, but the application of sewage sludge upon Karst. If staging sewage sludge is banned due to the potential impact to the groundwater, a position we support, then it only seems logical that the long term storage and subsequent land application of sewage sludge to these sensitive areas also should be banned. We believe that in order to meet its statutory duty to adopt regulations that ensure that land application of sewage sludge is performed in a manner that will protect the environment and prevent the discharge of sewage sludge into state water, the Board must ban not only staging of sewage sludge, but also the storage and application of sewage sludge, on Karst topography.

The proposed regulations should require that adequate buffers are in place to protect the state waters from runoff contaminated by sewage sludge. The minimum buffer zone requirements set forth in Table 2 to section 9VAC25-32-560 provide for minimum setbacks from certain features to areas where sewage sludge may be applied; however, the distances set for the in Table 2 appear to have been arbitrarily chosen, and in any event, are inadequate. The proposed regulations must require that the buffers be forested or vegetated, as only vegetated buffers provide adequate protection from contaminants in storm water runoff. A scientific evaluation of the effects that vegetated buffers have on storm water runoff found that a 15-foot vegetated buffer provided a five percent reduction in nitrogen from runoff and that a 170-foot vegetated buffer removed more than 95 percent of nitrogen. For phosphorus that same study found that the 15-foot vegetated buffer removed 62 percent of the total phosphorus load, while the 170-foot buffer removed 90 percent. The scientific evidence is clear: significant vegetated buffers are necessary to adequately protect the

environment from contamination in storm water runoff. The setbacks proposed in Table 2, if not vegetated, provide a fraction of this protection. For that reason, the proposed regulations must require that any buffer be vegetated.

Commenter: Kelble, Jeff, representing Shenandoah Riverkeeper

All rivers that are open to recreational use should have extended buffers.

Echo some of the environmental and health concerns noted in previous testimony. I have previously provided comments against approving of the Shenandoah Permit for the application of biosolids by Recyc Systems. As a society we need to recycle some of the components of sewage sludge. There are concerns about the phosphorus content of the soil and biosolids. The Shenandoah Valley is a hot spot for phosphorus issues. We have not managed phosphorus well. The proposed regulations do not provide a solution to the phosphorus issue. We should look for situations to reuse sludge, but should also be aware that there are some situations where it should not be used. It should not be applied in Karst terrain or flood plains.

The difference between intermittent, perennial and drainage ditches current have separate setbacks. These setbacks are arbitrary, there is no legal basis for the differences. They should be consistent since when it rains they all will carry runoff to waterways. The setbacks should be set based on slope and available coverage and the regulations should reflect this. These could be handled by a Nutrient Management Plan but the fall back will be to what is identified as the appropriate buffer in the regulations. The regulation should be entirely prescriptive.

Commenter: Kelble, Jeff, representing Shenandoah& Potomac River Keepers

The storage, staging and application of sewage sludge should be banned in areas prone to flooding. The proposed regulations prohibit the long-term storage of sewage sludge at a facility that is subject to inundation produced by the 100-year flood/wave action as defined by the U.S. Geological Survey or equivalent information (hereinafter referred to as a "100-year floodplain"); however there is no similar ban on the staging or application of sewage sludge at a facility located in the 100-year floodplain. There is no logical or scientific basis for distinguishing between the storage and application of sewage sludge: flood waters can easily transport sewage sludge, and its various toxic components, from land where it is stored, staged or applied and into state waters, thereby contaminating the environment. As such, we believe that the proposed regulations should be revised to ban the storage or application of sewage sludge in any area that is subject to inundation produced by the 100-year flood/wave action as defined by the U.S. Geological Survey to ensure that the environment and state waters are protected from releases of sewage sludge caused by significant flooding events that are occurring with increasing frequency.

Commenter: Kondis, Dr. Edward F., representing Citizens

DEQ's setbacks of 25, 50, or 100 feet from streams, rivers, ponds, lakes, bogs, swamps and other wetlands do not work in the real world. No sewage sludge should be spread on any field containing any stream, river, pond, lake, bog, swamp or wetland. No setback works.

Commenter: Land, Dr. Lynton S., representing Citizens

The "Economic Impact" summarized in the Virginia Regulatory Town Hall Form: TH02 is grossly inadequate. It projects economic costs for implementation and to "individuals, businesses or other entities" but it fails to acknowledge the economic cost of pollution caused by the land application of such an inefficient "fertilizer". From and economic standpoint, disposing of sewage sludge by land application is much more costly to society, and to Virginia's State and County income, than alternative uses like biofuel. Bay N pollution caused by the land application of sewage sludge exceeds the N pollution caused by septic systems and accounts for a significant difference between Virginia's 2002 N discharge to Chesapeake Bay (77.8 MPY) and the reduction goal required by EPA's 2025 Draft Allocation (53.7 MPY). The amount of P that is disposed (squandered) in excess of agronomic need by the land application of sludge is much larger than the difference between Virginia's 2002 P discharge to Chesapeake Bay (9.8 MPY) and EPA's 2025

Draft Allocation for P (5.4 MPY). If land application was P-based, using the numerical limits in "Standards". As both Federal and State law require, and Bay water quality improved proportionately, the increased value of waterfront property and recreational and commercial fisheries would far exceed the value of land application to the agricultural and wastewater sectors. No analysis of "Economic Impact" by the State can ignore these incontestable facts.

Commenter: Lanier, Paul O., representing Farmers

I am a grain and cattle farmer in Goochland County. I have used biosolids for 30 years and have not seen anything wrong that has resulted from the use of biosolids. Biosolids stick where they are applied, they do not runoff. Goochland County has rolling topography which results in some slope where the current slope restrictions result in the inability of using biosolids on those slopes. Those slopes are eroding from the lack of nutrients inability to apply biosolids. The use of commercial fertilizer on these slopes results in runoff of nutrients. Nothing has helped the eroding soils in Goochland County more than biosolids. I ask that the current slope restrictions be reconsidered to allow for the use of biosolids on these steeper slopes.

Commenter: Laurrell, R. David, representing County of Campbell

(Conflicts with pending regulations regarding state and federal mandates on TMDL and storm water management regulations for the James River and Chesapeake Bay clean up and other watersheds.) Require obtaining local government certification for any proposed permit or permit modifications for the land application or storage of biosolids to verify the site(s) and proposed land application activity does not conflict with activity or local ordinances required to be developed under the Chesapeake Bay/James River TMDL and storm water management regulations and other watershed nutrient loading and storm water management mandates required by EPA or DEQ.

Commenter: Layne, Bill, representing Citizens

Our governing bodies and the EPA are inconsistent and unreasonable. On one hand you want to clean up the Chesapeake Bay, and on the other you advocate spreading toxic sludge on our land. Sludge has not yet been proven to be safe to people, animals, the environment, or the Bay. Most reasonable, thinking people would like to see sludge use on farmland outlawed completely. But until then, I agree that we need more rigid testing and monitoring and wider buffer zones for people who own land or live near being sludged.

We need to restrict the use of sludge on slopes greater than 10 degrees. Flash floods and heavy rains cause surface water to flood adjacent land and streams. It will pollute springs and wells. And yes, some of us still use springs. I for one, have used the same spring for over fifty years as my only source of water.

Commenter: Lorien, Joy, representing Citizens

How the quality of our environment is sanctioned by a department whose duty is to it is beyond me.

Commenter: Maurer, Linda, representing Springhaven Agricultural Enterprises, LLC, Madison County

Most conventional farmers complain about the cost of nitrogen for fertilizing their fields, citing the use of free sludge as a panacea to all of their mismanagement practices. There are no streams in Madison County without an e-coli problems - several also test positive for unacceptable levels of PCBs. Madison is supposed to be a fly fishing mecca - however, no fish can be eaten because of the pollution in the streams.

Commenter: Mitchell-Watson, Leslie, representing Friends of the North Fork of the Shenandoah River

Geologically Sensitive Sites: Although the use of sludge may be less risky in some regions of the Commonwealth, the proliferation of Karst landscapes characterized by sinkholes, solution channels and caves makes areas such as the North Fork watershed too risky for spreading sewage sludge. Our water is directly affected by what happens on the ground surface. Dr. Greg Evanylo of the Department of Crop and

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Soil Environmental Sciences at Virginia Tech has written that potentially unsuitable areas for sludge application include: areas bordered by ponds, lakes, rivers, and streams, steep areas with sharp relief, areas of Karst geology, rocky, shallow soil, and other environmentally sensitive areas, such as floodplains. Application of sludge in many of the fields in the North Fork watershed as well as floodplains across the state poses an unacceptable risk of contamination of streams, rivers and groundwater, both of which serve as drinking water sources.

Given an incomplete analysis of what is in the specific sewage sludge and the lack of scientific information regarding the fate, transport and environmental effects of many of the chemicals that may be found in sewage sludge, DEQ cannot confidently determine what an adequate setback distance will be to protect water quality, aquatic organisms, endangered species or human health. Because of the adequacy (i.e., protectiveness) of a buffer cannot be established with any certainty, application of sludge in areas of Karst geology and floodplains poses an unacceptable risk of contamination of surface and groundwater, both of which serve as drinking water sources. 9VAC25-32-560 should prohibit land application of biosolids on areas designated as floodplains, on Karst landscapes characterized by limestone outcroppings, sinkholes, solution channels, and caves and on slopes greater than 7%. Barring that, minimum buffers around all environmental features listed in Table 2 should at least equal the 35 foot buffer required by NRCS standards, regardless of the method of application.

I would echo the comments made by Ms. Hughes, Mr. Atwood, and Ms. Gessner. The revised regulations do not address or alleviate our concerns which remain (1) the largely unknown content of the sludge, (2) application of sludge to geologically and ecologically vulnerable sites, and (3) insufficient requirements in the regulations to protect the environment or human health. We object to the revised regulations because they do not address the failure of the existing regulations to protect the environment both for humans and wildlife. Therefore, we look forward to DEQ publishing revised regulations that protect the environment from land application of sewage sludge.

Sewage sludge should not be applied to slopes greater than 7 percent.

Standard permit requirements should be prescriptive enough to ensure protection of human health and the environment in all cases. Providing DEQ the ability to add conditions on a case-by-case basis to account for situations that may warrant additional scrutiny in not sufficient. DEQ has demonstrated an unwillingness to address unique situations (such as Karst geology). This is understandable because there is a lot of pushback from applicants to not require anything over and above the bare minimum allowed by the regulations. Therefore, the regulations must be strengthened to ensure that all applications of sludge are done in as safe a manner as technologically possible.

The current state of knowledge regarding sewage sludge is insufficient to ensure that DEQ meets its mission to protect and enhance the environment of VA and promote the health and well-being of the citizens of the Commonwealth. Given an incomplete analysis of what is in the specific sewage sludge and the lack of scientific information regarding the fate, transport and environmental effects of many of the chemicals that may be found in sewage sludge, DEQ cannot confidently determine what an adequate setback distance will be to protect water quality, aquatic organisms, endangered species or human health. The draft regulations require buffers around sites sensitive to the application of sewage sludge. However, we recommend doubling the draft buffers for water supply wells or springs, perennial and intermittent streams, surface waters, and agricultural drainage ditches for any time of the year sewage sludge is applied. In addition, we recommend excluding completely some areas from land application of sewage sludge. These are flood plains (which are easily identifiable across the State) and Karst landscapes characterized by sinkholes, solution channels and caves.

There is no provision in the state constitution that requires the state to provide easy disposal of sewage sludge or that entitles farmers and others to receive free fertilizer. However, Article XI, Sec. 1 of the Constitution of the State of Virginia establishes that it is "the Commonwealth's policy to protect its

atmosphere, lands and waters from pollution, impairment or destruction,..." Pursuant to that, Virginia State Code Section 62.1-44.19:3.B requires that the State Water Control Board "...adopt regulations to ensure that...11) land application, marketing, and distribution of sewage sludge is performed in a manner that will protect public health and the environment; and iii) the escape, flow or discharge of sewage sludge into state waters, in a manner that would cause pollution of state waters...shall be prevented." As was concluded by the Panel of Experts and reinforced by the EPA study of sewage sludge, much additional information is needed to ensure protection of health and the environment. DEQ and the State Water Control Board should use all the flexibility they have available to them under federal and state law to regulate the use of biosolids within the Commonwealth in a manner that actually ensures those protections.

To ensure compliance with the permit and facilitate enforcement, entire fields should either be included or excluded from the permit, depending on the suitability of the field as a whole. Fields that include flood plains, have Karst features, fractured bedrock or rocky, shallow soils, are highly erodible or have slopes greater than 7% should be excluded in their entirety. At a minimum, to facilitate delivery of the appropriate tonnage of material to each site, the total acreage of the permitted area, by farmer, should be recalculated and specifically identified in the permit.

Commenter: Nelson, Bill, representing Farmers

Have seen great results with the use of biosolids to improve eroding areas. The slope restrictions prevent the farmer from putting much needed organic matter and nutrients found in biosolids on eroding slopes, where the application of commercial fertilizers is not effective in preventing erosion.

Commenter: Pfotenhauer, Peter, representing Shenandoah River Keeper

Please consider regulations that prohibit the application of these products in the flood plain, near places where people live or children play or go to school, or in areas that could contaminate drinking water. It's depressing to drive to a beautiful rural spot on the Rapidan River on RT 522, prepare to put in my kayak to fish, only to see signs along the field by the highway and river publicizing the use of biosolids on land that floods every year.

Regulate the use of these substances to protect our water ways from the harmful impacts of the increased nitrogen and phosphorus load caused by runoff after rainfall on treated properties. I have no desire to fish and swim in a river filled with this crap after our sewage treatment plants have worked so hard to remove it from their discharge.

Commenter: Sensabaugh, Donna, representing Self

I'm also concerned that he's allowed to spread on property through which a creek runs (Goose Creek in Bedford County).

Commenter: Sligh, David, representing Riverkeepers

Because sewage sludge (biosolids) contains numerous toxic and harmful constituents, some of which must reach state waters and violate water quality standards if the sludge is stored or land-applied on Karst terrain, Virginia officials should not permit these activities on any land with a Karst area.

Concentration on risks of land-based handling and spreading do sewage sludge and the pollutants is contains is especially vital for Karst areas. These areas are extensive in Virginia. Waters in Karst areas are universally-acknowledged to be extremely vulnerable to pollution, because of the very close connection between materials and activities at the land surface and ground and surface waters.

The DEQ minimum monitoring and sludge management requirements proposed fail to reflect or incorporate the vast body of scientific knowledge regarding threats that surface activities pose to ground and surface water bodies, humans, and biological resources in areas with Karst terrain, such as those present in large areas of Virginia.

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The proposed regulatory action (amending portions of 9VAC25-32) requires neither adequate monitoring and site assessments nor appropriate management standards for the storage and handling of treated sludge to provide even minimal assurance that ground and surface water quality will be protected in many parts of Virginia.

The requirements fail to account in any way for the fate and transport of certain pollutants, including arsenic, in setting management and monitoring standards.

Commenter: Speck, W.B, representing Farmers

Would ask the Board to consider increasing the amount of slope where biosolids can be applied in a permanent vegetated state from 15 to 20°.

Commenter: Staudinger, Henry J., and Jo Overbey, representing Citizens

Applications of sewage sludge on pollution sensitive sites are clearly prohibited by statute. However, by regulation and by policies and practices DEQ fails to adequately identify pollution sensitive sites. At a minimum, the regulations must require that all pollution sensitive areas be identified and excluded before any issued permit can authorize lawful land applications. Permit Holders and landowners must be required to provide certifications that no part of any site has pollution sensitive areas. If such certifications prove to be incorrect, the sites must be automatically removed from the permit, unless where provided for in the permit, those areas and adequate buffers are immediately put in place when it has been determined that an area is pollution sensitive. It is therefore clear that existing regulations, the draft regulations, as well as DEQ policies and practices do not ensure that either health or the environment is protected when sewage sludge is land-applied under issued permits. Nor does DEQ have in place policies and practices to implement regulatory requirements. Thus the Board is not in a position to issue permits to lawfully land-apply treated sewage sludge.

DCR has clear expertise in protecting the environment from nutrient loss. Accordingly, for buffers and other nutrient restrictions, as well as pollution sensitive sites, DCR recommendations must be minimum permit requirements. Thus the following provisions are examples of the types of provisions needed: "Fn4: No buffer shall be less than buffers that may be recommended by the Virginia Department of Conservation and Recreation unless DEQ can document that a lesser buffer would ensure that health and the environment was protected..." "Sites shall be deemed pollution sensitive sites where DCR recommends that there be no land applications of sewage sludge unless DEQ documents that health and the environment would be ensured if applications were made on such sites." Since DCR's focus is nutrients, DEQ must independently evaluate areas that may also be subject to pollution from pollutants other than nutrients. Except to the extent that sites may be eliminated due to nutrient pollution, DEQ currently has nothing in place to identify and exclude sensitive sites when it comes to other pollutants. DEQ cannot rely on DCR's nutrient management practices to protect the environment from pollutants other than nutrients present in sewage sludge. DEQ must establish buffers sufficient to protect the environment as well as buffers sufficient to protect health.

DEQ has included provisions that are in violation of its obligation to ensure that environment is protected. Perhaps the most obvious is the buffer waiver provisions which provide: "The buffer to occupied dwellings may be reduced or waived upon written consent of the occupant of the dwelling." (9VAC25-32-560-B(3)(g)(3) fn2); "Property line buffers may be reduced or waived upon written consent of the adjacent property resident or landowner." (9VAC25-32-560-B(3)(g)(3) fn6. Circumstances exist where the waiver provision would allow a landowner to thwart DEQ's statutory mandate to ensure that the environment is protected exist. By inclusion of the buffer waiver language, DEQ violates its mandate to ensure that sewage is not applied on pollution sensitive areas or in a manner that does not ensure that health is protected. If there are any circumstances when waivers might otherwise be permissible, any waiver provision must include protective language such as: "No waiver will be allowed unless the Permit Applicant or Permit

Holder documents that the area otherwise qualifies for land application and provides to DEQ a written waiver (reflecting informed consent) by adjoining landowners and residents including all occupants of dwellings as well as by all who may be exposed to the sewage sludge, together with documentation that applications pursuant to the proposed waiver will not result in applications on pollution sensitive sites or otherwise adversely affect the environment or the health, safety or welfare of those who would be exposed."

Landowners have a responsibility to apprise DEQ and the Permit Applicant/Permit Holder of the presence of known pollution sensitive areas on any proposed site. That could be accomplished by having the following certification requirement: "Landowners are in a unique position to be aware of pollution sensitive areas in proposed sites. Accordingly, Landowners shall certify that they have brought to the attention of the Permit Applicant or Permit Holder and DEQ all known or suspected areas that might be pollution sensitive, and that they will be made aware of any additional pollution sensitive areas that Landowners may later become aware of. Landowners further certify that they will bring to the attention of the Permit Holder and DEQ if they become aware that areas covered by the permit may be pollution sensitive."

Permit Holders have a responsibility to apprise DEQ and the Permit Applicant or the Permit Holder of the presence of known or suspected pollution sensitive areas on any proposed site. That could be accomplished by having the following certification requirement" "Permit Applicants and Permit Holders are required to identify areas that may be pollution sensitive. Accordingly, Permit Applicants and Permit Holders shall certify that that have made diligent efforts to identify and exclude all pollution sensitive areas; and have brought, or if identified after a permit is issued will bring, to the attention of DEQ all suspected areas that might be pollution sensitive and withhold land applications until DEQ advises whether, and under what conditions land applications can be made on those sites."

Pollution sensitive sites can adversely impact health as well as the environment. Thus any definition must reference both: "Pollution sensitive sites are sites with characteristics that are more vulnerable to pollution that can adversely impact both the environment and health."

The Board is authorized to increase the fee if the amount is not sufficient to ensure that health and the environment are protected. That includes reasonable testing costs to ensure the same. Thus the only cap must be the reasonableness of the proposed tests. Language is required to ensure that there will be reimbursement for reasonable testing as follows: "All reasonable costs to test sewage sludge shall be reimbursed. Reasonableness shall be directly related to the extent that DEQ has otherwise ensured that health sensitive individuals will not be exposed and pollution sensitive sites identified and properly buffered out. The constituents tested for shall not be limited to heavy metals and nutrients. If the funds are not adequate to reimburse those reasonable costs, the Board shall increase the fee as needed to provide such reimbursement."

The draft regulations fail to require adequately identification and exclusion of pollution sensitive sites, or minimum buffers based on current science, or any science at all. Proposed buffers were established based on sold science, allowing applications on large pollution sensitive sites. Moreover, many pollution sensitive areas prohibited by regulation have simply not been identified. In other instances sewage sludge is allowed on prohibited pollution sites simply because no one pays attention to the requirement. It is essential that the regulations preclude pollution sensitive sites by clear language such as: :No sewage sludge may be land-applied on pollution sensitive sites. Such sites shall be excluded prior to the issuance of a permit ad/or the addition of additional sites to an existing permit. Permit Applicant or Permit Holder and the landowner shall certify that based on due diligence all pollution sensitive sites have been identified and excluded, DEQ shall be notified and no sewage sludge will be land-applied on such sites. If engineering and/or other studies have not been undertaken, Permit Applicant or Permit Holder shall document that such studies were not required to ensure that all pollution sensitive sites have been identified."

The EPA risk assessment model used slopes limited to 6 percent. The current regulations allow land

application on slopes up to 15 percent. With the exception of efforts by DCR to develop management plans to reduce the adverse impact of sewage sludge nutrients applied on those higher slopes, DEQ has made no effort to confirm by documentation that the environment is protected when applications are made on slopes in excess of 6 percent. Thus, it cannot be documented that applications on slopes in excess of 6 percent protect the environment. Until this is addressed, the regulations must include the following prohibition: "No applications shall be allowed on slopes in excess of 6 percent unless the Permit Holder can document that the environment will be protected if sludge is land-applied on slopes between 6 and 15 percent."

Commenter: Ustun, Jonathan, representing B.A.S.S. Federation of America

Virginia is too classy a place to accept out of state sludge: As a member of the BASS Federation of America, Virginia Chapter, I oppose anything that weakens water quality in the already over nutrified Shenandoah and Potomac Basin. This plan craps on the Potomac River and Shenandoah. Thousands of people travel from out of state each year to fish these rivers, shopping in our malls and staying in our hotels. As a fisherman concerned with the economy, I am embarrassed by the Governor's stance on fighting the EPA's modest goals to clean up our rivers and the Bay. I certainly oppose spreading sewage sludge anywhere near floodplains. Our recreational resources have tremendous economic development potential if managed intelligently. Sales tax receipts, clean recreational tourism, a cleaner river. This is the virtuous circle that should be our guiding principle in matters that affect our rivers, our state treasures.

Commenter: van der Leeden, Frits, representing Rockbridge Area Conservation Council

The concern about land spreading of biosolids is primarily because of the vulnerability of Karst aquifers to contamination by soluble hazardous and toxic components of the waste. In most Karst areas, soils are thin and the land surface is usually dotted with solution openings and sink holes, which along with less obvious secondary porosity in the overburden, allows immediate access of contaminants to the aquifer and the water table without any filtration. Once into the water zone, contaminants can spread quickly to adjacent areas. Because groundwater flow patterns in a Karst aquifer are almost impossible to determine, the extent of contaminated groundwater cannot be mapped and contamination will only be noticed once pollutants reach a discharge area such as a spring, lake, or water well. Remediation of Karst aquifers is also a problem. The only way to prevent pollution of ground and surface water in Karst areas is to exclude this vulnerable area from any type of dumping or disposal of sludge and biosolids on the land surface. The area of the Commonwealth of Virginia underlain by carbonate aquifers (VA DMME Publication # 44, 83 and 167) is large enough to justify this action to protect the general health of the public and the environment.

DEQ Response to Comments: Environmental Concerns: Water Quality, Karst Topography, TMDLs, Slope and Buffers

Comments were received expressing concern that biosolids land application would contribute to water quality problems, specifically related to current challenges in the Chesapeake Bay watershed. The Virginia Pollution Abatement Permit Regulation prohibits discharge of pollutants, including nutrients, solids and pathogens, to state waters from regulated land application sites and storage facilities. The regulations are established to manage the land application of biosolids in a manner that prevents runoff into surface waters and groundwater. Therefore biosolids do not contribute to the local nitrogen and phosphorus allocations any more than other well-managed agricultural operations.

Biosolids are land applied as a source of nutrients and organic matter on existing agricultural land that would otherwise use chemical fertilizers. Unlike the chemical fertilizers traditionally used, the biosolids are a “slow release” nutrient source and therefore do not dissolve and release all of the nutrient content during the first few rain events. The organic matter in the biosolids helps to build and stabilize the soil thereby reducing erosion and runoff in the long term.

The Federal regulation, 40CFR part 503, requires a 10 meter (33 ft) setback from waters of the United States. In 9VAC25-32-560.B.3.e., the setback from surface waters has been modified to be consistent with the state and federal Concentrated Animal Feeding Operations (CAFO) regulations, whereby a 100 ft setback is required unless a 35 ft vegetated buffer is present. A definition for "vegetated buffer" has been added to both the VPA and VPDES regulations that is also consistent with the CAFO regulations. This requirement encourages the establishment of vegetated buffers adjacent to surface waters, which also promotes nutrient reduction goals established by the Chesapeake Bay Watershed Implementation Plan and other Total Maximum Daily Load (TMDL) implementation plans. In regard to other features, increased setbacks have been proposed, including: open sink holes, 100 ft.; public water supply (PWS) reservoirs, 400 ft.; and segments of streams designated as PWS, 100 ft.

In addition to the increased setbacks to state waters, the option to reduce the setback by incorporation has been removed, partly to adhere more closely to VDH recommendations and also to encourage soil conservation and quality. Soil disturbance works contrary to soil conservation goals, and runs contrary to the soil quality building practice of reducing tillage. The option to incorporate biosolids during time periods when floodplains are prone to flooding has also been removed for the same reason. Dewatered biosolids are moist and sticky (due to the polymers added in the dewatering process), which causes the material to cling to the surface of the ground when land applied and generally stay in place when dry. Incorporation does, however, remain an option for reducing odor, and is appropriate in some cases.

The setback to limestone rock outcrops and closed sinkholes remains at 50 ft., and the setback to wells and springs remains at 100 ft. 9VAC25-32-560.B.2 also has restrictions regarding depth to bedrock and depth to surface water. These restrictions have not been changed; biosolids may not be land applied where bedrock or surface water is less than 18 inches below the surface of the ground.

The aforementioned buffer and setback restrictions for the land application of biosolids provide a regulatory framework that is protective of Virginia's rivers and streams, the Chesapeake Bay, Karst topography and groundwater.

In regard to slopes, technical recommendations from soil conservation professionals and field experience of DEQ inspectors demonstrate that application of biosolids on slopes between 7 and 15% can be accomplished without negative environmental impact. The biosolids organic material is useful in establishing a stand of permanent vegetation on slopes to prevent erosion.

Subject: Exceptional Quality (EQ) Biosolids, Distribution and Marketing

Commenter: Barker, Maurice, representing Florida Department of Environmental Protection

Also, can a facility or person give away bulk quantities of Class A EQ pellets (above 90% TS) and not be registered as fertilizer as well as not have to come up with a nutrient management plan? If so, what about the farmer or person who accepts the biosolids? Does this second person (the farmer, land owner, or other third party) have to do anything under the rule?

Commenter: Lohr, Matthew J., representing VA Department of Agriculture and Consumer Services

(VDACS)

We understand that exceptional quality biosolids may be distributed in Virginia for use as fertilizers, soil amendments, or horticultural growing media. Exceptional quality biosolids that are offered as soil amendments or horticultural growing media are required to be registered with VDACS pursuant to § 3.2-3607 of the Code. However, if exceptional quality biosolids are offered as fertilizers, you should note that not all such biosolids so offered would require registration. The determining factor is whether the exceptional quality biosolids is offered as a commercial fertilizer or as a specialty fertilizer. The fertilizer statute differentiates between "commercial fertilizer" and "specialty fertilizer". Commercial fertilizer means "a fertilizer distributed for farm use, or for any other use, other than any specialty fertilizer use." Specialty fertilizer means "a fertilizer distributed for nonfarm use, including use on home gardens, lawns, shrubbery, flowers, golf courses, municipal parks, cemeteries, greenhouses and nurseries." Thus, exceptional quality fertilizers that are offered as commercial fertilizers will not be required to be registered with VDACS. However, the generator of such products would still need to be licensed by VDACS and would be required to file the appropriate tonnage and statistical reports.

Commenter: Lorien, Joy, representing Citizens

Myth: Class A EQ sludge is so safe you can eat it. Fact: Class A EQ sludge can legally contain up to 32 mg/kg of arsenic, 14 mg/kg of cadmium, 10 mg/kg of mercury, 300 mg.kg of lead, copper and zinc way in excess of what is needed for healthy crops, as well as potentially harmful organic chemical compounds and viable disease-causing pathogens. Yet use of this material is essentially unregulated in the state.

Commenter: Smedley, Scott, representing Virginia Biosolids Council

The generation and use of exceptional quality (EQ) biosolids should be encouraged. One means of providing an incentive is to exempt EQ biosolids from the general requirements.

Commenter: Staudinger, Henry J., and Jo Overbey, representing Citizens

The language referencing Class A is totally confusing. The purpose of the Class A provisions is to set the criteria for Class A Sewage Sludge (reduced pathogens) and to recognize the reduced risk of pathogens in Class A by reducing certain specific land application requirements. However, Class A sewage sludge poses all of the other risks associated with land applied sewage sludge, ranging from excessive nutrient applications to inadequate buffers to protect health sensitive individuals and the environment from the many other potentially harmful constituents. Based on the confusing language changes, it is necessary to avoid the inadvertent failure to ensure that all permit restrictions not specifically premised on the presence of pathogens apply to Class A. That could be accomplished with the following language: "Notwithstanding anything in these regulations, Class A Sewage Sludge shall remain subject to all land application limitations that apply to Class B Sewage Sludge other than those limitations that relate solely to the presence of pathogens, including by way of example, nutrient limitations, buffers needed to otherwise protect health and the environment, notice, etc.:

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

The proposed regulations would harm the state's Exceptional Quality biosolids program by requiring additional testing for organics and requiring a nutrient management plan for certain Class A materials.

DEQ Response to Comments: Exceptional Quality (EQ) Biosolids, Distribution and Marketing

EQ biosolids, which meet the state and federal standard for distribution and marketing, are exempt from the management practices and access restrictions, therefore it is imperative that these products meet high standards. In most cases, pretreatment programs and other industrial restrictions will address toxics. However, it may be necessary to screen for certain toxics if facility

specific issues have been identified. Further, in the case where municipal solid waste is composted with biosolids (and not subject to pretreatment programs), screening for organic chemicals would align with the requirements specified in the solid waste regulations. The table has been removed from the regulations, as it was there only as example. Any actual organics testing would be based on any site-specific issues identified.

For the distribution and marketing of exceptional quality (EQ) biosolids, NMPs are not required when this material is distributed and marketed, similar to commercial fertilizer or commercially available soil amendments. These cases include dry, pelletized material, which is sold at a cost to a farmer or fertilizer distributor, and could be mixed with other fertilizer materials to create a more balanced product. Other EQ materials include compost or soil mixes which would be used in potting mixes, amending soil or landscaping uses. The original proposed regulation included an exemption for NMPs intended to exclude these uses. Based on comment from persons currently marketing these types of materials, alternate language is proposed in the final regulation. This language retains the exemption for dry, pelletized material, but alters the language used to describe biosolids soil blends and composts. The exemption for these materials is based on intended use (land application on agricultural operations) rather than the moisture or carbon:nitrogen ratios in the material. A NMP would be required for land application of an EQ material that is produced as a dewatered cake. Such materials are not easily blended, would likely not be bagged for commercial sale, and would be land applied using a method very similar to that of a Class B material.

Subject: Fees

Commenter: Broaddus, C. Bates, representing Farmers

Increasing the fees on applications may seem reasonable, but I see many small farmers being dropped from consideration for permits because applicators cannot justify the cost. This will be sad because the farmer who needs the cost savings and yield boost the most will not get the help because he is a small farmer.

Commenter: Hatcher, Roger F., representing Farmers

Redirect the primary roles of the field inspectors to identifying farming and structural changes that control field runoff. The primary tools could and should be native vegetated strips, complemented by pond construction on small streams and VDOT style sediment traps at the end of small swales.

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

The exemption from the fee requirements for EQ Class A biosolids is appropriate and provides an incentive for the use of higher quality biosolids. DEQ should consider whether there are opportunities to provide similar incentives elsewhere in the proposed regulation for EQ Class A biosolids.

Commenter: Martin, Steve and Popie, representing Citizens

DEQ has indicated that it has had to defer to the permittee for the accuracy of information contained in the application because DEQ has insufficient staff and funds to adequately insure the accuracy of the data. Finally additional research regarding sludge is clearly needed and can only be undertaken through adequate funding. The lack of oversight, failures to uncover application inaccuracies and lack of research cam only be corrected by charging sufficient funds for the applications to meet the needs of DEQ.

Commenter: Martin, Steven, representing Virginia Blue Ridge Railway Trail

Additional research on sludge is needed. We need DEQ to increase the fees associated with permits for the land application of sewage sludge in order to pay for this additional research.

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

The proposed regulations impose an additional $1,000 annual permit maintenance fee, on top to the current VPDES permit maintenance fee, for major municipals for land application of biosolids or land disposal of sewage sludge is the activity has occurred in the 12 months preceding the maintenance fee due date. This additional permit maintenance fee should be eliminated because it lacks statutory authority. VAMWA generally has been very supportive of fees to be paid by permittees to fund DEQ's oversight program for the land application of biosolids. We are not opposing the additional $1,000 fee proposed for major permit modifications due to changes relating to authorization for land application of biosolids in 9VAC24-20-120 A 1 or the $5,000 fee for issuance of new permits to land apply biosolids in 9VAC25-20-110 A. Nevertheless, we do oppose the proposed requirement that VAMWA members pay an additional $1,000 permit maintenance fee for the authorization of land application or land disposal of biosolids, given the absence of any practical justifications (i.e., DEQ has provided no information on the need for additional staff time on an annual basis) or legal authority. Nowhere does the statute authorize an additional $1,000 maintenance fee for the authorization of land application of biosolids or land disposal of sewage sludge. Virginia Code section 62.1-44.19:3 F, which sets forth permit fees for land application of sewage sludge, provides, "The fee or the initial issuance of a permit shall be $5,000. The fee for the reissuance, amendment, or modification of a permit for an existing site shall not exceed $1,000 and shall be charged only for permit actions initiated by the permit holder." It does not provide for a $1,000 permit maintenance fee. Given the lack of a statutory basis for the $1,000 maintenance fee for the authorization of land application of biosolids or land disposal of sewage sludge, VAMWA requests that it be removed from 9VAC25-20-142 A 1.

Without limiting VAMWA's request that the proposed extra maintenance fee be eliminated altogether, the maintenance fee should, at the very least, be reduced to $500, which is the permit maintenance fee proposed for VPA Municipal Biosolids Operation. If DEQ can manage an existing VPA permit for $500, it should also be able to manage an existing VPDES permit for the same $500. Permit maintenance should not be more costly under a VPDES permit than a VPA permit.

DEQ Response to Comments: Fees

DEQ recognizes the commenters' concerns regarding fees, and in response, DEQ adjusted the requirements to align as closely as possible with the statutory requirements in §§ 62.1-44.19:3.F. and 62.1-44.15:6. of the Code of Virginia. For VPDES permits, the initial permit fee will include an additional $5000 for processing of the biosolids portion of the permit. Annual maintenance fees will not increase over that prescribed in 62.1-44.15:6. Any addition of land will be subject to a $1000 modification fee, whether added during the term of the permit or at reissuance. This includes additions of less than 50% of the originally permitted acreage.

For VPA permits, the initial permit fee remains at $5000 for a 10 year term. Annual maintenance fees will be reduced to $100 per year ($1000 maximum reissuance fee prescribed in § 62.1-44.19:3.F. divided by permit term of 10 years). Any addition of land will be subject to a $1000 modification fee, whether added during the term of the permit or at reissuance. This includes additions of less than 50% of the originally permitted acreage, due to the time required to review site data and provide the required notifications.

Biosolids application tonnage fees have not changed from those prescribed in the proposed

regulation. Land application of Class B biosolids will incur a fee of $7.50 per dry ton and exceptional quality biosolids are exempt from a fee.

Subject: Financial Assurance

Commenter: Barauskas III, Joseph P., representing Insurance Providers

I. The proposed endorsement form may present practical problems for the applicators. Insuring Companies are resistant to use forms other than their own or those that are available from the Insurance Services Office (ISO). II. The proposed endorsement appears to limit the applicators to a reimbursement method of claims payment. III, The Proposed Endorsement requiring First Party Clean Up and Defense Costs Outside the Limits of Liability may be restrictive in the Applicators ability to select an insurer and may also place a substantial financial burden on the Applicators. IV. The proposed Endorsement requires that there be a statement of each application site (providing Permit Number, name and DEQ Control Number). This may create an information management problem. I suggest that the Proposed Regulations be amended to allow for the use of one of the two forms; ISO Form CG 25 04 03 97 Designated Location(s) General Aggregate Limit or ISO Form CG 25 03 03 Designated Construction Project(s) General Aggregate Limit.

The Applicator represents the key point for the disposal of the biosolids material. However, the protection of the Commonwealth as well as the local municipalities and the general public cannot be overridden. Needs of all parties concerned may be met with a modification to the requirements for those Applicators seeking to purchase insurance. The Authority would benefit by: 1) Having an explicit or specific policy in place to pay claims (Addition to a Pollution Policy); 2) Limiting the cost associated with information management (Use if the CG 25 04 03 97 or CG 25 03 03 97 or their equivalent); 3) Allowing for Applicator flexibility in meeting the insurance requirements (Deletion of the BLE and Certificate allowing Applicators greater insuring and premium options); 40 Expanding the requirements regarding the insuring company (More defined criteria that will eliminate those insurance companies that may be in financial difficulties, which may impact their ability to pay for claims.) Applicators would benefit by: 1) Deletion of the BLE and its requirements (Reduction in possible financial constraints and greater flexibility in meeting the insurance requirements); 2) Deletion of the "internal" Certificate of Insurance for the ACORD Certificate of Insurance (Allows Applicators greater flexibility to meeting the requirements); 3) Limiting the cost associated with information management (Use of the CG 25 04 03 97 or CG 25 03 03 97 or their equivalents). The general public will benefit by having clearly defined and easily complied with standard for "The Transport, Storage and Application of Biosolids".

The Certificate of Liability Insurance provided by the Proposed Requirements will create similar difficulties to those outlined in the Biosolids Liability Endorsement. Therefore, for those Applicators utilizing insurance, the Certificate of Liability Insurance be replaced by the ACORD Certificate of Insurance.

The proposed regulations include two specific methods to comply with the Liability Insurance requirements; self insurance or the purchase of insurance on the open market. The process for the Applicator opting for self insurance is fairly clear within the proposed regulations. However, the process for Applicators seeking to purchase insurance on the open market is not sufficiently clear, in my estimation.

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

Sections 9VAC25-32-770 et seq. include requirements for liability insurance and financial tests for liability coverage. Section 9VAC25-32-790 requires that insurance policies include a "Biosolids Liability Endorsement". This term is not defined. Moreover, based on inquiries within the insurance industry, such endorsements do not exist. Instead, a certificate of liability insurance that includes a pollution endorsement

that explicitly recognizes that the actions covered liability relating to the storage, hauling or application of biosolids should be sufficient.

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

The proposed regulations include an entirely new article (Article 6) to address financial assurance. The language would require that a permit holder or applicant demonstrate that it will be financially responsible (as evidenced by liability coverage of $2 million per occurrence or an aggregate of $2 million) for clean-up costs, personal or bodily injury, and property damage that results from the transport, storage, or land application of biosolids. Local governments (defined to include cities, towns, counties, or authorities, commissions, or districts created by these entities) would be permitted to demonstrate financial assurance either by using a test laid out in the proposed regulations or by providing a local guarantee. The TAC discussed financial assurance issues at length in 2009 and created a subcommittee to work on this important issue. One of the suggestions made by the VAMWA representative on the subcommittee was to streamline the local government test using alternative regulatory language. VAMWA's suggested alternative regulatory language would allow local government permit holders or applicants to submit a letter signed by the local government's chief financial officer or a notarized statement from the utility director, executive director, or manager, stating that the permit holder or applicant is able to show financial responsibility because of the ability to set sewer rates for use of the sewerage system. VAMWA requests that DEQ substitute this language for the proposed language in 9VAC25-32-820.

Commenter: Trumbo, Susan, representing Recyc Systems

We have requested our insurance agents to review and comment on the Financial Assurance Section as they are the expert on this topic. We urge the Department to take into consideration the already limited number of providers who provide this type of coverage. We have concern that the insurance providers will find the requirements a burden or even too much of a nuisance and chose not to provide the required coverage. We note that the State Insurance Agency has in place standards for providers, endorsements and proof of insurance which should be sufficient for the biosolids use regulations. We wholly support the need for permit holders to provide adequate financial insurance but the requirements should not be prohibitive to implementation of the program.

Commenter: Turpin, Richard B., representing Citizens

Spreader shall give the farmer a bond/insurance that will pay if any future cleanup is needed. This is to prevent taxpayers from having to pay for a cleanup after the spreaders are gone.

DEQ Response to Comments: Financial Assurance

The Department received public comment regarding the adequacy of the financial assurance procedures. In response to comment, a statement has been added clarifying that for financial assurance demonstrated through liability insurance, a pollution policy as well as a general liability policy is required that covers storage, transport, and land application of biosolids. Additionally, a measure of the financial stability of the insurance carrier is required in the proposed final regulation in that the carrier must meet specified AM Best, Standard & Poor, or Moody ratings. Additional comments regarding suggestions for the types of certifying documents required to demonstrate appropriate coverage was reviewed by DEQ staff that regularly review financial assurance submittals, and additional changes were not recommended.

Comments were also received requesting that local government entities land applying biosolids under a VPDES permit be exempt from the requirements to demonstrate financial assurance. The Code of Virginia explicitly mandates that all permit holders authorized to land apply biosolids must demonstrate financial assurance, and the procedures prescribed in the regulation are consistent

with other Department programs.

Subject: Health Concerns

Commenter: Burleigh, Anne W, representing Self

No one knows what effect sludge will have on people with health problems living close to sludged property. Because of this I would hope no one would use sludge not knowing what is in it. We live very close to property that Mr. G.D. Gilliam has sludged. My husband has pulmonary fibrosis. I have had a heart valve replacement and also have asthma. It is time for the government to look out for the citizens of this state and not to cater to the large corporations. How did central Virginia become the dumping grounds for sludge.? No area should have to smell this sludge and breath it in.

Commenter: Davis, Brandon P., representing Shenandoah County

Identification and protection of health sensitive individuals: In order to ensure that health and quality of life are protected as set forth in the Code, DEQ should ensure adequate identification of health sensitive individuals in the vicinity of application sites, or consider everyone in the vicinity of land application sites as health sensitive; and , if health sensitive individuals are identified, DEQ should address both individuals with preexisting health conditions and individuals whose health is adversely affected following exposure to sewage sludge.

Commenter: Dunkley, Barry T., representing City of Danville

With over 30 years of intense research on land application of biosolids there has been no established link between health effects and biosolids. Industrial pretreatment measures are designed to address any issues that may be raised in regard to toxic and heavy metal concentrations. Industrial pollutants have been steadily declining due to improvements in treatment technologies.

Commenter: Fowler, Jason, representing Self

I am a concerned citizen in the Lynchburg/Bedford area who has been studying the municipal sewage management industry's mishandling and potential conflicts of interest surrounding the issue of sludge (aka: biosolids_ over many years. There are many concerned citizens both in the state of Virginia and nationally who have tirelessly sought to uncover the injustice and possible corruption that has lead us to the place we are in today--busily spreading biosolids that have been minimally tested. I am concerned that there are those within the Virginia state government (and beyond) who have been turning a blind eye to this ongoing public health concern - a situation that while benefiting the sewage industry (and well meaning farmers who are looking for fertilizer options in these hard times) is compounding irreversible environmental and human health damage that will persist for generations and in many cases is negatively impacting and at times ending lives today. If we are truly a commonwealth should we not act to safeguard our "common wealth"? Instead we are diminishing the vitality of our land, our bodies and the rights of all Virginia communities to stand against the lop-sided science that is being leveraged by an industry that has trumped our ability to govern ourselves democratically. You have heard many Virginia voices crying out to have an influence on how our communities handle this issue and you will continue to hear more and more voices emerging who oppose the land application of biosolids in Region 2000 and Virginia (and the entire nation) until it is forever stopped--until the corruption allowing it to continue is uncovered-- and until it is publicly acknowledged that the incomplete and outdated science on which sludge application is deemed safe can no longer be used to gamble with the future of Virginia's people, land and resources.

Commenter: Gessner, Mary, representing Friends of the North Fork of the Shenandoah River

I would like to echo the same frustrations voiced by previous speakers (Hughes and Atwood) about the

seeming lack of response to the Shenandoah permit concerns. The new regulations do not provide any of the requested or needed changes. I am concerned that the current mode of operation is in the absence of definitive, specific information indicating that this material is harmful to the environment or human health, the assumption being made is that they are safe. This is a false assumption. These regulations are not protective of human health or the environment. To the extent that it is allowable under federal law and state Code that these regulations be as restrictive as possible, especially given the unknowns. DEQ appears to be reluctant to require more than the minimum requirements of state requirements. These regulations need to tightened up and be made as protective as possible. Do not allow for staff discretion to do just the bare minimum.

Commenter: Gibson, Dave, representing Citizens

Sewage sludge originates from treatment of residential and commercial waste and should be distinguished from composted organic material and farm manure. Sewage treatment plants were designed to remove chemical and biological pollutants from the wastewater, not produce fertilizer. This is precisely why the Federal Clean Water Act defines sewage sludge as a pollutant. The risks inherent to sludge application to lands are chemical, biological and biochemical. Passing regulatory oversight of sewage sludge application on land to DEQ, an agency historically focused on chemical contaminants, is inappropriate given that most data indicate the risks from sludge are microbiological.

Commenter: Graf, Mary, representing Citizens

According to Dr. Alan Rubin, who was a main author of the EPA Part 503, health sensitive individuals were not considered as the regulations were formulated, which he admits was a flaw. The DEQ regulations need to take that flaw into consideration if they are to protect human health as VA Code requires. The regulations must require identifying health sensitive individuals and make certain they are not exposed to sludge.

I feel disappointed, weary, frustrated, belittled, outraged by how often citizens have been invited to offer their input with regard to sewage sludge practices and how routinely our input is disregarded. The DEQ regulations being proposed do not adequately protect human health as is required by Virginia law.

Physicians need to be better informed regarding health risks and effects associated with land applying sewage sludge. Under the regulations and by VA Code, it is DEQ that is responsible for, and must take the lead, in protecting human health. When the Expert Panel was unable to establish a procedure or form for health-concerned citizens and their physicians to follow in order to have their issues addressed, the assignment was passed over to the TAC. They have not come up with anything. WERF has worked on the task, but haven't achieved consensus of its members. DEQ Regulations have not provided a physician/patient standard form that enables health issues to be addressed in order to protect human health. No workable procedure is in place to record human health complaints by categories such as health problems, site locations, time of year, weather conditions, source of sludge, etc. Such a tracking system would make it possible to verify a causal link between sewage sludge and illnesses, connect some dots, and hopefully avoid further complaints. Though this has been suggested before, the DEQ Regulations do not take a health-protective stance in making this effort to preempt health problems.

Regulations need to state who determines "unreasonable health risks", how the risks are weighed, how the public is notified when such a situation arises, and what regress the public has if they do not agree with the assessment.

Submitted various pieces of correspondence related to comments, complaints and requirements offered to DEQ over the past several years for the record.

Commenter: Graf, Mary, representing Self

321/8 mentions "nuisance and health problems". How are these problems brought to the attention of

DEQ? How is nuisance determined or evaluated? Are there specified guidelines? And who makes the determination?

DEQ has addressed this issue in the buffer guidance.

Commenter: Hart, George and Sharon, representing Citizens

There is inadequate research and knowledge, oversight inspections, and endangerment to public health of applying sewage sludge to our farm lands. Even though it has gone through a certain treatment process, that process used by sewage treatment plants does not, and never was intended to kill all pathogens and bacteria in sludge. I strongly oppose DEQ permitting land application of sludge.

Commenter: Lorien, Joy, representing Citizens

Myth: Sludge has never impacted people, livestock, or groundwater. Fact: False. Hundreds of sludge-exposed rural people have reported serious respiratory and gastrointestinal illnesses. In Greenland NH, dozens of neighbors got seriously ill, and one young man died, after 610 tons of sludge were chain dragged on a ten acre hayfield located next to their houses. Cattle have been killed by ingesting forage, grown on sludged fields. New Hampshire and Maine drinking water sources have been impacted. Industry lobbying groups, such as NEBRA, are covering up these reported and documented incidents.

Commenter: Maurer, Linda, representing Springhaven Agricultural Enterprises, LLC, Madison County

I include a sampling of over 732 scientific studies (many peer reviewed) from the National Institutes of Health, a federal government agency whose mission it is to compile and conduct research on all things health pertaining to humans.

Commenter: Mitchell-Watson, Leslie, representing Friends of the North Fork of the Shenandoah River

Although we recognize the need to dispose of treated sewage sludge and that land application may be appropriate under some circumstances, we are concerned that the proposed regulations do not adequately protect the environment and natural resources of the Commonwealth. Specifically, the revised regulations do not adequately address (1) the largely unknown content of the sludge, (2) application to geologically vulnerable sites, and (3) insufficient permit requirements to ensure the protection of the environment or human health.

There is no provision in the state constitution that requires the state to provide easy disposal of sewage sludge or that entitles farmers and others to receive free fertilizer. However, Article XI, Sec. 1 of the Constitution of the State of Virginia establishes that it is "the Commonwealth's policy to protect its atmosphere, lands and waters from pollution, impairment or destruction,..." Pursuant to that, Virginia State Code Section 62.1-44.19:3.B requires that the State Water Control Board "...adopt regulations to ensure that...11) land application, marketing, and distribution of sewage sludge is performed in a manner that will protect public health and the environment; and iii) the escape, flow or discharge of sewage sludge into state waters, in a manner that would cause pollution of state waters...shall be prevented." As was concluded by the Panel of Experts and reinforced by the EPA study of sewage sludge, much additional information is needed to ensure protection of health and the environment. DEQ and the State Water Control Board should use all the flexibility they have available to them under federal and state law to regulate the use of biosolids within the Commonwealth in a manner that actually ensures those protections.

Commenter: Overbey, Jo, representing Citizens

Under § 62.1-44.19:3 B, the Board is prohibited from issuing a valid permit to land apply sewage sludge unless the permit terms and conditions ensure that health is protected when sewage sludge is land applied. Citizens have attempted unsuccessfully to convince DEQ to at least ensure that health sensitive individuals are not exposed to sewage sludge contaminants. In order for the Board to issue a valid permit, it is imperative that DEQ comply with its statutory mandate to ensure that those individuals are protected.

Unfortunately, DEQ has made quite clear that it does not want this responsibility because it does not have the expertise to identify health sensitive individuals who should not be exposed, or even the ability to determine adequate buffers or other requirements to ensure that these individuals are not exposed. Instead, DEQ purports to have unloaded this responsibility on the Virginia Department of Health. However, the responsibility was taken from VDH and made the responsibility of DEQ. Indeed, the VDH has rebuffed DEQ's efforts to saddle that Department with DEQ's statutory responsibility. During the TAC, VDH did make one recommendation--that DEQ at least provide for a 400 foot buffer. DEQ has declined to do so. Instead, DEQ is prepared only to extend 400 ft buffers from dwellings to those that ask, without making any effort to make certain that health sensitive individuals are even aware of such right.

VDH has agreed to entertain health complaints, but made clear that it would provide no assistance to anyone who might need additional buffers, with the possible exception of someone whose heart was hanging outside their body--even though VDH established buffers of over a mile in some cases when it was responsible for protecting health. DEQ has not only failed to address health issues, but its portrayal of relief through VDH is little more than a cruel joke upon those who might think they are being protected. Until DEQ accepts its responsibility to ensure that health is protected and includes provisions in permits that actually comply with that statutory mandate; it is submitted that the Board is not in a position to issue a valid permit to anyone.

Commenter: Parker, Diana, representing Citizens

I have studied the results of the General Assembly HJR 694 through Expert Panel House Document 27--2008 and JLARC Document 89--2005 on Review of Land Application of Biosolids in Virginia relevant to subject changes and the EPA 503 Rule. Neither the Panel, EPA nor DEQ has gone far enough for protection of citizen health and the environment. The General Assembly did not fund the Panel for studies or analyses. Expert members of the Panel could only produce for others in the group available scientific documentation.

Commenter: Purdum, K. Leigh, representing Madison County Residents

I live on Rt. 609, (Spring Branch Road) in Brightwood (Madison County) on the same road where Mr. Utz and others have applied sludge to their fields in past years. I would like to take the opportunity to express my disapproval of the application of sludge for the following reasons: For a period of one week to one month (depending on the weather conditions existing at the time of application or within the weeks following application): 1) my household cannot open windows either on our house or our cars due to the horrific odor emanating from the fields; 2) members of my household experience respiratory difficulties which, in the past, have led to doctor visits and other out-of-pocket expenses; 3) members of my household are not able to enjoy any outdoor activities even on our own property due to the obnoxious odor and the health side-effects. I encourage you to take into consideration these facts before you allow the application of sludge to fields within close proximity of neighboring residential homes. Your consideration in denying these permits when the application is within a 1 mile radius of a residential home (other than the applicants) is appreciated.

Commenter: Raine, Nancy V., representing Citizens

I learned that treated sewage sludge was going down on both sides of my deeded right of way which is nearly half a mile in length and the sole access to my farm. I contact the Health Director to convey my history of health problems associated with intense and prolonged exposure to sewage sludge. I was informed that the "buffer" for my driveway was only 10 feet. With my history of illness, I hoped that this buffer could be extended to at least 200 feet or application along this route could be suspended altogether. I expected operations to be delayed until the Health Director (Dr. Gateley) had time to review my medical records and meeting with me and my doctor and perhaps even conduct a site visit. He did not have the authority to request a delay of any kind nor did DEQ have such authority. Furthermore, because there is no regulation regarding right-of-way buffers, the decision on that point had to be left to the haulers. As a courtesy to us, DEQ did ask the haulers for a more generous buffer along the right-of-way. The haulers would not grant one. The treated sewage sludge went down with only a 10 foot buffer along the entire length

of the driveway on both sides. I again experienced symptoms of illness. After months of effort, my doctor, husband and I were finally able to meet with Dr. Gateley, seven months after I actually requested his intervention. At the meeting my doctor confirmed the illnesses I experienced coincident with application and expressed concern about the frequency of exposure along the driveway. Dr. Gateley, a physician, was in a difficult position. He made it clear that he was unable to do anything because no causation between my illness and exposure could be established because we did not know what I might have been exposed to. He also did not have the authority to extend the buffer anymore than DEQ had the authority to do so. His role was in essence to enforce the regulations, just as DEQ's role is to enforce regulations. In the end, after seven months and hours and hours of work, my health concerns were left to the industry. My husband and I were informed that we can expect application along this route annually for many years to come. I have had brain surgery, I am recovering from a tracheotomy, a feeding tube and a wound in the back of my head that required 31 stitches. I only recently completed a course of steroids. No one knows what causes the type of tumor I had, but exposure to toxins has been linked to it. I cannot prove the ordeal that I have had is due to prolonged and intensive exposure to stored sewage sludge from the pit and along my driveway, but I can't disprove it either. The burden ends up being mine, as does the dread of continued exposure without any hope of relief. I knew that it would be inhumane to subject me to foul odors and unknown toxins and pathogens when I returned from the hospital, especially because I may need radiation for lingering issues. I worried that the nurses and therapists who regularly treat me at home and the home health aides I need might not be willing to be exposed along the road and in the other areas around my home if the sludge went down again this year. I also knew that there is nothing anyone could do to address my health concerns.

No attempt is made to identify people who have pre-existing conditions that would make them sensitive or who may be suffering from a serious medical issue. No matter how intricate the labyrinth of regulations, they do not make land application of sewage sludge safe for human health or the environment. They do not give the Board or anyone else any power to protect human health, even if someone wanted to act in a responsible way toward individual citizens.

On a policy level, I do hope that VDH might work with DEQ to create effective mechanisms for citizen's medical issues to be professionally and respectfully reviewed and for physicians conducting that review to be given the authority to be able to act in whatever way is deemed protective of a citizen's individual health problem. This should include being able to pull a permit or modify a permit, even on the broad basis of precautionary steps to protect human health. The human concerns are there, but the system to respond to them does not appear to be.

Submitted correspondence with Health Department and DEQ related to personal health concerns and issues

There is no scientific documentation that establishes that the "buffers" set forth in the regulations are protective of human health because what it is protective of is unknown. Only testing of each load before it is land applied would provide a basis for establishing setbacks that would be protective in specific cases. Because such testing is impractical and expensive and would interfere with the industry being able to conduct its business, no one will ever know precisely what an individual is exposed to when sludge goes down. Thus, no matter how ill a person may become coincident with exposure, the cause of the illness will never be tied to exposure. By default and definition, therefore, exposure is called "safe". The talk of buffers appears to be window dressing for health concerns that by definition cannot be caused by exposure to "biosolids".

There is no workable procedure for individual health problems to be reviewed and that no authority has been granted to VDH physicians to address individual health concerns by extension of buffers or any other means of protection. I find it ironic that the General Assembly transferred this program from VDH to DEQ in 2007 because of VDH's dismal performance in protecting health. Now the regulations are such that even if a VDH physician wanted to protect an individual, he or she does not appear to have the authority to do so. DEQ has stated that it is VDH who works directly with citizens with health concerns and that VDH would

advise DEQ as to what action to take. VDH has confirmed this. Yet, VDH cannot produce timely review of individual health issues nor any documentation that established buffers are protective of human health in all instances.

These regulations are written in order to render everyone powerless to do anything to address protective measures for human health and the environment. The reason is because measures that actually protect people's health do not benefit industry's bottom line and causes it bother of one sort or another. It is impossible to know what is being applied and what impact it could have on human health. I don't need to remind any of you that unlike pesticides, sewage sludge is a complex, variable and concentrated mixture of a multiple of unstudied and unregulated hazardous wastes dumped into the sewer systems. These regulations are designed to frustrate the ability for caring and professional physicians to meet their charter to protect human health. They are written to limit everyone's ability to act in a responsible way toward citizens such as myself. The talk about buffers is window dressing to make it appear that these regulations actually address health concerns. Health is a hot potato no wants to touch - DEQ has tossed it to VDH once again and VDH once again has no idea what to do with health concerns. The proposed amendments do nothing to resolve this issue. Until these deficiencies are corrected in the regulations, there cannot be a valid permit issued in the Commonwealth of Virginia.

Commenter: Rowe, Mack, representing Madison County Residents

The land application of sludge is potentially dangerous to the health of people living nearby or it can certainly impair human health. It is unpredictable in its content and does not allow the farmer intelligent application of nutrients for specific crops. It is a terrible idea and is designed solely for the profit of the purveyors.

Commenter: Smedley, Scott, representing Virginia Biosolids Council

We recommend that the SWCB and DEQ staff review the scientific research that was submitted to the Expert Panel on Biosolids and upon which the Panel based its determination that it had "uncovered no evidence or literature verifying a causal link between biosolids and illness." We also ask that reference be made to the Council's letter reviewing available scientific research on biosolids and health.

Commenter: Staudinger, Henry J., and Jo Overbey, representing Citizens

Buffer waiver provisions that clearly fail to ensure that health is protected must be either eliminated or modified. The draft regulations fail to include important restrictions required to ensure that Health is protected. The proposed buffer waiver provisions specifically allow Permit Holders to land apply in situations where it has been determined that health would not be protected. It is not clear if there are any circumstances where waiver of the dwelling buffer would not endanger health. If there are and DEQ elects to allow such waivers, there must be clear limiting language such as: "DEQ may issue buffer waivers in writing upon receipt of written informed waivers by all those who may be adversely impacted by the waiver, together with sufficient documentation to demonstrate that such waiver will not adversely affect the environment or the health, safety or welfare of those in the vicinity of the specific proposed application site."

Code § 62.1-44-19:3 prohibits all land application of sewage sludge "without permit, ordinances, notice requirements, fees." Code § 62.1-44-19:3 A makes clear that a DEQ permit that meets Code requirements is a prerequisite. That same section sets forth a threshold precondition to "consideration" of a permit by the SWCB" "unless it includes the landowner's written consent to apply sewage sludge on his property." The Code also sets forth a number of specific preconditions to the issuance of valid permits. One of the most important preconditions is set forth in Code § 62.1-44.19:3 B: "(ii) land application, marketing, and distribution of sewage sludge is performed in a manner that will protect public health and the environment..." Code § 62.1-44.19:3 O requires that the Board "develop regulations specifying and providing for extended buffers to be employed for applications of sewage sludge" as a precondition to allowing unincorporated land applications of sewage sludge. These provisions preclude land application of sewage sludge if "for any reason" the permit fails to include provisions needed to ensure that those requirements are met. From time

to time VDH argued that it did not have authority to impose additional requirements needed to comply with the Code. Thus the Code was amended to provide the option to impose additional requirements, including extended buffers under certain circumstances as an alternative to denying permits. VDH ultimately chose to disregard Code requirements and issued permits that did not meet one or more of the preconditions required by the Code, and allowed land application under those permits that were not valid. Following the transfer to DEQ, DEQ chose to disregard those same Code requirements and reissued new permits. The persistent failure to include sufficient permit conditions to meet requirements set forth in the Code of Virginia is not a minor technicality that can be ignored. The draft regulations fail to address the inability of the SWCB to issue permits that would allow land application of sewage sludge to occur lawfully in the Commonwealth. If there are to be land application permits that allow lawful land applications, the draft regulations must be substantially rewritten.

DEQ Failed to utilize its staff and its Technical Advisory Committee to draft regulations that complied with the requirements of the Code of Virginia. At no time during the TAC meetings did DEQ staff identify or offer changes needed to bring the regulations in compliance with the Code. Members of the public had long complained that VDH had failed to comply with its mandate to protect health when it was empowered to issue land application permits. The General Assembly addressed this failure by transferring VDH's former mandate to ensure that the protection of health be ensured when sewage sludge was land-applied to DEQ. VDH was simply charged by the General Assembly to assist DEQ as it ensured that health was protected. In its advisory capacity, VDH recommended to the TAC that all buffers be increased to 400 ft., but was unable to provide documentation that 400 feet would be sufficient to protect all health sensitive individuals. Yet, DEQ chose to ignore this inadequate recommendation when it prepared the draft regulations. VDH also agreed that if less than 400 ft was provide for, Regional Health Directors would evaluate specific health concerns and from time to time "recommend" 400 ft buffers from dwellings. Yet the draft regulations failed to include even the unsupported and inadequate buffers recommended by VDH. During the TAC meetings DEQ made clear that it had no expertise in addressing health issues and did not intend to acquire such expertise. Instead, DEQ took the position that it would rely on VDH's failed policies and practices when it came to protecting health. DEQ must look at other sources to establish sufficient buffers to ensure that health is protected. Currently, the proposed changes combined with the existing regulations that have at times a flawed and at times non-existent basis for the protection of human health. As such, the draft regulations simply ignore this important Code requirement.

For the SWCB to comply with its Code mandate, health sensitive individuals must first be identified before they can be protected. The draft regulations together with DEQ policies and practices provide no expectation that such individuals will be adequately identified. It was for that reason that VDH recommended to DEQ that it establish buffers as though health sensitive individuals were present. Thus the regulation must state: "Until DEQ develops adequate regulations to ensure that health sensitive individuals in the vicinity of land application sites have been identified prior to any land application; DEQ shall require buffers based on the assumption that the most health sensitive are present unless DEQ documents that no health sensitive individual could be in the vicinity of proposed sites at the time of land application." This, in turn, requires a clear directive to Permit Holders that unless it is documented that no health sensitive individuals are present near application sites, extended buffers are required before any specific land applications can be made: "Permit Holders shall not apply sewage sludge on any sites in issued permits unless prior to land application the Permit Holder provided to DEQ documentation in advance of each application that no health sensitive individuals are in the vicinity of the proposed application site who could be exposed to sewage sludge constituents."

It is important that the Permit Applicant or Permit Holder certify that the extent to which they made landowners aware of the risks associated with land-applied sludge is fully set forth in this agreement; and that they had no information to suggest a greater risk. That would be accomplished by the following certification requirement: "Permit Applicant or Permit Holder shall certify that it has made full disclosure of the risks of accepting land-applied sewage sludge. If Applicant or Permit Holder has provided disclosure or representations in addition to those set forth in Landowners certification, they shall be listed in the Written

Consent certification document."

Landowners are subject to other laws when they agree to accept land-applied sewage sludge, including taking reasonable steps to avoid harming health and the environment. They must be aware of this if they are to provide informed consent. That could be accomplished by having the following certification requirement: "Health Sensitive Individuals are at a special risk when exposed to land-applied sewage sludge. Landowners have obligations under other laws to use due diligence to identify such individuals in the vicinity of land application sites and to make their presence known to DEQ and the Permit Holder prior to any land application. Landowners shall certify that they have and will continue to do so."

Permit Applicants and Permit Holders are subject to other laws when they agree to accept land-applied sewage sludge, including taking responsible steps to avoid harming health and the environment. It is imperative Permit Holders be reminded of this: "Health Sensitive Individuals are most at risk when exposed to land-applied sewage sludge. Permit Holders have obligations under other laws to use due diligence to identify such individuals in the vicinity of land application sites and to make their presence known to DEQ and the Permit Holder prior to any land application. Permit Holder shall certify that they will do so."

Recognizing that any given sewage sludge could contain many different constituents and having elected not to determine what is in any given sewage sludge that is land-applied, DEQ must ensure that those most at risk are not exposed. DEQ's first task is to identify preexisting medical conditions that would identify individuals who should not be exposed. VDH identified the following medical conditions to be reflected in the regulations: "Respiratory diseases include Asthma (must require bronchodilator therapy); Chronic obstructive pulmonary disease; Emphysema and Cystic fibrosis. Immunodeficiency and immunosuppressant conditions; including Chemotherapy, for two weeks before starting a course of chemotherapy and for one month after completing a course of chemotherapy, or with an absolute neutrophil count less than 1000/mm3; Organ transplant recipient, for 4 months after transplantation; HIV infected with CD4 count below 200; Primary immunodeficiency, exclusions will vary depending upon the diagnosis." However it is DEQ's responsibility to ensure that the list is complete. This list needs to be supplemented by medical professionals. The regulations must include the following requirement: "If any medical professional recommends that additional medical conditions be added to the list, DEQ shall include such additional medical conditions unless DEQ documents that the health of individuals with such medical conditions would be protected if exposed to the sewage sludge constituents that may be present in sewage sludge."

The regulations must ensure that Health Sensitive Individuals are not exposed. From the perspective of many citizens who live in the vicinity of land application sites, protection of health and quality of life is of paramount concern when sewage sludge is land-applied - especially health sensitive individuals whose health and quality of life are at even greater risk. Indeed, the Expert Panel agreed that addressing the questions surrounding citizen-reported health symptoms should be its highest priority. No reference could be found in the draft regulations directing Permit Holders to ensure that health is protected when sewage sludge is land-applied under the permit. The only effort to comply with Code §§ 62.1-44.19:3A and 62.1-44.19:3O has been to establish buffers that simply assume that the public would not be exposed. However, to ensure that health sensitive individuals are protected, the regulation must ensure that such individuals are not exposed to the many constituents that may be in sewage sludge in amounts or combinations that may be detrimental to human health. The proposed regulations make no meaningful effort to do so. Indeed, there was no reference to documentation supporting the adequacy of proposed buffers to preclude exposure to even health sensitive individuals.

The ultimate list, no matter how comprehensive, may not cover all health sensitive individuals or be sufficient to identify health sensitive individuals in advance of land applications, including individuals who were not aware that they had such medical condition and/or did not communicate those medical conditions to DEQ in advance of any land application. DEQ must include individuals whose health has been adversely affected by exposure to land-applied sewage sludge. Ultimately, this is a medical issue for which medical doctors, especially Doctors treating specific patients, are ultimately qualifies to recommend that their

patients not be exposed to the many potentially harmful constituents in sewage sludge. The following provisions must be included in the regulations: "Whenever a medical doctor concludes that an individual not be exposed to treated sewage sludge, DEQ shall ensure that such individual(s) are not exposed unless DEQ documents that the health of such individual(s) would be protected if exposed." DEQ must provide for a clear investigative process that will result in identification of all health sensitive individuals, with special focus on the preclusion of re-exposure where illnesses are the likely result of having been exposed to sewage sludge and must be proactive to ensure that such health sensitive individuals are not re-exposed to sewage sludge. The draft regulations not only fail to do this; they also don't even provide adequate notice to those living in the vicinity of applications sites. It is ultimately the responsibility of the Permit Holder to ensure that health sensitive individuals are identified and excluded from exposure to sewage sludge constituents. The draft regulations ignore the Permit Holders' responsibility. Landowner certification requirements must be incorporated into the regulation if DEQ is to ensure that health sensitive individuals in the vicinity of land application sites are protected.

Commenter: Staudinger, Henry, representing Citizens

Land application of Sewage Sludge is the preferred method of many sludge generators for the disposal of this Solid Waste. However, because of concerns to health and the environment, land application of sewage sludge in Virginia is prohibited by statute, except under valid permits issued by the SWCB that comply with a number of important statutory preconditions. These preconditions include the adoption of regulations that ensure, among other things, that health and the environment are protected. VA Attorney General Cuccinelli, II, in an opinion dated October 29, 2010 summarized the applicable law as follows: "It is my opinion that any permit issued by the Board for land application of sewage sludge must be in compliance with the applicable requirements of § 62.1-44.19:3." The Attorney General went on to say that the Board is an agency created by statute in the Executive Department of the Commonwealth, and concluded: "It is elementary that 'administrative agencies, in the exercise of their powers, may validly act only within the authority conferred upon them by statutes vesting power in them,' Thus, it follows without question that the Board must act in compliance with its authorizing statute, in this case § 62.1-44.19:3." I submit that it is unlikely that there has ever been a land application permit issued that complies with the Code of Virginia. For example, statutory preconditions are not met, applications on Pollution Sensitive Sites are allowed, and Health Sensitive Individuals are not protected. This amendment process offers the SWCB the opportunity to issue the requisite regulations as well as to ensure DEQ policies and practices that comply with Code requirements. The draft regulations prepared by DEQ do not accomplish that objective, virtually ensuring that the Board will not be able to issue permits that would authorize lawful land applications. I ask the Board to carefully evaluate and consider the Code mandated preconditions and other specific requirements before land application can be lawful under DEQ permits.

Commenter: Trumbo, Susan, representing Recyc Systems

Recyc Systems employs a staff of equipment operators, truck drivers and field technicians who have regular exposure to biosolids. Some have been working with biosolids in excess of twenty years. In addition, we have farms where biosolids have been applied to their fields on an infrequent basis over the past twenty years. Those who work the fields have exposure to the biosolids which are applied to the fields. We have no knowledge of anyone, staff or farmers, becoming ill from their exposure to biosolids.

DEQ Response to Comments: Health Concerns

As required by § 62.1-44.19:3, DEQ submits each application for land application of biosolids to the Virginia Department of Health for their recommendations, if any, on permit modifications needed to protect public health. DEQ does not have access to, and does not ask for, individual's health information and therefore relies on the public to provide pertinent information during the comment periods for land application permits. Staff consults with the Department of Health (VDH) for recommendations based on the information provided. In its 2008 Report to the Governor and

the General Assembly (House Document No. 27), the Governor's Expert Panel on Biosolids stated the following:

> *In early discussions, the Panel agreed that addressing the questions surrounding citizen-reported health symptoms should be its highest priority. In the past 18 months, the Panel uncovered no evidence or literature verifying a causal link between biosolids and illness, recognizing current gaps in the science and knowledge surrounding this issue. These gaps could be reduced through highly controlled epidemiological studies relating to health effects of land applied biosolids, and additional efforts to reduce the limitations in quantifying all the chemical and biological constituents in biosolids. White the current scientific evidence does not establish a specific chemical or biological agent cause-effect link between citizen health complaints and the land application of biosolids, the Panel does recognize that some individuals residing in close proximity to biosolids land application sites have reported varied adverse health impacts.*

Additional information pertaining to the expert panel and the final report can be accessed at http://www.deq.virginia.gov/info/biosolidspanel.html. The panel determined that "as long as biosolids are applied in conformance with all state and federal law and regulations, there is no scientific evidence of any toxic effect to soil organisms, plants grown in treated soils, or to humans (via acute effects or bio-accumulation pathways) from inorganic trace elements (including heavy metals) found at the current concentrations in biosolids."

Subject: Hours of Operation

Commenter: Elliott, Judy, representing Citizens

The applicators are spreading sludge in the early morning on some sites. Are there any DEQ staff or any County Monitors there on the site during those early morning applications?

Commenter: Foster, Ed, representing Citizens

Hours when spreading is allowed: Should be 8 AM to 6 PM. It is ridiculous to have noisy trucks disrupting neighborhoods at 3 AM.

Commenter: Graf, Mary, representing Citizens

Hours of operation must be limited to regular business hours so that DEQ and county monitors will be available to do their jobs. Spreading at 3 and 4 am while monitors are still home in bed is not a procedure that will ensure regulation compliance.

There need to be time-of-day restrictions: business hours only so that DEQ and county monitors will be available to do their jobs.

Commenter: Graf, Mary, representing Self

I tried to find a regulation that covers the hours of the day when applications are allowed. Is there any time of day restriction? If so, could you direct me by page/line of the draft that you sent earlier.

There are no time of day restrictions in the statute or regulation.

Commenter: Layne, Bill, representing Citizens

I observed some of this sludge being spread early in the morning before daylight while your inspectors were still asleep. All of this does not inspire a lot of confidence in your agency.

DEQ Response to Comments: Hours of Operation

DEQ does not regulate the hours of business; however, permit requirements for proper application must be met regardless of when the application occurs. The VPA regulation states that if "necessary to protect the environment or the health, safety or welfare of persons residing in the vicinity of a proposed land application site, the department may incorporate in the permit at the time it is issued reasonable special conditions regarding …time of day restrictions." VDH has not advised DEQ of any need to restrict biosolids land application times to protect human health or welfare. Should a citizen assert that a particular site-specific condition should warrant such a condition, DEQ would consult with VDH in the evaluation of the affect on health, safety or welfare.

It should be noted that transport of biosolids to an application site is typically the only activity that occurs in the pre-dawn hours. The daily notice requirement, required to be submitted no more than 24 hours prior to commencement of biosolids activities (including delivery) at a site is included in the regulation as a means to have inspectors able to arrive at a site at the start of their work day, rather than arrive in the office and await notification of where land application activity is occurring.

Subject: Landowner Agreements

Commenter: Burleigh, Mary Ann, representing Citizens

Develop a method to verify that the landowner certification is made by the current property owner at the time of permit issuance application.

Commenter: Coulling, Philip, representing Rockbridge Area Conservation Council

Because even with the best science and efforts of the Department, many unknowns still exist about the health effects, persistence, and transport of some of the modern pharmaceuticals and other compounds EPA has now documented as widely occurring in sewage sludges, we also strongly recommend that the department require a permanent notice be recorded in the deeds of properties where land application has occurred so that future land owners will have proper notice of the activities that have occurred on the property.

Commenter: Davis, Brandon P., representing Shenandoah County

Landowner Certification Verification: Develop a method to verify that the landowner certification is made by the current property owner at the time of permit issuance application.

Commenter: Graf, Charles, representing Citizens

There must be some sort of registry to list all land that has had sewage sludge applied to it. This listing must be easily accessible to private citizens and to realtors. Buyers have a right to know if pollutants have been applied to the land they are considering purchasing. This would be a solution to a problem that was poorly handled by the Water Control Board. The Water Control Board has the final responsibility of passing sludge permits, and at the same time of protecting citizens. At present, there is no way that a citizen buying land can know if it has been used as a toxic waste dump. The Board tried to pacify the citizens by amending the permit (Campbell County Permit) to require the permittee to notify future owners about the sludging. But this notification would occur only AFTER the purchase, which does not protect the buyer. Also, it is the permittee who is required to do the notifying, and the permittee has proven that they are unable to track

even the current owners included in their permits. This action was an insult to the intelligence of the citizens, and a disappointment that the Board would stoop to such tactics.

Commenter: Graf, Mary, representing Citizens

According to VA Code, a permit cannot be valid if the landowner/farmer does not give signed consent. Does this not imply informed consent. DEQ and the Extension Service are assumed by the general public to be trusted, unbiased sources of information, and thus the landowner's most likely resources concerning sewage sludge application. But completely lacking in neutrality, DEQ and the Extension Service both present sewage sludge biosolids as free "fertilizer", when in reality biosolids are pollutants, as defined in the Federal Clean Water Act. No, or little mention is made of the controversies and risks surrounding sludge. Even though most of the contents are unknown, DEQ and the Extension Service state that sewage biosolids are safe. But, safety has never been proven. Also, many facts are omitted from their information, such as: farmers' insurance excludes damage resulting from pollutants; the amount of sewage sludge to be spread is calculated by the crop Nitrogen needed - resulting in 10 to 15 times required Phosphorus being applied; treating sludge does not eliminate disease-causing organisms; regulations cover only those few constituents that are test for - all the rest, even though they may persist in the soil and present many potential health and environmental risks are unregulated; some countries have banned sludge applying and many food companies have prohibited supplier use of sludge; the landowner is being "paid" with the few nutrients in sludge, in trade for the disposal of toxic waste on his land. Two extreme conflicts of interest: DEQ actually promotes biosolids even though regulating agencies should be neutral and the author of the Extension Service biosolids publications, besides being a VaTech faculty member, is also a paid consultant of the sludge industry. Farmers are a key factor in our food chain. For all of our sakes, they need complete, unbiased, transparent, unconflicted information with which to make their decisions.

Also, landowners are not fully informed about the hazards and risks associated with spreading sludge pollutants on their property. They are told it is free (true in the short term only), and it is fertilizer (false - it is pollution dumping in exchanges for some fertilizer benefit.)

Landowners must sign the application. Who checks that (a) all, and (b) the correct landowners have signed?

Landowners need to sign that they received complete and unbiased information on what sewage sludge biosolids is, not just that it is free. The definition of "pollution" needs to be included since the permit is for pollution abatement. Landowners must accept in writing full responsibility for any negative health or environmental effects that may occur either immediately or in the future.

Provision needs to be made for ensuring that all landowners, and the correct landowners, have signed the permit.

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

A suggestion has been made that DEQ develop a method to verify that the landowner certification is made by the current property owner at the time of permit issuance. DEQ is not in the title business. In all of its regulatory programs (air, water, waste), applications require a certification that the person seeking the application has the authority to operate the given project. DEQ does not second-guess such certifications, but takes them at face value. DEQ does not have the staff or resources to go behind every application or certification it receives to verify assertions of title or right.

The application requirements under both the VPDES and VPA programs require the inclusion of written consent of the landowner to apply biosolids on its property. It would be useful for the regulation to include a standard form for that purpose. This would ensure that the consent is in the form desired by the agency. Having the agreement standardized and incorporated into the regulation would be helpful. Additionally, the requirement that the agreement must reference site restrictions in the permit does not make sense, given

the fact that the agreement must be obtained prior to receiving the permit. Instead, the agreement should reference the requirements of the regulations.

The consent is referred to both as "written consent" and as "landowner agreements." Are these the same thing? If so, consistent terminology should be used.

The proposed regulation requires new landowner agreements to be provided when an application is filed to add new land. The language relating to this must be reworked to make clear that new landowner agreements should be required for only those additional landowners, not for the land already covered by the permit (and for which a landowner agreement was already provided during the permitting process). See 9VAC25-332-530 B 3.

Commenter: Henderson, Jim, representing Citizens

Information presented to farmers who are considering the use of sludge does not disclose the many risks that exist. Farm operations which have been compromised, animals that have been killed or sickened, human disorders which have been documented, and other negative information has not been conveyed or referenced. Again this is partially the result of gag orders associated with legal suits. The regulations MUST insure complete disclosure of ALL risks associated with consenting to accept sewage sludge. Further, the regulations must require the landowner's signature that he accepts full responsibility for all such risks that may result in health and environmental problems either in the present or in the future.

Commenter: Laurrell, R. David, representing County of Campbell

Develop a method to verify that the landowner certification is made by the current property owner at the time of permit issuance application.

Commenter: Overbey, Jo, representing Citizens

The language of the "Biosolids Application Landowner's Agreements" makes it impossible for the Board to determine if the consents are valid.

They make no reference to the potential risks associated with land applied sewage sludge. Thus the Board has no way of knowing whether the landowners were made aware of and accepted those risks when they agreed to accept the waste. The Agreements also fail to state that the value of the nutrients and soil conditioning was the only payment landowners would receive for allowing their land to be used as waste disposal sites for sewage sludge. Indeed, the Agreements fail to provide information to landowners that would enable them to calculate the tax consequences of accepting those payments. Instead, based on the language of the Agreement, the landowners could erroneously believe they were receiving something free. Thus the Board has no way of knowing whether the landowners understood what they might have consented to.

Because of the risks to landowners, the General Assembly set out an important threshold precondition to the issuance of a valid permit, a precondition that Nutri-Blend has failed to meet. § 62.1-44-19:3A(3) provides: "The permit application shall not be complete unless it includes the landowners' written consent to apply sewage sludge on his property." This statutory requirement is implemented in 9VAC25-32-60 C (1) which states: "A complete VPA permit application shall be submitted by the owner of the pollution management activity before a VPA permit can be issued." Nutri-Blend has not complied with this threshold precondition. The full responsibility for providing the required written landowners consents falls on the applicant, not on DEQ, not on the Board and especially not on citizens. Thus DEQ's admission that it fails to verify whether the required landowner consents have been provided is not surprising. However, that means that there can never be certainty on the part of the Board that it has a complete application before it. The Board should insert a provision in permits clearly stating that if written consent to allow sewage sludge to be applied on their property is not part of the permit application, the permit would be null and void and no land applications can be made there under. Although that is the statutory result if the precondition was not met,

insertion of such language in the permit is absolutely essential because when DEQ subsequently learns that this precondition was not met, its current policy and practice is not only to refuse to direct the permittee not to make further land applications, but also to look the other way and allow the sewage sludge applications to unlawfully continue unabated. The language of the "Biosolids Application Landowner's Agreements" do not comply with the statutory consent requirement. Indeed, such consent cannot be found anywhere in those agreements.

When NutriBlend applied once again for a permit to spread in Campbell, a group of citizens worked hard to inform people who lived near the proposed spread sites that it was coming. We, not DEQ, found a number of errors in the permit. We went all the way to the SWCB meeting to object to the permit on the basis that it was not legal, as it no way fulfilled DEQ's obligation to protect health and the environment, in accordance with VA Code. We presented a solid case at both the local public hearing and again at the SWCB meeting, supporting our contention. After much discussion, we were told by the Board that they recognized that the Permit was flawed, but were obligated to pass it. However, we were promised that a number of deficiencies that we had pointed out would be addressed in the proposed amendments to the regulation, and that our permit would be folded under the umbrella of the new DEQ regulations. It was with great disappointment that I read the proposed amendments to the regulations. In no instance do they address the issues that we raised in a manner that will protect the health of our citizens or our environment. DEQ has gone through the motions, but appears to have primarily listened to the industry participants in writing these amendments, and both the Board and DEQ have ignored the issues that we raised. Under the Code of VA, lawful land applications are possible only under permits that comply with the Code. The prohibition against land application in the Code precludes any lawful land applications by NutriBlend in Campbell County. This, it is critical for the Board to make a number of changes to the proposed regulations and to make them a part of NutriBlend's permit, before DEQ can authorize any lawful land applications. It is imperative that the Board address in the regulations how to make certain that DEQ precludes applications under other issued permits that are not valid under the Code of VA.

Commenter: Staudinger, Henry J., and Jo Overbey, representing Citizens

A reasonable effort on the part of DEQ must begin by requiring the following certifications by the Permit Applicant or Permit Holder as well as the Landowners of the sites proposed for land application: "A permit to allow land application of sewage sludge is valid only if prior to submission to the Board there is valid written consent by all landowners at the time the application is submitted to the Board and valid consent continues at all times during the permit unless such sites are withdrawn from the permit. To reduce the risk of issuance of permits that do not authorize lawful land applications, Landowners in an agreement with the Permit Applicant or Permit Holder shall certify in writing that they constitute all of the owners of the site proposed for land application of sewage sludge; and if ownership should change or consent be withdrawn, DEQ and Permit Applicant or Permit Holder shall be immediately notified in writing. Permit Applicants and Permit Holders shall certify that Applicant/Holder has by due diligence confirmed that all owners of the property have signed this agreement; and that the Permit Holder will, following further due diligence, recertify prior to each land applications that there have been no consent withdrawals and/or ownership changes."

Both the current and draft regulations follow the Code and place the responsibility for obtaining and maintaining the agreement on the Permit Applicant/Permit Holder. However, neither the current nor draft regulations adequately address DEQ's obligation to submit only complete applications to the SWCB; much less the SWCB's authority to consider only complete applications. Under DEQ policies and practices submissions by Permit Applicants/Permit Holders are presumed to be accurate, and DEQ does not verify whether all landowners have been actually identified for purposes of submitting consent to allow sewage sludge to be land-applied on their property. That presumption does not change even when others have questioned the accuracy, or even when presented with evidence that not all landowners have been identified. As a result DEQ improperly deems applications to be complete and certifies the same to the SWCB. The SWCB then issues permits based on DEQ's misinformation that applications are complete. As

a result, it is likely that a complete application has never been submitted to the Virginia Board of Health or to the State Water Control Board. Thus it is probable that every application occurring under current permits are prohibited by the Code of Virginia. The draft regulations fail to address this fatal defect. DEQ must have a reasonable basis to conclude that all landowners have been identified.

By policy and practice, DEQ relies on the honesty of those who sign the agreements, including whether they actually have authority to execute the agreement. Since the lack of an authorized signature results in permits that cannot authorize lawful land applications, it is essential that the certification requirement set forth below be part of the land application regulations: "Where the person signing on behalf of the landowner is representing another (e.g. Power do Attorney), or is an entity such as a corporation, partnership, trust, etc., the person executing the agreement shall attach sufficient documentation to establish that the person has the lawful authority from the landowners to provide consent and make the commitments set forth in the agreement."

Ensure that Identified Landowners provide informed written consent. The draft regulations make no effort to address the current failure to ensure informed consent on the part of each landowner. DEQ (and its predecessor) have been reminded over the years that the landowner agreements are inadequate to enable DEQ to determine whether the requisite written landowner consent has been provided. Thus DEQ cannot legitimately advise the SWCB that the application is complete. In order for DEQ to comply with its statutory mandate, it is essential that the written consent of landowners clearly be based on potential risks in the context of existing factual and scientific data and the limitations of that data as well as the Landowners responsibilities following any disposal of sewage sludge waste on their property.

It is important for DEQ to clearly understand what responsibilities, if any, a given landowner, has actually agreed to perform on behalf of the Permit Holder. That could be accomplished with the following certification provision: "Landowners shall certify that they have accepted responsibility for the following permit requirements for which the Permit Applicant or Permit Holder has ultimate responsibility: _____ (This could include such things as: keeping cattle and people off the site per regulatory restrictions, applying potassium shortfalls, supplementing pH deficiencies, ensuring that health sensitive individuals are identified and not exposed and that pollution sensitive sites are excluded from application.) Where the landowner is not the farm operator and the farm operator agrees to be primarily responsible for permit requirements, the farm operator shall execute the written consent agreement and confirm the commitment to do so."

Landowners have the right to terminate consents at any time for any reason or for no reason. However, that has not been made clear to all landowners. Moreover, when consent is withdrawn, no sewage sludge may be applied to the site. Consistent with the statutory requirement that there must be valid landowner consents under a permit that authorizes lawful land applications. DEQ must add the following requirement: "Landowners may withdraw consent at any time with or without any reason. When consent of any landowner is withdrawn before Board approval, the site shall not be part of any issued permit that authorized lawful land applications. Where consent of any landowner is withdrawn after issuance of a permit, the site shall cease to be part of the permit and sewage sludge applications are prohibited thereon. Prior to every land-application, Permit Holder shall certify that valid consents are in place. Land application on sites following withdrawal of consent shall invalidate the issued Permit and the permit shall be null and void."

Require Landowner certifications accepting potential risks and obligations. Due to all the misinformation about free fertilizer and recycling, including the use of the word biosolids in lieu of the term treated sewage sludge as set forth in the statute; it is essential that landowners clearly understand that their property is being used for the disposal of sewage sludge, and the payment they will receive is the nutrient and soil amendments benefits of the sewage sludge. The following landowner certification must be required by the regulations: "Landowners shall certify that they are aware that they would be allowing treated sewage sludge to be land-applied on their property, that the only payment for disposal of this waste on their property is the value of the nutrient and soil amendment benefits, and that it is the Landowners' responsibility to

determine the tax consequences of receiving the nutrient and soil amendment benefits."

The nature and degree of risks to health and the environment are played down, if not ignored. However, full disclosure is essential if there is to be informed consent. Certification of landowners regarding indemnification is needed as part of DEQ's process of determining whether informed consent was provided: "Landowners shall certify that they have been made aware of and understand the risks associated with accepting sewage sludge, including the possibility that the permit may not be valid, as well as potential damages, including attorneys fees; and (have or have not) been offered and (have or have not) accepted full indemnity from the Permit Applicant or the Permit Holder and the Generator for any damages that might accrue as a result of the land application of Sewage sludge."

The regulations must also require the following certification from each of the identified Landowners: "Landowners shall certify that they constitute all of the owners, or together with _____ constitute all of the owners, of the following sites: _____(insert all relevant proposed sites)."

There are a number of requirements on the Permit Holder that result when sewage sludge is land-applied. In some cases some may continue long after expiration of the permit under which applications are made. Permit Holders sometimes attempt to delegate those responsibilities to the landowners via written agreements. There is nothing in the regulations to ensure that once sewage sludge is land-applied those obligations will be met. Additional provisions would include: "Permit Applicants/Permit Holders shall have an agreement with landowners setting all obligations that result from allowing sewage sludge to be land-applied. The agreement shall clearly provide which obligations the landowner will be responsible for, the responsibility and ability of the Permit Holder to ensure that those obligations are enforced, as well as adequate contractual penalties to ensure compliance by the landowners and/or the ability of the Permit Holder and/or DEQ to take all steps needed to ensure compliance."

There is a particular concern that the mischaracterization of sewage sludge as free fertilizer leaves absentee landowners at special risk. The following certification requirement is necessary for DEQ to confirm the existence of informed consent: "Landowners who do not farm the property understand the terms and conditions of transferring the nutrient and soil amendments benefits to the farm operator require a separate agreement between the landowner and the farm operator setting forth the terms and conditions of such transfer."

There remains the possibility that not all landowners have been identified. Thus if DEQ advises the SWCB that an application is complete, unless DEQ confirms in writing that it has verified that all Landowners have been identified, all permits must include the following language: "In the event that the Permit Applicant/Permit Holder failed to submit valid written consents from all landowners and a permit is issued; the permit shall be null and void and all land application of sewage sludge under the permit is prohibited."

Commenter: Winn, William and Barbara, representing Citizens

We are concerned as to the present application's long term effects on land receiving or people who may wish to buy it in the future. A record is needed and this record needs to be available for the future buyers. A mechanism is needed for this protection.

DEQ Response to Comments: Landowner Agreements

The landowner agreement, which is a required component of a biosolids land application permit application, has been modified in response to public comment, TAC discussion and State Water Control Board amendments to permit conditions.

The landowner agreement amendments include the following statements that must be signed by

the landowner:

1. This agreement remains in effect until it is terminated in writing by either party or until ownership of all parcels changes. If ownership of individual parcels identified in this agreement changes, those parcels for which ownership has changed will no longer be authorized to receive biosolids under this agreement.
2. In the event that I, the landowner, sell or transfer all or part of the property to which biosolids have been applied within 38 months of the latest date of biosolids application, I shall:
    1. Notify the purchaser of the applicable public access and crop management restrictions no later than the closing date; and
    2. Notify the permit holder of the sale within two weeks following closing.
3. I have no other agreements for land application on the fields identified herein. I will notify the permittee immediately if conditions change such that the fields are no longer available to the permittee for application or any part of this agreement becomes invalid.
4. I (the landowner) agree to notify the Permittee upon signing any Biosolids Application Agreement with another Land Applier for the fields identified above during the life of this agreement.
5. Γ I am the sole owner of the properties identified herein.

   Γ I am one of multiple owners of the properties identified herein.
6. I hereby grant permission to the Permittee to land apply residuals as specified below, on the agricultural sites identified herein and in Exhibit A. I also grant permission for DEQ staff to conduct inspections on my land identified above, before, during and after land application of permitted residuals for the purposes of determining compliance.

   Γ Class B biosolids Γ Water treatment Residuals Γ Other Industrial Sludges
7. I, the landowner, I have received the Biosolids Fact Sheet that includes information regarding regulations governing the land application of biosolids, the components of biosolids and proper handling and land application of biosolids.
8. I, the landowner, have been expressly advised by the Permittee that the site management requirements and site access restrictions identified below must be complied with after biosolids have been applied on my property in order to protect public health, and that I am responsible for the implementation of these practices. [The list includes requirements regarding public access, crop restrictions, livestock access, and compliance with the nutrient management plan.]

The amended landowner agreement also requires that for each proposed land application field, the county Tax Parcel ID(s) shall be listed and identified on tax maps that are submitted with the landowner agreement.

An additional Multiple Owner Coordination Form is included for the Permittee to use to identify all owners of a property and their mailing address on a single document that will be accompanied by each signed landowner agreement.

New landowner agreements, using the most current form provided by the board, shall be submitted to the department for proposed land application sites identified in each application for issuance or reissuance of a permit or the modification to add land to an existing permit that authorizes the land application of biosolids.

For permits modified in order to incorporate changes to the VPA regulation, the permit holder shall, within 60 days of the effective date of the permit modification, advise the landowner by registered letter of the requirement to provide a new landowner agreement. The letter shall include instructions to the landowner for signing and returning the new landowner agreement, and shall advise the landowner that the permit holder's receipt of such new landowner agreement is required prior to application of biosolids to the landowner's property.

Subject: Legal Forms Referenced by the Regulation

Commenter: Trumbo, Susan, representing Recyc Systems

All forms and specific language requires should be included in the regulations.

DEQ Response to Comments: Legal Forms Referenced by the Regulation

The landowner agreement form and permit application forms will be noticed on Town Hall.

Subject: Local Monitors

Commenter: Staudinger, Henry J., and Jo Overbey, representing Citizens

The Code requires reimbursement of local governments that may undertake testing to better ensure that health and the environment are protected. Code § 62.1-44-19:3G established a Sludge Management Fund that provides in part: "…The income and principal of the Fund shall be used...and to reimburse localities with duly adopted ordinances provided for the testing and monitoring of land application of sewage sludge..." Unfortunately the draft regulations effectively preclude Code mandated reimbursement. Reimbursement is not assured and is effectively precluded for testing of pathogens, viruses and other harmful constituents under current DEQ policies and practices. 9VAC25-20-148 provides an opportunity to submit reasonable expenses: "A. Reasonable expenses for the following types of activities may be submitted for reimbursement: Charges for biosolids sewage sludge and soil sample testing costs. B. Charges for site monitoring not associated with determining compliance with state or federal law or regulations are ineligible for reimbursement." 9VAC25-20-149 A provides no standard for reasonable expenses and arbitrary cap on acceptable expenses: "Reimbursement of local monitoring costs deemed reasonable by the department will be made for costs up to $2.50, per dry ton of biosolids sewage sludge land-applied in a county during the period of time specified in the submitted invoice. Costs of up to $4.00 per dry ton of biosolids sewage sludge land-applied in a county during the period of time that the costs were incurred may be reimbursed with prior approval from the department."

The Code's reimbursement provision was requested by citizens because VDH refused to consider testing for more than a few heavy metals and nutrients, even following health complaints. Following adoption of the reimbursement requirement, VDH refused to consider reimbursement for testing of any additional constituents in sewage sludge, effectively mooting the Code's requirement. DEQ's current policies and practices indicate that it will follow VDH's lead and refuse to reimburse local governments for testing as required by § 62.1-44-19:3G of the Code. The number of constituents to be tested for is directly impacted by the extent to which DEQ's regulations otherwise ensure (1) that health sensitive individuals are not exposed

to constituents that may be in any given sewage sludge and (2) the extent to which pollution sensitive sites have been identified and eliminated. If DEQ fails to ensure that health sensitive individuals are not exposed, then testing for any constituent (that could reasonably be present) that medical professionals believe could adversely impact health must be reimbursed. Similarly, if DEQ fails to ensure that no constituents could enter into surface or underground water, then all constituents that could reasonably be present that could harm the environment must be reimbursed. At a minimum, the regulations must be amended to clearly provide for reimbursement for reasonable testing when DEQ fails to undertake such testing to ensure that health is protected. Language must be added to Section 20-148 and might read: "Reasonable expenses for the following types of activities may be submitted for reimbursement, including reasonable costs to test sewage sludge for pathogens, viruses and other constituents that could explain health and environmental complaints: Charges for sewage sludge and soil sample testing costs."

DEQ Response to Comments: Local Monitors

§ 62.1-44.19:3. G. and I. of the Code of Virginia and the Part IV of the VPA regulation 9VAC25-32 outline the funding mechanism in which localities with duly adopted ordinances can request reimbursement for testing and monitoring conducted by a locality employee. DEQ encourages local governments to exercise this ability to supplement oversight and provide a local presence where these activities occur. The role of the local monitor is to monitor the use of biosolids to ensure state and federal requirements are met, just like a DEQ biosolids inspector.

Subject: Maps Required for Site Identification

Commenter: Burleigh, Mary Ann, representing Citizens

Require applicants for the land application of biosolids to use the most advanced mapping resources readily available to include GIS mapping in those localities that provide that technology.

Commenter: Davis, Brandon P., representing Shenandoah County

Require applicants for the land application of biosolids to use the most advanced mapping resources readily available to include GIS mapping in those localities that provide that technology.

Commenter: Foster, Ed, representing Citizens

Along with the submission of the application, tax map numbers shall be included. This has been shown to be a major problem as the applicant either does not know who owns the land or doesn't care.

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

Section 9VAC25-32-60 F 2 b (4)(d) requires that 100-year floodplains be identified. How does one find the 100-year floodplains information?

The application requirements for biosolids permits are extremely onerous and raise questions about how some of the information can best be obtained. Likewise, some clarification is needed for some of the requirements. For example, 9VAC25-32-60 F 2 b(3) requires a site map for storage sites including field features within 0.25 miles of the site boundary. It is unclear why 0.25 miles was selected. It is also unclear how that distance is measured. We would propose that the distance be measured from edge of application area rather than property line.

Commenter: Laurrell, R. David, representing County of Campbell

Require applicants for the land application of biosolids to use the most advanced mapping resources readily available to include GIS mapping in those localities that provide that technology.

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Mapping Requirements - VAMWA submits that the requirement to submit a tax map is unnecessary, as DEQ will be assigning an individual control number to each permitted site. In addition, a soil map is more appropriately included in a NMP. VAMWA requests that DEQ strike the requirement for a tax map and a soil map.

DEQ Response to Comments: Maps Required for Site Identification

Based on experience with permit applications submitted since the program was transferred to DEQ, it has been determined that these maps are required for accurate permitting. The topographic map depicts the lay of the land and features that will affect where the biosolids can be applied; the tax map is used to determine the boundaries of the property that is legally authorized to receive biosolids; the transport map is required so that it will be available for public review at the public informational meeting; the soils map is needed for DEQ staff to evaluate the field's suitability for land application. The various floodplains may be found on FEMA Maps.

Subject: Monitoring and Inspections

Commenter: Burleigh, Mary Ann, representing Self

I live in the Concord area of Campbell County and work for Campbell County. NutriBlend was spreading sludge on a farm owned by G.D. Gilliam which adjoins our property. Sludge was being spread on a field(also owned by Mr. Gilliam) adjacent to our property. Based on information on the County website, this field was not included in the sludge permit. I verified that information and also checked in on GIS, then called the local DEQ office. Mr. Cheatham, from that office, and the person who oversees the spreading of sludge in Campbell Co., went out to the property that afternoon, and verified that the field adjoining our property was indeed not included in the permit. Mr. Cheatham told me that he was going to forward this to another department within DEQ to be investigated. I waited over two months for a reply from DEQ, but as to date I have not heard anything from them. We raise our own food yearly within 50 to 75 feet of the property line. The dug well used to water the garden and horses is also located near the property line. Our intent is to build a home there in the near future. Not only are we very concerned about the safety of our food and livestock, but also about the carelessness of NutriBlend and the DEQ oversight (or lack of it). I am not sure what, if anything, can be done to correct this. I would welcome any suggestions you may have. It is my understanding that Campbell County cannot keep sludge out due to the "Dillon Rule". As our representative, I am asking that the General Assembly take up this matter and give the localities the ability to decide whether or not sludge can be spread in their county. When sludge was allowed to be spread in Campbell County, the citizens were assured that it would be tightly controlled. Apparently, that is not the case.

Commenter: Clabough, Jeanne W., Ph.D, representing Citizens

There is inadequate close monitoring by government officials of land applications of biosolids. Following application on two farms in our neighborhood, we found that sludge was dropped along a half-mile section of county road and was put down within seventy-five feet of a neighbor's well. When the VDH was contacted, they referred us to Nutri-Blend, the offending company whose spokesman "assured" us there was no need for concern. Virginias are depending on the DEQ to be better informed and more responsive.

Public Comments and Department Response to Public Comments

Commenter: Elliott, Judy, representing Citizens

I do not plan on applying sludge on my farm in Campbell County. The Sludge Companies are pretty much on their honor system. Who comes back to the application site within 30 days to make sure that cows have not been allowed back in the fields and who comes back within 6o days to make sure that the farmer has not planted crops on the application site? The 30 day restriction for cows should be extended to 60 days.

Commenter: Foster, Ed, representing Citizens

Where was DEQ when NutriBlend illegally spread a 22 acre field in Concord in January? Oh, that's right. They were onsite that morning inspecting the field, another glaring example of their incompetence. Why hasn't NutriBlend's permit been pulled? Why hasn't DEQ been punished for failing to do its job? Questions with no answers.

Commenter: Graf, Mary, representing Citizens

Regulations, and permits by extension, cannot regulate that which they don't know. There can be over 80,000 known chemicals, as well as how many unknown proprietary chemicals, in sewage sludge. Only a paltry ten are monitored.

Though there is oversight of land applications by DWQ and some by our county monitor the oversight is not constant. No one is on site during the entire operation. The lack of continued presence of DEQ and/or county monitor means there is no one to confirm that the number of loads delivered actually tallies with the number of loads sent by the producer, and tallies with the tonnage permitted on the Nutrient Management Plan. Much of this record keeping and oversight is often left to the hauler himself. Full time independent monitoring and oversight during the entire operation is a must if citizens are to be assured that each and every regulation is indeed being followed, and that their rights to health and well being are protected.

Commenter: Hatcher, Roger F., representing Farmers

Establish a department or group to monitor the quality of biosolids approved for land application. This group would work primarily with POTWs. When a biosolids is considered Class A or B, treat it like a fertilizer, subject to farmer's control.

Commenter: Hazelgrove, Joe, representing Farmers

My family has a 300 head dairy cow operation on over 2,000 acres. We have 800 acres of harvestable and non-harvestable cover crops under a Nutrient Management Plan. We have used biosolids for the last 15 years and its use has been extremely beneficial to our farm. My concern deals with regulation or overregulation of the agricultural community. The proposed changes in pH requirements, increase in signage, phosphorus requirements and the extension of buffers is another intrusion into farmers operations. I agree that the use of biosolids needs some oversight to ensure that the rules and regulations are followed but we do not need bureaucratic overkill.

Commenter: Henderson, Jim, representing Citizens

Germs, spores, and other biological agents, many of which come from allowable medical waste, can live through every process but high radiation. These agents can lie at rest until growing conditions are right even after application on a field. They can then be distributed by contact, wind, water, or other means, causing distress to people (or animals), especially to those with breathing or immune system problems. These conditions have been reported. However getting reliable data has been compromised because of gag orders associated with legal settlements. We cannot afford the risk of contributing to the spread of "bad bugs" which can be spread by land, water, or air. We cannot afford the risk of a breach of "best practice" or negligence in the sterilization process at the sludge source, either of which would drastically increase the spreading these agents. One accident or breach of procedure could have negative consequences for a significant population, including future generations. The regulations do not address these issues of

pathogens that survive treatment, nor of those that regrow after being spread.

Commenter: Johnston, Kathleen, representing Madison County Residents

What tests does the state, DEQ, or otherwise, perform on "biosolids" to ascertain their contents prior to application in any given county or on any given applicant's land? When are the tests performed, by whom, and are the results made public? If so, how and in what time frame relative to the application requests/actual application? If the state does not perform such tests or other tests as referenced above, who does perform such tests or other tests to determine contents of the biosolids to be applied, with the understanding that determining the contents of biosolids to be applied can be an indication of relative safety to human health or relative lack of safety to human health.

Commenter: Jones, V. Rea, representing Farmers

Present restrictions offer protection that is monitored and inspected. Further restrictions will cause loss of productive land.

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

Sections 9VAC25-31-547 A and 9VAC25-32-480 A allow DEQ to require monitoring wells for biosolids land application sites. This should be modified to make it clear that groundwater monitoring may be required for frequent application sites only. Traditionally, monitoring wells have not been required for infrequent sites, and there has been no rationale provided as to why that should be changes. Additionally, criteria for when such requirements may be imposed should be provided.

Commenter: Layne, Bill, representing Citizens

Our governing bodies and the EPA are inconsistent and unreasonable. On one hand you want to clean up the Chesapeake Bay, and on the other you advocate spreading toxic sludge on our land. Sludge has not yet been proven to be safe to people, animals, the environment, or the Bay. Most reasonable, thinking people would like to see sludge use on farmland outlawed completely. But until then, I agree that we need more rigid testing and monitoring and wider buffer zones for people who own land or live near being sludged.

22 acres of land adjoining my land that they did not have a permit for use was sludged. Where was the DEQ and those who were supposed to monitor this site? Someone was not doing his job. And I don't think it was an honest mistake. So please monitor and test more closely before sludge is spread. Charge a heavy fee for every ton to offset your expenses. It is not fair to extend these charges to the taxpayer!

Commenter: Martin, Steve and Popie, representing Citizens

DEQ in its presentation at the June 21, 2011 hearing on the Amherst application stated that 80% of the sludged farms are monitored and 65% of sludged fields are monitored to insure that the nutrient management plan is being correctly followed, 100% monitoring should be required.

Commenter: Martin, Steven, representing Virginia Blue Ridge Railway Trail

Full/complete monitoring of all land applications should be required by the regulation.

Commenter: Maurer, Linda, representing Springhaven Agricultural Enterprises, LLC, Madison County

Past applications of sludge have been haphazard at best. We've had overspray on our land (and we practice all organic, sustainable methods) and VA DEQ would not fine or hold the person applying the sludge responsible. That overspray immediately killed approximately 3/4 acres of our grazing land for our cattle. It took 6 months to recover and we could not graze that portion of our land. It is also why we are unable to obtain Certified Organic status because of the irresponsible application of sludge in the fields next to us.

Public Comments and Department Response to Public Comments

Commenter: Mitchell-Watson, Leslie, representing Friends of the North Fork of the Shenandoah River

According to the VDH, it is not possible to make a definitive statement about the safety of sludge because we do not know the actual contents of the sludge and there is a complete lack of knowledge regarding the health effects of some of the contaminants that may be present in the sludge. Sewage treatment plants are not designed to remove many of the chemicals that are currently entering the waste stream. Because these chemicals are not removed in the treatment process, they also end up in the sludge. The US EPA recently found 145 different chemicals in sewage sludge. Despite language in the state regulations stating that "biosolids may be required to be tested for certain organic compounds prior to agricultural use", the draft regulations require analysis for only 9 heavy metals. To ensure the protection of surface and groundwater resources, the regulations must require a more complete chemical characterization of sewage sludge. Biosolids should be monitored for an expanded list of pollutants that are known to be present in sewage sludge. Twenty-two (22) heavy metals occurred in each of 84 biosolids samples analyzed by EPA in the most recent Targeted National Sewage Sludge Survey. Requiring the analysis of only 9 heavy metals does not provide enough information to ensure protection of the environment or human health. At a minimum, biosolids monitoring should include aluminum, barium, beryllium, boron, calcium, manganese and silver (identified by EPA as metals of concern in sewage sludge and/or additional screening parameters identified in VPA regulations). Because this sludge will come from municipal sources and may affect drinking water sources, analyses should also be required for the organic chemicals listed in Table 1 of the VPA Permit Regulations (9VAC25-32-570).

Commenter: Overbey, Jo, representing Citizens

In order to ensure that statutory and regulatory requirements are met, it is necessary that those requirements are enforced. However, the failure of DEQ to enforce the regulation is systemic. Examples range from the refusal to ensure that statutory requirements such as nitrogen and phosphorus applications do not exceed agronomic rates, to the failure to exclude application on pollution sensitive sites; to allowing unincorporated applications; and to allowing land applications in the vicinity of health sensitive individuals when adequate buffers to protect them are not imposed. As stated earlier, it is also includes the refusal to stop land applications under invalid permits (i.e., when it becomes known that valid written landowner consents had not been provided at the time when an application was submitted to the Board.) It is submitted that until DEQ demonstrated a consistent and adequate enforcement of regulatory requirements needed to ensure that the environment, health, safety and welfare are protected, DEQ cannot carry out its mandate to ensure that they are protected. Thus the Board is not in a position to issue valid permits to land-apply sewage sludge to anyone.

Commenter: Paulson, Eric, representing Madison County Residents

I am very concerned that the sludge biosolids may not be adequately regulated for safety and that existing regulations are not being enforced. The last time our neighbor used biosolids on his property the county had no one monitoring virtually any of the delivery truck loads. No one from the county government or the state could confirm that the amount of sludge being delivered was within allowable limits. Besides the threat to our water quality and the lax monitoring of the delivered sludge, we were truly endangered by the reckless way the delivery drivers drove their huge trucks along our narrow dirt road.

Commenter: Potter, Lorraine, representing Citizens

In Campbell County 2,000 acres have been sludged. The current regulations have not been followed. 400 tons of sludge were dumped by mistake on over 20 acres not in the permit. There was no oversight. The incident was reported by a neighbor. DEQ has yet to give any response as to how this happened who was at fault and what is being done so that this does not happen again. Citizen requests are not being addressed and questions to DEQ are not being answered. DEQ is not able to check on Nutri-Blend or to make them follow their permit.

Public Comments and Department Response to Public Comments

The continued dumping of out of state sewage with little or no oversight is not what the legislature intended when they took the sludge program away from VDH and gave it to DEQ. DEQ, like VDH, is violating the letter and the spirit of the law. No new permits should be issued until new regulations are in place.

Commenter: Sligh, David, representing Riverkeepers

Monitoring and buffer requirements are set arbitrarily, apparently based upon assumptions about environmental conditions that do not exist in parts of at least 27 of Virginia's 95 counties, including some counties with the state's highest concentrations of land in farming, where use of sludge for fertilizer is most likely to occur.

Commenter: Turpin, Richard B., representing Citizens

Test every container load before applying and only apply those that contain no "bad" stuff.

DEQ Response to Comments: Monitoring and Inspections

The current inspection staff is dedicated to ensuring compliance with issued permits and the permittee is required to give DEQ staff notice prior to land application of biosolids so that unannounced site inspections may be conducted while land application of biosolids is in progress. The daily notice requirement, required to be submitted no more than 24 hours prior to commencement of biosolids activities (including delivery) at a site is included in the regulation as a means to have inspectors able to arrive at a site at the start of their work day, rather than arrive in the office and await notification of where land application activity is occurring. In order to determine compliance with the law and regulations, DEQ is currently inspecting approximately 80% of the farms where biosolids is applied, and inspecting approximately 70% of the farms during land application activities. DEQ utilizes corrective action, as well as formal enforcement if necessary to ensure compliance.

Subject: Notification Procedures - Local Government and Citizens

Commenter: Atwood, Dennis, representing Shenandoah County Water Resources Advisory Committee

The notification requirements should be changed to include: (2) "daily notification prior to commencing planned land application activities," should be changed to "24 hour notification..."

The notification requirements should be changed to include: (1) the local government biosolids monitor in those cases where a biosolids monitor has been designated,

The regulations should include a provision that DEQ and the SWCB, establish and operate a transparent process whereby the public's confidence in the review and use of pertinent scientific literature is obtained and maintained. This principle should be adopted before making final changes to the regulations under revision.

Commenter: Burleigh, Mary Ann, representing Citizens

Allow 100-day notification only for existing, permitted sites. Require land appliers to provide the 100-day notice to localities of the anticipated land application of biosolids to include only such information that is reasonably expected to occur with the most specific times and places as is available at the time of the

notification. Do not allow conceptual, generalized and speculative information to be used as meeting the 100-day notification requirement. Do not allow notification to be made on sites not yet permitted.

Require site signage that is easily recognizable and legible to the normal person on adjacent properties and areas fronting public roads.

Commenter: Coulling, Philip, representing Rockbridge Area Conservation Council

Although data on chemicals present in biosolids are limited, our understanding is even more limited of the risks from those chemicals to human health and the environment, their potential for bioaccumulation, mobility in water, air, and soil, breakdown products, and biodegradation of both the individual compounds themselves and the complex mixtures of chemicals in sludges. Despite the best science and efforts of the Department, many unknowns still exist about the health effects, persistence, and transport of some of the modern pharmaceuticals and other compounds EPA has now documented as widely occurring in sewage sludges. We therefore strongly recommend that the department require that a permanent notice be recorded in the deeds of properties where land application has occurred so that future land owners will have proper notice of the activities that occurred on the property.

Commenter: Davis, Brandon P., representing Shenandoah County

The notification requirements should be changed to include: (1) the local government biosolids monitor in those cases where a biosolids monitor has been designated, and (2) "daily notification prior to commencing planned land application activities," should be changed to "not less than 24 hour notification..."

The time period for posting of signs where land application is to occur should be increased from "five" to "fifteen" business days prior to and after application and sign content requirements must include the name(s) of the property owners.

Commenter: Foster, Ed, representing Citizens

14 Day Notification: Proposed language in regulation (If multiple sites are included in the notification, the permit holder shall make a good faith effort to identify the most probable order that land application will commence.) This should be changes to 14 day notification shall be given individually on each tract to be spread. This will give adjoining landowners a chance to make plans to leave if they have health concerns.

It has been determined that within the 14 days prior to an application there are too many variables that will affect whether or not you can actually apply at the site, therefore the proposed reporting details have been removed. The original statute language will remain in the regulation. A new requirement has been included to require notice to the DEQ and County when the signs are put in place at the land application site 5 business days prior to land application beginning.

No proposed sites shall be submitted with the 100 day notice -- only permitted sites. This has caused problems in interpretation and needs to be clarified.

The language will be clarified to indicate the 100 day notice may be made by DEQ when the permit application package is submitted to the county.

Posting of Signs: Signs shall be yellow in color with black lettering large enough to read from the highway while driving by, 4ft X 4 ft in size, and put up one week in advance and left in place 30 days after spreading is complete. Signs need to be 500 ft apart along the boundary of fields to ensure that public is aware sludge is being spread on the fields. One sign on a 900 acre spread site is not enough. This should not be construed as an imposition on the sludge companies.) I have witnessed firsthand that the one sign required was turned facing the field, not the road on one tract, and another was placed behind a wooden fence and couldn't be seen from the road. DEQ inspectors were passing these signs daily and did not notice anything wrong. Permit holders shall replace or repair (not at their discretion) any sign before, during, and for 30 days after spreading.

Public Comments and Department Response to Public Comments

Commenter: Graf, Charles, representing Citizens

Proper signage was addressed at the TAC meetings. No improvement has been made in the new regulation other than to post signs for a little longer. The signs must: 1) Have as their purpose to notify and warn individuals in the vicinity, so they have time to plan and take precautionary action. 2) Be at least 4ft. X 6ft. 3) "WARNING" in orange 10" letters at the top of the sign. 4) A 24/7 phone number of a responsible individual who can be reached in an emergency. 5) Signs need to be placed: a) Close enough to the road to be read by a car passing by at 55 mph. b) Posted in such a manner necessary to notify all residents whose property is adjacent to the sludge site. This requires multiple signs, not just one at the field entrance. 6) Signs must be posted 14 days prior to spreading, in order to give notice that spreading is imminent. Signs must remain in place for 1 year after spreading is complete in order, as EPA requires for areas of high pedestrian traffic, to protect humans.

The permittee shall notify by USPS, all residents living within a mile of the proposed spread site. This would give those who are health sensitive individuals the opportunity to receive increased buffers and/or to take further protective action. This individual notification should be part of the 100 day notice.

Weakening enforcement of the regulations is the use of the term, "substantial compliance". An example of this abuse is the requirement of the sign at the sludge site to include the name and the phone number of a responsible individual at both DEQ and the spreading company. Our signs in Campbell County had the general office numbers of both, but no individual could be contacted. Further, the signs were positioned behind weedy fences, at bends in the road, and at a distance back from the roadway so as to make them not only unnoticeable, but also unreadable. At one point the sign was turned so the lettering faced the field and not the road. When complaints were made to DEQ -- we were told the signs were in "substantial compliance". These regulations are in fact not regulations. They are just a list of suggestions. This climate of non-compliance renders the regulations impotent and substantially out of compliance with VA Code. Several times we tried to contact DEQ and we got an email saying the recipient was out of the office till next week.

Commenter: Graf, Mary, representing Citizens

Neither permits nor regulations provide for notifying future buyers of sludged properties.

Notify individuals near proposed fields in a more effective manner. Posting signs has not been effective. Dr. Mark Levine, recommended, and the Regulations need to require "property owners to submit evidence that their neighbors have been notified. This allows the neighbors to identify concerns (health or otherwise) prior to the issuance of a permit."

Provision for notifying future buyers of sludged land needs to be included in the regulations. Future owners need to be made aware of the importance of pH management, as well as any crop-growing restrictions that may be in effect. The lame amendment made to several county permits does not suffice.

Regulations need to state exactly how persons residing on property bordering sites will be notified when individual notification is required.

Signs and other notification are inadequate and ineffective. In reality, in our experience, neighbors don't know when sludge is about to be spread. Signs have been too small to be noticed and read while driving, they've been placed behind board fences and at curves in the road. They've been turned as to be unreadable. In NO way do the present signs actually notify neighbors. Also, the regulations call for an individual's name on the sign, of which there is none. DEQ tells us they are in "substantial compliance". Signs need to ne at least 4 ft. X 4 ft. with warning orange on them, and a 24/7 contact number that gives you a person, not a voice mail box.

Signs: need to be 4'x8' and include warning orange on them in order to be noticed; letters need to be

large enough to be read by passing vehicles; signs must be placed near the road and not behind fences, and not at hills or curves where attention needs to be on driving; additional signs are needed when the site includes adjacent residences on more than one roadway; signs need to include a 24/7 contact number that connects with a person, not a voice mail box; and signs need to stay in place a full year in order to alert the public of necessary precautions.

Commenter: Hatcher, Roger F., representing Farmers

Forget about public notification signs. Have farmers using biosolids install permanent plaques (12" X 14" or so) at appropriate locations. Also drop the 14-day notification to the counties. Most counties have only one monitor and one contractor. Twenty-four hours is adequate notification. Farmers simply do not plan 14 days in advance (except in general terms). Weather generally determines what field will be fertilized and when. This can and does often change daily. A rain event that eliminates one flat field may have minimal impact on rolling topography. Over the years we have found the notification process to be extremely detrimental. Not only rain events but delays in harvesting grains or hay crops make day to day management very challenging.

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

The notification requirements found in the proposed regulation (9VAC25-31-485 D; 9VAC25-32-515 A 1) should be consistent with the provisions of VA Code § 62.1-44.19:3. Additionally, the requirements should be clarified to note that this is a one-time notification. The notification can be supplemented if any additional sites are added to the permit.

There are other references elsewhere in the regulation to compliance with local ordinances (9VAC25-31-485 H - a substantive compliant is one that alleges a violation of a local ordinance). There is a requirement that the locality is notified of land application during the permitting process. That process ensures that land application is consistent with local ordinances. The determination of a substantive complaint should be limited to compliance with the permit issued by the department.

The timing provisions should be clarified and consistent throughout. Land applicators and sewage treatment plants operated seven days a week, so it is unclear what is meant by "business days" for these types of operations. Likewise, when a reference is made to a "daily" requirement, clarification is needed about whether this term means within 24 hours or during normal business hours.

Commenter: Johnston, Kit, representing Madison County Residents

Not everyone subscribes to local newspapers. If this is considered the legal standard, it really needs to be changed. Informational meetings on sludge in some locales have not been adequately advertised it the intention of the advertisement was to inform the public. There has been inadequate public notice for sludge permit applications.

Commenter: Laurrell, R. David, representing County of Campbell

Allow 100-day notification only for existing, permitted sites. Require land appliers to provide the 100-day notice to localities of the anticipated land application of biosolids to include only such information that is reasonably expected to occur with the most specific times and places as is available at the time of the notification. Do not allow conceptual, generalized and speculative information to be used as meeting the 100-day notification requirement. Do not allow notification to be made on sites not yet permitted.

The 100 day notice is a tool to make the county aware that a new site is being authorized to receive biosolids.

Require site signage that is easily recognizable and legible to the normal person on adjacent properties and areas fronting public roads.

Commenter: Layne, Bill, representing Citizens

All citizens need to be informed of the spreading of sludge, not only by signs on the property to be

spread, but in the local newspapers several times prior to the spreading of sludge. Some other form of notification beside signs need to be used. Newspapers or personal notifications by U.S. Mail should be used to ensure that all adjoining property owners receive notification.

Commenter: Martin, Steve and Popie, representing Citizens

It is imperative to have a fool proof method of ensuring that future property owners are notified of the fact that sludge has been applied to land. This is important not only to ensure that those owners do not inadvertently grow food crops on the land during the prohibited period but also to keep an accurate record of where sludge has been applied in the event remediation is required in the future. The only fool proof method of providing notification about anything related to real property is to record that information in the land records at the Clerk's Offices. Recording this information in this manner is far superior to relying on the farmer or applicator to be responsible. Recordation in the Clerk's Office is also far superior to keeping some type of register at DEQ. The public will not know where to go and such a record could easily get lost.

Commenter: Martin, Steven, representing Virginia Blue Ridge Railway Trail

There should be some mechanism in place to notify future property owners of sludge applications on their properties should problems be identified with sludge applications in the future. There should be accurate records of where sludge has been applied. This information could be recorded in the land records in the clerk's office. This could be done for $26. That way the information on properties where sludge has been applied could be found through a title search. The board should require this in the regulations.

Commenter: Maurer, Linda, representing Springhaven Agricultural Enterprises, LLC, Madison County

To bury the notice in the legal notices section was an unusual way to provide adequate and clear notice to other land and homeowners in the area.

Commenter: Mitchell-Watson, Leslie, representing Friends of the North Fork of the Shenandoah River

It is difficult to tell whether these proposed regulations require prior notification to the local government of the exact date of application. The regulations should explicitly require the permit holder to notify counties of specific delivery dates for any sewage sludge being applied in the county and the specific locations within the county where is will be applied.

Permit modifications and a public hearing should be required for any additional acreage proposed to be added to a permit. Allowing an increase of up to 50% in acreage covered by a permit without any public notice or review is excessive and precludes any review necessary to protect the environment and human health.

Commenter: Regnery, Audrey, representing Madison County Residents

I was quite disturbed to find the way in which you notified citizens, by putting it in a legal notice was very sneaky and most underhanded. If you had been on the up and up it would have been in a larger sized article, not in a one by two inch size and hidden away in the legal notices.

Commenter: Smedley, Scott, representing Virginia Biosolids Council

The notification requirements found in the proposed regulation (9VAC25-31-485 D; 9VAC25-32-515 A 1) should be consistent with the provisions of VA Code § 62.1-44.19:3. Additionally, the requirements should be clarified to note that this is a one-time notification. The notification can be supplemented if any additional sites are added to the permit.

The notification requirements include a determination of the most probable order that land application will commence. This requirement should be deleted.

Public Comments and Department Response to Public Comments

The proposed regulation requires that a permittee provide daily notification to the department and the executive officer of the local government where the site is located prior to commencing planned land application activities (9VAC25-32-515 A 3). This provision should be written in manner that allows more flexibility.

While it is important to provide details associated with sign content, there also is merit in allowing some flexibility to its content. A farmer chooses to use biosolids to benefit his farms and fields. We would suggest allowing for some flexibility of the sign content beyond what is mandated by the regulations, thereby allowing farmers the opportunity to reflect on the benefit of recycling biosolids on their permitted farms.

Commenter: Staudinger, Henry J., and Jo Overbey, representing Citizens

DEQ proposes to allow the addition of sites acquired by new property owners as well as additional sites from the same or additional landowners. In some cases it proposes to allow sites to be added without public notice and opportunity to object - effectively eliminating the one area in which DEQ acknowledges that deficient landowner consents have been brought to its attention. To the extent that either is allowed under the final regulations, DEQ must add the following requirement: "Land application of sewage sludge on sites where ownership is transferred and on sites added after the issuance of a permit shall invalidate the issued Permit unless new landowners have provided valid written consent prior to any land application. If a site is added to the permit without valid landowner consent, the permit is null and void and no applications can be made under any such permit."

Notice to subsequent landowners presents a special challenge unless there is a clear provision to ensure that subsequent landowners are aware of the special restrictions that follow the land. (Those restrictions may range from the inability to qualify for "organic" production to prohibiting the growing of certain crops to mandatory pH level requirements.) The only method of ensuring notice to subsequent landowners is with an appropriate reference to the restricted use on the Title of the property on which sewage sludge is land-applied. This can be accomplished with the following language: "Prior to land application on any site, the Permit Holder must provide DEQ a copy of a recorded Title Instrument identifying the specific sites where sewage sludge has been approved by permit for land application on the site and specifying restrictions and special obligations that affect future use of the land. (Those restrictions must be identified in the document, with a requirement that prospective purchasers or users must contact DEQ to confirm whether sewage sludge was applied under the permit, to secure a full list and to determine whether there have been complaints and/or instances of noncompliance with applicable laws.) Following each land application, Permit Holders shall record a further Title Instrument identifying for each site the date on which sewage sludge applications were made, the source of the sewage sludge, the amount applied and a complete list of any failures to comply with any applicable federal or state law."

Signage requirements are needed to convey warnings for a year to health sensitive individuals to make certain to minimize or avoid exposure to sewage sludge contaminants that could cause harm. Instead of warning individuals to stay off the sites and as far away as may be needed to protect their health, and to direct them to medical professionals for assistance, the signs have been placed to reduce their visibility to the public and designed to serve as a marketing tool.

The Guidance memo also fails to address other important situations. For example, land application sites are off limits to the public for a year. However, the draft regulations fail to provide adequate notice to ensure that the public does not come onto the site during that one-year period. There must be adequate warning signs in place during the one-year period to ensure that health is protected. This can be corrected as follows: "There shall be sufficient signs placed to ensure that the public is warned for a one-year period following any land application not to trespass because of risks associated with land-applied sewage on the sites. The wording, size, placement, and readability must be sufficient to clearly warn against trespass because of the risks to health."

Public Comments and Department Response to Public Comments

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

The 14-day notification requirement unnecessarily includes the tax number for sites on which land application is to take place and a map indicating haul routes to each site. The tax map number requirement is redundant, given that the DEQ control number is also required. Since the tax map number does not provide any additional information of use to DEQ, so it should be eliminated. In addition, VAMWA believes it would be more efficient and just as effective for the permittee to provide a description of the proposed haul routes (versus providing maps, especially if they are being sent electronically.

The proposed regulations would require permit holders to notify DEQ and local governments in writing at least 14 days prior to commencement of biosolids land application and on a daily basis when land application activities are underway. These requirements are burdensome, in excess of statutory requirements, and in many ways, provide little benefit. VAMWA requests that DEQ delete the 14-day and daily local notification requirements. By statute, a permittee must notify DEQ 14 days prior to land application; there is no similar requirement for notice to the local government. Nevertheless, the proposed regulations would require 14-day written notification to the chief executive office or designee for the local government where the site is located. We question the benefit of requiring this additional paperwork. In our experience, it is difficult to identify the proper person to receive this notice, and many localities are simply not interested in the information provided. The requirement for daily notification is also inconsistent with state law. That said, consistent with TAC discussions, providing DEQ with a single notification (by e-mail, telephone, or fax) at the beginning of the land application period with an estimate for the length of time land application is expected to continue is reasonable. This would serve the same purpose and eliminate the onerous task of sending a written notification each day of the process.

Commenter: Stevick, Stephen M., representing Citizens

Sewage sludge may vary significantly from sample to sample, given variations in origin and treatment. Public notification of the permit under which the sludge is being land applied, and the sludge being proposed to be land applied should direct the reader to a source or the sources of all information of record (with sewage treatment source, testing records, the distributor and government agencies) sufficient for the reader to assess whether the proposal poses a threat to his/her health. The source material should state precisely the contents of sewage sludge, the risks presented as a result of exposure to said contents and the remedies called for. This information should be made available to the public as a matter of course, and specifically where public notices of land application of sewage sludge are required.

Sufficient time should be allowed for public review of the notice and consultation with appropriate personal medical and veterinarian specialists to determine potential risks of exposure, appropriate notification to appropriate state officials and sufficient time for a full and responsible hearing of stated concerns. The current practice of allowing 48 hours of notification and time response, which includes weekends, is insufficient for these purposes and disingenuous, at best.

Commenter: Turpin, Richard B., representing Citizens

The posting on application locations must be 100 days before first application, must be clearly visible to the public and in sufficient numbers to be seen.

Commenter: Wagner, Steve, representing Farmers

It seems that Southside Virginia was overlooked in the public hearing agenda. How about Dinwiddie or Farmville, etc. for a future meeting site for your next round of meetings?

Commenter: Winn, William and Barbara, representing Citizens

We advocate notification be adequate, timely and pertinent.

DEQ Response to Comments: Notification Procedures - Local Government

and Citizens

The regulations provide for multiple opportunities for notification of the local government and the public regarding the land application of biosolids in their county. DEQ believes that the various timings and methods of notification are more than adequate to assure that the public is made aware of biosolids activities. Based on § 62.1-44.19:3 of the Code of Virginia, the proposed amendments to the VPDES and VPA regulations require:

1. At the time a permit application is submitted to the department, DEQ will provide:
    a. Notification to the local government that DEQ has received a permit application to authorize to land application of biosolids in their county and that a public informational meeting will be held. DEQ staff provides this notification in a letter to the locality that will provide the location of fields proposed to receive biosolids in the permit application and offers the opportunity to review the entire permit application package.
    b. Notification to "persons residing on property bordering the sites that contain the proposed land application fields" (9VAC 25-31-290.H. and 9VAC25-32-140.B.3). DEQ staff will provide this notification in a letter that offers the property owner the opportunity to review the permit application and makes them aware that they have 30 days in which to submit comments regarding the permit application. The letter will also provide the following information:
        i. The date, time and location of the public informational meeting;
        ii. The process for requesting extended setbacks from occupied dwellings and property lines;
        iii. A photo or illustration of the signs used by the permit applicant and an explanation that they will be posted at least 5 days prior to delivery and land applications of biosolids; and
        iv. Information that a comment period will occur after the completion of a draft permit and prior to the permit being issued.

    The proposed regulation goes beyond the statutory requirements by requiring that adjacent land owners are always notified when a permit application is received or new sites are added to a permit, rather than only when < 50% of originally permitted land is added.
    c. Public notice of the informational meeting is advertised in a local newspaper as required by § 62.1-44.19:3.4. of the Code of Virginia, no fewer than seven and no more than 14 days prior to the scheduled meeting. DEQ has historically posted public notices in the classified/legal notice section of the newspaper. Due to rising costs, the print has gotten smaller overtime, but as this was brought to staff attention, policy is being modified to use larger print. The public notice for informational meetings is also posted on the DEQ website and Town Hall.

2. When a draft permit is prepared:

    The regulations require that Public Notice of Draft permits be advertised twice within 2 weeks, in a newspaper of general circulation in the county in which the proposed biosolids activity will take place. The notice includes information regarding reviewing the draft permit, the 30 day comment period that follows the notice and how to request a public hearing, which will involve another public notice. This notice is also posted on the DEQ website and sent to the "notification list'

3. Prior to Land Application:
    a. Based on the statute, *at least 100 days prior to commencing land application of sewage sludge at a permitted site, the permit holder shall deliver or cause to be delivered written notification to the chief executive officer or his designee for the local government where the site is located.* The 100 day notice is primarily a tool to make the county aware that a new site is being authorized to receive biosolids. DEQ has amended the regulation, based on TAC discussion, to clarify that DEQ's initial notice to the county upon receipt of a permit application may fulfill the requirement "cause to be delivered written notification" if the notification includes all the necessary site information. Because the permitting process may take up to 180 days from the receipt of a complete permit application, notice to the county will likely be more than 100 days prior to application.
    b. The statute also requires that the permittee will deliver or cause to be delivered written notification to DEQ and the county at least 14 days prior to land application at a permitted site. By statute the notification must include only the location of the site and the expected source of biosolids. The regulation language proposed in December 2009 required that the permittee provide much more detail. However DEQ has observed that due to many variables that are out of control of the permittees, such as weather, the farmer's operation schedule, etc., the permittee is not able to predict what sites will be suitable for land application 14 days in advance. As a result, the 14 day notices submitted to DEQ include many more sites than will be land applied, making that information of little use to the department. Therefore, DEQ proposes that only the statutory requirement remain in the regulation in regard to the 14 day notice. The detailed information required by the 14 day notice in the original amendment will be submitted to DEQ and the county when the signs are posted at the field, 5 days prior to commencing application activities. (See 3.c. below)
    Based on TAC discussion and written comments stating that the counties did not have staff to receive these notifications, where the language says that notice will be given to the county, the following condition was added: "unless they (the locality) request in writing not to receive the notice."
    c. The proposed regulation requires that signs be posted 5 days prior to delivery of biosolids for land application on any permitted site, as opposed to 48 hours prior to the activity in the original regulation as it was transferred to DEQ. The amended language includes requirements for the signs to be located along road frontage of the field, in addition to the entrance and positioned so that they are visible from traffic in both directions along the road, rather than parallel to the fence line as noted in comments and previous complaints. These revised requirements are intended to increase visibility, as concerns regarding such were noted in the comments received. Based on discussions of the TAC, it was recommended that the minimum size and color of the signs not be changed due to the many local ordinances regarding the posting of signs. The original language "post a sign that <u>substantially</u> complies with this section" was struck in the proposed language.
    In addition to the posting of signs, as noted above, DEQ is now proposing that the permittee notify DEQ and the county when the signs are posted. In that notification the permittee shall provide
        1) The name, address and telephone number of the permit holder, including the name of a representative knowledgeable of the permit;
        2) Identification by tax map number and the DEQ control number for sites on which land application is to take place;

3) The name or title, and telephone number of at least one individual designated by the permit holder to respond to questions and complaints related to the land application project;
4) The approximate dates on which land application is to begin and end at the site; and
5) The name, address, and telephone number of the wastewater treatment facility, or facilities, from which the biosolids will originate, including the name or title of a representative of the treatment facility that is knowledgeable about the land application operation.

d. The proposed regulation also requires daily notification to DEQ and the county, unless they request in writing not to receive the notice, of proposed land application activity prior to the activity beginning.

DEQ also received comments suggesting that notification prior to land application should include means other than signs. The signs are intended as a secondary notification to supplement the letters and newspaper notice that occurs at the time of permitting. DEQ recognizes that many land application sites currently in use were permitted under the VDH program which had a less extensive public involvement procedure when the permits were issued. To supplement the signage before land application, DEQ is also investigating options to provide notifications on the DEQ website of upcoming land application activity.

Some commenters also stated that the contact numbers on the signs should include a 24 hour number that does not forward to voice mail. While the land applier is not required to maintain a 24 hour response service, the DEQ does include an emergency response number after hours, which is maintained by an assigned agency representative who is paged if the number is called.

Other commenters noted that the signs should remain posted longer than 5 days after land application, to coincide with public access restrictions. The signs are not designed to communicate access restrictions; that is the responsibility of the landowner. The majority of land where biosolids is applied is private land where public access is prohibited in any case. If site-specific conditions exist at a proposed land application site that would invite public access (e.g. corn mazes), the DEQ could require additional signage, access restriction provisions or additional setbacks to address these individual circumstances.

Subject: Nutrient Management Plans

Commenter: Atwood, Dennis, representing Shenandoah County Water Resources Advisory Committee

If potassium deficiencies are not supplemented and/or pH levels adjusted to ensure that crop growth needs will be up taken by the crops, no further land applications shall be made on sites owned by the landowner(s) in question or on any other sites that have the same farm operator. In the event that these deficiencies occur repeatedly under a permit, the permit holder shall be prohibited from land applying any sewage sludge under the permit.

Contrary to the objectives and provisions of the Chesapeake Bay TMDL and associated documents, the proposed regulations would eliminate Section 600 A and rely on nutrient management plans to ensure

that P is limited. However, to be consistent with the Code and the current Section 600 A, the regulations must also clearly state that DCR's preferred nutrient management method (limiting P to crop needs) must be the method used. Failure to do so would allow permit holders to apply considerable amounts of P in excess of crop needs and increase the burden on our other farmers for nutrient reduction. The regulations must include a requirement such as: The applied N and P content of sewage sludge shall not exceed the amounts of P established to support crop growth.

Commenter: Bates, J. Barry, representing Farmers

Would appreciate it if the Board could look into the phosphorus issues as it relates to the amount of carbon in the soils. It is important to be able to put organic matter back in the soil to help with this.

Commenter: Broaddus, John, representing Farmers

Biosolids break down slowly and provide much needed organic matter to our soils. Biosolids help to improve and maintain the mulch layer which prevents erosion by allowing the water to soak in and not run off; therefore keeping the soil and its nutrients in place and not washing to the Bay.

Commenter: Davis, Brandon P., representing Shenandoah County

Phosphorus assessments, limitations, and controls need to be strengthened. As an example of provisions contrary to the objectives and provisions of the Chesapeake Bay TMDL and associated documents, the proposed regulations would eliminate Section 600A and rely on nutrient management plans to ensure that phosphorus is limited. However, to be consistent with the Code and the current Section 600A, the regulations should also clearly state that DCR's preferred nutrient management method (limiting phosphorus to crop needs) must be the method used. Failure to do so would allow permit holders to apply considerable amounts of phosphorus in excess of crop needs and increase the burden on our farmers for nutrient reduction. The regulations should include a requirement such as: "The applied nitrogen and phosphorus content of sewage sludge shall not exceed the amounts of phosphorus established to support crop growth. If potassium deficiencies are not supplemented and/or pH levels adjusted to ensure that crop growth needs will be up taken by the crops, no further land applications shall be made on sites owned by the landowner(s) in question or on any other sites that have the same farm operator. In the event that these deficiencies occur repeatedly under a permit, the permit holder shall be prohibited from land applying any sewage sludge under the permit."

Commenter: Evans, Kristen Hughes, representing Chesapeake Bay Foundation

CBF supports establishing threshold levels for pH and potassium content of the receiving soils as a requirement for biosolids application.

In light of a recent review of phosphorus site indices commissioned by the USDA Natural Resources Conservation Service which made several recommendations for ensuring phosphorus site indices are protective of water quality, CBF requests that the Virginia Department of Environmental Quality work with the Virginia Department of Conservation and Recreation to initiate an assessment of the phosphorus application criteria in the Virginia Nutrient Management Plan Standards and Criteria to ensure that phosphorus in biosolids and other fertilizer sources are being applied in a manner that does not cause or contribute to water quality impairments.

Commenter: Gardner, Don, representing Farmers

If the soil potassium levels are low, the regulations seem to indicate that the soil would have to be supplemented with potash and then allowed to remain fallow which would result in more soil erosion. The regulation should allow for the simultaneous application of potash and biosolids.

Commenter: Graf, Mary, representing Citizens

Phosphorus needs to be included with Nitrogen when gauging how much sludge can be applied. The regulation draft allows for routine overloading of P, which results in runoff into waterways and the Bay.

Phosphorus needs to be included with Nitrogen when gauging how much sludge can be applied. As it is now, there is routinely an overload of P, which then messes up waterways and the Bay.

Commenter: Hatcher, Roger, representing Farmers

Traditionally nitrogen has been used as the limiting nutrient for the application of biosolids and other manures. The proposed regulations propose to use phosphorus. Phosphorus behaves totally different from nitrogen in the soil. It does not take much phosphorus to reach a plant uptake limit. Soils will rapidly reach a saturation level is phosphorus is used for either biosolids or any other manure. This proposal needs to be reconsidered. The use of phosphorus is a deal breaker. A realistic approach is needed.

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

Allowing DCR's regulation to maintain control over the nutrient management plan aspects of the program is consistent with how other aspects of the program are governed. There has not been any demonstration of a need to impose heightened nutrient management plan requirements or limitations on biosolids. There should be one standard set of nutrient management plan requirements that applies to the land application of all organic substances. Given DCR' s experience on nutrient management plans, the limits established in DCR's regulations should govern. There is no documentation supporting the need for DEQ to impose such requirements, nor would it make sense from a regulatory efficiency and certainty standpoint.

The Department of Conservation and Recreation (DCR) is charged with approving nutrient management plans that govern the application of biosolids for agricultural purposes. The DEQ permitting program for biosolids relies upon the nutrient management plan process to ensure that appropriate amounts of biosolids are being applied for certain crops. One of the goals of the proposed regulations was to provide consistency and clarity among the different agencies involved in reviewing and approving the required permits and plans. However, the language in the proposed regulation applies new standards to land application limits that are normally established through the nutrient management plan process. (9VAC25-31-505; 9VAC25-32-560 A & B). This does not make sense. If changes to the nutrient management plan processes are needed, they should be made to DCR's nutrient management plan regulations. It is impractical and confusing to have multiple sets of regulations that apply to the same activity. Moreover, there is no basis for singling out biosolids in this manner. The nutrient management plan requirements should be the same for all organic sources used for land application.

Commenter: Henderson, Jim, representing Citizens

The application rate of sewage sludge biosolids is based on nitrogen content irrespective of the phosphate content. As nitrogen is rather low compared to phosphate, this routinely results in an overload of phosphorus. This has a definite negative effect on runoff into the Chesapeake Bay. This actually runs counter to the new regulations on the Bay watershed. The added phosphorus can cause algae blooms which lowers the available oxygen in affected streams. The regulations must require phosphorus crop need as important a factor as nitrogen need. To continue to use nitrogen need as the sole gauge for application rate, ignoring the phosphorus need, blatantly ignores the mandate of the VA Code to protect the environment.

Commenter: Kelble, Jeff, representing Shenandoah & Potomac River Keepers

The proposed regulations must ensure that nutrient sources do not exceed crop needs. The Virginia Board of Health recognized the need to limit both phosphorus and nitrogen long ago when it adopted 9VAC25-32-600 A, which restricted the application of sewage sludge to the amounts actually established to support crop growth, i.e., if the soil had sufficient levels of nitrogen and phosphorus, then sewage sludge could not be applied to that land. The proposed regulations, however, would eliminate Section 600 A. This not only would violate statutory requirements to protect the environment, but also would be counter to current efforts in the Commonwealth to reduce the adverse impacts of phosphorus on the health of the

Chesapeake Bay as mandated by the US EPA. Simply reinstating Section 600 A, however, is not enough: Section 600 A should be amended to make clear that the application of sewage sludge shall be restricted based on both the phosphorus and nitrogen requirements of the crop grown on the amended site, not just the nitrogen requirements of the crop. This is consistent with other section of the Virginia Code, which provide that, "whenever possible, phosphorus applications from organic nutrient sources should not exceed crop needs based on a soil test over the duration of the crop rotation." It is critical to the environment and state waters that the proposed regulations ensure that excess phosphorus is not permitted to enter state waters. The best way of doing so, in this context, is to prohibit the application of phosphorus-rich sewage soils where no phosphorus is needed to support crop growth. Therefore, 9VAC25-32-600 A should be reinstated and amended as noted.

Commenter: Kelble, Jeff, representing Shenandoah Riverkeeper

Echo some of the environmental and health concerns noted in previous testimony. I have previously provided comments against approving of the Shenandoah Permit for the application of biosolids by Recyc Systems. As a society we need to recycle some of the components of sewage sludge. There are concerns about the phosphorus content of the soil and biosolids. The Shenandoah Valley is a hot spot for phosphorus issues. We have not managed phosphorus well. The proposed regulations do not provide a solution to the phosphorus issue. We should look for situations to reuse sludge, but should also be aware that there are some situations where it should not be used. It should not be applied in Karst terrain or flood plains.

Commenter: Land, Dr. Lynton S., representing Citizens

Any nutrient that is not sequestered in the harvested crop either accumulates in the soil or pollutes the environment by processes such as infiltration, runoff, volatilization, etc. There exist no other possibilities. The huge amounts of N and P disposed by the land application of animal waste are not all sequestered in the crop or retained in the soil, and therefore pollution is certain. There exists no science to support P disposal in excess of a realistic annual agronomic rate, as provided in "Standards". It is an undeniable scientific fact that any fertilizer applied at more than the annual agronomic rate increases pollution and "...any pollutant from such sewage sludge entering the navigable waters...is prohibited." The only reason for sanctioning higher P disposal rates then recommended in "Standards" is to protect the profits of special interests, to the detriment of water quality, the same reason that VDH proposed to use "biosolids" and not "sewage sludge".

Numerical limits have been established in DCR's Virginia Nutrient Management Standards and Criteria, Revised 2005 ("Standards") and these "numerical limitations" must be imposed to adhere to Federal law. In the case of phosphorus (P), according to Section V of "Standards", in no case should more than 120 pounds of P be applied per acre. Since the annual agronomic crop-removal rate for P is rarely more than about 40 pounds per acre, permitting as much as 120 pounds of P to be disposed annually is very lenient and would have no negative impact on crop productivity. According to "Standards", the allowable amount of P (as pounds of P_2O_5) disposed per acre is 120 --(2.18* ppm P) where "ppm P" is the Mehlich 1 soil test value. Disposal of P at higher rates, as allowed by the Phosphorus Index, by the recently revised Poultry Regulations, and by these proposed regulations is a blatant violation of the Clean Water Act. P-based land application, using the "numerical limits" in "Standards", is the only legal option for land application of animal waste.

The regulation should read 4VAC5-15-150.2.c.1 "Phosphorus applications in nutrient management plans shall not exceed crop nutrient needs over the crop rotation based on a soil test." There is absolutely no scientific reason to make a distinction between "inorganic" and "organic" forms of P, and the word "inorganic" should be deleted, so that all sources of P are applied so as "...not to exceed crop nutrient needs" as qualified in "Standards". "Standards" clearly states (p. 100 and 107) that the P_2O_5 nutrient availability for animal waste is equal to the P_2O_5 analysis. Unlike N, where only a fraction of the N in the animal waste (Tables 8-2 and 9-1) is assumed to be rapidly mineralized and therefore crop available (and almost all of the remainder causes pollution), all P in the waste is assumed to be crop available. The only reason the distinction is currently made between "inorganic" and "organic" P in animal waste is to promote

cheap animal waste disposal to the detriment of water quality, and this distinction is not defensible from a scientific perspective.

Commenter: Lorien, Joy, representing Citizens

Sewage sludge and poultry litter are commonly touted as "free fertilizer". In fact, all forms of animal waste are highly inefficient forms of fertilization, guaranteeing considerable groundwater and surface water pollution. Approximately half the nitrogen in lime-stabilized sludge is not used by crops. Most of the nitrogen not consumed by crops will be oxidized to nitrate and enter the groundwater or contribute to runoff. The US Geological Survey estimates that half of the 50 billion gallons of water that reaches the Chesapeake Bay each day is groundwater, discharged underground directly to rivers and waterways. We know that groundwater today typically contains high concentrations of nitrate from agricultural and homeowner practices, so the excess nitrogen from the sludge constitutes additional pollution. Conventional fertilization minimizes the amount of fertilizer applied to times when it is used by the crop. thus reducing loss to the environment as much as possible. Animal waste fertilization, in stark contrast, is inefficient and results in extensive nitrogen pollution. All forms of animal waste are rich in phosphorus (P). Only small amounts of phosphorus enter the groundwater (unlike nitrogen), and most phosphorus pollution takes place as a result of runoff, especially if soil is lost. Most soils in the Chesapeake Bay watershed are already High or Very High in phosphorus according to soil tests, and already contain sufficient phosphorus to support crop growth. If VDH regulations were being enforced (12VAC5-585-550.A "The applied nitrogen and phosphorus content of biosolids shall be limited to amounts established to support crop growth.") sewage sludge could not be applied to most soils. Rates of land application are currently regulated, despite the law quoted above, only by the nitrogen needs of the crop. Most of the excess phosphorus added to the soil as a result of land application of animal wastes is not released to the groundwater as rapidly as is nitrogen, but "banking" phosphorus in the soil guarantees slow long-term releases and makes catastrophic loss of p-laden soil much more likely. Excess phosphorus in most Virginia soils makes Best Management Processes that prevent runoff from fields, and prevent soil from entering waterways, especially critical and in need of strict enforcement. Farmers who choose to use sewage sludge or poultry litter instead of conventional fertilizer must recognize the inefficiency of this form of fertilization and their role in exacerbating nutrient pollution of the Chesapeake Bay. They must recognize that their fields are being used as landfills to dispose of unwanted animal waste in the guise of "free fertilizer".

Commenter: Martin, Steve and Popie, representing Citizens

A nutrient management plan must be submitted with the application. This plan should be updated to keep it current within 6 months. The regulations should allow the local monitor as well as DEQ to enforce compliance with the NMP as the sludge is applied.

Commenter: Martin, Steven, representing Virginia Blue Ridge Railway Trail

Need to have a Nutrient Management Plan filed with the application. The regulation should require a NMP with application and updated throughout the process. The NMP should be monitored to ensure compliance.

Commenter: Mitchell-Watson, Leslie, representing Friends of the North Fork of the Shenandoah River

Because many soils in the Chesapeake Bay region contain very high concentrations of P due to long-term application of manure, chicken litter and commercial fertilizer, Dr. Evanylo recommends applying sludge at rates to meet the P needs of the crops. The proposed regulation should be revised to make that a requirement of the permit.

Commenter: Powell, Mary, representing Applicators

Additional regulations on nutrients are not necessary, they are already addressed in the nutrient management plan.

Public Comments and Department Response to Public Comments

Commenter: Ritchie, Jason, representing Farmers

The proposed changes to the pH and phosphorus adjustments/requirements will adversely impact the use of biosolids and increase the amount of commercial fertilizers that we will need to use and will negatively affect my bottom line.

Commenter: Smedley, Scott, representing Virginia Biosolids Council

The Department of Conservation and Recreation (DCR) is charged with approving nutrient management plans that govern the application of biosolids for agricultural purposes. The DEQ permitting program for biosolids relies upon the nutrient management plan process to ensure that appropriate amounts of biosolids are being applied for certain crops. One of the goals of the proposed regulations was to provide consistency and clarity among the different agencies involved in reviewing and approving the required permits and plans. However, the language in the proposed regulation applies new standards to land application limits that are normally established through the nutrient management plan process (9VAC25-31-505; 9VAC25-32-560 A and B). If changes to the nutrient management plan process are needed, they should be made to DCR's nutrient management plan regulations. It is impractical and confusing to have multiple sets of regulations that apply to the same activity. The nutrient management plan requirements should be the same for all organic sources used for land application. Allowing DCR's regulations to maintain control over the nutrient management plan aspects of the program is consistent with how other aspects of the program are governed. Given DCR's expertise on nutrient management plans, the limits established in DCR's regulation should govern. There is no documentation supporting the need for DEQ to impose such requirements, nor would it make sense from a regulatory efficiency standpoint.

Commenter: Staudinger, Henry J., and Jo Overbey, representing Citizens

Excessive phosphorus has long been recognized as harmful to the environment, with special adverse impact on the Chesapeake Bay. Limiting phosphorus applications to crop needs is not only mandated by the Code and regulations; it is also a good recycling practice and DCR's preferred nutrient management practice. Enforcement of this practice would also reduce health and other environmental risks associated with land application by further diluting the sewage sludge constituents. The need to limit both phosphorus and nitrogen under the Code of Virginia was recognized long ago by the Virginia Board of Health when it adopted 9VAC25-32-600A. However, the draft regulations would eliminate Section 600 A of the current regulations and rely on nutrient management plans to ensure that phosphorus is limited. This would not only violate Code requirements and good recycling practices, but it would be counter to current efforts in the Commonwealth mandated by EPA to reduce the adverse impact of phosphorus on the health of the Chesapeake Bay. In order to comply with the Code, Section 600A must not only be part of the regulations, but all inconsistent language in the draft regulations must be eliminated. The regulations must also clearly state that Permit Holders must use DCR's preferred nutrient management plan, the plan that limits phosphorus to amounts needed for crop growth. Language such as the following must be incorporated into the regulations: "Notwithstanding any other provision, the applied nitrogen and phosphorus content of sewage sludge shall not exceed the amounts of phosphorus established to support crop growth. Permit Holders shall use DCR's preferred nutrient management plan, i.e., the plan that limits phosphorus to the amounts established to support crop growth. In the event that the amount of applied phosphorus exceeds crop needs more than three times under a permit, the Permit Holder is prohibited from land applying any sewage sludge under the permit."

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Although DEQ has the overall responsibility for regulating the state's biosolids generators and land appliers, the Department of Conservation and Recreation (DCR) also has an important role to play. By statute, DCR is charged with developing a voluntary training and certification program for nutrient management planners, establishing regulations that provide the criteria for agricultural NMPs, reviewing NMPs prior to permit issuance in certain circumstances, and assisting DEQ in the adoption of regulations. Despite the clear statutory delineation between DEQ and DCR's responsibilities, the proposed regulations include language that would effectively revise DCR's Standards and Criteria (S&C). Procedurally, VAMWA

objects to revising DCR's regulations as part of this regulatory proceeding. More importantly, substantively, VAMWA objects to the changes proposed in the regulation with regard to soil phosphorus, pH, and potassium levels. VAMWA requests that DEQ strike this language as inappropriate and unreasonable.

The proposed regulations would require that a NMP be pre-approved by DCR before land application occurs if the soil exceeds a certain level of phosphorus as measured by a soil test. Such pre-approval reduces the flexibility of nutrient management plans, and complicates the farmer's ability to integrate biosolids application into his operations. DCR's current S&C already provides for extensive guidance on how to manage phosphorus under nutrient management plans. Pre-approval of the plans' content is not part of the S&C. inserting it into the biosolids regulations appears to be an end run around following proper regulatory procedures to revise the DCR S&C. Neither DCR nor DEQ has cited any evidence that biosolids-based nutrient management planners are improperly following the current rules, which is presumably the reason for requiring pre-approval. Its inclusion in these regulations is inappropriate and unnecessary.

Commenter: Trumbo, Susan, representing Recyc Systems

Recyc Systems is disappointed that the draft regulations has not eliminated all of the overlapping and contradictory requirements with other regulatory programs as currently exists in the biosolids use regulations. Instead new layers of requirements have been added. We encourage the Department to remove from their regulations requirements that are under the jurisdiction of other agencies and to resist adding additional layers of restrictions on that which is already regulated sufficiently by another agency. All requirements pertaining to nutrient management should be removed such that one set of requirements, the Department of Conservation and Recreation's regulations, are to be followed by the permit holder. Instead of creating a new form, the requirements for Financial Assurance should use the standard Certificate of Insurance used by the Virginia Bureau of Insurance.

Recyc Systems is opposed to the requirements for preapproval from DCR for Nutrient Management Plans beyond those as required in State Code. We note that this is not required of any other nutrient source and wonder why the use of biosolids is being targeted. if there is a problem in plans being written correctly, it would behoove DCR to administer their own program rather than burden the biosolids use regulations with another layer of requirements. Additionally, plans written at permit submittal quickly become obsolete and thus provide little benefit.

Commenter: Whitacre, Harold D., representing Farmers

I farm in Frederick County. I have used biosolids for quite a few years. It has been one of the most beneficial things that I have used on the farm. The nutrient requirements of the proposed regulations are set too high because of the lime content of the material. The phosphorus levels/requirements should be left up to the farmer.

Commenter: Wilkenson, Ricky, representing Farmers

Request that the proposed restriction of the application windows be removed from the proposed regulation. Weather and Mother Nature set the windows when application is appropriate. Need to keep the flexibility in the application window so that a farmer can react to the weather, especially during the rainy season.

DEQ Response to Comments: Nutrient Management Plans

Several commenters expressed concern about the methods by which nutrient management plans (NMPs) are used to define appropriate biosolids land application. The proposed regulation specifies that all biosolids application rates, application times and other site management operations will be restricted as specified in the approved biosolids management plan. The biosolids management plan must include a NMP as required by 9VAC25-32-410 and prepared by a certified nutrient management planner as stipulated in regulations promulgated pursuant to § 10.1-104.2 of

the Code of Virginia. Some commenters expressed concern that the enforceability of the NMP was not clear. Language was added to the regulation that clearly specifies that the NMP is an enforceable part of the permit.

Some commenters suggested that the NMP should always be submitted at the time of permit application. Much of the information upon which the NMP is based is in fact submitted at the time of permit application; this includes site maps, soil maps and locations of environmentally sensitive features. These materials are important tools used by DEQ to evaluate site suitability prior to permitting. The NMP is assembled nearer to the time of land application so that actual crop conditions can be used in the development of the plan.

The NMPs must be written prior to land application and available for DEQ review at the application site. Within 30 days after land application has commenced, a copy of the plan is to be submitted to the farmer operator, DCR and the chief executive officer or designee for the local government, unless they request in writing not to receive the NMP. The 30 day time period is used to allow for any revisions to the plan based on actual source of biosolids and crop or management changes. The original proposed regulation also specified the final NMP must also be submitted to DEQ. This requirement was removed, as in most cases DEQ will review the NMP during the inspection, and can request a copy if necessary for further review. The most important recipient is the farmer operator, in order that appropriate decisions can be made regarding crop management using the nutrients supplied in the biosolids.

The Virginia Department of Conservation and Recreation (DCR) oversees the nutrient management program, as well as the regulations that prescribe content of NMPs and methods for determining appropriate application rates and timing. DEQ removed much language in the proposed regulation that prescribed NMP content, and some additional language based on public comment. Language specifying NMP content was in the regulation prior to the statutory requirement for a plan written according to DCR standards. The DCR standards provide the structure upon which a certified nutrient management planner prepares a plan.

In some cases, the NMP must be approved by DCR and submitted to DEQ at the time of permit application (higher application rates, more frequent application rates, NMPs for land owned or leased by the operator of a confined animal feeding operations, and mined or disturbed lands in reclamation projects). For cases where soils test high in phosphorus (which may increase the risk to adversely impact state waters), an approved NMP must be submitted to DEQ prior to land application, but not at the time of permit application.

Some commenters expressed concern that requirements to supplement potassium and lime under certain circumstances should not be included in the DEQ regulations, and that these were issues best addressed through the DCR standards and criteria. Commenters expressed particular concern stating that soil pH and potassium on newly cleared land would be low, and to wait to apply biosolids until pH and potassium levels were at higher levels would delay establishment of crops or cover on such fields. DEQ amended the language to state that when soil test potassium levels are less than 38 parts per million , the field must be supplemented with potash at the recommended agronomic rate prior to or during biosolids application. When soil pH is less than 5.5, the field must be supplemented with lime at the recommended agronomic rate prior to or during biosolids land application. The only mandatory level of soil pH is when the biosolids cadmium concentration is greater than or equal to 21 mg/kg, and in these cases, the pH of the biosolids and soil must be at least 6.0 SU. DEQ did not remove the requirements for pH and

potassium management entirely, as these issues are directly related to how biosolids land application is managed. The appropriate rates of lime or potash are still addressed with the DCR regulations.

For the distribution and marketing of exceptional quality (EQ) biosolids, NMPs are not required when this material is distributed and marketed similar to commercial fertilizer or commercially available soil amendments. These cases include dry, pelletized material, which is sold at a cost to a farmer or fertilizer distributor, and could be mixed with other fertilizer materials to create a more balanced product. Other EQ materials include compost or soil mixes which would be used in potting mixes, amending soil or landscaping uses. The original proposed regulation included an exemption for NMPs intended to exclude these uses. Based on comment from persons currently marketing these types of materials, alternate language is proposed in the final regulation. This language retains the exemption for dry, pelletized material, but alters the language used to describe biosolids soil blends and composts. The exemption for these materials is based on intended use (land application on agricultural operations) rather than the moisture or carbon:nitrogen ratios in the material. A NMP would be required for land application of an EQ material that is produced as a dewatered cake. Such materials are not easily blended, would likely not be bagged for commercial sale, and would be land applied using a method very similar to that of a Class B material.

Subject: Odors

Commenter: Dixon, Bonnie, representing Madison County Residents

After considerable discussion about the need to exclude cattle from our streams to reduce pollution and emphasis on disposal of human waste in ways that reduce runoff, how can spreading sludge on farm lands make any sense at all? Popular activities include tourism, eating at local restaurants and outdoor interests such as fishing, hiking and painting the landscape. Surely the unpleasant odor of sludge would limit and curtail these pursuits effecting our quality of life and local economy. Surely better waste management solutions can be found that don't create more problems than they solve.

Commenter: Dunkley, Barry T., representing City of Danville

Buffers zones were never intended to address any odor concerns, they were originally designed to prevent any migration of materials from the applied site into surface waters. They were not established because of health concerns. Buffers were also established from wells and dwellings as a way to provide people with an additional level of comfort. The current buffers zones for occupied dwellings were developed by VDH as an administrative convenience. The existing buffers are adequate. The expansion of those buffers from 200 to 400 feet as proposed in the amendments would not provide any additional benefits and would be detrimental to farmers by reducing the amount of land receiving these valuable nutrients. Depending on the process biosolids may have little or no odor.

Commenter: Graf, Mary, representing Citizens

"Odor sensitive receptor" should not refer to a building, but rather to an individual or to individuals in buildings, as was the original intent.

Commenter: Langholtz, Jan, representing Citizens

The choice of the right class of sludge is important, but I can testify that any class of sludge will ruin the summer for anyone within "smelling" distance.

Public Comments and Department Response to Public Comments

Commenter: Martin, Edward, representing Citizens

I own three tracts of land in Bedford County, totaling about 400 acres. One is my home place, a working 164 acre farm. Most is rented, and two of the renters have asked if they could use sludge. My immediate, unequivocal answer was, "no, absolutely not, never." On the land next to one tract I own, the absentee owner allowed sludge to be spread. It has rendered my land, a beautiful 90-acre tract of timber with a nice, flowing stream - I recently enrolled the tract in the USDA's wildlife conservation program - virtually useless because of the stomach-wrenching stench. I have no idea what's washing into the stream, but I invite any sludge advocates to come and take a drink. I'm reasonably sure I will have no takers. I have known of several locations in Bedford County where sludge has been spread - one off Rt. 122, Moneta Highway, east of Bedford City, and another near Body Camp, off Shingle Block Road - where the surrounding property has been rendered absolutely unusable by humans. Allowing the big, northern cities to dump their human wastes on our state should be unthinkable. Anybody caught doing it or permitting it should be heavily fined and if necessary, jailed. Or worse, stake them out in the field where it's spread and make them live with the consequences.

Commenter: Maurer, Linda, representing Springhaven Agricultural Enterprises, LLC, Madison County

Many times farmers do not even remove their cattle from the sludged fields when application is applied.

The stench of the sludge lasts for months - not days. It causes headaches, nausea, and eye irritation. So much for a nice quiet place in the country where you barely walk out of your home without being assaulted by such foul stench that permeates everything. Of course, most of the time the applications are done during the summer. Many times farmers do not even remove their cattle from the sludged fields when application is applied.

Commenter: Quinley, Jill, representing Citizens

The biological, microbiological and chemical concerns are legion in the unresolved biosolids issue, but, the one area that seems to be overlooked is the impact biosolids have on Virginia's Tourism Industry. Virginia boasts "Virginia is for Lovers", but I question the lovers who are downwind from recently applied biosolids. The odors from these applications are beyond description. Environmental awareness has increased significantly over the past few decades, and, "dumps" of years by are now regulated and monitored landfills. Could it be with landfills reaching capacity, the solution is to "dump" above ground. Surely not!!

Commenter: Sensabaugh, Donna, representing Self

Every couple of years the owner of the pasture across the road from our home spreads biosolids and the stench is horrible - to the point it takes your breath away when you walk outside. Each year when he's done this our summer is spent inside - no sitting out on the porch, no grilling, nothing. I know we're in the country - my husband and I both grew up in the country and don't mind the natural animal-produced smells but this is too much. I'd love to see DEQ require that the owner live adjacent to the property on which the biosolids are spread so they can have the same summer they inflict on us.

Commenter: Staudinger, Henry J., and Jo Overbey, representing Citizens

The draft regulations fail to ensure that odor sensitive individuals are addressed, or to address how to calculate the distance needed to protect them. Unless the regulations provide for the identification of such individuals, DEQ is required to assume that everyone in the vicinity not excluded as odor sensitive to be odor sensitive. That needs to be clearly stated as follows: "If DEQ has not reasonably confirmed that there are no odor sensitive individuals near any given site, all unincorporated sewage sludge applications are prohibited in the vicinity of any individuals who may be near permitted sites."

Public Comments and Department Response to Public Comments

The regulations must ensure that Odor Sensitive Individuals are not exposed. Lawful land applications of sewage sludge are prohibited unless Odor Sensitive Individuals are protected. The General Assembly was aware that unincorporated sludge applications posed a greater quality of life concern for odor sensitive individuals. Thus unincorporated land applications near odor sensitive individuals are prohibited under the Code of Virginia. However, the Board has been directed to develop regulations specifying and providing for extended buffers to be employed for unincorporated land applications and allows DEQ to allow unincorporated land applications in the vicinity of odor sensitive individuals as an alternative to surface incorporation by using extended buffers to preclude exposure. Unfortunately the draft regulations fail to make clear that when extended buffers are not established to protect odor sensitive individuals, lawful unincorporated land application is prohibited where odor sensitive individuals could be exposed. This can be corrected with the following language: "All unincorporated sewage sludge applications in the vicinity of odor sensitive individuals is prohibited unless DEQ has established adequate buffers under § 62.1-44.19:3O to ensure that such odor sensitive individuals will not be exposed to odors from the sewage sludge."

Commenter: Trumbo, Susan, representing Recyc Systems

Recyc Systems has a general opposition to requirements which provide no benefit. We note that odors cannot be controlled by extended buffers and are best addressed by the Generator with improved management practices as required in the draft regulations.

Commenter: Turpin, Richard B., representing Citizens

Based on my experience I have two observations: First: Sludge/Biosolids was first spread on farmers fields in this area from the Roanoke sewage plant. This was a completely treated product which had no odor and no residual "bad" elements. Second: West Virginia would not allow sludge/biosolids to be used in any way where it could enter the human food chain when I was there (1976-1996). You have 3 different groups who want to influence your regulations to their benefits: First: Spreader Companies which must make a lot of money which they have used to lobby for laws in their favor. This needs to be corrected. Second: Farmers who think they are getting something cheap or free. if they find out "bad" stuff has been put on their million dollar farm they may have a million dollar liability. Third: Public thinks the smell is awful, the spreaders are reckless with their locating land, posting signs, tracking on roads, etc.. You must protect the public and establish the regulations to do so. I remember my professor at Va Tech in Sanitary Engineering: "If it stinks it ain't treated". What has been spread in my area of Bedford County stinks so it must not have been treated.

DEQ Response to Comments: Odors

DEQ concurs that there is an odor associated with biosolids land application activity. 9VAC25-32-520 and 9VAC25-32-610 set forth guidelines for sludge quality and composition and biosolids treatment. These guidelines establish the minimum treatment and sampling requirements for any biosolids source, and are designed to ensure that adequate treatment and stabilization occurs to reduce odors and pathogens. The Biosolids Expert Panel concluded that odor is a characteristic of biosolids that may affect adjacent property owners and recommended that permit holders utilize odor control plans. Requirements for such plans have been included in 9VAC25-31-100.Q. as listed below:

> 6. All applicants must submit an odor control plan which contains at minimum: a. Methods used to minimize odor in producing biosolids; b. Methods used to identify malodorous biosolids before land application (at the generating facility); c. Methods used to identify and abate malodorous biosolids that have been delivered to the field, prior to land application; and, d. Methods used to abate malodor from biosolids if land applied.

Subject: Operations and Maintenance Manuals and Biosolids Management Plan

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Calibration and maintenance of equipment are required elements of the Operation and Maintenance (O&M) Manual. Requiring this information as part of the permit application is not appropriate, as the information can change with the purchase of new equipment or with a new contractor. VAMWA requests that DEQ strike this language.

There are two different plans cited in the VPA regulations, a "biosolids operations plan" and an "operations management plan". Because "operations management plans" appears to be a subset of the 'biosolids operation plans", VAMWA recommends that a single term be used for these plans to avoid confusion. VAMWA suggests that "biosolids operations plan" be used in 9VAC25-32-410 (states that permittee must maintain site books, NMPs, and an O&M manual as part of the operations management plan) and 9VAC25-32-560 (biosolids utilization methods).

Commenter: Trumbo, Susan, representing Recyc Systems

Recyc Systems urges the Department to review the regulations for redundancy. We note that requirements and content for the operation management plan is found in four sections with discrepancies. We also note that there is confusion in use of the term "operation management plan" and the "operations and maintenance manual".

DEQ Response to Comments: Operations and Maintenance Manuals and Biosolids Management Plan

The biosolids management plan is made up of 3 parts: 1) the information provided in the permit application (including site books); 2) the O&M manual; and 3) the nutrient management plans. Each component of the biosolids management plan is enforceable. In order to avoid confusion the name of the document has been changed from “Operations Management Plan” to “Biosolids Management Plan”. Section 9VAC25-31-485.G. of the VPDES regulation and section 9VAC25-32-410 of the VPA regulation specify the components of the biosolids management plan and required time of submission for each.

Subject: Opposition to the Land Application of Biosolids

Commenter: Atwood, Dennis, representing Shenandoah County Water Resources Advisory Committee

Shenandoah County - Permit Application (VPA-01579): Resolution passed by Shenandoah County Board of Supervisors noted the following concerns: The potential harm to human health and the environment from the land application of sewage sludge is not yet known, and there are numerous calls, including from the Virginia Department of Health, for further study of this potential harm; DEQ fails to demonstrate that health-sensitive individuals in the vicinity of sludge sites will be identified and protected from the unknown and untested constituents in the sewage sludge as required by regulations Code 62.1-44.19:3B; DEQ fails to adequately identify and exclude pollution sensitive sites (with appropriate buffers) including Karst terrain, areas that flood, highly erodible soils, rapid runoff soils, etc. to ensure that the environment is protected as required by regulations Code 62.1-44.19:3 B; DEQ soil sampling and

agricultural processes and techniques are contrary to best management practices in that soil sampled of land on which sludge is applied may be up to three years old and phosphorus loads may significantly exceed the established needs of crops, as set forth in 9VAC-32-600 A; DEQ has made no attempt to establish a groundwater or surface water monitoring program for the Eastep property, and both of the potential permitted areas are situated in either Karst terrain, where there is direct interaction with surface activities, or in the floodplain where groundwater and surface water are exchanged; and The approval of the land application of imported sewage sludge is contrary to the efforts of the County, and other area stakeholders, to implement the Chesapeake Bay TMDL and watershed implementation planning area requirements to reduce pollutants, particularly phosphorus and nitrogen, entering the streams throughout the Chesapeake Bay watershed.

Commenter: Auckenthaler, Judy, representing Madison County Residents

I cringe just thinking that responsible farmers are considering sludge to fertilize their (our) lands with, and I might add, well water, streams, and anything or anyone living in or around said farmers. Sludge is filled with more than just sludge! Will the tourists stop visiting after smelling the NASTY sludge on their journey through an area? Suggest the farmers apply worm casings! Economical and highly effective. Would you desire you or any of your children and families to be subjected to such heinous recycling of human excrement?

Commenter: Berry, Emma, representing Madison County Garden Club

Once heavy metals are deposited into the soil, they never dissipate, they are there for our grandchildren.

Commenter: Breeding, E. Neil and Barbara A., representing Madison County Residents

Municipal sludge may contain biomedical wastes that can condemn land, and even thought we are not putting it on our farm, runoff from other farms in the area may make our land useless and not marketable. In addition, we came here to enjoy the beauty of Madison County, and the smell alone will make us sell our farm and move. Finally, this county already has a problem with runoff in streams and rivers that ultimately flow into the Chesapeake Bay being polluted with human and animal wastes. We ardently believe the proposal will only add to this problem.

Commenter: Cook, Joel, representing Self

I am disappointed with the Commonwealth of Virginia's response to companies such as Nutri-Blend offering their sludge to our Local farmers. I believe one of government's most important responsibilities is to guard the safety and health of its citizens. I do not believe that the Commonwealth of Virginia's policies concerning the spreading of sludge onto local farmer's fields is a responsible policy. Despite all of the rhetoric and mis-information campaigns that companies like Nutri-Blend spread across the country, like so much sludge, their "product", sludge is not a safe product to be used as a fertilizer on farmer's fields. I am urging you to change the rules regarding the application for applying sludge anywhere within the Commonwealth. Part of the problem with the present situation is that farmers who are struggling in a poor economy are vulnerable to the advances of companies like Nutri-Blend which offer cheap and seemingly easy solutions to their financial woes. As you know, the dumping into our waterways of the terrible collection of toxins and heavy metals that are integral to the makeup of sludge was banned in the late 1970's. For good reason. Sludge is poison to the environment, no matter how much or how well it is treated. Since the ban was enacted, all the large cities in America had to face a big problem of disposing of their waste products. Disposing the treated waste products of industrial pollution is certainly an enormous problem, but the present solution is no solution at all; spreading sludge on farmer's fields just creates more problems over a larger area. What was one the city's problem becomes a rural county's problem which are far less equipped financially to deal with such problems. My major concern is water quality. Perhaps it’s partially a selfish concern on my part; I have well water on my property. Anything done to any land within miles of my home affect the water quality of me and my neighbors. Part of the stringent testing I am recommending to you is the testing of well water for anyone living or working within a mile of any land that have been treated

with sludge. Yes all these recommendations can be costly, but twenty years from now, cleaning up decades of sludge pollution will cost an enormous fortune. These future problems can be avoided by enacting strict testing of all sludge that is being offered by companies like Nutri-Blend and the testing of water around areas where sludge has already been spread.

Commenter: Dickinson, Bob, representing Citizens

A biosolids by any other name - The spreading of sludge on farmers fields brings the following to mind: I am not a scientist, but intuitively, don't most of the creatures we share this planet with avoid fouling their own nest? If the ever increasing billions of humans persist in doing so, where will we live, much less those other mammals and birds and fishes? If this is the inevitable consequence of growth, then it's time we find an alternative to growth.

Commenter: Dixon, Bonnie, representing Madison County Residents

Popular activities include tourism, eating at local restaurants and outdoor interests such as fishing, hiking and painting the landscape. Surely the unpleasant odor of sludge would limit and curtail these pursuits effecting our quality of life and local economy. Surely better waste management solutions can be found that don't create more problems than they solve.

Commenter: Eisenberg, Jacquelyn and Eisenberg, Marvin, representing Madison County Residents

We are totally opposed to the application of sludge/biosolids to land in Virginia. We have seen no scientific evidence that this is safe for the land or the residents of the surrounding areas. We have seen much evidence that it causes illness and can have a negative effect to the land that it is applied to.

Commenter: Elliott, Judy, representing Citizens

The Clean Water Act defined sludge as a pollutant. Sludge should be used for power and energy. The idea of putting sludge on your land is an old idea. 60% of sludge comes from out of state. If this sludge is so valuable and useful, why don't these states keep it for their own use. Pennsylvania is first in taking sludge while Virginia is second. 54 counties have already spread sludge in Virginia. They give it to use for free. I am still waiting for the government to give me something for free.

Commenter: Farrar, Sr., Alfred T., representing Citizens

It appears inane to me that a discussion on the use of biosolids (_ _ _ _) would at all be necessary. My objections to it (_ _ _ _) use are as follows: 1. Eons of experience has precluded the use of human (_ _ _ _) for agriculture. 2. It is difficult if not impossible to clean products grown for food when exposed to (_ _ _ _). 3. The diseases spread by such exposure are unknown and unaffordable. 4. Sewage processing is negated by run-off from intentionally spread filth. 5. That practice makes clean-up of "The Bay" idle talk. 6. The defining of (_ _ _ _) as a "product" for commerce, seems to me to be the poorest possible judgment.

Commenter: Flynn, Barbara & Graham, Joseph, representing Madison County Residents

We strongly oppose the use of sludge in Virginia. We are no way near convinced that the sludge is safe to apply anywhere or that the government has the ability to be able to inspect and deem it safe. We have been misled by so much of what the government has told us in the past. All of this sludge will eventually go back into the earth and consequently into the food chain causing even more cases of e-coli and other diseases. In addition to the safety issue, the smell alone makes it unbearable to be around and lingers for an extremely long time. It will lessen property values; no one wants to buy a house near a "sludge farm".

Commenter: Foster, Ed, representing Citizens

I am here tonight to express my extreme disappointment and disgust with these new regulations. For over 2 years I have tried to work with DEQ to make my concerns known. At every turn I have been ignored, rebuffed and lied to. I was given excuses about why they couldn’t do anything about my concerns. Their favorite answer was "wait until the new regs come out. Then we can do something." Clearly that was just a

stall tactic. Very little has changes in these new regs and nothing will make a real difference has been included. It is clear that DEQ cares nothing about protecting public health and the environment. They are only concerned about keeping their jobs--at the expense of the welfare of the citizens. Money is at the root of this whole issue. A lot of people that I have talked with have the opinion that DEQ is being paid off by the sludge companies. That's the perceived explanation for why DEQ appears to work for them rather than the citizens of Virginia who pay their salaries. DEQ's sole purpose seems to be to see that sludge money keeps coming into the state coffers. In order to do that, they ignore state code and regulations. Why will these new regs be any different? They won't. They are USELESS!!!

In a letter from Neil Zahradka, he says DEQ exercises "enforcement discretion in all matters…" So what good are regs? We're all wasting our time here tonight and OUR taxpayer dollars. This proceeding is only a formality, a sham and holds no real meaning at all. So why am I here? I have one more suggestion on how best to improve these regs that I hope someone will have the ability to implement. My suggestion is quite simple and obvious. BAC SLUDGE. Use it for producing electricity and biofuel. Short of that, FIRE DEQ. Start at the top and work down. These people clearly care nothing about citizens' concerns--only about keeping their own high paying jobs. They are master spin-doctors who appear to be run by the sludge companies. We need good people who will fight for the citizens, not ones who only give us lip service and expect us to shut up and go away.

Commenter: Fowler, Jason, representing Self

EPA has released studies on biosolids which have determined the questionable nature of its safety and consistency and while this study did not lead to a conclusive moratorium on biosolids it has established, in my opinion, the need for a moratorium until a broader system of analysis can be created to test all sludge as each batch contains its own unique conglomeration of hazardous chemicals, contaminants, pathogens, hormones, heavy metals and other industrial toxins.

Commenter: Fox, Scott M., representing Madison County Residents

I am against spreading "sludge" on land. It is far too risky to go that route as once contaminants are placed in the ground, they will ultimately migrate either into the water table decades later, or into crops in the near term. Farmers love it because it is "free". Nothing is free. We will pay the price down the line. Please do not permit biosolids to be used for land application. One only has to catch a whiff of the stuff to know it is not any good for any of us.

Commenter: Fredke, Greg, representing Citizens

No Sludge! Let's not turn our town into a tonsillar stones!

Commenter: Grace, Mary, representing Madison County Residents

One local farmer, who has used sludge twice on his farm and supports the use of sludge said, "it's getting rid of a substance that can be used by the general public instead of being a hazardous waste." So, if this farmer who actually uses this nasty stuff, because it is cheaper than other processed fertilizers, acknowledges sludge as a hazardous waste, why would I want it being absorbed into my tomatoes? We have toxins bombarding us from air and water and our food is increasingly tainted. Cancers are at epidemic levels. I believe that we need to go back to eating the locally grown, organic foods our great-grandparents grew. They did fine without sludge and chemicals, or shiploads of processed foods from the other side of the world. As a community, let's compost the food wastes at the schools/centers/churches and deliver these healthier wastes to our farms and gardens. With hopes for sane, environmental practices.

Commenter: Graf, Mary, representing Citizens

Discontinue land application - Land application of sewage sludge has never been proven to be safe. Sludge is a complex mixture spread under a pollution abatement permit. The regulations define pollutant as a material that "could, on the basis of information available to the board, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunction in reproduction),

or physical deformations in either organisms or offspring of the organisms". No wonder there is no proof of safety. "A Critical Review of the U.S. EPA's Risk Assessment for the Land Application of Sewage Sludge" is newly published, well-verified research by Jennifer M.J. Mathney of Boston University. Documented are the many errors made by EPA as the Part 503 Regulations were being established, such that "Part 503 cannot be counted on to be truly protective of human health and the environment." Some of the many mistakes made include using inaccurate data, using outdated exposure assessment methods with flawed assumptions, problems with regulated chemicals, and failure to perform follow-up studies recommended by the 1996 National Research Council (NRC) and the 2002 National Research Council (NRC). The 2002 Report found "no substantial reassessment has been done to determine whether the chemical or pathogen standards promulgated in 1993 are supported by current scientific data and risk-assessment methods." The report concluded that it was "not possible to conduct a risk assessment for biosolids at this time (or perhaps ever) that will lead to risk management strategies that will provide adequate health protection without some form of ongoing monitoring and surveillance." The Mathney report concludes, "Until the Part 503 standards are reevaluated using more current and reliable data and methods, the practice of land application must be discontinued because that is the only way to protect human health and the environment. The data strongly support that applying sewage sludge to land is not safe, and if things continue as they are, the long-term consequences to human health and the environment have yet to be felt."

I am against all permits for spreading pollution (so called biosolids) on farm lands, where it can be introduced into the food chain, and can contaminate water and air.

Commenter: Halligan, Dorothy, representing Citizens

When is Virginia going to step up and work shoulder to shoulder with neighboring states and start protecting our water? The following characteristics make this regulation irresponsible: the land is in a floodplain and its porous rock will flush sludge into the river; a children's corn maze is located nearby; the site is near a historic bridge and a heavily used river access point. The State of Virginia has rubber-stamped the use of sewage sludge on this site, indicating that our state legislators will not protect our water supply from pollution unless the citizens hold them accountable. This is why I have become involved in the fight to change this regulation. We have the right and the responsibility to demand that our State officials protect our water supply. Listen Virginia legislators. "No Way!" is my response to regulating and allowing sewage sludge to enter our waterways.

Commenter: Harris, Martin, representing Self

I am a concerned Virginia landowner and have been monitoring the controversial Sludge application issue since it reared its ugly head many years ago. If there is one thing that I know and trust concerning this issue and all the propaganda your office and Sludge opportunists promote, is that the overwhelming majority of residents and landowners impacted by the proposed land applications, who are even knowledgeable of it, are adamantly against it. Yet, it continues to be forced upon citizens of Virginia to live with and accept as safe and beneficial. In today's environmentally sensitive world, it does not take a Virginia Department of Environmental Quality (which is a misnomer) bureaucrat to figure out that any land use issue such as Sludge application that draws so much attention, requires so much oversight and procedures, etc., etc., must inherently be dangerous to the immediate and extended environments. And, to make matters worse, during these tough economic times, I have no confidence in your office's ability to adequately oversee compliance issues due to current and inevitable budget cuts. If the DEQ/VA is not committed to standing against the continued use of Sludge applications, I can honestly say that it disgusts me that my tax payers dollars are being used to help pay the DEQ/VA to oversee the "quality" of our environment.

Commenter: Hart, George and Sharon, representing Madison County Residents

Numerous reviews of the risk assessment used to establish the standards for Land application of Biosolids have found serious flaws with the way EPA conducted the risk assessment. Current policies and regulations do not adequately protect human health and the environment. If the practice of land application is not stopped, the consequences to humans and the environment will be severe and long-lasting. The recent studies on the composition of chemicals in biosolids show the fundamental problem with sewage

sludge: it is a complex always-changing mixture. Even if major changes were made to the standards, there are too many variables and unknowns regarding the amounts, behaviors, and toxicity of thousands of chemicals that are found in sewage sludge to regularly ensure the protection of human health and the environment. The federal Clean Water Act defines sewage sludge as a pollutant, and it needs to be treated as one. It is not a fertilizer with soil-conditioning properties. The data strongly support that applying sewage sludge to land is not safe, and if things continue as they are, the long-term consequences to human health and the environment have yet to be felt. Please, please do not allow the application of the toxic mix of compounds to be applied to our precious "food growing land" and the grazing fields for animals from which we get milk and dairy products. The agencies job is to protect public health, and allowing this process to continue is not doing so.

Commenter: Hassan, Khalil, representing Citizens

I completely support the comments of those who are either out rightly opposed to sludge applications or who urge extreme caution. I especially agree with Dave Gibson and Diane Parker, both are right on point.

Commenter: Henderson, Roger & Bev, representing Hurricane Hill Event Facility - Bedford

Since the legislation is not going to outlaw the spreading of biosolids in Virginia, we urge DEQ to crack down on testing the content of EVERY truckload that is spread - random checks are totally inadequate!!! We would appreciate hearing back from you as to what new regulations are proposed/approved.

Commenter: Hoffman, Carl, representing Citizens

Please use common sense and all the data available to stop the plan to put sewage into our (the public's) streams.

Commenter: Holley, Karen, representing Citizens

Sludge - I cannot believe that you are considering dumping sludge anywhere near the Shenandoah River. This river is already on the endangered list. Besides, there is a children's maze nearby and a bed and breakfast. This is an area that is frequented by fishermen and families. Many of the fish have been killed by runoff from chicken farms already. Do you have to make it worse. I thought that you are responsible for saving our waterways not destroying them! Please reconsider.

Commenter: Johnson, Cynthia, representing Madison County Residents

Please do not spread sludge. It is unhealthy stuff. You have no idea what could be in there. Not safe. Not good. Please don't do it.

Commenter: Johnson-Smith, Kimberley, representing Madison County Residents

I am opposed to the application of any sewage sludges. There is no way there can be certification as to the content of the specific sludge and consequently the potential impact on human and animal health, not to mention water quality through run-off or leaching, cannot be adequately assessed. We are on a course of pure folly - one that is having, from the serious research I've read since 1992, a tremendously adverse effect on our people, animals, water and soils.

Commenter: Lorien, Joy, representing Citizens

Myth: Only a vocal uneducated minority questions the current sludge policies. Fact: The National Academy of Sciences is hardly uneducated. Neither are internationally renowned soil scientists of the Cornell Waste Management Institute. The National Farmers Union opposes the use of sludge for farming, as do grassroots environmental organizations across the nation. Food processing companies such as Heinz and Monsanto will not accept produce grown of sludged land.

Commenter: Kipps, Elizabeth Frayser, representing Madison County Residents

I am very much opposed to the land application of biosolids. The content of treated biosolids from

septic systems is unknown. The land is being contaminated in unknown ways. It is my opinion that the spreading of biosolids is terribly irresponsible.

Commenter: Knight, Edward, representing Citizens

This is insanity. Over the last few years, documented fish kills on the Shenandoah, Jackson and James Rivers, to name a few, have been tied to the increased use of sludge as a fertilizer on watersheds in these rivers. If the increased pollution generated by runoff from these treated areas is killing fish, what else is it doing to the users downstream? This is not using sludge as fertilizer, it is using rivers as waste disposal dumps. Your agency is charged with protecting rivers, and the environment as a whole, not protecting the financial interest of a few well connected industrial chicken farmers. To even consider loosening the standards, weak as they are, borders on the criminal. These standards should be tightened to the point that the industrial farmer should be required to dispose of the waste in a safe, non-polluting, non-health endangering manner, and this disposal cost should be borne by those who generate the waste, as a cost of doing business. It is time that political considerations are put aside and common sense is applied to the use of our Commonwealth's waters, lands, and air. I hope that you will agree that sludge is a problem that does not need to be visited upon our waters, not a solution for a few politically well connected businessmen.

Commenter: Krause, Pam and Bob, representing Madison County Residents

Please discourage dumping of biosolids in Madison County.

Commenter: Kreis, Delano, representing Citizens

There should be no sludge applied to lands that support any kind of crop whether animal or vegetable. There is simply inadequate testing and oversight. There are too many anecdotal events, ailments and problems associated with sludge to ignore. Please do not allow sludge to be used by any one for any reason at this time.

Commenter: Kreis, Delano, representing Madison County Residents

I am very opposed to the application of sludge on farmlands. Not enough testing has been done to ensure the safety of its use but there is a good deal of evidence to show that it is not safe. Please reconsider the use of sludge on any land anywhere.

Commenter: Layne, Bill, representing Citizens

Our governing bodies and the EPA are inconsistent and unreasonable. On one hand you want to clean up the Chesapeake Bay, and on the other you advocate spreading toxic sludge on our land. Sludge has not yet been proven to be safe to people, animals, the environment, or the Bay. Most reasonable, thinking people would like to see sludge use on farmland outlawed completely. But until then, I agree that we need more rigid testing and monitoring and wider buffer zones for people who own land or live near being sludged.

Commenter: Lorien, Joy, representing Citizens

Myth: Sludge farming is a sustainable practice. You can use sludge forever. Fact: The few European countries that still use sludge have much stricter regulations to protect agricultural soil. The US lets toxic materials accumulate in soils, until there is a 50% yield reduction. By then, farms have been turned into low-level waste dumps. We know of NO published scientific study that indicates that using sludge on farmland or forests is safe or sustainable.

When government fails to protect - waste management corporations reap massive profits from hauling and spreading sludge on farmland.

Commenter: Lorien, Joy, representing Madison County Residents

Crigersville resident Khalil Hassan, a longtime outspoken opponent to the spreading sludge says: "I

think it is a bad idea. It is a product that had been forced on the agricultural community. It lacks a scientific base to declare it to be safe. I have yet to find a document that declares that. You really don't know what is in it, if it hasn't been inspected. It is not safe to dump into the ocean, why should it be safe to be introduced into the food chain?"

Commenter: Martin, Edward, representing Citizens

I have known of several locations in Bedford County where sludge has been spread - one off Rt. 122, Moneta Highway, east of Bedford City, and another near Body Camp, off Shingle Block Road - where the surrounding property has been rendered absolutely unusable by humans. Allowing the big, northern cities to dump their human wastes on our state should be unthinkable. Anybody caught doing it or permitting it should be heavily fined and if necessary, jailed. Or worse, stake them out in the field where it's spread and make them live with the consequences.

Commenter: Maurer, Linda, representing Springhaven Agricultural Enterprises, LLC, Madison County

Poisoning the land for future generations is a poor approach to successful, sustainable agriculture. If we don't responsibly take care of what we have, we will soon have nothing and be unable to compete in the marketplace effectively. With the organic food movement being the most rapidly growing food segment, farmers would be wise to pay attention to upcoming future trends and understand where their real future lies. But for most, it is too easy to fall back on "this is the way we've always done it." And they wonder why they can't get anything for their cattle at auction and their margins for profit are extremely slim. I would strongly urge you to reconsider allowing sludge throughout Madison County and instead promote more sustainable farming methods with healthier results.

Commenter: McLoughlin, Dr. David & Carol, representing Citizens

I am writing in opposition to the new regulations on the spreading of biosolids. There is no current evidence that biosolids are safe. They clearly may contain Pb, Hg, Co, and other elements that are hazardous to human health. Further, they may contain unacceptable levels of unsafe chemicals that can eventually contaminate our water supply or enter the food chain. We are spending millions to clean up the Chesapeake Bay and this will simply be undermined by the runoff of biosolids, particularly the nitrogen. We run the risk of huge environmental damage as biosolids use increase - as it will - if your regulations become effective. The only answer to this potential threat is no spreading of biosolids at all. We strongly support that position.

Commenter: Mitchell-Watson, Leslie, representing Friends of the North Fork of the Shenandoah River

I would echo the comments made by Ms. Hughes, Mr. Atwood, and Ms. Gessner. The revised regulations do not address or alleviate our concerns which remain (1) the largely unknown content of the sludge, (2) application of sludge to geologically and ecologically vulnerable sites, and (3) insufficient requirements in the regulations to protect the environment or human health. We object to the revised regulations because they do not address the failure of the existing regulations to protect the environment both for humans and wildlife. Therefore, we look forward to DEQ publishing revised regulations that protect the environment from land application of sewage sludge.

Commenter: Moser, John, representing Old Dominion Smallmouth Club

No sludge, please. I am a life-long user of Virginia's waterways. I am encouraged by the improvements I've seen in water quality since the enactment of clean air and clean water legislation in my youth. Today, thanks largely to smart environmental policy decisions made about 40 years ago, river environments are surging back to health. But in the current political environment, the gains of the last 40 years are eroding. When I see legislation that changes the word "sludge" to "biosolids", I smell a linguistic cover-up. Let's face it, we are talking about putting sewage almost directly into waterways and calling it "biosolids". Other commenters have done a much better job than I can of exposing the differences between humans' historical

use of sewage as fertilizer and the current use of "sludge" that contains a poisonous package of pollutants. Please heed these warnings. Sewage sludge is not going to crash our economy or irradiate our population, but this sludge is clearly dangerous stuff. Please do not trust to a regulatory process and corporations motivated by profit to manage this. Please keep sewage sludge out of our waterways.

Commenter: Musick, H. Glen, representing Citizens

I wish to speak against the land application of the material known as biosolids/sludge. We here in Virginia are in the process of hopefully cleaning up our Chesapeake Bay. Why would we apply a material to our clean pristine farm land defined as a pollutant in the first place. Everything flows down hill and at some point will find its way to the very source that we are trying to clean up - "The Chesapeake Bay". The studies performed are heavily slanted in favor of big industry. If this material were type A in lieu of type B, I would have a different view of this application.

We here in Virginia are in the process of hopefully cleaning up our Chesapeake Bay. Why would we apply a material to our clean pristine farm land defined as a pollutant in the first place. Everything flows down hill and at some point will find its way to the very source that we are trying to clean up - "The Chesapeake Bay". The studies performed are heavily slanted in favor of big industry. If this material were type A in lieu of type B, I would have a different view of this application.

Commenter: Myers, Mark, representing Potomac River Smallmouth Club

Use common sense - seconding Mr. Pfotenhauer's comments. Please use common sense and protect our water.

Commenter: O'Bay, Robert C., representing Citizens

I would vote against any biosolids being dumped anywhere close to residential areas or anywhere there is wildlife that could be effected. Hopefully in the future the taxpayers of this County can ensure that this type of waste is prohibited from being dumped here or anywhere in the Commonwealth of Virginia.

Commenter: Overbey, Jo, representing Citizens

I first became interested in sludge/biosolids in late 2006 when I learned that NutriBlend had applied for a permit to spread nearly 3600 acres in Campbell. At that time, I decided to learn more about sludge/biosolids, what was in it and how it affected health and the environment. I began to research it intensively, reading everything I could find online about it, both from industry sources and independent sources. Ultimately, I came to the conclusion that sewage sludge/biosolids is a pollutant and should be handled with extreme caution. I was not alone in this assessment. A large number of citizens also made known their strong objections to sludge/biosolids being spread in Campbell County. I continued to be very interested in the subject, to the point of attending all but one of the Expert Biosolids Panel meetings, including their working meetings. When DEQ called for people to serve on the Technical Advisory Committee to amend the regulations, I agreed to serve as a Citizen's Representative. There were only 3 of us, with the remaining 13 members coming from the industry or related industries. Although we tried hard, we had little impact on the proposed amendments.

I have found recent information that supports stopping the practice of spreading biosolids on agricultural lands. The report; "A Critical Review of the U.S. EPA's Risk Assessment for the Land Application of Sewage Sludge" by Jennifer M.J. Mathney found that: "Sewage sludge is a complex mixture of inorganic and organic materials and pathogens generated by the treatment of domestic sewage. Section 40 of the Code of Federal Regulations Part 503 regulates the land application of sewage sludge based on pathogen content and sets standards for nine organic chemicals. It is believed that the Part 503 standards are protective of human health and the environment and that sewage sludge applied to the land posed little risks. A critical inspection of the pertinent literature, however, reveals that the standards are based on outdated methods, outdated data, inaccurate data, and flawed assumptions, leading to underestimation of risk. The standards are not sufficiently protective, and even if changes were made, sewage sludge is so

complex that it is very unlikely it could be monitored to ensure the protection of human health and the environment. For these reasons, the practice of land application of sewage sludge must be discontinued."

Commenter: Paine, George, representing Northern Virginia Chapter of Trout Unlimited

Biosolids in the Shenandoah/Potomac Drainage: Please don't allow any more fecal waste, human or otherwise in one of the best fisheries in the Eastern US. There is already too much flowing off fields and out of obsolete treatment plants.

Commenter: Pedersen, Deverell, representing Madison County Residents

I am concerned with allowing sludge treatment of agricultural fields. Without the requisite testing for pharmaceutical, industrial chemical and heavy metal residues that would render such treatment obviously illegal, unsafe and horribly immoral, we cannot ascertain whether we are committing our children's only hope for the future to the landfill for short term benefit of a few bucks saved. Public concern is not being weighed. To poison our soil is to poison our children. For, in a few years' time, they will have nothing left but what they can grow and this too shall be taken from them. Please help us find a way to stop this insanity.

Commenter: Perry, Walter and Elizabeth, representing Madison County Residents

I live in the Chesapeake Bay Watershed. The EPA and the State of VA are about to force regulations on us that will cost us huge amounts of money to protect and clean up the Bay, including restrictions on fertilizer use and runoffs, etc. "Fine" but don't ask me to pay more for Bay cleanup when the EPA and State allows these sludge companies to pollute the farm land and the consequential runoff that affects the Bay. This whole set up smells of politics and payoffs. Government has to wake up and stop allowing this to go on. This sludge program is a joke.

Commenter: Pfotenhauer, Peter, representing Shenandoah River Keeper

Cats learn to use a litter box. Dogs can be house broken, and we potty train our children. So why would the State of Virginia basically allow big business to take a poop in our drinking water? If you pulled your drinking water from a pond at the bottom of a hill, would you build your outhouse on the slope above it. Virginia must take steps to better regulate the application of products such as biosludge. Maybe a first step is to call it what it really is: processed poop. If Virginia gains a reputation for deliberately allowing biosludge or other unsavory sounding products to filter into our rivers, the message will damage our economy as people choose to travel to other destination to fish, costing us sales tax revenues and restaurants and hotels income.

Commenter: Potter, Lorraine, representing Citizens

Sludge is not safe. A series of reports by the EPA's inspector general and the National Academy of Sciences between 1996 and 2002 faulted the adequacy of the science behind the EPA's 1993 regulations on sludge. Epidemiological studies have never been done to show whether spreading sludge on land is safe. Researchers link increased risk of illness to sewage sludge used as fertilizer. Burning eyes, burning lungs, skin rashes and other symptoms of illness have been found in a study of residents living near land fertilized with Class B biosolids, a byproduct of the human waste treatment process. In the British Medical Journal, BMC Public Health - July, 2002, researchers (Lewis and Gattie) reported that affected residents lived within approximately one kilometer (0.6 miles) of land application sites and generally complained of irritation after exposure to winds blowing from treated fields. When approving sludge for use as a fertilizer, EPA looked at chemical and pathogen risks separately without considering that certain chemicals could increase the risk of infection. Chemicals such as lime, which is added during sludge processing, can irritate the skin and respiratory tract and make people more susceptible to infection. Though modern treatment can eliminate more than 95 percent of the pathogens, enough remain in the concentrated Class B sludge leaving treatment plants to pose a health risks, according to Lewis and Gattie. The NAS report entitled "Biosolids Applied to the Land: Advancing Standards and Practices" reports that certain types of exposure, such as inhalation of sludge particles, "were not adequately evaluated" previously and no work has been done on the risks from mixtures of pathogens and chemicals found in sludge.

Public Comments and Department Response to Public Comments

Commenter: Price, Jennifer, representing Madison County Residents

Please, No sludge in Madison, Virginia!

Commenter: Regnery, Audrey, representing Madison County Residents

I am not at all happy that anyone would use sludge on their property. Personally I feel that it is a hazard and I am not the only one that thinks this. I know it is a danger and it will spread diseases.

Commenter: Richards, Pam, representing Madison County Residents

The negative impact of spreading sludge on land; especially to our streams and creeks would be devastating. Please stop this practice. Please protect our environment and our watersheds. This is not a "safe" practice. It is up to use to protect the environment and our precious resources.

Commenter: Richardson, Rebecca, representing Self

Spreading biosolids is inconsistent with the goal to clean up our waterways. Farmers are paid thousands of dollars to keep their cattle out of their streams to protect the Chesapeake Bay. I saw biosolids being spread on a slope in Amherst Co. in a heavy rain. If it has to be would turning under the sludge help prevent the runoff? What about the groundwater? I vote no to biosolids.

Commenter: Schuchart, Bob, representing Ebb Tide Beach Community on Mattox Creek - Westmoreland County

Concern has been the overwhelming account of sludge (liquid and solid) that has been dumped on the farms adjacent to our community. In past years, sludge has been put on fields that are within 100 feet of residences. Fortunately, for reasons unknown in the last two years, the adjacent farms have not been able to get the free sludge. With so much emphasis on striving to maintain clean water in the Potomac and Rappahannock rivers and ultimately the Chesapeake Bay, it doesn't cease to amaze me that the county and state allows the dumping of this sludge in areas that drain directly into the rivers. A newspaper article defined Class A sludge as having nearly all disease-causing organisms eliminated as Class B as having less restrictive processing standards. In addition to fouling the rivers and ponds, the sludge dumping has become a public nuisance due to the following: terrible odors that pollute the air in the neighborhood, high truck traffic through our community, destruction of the county road system which needs repair after every sludge dumping season, and sludge dust remaining on roads from the truck traffic which may be hazardous to inhale. We hope that action can be taken to permanently eliminate sludge distribution in the Northern Neck for the sake of clean water; and the health, safety, and well being of our community.

Commenter: Shirley, Alexandra, representing Madison County Residents

I am totally against the spreading of sludge in Madison County.

Commenter: Staudinger, Henry J., and Jo Overbey, representing Citizens

Accurate relevant information to everyone potentially affected by land-applied sewage sludge is critical to any successful permit program. The draft regulations fail to meet that requirement at every level. No one is left out, including, sludge generators, sludge applicators, local governments, local residents, individuals in the vicinity of land application sites, environmental groups, health professionals, Virginia Delegates and Senators, other state agencies, and so on. The wrongful substitution of the word biosolids developed by the sludge industry for the Code mandated words, sewage sludge, is an important element of the inadequate and/or misleading information that permeates the draft regulations and DEQ' current policies and practices. The failure to ensure adequate and accurate information about the risks and responsibilities to landowners approached for the use of their land to dispose of this waste begins this process. Individuals in the vicinity of proposed sites are targeted next, beginning with Public Notice of Meetings and Hearings that fail to mention sewage sludge, and fail to note the potential risks to health and the environment when sewage sludge is land-applied. Even the Public Notice for hearings on these proposed regulation changes is entitled "Public

Notice - Environmental Regulations" rather than "Public Notice-Environmental and Health Regulations When Sewage Sludge is Land Applied." Nor are potential victims subsequently put on notice of those risks so that they may seek reasonable protection through DEQ, local governments, their family physicians, and family and friends (if they are forced to take themselves out of harm's way because of DEQ's failure to ensure protection of health.

Commenter: Tumblin, Larry, representing Citizens

Please help keep sludge out of our rivers we fish in it play in it and use the water to drink. Do you want to drink water from sludge? Please do the right thing and keep it out. Thanks.

Commenter: Warren, Lisa, representing Madison County Residents

Sludging (the use of biosolids as fertilizer) represents a significant step backward. Analysis and regulation of the contaminants inherent in sludge from municipal sewage treatment plants is nowhere near what it should be. Therefore, the fact that the use of sludge is sanctioned by the EPA, the USDA, and/or any other federal agency does NOT satisfy me. While I understand the attractiveness to some farmers of sludge as cheap fertilizer, I honestly think that if they understood how little is known about the make-up of the stuff and the potential hazards to their own health and that of their families, animals, land, and communities, they would not be willing to use it. Unless or until it's possible to analyze and test sewage sludge fully -- not just for a dozen contaminants, but for the thousands that it contains -- and to eliminate toxic or hazardous elements from the mix -- biosolids are unacceptable for use in areas where people or animals could possibly be affected by contaminants in the soil, the water, or the air. I believe that our country's and our county's brightest hope for the future lies in sustainable agriculture, and that sludge, as it is available and being promoted for use today, does not have a place in a sustainably managed agricultural environment.

DEQ Response to Comments: Opposition to the Land Application of Biosolids

The DEQ acknowledges the information provided by commenters who are opposed to the land application of biosolids. At the present time, the land application of biosolids is authorized by § 62.1-44.19:3 of the Code of Virginia. DEQ is tasked with supporting this environmental law by developing, amending and implementing the regulations governing the use of biosolids in Virginia.

Subject: Proposed Regulations are not Protective; Not in Accordance with Statute

Commenter: Atwood, Dennis, representing Shenandoah County Water Resources Advisory Committee

We find the proposed revised regulations inadequate to address our concerns regarding specific permits and the biosolids program in general.

Commenter: Graf, Mary, representing Citizens

According to VA Code, DEQ must protect human and environmental health. Present and proposed regulations do not. Therefore, any permit issued under them cannot be protective and will not conform to VA Code.

Here in Virginia, we are a Dillon Rule state with little or no say in local matters deemed to be governed by the state. We depend more than most states on our government and its agencies for our protections. Our individual rights are curtailed and we are, as it were, at the mercy of those in Richmond. Not a comfortable position for most. Land application of sewage sludge is not a sustainable practice and needs to be stopped. Short of that, we are asking that you ensure that the program is run as prescribed in the Code of VA; in a

manner that protects health and the environment. Without local say, the DEQ and the Water Control Board have an added responsibility to provide adequate protection for our rights to clean water, unpolluted soil and air, and an environment that promotes human health, or at a bare minimum, does not harm it. The proposed DEQ regulations do not adequately protect human health. DEQ is not satisfying its statutory obligation in the proposed Sewage Sludge Regulations. Without substantial changes, it would not be legally defensible for the Water Control Board to pass these regulations.

The "Voucher system" used for documentation and recordkeeping needs to either be handled by a third party, or annually audited by a third party.

Commenter: Hughes, Charlotte, representing Citizens

For 14 years I have worked with other citizens as we have tried to convince DEQ, VDH, The Board of Health, and the State Water Control Board to correct serious deficiencies in sewage sludge regulations, policies and practices. We have been largely unsuccessful. During the Recyc Systems application for Shenandoah County, Chairman Miles made quite clear that DEQ's regulations would be amended to address existing regulation limitations that the Board believed made it impossible to reject the application as written. The Board inserted language into the Recyc permit that ensured incorporation of new regulatory language into the permit. It is very difficult to work through the proposed regulations and come out with a clear understanding of the changes. It is clear that the needed changes requested by citizens are simply not to be found. Unless those changes are made, the Board's commitment will be moot. When will DEQ submit to the Board for approval the needed changes so they can be adopted by the Board? It is important that someone communicate that information to those of us who have worked so hard to convince DEQ independently to address those important issues when the regulations were initially drafted.

Commenter: Kelble, Jeff, representing Shenandoah & Potomac River Keepers

To the extent that Mr. Sligh's comments support and compliment Riverkeeper's position we hereby incorporate those comments by reference.

To the extent that Mr. Staudinger's comments support and compliment Riverkeeper's position we hereby incorporate those comments by reference.

Commenter: Kondis, Dr. Edward F., representing Citizens

DEQ should require all the spreaders of sewage sludge to file a remediation plan on how they would clean up any toxin which is found by DEQ or EPA to be harmful to health.

Commenter: Mitchell-Watson, Leslie, representing Friends of the North Fork of the Shenandoah River

Although we recognize the need to dispose of treated sewage sludge and that land application may be appropriate under some circumstances, we are concerned that the proposed regulations do not adequately protect the environment and natural resources of the Commonwealth. Specifically, the revised regulations do not adequately address (1) the largely unknown content of the sludge, (2) application to geologically vulnerable sites, and (3) insufficient permit requirements to ensure the protection of the environment or human health.

Commenter: Overbey, Jo, representing Citizens

Sewage sludge is a mixture of many harmful constituents. In Virginia, land application is prohibited by statute, except in compliance with a valid VPA permit issued by the SWCB (§ 62.1-44-19:3). Thus if a permit is issued by the Board that is not valid, the statutory prohibition remains in effect: Permittees are prohibited from land applying sewage sludge there under, Generators are prohibited from allowing their sewage sludge to be land applied, and Landowners are prohibited from allowing the sewage sludge to be disposed of on their property. It is submitted that the Board does not have the ability to issue a valid permit to allow NutriBlend to lawfully land apply any sewage sludge in the Commonwealth of Virginia; and further, that if a

permit were issued by the Board, NutriBlend would be prohibited by statute from land applying any sewage sludge in the Commonwealth.

Under § 62.1-44-19:3 O, the Board is prohibited from issuing a valid permit for unincorporated land applications of sewage sludge until the Board develops regulations specifying and providing for extended buffers to be employed for applications of sewage sludge to hay, pasture and forest lands or to croplands where surface incorporation is not practicable. DEQ has not developed such regulations, regulations that would have provided for extended buffers to ensure that health and the environment are protected as required under § 62.1-44-19: 3 B. As a result, unincorporated land applications are prohibited by statute, but they are included in the proposed permit.

Commenter: Potter, James, representing Citizens

When will DEQ have an adequate regulation so that they can oversee the sludge application program properly? What is wrong with the people in DEQ? Sludge spreading has affected not only human and animal health but has also permanently ruined farmland and polluted our streams and rivers. This is my future and DEQ is not proposing any significant changes to this pollution. It bothers me and should bother everyone in this room that the greed of a few people, many of whom don't live in this state seems more important than the health of the rest of us. Now we have been presented with the long promised amendments to the biosolids regulations that are supposed to improve the huge issues associated with the sludge program. Unfortunately, I see the same problems present that we were complaining about at last year's hearings. I see that DEQ has been very careful not to give themselves the means to effectively regulate this program since there are no consequences for wrong doing. There is the threat of a notice of violation but even that warrants a slap on the wrist and not a truly effective deterrent. The industry has and continues to run the sludge program with their big dollars and threats of lawsuits. Citizen input is still lacking. These proposed regulations are of, by and for the sludge industry. This must change and you have the power and the responsibility to make meaningful changes. I volunteer to be part of this citizen participation to make these regulations mean something, rather than business as usual for the sludge haulers. As I understand it the Code of VA has charged DEQ to regulate the biosolids program in a manner that is intended to protect citizens' health and the environment. These regulations fail to protect either and as a result you are issuing unlawful permits. Asking that the State Water Control Board wake up and realize that these permits are unlawful. You must address the deficiencies that we have been pointing out to you and ensure that DEQ is only issuing permits that comply with the Code of VA.

Commenter: Potter, Lorraine, representing Citizens

There are inherent deficiencies in the existing regulations that the State Water Control Board should address and correct. These include: failure to secure written consents from all property owners; failure to secure informed landowner consents; failure to exclude all pollution sensitive sites; failure to provide adequate buffers for health sensitive individuals; failure to provide adequate enforcement. DEQ has failed to address these deficiencies. You must address in the regulation that permits that are not allowed by Code are not allowed and not issued by DEQ.

Commenter: Staudinger, Henry J., and Jo Overbey, representing Citizens

Code § 62.1-44-19:3 prohibits all land application of sewage sludge "without permit, ordinances, notice requirements, fees." Code § 62.1-44-19:3 A makes clear that a DEQ permit that meets Code requirements is a prerequisite. That same section sets forth a threshold precondition to "consideration" of a permit by the SWCB" "unless it includes the landowner's written consent to apply sewage sludge on his property." The Code also sets forth a number of specific preconditions to the issuance of valid permits. One of the most important preconditions is set forth in Code § 62.1-44.19:3 B: "(ii) land application, marketing, and distribution of sewage sludge is performed in a manner that will protect public health and the environment..." Code § 62.1-44.19:3 O requires that the Board "develop regulations specifying and providing for extended buffers to be employed for applications of sewage sludge" as a precondition to allowing unincorporated land applications of sewage sludge. These provisions preclude land application of sewage sludge if "for any reason" the permit fails to include provisions needed to ensure that those requirements are met. From time

to time VDH argued that it did not have authority to impose additional requirements needed to comply with the Code. Thus the Code was amended to provide the option to impose additional requirements, including extended buffers under certain circumstances as an alternative to denying permits. VDH ultimately chose to disregard Code requirements and issued permits that did not meet one or more of the preconditions required by the Code, and allowed land application under those permits that were not valid. Following the transfer to DEQ, DEQ chose to disregard those same Code requirements and reissued new permits. The persistent failure to include sufficient permit conditions to meet requirements set forth in the Code of Virginia is not a minor technicality that can be ignored. The draft regulations fail to address the inability of the SWCB to issue permits that would allow land application of sewage sludge to occur lawfully in the Commonwealth. If there are to be land application permits that allow lawful land applications, the draft regulations must be substantially rewritten.

In light of past failures of the permit program, it is essential that the various permitted actions be specifically identified in such prohibited language. The following language should be added: "If the board elects not to add adequate extended buffers or to impose other adequate special requirements needed to ensure protection of the environment, health, safety and welfare of individuals in the vicinity of any application site, the application must be rejected." There is also the real probability that issued permits may unknowingly fail to contain sufficient restrictions to comply with Code requirements. Thus the following provisions must appear in the implementing regulations and issued permits: "If at any time following issuance of a permit, it becomes unclear whether the permit requirements are adequate to ensure that the requirements under the Code of Virginia are net, no further land applications shall be made under the permit until and unless DEQ lawfully imposes adequate extended buffers or other adequate special requirements needed to ensure protection of the environment, health, safety and welfare of individuals in the vicinity of any application site."

In Virginia, land application of sludge was prohibited by the Code of Virginia, except under valid permits that are subject to certain preconditions and requirements that ensure the protection of health and the environment. Sewage sludge is a mixture of many harmful constituents considered too dangerous to be discharged by wastewater treatment plants to the ambient water environment. Land application, being the next cheapest method of disposal after ocean dumping, was considered a viable option under the convenient theory that the sewage sludge would be sufficiently treated and assimilated into the environment (i.e., diluted) to minimize the risks to health and the environment. Under the Clean Water Act, the EPA was required to develop enforceable regulations (Part 503) that would protect public health and the environment from adverse effects of pollutants found in sewage sludge. EPA relied on a risk assessment model in its efforts to comply with its legislative mandate. Unfortunately the EPA risk assessment model failed to model all exposure pathways, failed to estimate the synergetic impacts of multiple pollutant exposures and failed to account for health sensitive individuals who may be present in the vicinity of land application sites or to address many sites that are pollution sensitive. For a number of years EPA actively promoted land-application of sewage sludge. Outside its regulations, EPA often substituted the word biosolids, the word developed by the sludge industry to reduce public concern about the land-applied waste in order to facilitate marketing the waste as free fertilizer. Ultimately, EPA was unable to assure the public that land application practices were protective of health and the environment. In light of EPA's inability to assure the public that land application practices were protective of health and the environment, it is not surprising that EPA officially ceased promoting the land disposal option.

The Preamble is written to give the impression that the Draft regulations were written to address deficiencies in the current regulations, when in fact the Draft simply failed to address the many deficiencies that have been brought to DEQ's attention. Indeed, the draft regulations include new provisions that are not allowed by the Code. In order to develop regulations, and ensure policies and practices that comply with the requirements of the Code of Virginia, the Board must disregard many of the representations set forth in the draft and look at the actual regulatory language. Rather than address those issues at this time, the Board is asked to consider the examples set forth in these comments, and to keep in mind that they are simply examples of the many fatal deficiencies set forth in the draft regulations.

The regulations must make clear and unequivocal that no sewage sludge can be land-applied under issued permits that fail to comply with Code requirements. The regulatory and permit deficiencies are substantially deficient in what they fail to provide, provisions that are essential if there are to be lawful land applications under the DEQ permit program. It is essential that there be an all encompassing provisions in both the regulations and the permits, such as: "No lawful land applications may be made under issued permits that fail to incorporate requirements as set forth in the Code and the implementing regulations." The Code authorizes the Board to issue permits on sites where protection of health and the environment are not ensured by providing for additional protections such as adequate buffers that actually ensure that health and the environment are protected. However, where the Board fails to impose those additional protections, issued permits cannot authorize lawful land applications on such sites. It is essential that the following language be inserted in both the regulations and issued permits: "Where DEQ fails to include additional protections needed to ensure that health and the environment are protected, no lawful land applications shall be permitted on sites set forth in issued permits."

Commenter: Staudinger, Henry, representing Citizens

DEQ's inability to provide draft regulations that comply with the Code is a concern to the public. However, it should be an even greater concern to those who allow their land to be used for the disposal of this waste, Permit Holders, and perhaps most important, Sludge Generators who use this method to get rid of their waste. Under the Code, the ultimate responsibility lies with the Board to ensure that implementing regulations and issued permits are compliant with the Code. The failure of DEQ to draft the requisite regulatory provisions suggests that the Board will have considerable difficulty in meeting its Code mandates. If the Board fails, Sludge Generators would be the most adversely affected, i.e., loss of the land application disposal method in Virginia through the Courts. I recommend that the Board reach out to Sludge Generators to enlist their assistance to encourage DEQ staff to draft regulations that comply with the Code. if this disposal method is important to Sludge Generators, I would expect them to be proactive and insist upon needed changes. I would expect the Board to provide Sludge Generators every opportunity to submit the input needed in order for the Board to approve and issue regulations that comply with the Code.

I have attempted to address land application of sewage sludge in the Commonwealth and at a federal level for 16 years. I participated on the DEQ Technical Advisory Committee until it became clear that the TAC was not designed to develop regulations that complied with the Code of Virginia.

DEQ Response to Comments: Proposed Regulations are not Protective; Not in Accordance with Statute

DEQ has consulted with VDH in the development of this regulation in order to ensure that public health is protected when biosolids are land applied. VDH has recommended that extended setbacks be included for land application sites near persons with certain medical conditions, and as much as possible, DEQ strives to identify these persons at the time of permitting so that specific setbacks can be established before the permit is issued. DEQ acknowledges that in some cases, these persons or conditions may not be identified until after the permit is issued. In order to meet the statutory requirement of including permit conditions that address public health at the time of permitting, a special condition specifying the procedure through which extended setbacks may be requested will be included in every permit at the time of issuance.

Subject: Outdated Science Regarding Biosolids

Commenter: Atwood, Dennis, representing Shenandoah County Water Resources Advisory Committee

A recent peer-reviewed academic article questions the entire EPA regime which has determined that biosolids are safe for human health and the environment and upon which the Commonwealth has relied for the scientific validity of its biosolids program. The abstract for that article includes the following: "...It is believed that the Part 503 standards are protective of human health and the environment and that sewage sludge applied to land poses little risk. A critical inspection of the pertinent literature, however, reveals that the standards were based on outdated methods, outdated data, inaccurate data, and flawed assumptions, leading to underestimation of risk. The standards are not sufficiently protective, and even if changes were made, sewage sludge is so complex that it is very unlikely it could be monitored to ensure the protection of human health and the environment. For these reasons, the practice of land application of sewage sludge must be discontinued." "Another significant problem with Part 503 repeatedly discussed in the literature is that thousands of new chemicals have been produced, used, and released since 1990, and there are new pathogens of concern that have not been considered since the initial standards went into place..." (Citation: "A Critical Review of the U.S. EPA's Risk Assessment for the Land Application of Sewage Sludge", Jennifer M.J. Mathney, NEW SOLUTIONS, Vol. 21(1) 43-56, 2011)

Commenter: Burleigh, H.T., representing Self

It does not take a fifth grader to know whatever you put on the ground will make its way into the waterways, thus whatever is put on the land here in central Virginia will make it to the bay. We will not donate a cent to cleaning up the bay until this practice of spreading sludge on the land is stopped. Millions have been spent on cleaning up the bay, why not try stopping the spread of sludge. Sometimes the simple things work.

Commenter: Henderson, Jim, representing Citizens

It is a fact that a number of chemicals, medical agents and especially birth control and growth hormone residues are found in every sample tested in the recent EPA Targeted National Sewage Sludge Survey Report. It is a fact that only a very small presence of many chemicals will cause detectable biological changes in animals and in young children. These effects can be subtle and are not easily tested for. However they exist. Can we afford to take the risk of poisoning our food supply, our animals, and our children? The regulations must monitor and regulate more than just the ten constituents presently monitored. When there are 80,000+ known chemicals, plus unknown numbers of proprietary chemicals, DEQ cannot claim to be protecting human health and the environment when they only monitor ten of them.

Commenter: Kondis, Dr. Edward F., representing Citizens

DEQ has ignored all of the comments made by citizens in the DEQ permit hearings throughout Virginia and the SWCB hearings and permit hearings. DEQ has ignored comments made by various SWCB members who were concerned about the 120 toxins identified by EPA in the 2009 TNSSS. DEQ has ignored comments made by the SWCB chairman who was searching for reasonable setbacks. DEQ needs to review all transcripts of the permit hearings and SWCB meetings to recognize and include the concerns expressed by citizens and SWCB members. Other than changing "sewage sludge" to "biosolids" and making a few minor changes, the proposed regulations are essentially the same as the previous regulations. The proposed regulations do not reflect current scientific studies or real world setbacks to protect water and food supplies as well as the health and privacy of contiguous property owners.

Commenter: Lorien, Joy, representing Citizens

Myth: Sludge spreading is safe because it is based on sound-science. - Fact: The NAS panel concluded otherwise. Current state and federal rules are based on outdated or lack of science. Former Deputy Administrator, Paul Gilman admitted that his agency can no longer guarantee the safety of sludge

spreading and that the whole issue "has to be revisited". Because of so many reported "incidents,: EPA no longer promotes land application.

Commenter: Martin, Steven, representing Virginia Blue Ridge Railway Trail

Farmers are looking for a cheap source of fertilizer. People from the city utilities who are trying to find a way to get rid of their waste products as economically as possible. And we have folks from the corporations or spreaders who are trying to maximize their profits. You can't rely on only one of these groups to protect us. We all have different motives. We should respect their respective positions, but we can't rely on information provided by just one group as the basis for our decisions on how to protect public welfare or public health. We rely on DEQ and the Water Control Board to protect us. We ask you to do that job for us. Remember that we all hope that sludge is safe, but no one here can conclusively say that sludge is safe or that sludge is not safe when spread on the land. More research is needed. More needs to be done and it will cost money. We all pray and hope that we don't find out late in the process that there is something that needs to be corrected or undone. The problem is there are many times that good faith people make terrible mistakes. But that is the way things are. We rely on the government to regulate and do the right thing. Ask people to think about the economy of what we spend and what we spend money on. We need to ensure that we understand the impact that phosphorus has on the bay and make sure that we are not saving money locally to fertilize the farmers' fields but costing money state wide and nationally to clean up our waterways (Chesapeake Bay). I would request that in any regulation that is being drafted that any individuals who have specifically asked to be informed be required by regulation to be informed. I would also ask that the regulations be written in plan clear English, because they are written and organized in a manner that makes them almost impossible to understand.

Commenter: Overbey, Jo, representing Citizens

Under § 62.1-44-19:3 B, the Board is prohibited from issuing a valid permit to land apply sewage sludge unless the permit terms and conditions ensure that the environment is protected when sewage sludge is land applied. In spite of repeated requests from citizens, DEQ has failed to ensure that many pollution sensitive sites have been identified and excluded from land application, or even to use current science to establish needed buffers. Until DEQ includes provisions in permits that actually ensure that the environment is protected; it is submitted that the Board is not in a position to issue a valid permit to anyone.

DEQ Response to Comments: Outdated Science

The vector attraction and pathogen reduction permit requirements and Nutrient Management Plan requirements follow current waste treatment and agronomic practices designed to be protective of human health and the environment. While research is an ongoing process, these practices are protective due to their conservative design. Research into "emerging pollutants" is an ongoing process in all permitting programs at DEQ and new criteria are adopted when deemed necessary through the Triennial review process and subsequently incorporated into permits.

Subject: Permitting

Commenter: Graf, Mary, representing Citizens
Identification of the land application site must include: the street/route and some sort of address number by which citizens can easily locate the site in relation to an address of particular interest to them and a topographical map must be less than two years old, since buildings and other relevant changes can occur in a short period of time.

Commenter: Hopkins, Roy E., representing Farmers
There has been some difficulty in getting new land permitted under the DEQ program. It has been close to 3 years to bring in a new farm into our operation without obtaining approval. What is the delay? Why does it take so long to get new land permitted to use biosolids?

Commenter: Laurrell, R. David, representing County of Campbell
Require obtaining local certification for any proposed permit or permit modifications for the land application or storage of biosolids to verify the site(s) and proposed application activity do not conflict with any existing land uses including residential subdivisions and places of assembly.

Commenter: Mills, Jr., John N., representing Farmers
Why create regulations just for the sake of regulations? Why does it take so long to get a piece of property approved for use of biosolids?

Commenter: Richardson, Hunter, representing Synagro Central, LLC
Synagro suggests that the following language be added to ensure that the department is processing permit applications in a timely manner and from start to finish should be a 180 day process as stated in all documents. Example: Department has 60 days from the time that they receive a permit to deem it complete or return a list of deficiencies. The department shall notify the permittee in writing when the permit is deemed complete. The department shall schedule the public informational meeting within 60 days of the permit being deemed complete.

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.
Frequent Application Sites - The language in this section requires detailed information on soil type, color, depth, permeability, groundwater monitoring, etc., for land application sites that will be receiving frequent application of biosolids. VAMWA requests that DEQ limit this requirement to sites receiving frequent applications of biosolids at greater than 70% of the agronomic rate.

DEQ Response to Comments: Permitting

DEQ policy is to process a permit within 180 days. This is established by the requirement in the regulation to submit a permit application at least 180 days prior to expiration or expected date of commencing activity. The evaluation of the land application sites is the most complex task, whether issuing a new permit, reissuing a permit or adding land. The proposed regulation requires the submission of topographic maps, as well as current aerial photos that will show features such as other buildings, neighborhoods, etc. The new landowner agreement will require and address, County Tax ID and Tax map for each field.

DEQ has received complaints from landowners regarding the time required for adding land to a permit, most often the problem has been related to incomplete permit packages. The staff will not

begin processing a permit until the application has been deemed complete; this includes payment of the fee. DEQ will not amend or reissue a VDH-BUR permit. All additions of land or continued authorizations for land application will be processed through issuance of a new or modified VPA permit.

Subject: Reclamation of Mined and Disturbed Land

Commenter: Daniels, W. Lee, representing Virginia Tech

The current regulations contain no language allowing DEQ to permit the use of higher rates of biosolids as a part of research programs or when clear emergency situations (e.g., Stafford Airport project in 2001/2001) demand their utilization. As currently written, we would be required to submit a conventional nutrient management plan for approval of any research plots. Since one of our goals in performing field research would be to investigate the net soil and water quality effects of higher than agronomic rates, this requirement is obviously self-limiting and senseless. Furthermore, the turn-around time for review and approval by DCR is of great concern to us. Similarly, there is no language whatsoever that would allow DEQ to waive conventional nutrient management plan requirements for emergency situations. Historically, both of these scenarios (research plots and emergencies) always involve submission and approval of detailed soil and water quality monitoring plans that are much more stringent than conventional land application permit requirements. Therefore, we feel strongly that language should be added to the final proposed language to allow DEQ discretion in approving both research and emergency application use of biosolids at higher than conventional rates without conventional nutrient management plan approval restrictions.

We support the use of one-time applications of biosolids to newly reclaimed mined (or similarly disturbed) lands that are higher than would be allowed under a typical nutrient management plan framework for established cropping systems on agricultural lands. Our recommended loading rates for these one-time applications have ranged from 25 to 35 dry tons per acre for the purpose of rebuilding soil organic matter and nutrient reserves for long-term soil building benefits. In our previous detailed submissions, we have provided ample evidence from three different mining sites that this practice does not lead to significant leaching of nitrate-N to local shallow groundwater. However, the current proposed regulations still stipulate that a conventional nutrient management plan must be approved by DCR for all mined land applications. Our long-term research results clearly indicate that (A) this approach is not valid for these kinds of drastically disturbed sites and (B) significant long term soil building and revegetation benefits are lost when biosolids applications are limited to conventional rates for reclamation sites.

Commenter: Hatcher, Roger F., representing Farmers

Using plant nutrient requirements in land reclamation projects is worthless. The primary problem in reclamation is the lack of organic matter in the disturbed soil. The traditional approach used by DMME was to add enough organic matter to start the formation of a topsoil. This usually resulted in a short term loss of nitrogen to the surface or the groundwater. I believe the start of topsoil formation is a far better management decision than constant yearly application of small quantities of biosolids or chemical fertilizers. I have witnessed this for more than thirty years, and it is well documented by research at Virginia Tech.

Commenter: Trumbo, Susan, representing Recyc Systems

It is Recyc Systems experience that neither research projects or mine land reclamation projects are agronomic operations. The purpose of a research project or a mine land reclamation project is not to grow a crop to be harvested. Thus it is not logical to require a Nutrient Management Plan which is based on agronomic principles be developed and followed for projects that are not agronomic. We recommend that the definition of land application include both research projects and mine land reclamation as well as landfills.

DEQ Response to Comments: Reclamation of Mined and Disturbed Land

Because all land application requires a NMP as specified in § 62.1-44.19:3.C.8 of the Code of Virginia, and the DCR NMP Standards and Criteria do not specify appropriate rates above agronomic for purposes of reclamation, a NMP for this purpose would require DCR approval in order to be classified as an NMP as required in the Code of Virginia.

Subject: Reporting

Commenter: Staudinger, Henry J., and Jo Overbey, representing Citizens

There was a time when DEQ's reporting requirements enabled DEQ (and anyone who viewed the reports) to readily see a number of violations that may have incurred. The reports were changed over the years so that it is generally impossible to do so. This must be changed. Information that must be in the reports would include: 1. Nutrient Information for each site (a. the amounts of each nutrient required for crop growth; b. the amounts (and dates) of each nutrient applied via sewage sludge; c. the amounts (and dates) of each nutrient supplemented; and d. if lime needed to be added, the dates and amounts); 2. Health Information for each Site (a. steps taken to identify the potential presence of health sensitive individuals in the vicinity of the site; b. steps taken to ensure that any health sensitive individuals were not exposed; c. The name and address and telephone number of each individual who filed complaints, the nature of the complaint, the date of the complaint and how addressed; d. certification that landowner consents were in place as of the date of application; e. certification that all applications were made on sites as to which there was informed consent of all landowners); 3. Failure to comply with any statutory, regulatory and/or permit requirement (a. list nature and date of the failure and what actions were taken to minimize the impact and to ensure that it did not occur again; and b. if the failure was on the part of the landowner, describe how the failure was addressed.

Commenter: Trumbo, Susan, representing Recyc Systems

Recyc Systems urges the Department reconsider the information required for permit applications and reporting. Please evaluate for what is necessary and needed versus that which is habit and old policy. More is not necessarily better. We remind the Department of the disparity in the permit holders and acknowledge the difficulty this presents. For example the simplicity of a monthly report for 100 wet tons applied to one field versus a monthly report for thousands of tons from multiple sources on multiple fields. Another example is the requirement to provide a map showing truck routes with the prior notice, when depicting hundreds of sites in one locality, the map becomes similar to the drawing of a child.

DEQ Response to Comments: Reporting

Due to the extensive amount of data reported and collected monthly, and the requirements to “track” the biosolids, the use of a “simple” reporting form is not useful or possible. The permittees submit spreadsheets that are uploaded into the DEQ Biosolids Access Database. The database includes all biosolids analyses, field nutrient loading data, complaint records, inspections and extended buffers.

Subject: Research

Commenter: Atwood, Dennis, representing Shenandoah County Water Resources Advisory Committee

The report made by Mr. Rubin and Mr. Staudinger of the Expert Panel includes the following: "In developing its Report to the General Assembly, the Expert Panel was limited by several factors, Chief among these factors was a lack of well designed and peer reviewed studies to determine if a relationship between exposure of a population to biosolids at land application sites and subsequent reported health symptoms exists. In addition, the complete characterization of biosolids to identify and quantify every inorganic chemical, organic chemical and microbiological species present in biosolids has never been accomplished, and realistically may never be, due to analytical limitations and the considerable financial costs. With these research and data collection goals not satisfied, the nature of the relationship between exposure to biosolids and reported health symptoms cannot be confirmed from a scientifically documented perspective. The Panel was therefore left to consider reports by citizens who described health symptoms following exposure to biosolids by residing in close proximity to biosolids land application and/or storage areas."

Commenter: McEvoy, Mike, representing Western Virginia Water Authority

I serve as Executive Director of the Western Va Water Authority. I ask for an addition to the proposed regulations. Specifically, a process is needed to allow utilities to experiment with new biosolids treatment and reuse options. There has been much talk about utilizing biosolids for other purposes besides land application, such as energy production, but there is not a good method to permit these projects on a temporary basis to determine suitability or cost effectiveness. I would like to see included in the proposed regulations a permit option that allows for temporary treatment system evaluations and pilot projects. Such permits would need to be flexible with conditions that recognize test equipment, structures, and site conditions are temporary. The term of such permits would likely need to be about two years. This pilot permit process would be beneficial for DEQ as it would allow them to collect the information necessary to permit such systems on a permanent basis. Innovation requires experimentation. I would ask that a process be included in the proposed regulations to facilitate innovation.

Commenter: Scholder, Jerry, representing W.O.R.M.S. (Worms Operating to Reduce Municipal Sludge)

The National Academy of Sciences (NAS) has proposed a study to review the science behind the federal government's laws on applying biosolids to land. The $531,000, 18-month project would review new information on biosolids land application and evaluate EPA's methods of determining risk from chemicals and pathogens in biosolids. All aspects of the Part 503 risk assessment will be examined, including the identification of pollutants, exposure pathways, default assumptions, and others. Better scientific tools are available now to help EPA gather needed data and monitor land-application practices. Science does not remain static, nor should our efforts to protect human health and the environment.

DEQ Response to Comments: Research

As mentioned in previous responses, research is ongoing across the country. Although direct funding of research by DEQ is unlikely due to the current budget, DEQ does support and collaborate where possible with academic and research institutions to further biosolids research. Section 62.1-44.19:3.A. of the Code of Virginia requires a VPA or VPDES permit for all land application. While the regulation does not specifically speak to pilot studies, it does allow for research and pilot studies to be conducted by wastewater plants under authorization through their VPDES Permit. Research may also be conducted on land application sites permitted under VPA permits. A researcher might work cooperatively with a permitted land applier in the research effort.

Subject: Soil pH & Potassium

Commenter: Graf, Mary, representing Citizens
There is no permanent pH management so that metals and other toxic persistent chemicals can't mobilize, leach into groundwater, or be picked up by plants.

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP
The limits on soil pH and soil potassium should be governed by the DCR nutrient management plan written by a DCR certified plan writer rather than imposed by DEQ in a biosolids permit.

Commenter: Hopkins, Roy E., representing Farmers
The current pH level of 5.5 in the regulation is a good starting point; however on new ground this restriction does not work. There needs to be some consideration given for a differential for the pH restriction/requirement for new ground that is cleared over soils that have been used for quite awhile.

Commenter: Martin, Steve and Popie, representing Citizens
It is imperative that the regulations should require a minimum pH of the soil to which sludge is going to be applied and the applicant must certify prior to application that the soil is in compliance. DEQ should be required to and Local monitors should be allowed to check the pH prior to application. Proper pH ensures uptake of the nutrients in the sludge.

Commenter: Martin, Steven, representing Virginia Blue Ridge Railway Trail
There needs to be a pH requirement in the regulation. The regulation must require the monitoring of pH otherwise it is pointless. It should be DEQ's responsibility not the applicator.

Commenter: Staudinger, Henry J., and Jo Overbey, representing Citizens
DEQ has made no effort to make certain that landowners will ensure that pH is maintained at the appropriate levels in perpetuity if the Permit Holder fails to do so. However, because this must be recorded as an obligation against the land, the sewage sludge regulations must include language such as: "Landowners shall, in perpetuity, ensure that pH is maintained at levels sufficient to keep heavy metals from leaching into groundwater. Annual reports shall be filed with DEQ to confirm that the pH level is maintained. To ensure that this requirement is passed on to subsequent landowners, the obligation shall be recorded as an obligation against the land."

Nitrogen applications are not only limited to crop growth requirements by the Commonwealth of Virginia, but also be the federal government under EPA's Part 503. Crop growth requirements are adversely affected by insufficient potassium as well as pH levels. Unless both are enforced, the amount of nitrogen will be in excess of growth requirements. The draft regulations would rely on nutrient management plans to ensure that nitrogen is limited to crop growth. DEQ failed to ensure that this state and federal requirement was met following citizen complaints even under its NPDES regulations. Additional provisions such as the following are required: "If potassium deficiencies are not supplemented and/or pH levels adjusted to ensure that crop growth needs will be up taken by the crops, no further land application shall be made on sites owned by the landowner(s) in question or on any other sites that have the same farm operator. In the event that these deficiencies occur more than three times under a permit, the Permit Holder is prohibited from land applying any sewage sludge under the permit."

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

The proposed regulations mandate that soil pH must be greater than or equal to 5.5 at the time of each land application if the biosolids have not been alkaline stabilized and that potassium must be greater than or equal to 38 ppm at the time of land application. Although correcting pH and potassium levels using lime or potash would add expense and time to the land application process (it can take up to 90 days to see the results of lime or potash additions in soil sample results), VAMWA does not debate that soil pH should not go below 5.5 in cropping situations and that there is a minimum levels of potassium needed for adequate crop growth. However, the proposed regulations takes what should be recommendations for optimum fertility under nutrient management guidance and elevates them to regulatory requirements. DCR's current S&C include recommendations for lime and potassium treatment for particular crop types. There is no absolute prohibition on applying biosolids to lands with "unacceptable" pH and potassium levels. Parenthetically, VAMWA believes this is appropriate because there are private farming practices involved here. We should allow individual farmers to decide how best to farm their properties. DCR should revise its S&C and impose these requirements on all agricultural fertilizers, including manures. The current proposal to have these restrictions only apply to biosolids is discriminatory. DCR can open a regulatory process to amend its criteria, as it did in 2005, and should do so if it believes additional protections are necessary for fertilizers, manures, and biosolids. DEQ should not permit DCR to shoehorn its criteria into the biosolids regulations.

Commenter: Tignor, Jr. Allen, representing Farmers

I am concerned with the pH requirements of the soil for the application of biosolids and the degree of potash that is in the soil required by the regulations.

DEQ Response to Comments: Soil pH and K

In order to prevent loss of nutrients, there must be optimum uptake of the nitrogen and phosphorus land applied in the biosolids; i.e. optimum crop productivity. In order to maximize production it is critical that all soil nutrients and micronutrients are in balance, including potassium and pH. Therefore, the language has been revised to say:

"When soil test pH is less than 5.5 S.U. the land shall be supplemented with lime at the recommended agronomic rate prior to or during biosolids application if the biosolids to be land applied have not been alkaline stabilized."

“When soil test potassium levels are less than 38 parts per million (Mehlich I analytical procedure or equivalent) the land shall be supplemented with potash at the recommended agronomic rate prior to or during biosolids application. This eliminates the time required for soil pH to adjust.”

Subject: Staging, On-site Storage and Routine Storage

Commenter: DiSanza, Ray, representing Farmers

I would like the DEQ to allow us to stock pile some biosolids material to spread as needed onto pastures that get overgrazed and depleted of nitrogen and necessary elements before the 3 year window currently in effect.

Commenter: Gessner, Mary, representing Friends of the North Fork of the Shenandoah River

The temporary storage time period language in the regulations is excessive. Why is it allowed for 2 weeks. It should be shortened.

Public Comments and Department Response to Public Comments

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

Some commenters have suggested that the local government certification should include a statement that the land application or storage of biosolids does not conflict with any provisions of the Chesapeake Bay TMDL or storm water requirements, or verification that the land application does not conflict with any existing land uses. The regulation already requires local government certification that the land application permit does not conflict with local ordinances. There is no need for additional specification to be added; the current wording is broad enough for a locality to review relevant local ordinances before making the certification.

The application requirements for biosolids permits are extremely onerous and raise questions about how some of the information can best be obtained. Likewise, some clarification is needed for some of the requirements. For example, 9VAC25-32-60 F 2 b(3) requires a site map for storage sites including field features within 0.25 miles of the site boundary. It is unclear why 0.25 miles was selected. It is also unclear how that distance is measured. We would propose that the distance be measured from edge of application area rather than property line.

Commenter: Kelble, Jeff, representing Shenandoah & Potomac River Keepers

The proposed regulations must make it clear that the buffer zones described in 9VAC25-32-560 - Table 2 pertaining to sludge applications are minimum buffers applicable not only to the application, but to the storage and staging of sewage sludge as well. While we understand that the permitting process may impose buffers for facilities storing and staging sewage sludge, the proposed regulations need to establish a minimum buffer for such activities, as they do for the application of sludge. Only be clearly establishing such buffers can the proposed regulations ensure the protection of the environment and state waters.

Commenter: Richardson, Buck, representing Farmers

There is the consideration of additional financial pressure on the contractors for the proposed requirements for the covering of biosolids in storage areas. Biosolids are bulky and covering storage areas could be a significant expense to the contractor. I also see there are proposed increased fees being proposed. It is a tremendous program and a tremendous asset to the farmers. I would like to see this program continue to economically viable for the farmer as well as for those spreading the biosolids for land application.

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

"Pertinent calculations justifying storage and land area requirements for biosolids application including an annual biosolids balance incorporating such factors as precipitation, evapotranspiration, soil percolation rates, wastewater loading, and monthly storage (input and drawdown);...This sentence makes little sense in this context and appears to be more applicable to biosolids storage. VAMWA requests that DEQ strike this language.

Biosolids storage at a POTW facility should be exempted from the proposed VPA regulatory requirements for storage.

Information on storage is more appropriately addressed in the VPA regulations. Currently, 9VAC25-31-100 Q 10 is inconsistent with the requirements for storage included in the VPA proposed regulations. This language should be deleted. In addition, 9VAC25-31-100 Q 14 a should be deleted.

The proposed regulations include what is largely a wholesale re-write of the current requirements for biosolids storage. Generally speaking, VAMWA views the revisions as an improvement and consistent with TAC discussions on storage. However, the proposal does not clearly provide an exemption for storage of biosolids within the property boundaries of a POTW. VAMWA believes that this is an oversight, as the VPA regulatory language is really meant to address field storage and storage facilities not associated with a POTW. The storage and handling of all sludge - whether raw, partially treated, or fully treated - on the

grounds of a POTW is covered by the facility's VPDES permit. Therefore, it would be unreasonable to subject a POTW to the VPA storage requirements for storage within the property boundaries of the POTW. VAMWA requests that DEQ clear up this inadvertent error by adding a specific exemption for storage at a POTW in the VPA regulations.

Commenter: Stevick, Stephen M., representing Citizens

All proposals to store sewage sludge on a temporary basis should require full and adequate notification of neighbors within two miles of the proposed site and not be allowed if the neighbors object within a reasonable comment period (e.g., 90 days).

New provisions for controlling the field storage of sludge are fundamentally flawed for the following reasons: 1. Allowing the storage to service "…all sites under control of the operator of the farm where the site is located…" authorizes unacceptable volumes of sludge to be stored in any given site of the multiple sites under control of the operator, thereby placing an undue burden on the site selected, the neighbors nearest the site selected, associated roads, and the general well-being of the area; 2. Absent a synthetic liner under and over stored sludge and berms sufficient to retain runoff, the likelihood of absorption of the effluent into the ground and/or runoff on the surface is high, if not unavoidable, as is the potential for malodors; 3. There is insufficient documentation of the impact and integrity of the storage site - an appropriate plan of closure or abandonment of all storage sites should be developed; 4. Road access beyond the use of primary roads provides a danger to citizens - Storage sites, if any, should be limited to direct access from primary roads and to avoid any shared routes, e.g., rights of way, where possible; 5. All access routes should be the most direct route to and from the storage site, and not include use of private roads or rights of way of non-permittees, unless specifically authorized by those who, by title, have a right to use of the right of way or road; 6. Creating and/or closing any and all storage sites should require specific approval by DEQ, including comprehensive testing of the soils at the site for evaluation of pollutants and pathogens before the storage begins and after it is closed; 7. If the unnecessary practice of allowing storage sites is to be continued, then limiting the sludge to be stored to that needed for the immediate farm where it is stored and keeping the sludge in enclosed delivery containers will help to minimize the adverse impact of this practice.

On site storage of sewage sludge for any duration should be prohibited for the following reasons: 1. Offloading of sewage sludge in concentrations greater than called for in the NMP should be a violation of the land application permit and should not be allowed; 2. Emergency situations do not allow for sufficient time to properly prepare a storage site to guard against the adverse effects of high concentrations of sludge; 3. Simpler and safer alternative exists; 4. Emergency situations, such as unfavorable conditions for land application (e.g., climatic, soil, etc.,) also apply to the surface storage of sludge, only to a greater degree; 5. The simpler, cheaper and more readily available alternative to on-site storage is to not ship the sludge from the source (e.g., rail head) when unfavorable conditions are foreseen, and leave the undeliverable sludge in the shipping container, itself, preferably off-site; 6. The storage site provides a mean for the continuation of the unauthorized waste water treatment process (separating sewage effluent from sludge) although it avoids being treated as a waste water treatment facility, with the accompanying more stringent environmental regulations; 7. No provision addresses the ultimate disposal of all supernatant produced in any and all storage sites once the sewage effluent is separated from sludge. Such provisions, at the very least, should be in accordance with Part IV (12VAC5-585-620, etc.); and 8. Malodors, airborne pollutants and pathogens emanating from stored sludge are of particular concern. The duration, intensity and potential health hazards are far greater than those of land application.

Commenter: Stevick, Steven, representing Citizens

Storing sewage sludge on the land surface in concentrations greater than it would be applied is of concern. There needs to be justifications for such storage just not a convenience to the hauler. There are valid health and environmental concerns. The alternative is to not ship the sludge from the source when there are uncertain application conditions. Another option would be to require that the materials be left in the shipment container preferable off site until the conditions allow application. The regulations need to limit the sludge stored on any given site to the amount and the site where it is to applied not an amount for application

to multiple sites. Don't allow on-site storage. If allowed, only that amount to be used on that site and require it to be left in the shipping container for proper identification of source and date etc. Storage on site is an accommodation to the hauler not the farmer.

Commenter: Tolliver, Becky, representing CROPS, Inc.

I am from Culpeper Engineering and am here on the behalf of Crops Inc. I am asking for clarification about storage facilities and coverage requirements. Particularly those facilities that are designed for the management of dewatered biosolids and the requirement that they be covered. There is no specification in the proposed regulation to determine who or how it is to be determined whether an existing facility designed for the management of dewatered biosolids is only allowed to contain dewatered biosolids or whether it would also be adequate for "liquid biosolids" as well. My client has an existing facility that has been in existence for a period of time that has an existing permit and we would like clarification that facility is not characterized as only being suitable/designed for dewatered biosolids.

Commenter: Wilkenson, Ricky, representing Farmers

Have had biosolids stored on property and have used biosolids for the past 8 years and have not had any odor problems. You can't buy a better or safer product.

DEQ Response to Comments: Staging, On-site Storage and Routine Storage

Staging was proposed in the December 2009 version of the amended regulations to replace emergency and temporary storage. In response to the comments received, staging has been more clearly defined: *Staging is the placement of biosolids on a permitted land application field, within the land application area, in preparation for commencing land application or during an ongoing application, at the field or an adjacent permitted field. Staging is not considered storage and shall not take the place of storage.*

The new proposed language in the regulation specifies that, in addition to the requirement that the field is eligible for land application, staging shall not begin unless the field conditions are favorable for land application. The allowed length of time biosolids can be staged was shortened from 14 days to 7 days. If, for some reason, biosolids cannot all be spread by the end of the 7th day of staging, the biosolids must be covered and DEQ notified. This notice shall include the reason why the biosolids were not spread within 7 days. To be consistent with the newly proposed setback distances, biosolids may not be staged overnight within 400 feet of an occupied dwelling or 200 feet of a property line.

Some commenters expressed concern that biosolids offloaded onto the ground are at concentrations greater than agronomic rates. The Biosolids management plan that is required as part of the permit application must identify staging areas for each field and the procedures that will be implemented for reestablishment of the offloading/staging areas.

Commenters also expressed concern about long term storage of biosolids on the ground. Both on-site storage and routine storage must take place on engineered impermeable surfaces and therefore nutrient overloading is not an issue at the site. The new proposed language requires all routine storage facilities designed to store dewatered biosolids be covered to prevent contact with precipitation; therefore producing no runoff and no supernatant. In response to concerns that existing lagoons and basins would need to be covered in order to store dewatered biosolids, a new condition was added to allow existing routine storage facilities designed to hold liquid biosolids to be used to store dewatered biosolids. All existing and new storage sites and facilities that are designed to hold liquid biosolids are required by the regulation to manage supernatant as liquid biosolids. The

supernatant must be monitored and land applied in accordance with a NMP on permitted land application sites only.

In regard to concerns that clarification was needed that the VPA storage language does not apply to storage at the generator's facility, a statement was added that routine storage takes place at a facility not located at the site of the WWTP.

Subject: Support for the Land Application of Biosolids and Proposed Amendments to the Regulation

Commenter: Anderson, Paul, representing Farmers

My wife and I farm about 250 acres on Frederick County. We use biosolids. Agriculture and forestry are the largest industry in Virginia. Farmers are the largest environmental group in Virginia. The lands and waters are important to us. Biosolids have been a lifesaver on our farm. We have been using biosolids for 8 years.

Commenter: Andrews, Jean, representing Augusta County Service Authority

The biosolids program is well run and highly regulated. We support the proposed changes to the regulations. We need a set of regulations that will keep land application as a viable option for the management of biosolids.

Commenter: Andrews, William L., representing Farmers

I farm in Tappahannock Virginia. I have used biosolids since 1980 and have seen no harmful effects from its use. I just can't get enough of it to use. Biosolids is a wonderful and a safe product. The use of biosolids does make a difference.

Commenter: Baker, E.V., representing Farmers

First and most importantly to me is biosolids is a recycled product that, when applied and used correctly, provide a benefit to my farm and to my community--allowing my farm to remain a farm. The expense of maintaining my farm is hard as it is even with using biosolids. I couldn't do it without this service. I am one of hundreds of farmers in Virginia that have been using biosolids without any documented adverse effects. The benefits of its use, however, are well documented and increase both my productivity and the quality of Virginia's soils. I have used biosolids on my land for approximately 15 years and in my experience, the system is working very well and doesn't need any major overhaul. This process is closely monitored by the filed inspectors in the Virginia Department of Environmental Quality. In some cases, the use of biosolids provides the difference between farm profitability (or at least breaking even) or not. When a farm fails, the land may wind up being cut up into subdivisions or paved over for parking -- a loss of green space that harms the environment and alters forever the character of our rural communities. Please, in approving new biosolids regulations don't do anything to hurt our farmers or the economy.

Commenter: Bates, J. Barry, representing Farmers

I concur with everyone who has spoken here tonight. I have only been farming for 2 years. I have never seen a problem with the use of biosolids by any of my neighbors.

Commenter: Broaddus, C. Bates, representing Farmers

I farm with my father and my uncle; I am the 5th generation farming this land. I am very concerned about protecting this land for the next generation. Biosolids have been used safely on our farm for more than a dozen years. Please allow us to continue to get biosolids, please do not allow them to be banned by over

regulation.

Commenter: Broaddus, John, representing Farmers

I have been using biosolids on my farm for at least 12 years. It is a safe product and I have had no problems with it or the application of it. I am very concerned about erosion and runoff. Biosolids stick and do not appear to runoff as chemical fertilizers can do, which of course is good for the Chesapeake Bay as well as my bottom line. Biosolids have become an important part of our fertility program, as well as taking advantage of a recycled product that is beneficial and safe. Please do not put any more unnecessary regulations or buffers on biosolids applications.

Commenter: Broaddus, Lynwood, representing Farmers

I have been using biosolids for at least a dozen years. I have been very pleased with their application. One of the things I like about biosolids is they are slow release and are not washed off or through many light soils, like chemical fertilizers can do. The smell is kind of a musty smell, which dissipates in a few days, it is by far less noticeable than the dozen or so pigs we have. My mother was opposed to biosolids when they first tried to get permits in Caroline County, back in the 1980's. It took a long time to get her approval. Now she sees nothing wrong with it, and did not complain about the smell when they spread the fields around her house. I like the fact that biosolids are a recycled product. I try to conserve our resources however possible, and recycle whenever possible. Please continue to allow us the access to biosolids, by not adding unnecessary and unfounded buffers and regulations. Biosolids are a safe recycled product that are beneficial to us all.

Commenter: Chambers, Jennifer, representing Virginia Agribusiness Council

In general, the proposed Amendments reflect the recommendations of the TAC with respect to major items including buffering, notification, signage, storage, recordkeeping, etc. The proposed amendments strengthen the permitting program and provide greater notifications and safeguards to the public.

Land application of biosolids is critically important for the agribusiness industry and the farms and forests that receive this beneficial product. Economically, farmers can save thousands of dollars by utilizing biosolids where applicable. The benefits for the Commonwealth include: Improved soil productivity and increased yields for crops as a result of biosolids applications; Environmentally-protective management of nutrient applications through the required use of nutrient management plans for sites receiving biosolids applications; Cost-effectiveness of biosolids by lowering total input costs for producers; lack of illness or negative impacts as a result of biosolids applications on farms, many of which have been occurring over a 25-30 year time period; flexibility and responsiveness of biosolids applicators and farmers in responding to concerns, questions, and reasonable request of neighboring property owners; and local and state presence and response prior to and during biosolids applications through the use of Local Biosolids Monitors and increased DEQ field staff.

Land application of biosolids is one of the most practical options for disposing of biosolids, and is critically important to water treatment. The treatment of wastewater generates solids that remain after the treatment cycle is completed. When the solids are further treated, they become biosolids and can be safely used as fertilizer and for other productive purposes. Biosolids land application is a cost-effective, highly beneficial, and most importantly, safe way to manage solids.

On January 1, 2008, regulatory oversight for land application of biosolids was transferred from the Virginia Department of Health (VDH) to DEQ, following legislative action in 2007. The regulatory process to amend the biosolids regulations was necessary to implement clarifications and procedures as a result of the change in the overseeing agency and applicable permitting programs, not as the result of complaints to DEQ. Our industry supported DEQ's decision to amend the regulations so as to ensure consistency and certainty in how the program operated; a benefit for the public, generators, applicators, and users of biosolids. Throughout the regulatory process, DEQ staff worked with the TAC to seek consensus, or, if consensus was

not reached, a reasonable agreement that most parties could agree to.

We wish to associate ourselves with the specific editorial comments submitted by Tim Hayes of Hunton & Williams LLP, as they reflect the collaborative efforts among biosolids generators, land appliers, and the agribusiness industry.

Commenter: Clemmer, Richard, representing Farmers

I am a farmer in Northern Rockbridge County. I am new to biosolids and only started to use it last fall. I talked to other users and decided to use the material to help cut back on my fertilizer bill and to improve the fertility of my soils. The regulations should stay where they are. I have been very pleased with the results of the application of biosolids on my farm. The regulations are in good shape the way they are and should stay as they are.

Commenter: Craun, Kevin K., representing Farmers

I am a local farmer and land owner in Rockingham County and am here to support the regulation for the land application of biosolids. Everyone is a biosolids generator. The land application method of disposal of biosolids is a recycling process and is much preferred over the concentration of the materials in one place, such as a landfill. There is not a lot of difference in biosolids and poultry litter, and I can't ever see the day when we would be allowed to landfill poultry litter.

Commenter: Crossman, Sparky, representing Farmers

I was one of the many farmers attending your Henrico public hearing on biosolids Tuesday night. I echo all the comments and concerns that everyone there brought up. I have used biosolids for about 15 years of the 40 years that I have been farming. Biosolids is an important part of my operation. It's not only a business decision, but an economical decision, with the cost of commercial fertilizer. I am one of the hundreds of farmers in Virginia that have been using biosolids without any adverse effects. the benefits of its use, however, are well documented and increase both my productivity and the quality of Virginia's soils. Please, in approving new biosolids regulations don't do anything to hurt our family farmers or the economy of Virginia.

Commenter: Cuthbertson, Kent, representing Farmers

The application of biomass for farming is an emotional issue as evidenced by the comments, largely because most people are completely uninformed and have been conditioned to consider sludge as nuclear material. Properly stabilized sludge is a natural affordable and more controlled alternative to chemical fertilizers. Given that the price of petroleum, the source of fertilizer, is soaring; properly stabilized and professionally applied biomass is an excellent solution. I apply biosolids on my land. I maintain a current Nutrient Management Plan as well as Application Records on my land. I submit that I know more about my land's health (pH, soil samples, weed applications) than most homeowners who buy several bags of Scott's and apply all of it for good measure, more is always better. How many homeowners keep records of their applications? The answer is none and most of the excess fertilizers and insecticides they apply runs off with the rain into the nearest receiving stream, fish kill anyone? The current regulations for applying biomass work. They do not need fixing. If you want to control environmental degradation, look at applying the same standards to suburbia and the homeowner that are applied to the farmer.

Commenter: Davis, John, representing Farmers

My sister and I own and operate a small farming operation in Greene County VA. Over the years the land has been used to produce grain, hay and pasture. Currently hay is the only cash crop. We have used Biosolids for eight years and it certainly has improved the soil and increased the productivity. I have lived on the farm for over sixty years and can attest to the fact that it is in the best conditions; most likely in the best condition of the 139 years that the family has owned this land. Broom sage and soil erosion are not an issue. I am not aware of any ill effects of Biosolids Applications. I am a proponent of biosolids land applications.

Commenter: DiSanza, Ray, representing Farmers

We own a 70 acre farm in Fauquier County in which about 30 acres is pasture. This 30 acres costs us on average $2,500 per year to weed and fertilize. This cost could be drastically reduced almost 100% if the regulations restricting the use of biosolids were relaxed a bit. I currently also lease 35 acres for hay production and until 3 years ago my costs to fertilize and maintain the soil quality was about $4,000 per year. Since I found out about the biosolids program my costs have been about $500 per year for potash mainly but my hay quality went up. The hay we produced 2 years ago came in at almost 16% crude protein. Since the quality was so high I was able to produce 30% more than I had previously and was able to sell that hay at a premium. I understand that some people are put off by the odor of the biosolids but in my experience this only lasts a few days and has no adverse health effects to anything. By contrast, drive by a dairy farm and the odors coming from them are continuous. I am not saying to deregulate the application of this at the expense of the health and safety of the people in these communities but if we make farming so unprofitable they will cease to exist.

Commenter: Dunkley, Barry T., representing City of Danville

Land application of biosolids is of great benefit to the agricultural community . It does not pose a health hazard, is environmentally safe and usually produces little odor. Urge the SWCB to follow the advice of the technical advisory committee and approve a biosolids regulation that is practicable, easy to understand and enforce and does not place unnecessary restrictions on the agricultural recycling of these valuable nutrients and soil amendments.

Commenter: Forbes, Tommy, representing Farmers

I have owned and operated a family farm in Brunswick County Virginia since 1944. I have seen many changes and trends in farming; and, biosolids has played an instrumental role in the continuance and profitability of my farm. Over the past nine years, I have used biosolids three times and have found it more effective than commercial fertilizer. Moreover, biosolids adhere to the fields better, it has doubled my crop production and there is no charge. The low profit margin in raising cattle would make it financially unfeasible to cover the price of commercial fertilizer to produce the same results. I have used biosolids without any documented adverse effects. When applied and used correctly, biosolids will provide the opportunity for me to continue farming and allow for my farm to continue for generations to come. Please carefully consider any new biosolids regulations which may adversely affect Virginia farmers and negatively impact the agricultural contribution to Virginia's economy.

Commenter: Goodman, Rudy, representing Farmers

I farm in Bumpass Virginia. Have used biosolids for over 10 years and have never seen a problem with its use and I don't think anyone else has.

Commenter: Grandstaff, James, representing Henrico County

I am the Division Director for the Water Reclamation Facility for the County of Henrico. I am also a board member of the Virginia Biosolids Council and the Virginia Municipal Waste Water Association - Biosolids Committee. My comments tonight are as the Division Director of the Henrico County Water Reclamation Facility. We generate biosolids which are land applied on farm land in Henrico County and surrounding counties. Henrico County choose land application as opposed to other options like incineration and landfill disposal because it remains the most cost effective and environmentally responsible means of disposal for the county. It has been my experience that the recycling of biosolids by land application when done in accordance with the existing rules and regulations and best practices is protective of human health. I followed the deliberations of the Expert Panel. After almost two years deliberations. they found that they had uncovered "no evidence or literature verifying a causal link between biosolids and illness". They also urged that biosolids should be viewed as a resource rather than as a material that uses valuable landfill space. I agree with previous speakers comments regarding the buffer issue. I recommend that the board to make sure that the proposed regulations are reasonable and are based on the latest scientific research. It is important that the program remain a safe and responsible means for the ultimate disposal of biosolids in Virginia.

Public Comments and Department Response to Public Comments

Commenter: Grove, Tim, representing Farmers

The proposed regulations serve to strengthen the biosolids program in Virginia by increasing awareness, increasing oversight, and increasing accountability. Details of the regulations are a product of the TAC - a group of people representing all stakeholder groups from the academic, regulatory, agricultural and environmental communities. We support this committee, their recommendations, and the process by which the regulations were reviewed and modified. We need regulations that serve their purpose, but we need those regulations to make sense.

Commenter: Harris, W.D, representing Farmers

I am a cattle and grain farmer in the Lake Anna area. My family has been farming the same farm for over 100 years. Would like to echo all of the statements and concerns that have been noted here tonight.

Commenter: Hatcher, Roger F., representing Farmers

Biosolids are a very valuable resource, especially given the close relationship between commercial fertilizers and petroleum. If the DEQ placed its primary emphasis on assuring a quality product, there could be allowed greater flexibility on how the product is used, with decisions made by farmers and soil scientists. In other words, let farmers treat biosolids as fertilizer, just as they do commercial chemicals. This would allow the use of a large number of field inspectors, supported by the producers, to increase their responsibility to recommend changes that farmers will likely embrace, such as enhanced filter strips and sediment traps which hold nutrients on the farm. This of course would still be done in conjunction with Nutrient Management Plans, but would give us a better handle on what to do with the phosphorus issue and the upcoming EPA TMDL program. The current TMDL and CREP programs are well accepted and utilized, but they are generally limited to fencing and water supply support. This same administrative structure could be expanded to filter strips and sediment traps.

Do not undo all of the hard work your staff has put into this regulation issue.

For the past 12 years have used biosolids annually on various sections of an 800 acre. Allow application up to 100 feet of the dwellings and have had no issues and no adverse impacts. The proposed regulation is a great document. The DEQ staff has been very professional and very sensitive to the issues raised during the regulation development process. The proposed regulations are very stringent in the protection of biosolids quality for use on the land. Remember the application of biosolids is an agricultural activity and should be treated as such recognizing the challenges that farmers face in coordinating the fertilization and harvesting of crops.

Sludge was an appropriate description of wastewater solids in the early days of POTWs. With the implementation of the Clean Water Act, wastewater treatment processes have improved tremendously. So has the quality of sludge which can now appropriately be called biosolids. Biosolids are tremendously important in improving soil quality. More than a source of nutrients, they improve the very structure of soil, making the use of other chemical fertilizers safer and more efficient.

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

Several commenters have referenced an Attorney General Opinion issued on October 29, 2010 as support for a conclusion that the biosolids program is "illegal". However, all that opinion provides is that a permit must be issued by the SWCB before sewage sludge may be land applied, marketed or distributed, and that the permit must be in compliance with VA Code § 62.1-44.19:3. Virginia's current regulatory program is fully consistent with VA Code § 62.1-44.19:3. The proposed regulations only strengthen the regulatory program. The argument raised by some commenters appears to be that, based on their belief that land application of biosolids is not safe, issuance of a permit for land application does not protect human health and the environment and therefore such permits are illegal. These commenters have not offered any support for their statement and, in fact, their statements are not supported by the record. The General Assembly has considered this issue numerous times and determined that land application of biosolids should be allowed in

Virginia. The Expert Panel formed by the General Assembly concluded that land application is a safe, cost-effective and beneficial means of disposing of biosolids. So long as the SWCB issues permits that meet the requirements of the regulations, those permits are legal. The regulatory program developed by DEQ and VDH is an appropriate system that protects human health and the environment. It is based on state-of-the-art research and information developed at the national and state level.

The proposed regulations are a marked improvement over the current regulatory program and reflect an intensive effort on the part of biosolids generators, land applicators, farmers, and other interested stakeholders to clarify and simplify the regulatory requirements and permitting process. The proposed regulations still require some revision for purposes of clarity and accuracy, but overall provide an excellent baseline for an effective and protective biosolids regulatory program.

The treatment of wastewater generates solids that remain after the treatment cycle is completed. There is no way to treat wastewater that does not result in these solids. When the solids are further treated, they become biosolids and can be safely used as fertilizer and for other productive purposes. The solids generated during the wastewater process must be disposed of in some manner. There are limited options for their disposal. Biosolids land application is a cost-effective, highly beneficial, and most importantly, safe way to manage solids. If land application were not a viable option, wastewater treatment plants would be forced to either landfill these materials or incinerate them. If these options are even available (for example, landfills often set a limit on the amount of material they will accept and many treatment plants do not have access to an incinerator), both are, on average, much more costly.

Commenter: Hopkins, Roy E., representing Farmers

We live in Louisa County. Have had the pleasure of using biosolids for over 20 years and have had no ill effects on my family or the soil. Biosolids have done wonders for the farm. It is a great benefit to the farms and to the soil.

Commenter: Inskeep, Jr., Bernard C.; Inskeep, John R.; & Inskeep, M. Byrd, representing Farmers

We run a dairy farm of about 450 head in Culpeper County. We have farmed the land since 1923. We have applied biosolids on a total of about 700 acres at a rate of 200 - 265 acres per year for the last six years. We have had any complaints from our neighbors about the application. The process has drastically reduced our application of commercial fertilizer, which is good for the environment. The biosolids are immediately disked into the soil on the cropland which is much better for the Chesapeake Bay than the commercial fertilizer we would otherwise be forced to use. For a long time agriculture in Virginia has suffered economically, and this program gives us an economic shot in the arm. The benefit to our land is the lime, phosphate and soil conditioner that the biosolids provide. The existing regulations have safely governed the six years we have used biosolids. We know if no justification for additional regulations, which will cost the municipalities that produce the biosolids more money.

Commenter: James, Benton, representing Farmers

The land needs nutrients in order to thrive and grow the seeds that are sown. If everyone benefits from the land, why not allow everyone to contribute to it? The farmer that has taken care of his land for generations would never put anything on it that would do it or the product that is grown in it harm. Biosolids have played a part in keeping the small farmer going and should continue to do so. With the use of biosolids on my farm I can continue to keep the nutrients needed for the soil. If we are "regulated" so far above the realm of reality, no one will benefit. I have used biosolids for several years with only good effects to the land. My livestock have benefited from the use of biosolids be allowing an efficient growing season for grass and hay. Without the help of biosolids, our lands can't flourish and we don't have the benefits of a good year for hay and grass. If we don't have that, we don't survive, and there is no program to save us then. Farming is a very vital part of the Commonwealth economy, with considerable contributions to jobs. Adding new unjustifiable regulations to the biosolids industry will not help to convince those neighbors that find it an ick factor, to change their minds. If we had no regulations, I could understand the need, however I find that the currently in place regulations

are within reason and beyond as they are now. More bureaucracy, simply for the sake for bureaucracy is just plain overkill feeding into the "needs" of those that live on their quarter acre without the ability to see the future of all, only themselves. Allow the program to continue to be regulated as it is, with the same monitorization program that seems to work just fine and has for many years.

Commenter: Jones, V. Rea, representing Farmers

I have used biosolids for the past 25 years with only positive results. With the present regulations, I have never experienced any adverse effects to land, livestock, water, wildlife, or humans. Initially, in hot weather, I would hear a complaint of the odor. With the improved technical treatment at the plants and lime stabilizing, this complaint has virtually ceased. If you believe in recycling, this is the best that exists. I think that the controls in place are sufficient, and request no changes be made to existing regulations.

Commenter: Keener, C. Wayne, representing Farmers

I have been a user of biosolids for a number of years and have been pleased with the results and impressed with the way in which the applicator followed regulations. The present system works for me. My soil seems to be more capable of retaining moisture and nutrients which in turn helps to reduce erosion. The use of biosolids has made farming more profitable making it possible to continue farming as opposed to selling the land for development.

Commenter: McEvoy, Mike, representing Western Virginia Water Authority

The proposed draft regulations have been deliberated and developed through a technical advisory committee and participation process. I urge you to give the recommendations of the TAC great weight in your deliberations on adoption of the amendments. Though I don't fully agree with all of the recommendations, but on balance it was done on a fair approach. DEQ inspected 87 percent of the farms that received biosolids this past year. That high level of inspections should serve to show the high level of scrutiny that the program is under. It is probably one of the most regulated programs at DEQ. There are also County and Regional Monitors that inspect and oversee the program. This has been a fair and reasonable process and provides a high level of protection.

Commenter: Meadows, David, representing Farmers

I represent my five brothers, my sister, and myself. We along with our father and mother started purchasing land in Spotsylvania and Orange Counties in 1965. We currently own over 3000 acres of land either jointly or individually. We have had biosolids spread on portions of our land for several years. We want to endorse the use of biosolids as a terrific win-win situation for everyone involved. Everyone creates biosolids and these same biosolids must be deposed of in a sanitary and safe way. We apply biosolids to pasture and hayland. We are careful to follow all regulations and work closely with the representative from RecycSystems Inc. to make sure all local and state regulations are met. They methodically and painstakingly flag each field where the biosolids are to be applied and then apply the appropriate amount to each field. They are very careful to spread everything the same day it arrives on the farm and are careful to keep a buffer from all lakes, streams, water sources and steep areas where drainage could occur too fast. They go out of their way to be good stewards of our lands and streams. My family and I take pride in trying to do what is "best management practices" for our farms. In 2005 we won the Tri-County/City Soil and Water Conservation District Clean Water/Bay Friendly Award. If we thought that the use of biosolids wasn't the best way to help our urban neighbors and at the same time enhance the opportunity we have to pass the family farms on to future generations we would not be here supporting the continued use of them. To the best of my knowledge we have had not one neighbor complain in any way about our use of biosolids. This is a good program that is working for everyone involved so the sensible thing to do is to leave it alone.

Commenter: Meadows, Fred, representing Farmers

My brothers and I farm in Spotsylvania and Orange Counties and have used biosolids for years. It has been very very successful. Say Amen to all of the comments made here tonight by the previous speakers. Stewardship emphasis is so important. We want to take care of our land and families. We were very cautious

when we began this process 12 to 15 years ago. We researched it and found that there were no problems. There is nothing wrong with the use of biosolids on the land. This is a Win/Win situation.

Commenter: Messick, Jimmy, representing Farmers

I am here to speak In favor of the application of biosolids to land. I am a 3rd generation dairy farmer. We have 300 head of dairy cattle. Even with the waste from our dairy cattle, we still have room and the need on our 1800 acres for the application of biosolids. Biosolids is an important part of our management plan for the farm. We have used biosolids for at least 30 years. We were one of the first farms that used biosolids. We have had no adverse effects from the use of biosolids and will continue to use biosolids.

Commenter: Mills, Jr., John N., representing Farmers

I farm in Hanover and King William County. We are a family farm. Farmers are good stewards of the land. Farming was a way of life and still is, however it is now a business that survives on the use of good business practices and making good business expenses. We are no longer just producing food for our own use, we are producing it for our entire country and are feeding the entire world. We survive by cutting our expenses and using less fertilizer, not more. We use prescriptive applications based on soil samples and soil types and plant tissue samples and even splitting applications of fertilizer. We operate under a Nutrient Management Plan that is written every 3 years by a certified crop planner and updated annually. This enables us to match our soil types and nutrient needs with our crop types through the use of realistic yield goals. Biosolids fit into these goals as well as commercial fertilizers. Have used biosolids for over 28 years and never have had an adverse impact to the soil, family, our cattle or our neighbors. We have used the same contractor for those 28 plus years and have never had a problem or an issue. Each year we both fine tune our operations to make them more efficient. Using biosolids makes good economic sense. I make business decisions every day based on scientific fact, agronomic data and good common sense. I ask that the regulation amendments be given the same thorough considerations.

Commenter: Milton, Herbert, representing Farmers

4th Generation Farmer - I was taught at an early age, my responsible was to protect my property and the environment. Have used biosolids for 8 years. There has been any adverse impacts to my land, livestock, wildlife, or my family. I use biosolids because they improve the productivity of my crops and soil. They are a benefit to the farm and the community. Have had no issues with the company (Nutri-Blend) that has been applying the biosolids. They do everything to be protection of the environment. Urge you to not do anything that will hurt the farmer. Don't complain about the farmer with your mouth full of food!

Commenter: Milton, Mary, representing Farmers

Always lived on a farm. For the last 52 years have kept records on the farm operations. For the last 8 years have used biosolids and have had exceptional grass and hay. Biosolids is an approved agricultural product. It has no adverse effects on health, the environment or on water quality. It has a net value of $350 per acre. It is a green practice and the ultimate in recycling. Future generations must be able to wisely use every advantage that they have in these increasing difficult economic times. Save the farmers and leave the regulations where they are.

Commenter: Moore, Jean M, representing County of Henrico

The Henrico County Department of Planning reviewed the proposed Amendment of Regulations Pertaining to Biosolids After Transfer from the Virginia Department of Health and has no additional comment on the proposed amendments at this time.

Commenter: Mottley, Sr., Robert, representing Farmers

As a farmer most of my life, I care greatly about my farm, surrounding farms and the health of all involved. I chose to use biosolids on my farm because of the benefit it could provide. I started using biosolids three years ago on my farm. I have seen positive improvements in the land. Recyc-Systems is working great for my farm land and I hope that there aren't any great changes to these benefits. Farmers are having to

leave their farms now because of great increase in fertilizer and lime cost. Ten years ago I bought an adjoining farm that the land had been abused. Without the biosolids program I could not afford to get the land back to the condition it is in now. The biosolids program has been a great help to me, to the land, and to many other farms. Please help the farms and farmers to continue these programs without many changes. We have 10 adjoining neighbors to our farms and no one has ever complained to us about biosolids. Please help the farmer in Virginia continue with the biosolids program.

Commenter: Mundy, James, representing Farmers

We own a beef cattle farm at 15522 Montebello Rd., Orange VA. The farm has been in my family for 140 years. We use Recyc Systems for the application of biosolids. We have been impressed with their continuous monitoring of our soil and their professionalism in applying the biosolids. There have been no complaints about the biosolids. We cannot afford to apply commercial fertilizer. Our ability to produce worthwhile hay is dependent upon the biosolids. It would seem that the current system is working quite well. I would hope that your final report will address technical matters and will not merely appease everyone at the table realizing that some seek the extinction of the meat industry. Finally, as a taxpayer, I wonder why it has taken 3 years of your salaries and countless industry dollars to tinker with a system that benefits everyone?

Commenter: Powell, Mary, representing Nutri-Blend

Biosolids have been proven to be safe by decades of use on farms in Virginia and by countless studies. It is a heavily researched materials and we urge that the existing science be taken into account when considering these proposed regulations. Also, as an observer of the TAC for the biosolids regulations, we support the process and feel that it was inclusive of many perspectives on the issue. We would like to see the regulations returned to the TAC before a final decision is made. Please use the best available science and practicality to avoid overregulation. The biosolids industry touches everyone in Virginia and provides many benefits. Urban areas are provided with a way to recycle and use their wastes, agricultural areas receive mush needed organic matter and nutrients applied in a sustainable way under the direction of a nutrient management plan, and our state waterways are protected from nutrient runoff and leaching.

Over the last decade, there have been enormous changes in the regulation of the biosolids program in Virginia. Because of the political pressure brought by a minority of citizens in the Commonwealth, this valuable by-product of wastewater treatment has been increasingly regulated. We are at the point now where the regulations have become excessive, no longer have scientific merit, and threaten to effectively regulate biosolids contractors out of business. The biosolids program is a tremendous boon for farmers and urbanites in Virginia. Farmers receive free fertilizer with this program, but they also receive the organic matter contained within biosolids and a nutrient management plan. Both of these things further the goal of reducing nutrient runoff and leaching, critical for Virginia's restoration of the Chesapeake Bay. Wastewater plants remove nutrients from the sewage stream so that it will not enter waterways. This material must go somewhere and putting it on farms where the nutrients can be managed and properly utilized is a great example of recycling. Biosolids have been proven to be safe by decades of use on farms in Virginia and by countless studies. It is a heavily researched materials and we urge that the existing science be taken into account when considering these proposed regulations. Also, as an observer of the TAC for the biosolids regulations, we support the process and feel that it was inclusive of many perspectives on the issue. We would like to see the regulations returned to the TAC before a final decision is made. Please use the best available science and practicality to avoid overregulation. The biosolids industry touches everyone in Virginia and provides many benefits. Urban areas are provided with a way to recycle and use their wastes, agricultural areas receive mush needed organic matter and nutrients applied in a sustainable way under the direction of a nutrient management plan, and our state waterways are protected from nutrient runoff and leaching.

Commenter: Razik, Al, representing Maryland Environmental Services

The Maryland Environmental Service is a not-for-profit that performs independent third-party land application inspection services on behalf of several biosolids generators in the region. Our program and the experience of our staff give us a unique perspective on biosolids land application. MES believes that biosolids land application is a safe practice that poses insignificant risk when done properly. We feel that the proposed

regulations are protective of public health and the environment.

Commenter: Richardson, Buck, representing Farmers

I farm in Middlesex and King and Queen County. I have used biosolids for 9 years. Had nutrient deficiencies in our fields prior to the use of biosolids. Biosolids have improved the fertility of our soils. I agree with all of the comments made here tonight.

Commenter: Rosson, Charles S., representing Farmers

I have a farm in Louisa County and have used biosolids for 25 to 30 years. Our family has never had a health issue associated with the application of biosolids. There is an economic value to biosolids. Helps with the profitability of our farming operation. Farmers are good stewards of the land and believe in what they do. Sludge is a great opportunity for us both economically and in building the health and tilth of our soil. I would be firmly against any new regulations that would make it more restrictive or more difficult to use.

Commenter: Salisbury, George, representing Farmers

I farmed in Spotsylvania County for 29 years and didn't do very well. If we had had biosolids things might have been different. We gave that farm up and then bought another farm called Chestnut Lawn that we have had for 21 years. We have done very well there. We use biosolids on the farm and couldn't keep it without biosolids. Our neighbors also uses biosolids and has told me he couldn't keep his farm without the ability to use biosolids. We have never had a problem with the use of biosolids. I am very proud to be a farmer and want to continue to farm until I can't walk.

Commenter: Scholder, Jerry, representing W.O.R.M.S. (Worms Operating to Reduce Municipal Sludge)

Mr. Kent Cuthbertson mirrors my opinion best in stating; "The application of biomass for farming is an emotional issue as evidenced by the comments, largely because most people are completely uninformed and have been conditioned to consider sludge as nuclear material. Properly stabilized sludge is a natural affordable and more controlled alternative to chemical fertilizers. Given that the price of petroleum, the source of fertilizer, is soaring; properly stabilized and professionally applied biomass is an excellent solution. "

The lack of knowledge by people concerned about toxins, diseases, and lack of oversight and monitoring procedures is astounding. No one has pointed out the importance of differentiating the terms "sludge" and "biosolids". It is quite significant as untreated "sludge" is very rarely if ever applied directly to land. Biosolids, which are of a particular class of treated sludge, are in fact commonly applied to land. As Mr. Cuthbertson has so accurately referred to in his comments: Properly stabilized and professionally applied biosolids present no potential harm to waterways or humans by way of pathogens or metals contained within them.

Commenter: Sizemore, Jim, representing Alexandria Sanitation Authority

I have the responsibility for managing the Authority's environmental regulatory programs, including biosolids. The Authority generates approximately 60 wet tons of Class A Exceptional Quality Biosolids each day. The Authority is committed to sustainability and the beneficial use of biosolids. We participate in biosolids research and have partnered with our applicator to pilot a soil amendment product, blending biosolids with wood fines to create a material for landscapers and gardeners to amend soils. This and other beneficial options look promising, however, land application of biosolids continues to be an important disposal option for the Authority. The Authority generally supports the proposed biosolids regulations and the Technical Advisory Committee's work.

Commenter: Smedley, Scott, representing Virginia Biosolids Council

Biosolids are the nutrient-rich organic materials resulting from the additional treatment of sewage sludge in a municipal wastewater treatment plant. When treated and processed to meet specific quality and regulatory standards, sewage sludge becomes biosolids, which can be safely recycled and used as fertilizer and soil conditioner to stimulate plant growth and to improve and maintain productive soils on farms and

forestland. Biosolids, in liquid or dewatered form (called "cake"), are ready to be returned to the environment as a fertilizer and soil conditioner. Biosolids can be recycled directly on soils in the forest, on agricultural land or can be composed and used for landscaping and gardening. Agricultural application of biosolids is beneficial for the farmers and their fields. It is estimated that currently the use of biosolids can save a farmer more than $350/acre in fertilizer costs by choosing to use biosolids rather than commercial fertilizers. In Virginia, just over 50,000 acres a year receive biosolids. Additionally, agricultural recycling of biosolids benefits the ratepayers of wastewater treatment facilities. There are other options, but they are not beneficial and oftentimes much more costly. Biosolids recycling in Virginia is not unique, since it is an accepted practice in all 50 states and throughout the world, according to a United Nations report.

Long-term scientific studies have consistently demonstrated that biosolids recycling through land application is safe.

The overwhelming body of scientific literature supports the determination that recycling of biosolids on agricultural farms and fields is safe, that airborne constituents emitted from land applied biosolids are of very low concentrations, that constituents are neither infectious nor irritating, and that whatever airborne constituents may travel beyond the land application site and buffer areas at concentrations at or below detection limits or at background levels. Evidence in the scientific literature does not support a need to extend the current buffers for "health sensitive individuals". The existing buffers in Virginia provide an excessive amount of caution. The large body of evidence shows that land application has resulted in no community documented health effects. Several critics of biosolids land application have argued that health complaints are relieved by buffers greater than 400 feet. This statement is neither plausible nor verifiable, and their connections do not follow; 1, No evidence is given by critics that health effects occurred from exposure distances greater than 400 feet; 2. No explanation is given about the asserted relief from exposures that allegedly occurred from land applications greater than 400 feet; and 3. No proof has ever been offered by any Virginia citizen that biosolids constituents could plausibly be airborne beyond 400 feet. Critics' use of the term "health sensitive individual" suggests that the individual might be experiencing a phenomenon widely acknowledged in the field of medical science which is panic reaction to environmental triggers. Some critics have argued that there is a causal link between exposure to land application and health effects and that there is scientific evidence to support this claim. As noted previously, the scientific evidence of a causal connection between sewage workers' exposure and health is weak, which means, by extension, that a causal connections between the exposure experienced by a neighbor to an application site who may be briefly exposed to biosolids constituents at much lower levels and health effects is even weaker. There are adverse economic impacts of extending buffers simply to provide some measure of comfort to those who have an unreasonable fear of biosolids. Biosolids buffers do have negative consequences for farmers and extending them exacerbates those consequences, including increasing costs for fertilizers or lost productivity. Request that the Board base its decisions on the available science and the decades of practical experience that demonstrate the safety of biosolids and their benefits to agriculture and the environment.

The VBC supports and encourages a final review process of the regulatory changes by the TAC prior to final review and discussion of the regulations by the State Water Control Board.

Virginia's regulations are more stringent than the federal Part 503 Rule on land application rates, slope restrictions, buffers, soil pH and nutrient management plan requirements.

Commenter: Smith, Gregory, representing Farmers

Biosolids have been applied to an area in Culpeper County that is used for the "Union Encampment of 1862 and 1863". I spread biosolids on a lot of that land and had no complaints or heard of no ill effects of the application of biosolids. RecycSystems has a clean operation and try to do things right. They also support the local FFA and 4-H groups. Hope that farmers will be able to continue to apply biosolids to their farms. The use of biosolids is a tremendous benefit.

Public Comments and Department Response to Public Comments

Commenter: Speck, W.B, representing Farmers

Have been involved with biosolids as an end user for the past 3 years and have been very much pleased with the results. I have increased crop yields with decreased input costs considerable on my part. The applicator has done a good job in meeting the regulatory requirements.

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Based upon our experience, we believe biosolids land application is safe, cost-effective, and highly beneficial. Land application of biosolids is a winning proposition for the agricultural community. During these difficult economic times, farmers can save significant amounts of money by using biosolids instead of chemical fertilizers. Further, because they are highly regulated, biosolids use if superior to chemical fertilizers. VAMWA is please that the state's farming community benefits by using biosolids, and supports its use on agricultural properties across the state. Likewise, land application benefits our local ratepayers. If land application were not a viable option, POTWs would be forced to landfill or incinerate. If these options were even available (for example, landfills offer set a limit on the amount of material they will accept and many POTWs do not have an incinerator), both are, on average, much more costly. The safety of biosolids land application is supported by the HJR 694 Biosolids Expert Panel Final Report, which stated that, "the Panel uncovered no evidence or literature verifying a causal link between biosolids and illness." Furthermore, VAMWA has compiled additional data that demonstrates that biosolids are safe and can be land applied without any negative impacts on the environment or human health.

Every aspect of biosolids treatment and land application is also subject to extensive oversight by both the federal Environmental Protection Agency (EPA) and DEQ. Federal regulation of biosolids is an ongoing process, always providing the beneficial potential to incorporate new science. EPA is required to review its biosolids regulations every two years to identify standards that may need to be updated or added. Pursuant to the federal statute, EPA established at 40 CFR Part 503 minimum treatment requirements and operational safeguards for land application of biosolids. Significantly, EPA has expressed a preference for managing biosolids through land application. In the preamble to its Part 503 regulations, EPA noted that the "proper management of ever-growing amounts of sewage sludge has become increasingly important as efforts to remove pollutants from wastewater become more effective." EPA further stated, "sewage sludge is a valuable resource. The nutrients and other properties commonly found in sludge make it useful as a fertilizer and soil conditioner." While Virginia meets EPA's Part 503 regulations, the state program goes far beyond the federal regulations in several respects, including mandating permitting of land application and additional site-specific standards. Since the current program was first adopted, these requirements have continued to evolve, with the General Assembly going well beyond the Part 503 regulations in issues such as nutrient management plans, operator certification, financial responsibility, extended buffers, and prohibitions on on-site treatment.

Commenter: Strother, Charles E., representing Farmers

I have a 500 acre in Northern Fauquier County. My farmer was the first farmer to take the sludge when it became available. We have had biosolids on the farm for quite awhile. Our use of biosolids goes back a long way. My father lived to 102 years old and he was out in the fields all the time, so I don't think that there are any health issues with its use. There have been no negative aspects. Biosolids have been very beneficial to our farm. Our applicator, Synagro are wonderful in their stewardship of how they handle everything.

Commenter: Tignor, Jr. Allen, representing Farmers

I live in Caroline County. Appreciate DEQ for the jobs that you do and the efforts that you all put into it. There are so many new laws and regulations that there may soon be a time where there is so much legal gridlock that it will be impossible to do anything. I hope that you will use your academic training, clear thinking and common sense to do the right thing with these regulations. One thing to remember that as the population increases these biosolids have to go somewhere. We don't want them in the oceans or the landfills. A lot of phosphorus and nitrogen is needed to grow crops and we are getting good results through the use of biosolids to provide those needs.

Commenter: Trumbo, Susan, representing Recyc Systems

In spite of our support for additional requirements, we recommend the Department seriously consider the purpose and whether or not it is met when the requirements exceed that found in the Federal Part 503 or the State Code. We urge the Department take advantage of the opportunity to eliminate that which is included by habit and policy but provides little to no real benefit.

Since the early 1980's the land application of biosolids have been regulated in Virginia. Biosolids was commonly used as a nutrient source for crops prior to the adoption of regulations. Early regulations included requirements for site management and nutrient management which preceded the formal programs now implemented by state agencies. Over the past thirty years, the biosolids use regulations have undergone may revisions and updates to reflect new science and changing social standards. As a result, the land application of biosolids is the most regulated of agronomic nutrient sources available in Virginia. We encourage the continued review of current science and its applicability to the biosolids use regulations.

Commenter: Wagner, Steve, representing Farmers

I have been using biosolids on my farms for approximately four years. After several applications I have seen marked improvement on the productivity of my pastures and hay fields. My cattle do well on the forage produced from biosolids applications and the overall profitability of my farms depends upon it. The biosolids application process seems to be working well - leave it alone. Biosolids are a recycled product. What could be more environmentally friendly than applying our own wastes back to the land? It has been done in European countries for years. Farms are disappearing because of economic pressures. Biosolids application can be the difference in keeping our rural landscape intact. I believe this benefits all Virginians. I have spoken with many of my neighbors about the use of biosolids near their property and never have had any adverse reactions or comments. Most of them want it on their gardens. In your regulatory approval of this process I hope that the committee will see that we are on the right track with continued biosolids application.

Commenter: Wellons, Harry, representing Farmers

We have been using biosolids on our farm since 2006. As a landowner there is no one that is more interested in the health of our property and the condition of the land. Daily our cattle recycle waste on the fields maintaining the fertility of the land. It is also a biosolids. Since we have been using biosolids we have seen an improvement in the condition of our fields with little if any effect on water quality. The main waterway that passes through our farm, Buck Mtn. Creek has some of the best quality water as monitored by local agencies. The company that spreads the biosolids is careful to maintain appropriate buffers and avoid critical slopes and will not cross waterways with their equipment. Human waste has been used for centuries in some countries such as China. I see no reason why it should not be used here with reasonable oversight and monitoring as I believe is already being done.

Commenter: Woodright, Cecil, representing Farmers

Have used biosolids on my farm for 8 years. Have done research on the use of biosolids and decided that its used was okay, before I applied biosolids. If biosolids were hazardous we wouldn't have anyone working in sewage treatment plants today. The use of biosolids has saved me a lot of money and has increased the productivity of my fields and have increased my hay production.

DEQ Response to Comments: Support for the Land Application of Biosolids and Proposed Amendments to the Regulation

DEQ acknowledges the comments of those in support of the biosolids program and appreciates their thorough critique of the regulation.

Subject: Testing

Commenter: Atwood, Dennis, representing Shenandoah County Water Resources Advisory Committee

Require DEQ and authorize localities, to include additional testing requirements for biosolids materials to be applied to those sites and for those constituents that fall within the Chesapeake Bay TMDL and storm water management mandates; and for use in analyzing incidents of possible human health impacts.

Commenter: Barker, Maurice, representing Florida Department of Environmental Protection

Why are you proposing to remove the CCE analysis requirement from your regulations?

question to be answered here

Commenter: Burleigh, Mary Ann, representing Citizens

Require DEQ, and authorize localities, to include additional testing requirements for biosolids material to be applied to those sites and for those constituents that fall within the TMDL and storm water management mandates as required by EPA and DEQ for the Chesapeake Bay/James River and other watersheds.

Commenter: Cook, Joel, representing Self

The Department of Environmental Quality should be responsible for carrying out ALL testing of sludge products being offered by companies such as Nutri-Blend to Virginia farmers. This includes testing the quality of the well water of any land within a mile of where sludge has already been applied. The tests should be much more stringent than the testing being presently carried out by these same companies that are offering the sludge to our farmers. The tests should include a list of a great many more toxins and heavy metals than are presently being tested for. Having the same companies who are peddling their sludge to carry-out their own testing is such an obvious conflict-of-interest. The present situation is the proverbial fox guarding the hen house. What the heck is the Commonwealth of Virginia thinking? Your Department of Environmental Quality should perform all tests that should be paid for in its entirety by both the companies offering the sludge to the farmers and the farmers themselves.

Commenter: Coulling, Philip, representing Rockbridge Area Conservation Council

Research to test sludges from sewage treatment plants and commercial sources for the entire universe of possible contaminants is not yet complete, but EPA's recently published evaluation focusing on human pharmaceuticals in biosolids sludges confirms the presence of a growing variety of chemicals that vary between treatment plant sources and even between batches from the same source. Because of the variability over time and source, and complex mixtures of potential contaminants in sludges now documented by EPA's study there is now sufficient basis to support the necessity of fully characterizing all materials to be applied to the land. The current requirements for periodic testing for indicators such as pH, nutrients, and a very limited number of potential contaminants such as metals are inadequate in the light of new findings by EPA of widespread occurrence of not only metals, but pharmaceuticals, steroids, hormones, semi-volatile organics, polycyclic aromatic hydrocarbons, and flame retardants in sludges, and the lack of research for other types of contaminants. Additional requirements are needed in the proposed regulations to test each batch of sludge for a complete suite of metals, pharmaceuticals (human and veterinary), pesticides, solvents, halogenated and other organic compounds including dioxins and PCBs, other inorganic chemicals, biological hazards, and radioisotopes. Requirements for monitoring the environment should similarly be expanded to cover those chemicals found in the materials applied at the permitted location. The permittee should bear the cost of this testing and record keeping and be required to use certified independent laboratories.

Since the ongoing research to fully document the content of biosolids produced by our modern lifestyles is continuing to add to our knowledge of range and concentrations of chemicals that pass through even our best sewage treatment plants, we would urge the Department to review the regulations and active permits

frequently to make sure they and the testing required reflect the best science and continue to adequately protect human health and the environment.

Commenter: Davis, Brandon P., representing Shenandoah County

The DEQ should require additional testing requirements for biosolids material to be applied to those sites (adjacent public uses, residential subdivisions and places of assembly) and for those constituents that fall within the Chesapeake Bay TMDL and storm water management mandates; and for use in analyzing incidents of possible human health impacts.

Commenter: Gessner, Mary, representing Friends of the North Fork of the Shenandoah River

Don't think that the analysis of only 9 heavy metals is sufficient to be protective of human health or the environment. We don't know what is in the material. More testing and testing for more metals and chemicals is needed. There is a provision in the regulation that allows for the testing of more parameters. This should be mandatory. There needs to be a more comprehensive analysis of heavy metals. Soil analyses should be done more frequently than 3 years.

Commenter: Graf, Mary, representing Citizens

Regulations need to allocate funds to be used specifically for expanded testing on sludge constituents, effects of the biosolids program on human health and the environment, and other studies that could further protect against risks inherent in the practice of land applying sewage sludge biosolids.

Biosolids cannot be called "nonhazardous", since by definition biosolids refers to pollutants, which by their nature are hazardous. To state that biosolids is nonhazardous is misleading, dishonest, and wrong.

Commenter: Grove, Tim, representing Farmers

The new regulations propose minimum soil test levels of plant available potassium and soil pH as a prerequisite for biosolids application. The idea behind this change makes sense in that application rates are governed by expected crop yields, and that expected crop yields cannot occur if other components of soil fertility are lacking. However, low soil potassium doesn't mean crop failure, and neither does low soil pH. It means reduced yields. For many of these fields in question we are talking about farms that do not the economic means to build soil fertility beyond minimum values. Consider a regulation that cuts the allowed rate to 75% or even half of the full rate for fields with poor soil fertility, but don't ban it altogether. Don't make this a program that judges farm eligibility based on an individual's economic position.

Commenter: Hassan, Khalil, representing Madison County Residents

There is no scientific evidence to prove sludge is safe for public health. The 503 Sludge Rule does not address risks from inhaling lime dust and irritant gases or serious complication when exposed to a combination of pathogens and chemicals. This interaction creates irritant gases that can break down our natural barriers to infection, leaving us more susceptible to pathogens. Studies have indicated that chemicals and toxins in sludge are making their way into the environment and our bodies. Pathways of exposure include airborne dispersion, soil contamination, plant uptake, meat, milk, fish, etc. These deposits are cumulative and do not disappear and may be causing learning, developmental, and other health disorders. Lead is allowed in sludge even though it is banned as an additive to paint and gasoline. Lead can contaminate soils and leach into the groundwater or may be found in crops grown in contaminated soils, or meats, milk, etc. EPA's own scientists found the 503 Rule to be scientifically indefensible with regard to safeguarding public health and the environment, from heavy metals, organic chemicals, and pathogens in land applied sewage sludge. The USEPA Biosolids Management and Enforcement Audit Report 2000-P-10 states the EPA cannot assure the public that current land application practices are protective of human health and the environment.

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

As an example of the consistency review that is necessary, 9VAC25-32-80 H 4 and 9VAC25-32-450 F identify analytical methods that must be used. The analytical methods from 40 CFR Part 503 should also be included so that there is consistency with the federal regulations and also with the methods identified in 9VAC25-31-490.

In several sections of the proposed regulation there is a statement that additional requirements or additional sampling may be imposed by the department "as appropriate". See, e.g., 9VAC25-31-100 K 4 f and g and 9VAC25-32-60 F 2 a (2). Such statements should be deleted from the application provisions. The initial application submitted by an applicant will not yet contain any additional parameters. If DEQ determines that additional sampling is necessary, that is provided for in other sections of the regulations. See, e.g., 9VAC25-31-545 C.

The criteria under which additional requirements or additional sampling could be imposed should be specified in the regulation. For example, 9VAC25-31-460 A authorizes the Board to impose requirements for use of biosolids that are more stringent than the requirements in the VPA Regulations when necessary to protect public health and the environment from "any adverse effect of a pollutant in the biosolids." The regulation should be expanded to include criteria to be applied by the Board in such cases. See also Sections 9VAC25-32-400 A and 9VAC25-32-400 F.

Commenter: Henderson, Jim, representing Citizens

The presence of heavy metals in the sludge has been documented in the Targeted Sludge Survey. Their presence can be spotty due to the nature of the contaminant, however they are present. These pollutants are trapped in the soil and can remain there, poisoning the land for a very long time, and can accumulate each time sludge is spread. It is important to control the soil pH where this contamination has occurred. if the soil becomes acidic (as from acid rain) the metal ions will be mobilized and move into the food chain. These toxic heavy metals, such as mercury and lead, have been shown to have a definite health affect, especially in children. The need to control the pH for decades means that detection, tracking, and pH adjustment must be a government function. The regulations must require DEQ to oversee permanent pH management so metals and other toxic persistent chemicals can’t be mobilized, leach into groundwater, or be picked up by plants.

Commenter: Kondis, Dr. Edward F., representing Citizens

DEQ should require soil tests to determine concentrations of the 9 metals regulated by EPA on all fields where sewage sludge is to be spread. Science has proven concentrations of these 9 metals continue to increase in the soil when sewage sludge containing the 9 metals is added to the soil.

Commenter: Laurrell, R. David, representing County of Campbell

Require DEQ, and authorize localities, to include additional testing requirements for biosolids material to be applied to those sites and for those constituents that fall within the TMDL and storm water management mandates as required by EPA and DEQ for the Chesapeake Bay/James River and other watersheds.

Commenter: Lorien, Joy, representing Citizens

Myth: "Natural biology" breaks down the chemicals; "cooking kills the pathogens". Fact: Toxic metals never break down. They accumulate in the soil or are picked up by animals and plants. Treatment inactivates most of the indicator pathogens. But more robust disease-causing pathogens can survive and re-grow, especially if sludge is stockpiled in cool and moist climates. One of the most dangerous emerging pathogens, E.coli0157:H7, can survive the treatment process and survive in soil.

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Public Comments and Department Response to Public Comments

Commenter: Maurer, Linda, representing Springhaven Agricultural Enterprises, LLC, Madison County

One of the most strenuous objections we've had to sludging is the accumulation of heavy metals in the sludge, not to mention all of the pharmaceutical residues that do not get removed as a result of the processing of sludge at Blue Plains or other facilities. Our research has shown that to do so requires very costly reverse osmosis systems that are not employed by the major waste water treatment plants in the East. These residues do not break down readily enough to be safe for human consumption of animals or grain products produced on sludged land. We've run our own soil tests 6 years ago. Both tests indicated unacceptable levels of lead, mercury, cadmium , and other elements in the soil samples collected.

Commenter: Mitchell-Watson, Leslie, representing Friends of the North Fork of the Shenandoah River

Given the largely unknown chemical composition of sewage sludge and the resultant lack of information regarding the fate, transport and effects of these materials, much more stringent regulations are required to ensure the protection of human health and the environment. Sewage treatment plants are not designed to remove many of the chemicals that are currently entering the waste stream - they also end up in the sludge. To ensure the protection of surface and ground water resources, the regulations should require a more complete chemical characterization of sewage sludge. All biosolids permitted for land application should first be monitored for an expanded list of pollutants that are known to occur in sewage sludge. At a minimum, 9VAC25-32-356 should be revised to require biosolids be analyzed for aluminum, barium, beryllium, boron, calcium, manganese and silver (identified by EPA as metals of concerns in sewage sludge). Given the weight of circumstantial evidence indicating the prudence of including additional chemical analyses and the total lack of scientific evidence to support the safety of these materials, a more conservative regulatory approach is warranted. It is time for the burden of proof to be shifted to require that biosolids be proven to be safe prior to being land applied throughout the Commonwealth.

Soil sample analyses should be required immediately before the application of sewage sludge. Results from a 3-year old analysis (the current requirement) are likely not to be reflective of actual soil conditions at the time of application. If other fertilizer or soil amendments are applied within the 3-year period, the older soil sample results would be meaningless.

Commenter: Parker, Diana, representing Citizens

Localities should be able to apply strict testing and challenge to unsafe biosolids and be reimbursed.

Commenter: Sligh, David, representing Riverkeepers

Huge amounts of arsenic have already been deposited on crop land, pastures, and orchards throughout the Karst regions of Virginia, through pesticide spraying and land-application of poultry waste. Tons of arsenic-based pesticides were applied to orchards and other crops throughout the Great Valley of Virginia, where Karst predominates, from the late 1800s to the 1970s with no regulation and only very recent and limited sampling to assess its prevalence and effects. These limited studies demonstrate that remnants of that pesticide use persist in great concentrations in some areas and pose significant threats to the present day. Application of poultry waste to the same Karst regions of Virginia also presents a significant threat. Despite the knowledge that poultry waste applied in Virginia often contains arsenic, the DEQ has refused to require monitoring for this pollutant in the poultry waste or in the soils to which it is applied. These facts cause special concern, because arsenic is considered by the EPA to be a cancer-causing agent (a carcinogen) and researchers have also shown arsenic to be an endocrine disrupting chemical. Given all of these factors, DEQ's proposal to continue to allow land-application of arsenic-laden sludge to fields in Karst areas seems reckless. That DEQ has provided no evidence or predictions as to where this carcinogen or other harmful chemicals in sludge will go or how they will affect the environment or humans when stored and managed as allowed by this regulation, also seems irresponsible.

Commenter: Staudinger, Henry J., and Jo Overbey, representing Citizens

The Board is authorized to increase the fee if the amount is not sufficient to ensure that health and the environment are protected. That includes reasonable testing costs to ensure the same. Thus the only cap must be the reasonableness of the proposed tests. Language is required to ensure that there will be reimbursement for reasonable testing as follows: "All reasonable costs to test sewage sludge shall be reimbursed. Reasonableness shall be directly related to the extent that DEQ has otherwise ensured that health sensitive individuals will not be exposed and pollution sensitive sites identified and properly buffered out. The constituents tested for shall not be limited to heavy metals and nutrients. If the funds are not adequate to reimburse those reasonable costs, the Board shall increase the fee as needed to provide such reimbursement."

The Code's reimbursement provision was requested by citizens because VDH refused to consider testing for more than a few heavy metals and nutrients, even following health complaints. Following adoption of the reimbursement requirement, VDH refused to consider reimbursement for testing of any additional constituents in sewage sludge, effectively mooting the Code's requirement. DEQ's current policies and practices indicate that it will follow VDH's lead and refuse to reimburse local governments for testing as required by § 62.1-44-19:3G of the Code. The number of constituents to be tested for is directly impacted by the extent to which DEQ's regulations otherwise ensure (1) that health sensitive individuals are not exposed to constituents that may be in any given sewage sludge and (2) the extent to which pollution sensitive sites have been identified and eliminated. If DEQ fails to ensure that health sensitive individuals are not exposed, then testing for any constituent (that could reasonably be present) that medical professionals believe could adversely impact health must be reimbursed. Similarly, if DEQ fails to ensure that no constituents could enter into surface or underground water, then all constituents that could reasonably be present that could harm the environment must be reimbursed. At a minimum, the regulations must be amended to clearly provide for reimbursement for reasonable testing when DEQ fails to undertake such testing to ensure that health is protected. Language must be added to Section 20-148 and might read: "Reasonable expenses for the following types of activities may be submitted for reimbursement, including reasonable costs to test sewage sludge for pathogens, viruses and other constituents that could explain health and environmental complaints: Charges for sewage sludge and soil sample testing costs."

Until adequate testing and appropriate studies, the Code requires a precautionary approach to protecting health and the environment. Testing sludge constituents is an important tool in determining the extent to which the regulations ensure that health and the environment are protected. DEQ refuses to test land-applied sewage sludge, even when health complaints follow a particular land application. The draft regulations fail to provide for either spot checking to see if the regulatory restrictions are met; or to determine what might be in a particular sludge following health complaints. It cannot be argued that DEQ has inadequate resources or funding as the SWCB is authorized to increase fees as needed to ensure that health and the environment are protected. As long as DEQ refuses to undertake needed testing, in order to ensure that health and the environment are protected, it must takes a precautionary approach with respect to exposure of humans and applications on sites that may be pollution sensitive. This would include ensuring that health sensitive individuals are not exposed and pollution sensitive sites are sufficiently identified and excluded.

Because the sewage sludge contains heavy metals, in certain circumstances it is necessary that pH be maintained in perpetuity at levels sufficient to keep heavy metals from leaching into groundwater. That responsibility falls on the Permit Holder. However, the regulations fail to make that clear, much less how that requirement will be enforced in the future, unless it is recorded as an obligation against the land. Thus the following language must be added to the regulations: "Permit Holders are responsible to ensure that all obligations that result from land application of sewage sludge are fulfilled. Permit Holder shall submit annual reports that include certifications that all continuing obligations have been and are being fulfilled. These obligations shall be recorded as an obligation against the land."

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

If DEQ continues to press the need for additional management measures relating to molybdenum, VAMWA would suggest, as an alternative to the reduced ceiling concentrations, requiring land appliers in livestock grazing areas to notify farmers with grazing cattle if the molybdenum content of the biosolids is between 40 and 75 mg/kg. This would allow an individual farmer to make the decision regarding how to manage his cattle. Although VAMWA believes such a notification requirement is unnecessary, we would support it in lieu of reducing the molybdenum ceiling for livestock grazing areas to 40 mg/kg.

In several sections of the proposed regulation there is a statement that additional requirements or additional sampling may be imposed by the department "as appropriate". Such statements should be deleted from the application provisions. The initial application submitted by an applicant will not yet contain any additional parameters. If DEQ determines that additional sampling is necessary, that is provided for in other sections of the regulations. Even where the provisions are appropriate, the criteria under which additional requirements or additional sampling could be imposed should be specified in the regulation.

Reducing the ceiling concentration for molybdenum to 40 mg/kg is unwarranted and premature.

The proposed regulations include a ceiling concentration limit for molybdenum of 75 milligrams/kilogram (mg/kg) unless biosolids are applied on land used for livestock grazing 9in which case, the ceiling becomes 40 mg/kg). Although, there is no proposed limit for cumulative loading rates or monthly and annual loading rates, each table is footnoted as follows: "The monthly average concentration is currently under study by the USEPA." VAMWA opposes any reduction in the ceiling concentration for molybdenum. The proposed change would likely devastate the land application program of one VAMWA member (75% of its current fields are used for livestock grazing) and could significantly impact another member. VAMWA requests that DEQ delete the 40 mg/kg reference and the references to molybdenum in the cumulative loading rate tables. VAMWA notes that the federal ceiling concentration for molybdenum is 75 mg/kg. The state's proposal to reduce the molybdenum ceiling for livestock grazing areas is premature. DEQ should wait until EPA actually performs a scientific analysis before amending the regulations. VAMWA is unaware of any problems in Virginia with cattle that feed on land that has received biosolids. DEQ's proposal to reduce the molybdenum ceiling concentration would harm biosolids land application in the Commonwealth. If this problem is not corrected, any POTW that has higher levels of molybdenum in its biosolids would be forced to either landfill (at greater expense) or to require its industrial customers to install potentially expensive treatment to reduce molybdenum discharges to the wastewater plant. Given the current economic environment, neither option is acceptable, particularly because this restriction has not been justified.

The proposed regulations require testing for polychlorinated biphenyl congeners (PCBs) pursuant to EPA Method 1668B (Method 1668B) by applicants seeking to add a biosolids source for land application. The sample results must be included in the permit application or request to add the source. VAMWA is concerned that the proposed language regarding a new source (9VAC25-31-100 Q 7 a; 9VAC25-32-60 F 2 a) would require PCB testing if an existing POTW awards a contract for land application to a different contractor (i.e., this POTW would be a source not previously included in the contractor's permit). This is inappropriate. A new source should be limited to those sources who have not previously been land applied in the state.

The proposed regulations require testing for polychlorinated biphenyl congeners (PCBs) pursuant to EPA Method 1668B (Method 1668B) by applicants seeking to add a biosolids source for land application. The sample results must be included in the permit application or request to add the source. VAMWA opposes the mandated use of Method 1668B, and suggests the following changes to the proposed regulations: "Samples for PCB analysis shall be collected and analyzed in accordance with EPA Method 1668B an appropriate testing methodology adequate to determine whether PCB levels are within limits included herein." Procedurally, VAMWA questions the wisdom of referencing a particular methodology in a set of regulations, due to the probability that future scientific developments will render it obsolete (indeed, Method 1668C has already been developed). VAMWA opposes the mandated use of Method 1668B for the following reasons: It is very expensive as compared to existing testing methods; It is of questionable accuracy and precision; It is not a formally approved EPA testing methodology; and It is unnecessarily sensitive for this regulatory

purpose.

Commenter: Szeremet, Richard, representing Madison County Residents

I am opposed to the use of sludge as a fertilizer. The sludge contains pathogens that survive the treatment process. The U.S. Army refuses to purchase produce grown with sludge. The sludge contains all the prescription medicines and antibiotics taken by the population. These compounds end up in the streams causing congenital defects in fish. We are constantly hearing about the attempts to clean up the Chesapeake Bay and applying this sludge in Virginia certainly undermines the efforts to clean up the environment.

Commenter: Winn, William and Barbara, representing Citizens

We feel present testing and storage methods are inadequate. Any provisions preventing the application hold-ups, need some sort of storage regulation provision and accessible recording as well. If the land on which sludge is applied cannot take up beneficial elements why apply it? So we advocate measures be taken to increase the adequacy of testing the land to which sludge is applied - at least a test of soil pH. Foreign materials such as PCBs and feminizing wastes from manufacturing sources need to be tested for, and records, dates done, etc. be available to the public.

We feel present testing and storage methods are inadequate. Anything which would increase the items tested for would be helpful. Any provisions preventing the application hold ups, need some sort of storage regulation provision and accessible recording as well. If the land on which sludge is applied cannot take up beneficial elements why apply it? So we advocate measures be taken to increase the adequacy of testing the land to which sludge is applied - at least a test of soil pH. Foreign materials such as PCBs and feminizing wastes from manufacturing sources need to be tested for, and records, dates done, etc. be available to the public.

DEQ Response to Comments: Testing

The vector attraction and pathogen reduction sampling and testing regulations are consistent with current EPA 503 biosolids treatment requirements. The metals content and nutrients in biosolids are tested monthly both by the generators and the VPA permit holder for the larger generators. Smaller sized generators are required to test at a reduced frequency. There also are non hazardous waste declarations submitted by the generators for their produced biosolids. All of these biosolids treatment practices are designed to be protective of human health and the environment. While research is an ongoing process, these practices are protective due to their conservative design. Research into “emerging pollutants” is an ongoing process in all permitting programs at DEQ and new criteria are adopted when deemed necessary through the Triennial review process and subsequently incorporated into permits. At this time, EPA has no information regarding new contaminants that has led them to require additional testing or further restrict land application.

In regard to the proposed restriction of biosolids with Molybdenum concentrations of greater than 40 mg/Kg, DEQ has delayed action pending EPA adoption of a molybdenum standard. The amended regulation language addressing molybdenum limits has been revised and moved. “Research suggests that for Molybdenum a cumulative pollutant loading rate below 40 kg/hectare may be appropriate to reduce the risk of copper deficiency in grazing animals” has been place in the footnotes for the table regarding Cumulative pollutant loading. “Research suggests that a monthly average Molybdenum concentration below 40 mg/kg may be appropriate to reduce the risk of copper deficiency in grazing animals” has been placed as a footnote in the table of Pollutant Concentrations.

Subject: Technical Advisory Committee

Commenter: Trumbo, Susan, representing Recyc Systems

I represent Recyc Systems. We are a permit holder in Virginia and hold several permits for the applications of biosolids. DEQ has convened two groups of experts over the past few years (The Expert Panel and the Technical Advisory Committee). Urge the Board to rely on the recommendations of the Expert Panel and the Technical Advisory Committee when considering the proposed amendments to the biosolids regulations.

Rather than the Department depending on the use of Guidance Documents for clarification, we urge the regulations be complete and concise. The regulations should clearly reflect the expectations of the Department and not be left to interpretation by the permit holder and stakeholders. We request forms such as the Landowner Agreement and Insurance Liability Endorsement be incorporated into the regulations so they are set documents. Definitions of saturated ground and frozen ground should be included in the regulations not left open to interpretation in Guidance Documents and Manuals. Set backs from Public Buildings should be established clearly in the regulations and not left to Guidance Documents.

Recyc Systems acknowledges the significance of the task undertaken by the Department for a comprehensive review and revisions of the VPDES and VPA biosolids use regulations after incorporation of the VDH biosolids use regulations. We urge the Department to make a thorough and specific review for grammar, terminology and consistency. The importance of clarity and thoroughness cannot be overstated. We urge a review of the organization of the regulations for simplicity and effectiveness.

DEQ has recently issued new guidance documents relating to the biosolids regulatory program. The purpose of guidance documents is to clarify the agency's interpretation of a regulatory program where it is unclear or provide additional detail for use by the regulatory agency in applying its regulations. Guidance documents should not be used, however, to create new requirements or to change longstanding agency interpretations without notice and an opportunity for input from the regulated community. With the regulations currently under development, many of the items that are addressed by the recent guidance should be incorporated into the regulations themselves, allowing for input from the stakeholders. This prevents confusion and conflicting information from being generated.

DEQ Response to Comments: Technical Advisory Committee

DEQ has relied heavily on the discussions and recommendations of the TAC and the Expert Panel when making decisions regarding this regulation. DEQ has also considered the comments of the State Water Control Board, the Virginia Department of Health, the Department of Conservation and Recreation and Virginia's citizens. The experience DEQ staff has gained over the past three and a half years since taking over the program has also influenced the decision making. Through this long process, the main goal of this regulation is to allow the land application of biosolids to take place in a manner that is protective of the environment and the people of the Commonwealth.

DEQ understands the need for as much regulatory certainty as possible. However, it is not possible to stipulate all criteria in the regulation, as site specific circumstances may arise, requiring regulatory flexibility. The guidance that the agency prepares is written for the use of the staff across the state, to ensure consistent implementation and enforcement of the regulation, especially where the regulation does allow for flexibility.

Subject: Use of the Term “Biosolids”

Commenter: Gibson, Dave, representing Citizens

I urge you to reconsider approving the legislation as proposed. I oppose the proposed amendments pertaining to the regulations on "biosolids" as a concerned citizen of the Commonwealth and a professional environmental auditor with 30 years of experience. The proposed amendments seem to be driven by generating fees associated with dubious practices rather than the desire to ensure the health and wellbeing of Virginia's citizens. Changing the term "sewage sludge" to "biosolids" 493 times in written law without defining it is disingenuous and confusing.

Commenter: Graf, Charles, representing Citizens

In Virginia, farmers do not need a permit to spread fertilizer. They do need a permit to spread "biosolids", which is toxic waste and not fertilizer. The two terms cannot be used interchangeably. DEQ and the Board should never use the term "fertilizer" with reference to the pollution abatement permit to spread sludge. To do so is a blatant misrepresentation. Also, because the Regulations are based on the EPA Part 503, which is named "The Standards for the Use and Disposal of Sewage Sludge", the term "biosolids" should not be used in the regulations.

Commenter: Graf, Mary, representing Citizens

"Sewage sludge" definition, in addition to domestic septage, should name industrial, hospital, morgue, slaughter house, and municipal runoff waste, as being part of sewage sludge - actually anything that goes "down the drain". Definitions need to be accurate and complete.

Commenter: Hassan, Khalil, representing Citizens

I think you do the DEQ a disservice when your document states that sludge is commonly referred to as biosolids, that may be the case at DEQ and in the sludge industry, but the common term amongst concerned citizens is sludge. Repeatedly doing so gives the appearance that DEQ has lost its objectivity.

Commenter: Johnston, Kathleen, representing Madison County Residents

It seems to be the understanding of at least one Madison County applicant that the sludge to be spread on his land would be "residential" sludge. Does this applicant have any reasonable assurance that the sludge to be spread on his land would be "residential" sludge? What does "residential" sludge mean? Is this a category of sludge that the DEQ recognizes, tests and certifies? Apparently, this applicant believes that such sludge would have fewer heavy metals in it than other types of sludge.

Commenter: Kondis, Dr. Edward F., representing Citizens

The definition change of "sewage sludge" to "biosolids" is inaccurate and incorrect. "Sewage sludge" is well-defined in dictionaries everywhere. "Biosolids" is a misnomer. "Bio" is a prefix meaning "life", and "solids" are the form of matter which are not "liquids" or "gases". "Sewage sludge" as it is spread on Virginia farmland is almost totally "liquids" with some "solids" containing therein. Therefore, calling "sewage sludge" by the name "biosolids" when it is mostly "liquids" is unscientific and ignorant.

Commenter: Land, Dr. Lynton S., representing Citizens

The Code of Virginia (CoV) uses the phrase "sewage sludge" 55 times in §62.1-44.19:3 and states explicitly in §62.1-44.19:3.A.2 "The addition of lime or deodorants to sewage sludge that has been treated to meet land application standards shall not constitute alteration of the composition of sewage sludge." Clearly it is the intent of the General Assembly to adhere to Federal policy and characterize the human solid waste derived from wastewater treatment facilities as "sewage sludge" and not "biosolids". Neither the Virginia

Department of Environmental Quality nor the State Water Control Board have the authority to trump Federal statute or the intent of the General Assembly. The word "biosolids" must be removed everywhere from the Virginia Administrative Code, and on signage, and replaced by the legally binding phrase "sewage sludge".

The Federal Water Pollution Control Act (CWA) of 11/27/02 does not use the word "biosolids" and is explicit in its use of the phrase "sewage sludge," especially in Section 405. VDH had no authority to substitute the word "biosolids" for sewage sludge. The etymology of the word biosolids derives from the waste disposal industry who coined it in an attempt to disguise the true nature of the material. The most "solid" materials of biological origin is wood or bone, so the construction of the word is nonsense.

Commenter: Mitchell-Watson, Leslie, representing Friends of the North Fork of the Shenandoah River

It is important that the landowner understands exactly what is being spread on agricultural lands. Using the term "biosolids" throughout the draft regulations to replace "sewage sludge" does not accurately describe what is being spread. It seems an effort to "clean up" what is being applied to farm lands. Everyone understands "sewage sludge" and that is the term that should be used in the regulations.

Commenter: Staudinger, Henry J., and Jo Overbey, representing Citizens

The regulations must eliminate all references to "biosolids" and provide for the regulation of "sewage sludge". Land application is a preferred disposal method for many sewage sludge generators. To better convince landowners to allow their land to be used for disposal of this waste, the sludge industry came up with the euphemism "biosolids" in order to market the waste as free fertilizer, rather than the nutrient value being the payment for allowing specific sites to be used as waste disposal sites. The Code of Virginia, like the federal statute and implementing EPA regulations, properly address this waste as sewage sludge. Use of the words sewage sludge is a Code requirement. The proposed substitution of the sludge industry's promotional word "biosolids" throughout the regulations is not only contrary to the Code' it also makes more difficult, if not impossible, for the SWCB to issue permits that authorize any lawful land applications. The word substitution and the accompanying lack of clarity, makes it more difficult to ensure that various Code requirements are met, including by way of example: adequate notice to potential sludge victims, the required landowner consent, identification of health sensitive individuals, public awareness of the potential risks and identification of pollution sensitive sites. Unfortunately, VDH made it possible for the sludge industry to drive the regulatory process. Thus the word biosolids was inserted in the Title of its Regulations. The amendment process provided DEQ with the opportunity to correct VDH's improper substitution of the word biosolids. However, the needed corrections were not made part of the draft regulations. Instead, the draft regulations would virtually eliminate the use of the words sewage sludge. The substitution makes it much more difficult for DEQ to carry out its mandate to ensure that health and the environment are protected. The permit process must begin with a clear understanding on the part of landowners that they are accepting sewage sludge not some so called biosolids fertilizer. Elimination of all references to biosolids must be the Board's first step it the Board intends to issue permits that ensure that health and the environment are protected.

Commenter: Stevick, Stephen M., representing Citizens

In the case of sewage sludge, the purpose of public notification is to advise the public of plans to spread treated sewage sludge at a given site, on a given day or period. The term "biosolids" is, at most, a term the industry uses in lieu of treated sewage sludge. "Biosolids" is not a term commonly recognized by the general public and therefore its use does not constitute public notification. The more commonly recognized term "sewage sludge" is the appropriate description to be used.

DEQ Response to Comments: Use of the Term “Biosolids”

DEQ received comments opposing the change of the word “sewage sludge” in the regulations to “biosolids.” "Sewage sludge" is defined in the VPA regulation as a solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes,

but is not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment processes; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screenings generated during preliminary treatment of domestic sewage in a treatment works.

The term “sewage sludge” from domestic wastewater treatment facilities as defined in the VPA regulations does not require stabilization of the sludge to be a sewage sludge. The term sewage sludge is neither descriptive nor proscriptive as to the ultimate disposal or beneficial reuse or recycle characteristics; it only speaks to its point of origin from a sewage treatment facility. Generally speaking, if a sewage sludge is not further treated, it is taken to sanitary landfills for ultimate disposal. To land apply the sludges listed above would be an unlawful activity even if the land applier has a VPA permit because the sewage sludge has not been stabilized to Class B biosolids standards. Sewage sludge must be treated in one of the ten currently EPA recognized treatment methods listed in 9VAC25-31-710 and 9VAC25-32-685 to become a Class B biosolids. The majority of the treatment methods contain time and temperature requirements for detention of the sludges for several days at prescribed temperatures in vessels to become a Class B biosolids. The term “biosolids” has become a term of art used to describe a sewage sludge which has received this established level of treatment, and use of the term serves as a useful means to designate between an untreated and a treated material.

In regard to the comment that the term biosolids is misleading to farmers and that biosolids is not fertilizer; the farming community is well aware of the source of biosolids. There is a long history of research documenting the nutrient benefits of using biosolids and to improve crop production and the ability of the organic constituents to improve soil characteristics for agronomic practices. As fertilization of crops is the primary reason that a farmer would desire biosolids to be land applied, and the fact that biosolids will replace much of the commercial fertilizer that would be land applied, reference to the term “fertilizer” is not misplaced.

Subject: Use of the Term “Board”

Commenter: Graf, Mary, representing Self

In pretty many places, "the board" is designated to take various actions. Some examples include: page 155/line 15, 157/12, 239/4. How does the board get brought into this, since reports are given to DEQ. Would there be a specially called meeting? Could you please clarify how that works?

Use of the term "board" needs to be made more transparent. When it does not refer directly to the Water Control Board, as "board" as defined in the regulations, then the alternate meaning must be clearly stated.

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

The use of the term "board" versus "department. There are some instances where Board action is desired; but the regulation should be reviewed to ensure that the appropriate terms is used in each section.

DEQ Response to Comment: Use of the Term “Board”

The reference to "board" does not always mean that the SWCB must take an action. The DEQ has

certain delegated powers which it can act upon without direct involvement by the SWCB. State Water Control Law prescribes when the board must be involved.

Other Comments Not Categorized

Commenter: Barker, Maurice, representing: Florida Department of Environmental Protection

Why are you proposing to remove the CCE analysis requirement from your regulations?

DEQ Response to Request: The requirement for calcium carbonate equivalent is now included in the table of required parameters to be monitored for lime stabilized biosolids. Further, a NMP would also require analysis of this parameter for appropriate rate calculations to be determined.

Also, can a facility or person give away bulk quantities of Class A EQ pellets (above 90% TS) and not be registered as fertilizer as well as not have to come up with a nutrient management plan? If so, what about the farmer or person who accepts the biosolids? Does this second person (the farmer, land owner, or other third party) have to do anything under the rule?

DEQ Response to Request: Please refer to the response to comment regarding EQ biosolids above.

Commenter: Graf, Mary, representing Citizens

The "Voucher system" used for documentation and recordkeeping needs to either be handled by a third party, or annually audited by a third party.

DEQ Response to Comment: The voucher system is a system for the land applier and truckers to account for loads of biosolids transported; these records must be available to DEQ staff for review upon request.

Commenter: Hatcher, Roger, representing Farmers

My proposal is simple: 1. Continue the main effort of DEQ in assuring that once biosolids leave the POTW they are of agricultural quality; 2. Expand the CREP and TMDL programs beyond their primary goal of fencing cattle out of streams and encouraging rotational grazing. A reasonable and simple solution is to require buffers of native vegetation, such as bluestem, gama and switch grasses where water flows gently off fields. Where water flow is more concentrated, require ponds or sediment ponds per VDOT specifications. These solutions are permanent and low maintenance. A big added benefit of this approach will be the recovery of quail and other small game populations; 3. Redirect efforts of enforcement staff to create a classification of farms that are nutrient and sediment runoff-free. Farms that agree to participate would be exempted from the following aspects of the proposed rules: - Within the limits of the Federal 503 Rule, let farmers decide when, where and how much of the biosolids to use. The timing of fertilizer is very challenging just based on weather conditions; - Eliminate any buffer not mandated by the 503 Rule; - Eliminate prior notification to local neighbors, counties and cities where biosolids will be used; - Eliminate signage requirement, except perhaps permanent plaques stating that biosolids are used and the public should not access the land without permission; - Continue to require nutrient management plans prepared by Certified Nutrient Management Planners trained by the state; - Eliminate preapproval of plans written by Certified Nutrient Planners. Perhaps require updates on their skills or periodic review of their plans. But, eliminate preapproval before the actual use of the biosolids. Let us take this opportunity to make biosolids more readily available. This will demonstrate that Virginia can handle its own nutrient management programs related to farmers.

DEQ Response to Comment: DEQ acknowledges the thoughtful suggestions recommended by the commenter. DEQ is tasked with developing and implementing a regulatory permit program for the land application of biosolids and certain minimum requirements must be regulated. That said, DEQ will also be cooperating with DCR and local soil and water conservation districts in the furtherance of development of Resource Management Plans by farmers who show a desire and willingness to implement additional BMPs

on their farms.

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

Despite the intense work of the TAC and DEQ staff, the regulations need a comprehensive review for proper grammar and consistent terminology. A good proof reading and editing is necessary before the draft is finalized.

The numbering of Parts and Sections should be checked because in some instances the numbers are out of order.

DEQ Response to Comment: DEQ thanks the commenter for his review. Staff has made many corrections since the initial proposal and continued to check for errors in the final review.

Commenter: Henry, Mark, representing Citizens

This topic might not be very kawaii or so cute but it's still important and should be discussed.

DEQ Response to Comment: DEQ thanks the commenter for sharing his thoughts and ideas.

Commenter: Thompson, Mark, representing Citizens

This topic might not be very kawaii or so cute but it's still important and should be discussed.

DEQ Response to Comment: DEQ thanks the commenter for sharing his thoughts and ideas.

Regulatory Citations

9VAC25-20-142

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

9VAC25-20-142 of the proposed permit fee regulations impose an additional $1,000 annual permit maintenance fee, on top of the current VPDES permit maintenance fee, for major municipals for land applications of biosolids or land disposal of sewage sludge if the activity has occurred in the 12 months preceding the maintenance fee due date. This additional permit maintenance fee should be eliminated because it lacks statutory authority. DEQ has provided no justification for requiring a VPDES permittee to pay an additional $1,000 permit maintenance fee for the authorization of land application or land disposal of biosolids. Given the lack of a statutory basis for the $1,000 maintenance fee for the authorization of land application of biosolids or land disposal of sewage sludge, HRSD requests removing that provision from 9VAC25-20-142(A)(1).

DEQ Response to Comment: DEQ's authority to assign permit fees for biosolids permits is established in §§ 62.1-44.15:6.and 62.1-44.19:3 of the Code of Virginia. The VPDES biosolids maintenance fee was proposed in an effort to reconcile the two statutes and maintain consistency between VPA and VPDES biosolids permits. DEQ recognizes the fact that a substantial maintenance fee is already charged for VPDES permits, and reconciling the two statutes was improved in the final regulation. In the final regulations, the maintenance fee for VPDES permitted facilities has been struck.

9VAC25-20-146 B 1

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-20-146 B 1 - "The fee shall be $7.50 per dry ton of biosolids land applied in the Commonwealth of Virginia." - The $7.50 per dry ton should not apply to EQ Class A biosolids distributed in Virginia. This fee will be cost prohibitive to companies that distribute these EQ products in the state. It will also remove some incentive for WWTPs in VA to further process their solids to meet EQ standards. We recommend this be revised to read, "The fee shall be $7.50 per ton of

biosolids land applied in the Commonwealth of Virginia except when the biosolids meet ceiling concentrations in 9VAC25-31-540 B 1, the pollutant concentrations in 9VAC25-31-540 B 3, the Class A pathogen requirements in 9VAC25-31-710 A, and one of the vector attraction reduction requirements in 9VAC25-31-720 B 1 through B 8."

DEQ Response to Comment: There is no fee for land application of EQ biosolids. The section of the fee regulation that exempts EQ biosolids from the fee is located in 9VAC25-20-50. Exemptions. This section was not included in the NOIRA because no changes were proposed.

9VAC25-20-147

Commenter: Gibson, Dave, representing Citizens

Given what we don't know, but are quickly learning about the long-term risks and toxicology associated with land applications of biosolids, we must ensure better documentation and traceability of food coming from lands treated with biosolids. The current system does not require careful documentation of the chain-of-custody of food produced from lands where biosolids have been applied which reduces the State's ability to recall products when problems are identified.

DEQ Response to Comment: DEQ has developed and maintains a data base of all land application activity, including land application site location and biosolids source. The reporting required by 9VAC25-20 is solely for the purposes of determining the land application fee due and billing.

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

During the TAC process, an issue was raised about multiple permits being issued for the same parcel. In an effort to address this, a proposal was made to establish a control number for given fields. This proposal is reflected in 9VAC25-20-147. Additional clarification is needed though. For example, how will control number delineation and implementation work? This could impact combining of fields, splitting of fields, issuance of number and change in contractor/land applier. Although the regulation may not be the best place to resolve these details, at the very least guidance is needed to flesh out how the process will work. There is also a question about how long it will take to receive a control number and when they will be issued. it may be helpful to issue control numbers prior to permit issuance so that the applicators can include the control number on daily paperwork and ticket signing in the field. The regulation should further clarify that only one entity can hold a permit on a field at a time.

DEQ Response to Comment: New language has been proposed to allow the permittee to use the current field ID number in the permit application until a DEQ control ID has been assigned. A control number is assigned when the sites are placed in the GIS database at the time of permit application or request to add land. The overlap duplication of sites will be recognized at that time.

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-20-147 A 2 - "Identification of land application site, including DEQ control number." - We would recommend getting clarification of control number delineation and implementation. How will this affect combining of fields, splitting of fields, issuance of number, and change in contractors/land applier?

DEQ Response to Comment: New language has been proposed to allow the permittee to use the current field ID number in the permit application until a DEQ control ID has been assigned

Commenter: Trumbo, Susan, representing Recyc Systems

"5. Dates and type of any interactions with local monitors and names of individuals involved in the interaction." Support striking this requirement as it is too broad and burdensome.

DEQ Response to Comment: This requirement was struck in the first proposal and will remain so in the final.

9VAC25-20-147 A

Commenter: Gibson, Dave, representing Citizens

Several recent studies including EPA work on residual impacts of Perfluorochemicals after application of municipal biosolids indicate that retention of biosolids application documentation should be maintained by the applier, supplier and DEQ for at least 10 years is prudent. Neither "biosolids" nor "sewage sludge" are on the USDA National Organic Program list of Approved Substances. It is important that consumers be able to identify food products associated with the use of well-defined biosolids.

DEQ Response to Comment: DEQ has developed and maintains a searchable data base of all land application activity, including land application site location and biosolids source

9VAC25-20-147 B

Commenter: Gibson, Dave, representing Citizens

The current biosolids permitting and application process does nothing to ensure meaningful traceability of biosolids which will allow detection elimination on non-conforming products or suppliers. DEQ should be setting specifications for a standardized traceability system which indicate the originating treatment plant(s), the source of sewage treated and processed, the date of release from the plant(s) and mixing should be maintained through a Batch and Lot numbering system. Such a "chain of custody" is essential for authorities to be able to trace-back and recall biosolids products which have undesirable biological, chemical or physical properties.

DEQ Response to Comment: DEQ has developed and maintains a data base of all land application activity, including land application site location and biosolids source. The reporting required by 9VAC25-20 is solely for the purposes of determining the land application fee due and billing.

Commenter: Trumbo, Susan, representing Recyc Systems

"8. Reports and notification. The permittee shall submit a monthly report by the 15th of the month following the month that land application occurs, unless another date is specified in the permit in accordance with 9VAC25-32-80." Object to the allowance for the reporting date in the permit to govern. This allowance would cause for inconsistency in reporting dates. Delete "unless another date is specified in the permit in accordance with 9VAC25-32-80".

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This is standard language, which is also used in the VPDES regulation that allows another reporting date to be established on a case by case basis if necessary. The standard Permit template will include the reporting date of the 15th. This gives DEQ flexibility to allow another reporting date where required.

9VAC25-20-147 C

Commenter: Gibson, Dave, representing Citizens

DEQ's permitting documentation is inadequate to allow traceability. The basic elements of food safety have not been incorporated into the proposed system and the State should be held accountable for breaches in food safety stemming from improper documentation and inability to identify non-conforming product.

DEQ Response to Comment: DEQ has developed and maintains a data base of all land application activity, including land application site location and biosolids source. The reporting required by 9VAC25-20 is solely for the purposes of determining the land application fee due and billing.

9VAC25-20-149

Commenter: Parker, Diana, representing Citizens

I object to the added requirement in 9VAC25-20-149 that DEQ must give prior approval to inspection by the locality for reimbursement, and electronic means are not permitted. In the age of electronic tax returns and electronic signatures, why not? The time frame for reimbursement seems unduly fast, and simple errors and resubmission too strict for reality. Considering the leeway given contractor submission, why is reimbursement documentation by localities so harshly targeted and so easily denied? Testing should be allowed by localities for elements not currently restricted by DEQ, with DEQ notified for elevated elements that may be cause for concern by the locality for removal.

Public Comments and Department Response to Public Comments

Give localities tools to defend their people.

DEQ Response to Comment: Prior approval is not required for inspections, and prior approval of reimbursement requests is only required only for costs that exceed $2.50 per dry ton land applied during the reimbursement period. At this time the department is not capable of receiving electronic signatures. The county has 30 days from the end of the month in which they incurred the costs to submit their reimbursement request; e.g. the monitor could inspect on May 2 and submit his reimbursement request on June 30. Land appliers are required to submit monthly reports by the 15th of one month for the previous month. No claim has been denied to date. § 62.1-44.19:3.I states: Any county, city or town may adopt an ordinance that provides for the testing and monitoring of the land application of sewage sludge within its political boundaries to ensure compliance with applicable laws and regulations, therefore they can only be reimbursed for sampling parameters that are regulated.

9VAC25-20-20

Commenter: Gibson, Dave, representing Citizens

The term "sewage sludge" is summarily replaced with the term "biosolids" without defining the difference. The term "biosolids" is not included in 9VAC25-31-10. Definitions. The proposed regulations should clearly indicate the difference between "biosolids" derived from human sewage and industrial wastes and those from common composting and manuring practices. All biosolids are not created equally and to suggest otherwise confuses the risks and public information.

DEQ Response to Comment: Biosolids is the sewage sludge that results from domestic sewage after extensive treatment to meet at minimum, Class B Pathogen Reduction Standards, Vector Attraction Reduction Standards and Metals limits as specified by EPA 40CFR Part 503. DEQ receives test results monthly from the land appliers. Some WWTPs do receive wastewater from industrial facilities within their municipality. By law, industrial facilities that send their wastewater to a wastewater treatment plant (WWTP) must pretreat their wastewater to meet certain standards. One of the most important pretreatment processes is the removal of metals at the industrial facility, so that the metals do not enter the WWTP.

9VAC25-20-60 A 4

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

An annual maintenance fee is required by 9VAC25-20-60 A 4. The fee should be due within 60 days after receiving an invoice from DEQ rather than having an October 1 date.

DEQ Response to Comment: October 1 is the date that was established for the maintenance fee for all permit types in § 62.1-44.15:6.B2

9VAC25-20-60.

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-20-60 A 4 - "Permit maintenance fees shall be paid to the board by October 1 of each year…" - We recommend that the language read that permit maintenance fees by paid by October of each year after receiving an invoice from DEQ.

DEQ Response to Comment: October 1 is the date that was established for the maintenance fee for all permit types in § 62.1-44.15:6.B2

9VAC25-20-60 D - "…The department may bill the land applier for amounts due following the submission of the monthly land application report. Payments are due 30 days after receipt of a bill from the department…" - We would like to see the payments due 60 days after the receipt of the bill to ensure that we can get the checks returned on time and have adequate time to process the checks.

DEQ Response to Comment: October 1 is the date that was established for the maintenance fee for all permit types in § 62.1-44.15:6.B2

9VAC25-31-10

Commenter: Razik, Al, representing Maryland Environmental Services

It appears that the definition of Publicly Owned Treatment Works (POTW) is listed twice.

DEQ Response to Comment: Deleted the definition that was out of alphabetical order.

Commenter: Trumbo, Susan, representing Recyc Systems

"Land application area means land under the control of an AFO owner or operator, that is owned, rented, or leased to which manure, litter or process wastewater from the production area may be applied." Why is this definition limited to land owned or operated by an AFO? Recommendation: Replace AFO with "farm".

DEQ Response to Comment: Added definition for "Land application area" to 9VAC25-31-500 and 9VAC25-32-10

9VAC25-31-10

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

The definitions (9VAC25-31-10) do not include a definition for "biosolids", although a definition for "sewage sludge" is included. Also, the definition of "land application area" refers to land on which "manure, litter or process wastewater from the production area may be applied." Is this also an area on which sewage sludge or biosolids may be applied?

DEQ Response to Comment: Added "Biosolids" definition to 9VAC25-31-10; it was in 9VAC25-31-500. Added definition for "Land application area" to 9VAC25-31-500 and 9VAC25-32-10

9VAC25-31-100

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

The proposed regulations require that the application include a site map depicting certain features within 1/4 mile of the site boundary. The term "site" is defined later in the regulations as "the area of land within a defined boundary where an activity is proposed or permitted." In the context of this requirement, it is not clear whether the "site" refers to the storage facility itself or to the farm on which the storage facility is located. The regulation should specify that the 1/4 mile is to be measured from the actual storage facility, not from the property boundary. Likewise, the requirements in Subsection d for a topographic map showing such things as slopes, drainage ways and depressions should specify the area to which the requirement applies. Again, it would not make sense to require a topographic map for a 500-acre farm with a storage facility located in the middle.

DEQ Response to Comment: This language is based on 40CFR part 122.21 that identifies requirements for NPDES (VPDES) permit applications for biosolids land application. This requirement is specific to the WWTP facility and any offsite storage facilities.

9VAC25-31-100 7.a. Application for a permit

Commenter: Razik, Al, representing Maryland Environmental Services

MES agrees with DEQ that sampling for PCBs is appropriate.

DEQ Response to Comment: DEQ acknowledges the support of the commenter.

9VAC25-31-100 Q 9 c

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Information regarding transport equipment could change with the purchase of new equipment or with a new contractor. The same is true for the voucher system which could be contractor-specific. In addition, the requirement for hauling routes is already included under 9VAC25-31-100 Q 9 c and 9VAC25-32-60 F 2 d (4). VAMWA requests that DEQ: (i) require that specifics regarding biosolids transport be addressed in the O&M manual and not as part of the permit application, and (ii) strike the requirement for hauling routes, as this is redundant with other parts of the regulation.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The language regarding the hauling equipment has been revised and the haul route language has been deleted from the transport section and remains with the land application site description in 9VAC25-31-100.Q and 9VAC25-32-60.F

Public Comments and Department Response to Public Comments

9VAC25-31-100 Q 9 d (4)

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

9VAC25-31-100 Q 9 d (4) and 9VAC25-32-60 F 2 d (12)(d) reference the term "land treatment area," which we recommend replacing with "land application site" as the terms are not interchangeable.

DEQ Response to Comment: DEQ acknowledges the review of the commenter; however no changes have been made. "Conventional land treatment" is described in the SCAT Regulations as treatment utilizing "a secondary process for pretreatment of sewage followed by irrigation, overland flow, or infiltration-percolation (or combination thereof) methods for applying treated effluent to an approved site".

9VAC25-31-100.Q.13

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

This section requires haul routes to the land application sites, hauling vehicle specifications, biosolids offloading procedures, spill response plans, and a description of a voucher system recordkeeping. The required standards for hauling routes, transport vehicles and spill response are in the VPA regulations under 9VAC25-32-540 Transport. Types of vehicles used for transport of offloading and voucher systems can change with the hiring of a new contractor. It is much more efficient to place this information in the biosolids operations plan which can be updated as needed rather than in a permit application. Hauling routes are not required information under the VPA permit application requirements (9VAC25-32-60) and therefore, should be deleted from the VPDES permit application requirements.

DEQ Response to Comment: This section of the permit application is one part of the Operations Management Plan, and modifications to the plans shall be submitted to DEQ for approval as part of the plan. Other parts of the plan include the O&M manual and the NMPs for each site. VPA requires the "means of transport or conveyance" and has the same language in 9VAC25-32-60.F.4

9VAC25-31-100.Q.14.a(1)

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

This section should be deleted as it refers to routine storage which is not a part of field operations.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. See the response to comments regarding storage.

9VAC25-31-100.Q.14.a(2) & (3)

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

This language should be deleted in deference to the 9VAC25-32-550 and 9VAC25-32-545 of the VPA regulations which list the requirements for storage and staging. These are part of the operating procedures and would be better suited for the O & M Manual.

DEQ Response to Comment: This is part of the operations management plan. These procedures should already be in place for permit applicants who have been operating prior to applying for the VPA permit.

9VAC25-31-100.Q.14.b(1) & (2)

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

This language would be better suited for the O & M Manual rather than the permit application. In fact, the calibration and maintenance of equipment is a required element of the O & M Manual (9VAC25-32-410.B).

DEQ Response to Comment: This is part of the operations management plan. These procedures should already be in place for permit applicants who have been operating prior to applying for the VPA permit.

9VAC25-31-100.Q.16

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

This section references a surface disposal site. There is no definition of surface disposal site. It is recommended that the term be included in the definitions section of the regulations for clarification purposes.

DEQ Response to Comment: Surface disposal site is defined in 9VAC25-31-500. "Surface disposal site" means an area of land that contains one or more active sewage sludge units. Sewage sludge unit is also defined: "Sewage sludge unit" means land on which only sewage sludge is placed for final disposal. This does not include land on which sewage sludge is either stored or treated. Land does not include surface waters.

9VAC25-31-100.Q.7 d

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

This section requires that EPA Method 1668B be used in analyzing PCBs in the biosolids. HRSD opposes the mandated use of this method, and suggests the following changes to the proposed regulations: "Samples for PCB analysis shall be collected and analyzed in accordance with EPA Method 1668B an appropriate testing methodology adequate to determine whether PCB levels are within limits included herein." Procedurally, HRSD questions the wisdom of referencing a particular methodology in a set of regulations, due to the probability that future scientific developments will render it obsolete (indeed, Method 1668C has already been developed). Furthermore, HRSD opposes the mandated use of Method 1668B for the following reasons: it is very expensive as compared to existing testing methods; it is of questionable accuracy and precision; it is not a formally approved EPA testing methodology; and it is unnecessarily sensitive for this regulatory purpose.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The language has been changed to use method approved by 40 CFR Part 136 or 40 CFR Part 503.

9VAC25-31-100.Q.9 (13).d

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

This section lists requirements for land application sites that will be receiving frequent application of biosolids. It is recommended that this information be limited to a site receiving frequent applications at greater than 70% of the agronomic rate. Furthermore, paragraph (4) references the term "land treatment area" which is not the same as a land application site.

DEQ Response to Comment: This language has been removed, as the NMP will dictate application rates and frequency

9VAC25-31-100.Q.9.c

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

This section requires an excess of maps for a land application site permit application. Some of the requested materials are extensive and seem more appropriate for a nutrient management plan (NMP). For example, the application requires four maps - a topographic map, a tax map, a transport map, and a soil survey map. Since DEQ will be assigning a specific control number to the site, it is recommended that the requirement for a tax map be deleted. The requirement for a transport map is premature, especially for the VPA permit, as the applier may not know the source of the biosolids that will be applied on that particular site. It is recommended that the transport map requirement be deleted. It is recommended that the soil survey map be included in the NMP instead of the application.

DEQ Response to Comment: Based on experience with permit applications submitted since the program was transferred to DEQ, it has been determined that these maps are required for accurate permitting. The topographic map depicts the lay of the land and features that will affect where the biosolids can be applied; the tax map is used to determine the boundaries of the property that is legally authorized to receive biosolids; the transport map is required so that it will be available for public review at the public informational meeting; the soils map is needed for DEQ staff to evaluate the field's suitability for land application.

9VAC25-31-100.Q.9.c(11)

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

This contains a requirement that is not applicable to a land application site. The permittee may not know at the time of the permit application submittal which vector attraction reduction will be used for the land application operation. This would be a more appropriate requirement for the monthly activity reports that are submitted to DEQ.

DEQ Response to Comment: This is based on the federal regulation. The land applier must be prepared to meet VAR in the field in an emergency situation where biosolids have been land applied and VAR was not met at the plant. They should know if the fields are eligible to be incorporated, and if they or the farmer has the needed equipment to incorporate the sewage sludge within 6 hours.

9VAC25-31-100.Q.9.c(12)

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

This requirement does not apply to the land application site permit application. It would be more appropriate for a storage facility.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. There may be situations where this information would be required to determine adequacy of proposed land base for plant production.

9VAC25-31-440 - Permits and direct enforceability

Commenter: Trumbo, Susan, representing Recyc Systems

"B. Nothing in this part precludes another state agency with responsibility for regulating biosolids or sewage sludge or any political subdivision of Virginia or an interstate agency from imposing requirements for the use of biosolids or disposal of sewage sludge more stringent than the requirements in this part or from imposing additional requirements for the use of biosolids or disposal of sewage sludge." Object to the general delegation of authority to other agencies to regulation biosolids. Recommendation: Replace this language with the following: "Nothing in this part shall preclude any state agency or political subdivision from exercising its authority to regulate biosolids to the fullest extent of such authority."

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The language has been revised to say: Nothing in this part precludes the authority of another state agency, political subdivision of Virginia or an interstate agency with respect to the use of biosolids or disposal of sewage sludge.

9VAC25-31-460 A

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

9VAC25-31-460 A authorizes the Board to impose requirements for use of biosolids that are more stringent than requirements in the VPA Regulations when necessary to protect public health and the environment from "any adverse effect of a pollutant in the biosolids." The regulation should be expanded to include criteria to be applied by the Board in such cases. Note also that this section should be corrected to read "Microbial testing may be necessary to document the Class A sludge treatment given the reference to the log mean of 9 or more samples while the standard for Class B sludge treatment is the geometric mean of 7 samples."

DEQ Response to Comment: DEQ acknowledges the review of the commenter, and understands the need for as much regulatory certainty as possible. However, it is not possible to stipulate all criteria in the regulation, as site specific circumstances may arise, requiring regulatory flexibility.

9VAC25-31-460 B

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Although we agree that the regulation does not restrict the ability of other state agencies or political subdivisions from imposing additional requirements under certain circumstances, the

regulation cannot confer authority on localities or agencies. Accordingly, 9VAC25-31-460 B and 9VAC25-32-315 B should be amended to read "nothing in this part shall preclude any state agency or political subdivision from exercising its authority to regulate biosolids to the fullest extent of such authority."

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The language has been revised to say: Nothing in this part precludes the authority of another state agency, political subdivision of Virginia or an interstate agency with respect to the use of biosolids or disposal of sewage sludge.

9VAC25-31-460 B

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

Although we agree that the regulation does not restrict the ability of other state agencies or political subdivisions from imposing additional requirements under certain circumstances, the regulation cannot confer authority on localities or agencies. Accordingly, 9VAC25-31-460 B and 9VAC25-32-315 B should be amended to read "nothing in this part shall preclude any state agency of political subdivision from exercising its authority to regulate biosolids to the fullest extent of such authority."

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The language has been revised to say: Nothing in this part precludes the authority of another state agency, political subdivision of Virginia or an interstate agency with respect to the use of biosolids or disposal of sewage sludge.

9VAC25-31-475 - Local Enforcement of Sewage Sludge Regulations

Commenter: Trumbo, Susan, representing Recyc Systems

"A. In the event of a dispute concerning the existence of a violation between a permittee and a locality that has adopted a local ordinance for testing and monitoring of the land application of sewage sludge and a permittee concerning the existence of a violation biosolids,..." Suggest that any locality be allowed to enforce the regulations rather than only those that have adopted a local ordinance. Recommendation: Delete the requirement for the locality to have a local monitoring ordinance.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, this language is from § 62.1-44.19:3.2.B

9VAC25-31-485

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-31-485 B 1 - "1. Permit holders shall use a unique control number assigned by the department as an identifier for fields permitted for land application." - The unique control number per field results in significant implementation issues related to timing/use of number and computer software issues of such a number. Can the Department clarify how the number will be used, for example it is to establish a unique identifier for each site or each field? How long will it take to receive? How will this affect field splits, applications to less than an entire field, change in contractors, change in fields size/boundary that result over time in normal farming operations, etc. What happens when several tax numbers covers more than one field? We recommend that the control numbers be received prior to permit issuance so that they can be included in site books for recordkeeping activities. Will the department be equipped to readily provide detailed maps should a field pass from one generator to another or one land applier to another? Also another item should be added that states that only one entity can hold a permit on a field at a time. We do not support the establishment of a control number that results in an inability to support agricultural operations over time or in an inefficient manner.

DEQ Response to Comment: New language has been proposed to allow the permittee to use the current field ID number in the permit application until a DEQ control ID has been assigned. A control number is assigned when the sites are placed in the GIS database at the time of permit application or request to add land. There overlap duplication of sites will be recognized at that time.

Public Comments and Department Response to Public Comments

9VAC25-31-485 B 2 - Landowner agreements - In the landowner agreement the site restrictions should reference the regulations not the permit as landowner agreements are obtained during the process of permitting fields for land application. We propose to add the language as follows: "Landowner agreements shall include an acknowledgement by the landowner of any site restrictions identified in the regulations." The current language says, "Landowner agreements shall include an acknowledgement by the landowner of any site restrictions identified in the permits." Landowner agreements are obtained during the permitting process before additional site restrictions are identified.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, that correction has been made.

9VAC25-31-485 D 1 - "1. At least 100 days prior to commencing land application of biosolids at a permitted site…The notice shall identify the location of the permitted site and..." - We recommend that it read that 100 day notice is given prior to commencing land application at proposed permitted site. This will keep us from waiting an extra 100 days from the time we receive the permit to the time land application can occur. We recommend to delete the word "permitted" and replace with "proposed" so that an extra 100 days is not added to an already lengthy permitting process. Currently we send out the notice when we get the draft so that we have the new VPA number on the notification.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. Please see the response to comment regarding notification

9VAC25-31-485 D 2 c - "A map indication haul routes on each site where land application is to take place;" - We object to submitting haul routes and request it be deleted in the 14 day notice as information is already provided during the permitting process. It appears the Department is attempting to regulate road use which is already regulated by other governmental agencies.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. Please see the response to comment regarding notification

9VAC25-31-485 F 1 - "F. Posting Signs. 1. At least 5 business days prior to delivery of biosolids for land application…" - Given all the new public notification requirements, we see no added benefit of increasing the notification time from 2 to 5 days.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. Please see the response to comment regarding notification

9VAC25-31-485 H 2 "H. Handling of complaints. 2. For the purposes of this section, a substantive complaint shall be deemed to be any complaint alleging a violation of these regulations, state law, or local ordinance…" - A substantive complaint cannot be based upon local ordinances that are not in agreement with state law. We request that "local ordinances" be deleted or clarified to only include ordinances in agreement with state law.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, please refer to the response to comments regarding The Handling of Complaints

9VAC25-31-485 D

Commenter: Gibson, Dave, representing Citizens

9VAC25-31-485 - Requirements for permittees who land apply sewage sludge biosolids - D. Notification requirements: do not require the permittee to notify all immediately adjacent landowners of the intent to apply biosolids. Application of biosolids may materially impact agricultural practices of neighboring landowners, particularly if they are certified organic producers participating in the USDA NOP program. Buffer zones to prevent drift from adjacent farms cannot be properly established unless neighboring farmers are informed of the proposed application a priori.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, please see the response to comments regarding notification.

9VAC25-31-485 D 2

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Revise 9VAC25-31-485 D 2 to delete reference to "local government": "2. At least 14 days prior to commencing land application of biosolids at a permitted site, the permit holder shall deliver or cause to be delivered written notification to the department and the chief executive officer or designee for the local government where the site is located. The notice shall include the following:..."

DEQ Response to Comment: The requirement for 14 day notification to the counties was in the VDH BUR regulations. Following DEQ review of the final exempt action to transfer the VDH regulations to the DEQ regulations as well as receipt of inquiries from the counties requesting that this requirement be placed back in the regulation, the requirement was added to the proposed regulation.

Subsections a, d, and g of 9VAC25-31-485 D 2 are redundant (all require contact information for the permit holder), and could be streamlined into a single subsection. Furthermore, we suggest replacing any references to "name, address, and telephone number" with "name and contact information" to accommodate those persons who prefer to be contacted by e-mail.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. Those redundancies have been addressed.

9VAC25-31-485 D 2 a

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Revise 9VAC25-31-485 D 2 a to read: "a. The name, address and telephone number and contact information of the permit holder, including the name of a representative knowledgeable of the permit;, at least one individual designated by the permit holder to respond to questions and complaints related to the land application, and the wastewater treatment facility, or facilities, from which the biosolids will originate, including the name or title of a representative of the treatment facility that is knowledgeable about the land application operation:"

DEQ Response to Comment: DEQ acknowledges the review of the commenter; please see the response to comments regarding notification.

9VAC25-31-485 D 2 b

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Revise 9VAC25-31-485 D 2 b to read: "b. Identification by tax map number and the DEQ control number for sites on which land application is to take place:"

DEQ Response to Comment: DEQ acknowledges the review of the commenter; please see the response to comments regarding notification.

9VAC25-31-485 D 2 c

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

Revise 9VAC25-31-485 D 2 c to read: "c. A map indicating description of proposed haul routes to each site where land application is to take place; and"

DEQ Response to Comment: DEQ acknowledges the review of the commenter; please see the response to comments regarding notification.

The regulations require land applicators to include in their notice to DEQ and local governments a map "indicating haul routes 'on' each site where land application is to take place." (9VAC25-31-485 D 2 c) Presumably this should refer to haul routes going to the land application sites. If that is the intent, it should be made more flexible, for example, allowing reference to the most likely haul routes or something similar. This requirement should not create an issue whenever a truck deviates from the route shown on the map. This requirement also appears overly burdensome, as such information is already included in the permit booklets DEQ receives.

DEQ Response to Comment: DEQ acknowledges the review of the commenter; please see the response to comments regarding notification.

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Revise 9VAC25-31-485 D 2 c to read: "c. A map indicating description of proposed haul routes to each site where land application is to take place; and"

DEQ Response to Comment: DEQ acknowledges the review of the commenter; please see the response to comments regarding notification.

The regulations require land applicators to include in their notice to DEQ and local governments a map "indicating haul routes 'on' each site where land application is to take place." (9VAC25-31-485 D 2 c) Presumably this should refer to haul routes going to the land application sites. If that is the intent, it should be made more flexible, for example, allowing reference to the most likely haul routes or something similar. This requirement should not create an issue whenever a truck deviates from the route shown on the map. This requirement also appears overly burdensome, as such information is already included in the permit booklets DEQ receives.

DEQ Response to Comment: DEQ acknowledges the review of the commenter; please see the response to comments regarding notification.

9VAC25-31-485 D 2 d

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Delete 9VAC25-31-485 D 2 d - Information moved to revised 9VAC25-31-485 D 2 a.

DEQ Response to Comment: DEQ acknowledges the review of the commenter; please see the response to comments regarding notification.

9VAC25-31-485 D 2 f

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

If DEQ deletes the 14-day notification requirement for local governments, subsection 9VAC25-31-485 D 2 f may be removed entirely. It is unnecessary for a permittee to notify DEQ of the DEQ employees to be contacted in connection with the permit.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. Please see the response to comment regarding notification.

9VAC25-31-485 D 2 f & g

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Delete 9VAC25-31-485 D 2 f & g - Information moved to revised 9VAC25-31-485 D 2 a.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. Please see the response to comment regarding notification

9VAC25-31-485 D 3

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Revise 9VAC25-31-485 D 3 to read: "3. The permittee shall deliver or cause to be delivered written notification to the department at least 14 days prior to commencing land application of sewage sludge at a permitted site. The notice shall identify the location of the permitted site and the expected sources of the sewage sludge to be applied to the site by facsimile, electronic mail, or telephone and to the chief executive officer or designee for the local government where the site is located, daily notification prior to on the day of commencing planned land application activities. The notification shall include the approximate date on which land application is to end at the site."

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. Please see the response to comment regarding notification

Public Comments and Department Response to Public Comments

9VAC25-31-485 F - Posting signs

Commenter: Gibson, Dave, representing Citizens

9VAC25-31-485 - Requirements for permittees who land apply sewage sludge biosolids - F - Posting signs: 5 days posting of notification after biosolids application is inadequate to protect public interests. It has been clearly shown that airborne drift of biosolids residues and possible contaminants, and surface water mobility are directly affected by farming practices well beyond the 5 day period. The posting period should not be less than 90 days from application in order to allow affected communities to avoid undesirable exposure.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. Please see the response to comment regarding notification

9VAC25-31-485 F 1 a

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

Section 9VAC25-31-485 F 1 a should specify that signs shall be posted along "public" road frontage.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. Please see the response to comment regarding notification

9VAC25-31-485 F 1 c

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

Section 9VAC25-31-485 F 1 c should be modified to ensure that localities are not empowered to regulate biosolids signs per se. The intent of this provision, based on the TAC discussions, was to ensure that the regulations did not conflict with general sign ordinances in effect in some localities. As written, it could be construed to allow localities to require additional information, larger signs, longer posting times, etc. Instead, the provision should state that the department may grant a waiver from the requirements where the requirements conflict with local government ordinances and other requirements regulating the use of signs.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. Please see the response to comment regarding notification

9VAC25-31-485. Requirements for permittees who land apply biosolids.

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-31-485 F 1 c - "F. Posting Signs. 1…c. The department may grant a waiver to the requirements in this section, or require alternative posting options due to extenuating circumstances or to be consistent with local government ordinances and other requirements regulating the use of signs." - We request the signage requirements be consistent for all sites and recommend removal of language that allows areas to adopt more restrictive signage requirements.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, this is standard language that allows DEQ to approve other options on a case by case basis if necessary, such as where the regulatory requirements cannot be met, or the county prohibits signs, etc . The standard Permit template will include the signage requirements as stated in the regulation.

9VAC25-31-485.D 2

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

This section requires that the local government also be notified 14 days in advance. The State law only requires notification to DEQ which is appropriate. Not all localities have a person dedicated to land application. It is recommended that the requirement for notification to the locality be deleted. Since the local government is contacted during the permit application process, they can request notification as a condition of the permit. This would add value to a notification requirement since the locality would provide a point of contact for the permit holder. The requirements for paragraphs a., d., and g. of 9VAC25-31-485.D appear to be redundant. Since these are VPDES regulations, the permit holder and the treatment facility representative should be the same. It is recommended that the

phrase, "name, address, and telephone number" be replaced with "name and contact information", This will allow more flexibility in the method of notification. Paragraph b should be amended to delete reference to the tax map number of the site. The State Code requires that the permittee provide the location of the site and source of biosolids to be spread on the site. It should be adequate to identify the site using the DEQ control number. Paragraph c. should be modified to only require a description of the hauling route as a map is unnecessary. It is recommended that paragraph f. be deleted. Paragraph f. requires the permittee to provide the name of the person in the department connected to the permit. Since the notification is going to the department, it is likely that is the recipient of the notification.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. Please see the response to comment regarding notification

9VAC25-31-485.D.3

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

This section requires daily notification to the local government and DEQ. As discussed in the TAC meetings, it would be more efficient to notify the department when the land application commences but it is not necessary to provide a daily update if the land applier will be at the same site for several days. It is recommended that DEQ be given an estimate of the length of time the applier expects to be operating rather than a daily notification. The TAC also discussed that not all localities have a person dedicated to land application. It is recommended that the requirement for daily notification to the locality be deleted.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, please see the response to comments regarding notification.

9VAC25-31-490

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

The regulation incorporates methods to be used to analyze samples (9VAC25-31-490). The list included in the regulation appears dated and does not provide for updating/approval of additional methods. This section should include a proviso that methods approved by EPA may be used in addition to those specifically identified in this section.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, the regulation does allow for other methods approved by 40CFR Part 136 and SW-846

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-31-490 B - Analytical Methods - Clarification is needed throughout regulations that specify specific analytical methods. The current language says that these methods shall be used. Analytical methods change over time and we suggest that the regulations account for methodology updates.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, the regulation does allow for other methods approved by 40CFR Part 136 and SW-846

9VAC25-31-490.

Commenter: Gibson, Dave, representing Citizens

9VAC25-31-490 - Sampling and analysis - Toxic chemicals, infectious organisms, and endotoxins or cellular material may all be present in biosolids. There are anecdotal reports attributing adverse health effects to biosolids exposures, ranging from relatively mild irritant and allergic reactions to severe and chronic health outcomes. Odors are a common complaint about biosolids, and greater consideration should be given to whether odors from biosolids could have adverse health effects. However, a causal association between biosolids exposures and adverse health outcomes has not been documented. To date, epidemiological studies have not been conducted on exposed populations, such as biosolids appliers, farmers who use biosolids on their fields, and communities near land-application sites. Because of the anecdotal reports of adverse health effects, the public

concerns, and the lack of epidemiological investigation, the committee concluded that EPA should conduct studies that examine exposure and potential health risks to worker and residential populations.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, and monitors ongoing research conducted by EPA.

9VAC25-31-500

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

The definition should mirror the VPA definition since both regulations address the same activity with regards to biosolids. It is recommended that the VPDES definition state: "land application means the distribution of biosolids by spreading or spraying on the surface of land, injecting below the surface of the land, or incorporating into the soil with a uniform application rate for the purpose of fertilizing the crop and vegetation or conditioning the soil. Sites approved for land application of biosolids in accordance with this regulation are not to be considered to be treatment works. Bulk disposal of stabilized sludge in a confined area, such as in landfills, is not land application. For the purpose of this regulation, the use of biosolids in agricultural research is not land application."

DEQ Response to Comment: DEQ acknowledges the review of the commenter, the definition of "Land application" used in the VPA regulation has been added to 9VAC25-31-500, and clarified to apply to biosolids vs. animal manures.

The VPA definition of "Land applier" should also be in the VPDES regulations. Recommended definition would be, "someone who land applies biosolids pursuant to a valid permit issued by the department in accordance with the requirements specified in the VPA 9VAC25-32-690 through 9VAC25-32-760."

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The definition for "Land applier" has been added to 9VAC25-31-500

The VPDES regulation does not include the term "biosolids" in the sentence "having jurisdiction over sewage sludge management…"

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This sentence refers to all sewage sludge, whether treated to biosolids standards or not.

There is a definition of "use" in the VPA but not in the VPDES. It is recommended that the VPA definition be included in the VPDES regulations in order to differentiate between use and disposal.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, the definition for the term "use" has been added to 9VAC25-31-500

This definition should be included in the VPDES regulations in order to differentiate between appliers and generators. The VPA regulations includes the definition is "either the person who generates sewage sludge during the treatment of domestic sewage in a treatment works or the person who derived a material from sewage sludge."

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The definition for "Person who prepares biosolids" has been added to 9VAC25-31-500

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

"Land application" - The VPDES definition should be the same as the VPA definition given that both regulations address the same activity. VAMWA requests that DEQ include the following definition in the VPDES regulations: "'Land application' means the distribution of biosolids by spreading or spraying on the surface of land, injecting below the surface of the land, or incorporating into the soil with a uniform application rate for the purpose of fertilizing the crop and vegetation or conditioning the soil. Sites approved for land application of biosolids in accordance with this

regulation are not to be considered to be treatment works. Bulk disposal of stabilized sludge in a confined area, such as in landfills, is not land application. For the purpose of this regulation, the use of biosolids in agricultural research is not land application."

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This has been corrected.

9VAC25-31-500

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

"Land applier" - The VPA definition should also be included in the VPDES regulations. VAMWA requests that DEQ add the following definition to the VPDES regulations: "'Land applier' means someone who land applies biosolids pursuant to a valid permit issued by department in accordance with the requirements specified in the VPA 9VAC25-32-690 through 9VAC25-32-760."

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The definition for "Land applier" has been added to 9VAC25-31-500

"Municipality" - The VPDES regulation does not include the term "biosolids" in the sentence "having jurisdiction over sewage sludge management…" VAMWA requests that DEQ revise the definition as follows: "'Municipality' means a city, town, county, district, association, or other public body (including an intermunicipal Agency of two or more of the foregoing entities) created by or under state law; an Indian tribe or an authorized Indian tribal organization having jurisdiction over sewage sludge biosolids management; or a designed and approved management agency under § 208 of the CWA as amended. The definition includes a special district created under state law, such as a water district, sewer district, sanitary district, utility district, drainage district, or similar entity, or an integrated waste management facility as defined in § 201 (e) of the CWA, as amended, that has one of its principle responsibilities the treatment, transport, use, or disposal of biosolids or sewage sludge."

DEQ Response to Comment: This means all sewage sludge, whether treated to biosolids standards or not. No change has been made.

"Person who Prepares Biosolids" - This definition should be included in the VPDES regulations in order to differentiate between appliers and generators. VAMWA requests that DEQ add language to the VPDES regulation that is consistent with the definition in the VPA regulations.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The definition for "Person who prepares biosolids" has been added to 9VAC25-31-500

"Use" - VAMWA requests that DEQ add the definition in the VPA regulations to the VPDES regulation in order to differentiate between "use" and "disposal".

DEQ Response to Comment: DEQ acknowledges the review of the commenter, the definition for the term “use" has been added to 9VAC25-31-500

9VAC25-31-505

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-31-505 D -"D. Surface incorporation may be required on cropland by the department, or the local monitor, with the approval of the department, to mitigate excessive odors, when incorporation is practicable and compatible with a soil conservation plan meeting..." - We suggest adding language to include conservation plan or contract. Presently NRCS is drafting contracts for conservation plans and cost share programs. Also add "or USDA contracts" to capture all forms of conservation restrictions.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, we added "or contract" as suggested.

9VAC25-31-505 A

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

Public Comments and Department Response to Public Comments

9VAC25-31-505 A states that DCR approval of a nutrient management plan shall be required prior to board authorization under "specific conditions," but does not specify what those conditions are or make clear whether this requirement relates to the need for a NMP or the need to have such NMP approved prior to board authorization. The regulation should specify who is to make that determination, how the determination is to be made and the criteria for making it. It should also be noted that this language is not included in the biosolids permitting requirements for VPA permits (9VAC25-32-60 F 1 f 3 b).

DEQ Response to Comment: DEQ acknowledges the review of the commenter. Further changes were made to these sections to ensure consistency between the regulations. This language is based on statutory requirement § 62.1-44.19:3.C.8 And 9VAC25-31-505 stipulates:

a. sites operated by an owner or lessee of a confined animal feeding operation, as defined in subsection A of § 62.1-44.17:1 of the Code of Virginia, or confined poultry feeding operation, as defined in subsection A of § 62.1-44.17:1.1 of the Code of Virginia;
b. sites where land application more frequently than once every three years at greater than 50% of the annual agronomic rate is proposed; and
c. other sites based on site-specific conditions that increase the risk that land application may adversely impact state waters.
d. Where conditions at the land application site change so that it meets one or more of the specific conditions identified in this section, an approved nutrient management plan shall be submitted prior to any future land application at the site.

Additional oversight for biosolids applications made to high phosphorus soils as well as applications to reclaimed land at higher than agronomic rates is warranted to ensure non-point source nutrient loads are fully evaluated. DEQ is committed to support of the DCR certified nutrient management planner program; and the review and approval process for plans that are written to DCR regulatory specifications should incur little administrative delay. Review of plans that do not meet DCR criteria will result in more accurate and efficient planners.

9VAC25-31-505 A --NMP

Commenter: Smedley, Scott, representing Virginia Biosolids Council

Section 9VAC25-31-505 A states that DCR approval of a nutrient management plan shall be required prior to board authorization under "specific conditions," but does not specify what those conditions are or make clear whether this requirement relates to the need for a NMP or to the need to have such NMP approved prior to board authorization. DCR's Nutrient Management Training and Certification Regulations, which govern the program, were revised in January 2006 and stipulate requirements for certification and criteria for nutrient management plans developed by certified individuals. We believe that since the training and certification programs are regulated and provide adequate training and education to planners, and since certified planners are responsible for the development of nutrient management plans, then the requirement that nutrient management plans be pre-approved by DCR for certain application sites in Virginia is duplicative and unnecessary. This requirement should be deleted.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This language is based on statutory requirement § 62.1-44.19:3.C.8 And 9VAC25-31-505 stipulates a. sites operated by an owner or lessee of a confined animal feeding operation, as defined in subsection A of § 62.1-44.17:1 of the Code of Virginia, or confined poultry feeding operation, as defined in subsection A of § 62.1-44.17:1.1 of the Code of Virginia;
b. sites where land application more frequently than once every three years at greater than 50% of the annual agronomic rate is proposed; and
c. other sites based on site-specific conditions that increase the risk that land application may adversely impact state waters.
d. Where conditions at the land application site change so that it meets one or more of the specific conditions identified in this section, an approved nutrient management plan shall be submitted prior to any future land

application at the site.

Additional oversight for biosolids applications made to high phosphorus soils as well as applications to reclaimed land at higher than agronomic rates is warranted to ensure non-point source nutrient loads are fully evaluated. DEQ is committed to support of the DCR certified nutrient management planner program; and the review and approval process for plans that are written to DCR regulatory specifications should incur little administrative delay. Review of plans that do not meet DCR criteria will result in more accurate and efficient planners.

9VAC25-31-505 B & D

Commenter: Parker, Diana, representing Citizens

9VAC25-31-505 B & D - I maintain that there should not be long-term storage on site, and that application should include immediate incorporation (not MAY be required) into the soil. Phosphorus to allow the nutrients to be taken in by plants will add to the impacts on the Chesapeake Bay and Southern Rivers.

DEQ Response to Comment: Long term storage is only allowed on constructed pads. Many sites cannot be tilled due to conservation plans. Incorporation results in greater sediment and nutrient deposition in the waterways.

9VAC25-31-505 D

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

9VAC25-31-505 D authorizes incorporation under certain circumstances and when it is compatible with a soil conservation plan meeting the standards and specifications of the U.S. Department of Agriculture Natural Resources Conservation Service. This section should add "or a conservation plan or contract." Currently, NRCS is drafting contracts for conservation plans and cost share programs.

DEQ Response to Comment: DEQ acknowledges the review of the commenter; the phrase “or contract" has been added as suggested.

9VAC25-31-505.C

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

This section does not delineate between Class A and Class B biosolids. It should be specified that it applies to bulk biosolids meeting Class B pathogen requirements.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This correction has been made

9VAC25-31-505.D

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

The term "excessive odors" should be replaced with the term "malodors" since there is no definition of "excessive odors" but "malodor" has been defined.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This correction has been made

9VAC25-31-510

Commenter: Evans, Kristen Hughes, representing Chesapeake Bay Foundation

CBF strongly opposes the proposal to exempt Class A biosolids from nutrient management plan-based application and management practice requirements (described in 9VAC25-31-550) as proposed in 9VAC25-31-510. All land application of biosolids, without exemption, should be based on nutrient management plan recommendations. All biosolids, whether Class A or B, or exceptional quality, contain nutrients that, if utilized improperly, can contribute to water quality impairments. 1. Language in 9VAC25-31-510 should be consistent with language in 9VAC25-32-570 for bulk

distribution of biosolids of exceptional quality. 2. Any individual purchasing more than 5 tons of biosolids material of any quality or treatment level should be required to apply the material according to nutrient management plan recommendations.

DEQ Response to Comment: This language is from 40CFR part 503

Commenter: Hughes, Kristen, representing Chesapeake Bay Foundation

In section 9VAC 25-31-510 it looks like Class A biosolids are exempt from management requirements (including setbacks to surface waters, restrictions on application to frozen and flooded ground, etc.). Is this correct? Would the NMP requirement also be waived for Class A biosolids application under the VPDES permitting program?

DEQ Response to Comment: The EPA 503 Rule exempts EQ biosolids from the management practices used for class B biosolids. The regulation requires that the application rate information and notice about frozen ground and waterways be provided to the farmers on the labels or brochures that are approved by VDACS. Distribution and marketing of biosolids, when conducted with a product similar to commercial fertilizer and in a manner similar to commercial fertilizers, will not be considered land application and thus will not require an NMP. The proposed VPDES regulation refers to Part IX of the VPA regulation, so the same requirements will apply to both.

9VAC25-31-510 & 550

Commenter: Parker, Diana, representing Citizens

9VAC25-31-510 & 550: Only Class A biosolids should be bagged. "Biosolids sold or given away in a bag or other container for application to the land MUST designated the percentage of biosolids content, the level of biosolids, and this information must remain on future containers substituted for the originals."

DEQ Response to Comment: EQ biosolids are those that meet Class A Pathogen reduction and have metals below the pollutant concentration limits specified in the federal regulation, and adopted in the VPDES and VPA regulations. Only EQ biosolids may be distributed and marketed, which includes bagging and selling. Pelletized biosolids are 100% biosolids. Biosolids may be blended with mulch, but once a biosolids is blended with another product, the entire product becomes a biosolids and would be sold as such.

9VAC25-31-530 J

Commenter: Parker, Diana, representing Citizens

9VAC25-31-530 J: "When the department is notified prior to the initial application, a legal notice to the public through closest public media MUST be made by the department."

DEQ Response to Comment: DEQ acknowledges the review of the commenter, please see the response to comments regarding notification.

9VAC25-31-540

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

Public Comments and Department Response to Public Comments

9VAC25-31-540 proposes a ceiling concentration limit for molybdenum of 40 milligrams/kilogram ("mg/kg") if biosolids are applied on land used for livestock grazing. Although there is no proposed limit for cumulative loading rates or monthly and annual loading rates, each table is footnoted as follows: "The monthly average concentration is currently under study by the USEPA." HRSD opposes any reduction in the ceiling concentration for molybdenum. HRSD requests that the Board delete the 40 mg/kg reference and the references to molybdenum in the cumulative loading rate tables. HRSD notes that the federal ceiling concentration for molybdenum is 75 mg/kg. The state's proposal to reduce the molybdenum ceiling for livestock grazing areas is premature. The Board should wait until EPA concludes its review to make a determination on this issue. HRSD understands that there is currently only one state in the country-Indiana-that has a more stringent molybdenum requirement than the federal standard. There is simply no justification for making Virginia the second. DEQ's proposal to reduce the molybdenum ceiling concentration would harm biosolids land application in the Commonwealth. If this problem is not corrected, any POTW that has higher levels of molybdenum would be forced to either landfill (at greater expense) or to ask its customers to install treatment to reduce molybdenum discharges to the wastewater plant. Given the current economic environment, neither option is acceptable, particularly because this restriction appears to be unjustified. HRSD would suggest as an alternative to the reduced ceiling concentration, requiring land appliers in livestock grazing areas to notify farmers with grazing cattle if the molybdenum content of the biosolids is between 40 and 75 mg/kg. This would allow an individual farmer to make the decision on how to manage his cattle - though unnecessary this would be better than a reduced ceiling.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. DEQ has delayed action pending EPA adoption of a molybdenum standard, and the language has been revised and moved to the footnotes for Tables regarding Cumulative pollutant loading rates and pollutant concentrations.

9VAC25-31-540 - Table 1

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

Table 1 in Section 9VAC25-31-540 includes a limitation on molybdenum concentrations greater than 40 mg/kg on land used for livestock grazing. DEQ should carefully evaluate the comments that will be submitted by stakeholders on this topic. We believe that it should be clear that any limits established in the regulation for molybdenum must be calculated on a rolling average basis (rather than creating a maximum or minimum limit).

DEQ Response to Comment: DEQ acknowledges the review of the commenter. DEQ has delayed action pending EPA adoption of a molybdenum standard, and the language has been revised and moved to the footnotes for Tables regarding Cumulative pollutant loading rates and pollutant concentrations.

9VAC25-31-540 B - Table 1

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Delete footnote 1 referring to molybdenum concentrations greater than 40 mg/kg from 9VAC25-31-540 B - Table 1.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. DEQ has delayed action pending EPA adoption of a molybdenum standard, and the language has been revised and moved to the footnotes for Tables regarding Cumulative pollutant loading rates and pollutant concentrations.

9VAC25-31-540 B - Table 2

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Delete Molybdenum from the pollutant list and delete footnote (2) related to EPA study from 9VAC25-31-540 B - Table 2.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. DEQ has delayed action pending EPA adoption of a molybdenum standard, and the language has been revised and moved to the footnotes for Tables regarding Cumulative pollutant loading rates and pollutant concentrations.

Public Comments and Department Response to Public Comments

9VAC25-31-540 B - Table 3

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Delete Molybdenum from the pollutant list and delete footnote (1) related to EPA study from 9VAC25-31-540 B - Table 3.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. DEQ has delayed action pending EPA adoption of a molybdenum standard, and the language has been revised and moved to the footnotes for Tables regarding Cumulative pollutant loading rates and pollutant concentrations.

9VAC25-31-540 B - Table 4

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Delete Molybdenum from the pollutant list and delete footnote (2) related to EPA study from 9VAC25-31-540 B - Table 4.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. DEQ has delayed action pending EPA adoption of a molybdenum standard, and the language has been revised and moved to the footnotes for Tables regarding Cumulative pollutant loading rates and pollutant concentrations.

9VAC25-31-540.

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-31-540 B - Tables - We recommend the regulations allow for changes in updates from the EPA over time. Anticipating the risk assessment changes of the EPA implies that all changes from the EPA will be included in the regulations. To do so would cause significant time delays between the two regulatory programs. For this reason we recommend the Molybdenum restriction be deleted until such time as the EPA finalizes their risk assessment. Further we recommend that any concentration limit be calculated on a rolling average.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. DEQ has delayed action pending EPA adoption of a molybdenum standard, and the language has been revised and moved to the footnotes for Tables regarding Cumulative pollutant loading rates and pollutant concentrations.

9VAC25-31-543 -

Commenter: Trumbo, Susan, representing Recyc Systems

"Table 1 Chart - Nitrate nitrogen required" This appears to be a carryover from previous regulations. Soil nitrate nitrogen is not applicable to biosolids application. Recommendation: Delete this requirement for soil testing.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, this correction has been made.

9VAC25-31-545

Commenter: Lohr, Matthew J., representing VA Department of Agriculture and Consumer Services (VDACS)

The reference to the Virginia Department of Agriculture and Consumer Services should be struck from the proposed 9VAC25-31-545(A) as VDACS does not make recommendations regarding the growth stages at which plant tissue analysis should be conducted.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, these changes have been made.

9VAC25-31-547

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

In a number of areas, the terminology used is not clear. For example, the groundwater monitoring provisions found at 9VAC25-31-547 refer to "land treatment sites," but it is not clear what this means. Is land treatment site the same as a land application site?

DEQ Response to Comment: DEQ acknowledges the review of the commenter; however no

changes have been made. "Conventional land treatment" is described in the SCAT Regulations as treatment utilizing "a secondary process for pretreatment of sewage followed by irrigation, overland flow, or infiltration-percolation (or combination thereof) methods for applying treated effluent to an approved site".

9VAC25-31-547.

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-31-547 A - "A. Monitoring wells may be required by the department for land treatment sites, sludge lagoons…" - The use of the term "land treatment sites" is unclear. Please clarify.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, however no changes have been made. "Conventional land treatment" is described in the SCAT Regulations as treatment utilizing "a secondary process for pretreatment of sewage followed by irrigation, overland flow, or infiltration-percolation (or combination thereof) methods for applying treated effluent to an approved site".

9VAC25-31-550

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-31-550 C - "C. Bulk biosolids shall not be applied to agricultural land, forest, a public contact site, or a reclamation site that is flooded, frozen, or snow-covered so that…" - We recommend "frozen ground" be defined as, "ground frozen to a depth of at least 2 inches for a period of 72 consecutive hours".

DEQ Response to Comment: DEQ acknowledges the review of the commenter. No changes have been made.

9VAC25-31-550 F 3 - "The annual whole sludge application rate for the biosolids that does not cause any of the annual pollutant loading rates in Table 4 of 9VAC25-31-540 to be exceeded." - At the beginning of this item the following words need to be added: "If the biosolids exceed the Pollutant Concentrations in 9VAC25-32-356 Table 3". This is because the annual pollutant loading rates in Table 4 of 9VAC25-32-356 only apply if the biosolids exceed the Table 3 metal concentrations. The applicable requirements are spelled out in 9VAC25-32-356 A 4 a & b.

DEQ Response to Comment: This language is from 40CFR part 503

9VAC25-31-550 F 3

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

Section 9VAC25-31-550 F 3 should include a sentence that reads. "If the biosolids exceed the Pollutant Concentrations in 9VAC25-32-356 Table 3," then the requirements will apply. The annual pollutant loading rates in Table 4 of 9VAC25-32-356 only apply if the biosolids exceed the Table 3 metal concentrations. The applicable requirements are spelled out in 9VAC25-32-356 A 4.

DEQ Response to Comment: This language is from 40CFR part 503

9VAC25-31-720.B 9 and 10

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

The term "sewage sludge" should be replaced with "biosolids".

DEQ Response to Comment: The term "sewage sludge" is appropriate in this usage. In order to be a biosolids, the sewage sludge must be treated to meet at least Class B pathogen reduction standards and meet Vector Attraction Reduction (VAR). If using option 9 or 10 for VAR, biosolids status is not achieved until the sewage sludge has been injected or incorporated.

9VAC25-32-10

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

VPA definitions: The definition of "vector attraction" should include the term "biosolids" in order to be the same as the definition in the VPDES regulations: "the characteristic of biosolids or sewage sludge that attracts rodents, flies, mosquitoes, or other organisms capable of transporting

infectious agents."

DEQ Response to Comment: This correction has been made.

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

In the definitions section (9VAC25-32-10), the definition of "surface disposal site" references a "sludge unit", but it is not clear how a sludge unit is defined.

DEQ Response to Comment: "Sewage sludge unit" means land on which only sewage sludge is placed for final disposal. This does not include land on which sewage sludge is either stored or treated. Land does not include surface waters.

The definitions (9VAC25-32-10) are comprehensive and capture many of the needed changes. There are a few definitions that could be tweaked. For example, the definition of "land application" needs to have the last sentence changed to add, "such as landfills and the use of biosolids for mined land reclamation under VDMME permits, is not to be considered land application." Finally, the definition of "land application" includes two exemptions (for disposal in landfills and use in agricultural research). A third exemption should be added for use of biosolids at mine reclamation sites. Such uses do not have any agronomic aspect to them and thus should not be considered land application.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. No changes have been made.

Commenter: Mitchell-Watson, Leslie, representing Friends of the North Fork of the Shenandoah River

9VAC25-32-10. Definitions. "Local monitor" - Defining local monitors as "employed by a local government" is too restrictive and may preclude some localities from being able to monitor biosolids applications within their jurisdictions. Regulations should be revised to define a local monitor as "designated by" or "engaged by" a local government.

DEQ Response to Comment: The Locality is required to pay the local monitor and certify the reimbursement request for the local monitor activities. Therefore the local monitor must be "employed" by the locality. DEQ currently reimburses a local monitor that works for multiple counties, being a full time employee of none of the counties. No change has been made.

9VAC25-32-10. Definitions. Biosolids - Regulations should not change terminology from sewage sludge to biosolids. To support transparency and full disclosure to the public, the regulations should call these materials "treated sewage sludge" or "sewage sludge biosolids".

DEQ Response to Comment: Biosolids is the nationally accepted term to distinguish between any sewage sludge and sewage sludge that been treated to specific pathogen reduction and Vector Attraction Reduction standards and contains regulated metals below the limits established by EPA and adopted in the VPA and VPDES regulation.

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-32.10. Definitions - Land application definition - The last sentence needs to be changed to read: "such as landfills and the use of biosolids for mined land reclamation under VDMME permits, is not to be considered land application." (adding mined land in the definition)

DEQ Response to Comment: DEQ acknowledges the review of the commenter. No changes have been made.

9VAC25-32-10. Definitions - "Odor Sensitive receptor" - The definition of "odor sensitive receptor is good as written.

DEQ Response to Comment: DEQ acknowledges the review of the commenter.

9VAC25-32-10. Definitions - "surface disposal site" - "Surface disposal site means an area of land that contains one or more active sewage sludge units." - Please clarify what a "sludge unit" is.

DEQ Response to Comment: "Sewage sludge unit" means land on which only sewage sludge is placed for final disposal. This does not include land on which sewage sludge is either stored or treated. Land does not include surface waters.

Commenter: Trumbo, Susan, representing Recyc Systems

"Other container means either an open or closed receptacle. This includes, but is not limited to, a bucket, a box, a carton, and a vehicle or trailer with a load capacity of one metric ton or less." Comment" "metric ton" is a measure of weight not volume. For a description of a container a measure of volume in cubic yards would be more appropriate. Recommendation: Substitute 3 cubic yards for one metric ton.

DEQ Response to Comment: This is the definition from the 503, no change will be made.

"Store sewage sludge or storage of sewage sludge means the placement of sewage sludge on land on which the sewage sludge remains for two years or less. This does not include the placement of sewage sludge on land for treatment. Comment: This definition needs clarification. What if the sludge is stored on concrete and not "on land"?

DEQ Response to Comment: This is language from 40CFR Part 503. However, DEQ regulations go beyond the 503 by not allowing any "storage" of biosolids on the ground; all on-site and routine storage must take place on an engineered surface. Please see the response to comments regarding staging and storage for more detail.

"Unstabilized solids means organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process." Comment: This definition needs clarification. What if the solids have been treated but not sufficiently to meet the standards to be defined as biosolids? What if the treatment process is another process not aerobic or anaerobic?

DEQ Response to Comment: This is a 503 definition and used very specifically in the requirements for vector attraction reduction

Please use English tons consistently throughout the section. Recommendation: Substitute English tons for metric tons throughout the regulations.

DEQ Response to Comment: DEQ acknowledges the review of the commenter; however, the regulations governing biosolids refer to other regulations such as EPA 40CFR Part 136, which used metric tons for reporting purposes, and DCRs 4 VAC 5-15, which uses English tons to determine application rates. Therefore, no changes have been made. Appropriate conversions can be made at the time of reporting.

9VAC25-32-100-6

Commenter: Staudinger, Henry J., and Jo Overbey, representing Citizens

The draft regulations do not address DEQ's failure to ensure that Code requirements are met when permits are issued, or that the need for additional requirements does not become known until after a permit is issued. To address this serious deficiency 9VAC25-32-100-6 must be amended to provide: "Where, because of site-specific conditions special requirements are necessary to protect the environment or the health, safety or welfare of persons residing in the vicinity of a proposed land application site, the department may incorporate in the permit at the time it is issued reasonable special conditions regarding buffering, transportation routes, slope, material source, methods of handling and application, and time of day restrictions exceeding those required by this regulation. Where the board fails to impose sufficient requirements to provide such protection, no permit may be issued that includes sites that require additional requirements. If the department subsequently fails to incorporate additional required conditions not known at the time the Permit was submitted to the board, no land applications are permitted on sites where such special conditions are needed to ensure that health and the environment are protected."

DEQ Response to Comment: DEQ consults with VDH in order to ensure that public health is protected when biosolids are land applied. VDH has recommended that extended setbacks be

included for land application sites near persons with certain medical conditions, and as much as possible, DEQ strives to identify these persons at the time of permitting so that specific setbacks can be established before the permit is issued. DEQ acknowledges that in some cases, these persons or conditions may not be identified until after the permit is issued. In order to meet the statutory requirement of including permit conditions that address public health at the time of permitting, a special condition specifying the procedure through which extended setbacks may be requested will be included in every permit at the time of issuance.

9VAC25-32-140

Commenter: Mitchell-Watson, Leslie, representing Friends of the North Fork of the Shenandoah River

9VAC25-32-140 B and C - VPA Permit application - Permit Modifications, a public hearing and a public comment period should be required for any additional acreage proposed to be added to a permit. Allowing an increase of up to 50% in acreage covered by a permit without any public notice or review is excessive and precludes any review necessary to protect the environment.

DEQ Response to Comment: DEQ acknowledge the review of the commenter. However, The regulatory language is based on §§ 62.1-44.19:3.C.10 and 62.1-44.19:3.4, which stipulate the public notice and hearing procedures for the addition of land. No changes have been made

9VAC25-32-140 D 2 - A minimum of 15 days should be allowed for public comment after any public hearing on a permit. The Department should not be allowed to shorten the period.

DEQ Response to Comment: The language has been corrected to say Written comments shall be accepted by the board for at least 15 days after any public hearing on the permit, unless the board votes to shorten the period.

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-32-140 B 2 - "B. VPA Permit Application…2. Whenever the department receives an application for a new permit for land application of biosolids or land disposal of treated sewage, stabilized sewage sludge or stabilized septage, or an application to reissue with the addition of sites increasing acreage by 50% or more of that authorized in the initial permit, the department shall..." - We recommend deleting the work "initial" from this line and add "existing". Any county with a low number of acres would experience several public meetings annually.

DEQ Response to Comment: This requirement is based on § 62.1-44.19:3.C.10: ...to increase the acreage authorized by the initial permit by 50 percent or more…

9VAC25-32-140 B 3 - "3. Following the submission of an application for a new permit for land application of biosolids or land disposal of treated sewage…DEQ shall notify or cause to be notified persons residing on property bordering the site…" - DEQ shall notify adjacent landowners. We recommend that the Department have 60 days to notify landowners.

DEQ Response to Comment: DEQ acknowledges the concern of the commenter regarding the need to not delay notification to adjacent residents. This issue is addressed in guidance and the permit manual in order to meet a specific timeline for permit processing activities.

9VAC25-32-140 C 2 - "2. An application for any permit amendment to increase the acreage authorized by the initial permit by 50% or more…" - We recommend deleting the word "initial" and add "existing". Any county with a low number of acres would experience several public meetings annually.

DEQ Response to Comment: DEQ acknowledge the review of the commenter. However, § 62.1-44.19:3.C.10 of the Code of Virginia states: to increase the acreage authorized by the initial permit by 50 percent or more. No changes have been made

9VAC25-32-140 B 2

Public Comments and Department Response to Public Comments

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

The proposed regulations provide that a public meeting is needed for a modification that is greater than 50% of what is "authorized in the initial permit" (9VAC25-32-140 B 2) The language in the regulation should be consistent with VA Code § 62.1-44.19:3(C)(10). Also there should be a time frame in which DEQ must notify adjacent landowners to ensure that does not hold up the permitting timeline.

DEQ Response to Comment: This requirement is based on § 62.1-44.19:3.C.10: ...to increase the acreage authorized by the initial permit by 50 percent or more…

9VAC25-32-300

Commenter: Trumbo, Susan, representing Recyc Systems

"B. All owners holding active biosolids use permits as of January 1, 2008, shall submit an application for a Virginia Pollution Abatement Permit in accordance with this regulation at least 180 days before the expiration date of permits issued prior to January 1, 2008, or by June 30, 2012, whichever comes first...D. Notwithstanding the foregoing, all VDH-BUR permits shall terminate no later than December 31, 2012, if an administratively complete VPA application for the activity authorized by the VDH-BUR permit has not been submitted to the department." Comment: Concern that there will be insufficient time between the implementation date and December 31, 2012 for the permittees to respond. Recommendation: Suggest the June 30, 2012 date and December 31, 2012 date be replaced with "six months after implementation of the regulations".

DEQ Response to Comment: The VDH-BUR permits were issued for a 5 year term. The last permit issued by VDH will expire in December 2012. Many other permits were administratively continued, providing the permittees much greater than 5 years to prepare an application for a permit.

9VAC25-32-300 B and D

Commenter: Powell, Mary, representing Nutri-Blend

This regulation requires that all VDH biosolids permits be submitted to DEQ by 06/30/12 and transferred to DEQ permits by 12/31/2012. We request at least a one year extension on this deadline. There have been significant delays in the transfer of the program between the two agencies. There were several years where no permits were issued because the DEQ was just starting up the program. The work involved in transferring these permits is extensive on the part of the contractor and it would not be right to leave farmers who have been in the program for many years without a way to get biosolids because we could not meet the deadline.

DEQ Response to Comment: The VDH-BUR permits were issued for a 5 year term. The last permit issued by VDH will expire in December 2012. Many other permits were administratively continued, providing the permittees much greater than 5 years to prepare an application for a permit.

9VAC25-32-300 D

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

Section 9VAC25-32-300 D sets a date of December 31, 2012 for all permits to expire that have not been applied for and determined to be administratively complete. This date may need to be changed depending on when the regulation is finished. The regulations should recognize that DEQ must send a notice to the applicant as to whether or not the application is complete.

DEQ Response to Comment: The VDH-BUR permits were issued for a 5 year term. The last permit issued by VDH will expire in December 2012. Many other permits were administratively continued, providing the permittees much greater than 5 years to prepare an application for a permit.

9VAC25-32-300. Transition.

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-32-300 D - "Notwithstanding the foregoing, all VDH-BUR permits shall terminate no later than December 31, 2012…" - We recommend DEQ consider a deadline adjustment to allow more time for administratively complete permit applications needed to replace old BUR permits.

Public Comments and Department Response to Public Comments

DEQ Response to Comment: The VDH-BUR permits were issued for a 5 year term. The last permit issued by VDH will expire in December 2012. Many other permits were administratively continued, providing the permittees much greater than 5 years to prepare an application for a permit.

9VAC25-32-307 A

Commenter: Razik, Al, representing Maryland Environmental Services

This section refers to the Solid Waste Management Regulations at 9VAC20-80-10 et seq. MES believes that these regulations were repealed in March 2011 and replaced with 9VAC20-81-10 et seq.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This correction has been made

9VAC25-32-313

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

Exceptional quality (EQ) biosolids should be encouraged. One means of providing an incentive is to exempt EQ biosolids from the general requirements. The following language could be added to Section 25-32-313: "These general requirements do not apply when the biosolids meet ceiling concentrations in 9VAC25-31-540 B 1, the pollutant concentrations in 9VAC25-31-540 B 3, the Class A pathogen requirements in 9VAC25-31-710 A, and one of the vector attraction reduction requirements in 9VAC25-31-720 B 1 through B 8." Requirements for distribution and marketing of EQ biosolids are covered in 9VAC25-32-570.

DEQ Response to Comment: This is based on the Federal language in the 503. Virginia regulation cannot be less stringent than the federal regulation and exceptional quality biosolids are exempt from the regulations regarding cumulative pollutant loading rates (CPLR), because the concentrations of metals must be below the levels that that put a biosolids in the CPLR category.

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-32-313 - Biosolids that meet EQ standards should be exempted from these General Requirements. Specifically in 9VAC25-32-313 G; H; I; & J. We suggest the following language be added: "These general requirements for not apply when the biosolids meet ceiling concentrations in 9VAC25-31-540 B 1, the pollutant concentrations in 9VAC25-31-540 B 3, the Class A pathogen requirements in 9VAC25-31-710 A, and one of the vector attraction reduction requirements in 9VAC25-31-720 B 1 through B 8." Requirements for Distribution and Marketing of EQ biosolids are covered in 9VAC25-32-570. Also, should label and NANI be defined? or can requirements be met with a label?

DEQ Response to Comment: This is based on the Federal language in the 503. Virginia regulations cannot be less stringent than the federal regulation and exceptional quality biosolids are exempt from the regulations regarding cumulative pollutant loading rates (CPLR), because the concentrations of metals must be below the levels that that put a biosolids in the CPLR category.

Commenter: Trumbo, Susan, representing Recyc Systems

"B. Nothing in this part precludes another state agency with responsibility for regulating biosolids or sewage sludge or any political subdivision of Virginia or an interstate agency from imposing requirements for the use of biosolids or disposal of sewage sludge more stringent than the requirements in this part or from imposing additional requirements for the use of biosolids or disposal of sewage sludge." Comment: Object to the general delegation of authority to other agencies to regulate biosolids. Recommendation: Recommend using the following language: "Nothing in this part shall preclude any state agency or political subdivision from exercising its authority to regulate biosolids to the fullest extent of such authority"

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The language has been revised to say: Nothing in this part precludes the authority of another state agency, political subdivision of Virginia or an interstate agency with respect to the use of biosolids or disposal of sewage sludge.

"E. The person who prepares bulk biosolids that is applied to agricultural land, forest, a public

contact site, or a reclamation site shall provide the person who apples that bulk biosolids written notification of the concentration of total nitrogen (as N on a dry weight basis) in the bulk biosolids." Comment: Concern that the point of sampling by the "person who prepared bulk biosolids" will not be representative of the material that is land applied. "Person who prepares bulk biosolids" is sampling to determine stabilization and vector control. Nitrogen measurement needed by the "person who applies the bulk biosolids" is for determination of the agronomic application rates. Also, there seems to be some overlap in the requirements with section 9VAC25-32-450. Recommend a consolidation into one section to avoid confusion. Recommendation: Delete this section in its entirely.

DEQ Response to Comment: This is federal language. By accepting biosolids the land applier is responsible for ensuring that the product they accept has been treated to meet biosolids standards, and the land applier is responsible for providing that information to the land owner.

9VAC25-32-315 A

Commenter: Staudinger, Henry J., and Jo Overbey, representing Citizens

9VAC25-32-315 A must be amended to provide: "On a case-by-case basis the board may impose requirements for the use of biosolids or the disposal of sewage sludge in addition to or more stringent than the requirements in this part when necessary to protect human health and the environment from any adverse effect of a pollutant in the biosolids or sewage sludge. If extended buffers sufficient to ensure the protection of health and the environment are not imposed on any site, no sewage sludge may be land-applied on such site(s). Where the board fails to impose sufficient requirements to provide such protection, no sewage sludge may be land-applied on such site(s) even under issued permits."

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The section regarding buffers (setbacks) has been rewritten. Please see the response to comments regarding buffers.

9VAC25-32-315 A must be modified to provide: "On a case-by-case basis, the board may impose requirements for the use of biosolids sewage sludge or the disposal of sewage sludge in addition to or more stringent than the requirements in this part when necessary to protect human health and the environment from any adverse effect of a pollutant in the biosolids or sewage sludge. Where the board fails to impose sufficient additional requirements, no permit may be issued that includes sites that require additional requirements. If the department subsequently fails to incorporate the required conditions not known at the time the Permit was submitted to the board, no land applications are permitted on sites where more stringent requirements are necessary to ensure that health and the environment are protected."

DEQ Response to Comment: DEQ acknowledges the concern of the commenter that permits be issued according to statutory requirements. VDH has recommended that extended setbacks be included for land application sites near persons with certain medical conditions, and as much as possible, DEQ strives to identify these persons at the time of permitting so that specific setbacks can be established before the permit is issued. DEQ acknowledges that in some cases, these persons or conditions may not be identified until after the permit is issued. In order to meet the statutory requirement of including permit conditions that address public health at the time of permitting, a special condition specifying the procedure through which extended setbacks may be requested will be included in every permit at the time of issuance.

9VAC25-32-315 A must be amended to provide: "On a case-by-case basis the board may impose requirements for the use of biosolids or the disposal of sewage sludge in addition to or more stringent than the requirements in this part when necessary to protect human health and the environment from any adverse effect of a pollutant in the biosolids or sewage sludge. If extended buffers sufficient to ensure the protection of health and the environment are not imposed on any site, no sewage sludge may be land-applied on such site(s). Where the board fails to impose sufficient requirements to provide such protection, no sewage sludge may be land-applied on such site(s) even under issued permits."

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The section

regarding buffers (setbacks) has been rewritten. Please see the response to comments regarding buffers.

9VAC25-32-315 B

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

9VAC25-32-315. B allows any "state agency with the responsibility for regulating biosolids" may impose more stringent requirements. This requirement is troubling because it does not include a provisions requiring the agency to impose more stringent requirements due to public health or environmental impact. More stringent standards can be imposed without rationale. It is recommended that this section be deleted or amended to state that more stringent requirements must be scientifically defensible.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The language has been revised to say: Nothing in this part precludes the authority of another state agency, political subdivision of Virginia or an interstate agency with respect to the use of biosolids or disposal of sewage sludge.

9VAC25-32-315 C

Commenter: Mitchell-Watson, Leslie, representing Friends of the North Fork of the Shenandoah River

9VAC25-32-315 C - Additional and more stringent requirements. This section of the regulations should prohibit land application of biosolids on areas designated as floodplains, on Karst landscapes characterized by limestone outcroppings, sinkholes, solution channels, and caves and on slopes greater than 7%.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. Setbacks have been increased to address Karst. Please see the response to comments regarding Environmental Concerns.

Commenter: Staudinger, Henry J., and Jo Overbey, representing Citizens

9VAC25-32-315 C must be amended to provide: "For biosolids sewage sludge land application where, because of site specific conditions, including soil type, identified during the permit application review process, the department determines that special requirements are necessary to protect the environment or the health, safety or welfare of persons residing in the vicinity of a proposed land applications site, the department may incorporate in the permit at the time it is issued reasonable special conditions regarding buffering, transportation...restrictions exceeding those required by this regulation...If the extended buffers sufficient to ensure the protection of health and the environment are not imposed on any site, no sewage sludge may be land-applied on such site(s) even under issued permits."

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The section regarding buffers (setbacks) has been rewritten. Please see the response to comments regarding buffers.

Commenter: Staudinger, Henry J., and Jo Overbey, representing Citizens

9VAC25-32-315 C must be amended to provide: "For biosolids sewage sludge land application where, because of site specific conditions, including soil type, identified during the permit application review process, the department determines that special requirements are necessary to protect the environment or the health, safety or welfare of persons residing in the vicinity of a proposed land applications site, the department may incorporate in the permit at the time it is issued reasonable special conditions regarding buffering, transportation...restrictions exceeding those required by this regulation...If the extended buffers sufficient to ensure the protection of health and the environment are not imposed on any site, no sewage sludge may be land-applied on such site(s) even under issued permits."

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The section regarding buffers (setbacks) has been rewritten. Please see the response to comments regarding buffers.

9VAC25-32-315 C must be modified to provide: For biosolids sewage sludge land application where, because of site specific conditions, including soil type, identified during the permit application review process, the department determines that special requirements are necessary to protect the

environment or the health, safety or welfare of persons residing in the vicinity of a proposed land applications site, the department may incorporate in the permit at the time it is issued reasonable special conditions regarding buffering, transportation...restrictions exceeded those required by this regulation...If sufficient additional conditions are not imposed that ensure the protection of health and the environment on any site, no sewage sludge may be land-applied on such site(s). Where the board fails to impose sufficient requirements to provide such protection, by Code no permits may be issued."

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The section regarding buffers (setbacks) has been rewritten. Please see the response to comments regarding buffers.

9VAC25-32-317

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-32-317 B - "B. Selection of a use or a disposal practice. This part does not require the selection of a biosolids use or sewage sludge disposal practice. The determination of the manner in which biosolids is used or sewage sludge is disposed is a local determination." - This is a significant change to preemption of local authority. We recommend that "local determination" of how biosolids are disposed be deleted.

DEQ Response to Comment: The section has been reworded to clarify.

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

In some instances, it appears that language has been taken from the federal regulations and inserted into Virginia's proposed regulation, sometimes out of context. For example, the language in 9VAC25-32-317 B has been lifted from the Federal Regulations and has caused untold confusion over the years. This section should be revised to read: "The determination of the manner in which biosolids is used or sewage sludge is disposed is to be made by the locality generating the biosolids."

DEQ Response to Comment: The language has been revised to clarify that the municipality determines how the sludge produced within that municipality shall be managed.

9VAC25-32-320

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

Section 9VAC25-32-320 appears to give a locality the power to hold up land application activities if there is a dispute about a violation they allege is occurring until such time as the dispute is resolved by the director. No time frame is provided in which DEQ must investigate the dispute and render a decision.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, this language is from § 62.1-44.19:3.2.B

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-32-320 A - "A. In the event of a dispute concerning the existence of a violation between a permittee and a locality that has adopted a local ordinance for testing and monitoring of the land application of biosolids the activity alleged to be in violation shall be halted pending a determination by the director." - It appears a locality can hold up land application activities if there is a dispute about a violation they allege is occurring until such a time as the dispute is resolved by the director. This is of concern especially since there is no time frame by which DEQ must investigate the dispute and render a decision. This section should specify a field instead of a site so not to hold up all spreading activity on the farm and a time frame for resolution by DEQ.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, this language is from § 62.1-44.19:3.2.B

Commenter: Trumbo, Susan, representing Recyc Systems

"A. In the event of a dispute concerning the existence of a violation between a permittee and a

locality that has adopted a local ordinance for testing and monitoring of the land application of sewage sludge and a permittee concerning the existence of a violation biosolids..." Comment: Suggest that any locality be allowed to enforce the regulations rather than only those that have adopted a local ordinance. Recommendation: Delete the requirement for the locality to have a local monitoring ordinance.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, this language is from § 62.1-44.19:3.2.B

9VAC25-32-356

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

9VAC25-33-356 proposes a ceiling concentration limit for molybdenum of 40 milligrams/kilogram ("mg/kg") if biosolids are applied on land used for livestock grazing. Although there is no proposed limit for cumulative loading rates or monthly and annual loading rates, each table is footnoted as follows: "The monthly average concentration is currently under study by the USEPA." HRSD opposes any reduction in the ceiling concentration for molybdenum. HRSD requests that the Board delete the 40 mg/kg reference and the references to molybdenum in the cumulative loading rate tables. HRSD notes that the federal ceiling concentration for molybdenum is 75 mg/kg. The state's proposal to reduce the molybdenum ceiling for livestock grazing areas is premature. The Board should wait until EPA concludes its review to make a determination on this issue. HRSD understands that there is currently only one state in the country-Indiana-that has a more stringent molybdenum requirement than the federal standard. There is simply no justification for making Virginia the second. DEQ's proposal to reduce the molybdenum ceiling concentration would harm biosolids land application in the Commonwealth. If this problem is not corrected, any POTW that has higher levels of molybdenum would be forced to either landfill (at greater expense) or to ask its customers to install treatment to reduce molybdenum discharges to the wastewater plant. Given the current economic environment, neither option is acceptable, particularly because this restriction appears to be unjustified. HRSD would suggest as an alternative to the reduced ceiling concentration, requiring land appliers in livestock grazing areas to notify farmers with grazing cattle if the molybdenum content of the biosolids is between 40 and 75 mg/kg. This would allow an individual farmer to make the decision on how to manage his cattle - though unnecessary this would be better than a reduced ceiling.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. DEQ has delayed action pending EPA adoption of a molybdenum standard, and the language has been revised and moved to the footnotes for Tables regarding Cumulative pollutant loading rates and pollutant concentrations.

Commenter: Mitchell-Watson, Leslie, representing Friends of the North Fork of the Shenandoah River

9VAC25-32-356 - Biosolids should be monitored for an expanded list of pollutants that are known to be present in sewage sludge. At a minimum, 9VAC25-32-356 should be revised to require biosolids be analyzed for aluminum, barium, beryllium, boron, calcium, manganese and silver (identified by EPA as metals of concern in sewage sludge). Because sludge can come from municipal sources and may affect drinking water, analyses of class B biosolids should also include the organic chemicals listed in Table 1 of 9VAC25-32-570.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. Please see the response to comment regarding Exceptional Quality Biosolids

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-32-356 B - Tables - We recommend the regulations allow for changes in updates from the EPA over time. Anticipating the risk assessment changes of the EPA implies that all changes from the EPA will be included in the regulations. To do so would cause significant time delays between the two regulatory programs. For this reason we recommend the Molybdenum restriction be deleted until such time as the EPA finalizes their risk assessment. Further we recommend that any concentration limit be calculated on a rolling average.

Public Comments and Department Response to Public Comments

DEQ Response to Comment: DEQ acknowledges the review of the commenter. DEQ has delayed action pending EPA adoption of a molybdenum standard, and the language has been revised and moved to the footnotes for Tables regarding Cumulative pollutant loading rates and pollutant concentrations.

9VAC25-32-356 - Table 1

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

Table 1 in Section 9VAC25-32-356 includes a limitation on molybdenum concentrations greater than 40 mg/kg on land used for livestock grazing. DEQ should carefully evaluate the comments that will be submitted by stakeholders on this topic. We believe that it should be clear that any limits established in the regulation for molybdenum must be calculated on a rolling average basis (rather than creating a maximum or minimum limit).

DEQ Response to Comment: DEQ acknowledges the review of the commenter. DEQ has delayed action pending EPA adoption of a molybdenum standard, and the language has been revised and moved to the footnotes for Tables regarding Cumulative pollutant loading rates and pollutant concentrations.

9VAC25-32-356 B - Table 1

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Delete Molybdenum from the pollutant list and delete footnote (1) related to EPA study from 9VAC25-32-356 B - Table 1.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. DEQ has delayed action pending EPA adoption of a molybdenum standard, and the language has been revised and moved to the footnotes for Tables regarding Cumulative pollutant loading rates and pollutant concentrations.

9VAC25-32-356 B - Table 2

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Delete Molybdenum from the pollutant list and delete footnote (2) related to EPA study from 9VAC25-32-356 B - Table 2.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. DEQ has delayed action pending EPA adoption of a molybdenum standard, and the language has been revised and moved to the footnotes for Tables regarding Cumulative pollutant loading rates and pollutant concentrations.

9VAC25-32-356 B - Table 3

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Delete Molybdenum from the pollutant list and delete footnote (2) related to EPA study from 9VAC25-32-356 B - Table 3.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. DEQ has delayed action pending EPA adoption of a molybdenum standard, and the language has been revised and moved to the footnotes for Tables regarding Cumulative pollutant loading rates and pollutant concentrations.

9VAC25-32-356 B - Table 4

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Delete Molybdenum from the pollutant list and delete footnote (2) related to EPA study from 9VAC25-32-356 B - Table 4.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. DEQ has delayed action pending EPA adoption of a molybdenum standard, and the language has been revised and moved to the footnotes for Tables regarding Cumulative pollutant loading rates and pollutant concentrations.

9VAC25-32-359 A 3 b (5)

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

Section 9VAC25-32-359 A 3 b (5) should specify whether the amount of biosolids should be stated in dry or wet tons.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This correction has been made.

9VAC25-32-360

Commenter: Trumbo, Susan, representing Recyc Systems

"A. An activity report shall be submitted (electronically or postmarked) to the department by the 15th day of the month unless another date is specified in the permit in accordance…" Comment: Object to the allowance for the reporting date in the permit to govern. This allowance would cause for inconsistency in reporting dates. Recommendation: Delete "unless another date is specified in the permit in accordance with..."

DEQ Response to Comment: DEQ acknowledges the review of the commenter, this is standard language, which is also used in the VPDES regulation that allows another reporting date to be established on a case by case basis if necessary. The standard Permit template will include the reporting date of the 15th. This gives DEQ flexibility to allow another reporting date where required.

"C. Biosolids application rates shall be calculated using the results from sampling and analysis completed during the most recent 12 months of monitoring. For proposed treatment works, rates may be initially based on the biosolids characteristic produced by similar generating facilities." Comment: This requirement seems out of place in reporting. Recommendation: Recommend it be moved to 9VAC25-32-560 Biosolids Utilization Methods.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, this is standard language, which is also used in the VPDES regulation that allows another reporting date to be established on a case by case basis if necessary. The standard Permit template will include the reporting date of the 15th. This gives DEQ flexibility to allow another reporting date where required.

9VAC25-32-400

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

9VAC25-32-400: This section should be corrected to read "Microbial testing may be necessary to document the Class A sludge treatment given the reference to the log mean of 9 or more samples while the standard for Class B sludge treatment is the geometric mean of 7 samples."

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The correction has been made. Microbiological testing is always required for Class A biosolids.

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-32-400 A - "The department may require…Such requirements may occur in situations…nuisance conditions are identified as an existing problem or potential problem as a result of biosolids use operations…" - It is not practical to regulate potential problems. This leads to subjective rule within the Department. We recommend deleting "potential problem".

DEQ Response to Comment: DEQ acknowledges the review of the commenter; however no changes have been made. The term "potential problems" is consistent with the requirement for the permittee to submit plans for preventing a problem from reoccurring in the future.

9VAC25-32-400 D - "D. The department may require biosolids to be tested for certain toxic organix compounds prior to agricultural use…" - What criteria are required for additional testing? The Department should establish reasons for requiring any additional testing.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. Please see the response to comment regarding Exceptional Quality Biosolids

9VAC25-32-400 E - "E. Additional parameters may be required for screening purposes…" - What triggers these requirements? The Department should establish reasons for requiring any additional testing.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has

been rewritten. Please see the response to comment regarding Exceptional Quality Biosolids

9VAC25-32-400. Additional monitoring.

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-32-400 F - "F. Microbiological testing may be necessary to document the sludge treatment classification (9VAC25-32-675). Microbiological standards shall be verified by the log mean of the analytical results from testing of nine or more samples..." We recommend this be revised to read: "Microbiological testing may be necessary to document the Class A sludge treatment…" Our assumption is the Department is referring to fecal sample analysis and not all microbiological testing. The Department should clarify and reduce 9 to 7.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The correction has been made. Microbiological testing is always required for Class A biosolids.

9VAC25-32-400.F

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

9VAC25-32-400.F requires nine samples to determine a geometric mean for microbiological sample analyses. 40 CFR503 and 9VAC25-31-710-B.3 require seven samples be used for determining the geometric mean. It is recommended that the language be changed to "seven samples" in order to have consistency with the VPDES regulations.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The correction has been made.

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

9VAC25-32-400: This section should be corrected to read "Microbial testing may be necessary to document the Class A sludge treatment given the reference to the log mean of 9 or more samples while the standard for Class B sludge treatment is the geometric mean of 7 samples."

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The correction has been made. Microbiological testing is always required for Class A biosolids.

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-32-400 F - "F. Microbiological testing may be necessary to document the sludge treatment classification (9VAC25-32-675). Microbiological standards shall be verified by the log mean of the analytical results from testing of nine or more samples..." We recommend this be revised to read: "Microbiological testing may be necessary to document the Class A sludge treatment…" Our assumption is the Department is referring to fecal sample analysis and not all microbiological testing. The Department should clarify and reduce 9 to 7.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The correction has been made. Microbiological testing is always required for Class A biosolids.

9VAC25-32-410

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

Replace the term "operations management plan" with the term "biosolids operation plan" for consistence and clarification of the requirements.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, the name has been changed to Biosolids Management Plan.

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-32-410 A 2 - "2. Nutrient management plan for each site, in accordance with 9VAC25-32-560; and…" - Requires that the NMP is included in the O&M booklet (again making the plan enforceable). This needs to be deleted and not included in the O&M Manual. Needs to be on site, not in manual.

Public Comments and Department Response to Public Comments

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The biosolids management plan is made up of 3 parts, the information provided in the permit application, the O&M manual, and the nutrient management plans. Each component of the biosolids management plan is enforceable. Section 9VAC25-31-485.G. of the VPDES regulation and section 9VAC25-32-410 of the VPA regulation specify the components of the biosolids management plan and required time of submission for each.

9VAC25-32-410

Commenter: Trumbo, Susan, representing Recyc Systems

"A. The permit holder shall maintain an operations management plan that shall consist of three components:…" Comment: Conflicts or redundant with 9VAC25-32-60 and 9VAC25-32-500. Recommendation: Combine the requirements of this section into section 9VAC25-32-60. Delete this section.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. These sections have been rewritten language in 9VAC25-32-500 has been rewritten and consolidated into 9VAC25-32-410 and 9VAC25-31-485-G.

9VAC25-32-410 A 2

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

9VAC25-32-410 A 2 describes the operations management plan and provides that it include both the nutrient management plan and the "operations and maintenance manual". While DEQ can require that a NMP is developed and that the permittee must abide by the NMP, the regulation should make it clear that only DCR can approve the content of the NMP. Additionally, the use of the terms "operations management plan" and "operations and maintenance manual" and "operations and maintenance booklet" is confusing. The terms are often interchanged, and it is unclear whether they are used appropriately throughout the regulation. To eliminate some confusion, it may be useful to change the term "operations management plan" to "land application plan".

DEQ Response to Comment: DEQ acknowledges the review of the commenter, the name has been changed to Biosolids Management Plan.

9VAC25-32-420 -

Commenter: Trumbo, Susan, representing Recyc Systems

"B. The need for spare parts should be determined from operational experience, and evaluation…C. Sufficient spare parts determined as necessary…" Comment: This appears to be a carryover from previous regulations and should be removed. Additionally, we question the Department's ability to enforce this requirement as the needs are subjective and dependent on the age and quality of the equipment. Recommendation: Delete this requirement in its entirety.

DEQ Response to Comment: DEQ acknowledges the review of the commenter; this is standard requirement for an O&M Manual.

9VAC25-32-420 B

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

VAMWA suggests that 9VAC25-32-420 B and C be moved to 9VAC25-32-410, which lists the requirements for an O&M Manual. This would place all of the required elements of the O&M Manual in one section of the regulation.

DEQ Response to Comment: DEQ acknowledges the review of the commenter; however, no changes have been made. Contents of the O&M manual may include descriptions of various means to meet permit requirements listed throughout the regulation.

9VAC25-32-420 C

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

Section 9VAC25-32-420 C (operability) appears to be a carryover provision from the VPDES

regulations. It does not apply in the VPA context. This section should be deleted from the regulation.

DEQ Response to Comment: This would apply to facilities that treat the sewage sludge or biosolids only, such as a compost facility or biosolids generating facility not located at the sewage treatment plant where the sewage sludge was generated.

9VAC25-32-420.

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-32-420 C - "C. Sufficient spare parts determined as necessary to ensure continuous operability of …" - This is out of context and may be clipped from the VPDES sections. We recommend that it be deleted.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The spare parts would relate the spreaders and loaders in the field, so that in the event of a break down, land application would continue and be completed in a timely manner.

9VAC25-32-420.B & C

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

Move 9VAC25-32-420 B & C to 9VAC25-32-410 which lists the requirements for an operations and maintenance (O & M) Manual. This would place all of the required elements of the O & M Manual in one section of the regulation.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, no changes were made

9VAC25-32-450

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-32-450 F - "F. Biosolids samples shall be preserved and analyzed in accordance with methods listed in the Code of Federal Regulations at 40 CFR Part 136 (2007) and methods identified in 9VAC25-31-490…" - The analytical methods in 40 CFR Part 503 should also be included in this paragraph. This would also make the regulation consistent with the Part 503 analytical methods listed in 9VAC25-31-490 B.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. 9VAC25-31-490 includes the test methods identified in 40 CFR Part 503.

Commenter: Trumbo, Susan, representing Recyc Systems

"A. Representative samples of biosolids that is applied to the land or placed on a surface disposal site shall be collected and analyses…1. Raw sewage or sludge samples are to be collected…2. Final treated samples are to be taken at a point…3. Composite samples shall be collected..." Comment: This appears to be a carryover from previous regulations. Requirements need to be refined for use by either VPDES or VPA permits. There is also some overlap with section 9VAC25-32-313 - General Requirements. Recommendation: Recommend sampling and nutrient information be consolidated into one section to avoid confusion.

DEQ Response to Comment: The VPA permit may cover wastewater treatment plants that do not discharge to state waters, therefore sewage sludge sampling would be required at all stages of treatment.

"C. Biosolids storage facilities. Equal volumes of biosolids shall be withdrawn from random locations across the width ad throughout the length of the storage facility at the surface, mid-depth and near the bottom of the lagoon at each grab sample location." Comment: This appears to be a carryover from previous regulations and needs refinement to better represent current operations. For example, not all storage facilities are lagoons. One would expect the sampling locations to apply to all storage facilities and not just lagoons. Sampling instructions do not provide for material to be stored and removed in batches. Sampling of the batch removed would be recommended. Recommendation: Substitute "stored material being removed for land application" for "lagoon".

DEQ Response to Comment: DEQ acknowledges the review of the commenter, however, storage

facilities designed as lagoons or basins remain in operation. No changes have been made.

9VAC25-32-450.A

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

9VAC25-32-450 A provides an overly prescriptive description of the requirements for sampling. It is recommended that paragraphs B., C., D., and E. be deleted as they are inconsistent and provide little value. Since the sampling protocol must be include in the O & M Manual and the manual is submitted to DEQ, it is recommended that only paragraphs A and F of this section be retained.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, the Biosolids Management Plan shall include sampling protocols, however those protocols shall at minimum meet the standards in 9VAC25-32-450

9VAC25-32-460

Commenter: Mitchell-Watson, Leslie, representing Friends of the North Fork of the Shenandoah River

9VAC25-32-460 - This section states, "Soil shall be sampled and analyzed prior to biosolids application…", but does not say when soil samples must be taken. Soil sampling should be required to take place between the last application of fertilizer (in any form, including poultry litter) and the time of application covered by the subject permit. In no case should samples be taken more than one (1) year prior to the permit application. Results from a 3-year old analysis (the current requirement) are likely not to be reflective of actual soil conditions at the time of application. Of other fertilizer or soil amendments are applied within the 3-year period, the older soil sample results would be meaningless.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. Soil testing is for NMP development, which the statute says shall be developed by a certified nutrient management planner in accordance with DCR statute. Therefore, DCR standards and criteria apply to NMP development, and DCR allows a sample to be up to 3 years old.

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-32-460 - Table 1 - Soil Test Parameters for Land Application Sites - We do not understand what this table is trying to say or require, please clarify.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This table has been restructured to clarify

9VAC25-32-460 Table 1

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

The soil monitoring requirements found in Table 1 of 9VAC25-32-460 do not make sense. The table is confusing and does not appear to specify any frequency for such sampling.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This table has been restructured to clarify

9VAC25-32-480

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-32-480 A - "A. Monitoring wells may be required by the board for land treatment sites, sludge lagoons…" - Please clarify "land treatment" and the circumstances that trigger this requirement?

DEQ Response to Comment: DEQ acknowledges the review of the commenter, however no changes have been made. "Conventional land treatment" is described in the SCAT Regulations as treatment utilizing "a secondary process for pretreatment of sewage followed by irrigation, overland flow, or infiltration-percolation (or combination thereof) methods for applying treated effluent to an approved site".

9VAC25-32-490

Public Comments and Department Response to Public Comments

Commenter: Staudinger, Henry J., and Jo Overbey, representing Citizens

In Water Guidance Memo No. 10-2004 (7/26/10), DEQ points out that 9VAC25-32-490 states: "The Board may impose standards and requirements that are more stringent than those contained in these regulations when required to protect public health or prevent nuisance conditions from developing." In it not clear what happened to Section 490 as there is no Section 490 in the draft regulations. However, it is imperative that the Board reinstate Section 490 and amend is as follows: "The Board may impose standards and requirements that are more stringent than those contained in these regulations when required to protect public health or prevent nuisance conditions from developing. Where the Board fails to impose sufficient additional requirements, no permit may be issued that includes sites that require additional requirements. If the Department subsequently fails to incorporate the required conditions not known at the time the Permit was submitted to the Board, no land applications are permitted on sites where special conditions are needed to ensure that health and the environment are protected."

DEQ Response to Comment: DEQ acknowledges the review of the commenter. No amendments were proposed to 490, therefore it is not included in this "project", but it remains in the VPA regulation as it was originally written.

9VAC25-32-50 A

Commenter: Staudinger, Henry J., and Jo Overbey, representing Citizens

Regulatory provisions that violate the Code must be eliminated: For example, 9VAC25-32-50A provides" "Compliance with a VPA permit constitutes compliance with the VPA permit requirements of the law.". However, this provisions assures that issued Permits comply with the Code of Virginia. Indeed, a number of regulatory provisions preclude compliance with the Code. The waiver language is typical of this fatal deficiency. For example: 9VAC25-32-560-B(3)(g)(3) fn2 provides: "The buffer to occupied dwellings may be reduced or waived upon written consent of the occupant of the dwelling." and 9VAC25-32-560-B(3)(g)(3) fn6 provides: "Property line buffers may be reduced or waived upon written consent of the adjacent property resident or landowner." In order to comply with the requirements of the Code of Virginia, the waiver language must either be eliminated or rewritten to require prior DEQ approval and certification that health and the environment will continue to be protected under each waiver proposed by the Permit Holder.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The section regarding buffers (setbacks) has been rewritten. Please see the response to comments regarding buffers.

9VAC25-32-500

Commenter: Staudinger, Henry J., and Jo Overbey, representing Citizens

Subsection 3O gives DEQ the ability to allow unincorporated sewage sludge in the vicinity of odor sensitive individuals as long as sufficient buffers are in place to ensure that they are protected. For unknown reasons, in 9VAC25-32-500 DEQ proposed to define "odor sensitive receptors" as buildings rather than individuals. "Odor sensitive receptor" means, in the context of land application of biosolids, a building or outdoor facility regularly used to host or serve large groups of people, such as schools, dormitories, athletic and other recreational facilities, hospitals and convalescent homes." It is not clear why DEQ would propose such a definition, much less refer to biosolids rather than sewage sludge. The Board must delete the proposed definition.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. VDH established the meaning of the term odor sensitive receptor

9VAC25-32-500 - Biosolids Management

Commenter: Trumbo, Susan, representing Recyc Systems

"B. The biosolids operations management plan developed by the owner…C. A complete biosolids operations management plan shall be submitted…" Comment: This is the third of four sections in the draft regulations to define a Biosolids Management Plan. Recommendation: Combine the requirements of this section into section 9VAC25-32-60. Delete this section.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. These sections have been consolidated and rewritten.

9VAC25-32-515

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-32-515 A 2 h - ""h. if multiple sites are included in the notification, the permit holder shall make a good faith effort to identify the most probable order that land application will commence." - We recommend this line be deleted or change by replacing "shall" with should.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. Please see the response to comment regarding notification

9VAC25-32-515 B 1 - "B. Posting Signs. 1. At least 5 business days prior to delivery of biosolids for land application on any site permitted under this regulation…" - We recommend replacing 5 business days with 2 business days. Given all the new public notification requirements, we see no added benefit of increasing the notification time from 2 to 5 days.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. Please see the response to comment regarding notification

9VAC25-32-515 B 1 c - "c. The department may grant a waiver to the requirements in this section, or require alternative posting options due to extenuating circumstances or to be consistent with local government ordinances and other requirements regulating the use of signs." - We request the signage requirements be consistent for all sites and recommend removal of language that allows areas to adopt more restrictive signage requirements.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. Please see the response to comment regarding notification

Commenter: Trumbo, Susan, representing Recyc Systems

"3. The permittee shall deliver or cause to be delivered daily notification to the department and the chief executive officer or his designee for the local government where the site is located prior to commencing planned land application activities." Comment: This is an example of agencies trying to regulate good manners. The results are awkward and burdensome. I object to what was a voluntary gesture of good will to facilitate monitoring of field operations being required. The requirement for daily prior notification will be a burden which may disrupt field operations and force the use of storage when fields are unavailable simply because notice was not provided. The requirement does not allow for the permit holder to jump around when needed to facilitate unforeseen factors. To maintain this requirement will cause material to be stored in the field unnecessarily. To ensure this requirement is met and facilitate the needs of field operations to be conducted, the permit holder will be forced to provide a list of all available sites. Recommendation: Replace with "3. The permittee shall make a good faith effort to deliver or cause to be delivered daily notification of planned field operations to the department and the chief executive officer or designee for the local government where the site is located."

DEQ Response to Comment: DEQ acknowledges the review of the commenter, please see the response to comments regarding notification.

"a. If the site is located adjacent to a public right-of-way, signs shall be posted along each road frontage beside the field to be land applied." Comment: It is possible that large tracts have multiple road frontages some of which may be a distance from the actual field operations. To put signs on these road frontages will cause confusion. Recommendation: Recommend changing to "posting at each/every entrance being used to access each field at the site on the road frontage."

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. Please see the response to comment regarding notification

"b. The name and telephone number of the permit holder and the name or title and telephone number of an individual designated by the permit holder to respond to complaints and inquiries; and…" Comment: This requirement funnels the calls to a specific person. If that person is not available a message is taken. We prefer that calls of this type be handled immediately. If the caller does not ask for an individual it would be handled by whomever is present and capable to answer questions. In contrast the contact information for DEQ does not list an individual. Recommendation: Recommend deleting the requirement to list a name or title.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. Please see the response to comment regarding notification

"c. A map indicating haul routes to each site where land application is to take place;…" Comment: We have found a map showing all the sites with truck routes to be cluttered and difficult to read. Recommendation: Recommend striking the requirement for a map which would allow for written truck routes.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, please see the response to comments regarding notification.

9VAC25-32-515 A 2

Commenter: Powell, Mary, representing Nutri-Blend

This requires a 14 day notification be sent to the local government where the site is located. Many localities do not want this extensive information and for not have anyone to handle it. As an alternative, we request that the DEQ contact counties with existing biosolids permits and ask if they would like to receive this information. If so, DEQ could add them to a list of contacts that would be distributed to land appliers. This is similar to current practices where the contractors work from a list of county monitors provided by DEQ. Further, we would like to see section c, e, and h removed. The dates of application are very difficult to pinpoint as is the duration of the application. Weather, equipment failure, trucking, changes to crop rotations, and availability of material all make it difficult to give this information accurately. The DEQ is really asking for a guess which isn't useful to anyone. When we give the 14 day notice, we are giving the best information that we have in that we intent on applying to the site in the near future as conditions allow. The requirement for haul route maps would make the notices very large and the haul route could also change significantly due to any number of circumstances. Since we can vary the haul route and are not required to maintain a specific route, this is not useful or accurate information.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, please see the response to comments regarding notification.

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Revise 9VAC25-32-515 A 2 to delete reference to "local government": "2. At least 14 days prior to commencing land application of biosolids at a permitted site, the permit holder shall deliver or cause to be delivered written notification to the department and the chief executive officer or designee for the local government where the site is located. The notice shall include the following:..."

DEQ Response to Comment: DEQ acknowledges the review of the commenter, please see the response to comments regarding notification.

9VAC25-32-515 A 2 a

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Revise 9VAC25-32-515 A 2 a to read: "a. The name, address and telephone number and contact information of the permit holder, including the name of a representative knowledgeable of the permit;, at least one individual designated by the permit holder to respond to questions and complaints related to the land application, and the wastewater treatment facility, or facilities, from which the biosolids will originate, including the name or title of a representative of the treatment facility that is knowledgeable about the land application operation:"

DEQ Response to Comment: DEQ acknowledges the review of the commenter, please see the response to comments regarding notification.

9VAC25-32-515 A 2 b

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Revise 9VAC25-32-515 A 2 b to read: "b. Identification by tax map number and the DEQ control number for sites on which land application is to take place:"

DEQ Response to Comment: DEQ acknowledges the review of the commenter, please see the response to comments regarding notification.

9VAC25-32-515 A 2 c

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Revise 9VAC25-32-515 A 2 c to read: "c. A map indicating description of proposed haul routes to each site where land application is to take place; and"

DEQ Response to Comment: DEQ acknowledges the review of the commenter. No change was made to the language, but the language was moved to notification of posting signs 5 days prior to application, so that there will be more certainty about which sites will be land applied.

9VAC25-32-515 A 2 d

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Delete 9VAC25-32-515 A 2 d - information moved to revised 9VAC25-32-515 A 2 a.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, please see the response to comments regarding notification.

9VAC25-32-515 A 2 f & g

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Delete 9VAC25-32-515 A 2 f & g - Information moved to revised 9VAC25-32-515 A 2 a.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, please see the response to comments regarding notification.

9VAC25-32-515 A 3

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

The proposed regulation requires that a permittee provide daily notification to the department and the executive officer of the local government where the site is located prior to commencing planned land application activities (9VAC25-32-515 A 3). This provision should be written in a manner that allows more flexibility. This requirement is overkill given the signage and other notification requirements associated with the permitting process. The language could be amended to make it similar to the requirement relating to multiple sites - that the permittee shall make a good faith effort to provide notification within 24 hours and to identify the sites that will receive biosolids that day.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, please see the response to comments regarding notification.

The notification requirements include a determination of the most probable order that land application will commence. (9VAC25-32-515 A 3) However this is an impossible requirement because there are so many variables that impact the order. This requirement should be deleted.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, please see the response to comments regarding notification.

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Revise 9VAC25-32-515 A 3 to read: "3. The permittee shall deliver or cause to be delivered daily notification to the department by facsimile, electronic mail, or telephone and the chief executive

officer or designee for the local government where the site is located prior to on the day of commencing planned land application activities. The notification shall include the approximate date on which land application is to end at the site."

DEQ Response to Comment: The requirement for 14 day notification to the counties was in the VDH BUR regulations. Following DEQ review of the final exempt action to transfer the VDH regulations to the DEQ regulations as well as receipt of inquiries from the counties requesting that this requirement be placed back in the regulation, the requirement was added to the proposed regulation.

9VAC25-32-515 B 1

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

A topic discussed at length during the TAC process was the number of days that the signs must be posted prior to delivery of biosolids for land application (9VAC25-32-515 B 1). Land applicators continue to believe that posting the signs two days prior to land application is sufficient given the other notice provisions that apply throughout the permitting process.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. Please see the response to comment regarding notification

Commenter: Powell, Mary, representing Nutri-Blend

This requires that a sign be posted 5 business days prior to and post application. As a practical matter, it is very difficult to maintain signs for this length of time. The current regulations require a sign to be posted 48 hours before and after an application. We must frequently replace these signs as they are often damaged or removed. These regulations require more signs to be posted for even longer periods of time. In our experience, the signs will rarely stay in that location for that time period regardless of construction material. Further, in order to compensate for the many variabilities in timing biosolids applications, signs will have to be posted even further in advance. This will defeat the purpose of notification since adjacent land owners will not know exactly when the application will take place. When the sign is placed 48 hours in advance, we are fairly certain that we will be at the farm in the very near future giving adjacent landowners a better idea of when to expect the application.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. Please see the response to comment regarding notification

9VAC25-32-515 B 1 b

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

Section 9VAC25-32-515 B 1 b states that the notification signs must be posted along all road frontages. It would make more sense for the provisions to require signs to be posted on the road frontage used as an entrance to the field. If there are multiple entrances that will be used, a sign will be required at each entrance. The language currently included in the proposed regulation imposes a significant burden and expense on the applicators with little benefit. Moreover, placing signs in this manner could be a safety hazard.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. Please see the response to comment regarding notification

Commenter: Smedley, Scott, representing Virginia Biosolids Council

Section 9VAC25-32-515 B 1 b states that the notification signs must be posted along all road frontages. It would make more sense for the provisions to require signs to be posted on the road frontage used as an entrance to the field.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. Please see the response to comment regarding notification

9VAC25-32-515 C

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

Public Comments and Department Response to Public Comments

We support the language of 9VAC25-32-515 C requiring localities receiving complaints to notify the applicator within 24 hours. This will improve communication and result in quicker response to complaints.

DEQ Response to Comment: DEQ acknowledges the support of the commenter

Commenter: Smedley, Scott, representing Virginia Biosolids Council

The VBC supports the language of 9VAC25-32-515 C requiring localities receiving complaints to notify the applicator within 24 hours. Any effort to improve communications associated with the use and recycling of biosolids is good.

DEQ Response to Comment: DEQ acknowledges the support of the commenter

9VAC25-32-515 F 1 c

Commenter: Smedley, Scott, representing Virginia Biosolids Council

9VAC25-32-515 F 1 c - The intent of Subparagraph F 1 c was to ensure that the regulations did not conflict with general sign ordinances in effect in some localities. As written, it could be construed to allow localities to require additional information, larger signs, longer posting times, etc. Instead, the provisions should state that the department may grant a waiver from the requirements where the requirements conflict with local government ordinances and other requirements regulating the use of signs.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. Please see the response to comment regarding notification

9VAC25-32-515. Notification of land application activity.

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-32-515 A 1 - "A. Written notification. 1. At least 100 days prior to commencing land application of biosolids at a permitted site…" - We recommend the line read that 100 day notice is given prior to commencing land application at a proposed permitted site. This will keep us from waiting an extra 100 days from the time that we receive the permit to be able to use it. Currently we send out the notice when we get the draft so that we have the new VPA number on the notification.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. Please see the response to comment regarding notification

9VAC25-32-515.A.2

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

This section requires that the local government also be notified 14 days in advance. The State law only requires notification to DEQ which is appropriate. Not all localities have a person dedicated to land application. It is recommended that the requirement for notification to the locality be deleted. Since the local government is contacted during the permit application process, they can request notification as a condition of the permit. This would add value to a notification requirement since the locality would provide a point of contact for the permit holder.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. Please see the response to comment regarding notification

9VAC25-32-530

Commenter: Trumbo, Susan, representing Recyc Systems

"3. New landowner agreements shall be submitted to the department with each application for issuance or reissuance of a permit or the modification to add land to an existing permit that authorizes the land application of biosolids." Comment: Landowner form is not included in the regulations. Recommendation: Include a landowner form with the minimum information required by the Department in the regulations.

DEQ Response to Comment: This form is included in the permit application form referenced in the

regulation.

"A. When an application to permit land application of sludge biosolids is proposed, submitted to the department, the permit applicant shall ensure the continued availability of the land and protection from improper concurrent use during the utilization period." Comment: This requirement cannot be met by the permit applicant given the permit applicant does not possess the land nor do they have control of the land. We question the ability of the Department to enforce this requirement given the lack of the permit holder to have such rights. Recommendation: Recommend deleting this requirement in its entirety.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This is a general statement regarding the responsibility of the permit holder to ensure biosolids management practices are followed. More specific requirements that the land applier is required to follow are listed later in this section. No changes have been made.

9VAC25-32-530 - Land acquisition

Commenter: Trumbo, Susan, representing Recyc Systems

"3. New landowner agreements shall be submitted to the department with each application for issuance or reissuance of a permit or the modification to add land to an existing permit that authorizes the land application of biosolids." Comment: As written new landowner agreements will be required for all sites 1) at time or permitting, 2) at reissuance of the permit, and 3) each permit modification. Recommendation: Recommend rewriting this section so new landowner agreements are required for the initial permit of the specific site and at reissuance.

DEQ Response to Comment: 3. New landowner agreements, using the most current form provided by the board, shall be submitted to the department for proposed land application sites identified in each application for issuance or reissuance of a permit or the modification to add land to an existing permit that authorizes the land application of biosolids.

9VAC25-32-530.B.3

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

9VAC25-32-530.B.3 should be modified to mirror the language in the proposed VPDES regulations (9VAC25-31-485.B.3). It should read, "New or revised landowner agreements shall be submitted to the department if new land is being added to the permit or if there have been changes in the ownership of land included in a permit reissuance request."

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The language now in both sections reads, New landowner agreements, using the most current form provided by the board, shall be submitted to the department for proposed land application sites identified in each application for issuance or reissuance of a permit or the modification to add land to an existing permit that authorizes the land application of biosolids.

9VAC25-32-545

Commenter: Razik, Al, representing Maryland Environmental Services

This section requires some clarification. For example, when will the land appliers be allowed to stage material - after an equipment breakdown? What event triggers the need for staging biosolids? Also, some of the timing issues and length of staging need to be clarified as well.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. See the response to comments regarding storage

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-32-545 B 11 - "B. Staging requirements…11. No staging shall take place in areas of Karst topography; and…" - What is meant by area and how big an area? What is the definition of "Karst topography"?

DEQ Response to Comment: DCR defines Karst as a landscape developed in limestone, dolomite,

marble or other soluble rocks and characterized by subsurface drainage systems, sinking or losing streams, sinkholes, springs and caves. At least 29 counties support Karst terrain in western Virginia, and smaller Karst areas also occur in the Cumberland Plateau, Piedmont and Coastal Plain provinces. This information is more appropriately included in guidance, as DEQ will consult with the DCR Natural Heritage program in the event that it is unclear whether a site proposed for permitting is located in an area of Karst terrain.

9VAC25-32-545 B 4 - "B. Staging requirements... 4. The certified land applier shall notify the department within 24-hours when it is necessary to stage biosolids for land application…" - We recommend to strike "certified land applier" and insert "permittee".

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. See the response to comments regarding storage

9VAC25-32-545 B 9 - "B. Staging requirements... 9 Staged biosolids are to be inspected by the certified land applier at least every 7 days and after precipitation events of 0.1 inches or greater to ensure that runoff controls are in good working order…Any ponding or malodor at the site is to be corrected..." - Any ponding correction should be limited to staging areas and not the entire farm.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. See the response to comments regarding storage

9VAC25-32-545 C 1 - "C. On-site storage…1. The certified land applier shall notify the department within the same working day whenever it is necessary to implement on-site storage…" - We recommend a change in notifications time to "within 24 hours". Thus this notification could be included in the daily notice to the Department.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. See the response to comments regarding storage

9VAC25-32-545 C 1 - "C. On-site storage…1. The certified land applier shall notify the department within the same working day whenever it is necessary to implement on-site storage…" - We recommend to strike "certified land applier" and replace with "permittee".

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. See the response to comments regarding storage

9VAC25-32-545 C 8 - "8. Stored biosolids are to be inspected…Any ponding or malodor at the site is to be corrected…" - We recommend replacing "at the site" with "at the storage site".

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. See the response to comments regarding storage

9VAC25-32-545 D - Routine Storage - The routine storage provisions limit the use of storage facilities to biosolids to be applied at a site included in permits held by the permit holder of the storage facility. We recommend that biosolids placed in routine storage be land applied on any permitted site. There are instances where two land appliers are operating in the same area; they may share a storage site. The regulations provide sufficient protections to ensure that routine storage sites are properly managed.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. See the response to comments regarding storage

9VAC25-32-545 D 1 c - "1. Location…c. All storage facilities located offsite of property owned by the generator shall be provided with a minimum 750-feet buffer zone…" We recommend adding the word "new" ("All new storage facilities…). This is so we don't have to incur the challenges of moving existing approved pads and lagoons.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. See the response to comments regarding storage

9VAC25-32-545 D 3 b - "3. Construction…b. Storage facilities designed to hold dewatered biosolids shall be constructed with a cover to prevent contact with precipitation." - We recommend adding additional language at the end of this sentence. Storage facilities designed to hold dewatered biosolids shall be constructed with a cover to prevent contact with precipitation "or a department approved water management plan."

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. See the response to comments regarding storage

9VAC25-32-545 D 5 c - "5. Operation…c. Storage facilities shall be operated in a manner such that sufficient freeboard is provided to ensure that the maximum anticipated high water elevation due to any and all design storm inputs is not less than one foot below the top berm elevation." - We recommend that the use of the word "should" over the word "shall" in regards to freeboard.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. No changes have been made. In order to ensure "no-discharge" operation, freeboard must be maintained at greater than 12" below the lowest point of the berm. In order to demonstrate compliance the freeboard of any lagoon or basin that is capable of containing liquids shall be measured at least daily using a staff gauge, the zero reading level with the lowest point in the berm. The freeboard shall be documented in a log and available for review during inspections or submitted monthly as requested by the regional staff..

9VAC25-32-545 D 5 f - "f. If malodors related to the stored biosolids are verified by DEQ at any occupied dwelling on surrounding property, the malodor must be corrected within 48 hours." - We recommend the malodor must be "addressed" within 48 hours. This provides for a second attempt if odors are not corrected by the first action.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This correction has been made

Commenter: Trumbo, Susan, representing Recyc Systems

"5. Staging shall be limited to the amount of biosolids specified in the nutrient management plan to be applied at the intended field." Comment: Some fields may not be suitable for staging of biosolids or other fields may be better suited. Allowing stockpiles in the more suitable fields would be preferable. Recommendation: Recommend changing "field" to "farm" or "fields at the farm".

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. See the response to comments regarding storage

9VAC25-32-545 B 11

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

Section 9VAC25-32-545 B 11 is vague. It is unclear what is meant by area and how Karst topography is defined.

DEQ Response to Comment: DCR defines Karst as a landscape developed in limestone, dolomite, marble or other soluble rocks and characterized by subsurface drainage systems, sinking or losing streams, sinkholes, springs and caves. At least 29 counties support Karst terrain in western Virginia, and smaller Karst areas also occur in the Cumberland Plateau, Piedmont and Coastal Plain provinces. This information is more appropriately included in guidance, as DEQ will consult with the DCR Natural Heritage program in the event that it is unclear whether a site proposed for permitting is located in an area of Karst terrain.

9VAC25-32-545 B 4

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

In some instances, the regulation refers to the "certified land applier," when the reference should be to the "permittee". See, e.g., 9VAC25-32-545 B 4 & 9VAC25-32-550 C.

DEQ Response to Comment: DEQ acknowledge the review of the commenter. The term "certified land applier" has been replaced with "Permittee" or "Permit Holder" where appropriate.

9VAC25-32-550

Commenter: Trumbo, Susan, representing Recyc Systems

"5. All biosolids stored on the on-site storage pad shall be land applied by the 45th day from the first day of on-site storage;…" Comment: This requirement needs refinement. As written it would allow a onetime use for a 45 day period. Recommendation: Replace with "Biosolids stored on the on-site storage pad shall be removed within 45 days of its placement into storage."

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. See the response to comments regarding storage

"a. The design capacity for storage of liquid biosolids shall be sufficient to store a minimum volume equivalent to 60 days or more average production of biosolids and the incidental wastewater generated by operation of the treatment works plus sufficient capacity." Comment: This is old language which needs to be updated. The requirement does not apply to contract land appliers. Recommendation: Delete in its entirety.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. See the response to comments regarding storage

"a. The facility shall be located at an elevation that is not subject to, or is otherwise protected against, inundation produced by the 100-year flood/wave action as defined by U.S. Geological Survey or equivalent information." Comment: This is old language that needs to be updated. Recommendation: Change the 100 year flood/wave to the "frequent flooding".

DEQ Response to Comment: DEQ acknowledges the review of the commenter, however a storage facility must be built in an area where risk of flooding is minimal.

"b. If alternative methods of management cannot be adequately verified, contractors should provide for a minimum of 30 days of in-state routine storage capacity for the average quantity of sludge transported into Virginia from out-of-state treatment works generating at least Class II level treated sludge biosolids." Comment: This is old language and we question whether or not it is still necessary. This requirement is often overlooked because of its placement in storage rather than in permit requirements. Recommendation: Delete in its entirety.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. See the response to comments regarding storage

"D. Routine storage." Comment/Recommendation: Recommend a total reworking of the routine storage section instead of patching the old language due to changes in practices which are not represented in the draft language.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. See the response to comments regarding storage

"Routine storage is the long-term storage of biosolids at a facility preapproved by the department and constructed specifically for the storage of biosolids to be applied at any site included in permits held by the permit holder of the storage facility." Comment: The requirement that land application sites be held by the permit holder of the storage facility will eliminate the use of subcontractors with a permitted land base. There is no justification for the requirement rather the greater land base held by multiple permit holders would be preferred to facilitate removal of the material from storage. Recommendation: Recommend "at permitted sites" and delete the rest of the sentence.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. See the response to comments regarding storage

9VAC25-32-550 C

Public Comments and Department Response to Public Comments

Commenter: Powell, Mary, representing Nutri-Blend

We do not agree with on-site storage unless the biosolids are covered. Long term storage that is uncovered will always lead to citizen complaints. The possibility for odor and runoff issues is much higher as the time left uncovered exceeds the 14 days allowed for staging. Allowing uncovered storage for up to 45 days will create continued controversy surrounding biosolids application.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. See the response to comments regarding storage

9VAC25-32-550 D

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

The routine storage provisions limit the use of storage facilities to biosolids to be applied at a site included in permits held by the permit holder of the storage facility (9VAC25-32-550 D). This limitation does not make sense. There are instances where two land appliers are operating in the same area; they may share a storage site. The regulations provide sufficient protections to ensure that routine storage sites are properly managed. There is no reason for limiting use of the storage facility to the storage permit holder only. In fact, this could lead to the need for more storage sites.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. See the response to comments regarding storage

9VAC25-32-550 D 1 c

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

Section 9VAC25-32-550 D 1 c should be amended to allow the Board to approve reduced buffers for storage facilities based on a site-by-site evaluation. There should not be a limitation on the amount by which the buffers may be reduced. This change would make the regulation consistent with current practice, in which the Board determines appropriate changes to buffer requirements on a site-specific basis.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. See the response to comments regarding storage

9VAC25-32-550 D 3

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

The section discussing storage facilities should make clear that the facilities must be designed to prevent contact with precipitation or as required in an approved water management plan (9VAC25-32-550 D 3).

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. See the response to comments regarding storage

9VAC25-32-550 D 5 f. Storage Facilities

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

The terminology in 9VAC25-32-550 D 5 f relating to malodor should change "corrected" to "addressed".

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. See the response to comments regarding storage

Commenter: Razik, Al, representing Maryland Environmental Services

The proposed language states "If malodors related to the stored biosolids are verified by DEQ at any occupied dwelling on surrounding property, the malodor must be corrected within 48 hours". What criteria will DEQ use to verify when nuisance odors are a problem? It's well known that solving odor problems is very subjective science. MES commends DEQ for their progressive approach to the storage regulations to include covers, truck washing, supernatant management, and other good management practices.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. See the response to comments regarding storage

9VAC25-32-550. Storage facilities.

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Revise 9VAC25-32-550 D 1 c to read: "c. All storage facilities with a capacity in excess of 100 wet tons and located offsite of property owned by the generator shall be provided a minimum 750-feet buffer zone…"

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. See the response to comments regarding storage

Revise 9VAC25-32-550 D to read: "D. Routine storage. Routine storage is the long-term storage of biosolids at a facility preapproved by the department and constructed specifically for the storage of biosolids to be applied to any site included in permits held by the permit holder of the storage facility. Routine storage does not include storage of biosolids on site of a wastewater treatment facility. Routing storage facilities shall be provided for all land application projects if no alternative means of management is available during nonapplication periods. No person shall apply to the department for a permit, a variance, or a permit modification authorizing routine storage of biosolids without first complying with all requirements adopted pursuant to § 62.1-44.19:3 A 5 R of the Code of Virginia. Plans and specifications for any surface routine storage facilities (pits, ponds, lagoons) or aboveground facilities (tanks, pads) shall be submitted as part of the minimum information requirements..."

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. See the response to comments regarding storage

9VAC25-32-550.C.1

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

9VAC25-32-550.C.1 should be modified to be consistent with the staging requirements of 9VAC25-32-545.B.4. The department should be notified within 24 hours instead of "within the same working day". There is no definition of the term "working day".

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. See the response to comments regarding storage

9VAC25-32-550.D

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

Language needs to be added to 9VAC25-32-550.D to clarify that the routine storage facility requirements do not apply to storage located within the boundaries of a wastewater treatment facility: D. Routine Storage. Routine storage is the long-term storage of biosolids at a facility preapproved by the department and constructed specifically for the storage of biosolids to be applied at any site included in permits held by the permit holder of the storage facility. Routine storage does not include storage of biosolids on the site of a wastewater treatment facility. Routing storage facilities shall be provided for all land application projects if no alternative means of management is available during nonapplication periods. No person shall apply to the department for a permit, a variance, or a permit modification authorizing routine storage of biosolids without first complying with all requirements adopted pursuant to §62.1-44.19:3R of the Code of Virginia. Plans and specifications for any surface routine storage facilities (pits, ponds, lagoons) or aboveground facilities (tanks, pads) shall be submitted as part of the minimum information requirements.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. See the response to comments regarding storage

9VAC25-32-550.D.2.b

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

Public Comments and Department Response to Public Comments

9VAC25-32-550.D.2.b includes the term "Class II" which is not defined. It is recommended that this term be replaced with "Class B".

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. See the response to comments regarding storage

9VAC25-32-560

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

Although DEQ has the overall responsibility for regulating the state's biosolids generators and land appliers, the Department of Conservation and Recreation (DCR) also has an important role to play. By statute, DCR is charged with developing a voluntary training and certification program for nutrient management planers, establishing regulations that provide the criteria for agricultural NMPs, reviewing NMPs prior to permit issuance in certain circumstances, and assisting DEQ in the adoption of its regulations. Despite the clear statutory delineation between DEQ and DCRs responsibilities, the proposed regulations include language that would effectively revise DCR's Standards and Criteria (S&C). Procedurally, HRSD objects to revising DCR's regulations as a part of this regulatory process. More importantly, substantively, HRSD objects to the changes proposed in the regulations with regard to soil phosphorus, pH, and potassium levels. HRSD requests that the Board strike this language as inappropriate and unreasonable. HRSD's suggested edits to 9VAC25-32-560 include: (1) Deletion of proposed language located at A.1.e and (2) deletion of proposed language located at B.2.d & e. The proposed biosolids regulations would, in effect, re-write the existing DCR S&C. This is inappropriate. The Board should not permit DCR to shoehorn its criteria into the biosolids regulations.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. (1) § 62.1-44.19:3.C.8 states that approved NMPs are required for sites based on site-specific conditions that increase the risk that land application may adversely impact state waters. DEQ believes that using land application sites with high phosphorus concentrations increase the risk that state waters could be impacted and is requiring that NMPs for these sites be preapproved. This language does not prohibit application, only requires plan approval (2) The language has been revised to say d. When soil test pH is less than 5.5 S.U. the land shall be supplemented with lime at the recommended agronomic rate prior to or during biosolids application if the biosolids to be land applied have not been alkaline stabilized.
e. When soil test potassium levels are less than 38 parts per million (Mehlich I analytical procedure or equivalent) the land shall be supplemented with potash at the recommended agronomic rate prior to or during biosolids application. This eliminates the time required for soil pH to adjust

One of the most intensive discussions at the TAC was whether current land management measures (more specifically, buffers from occupied dwellings) provide adequate protection for the state's citizens who live on properties near land application sites. After much discussion, the TAC agreed that the size of the buffer could be extended up to an additional 200 feet (original buffer of 200 feet) by DEQ based on documented site-specific conditions. This was not to be an automatic extension, but rather a considered decision by DEQ based on information presented by the occupant of a dwelling on adjacent property. The extension should not automatically increase the buffer to 400 feet, but rather only by the amount necessary to address the site-specific concern. The buffer could be extended beyond 400 feet if the regional health director evaluates and certifies that such an extension is necessary to prevent specific and immediate injury to the health of an individual making the request. The proposed regulation captures the essence of the agreement, but additional details are necessary about the timing and circumstances in which such an extension would take place. DEQ has issued guidance related to extending buffers. That guidance goes too far, depicting the TAC's agreement as one that would result in an automatic extension of buffer areas from 200 feet to 400 feet whenever requested, regardless of the reason. The agreement reached in the TAC was not so broad. Moreover, the guidance does not prescribe a time frame in which such requests may be made. This could result in DEQ receiving a request, granting the buffer extension and notifying the land applier on the day of land application.

DEQ Response to Comment: DEQ has reviewed the TAC discussion referenced in the comment.

Public Comments and Department Response to Public Comments

During this discussion, the concern was raised about the time required for DEQ evaluate the request and make a decision regarding an extended buffer. DEQ asserted that the agency is not equipped to make a medical determination. An industry representative suggested that buffers be extended site by site rather than automatically give everyone 400 feet. Another TAC member, in an attempt to clarify, asked if the suggestion was DEQ could extend the buffer upon request with no further evaluation. The industry representative offered the example that a resident could call DEQ and assert that they wanted a 400 rather than 200 ft setback simply to reduce smelling the material. If DEQ were to grant the 400 feet only to the resident that wants it, rather than everyone; it takes the burden off of the land applier to go to the residents to get waivers to reduce the buffers from 400. DEQ staff, wishing to clarify, asked if that meant no justification from DEQ to the permittee was necessary for setback extension. There was general agreement among the TAC members, though no vote was taken. This was the basis of DEQ's buffer guidance and the proposed buffer language. Please refer to the response to comments regarding buffers and health for details regarding timing of buffer extensions.

Replace the term "operations management plan" with the term "biosolids operation plan" for consistence and clarification of the requirements.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This term has been changed to biosolids management plan.

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

9VAC25-32-560 requires a soil test potassium level of greater than or equal to 38 ppm Mehlich I at the time of each biosolids application, based on soil test results to date both pre and post biosolids application. This section should be deleted; the NMP is the appropriate place to address how and when any deficient essential nutrient should be applied.

DEQ Response to Comment: The language has been revised to say "When soil test pH is less than 5.5 S.U. the land shall be supplemented with lime at the recommended agronomic rate prior to or during biosolids application if the biosolids to be land applied have not been alkaline stabilized."
e. When soil test potassium levels are less than 38 parts per million (Mehlich I analytical procedure or equivalent) the land shall be supplemented with potash at the recommended agronomic rate prior to or during biosolids application. This eliminates the time required for soil pH to adjust.

9VAC25-32-560 should be changed to read "shall not exceed the rates established for the intended crop listed in the nutrient management plan." This will cover the contractor if the farmer changes his crop selection on any fields after biosolids have been land applied.

DEQ Response to Comment: It is the responsibility of the contractor to work closely with the farmer and develop the NMP based on the farmer's plans for his field.

Section 9VAC25-32-560 includes the dates of application, but it seems to have the dates reversed - the dates should read 2/29 and 10/1. This entire section should be reviewed to make sure the dates are accurate.

DEQ Response to Comment: DEQ acknowledges the review of this commenter. This section that contained this language has been struck, because it must be included in the NMPs

Commenter: Mitchell-Watson, Leslie, representing Friends of the North Fork of the Shenandoah River

9VAC25-32-560 - Because many soils in the Chesapeake Bay region contain very high concentrations of phosphorus due to long-term application of manure, chicken litter and commercial fertilizer, Dr. Evanylo recommends applying sludges at rates to meet the phosphorus needs of the crops. If this is not a requirement of the nutrient management plans, the proposed regulations should be revised to make this a requirement of any permit. Virginia is under increasing pressure to reduce its phosphorus contribution to the Chesapeake Bay. Permitting application of excess phosphorus in the form of sludge is counter to that goal and may necessitate further expenditures by the Commonwealth and our towns to reduce their phosphorus loadings.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. § 62.1-44.19:3.C.8 states that approved NMPs are required for sites based on site-specific conditions that increase

the risk that land application may adversely impact state waters. DEQ believes that using land application sites with high phosphorus concentrations increase the risk that state waters could be impacted and is requiring that NMPs for these sites be preapproved.

9VAC25-32-560 B 3 e (3) - Slopes - should be revised to state "Biosolids should not be applied to slopes in excess of 7%."

DEQ Response to Comment: DEQ acknowledges the review of the commenter. Technical recommendations from soil conservation professionals and field experience of DEQ inspectors demonstrate that application of biosolids on slopes between 7 and 15% can be accomplished without negative environmental impact. The biosolids organic material is useful in establishing a stand of permanent vegetation on slopes to prevent erosion.

9VAC25-32-560 B 3 f - Buffer zones - Because the adequacy (i.e. protectiveness) of a buffer cannot be established with any certainty, application of sludge in areas of Karst geology and floodplains poses an unacceptable risk of contamination of surface and groundwater, both of which serve as drinking water sources. 9VAC25-560 should prohibit land application of biosolids on areas designated as floodplains, on Karst landscapes characterized by limestone outcroppings, sinkholes, solution channels, and caves and on slopes greater than 7%. Barring that, minimum buffers around all environmental features listed in Table 2 should at least equal the 35 foot buffer required by NRCS standards , regardless of the method of application .

DEQ Response to Comment: DEQ acknowledges the review of the commenter. Setbacks have been increased to address Karst. Please see the response to comments regarding Environmental Concerns which addresses water quality, Karst and setbacks.

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-32-560 A 1 b - "b. All nutrient management plans shall account for all sources of nutrients to be applied to the site and include at a minimum the following information…" - We recommend to end the sentence after "…for all sources of nutrients to be applied to the site." Delete the rest & items (1) - (5). This information should be addressed by the nutrient management plan regulations.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This requirement has been struck because it is required by the NMP.

9VAC25-32-560 A 1 e - "e. The nutrient management plan must be approved by the Department of Conservation and Recreation prior to land application for application sites where the soil test phosphorus levels exceed the values in Table 1 of this section." - We recommend this entire section be deleted (chart and language). It does not allow for the phosphorus index to be an option. We prefer to have one set of regulations to follow regarding crop nutrient management. The standards in criteria for the Nutrient Management Regulations allow the planner to use a phosphorus index.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. § 62.1-44.19:3.C.8 states that approved NMPs are required for sites based on site-specific conditions that increase the risk that land application may adversely impact state waters. DEQ believes that using land application sites with high phosphorus concentrations increase the risk that state waters could be impacted and is requiring that NMPs for these sites be preapproved. This language does not prohibit application, only requires plan approval

9VAC25-32-560 B 2 e - "e. Soil test potassium levels must be greater than or equal to 38 parts per million (Mehlich I analytical procedure or equivalent) at the time of each biosolids application." - The regulations are requiring a soil test potassium level ≥ 38 ppm at the time of each biosolids application. Based on soil test results to date pre and post biosolids applications, we recommend that this be deleted. The Nutrient Management Plan should recommend any deficient essential nutrient to be applied by the farmer.

DEQ Response to Comment: The language has been corrected to say d. When soil test pH is less

than 5.5 S.U. the land shall be supplemented with lime at the recommended agronomic rate prior to or during biosolids application if the biosolids to be land applied have not been alkaline stabilized.
e. When soil test potassium levels are less than 38 parts per million (Mehlich I analytical procedure or equivalent) the land shall be supplemented with potash at the recommended agronomic rate prior to or during biosolids application. This eliminates the time required for soil pH to adjust.

9VAC25-32-560 B 3 a - "3. Management practices. A. Site specific application rates shall not exceed the rates established in the nutrient management plan not result in exceedance of the cumulative trace element loading rates specified in 9VAC25-32-356 Table 2..." - We recommend that this read "Site specific application rates shall not exceed the rates established of the intended crop listed in the nutrient management plan". This will cover the contractor if the farmer changes his crop selection on any field with land applied biosolids.

DEQ Response to Comment: It is the responsibility of the contractor to work closely with the farmer and develop the NMP based on the farmer's plans for his field.

9VAC25-32-560 B 3 c - "c. Crops. For proposed use of crops or PAN rates (lbs/A) not stipulated in regulations…" - We recommend clarification as to whether the requirements of section 9VAC25-32 allow for a new crop that is not identified in the standards or criteria of the Nutrient Management Regulations. If not, we recommend any new crop fertilizer rate be set by research.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, this language has been struck.

9VAC25-32-560 B 3 c (1) - "(1) Infrequent. If biosolids are applied to a field only once in a 3-year period, biosolids may be applied such that the total crop needs for nitrogen is not exceeded…The infrequent application rate may be restricted..including existing residuals." - We recommend that at the end of the sentence add "For systems designed for infrequent application - surface and groundwater monitoring shall not be required."

DEQ Response to Comment: DEQ acknowledges the review of the commenter, no change has been made. DEQ has the authority to request additional monitoring, including groundwater monitoring if deemed necessary.

9VAC25-32-560 B 3 c (1) - (3) - "c. Crops…(1) Soybeans…(2) Tallgrass Hay…(3) Warm season grasses and alfalfa…" - Soybeans, Tallgrass hay, warm season grasses and alfalfa needs to be removed so that we have one set of regulations to follow regarding crop nutrient management.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, this language has been struck.

9VAC25-32-560 B 3 g - Table 2 - Minimum buffer zone requirements - The chart is confusing. We recommend a different type of chart. We also recommend that streams or tributary buffers labeled PWS under the WQS be deleted. How do you find out if the stream or tributary is PWS under the WQS? We would also like to recommend that limestone rock outcrop buffers be deleted as no data supports this type of buffer is more beneficial than the rock outcrop buffer that is already in place.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The section regarding buffers (setbacks) has been rewritten. Please see the response to comments regarding buffers. PWS's are designated in the Water Quality Standards 9VAC25-260. Limestone rock outcrops are associated with Karst formations and therefore warrant a larger setback.

9VAC25-32-560 D - Reclamation of disturbed land. - We recommend that DMME setting application rates, not DCR and the proposed deletions in this section be restored.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The language has been revised to require the reclamation activity be described in the overall biosolids management plan. However, the NMP for management of the site following the reclamation activity must still be approved by DCR when land application rates exceed agronomic rates, as all land application must include a nutrient

management plan, as required by § 62.1-44.19:3.C.8 of the Code of Virginia.

9VAC25-32-560 D 3 a - "3. Management practices. a. Application rates…The nutrient management plan shall be approved by the Department of Conservation and Recreation prior to permit issuance." - We recommend that "The nutrient management plan shall be approved by the Department of Conservation and Recreation prior to permit issuance" be removed because reclamation of disturbed land is not an activity for the purpose of crop production, thus agronomic rates would not adequately reclaim any disturbed site.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. Because all land application requires a NMP as specified in § 62.1-44.19:3.C.8 of the Code of Virginia, and the DCR NMP Standards and Criteria do not specify appropriate rates above agronomic for purposes of reclamation, a NMP for this purpose would require DCR approval in order to be classified as an NMP as required in the Code of Virginia.

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

The proposed buffer language does not adequately reflect the TAC's general consensus. The most debated issue at the TAC was whether current land management measures (more specifically, buffers from occupied dwellings) provide adequate protection for the state's citizens who live on properties near land application sites. Although the TAC reached a general consensus on an approach that would allow for automatic extension of buffers from 200 feet up to 400 feet upon request (but no further review by VDH), the proposed regulatory language does not properly capture the TAC's general consensus. For this reason, VAMWA requests that DEQ revise its proposal consistent with that consensus. VAMWA supports the TAC's general consensus with reservation. In a nutshell, although we are willing to agree with the up to 200 foot extension concept because it provides predictability for land appliers (i.e., DEQ will not be negotiating individual buffers on every land application site), VAMWA is unconvinced that there is any scientific basis for the buffer extension provision. In a 2007 white paper, VDH, although it acknowledged the lack of a structured program to collect data on alleged health impacts, concluded that: "Although much still needs to be learned about the content, bioavailability and fate of chemicals and pathogens in biosolids and their health effects, there does not seem to be strong evidence of serious health risks when biosolids are managed and monitored appropriately. Human health allegations associated with biosolids usually lack evidence of biological absorption, medically determined human health effects, and/or do not meet the biological plausibility test." There is no scientific justification for extending buffers to 400 feet based upon request.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The section regarding buffers (setbacks) has been rewritten. Please see the response to comments regarding buffers.

Commenter: Trumbo, Susan, representing Recyc Systems

"(1) Setback distances (Table 2 of this section)". Comment/Recommendation: Request that this section be written clearly and completely to avoid confusion and misinterpretation. If the Department is going to implement the extended buffer from Public Buildings it needs to be included in the Regulations.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The section regarding buffers (setbacks) has been rewritten. Please see the response to comments regarding buffers.

"(1) Soybeans. Allowable PAN rates are equivalent to the PAN recommendation for corn stipulated in regulations…" Comment: Application of biosolids is done according to the DCR NMP. This requirement is redundant and serves no purpose. Recommendation: Delete in its entirety.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, this language has been struck.

"(2) Tallgrass hay…" Comment: Application of biosolids is done according to the DCR NMP.

This requirement is redundant and serves no purpose. Recommendation: Delete in its entirety.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, this language has been struck.

"(2)(4) Extended buffer setback distances. The department may increase buffer requirements based on site specific features, such as agricultural drainage features and site slopes." Comment/Recommendation: Recommend this section be written clearly and completely to avoid confusion and aid in its implementation. For example, the set back from Public Buildings should be included if the Department intends on implementing this policy.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The section regarding buffers (setbacks) has been rewritten. Please see the response to comments regarding buffers.

"(3) Slopes above 15%. Biosolids shall not be applied to site slopes exceeding 15%." Comment: Application of biosolids to steep slopes would be beneficial to restore the soils and encourage vegetative growth. With proper management this can be done without harm to the environment. Recommendation: Recommend application to slopes greater than 15% with extra setbacks and management practices as recommended by VaTech.

DEQ Response to Comment: Language has been added to allow application on slopes >15% in order to establish and maintain vegetation on a slope, in order to eliminate erosion. Specific BMPs would be required at such a site before the application on a slope >15% would be allowed.

"(3) Warm season grasses and alfalfa…" Comment: Application of biosolids is done according to the DCR NMP. This requirement is redundant and serves no purpose. Recommendation: Delete in its entirety.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, this language has been struck.

"(4) Biosolids application timing and slope restrictions shall conform to criteria contained in regulations promulgated pursuance to § 10-1-104.2 of the Code of Virginia." Comment: Previous section requires a plan to be prepared according to § 10.1-104.s of the Code of Virginia. Thus it is redundant and serves no purpose. Recommendation: Delete in its entirety.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. Since specifications regarding timing and slope have been removed from the VPA regulation, this statement is added to clarify that restrictions still exist within the DCR regulations.

"b. All nutrient management plans shall account for all sources of nutrients to be applied to the site and include at a minimum the following information:…" Comment: Previous section requires a plan to be prepared according to 10.1-104.s of the Code of Virginia. Thus it is redundant and unnecessary to state the minimum information required in a plan. Recommendation: Delete in its entirety.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The content of a NMP is defined in the DCR regulations. This description has been deleted.

"Biosolids may be applied to snow-covered ground if the snow cover does not exceed one inch and the snow and biosolids are immediately incorporated within 24 hours of application. If snow melts during biosolids application, incorporation is not necessary." Comment: As written the requirement is not logical for implementation in the field as most fields are surface application, no till. Note that 1 inch of snow converts to less than 0.1 inches of moisture. Generally field operations are not stopped by less than 0.1 inches of rain. So why the equivalent snow fall causing field operations to cease? Recommendation: Recommend replacing the "and" for "or" to allow biosolids application on a light snowfall on land which will not be tilled.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. If land application is made to fields which will not be tilled, land application should be limited, and continued only under

conditions where the snow is melting. No changes have been made.

"c. Crops. For proposed use of crops or plants available nitrogen (PAN) rates (lbs/A) not stipulated in regulations promulgated pursuant to § 10.1-104.2 of the Code of Virginia, adequate yield and PAN data are to be submitted in accordance with 9VAC25-32-60 F." Comment: We are confused as to how 9VAC25-32-60 F applies to this section and the lack of justification of DEQ establishing crop needs. Note that DCR is the regulating agency for establishing crop needs. Recommendation: Delete in its entirety.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, this language has been struck.

"d. Within 30 days after land application at the site has commenced, the permit holder shall provide a copy of the nutrient management plan to the department, the farm operator of the site, the Department of Conservation and Recreation regional office, and the chief executive officer or designee for the local government, unless they request in writing not to receive the nutrient management plan." Comment: Please clarify whether the plan to be submitted it the plan written prior to application to obtain target application rates or the plan written after application showing the actual application. Permit requires the Department to receive a copy of the plan within ten days of application. The Department receives monthly report of activities. Thus the requirement for a copy of the plan to the Department would be duplication of information and unnecessary. To avoid confusion we believe it best to send the farmer one plan, the plan after application so they have actual data and not proposed applications. Recommendation: This section needs clarification as to the Department's intent with consideration of not requiring different forms with the same information.

DEQ Response to Comment: Please refer to the response to comments regarding Nutrient Management Plans

"e. Soil test potassium levels must be greater than or equal to 38 parts per million (Mehlich I analytical procedure or equivalent) at the time of each biosolids application." Comment: We object to a layer of requirements applied to biosolids which are not applied to any other nutrient source without any justification of need. One would expect that a certified plan writer is capable of writing a plan for sites with low soil phosphorus. We suggest that if there is a problem, DCR revise their program to address that need. Also note that this requirement does not allow for application of potash after the soil tests is taken but prior to land application of biosolids. Recommendation: Delete in its entirety.

DEQ Response to Comment: The language has been revised to say d. When soil test pH is less than 5.5 S.U. the land shall be supplemented with lime at the recommended agronomic rate prior to or during biosolids application if the biosolids to be land applied have not been alkaline stabilized.
e. When soil test potassium levels are less than 38 parts per million (Mehlich I analytical procedure or equivalent) the land shall be supplemented with potash at the recommended agronomic rate prior to or during biosolids application. This eliminates the time required for soil pH to adjust.

"e. The nutrient management plan must be approved by the Department of Conservation and Recreation prior to land application for application sites where the soil test phosphorus levels exceed the values in Table 1 of this section. For purposes of approval, permittees should submit the nutrient management plan to the Department of Conservation and Recreation at least 30 days prior to the anticipated date of land application to ensure adequate time for the approval process." Comment: We object to a layer of requirements applied to biosolids which are not applied to any other nutrient source without any justification of need. One would expect that a certified plan writer is capable of writing a plan for sites with high soil phosphorus. If this is a problem DCR should use their own regulations to resolve the problem and not another agencies' regulations. Recommendation: Delete in its entirety.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The regulations governing AFOs, poultry, etc, require that each application site have approved NMPs. § 62.1-44.19:3.C.8 states that approved NMPs are required for sites based on site-specific conditions that increase the risk that

land application may adversely impact state waters. DEQ believes that using land application sites with high phosphorus concentrations increase the risk that state waters could be impacted and is requiring that NMPs for these sites be preapproved. This language does not prohibit application, only requires plan approval

"Forestland (Silviculture). Silvicultural use includes application of biosolids to commercial timber and fiber production land, as well as federal and state forests." Comment: Why restrict application of biosolids to commercial timber and fiber production land and federal and state forests? This definition would not allow application to timber tracts held in conservation or private recreational use. Recommendation: Recommend striking the word "commercial".

DEQ Response to Comment: DEQ acknowledges the review of the commenter; "commercial" has been struck.

"h. Voluntary extensions of buffer distances. If a permit holder negotiates a voluntary agreement with a landowner or resident to extend buffer distances or to add other more restrictive criteria than required by the regulation, the permit holder shall document the agreement in writing and provide the agreement to the department..." Comment: We object to this requirement in its entirety. Voluntary buffer extensions as noted are unenforceable private agreements between the permit holder and another party. DEQ is not a party to these agreements and should not force themselves into a private agreement. Implementation of this requirement will have the effect of ceasing the steps taken by the permit holder to act proactively. Recommendation: Recommend this section be deleted in its entirety.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The section regarding buffers (setbacks) has been rewritten. Please see the response to comments regarding buffers.

"Property lines, w/o the presence of an "occupied dwelling". Comment/Recommendation: Request allowance for this property line buffer to be reduced or waived by written consent of the landowner. Request the allowance for buffer reduction or waiver as allowed for property lines and houses.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The section regarding buffers (setbacks) has been rewritten. Please see the response to comments regarding buffers.

"The infrequent application rate may be restricted (i) down to 10% of the maximum cumulative loading rate (9VAC25-32-356 Table 2) for cadmium and lead or (ii) to account for all sources of nutrients applied to the site, including existing residuals. Comment: may or shall?

DEQ Response to Comment: This would be evaluated on a case-by-case basis

(2)(4) Extended buffer setback distances. The department may increase buffer requirements based on site specific features, such as agricultural drainage features and site slopes. Comment: This section remains general and needs refinement to add in its implementation by the Department of Permit Holders. Recommendation: Buffer may be extended up to an additional 200 feet by the department based upon documented site specific conditions raised by the occupant of the dwelling and identified during the permit application review process consistent with 9VAC25-32-560(B)(3)(f)(4). The buffer may be extended further by the department is the regional health director certifies that a buffer in excess of 400 feet is necessary to prevent specific and immediate injury to the health of an individual. Extended buffers do not run with the land and will be invalid for subsequent occupants of the dwelling. Should the Department receive a written request to extend the buffer beyond the 200 feet after the permit has been issued, such an extension will only be granted after notification to the applicator. Such extensions may require approval for additional storage time and other operational adjustments. In all circumstances, the buffer will not be extended more than an additional 200 feet unless the applicator consents to such extension. A request for an extended buffer must be received by the Department and communicated to the permit holder no later than twenty-four hours before land application commences on the site adjacent to the occupied dwelling. Extended buffers do not run with the land, and will be invalid for subsequent property owners or occupants.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The section regarding buffers (setbacks) has been rewritten. Please see the response to comments regarding buffers.

9VAC25-32-560 A 1 b

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

9VAC25-32-560 A 1 b should end after "for all sources of nutrient to be applied to the site." The remainder of this sentence and items 1-5 should be deleted because these items are already governed and addressed by DCR's nutrient management plan.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This requirement has been struck because it is required by the NMP.

9VAC25-32-560 A 1 e

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

9VAC25-32-560 A 1 e should also be deleted (chart and language). So long as the phosphorus index is being used in accordance with DCR's NMP regulations (and approved by DCR), no additional requirements should be imposed.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. § 62.1-44.19:3.C.8 states that approved NMPs are required for sites based on site-specific conditions that increase the risk that land application may adversely impact state waters. DEQ believes that using land application sites with high phosphorus concentrations increase the risk that state waters could be impacted and is requiring that NMPs for these sites be preapproved. This language does not prohibit application, only requires plan approval

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Delete 9VAC25-32-560 A 1 e.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. § 62.1-44.19:3.C.8 states that approved NMPs are required for sites based on site-specific conditions that increase the risk that land application may adversely impact state waters. DEQ believes that using land application sites with high phosphorus concentrations increase the risk that state waters could be impacted and is requiring that NMPs for these sites be preapproved.

9VAC25-32-560 B (3) (g) fn3

Commenter: Staudinger, Henry J., and Jo Overbey, representing Citizens

9VAC25-32-560 B (3)(g) fn 3 must be amended to provide: "No sewage sludge applications may be made on sites where applications site-specific conditions do not ensure that the environment, health, safety and welfare are protected unless the permit authorizes DEQ to impose adequate reasonable buffers specified in the permit, and DEQ in fact extends the buffer or imposes other restrictions that ensure that health and the environment are protected."

DEQ Response to Comment: DEQ acknowledges the review of the commenter. Please see the response to comments regarding buffers.

9VAC25-32-560 B (3)(g) fn3 must be amended to provide: "Buffers may be extended by DEQ based on documented site specific conditions. If extended buffers sufficient to ensure the protection of health and the environment are not imposed on any site, no sewage sludge may be land-applied on such site(s). Where the board fails to impose sufficient requirements to provide such protection, no sewage sludge may be land-applied on such site(s) even under issued permits."

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The section regarding buffers (setbacks) has been rewritten. Please see the response to comments regarding Setback extensions related to health.

Other extended buffer provisions proposed by DEQ are simply permissive and fail to make clear that unless buffers are adequately extended, by Code no sewage sludge may be land-applied.

For example, 9VAC25-32-560 B (3) (g) fn 3 which states that Buffers may be extended by DEQ based on documented site specific conditions would have to be worded as follows: "Fn3: No sludge applications can be made on sites where site-specific conditions do no ensure that the environment, health, safety and welfare are protected."

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The section regarding buffers (setbacks) has been rewritten. Please see the response to comments regarding buffers.

9VAC25-32-560 B (4)

Commenter: Staudinger, Henry J., and Jo Overbey, representing Citizens

9VAC25-32-560 B (4) must be amended to provide: "Extended buffer setback distances. The department may increase buffer requirements based on site specific features, such as agricultural drainage features and site slopes. If extended buffers sufficient to ensure the protection of health and the environment are not imposed on any site, no sewage sludge may be land-applied on such site(s) even under issued permits."

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The section regarding buffers (setbacks) has been rewritten. Please see the response to comments regarding buffers.

9VAC25-32-560 B 2 d and e

Commenter: Powell, Mary, representing Nutri-Blend

Section d requires that soil pH must be greater than 5.5 at the time that biosolids that are not lime stabilized are applied. Section e requires that soil potassium levels be greater than or equal to 38 ppm at the time of biosolids application. Nutrient and lime needs are addressed in the nutrient management plan. Farmers are good stewards of the land and are interested in achieving the best possible yield and so will follow nutrient recommendations. If a farmer opens up a new piece of farmland, he would need to apply large amounts of nutrients and lime before he could get biosolids. Since that land most likely does not have good organic matter or primary nutrients the potassium would go unused and it would be very difficult to build up the levels. In order to avoid this catch 22 situation, we propose that as an alternative, the farmer be asked to sign an agreement stating that he or she will apply lime if the pH is below 5.5 and/or apply potassium if the levels are below 38 ppm.

DEQ Response to Comment: The language has been changed to read d. When soil test pH is less than 5.5 S.U. the land shall be supplemented with lime at the recommended agronomic rate prior to or during biosolids application if the biosolids to be land applied have not been alkaline stabilized.
e. When soil test potassium levels are less than 38 parts per million (Mehlich I analytical procedure or equivalent) the land shall be supplemented with potash at the recommended agronomic rate prior to or during biosolids application. This eliminates the time required for soil pH to adjust.

This approach was chosen in order to facilitate permittee control over compliance with nutrient management criteria. Such consideration for acknowledging what is readily under the control of the land applier was discussed during the TAC meetings.

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Delete 9VAC25-32-560 B 2 d & e.

DEQ Response to Comment: The language has been changed to read d. When soil test pH is less than 5.5 S.U. the land shall be supplemented with lime at the recommended agronomic rate prior to or during biosolids application if the biosolids to be land applied have not been alkaline stabilized.
e. When soil test potassium levels are less than 38 parts per million (Mehlich I analytical procedure or equivalent) the land shall be supplemented with potash at the recommended agronomic rate prior to or during biosolids application. This eliminates the time required for soil pH to adjust.

This approach was chosen in order to facilitate permittee control over compliance with nutrient management

criteria. Such consideration for acknowledging what is readily under the control of the land applier was discussed during the TAC meetings.

DEQ Response to Comment: The language has been changed to read d. When soil test pH is less than 5.5 S.U. the land shall be supplemented with lime at the recommended agronomic rate prior to or during biosolids application if the biosolids to be land applied have not been alkaline stabilized.
e. When soil test potassium levels are less than 38 parts per million (Mehlich I analytical procedure or equivalent) the land shall be supplemented with potash at the recommended agronomic rate prior to or during biosolids application. This eliminates the time required for soil pH to adjust.

9VAC25-32-560 B 3 c

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

9VAC25-32-560 B 3 c - this section should be deleted from the proposed regulation. DCR governs nutrient management plans and dictates plant available nitrogen rates for various crops. Including it in DEQ's regulations as well is duplicative and unnecessary.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, this language has been struck.

9VAC25-32-560 B 3 c (1)

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

9VAC25-32-560 - biosolids utilization methods - B 3 c (1) - soybeans - tallgrass hay, warm season grasses and alfalfa needs to be removed so that there is one set of regulations to follow regarding crop nutrient management.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, this language has been struck.

9VAC25-32-560 B 3 e 5

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

9VAC25-32-560 B 3 e 5 - should include an "or" statement - "if the snow cover does not exceed one inch or if the snow melts during application."

DEQ Response to Comment: DEQ acknowledges the comment. If land application is made to land during snowfall and the field is not eligible for incorporation, application should be limited. No changes have been made.

9VAC25-32-560 B 3 e(1)

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

9VAC25-32-560 B 3 e(1) - last sentence should read "for systems designed for infrequent application - surface and groundwater monitoring shall not be required."

DEQ Response to Comment: This language has been removed, as the NMP will dictate application rates and frequency

9VAC25-32-560 B 3 f (1) - Table 2 footnote 3

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Revise Footnote 3 to read: "Buffer may be extended up to an additional 200 feet by the department based upon documented site specific conditions raised by the occupant of the dwelling and identified during the permit application review process consistent with 9VAC25-32-560 B 3 f (4). The buffer may be extended further by the department if the regional health director certifies that a buffer in excess of 400 feet is necessary to prevent specific and immediate injury to the health of an individual. Extended buffers do not run with the land, and will be invalid for subsequent occupants of the dwelling."

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The section

regarding buffers (setbacks) has been rewritten. Please see the response to comments regarding buffers.

9VAC25-32-560 B 3 f (1) - Table 2 footnote 4

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Revise Footnote 4 to read: "Should the Department receive a written request to extend the buffer beyond the 200 feet after the permit is issued, such an extension will only be granted after notification to the applicator. Such extensions may require approval for additional storage time and other operational adjustments. In all circumstances, the buffer will not be extended more than an additional 200 feet unless the applicator consents to such extension. A request for an extended buffer must be received by the Department and communicated to the permit holder no later than twenty-four hours before land application commences on the site adjacent to the occupied dwelling. Buffer may exceed 400 feet where an evaluation by the Virginia Department of Health determines that a buffer in excess of 400 feet is necessary to prevent specific and immediate injury to the health of an individual. Extended buffers do not rune with the land, and will be invalid for subsequent property owners or occupants."

DEQ Response to Comment: DEQ acknowledges the review of the commenter. Please see the response to comments regarding buffers and setbacks

9VAC25-32-560 B 3 f (3)

Commenter: Powell, Mary, representing Nutri-Blend

This states that biosolids should not be applied to sites with slopes exceeding 15%. We suggest that the upper limit be increased to 20%. Slopes in this range are commonly farmed and without organic fertilizer are much more susceptible to runoff. The farmer will come back in the areas that are not applied with biosolids and apply commercial fertilizer to balance the productivity of the field. Since the goal in any fertilizer application is to reduce runoff, it is counterintuitive to preclude biosolids applications on slope of 20% or less.

DEQ Response to Comment: Language has been added to allow application on slopes >15% in order to establish and maintain vegetation on a slope, in order to eliminate erosion. Specific BMPs would be required at such a site before the application on a slope >15% would be allowed.

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Revise 9VAC25-32-560 B 3 f (3) to read: "(3) Waivers. Waivers from adjacent property residents and or landowners may only be used to reduce buffer distances from occupied dwellings and/or property lines with the presence of an occupied dwelling."

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The section regarding buffers (setbacks) has been rewritten. Please see the response to comments regarding buffers.

9VAC25-32-560 B 3 f (4)

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Revise 9VAC25-32-560 B 3 f (4) to read: "(4) Extended buffer setback distances. The department may increase buffer requirements based on site specific features, such as agricultural drainage features and site slopes, identified during the permit application review process. Any such buffer increase shall be incorporated into the permit at the time it is issued. For applications where surface applied..."

DEQ Response to Comment: DEQ acknowledges the review of the commenter. Please see the response to comments regarding buffers and setbacks

9VAC25-32-560 B 3 g (1) and (4)

Commenter: Powell, Mary, representing Nutri-Blend

This section deals with buffer setback distances. We do not feel that buffer setbacks for houses and property lines should have the option of being extended. There is no scientific evidence to

support that this will further protect human or environmental health. Concerned citizens will request an extension under the assumption that they are being somehow protected from something dangerous simply because the option exists. There is no evidence or reason to believe that they are in fact in any danger or that a buffer extension would protect them from this perceived danger. This regulation would do very real damage to the farmers who use biosolids. Doubling the buffer distance removes exponentially more land from biosolids application. The farmer will have to chose between removing these fields from the biosolids program or having his field receive a very uneven biosolids application. Any areas that do not receive biosolids will need some other type of fertilizer and balancing the nutrients can be very difficult. Again this could lead to more runoff and leaching. The buffer setbacks have worked for many years in Virginia. There has never been any issue with the distances as stated and they have been protective of human and environmental health. They should remain as is without the option for extension.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The section regarding buffers (setbacks) has been rewritten. Please see the response to comments regarding buffers.

9VAC25-32-560 B.1

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

9VAC25-32-560.B.1 includes the term "Class II" which is not defined. It is recommended that this term be replaced with "Class B".

DEQ Response to Comment: DEQ acknowledges the review of the commenter, this correction has been made.

9VAC25-32-560 D 3 a

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

9VAC25-32-560 D 3 a - should be changed to remove the following language: "The nutrient management plan shall be approved by the Department of Conservation and Recreation prior to permit issuance." Reclamation of disturbed land is not an activity for the purpose of crop production, thus agronomic rates would not adequately reclaim any disturbed site and do not apply in this context.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The section regarding buffers (setbacks) has been rewritten. Please see the response to comments regarding buffers and Reclamation of Mined and Disturbed Land.

9VAC25-32-560 e

Commenter: Powell, Mary, representing Nutri-Blend

This requires that a nutrient management plan be approved by the DCR if soil phosphorus levels exceed a certain level. The levels listed in Table 1 correspond to the levels that would require a nutrient management planner to use the P Index tool if he or she wanted to write a plan that called for a biosolids application. The P Index tool was developed by the DCR and is included in their handbooks. It takes into account best management practices and field characteristics as well as soil pH level. The DCR trains its planners to use this tool. Since the DCR certifies nutrient management planners, it is unclear why plans would need pre-approval in any case, but especially in the case of just one specific set of circumstances. Also, nutrient management plans are submitted to the DCR for each biosolids application so the opportunity for review already exists. This appears to be an attempt to halt biosolids application on fields that have higher phosphorus levels through administrative red tape and excessive time investments (30 days for the DCR to review a plan). If the DCR's goal is to phase out the P Index tool, their regulations should be changes to reflect this in a way that is inclusive of the other organic nutrient sources in the state.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. § 62.1-44.19:3.C.8 states that approved NMPs are required for sites based on site-specific conditions that increase the risk that land application may adversely impact state waters. DEQ believes that using land application sites with high phosphorus concentrations increase the risk that state waters could be impacted

9VAC25-32-560 Table 2

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

9VAC25-32-560 - Table 2 - The Table is confusing. How do you find out if the stream or tributary is a public water supply under the water quality standards? This information could be identified by DEQ during its review of the application. Also, the provisions relating to limestone rock outcrop will severely restrict land application in the Valley Region.

DEQ Response to Comment: PWS's are designated in the Water Quality Standards 9VAC25-260

Commenter: Staudinger, Henry J., and Jo Overbey, representing Citizens

In Table 2 of 9VAC25-32-560 DEQ has set forth a number of minimum buffers. However, it does not appear that any buffers were established, much less documented, to ensure that health was protected. Nor has DEQ made any effort to determine and document the minimum buffers needed to protect health sensitive individuals.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The section regarding buffers (setbacks) has been rewritten. Please see the response to comments regarding buffers.

9VAC25-32-570

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

9VAC25-32-570: Class A or Exceptional Quality ("EQ") biosolids must meet strict pathogen and vector control requirements and, therefore, can be marketed and distributed for use by individual homeowners or by commercial properties through garden centers and similar venues. These high quality materials are beneficial, as they provide an alternative to traditional soil amendments and fertilizers at a reasonable cost. HRSD is concerned about two aspects of the proposed regulations which may have an adverse effect on the marketing of Class A material. HRSD requests that the Board consider the following changes to the proposed regulation: (1) delete the language that would require additional testing for organics (9VAC25-32-570(A)(6), including Table 1); and (2) revise the language requiring a nutrient management plan ("NMP") for certain Class A materials. First, the language at paragraph 6 and Table 1 is vague and should be deleted. Second, the proposed regulations would require anyone using bulk (versus bagged) EQ materials below 90% solids for an unblended material or 40% solids for a blended materials develop and follow a NMP. HRSD does not believe that the General Assembly intended to require a NMP for EQ materials. If the Board chooses to move forward despite the statutory language, HRSD submits that it would be more appropriate to only require a NMP for bulk EQ materials meant for agricultural use.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, please see the response to comments regarding Exceptional Quality Biosolids.

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

At the beginning of 9VAC25-32-570, the following should be added: "If the biosolids exceed the Pollutant Concentrations in 9VAC25-32-356 Table 3." This addition is necessary because the annual pollutant loading rates in Table 4 of 9VAC25-32-356 only apply is the biosolids exceed the Table 3 metal concentrations. The applicable requirements are spelled out in 9VAC25-32-356 A 4.

DEQ Response to Comment: This language is from 40CFR part 503

The section relating to distribution and marketing (9VAC25-32-570) requires that any inert material mixed with Class A/EQ biosolids must be approved on a case-by-case basis. The use of these materials must be evaluated through proper testing or research designed to assess the suitability of such use. It is unclear what "proper testing" and "research designed to assess the suitability" means. This should not apply to inert materials that are already commonly used for agricultural purposes, such as commercial chemical fertilizers.

DEQ Response to Comment: This would be considered during permit application processing

Commenter: Hughes, Kristen, representing Chesapeake Bay Foundation

In the VPA Section 9VAC25-32-570, there is an exemption from NMP requirements for bulk application of biosolids of exceptional quality. What is the intent of excluding exceptional quality biosolids from NMP requirements when "the percent solids of a blended product derived from biosolids is equal to or greater than 40% based on moisture content and total solids and achieves a carbon to nitrogen ration of at least 25:1"?

DEQ Response to Comment: DEQ received comment that distribution and marketing was not land application, and that it should follow that no NMP should be required for EQ material. The proposed requirement stated that biosolids meeting EQ standards may be distributed and marketed under a VPA or VPDES permit, and that nutrient management plans must be developed unless the EQ material 1) is >90% solids (i.e. pelletized) or 2) is greater than 40% solids and has a C:N ratio greater than 25:1. The purpose of the second specification was to differentiate between an EQ cake biosolids that would be land applied essentially the same way as a Class B material, versus a blended product that would be distributed and marketed more like a commercial fertilizer or soil amendment product and likely used for non-agricultural purposes. DEQ received comment that some biosolids compost and soil blends used for landscaping purposes would not meet the 25:1 C:N ratio and thus be subject to NMP requirements.

In response to these concerns, DEQ modified the NMP exemption to include material that is not used for the purpose of fertilizing agricultural operations.

If bulk EQ biosolids are land applied as a cake, a NMP is required and the distribution and marketing permit may include additional restrictions.

Commenter: Lohr, Matthew J., representing VA Department of Agriculture and Consumer Services (VDACS)

With respect to the requirements in the regulation for the distribution and marketing of exceptional quality biosolids, for the proposed 9VAC25-32-570(A)(1) and 9VAC25-32-570(B)(1), we suggest deleting references to the section of the Virginia Fertilizer Law that authorizes the Board of Agriculture and Consumer Services and the Commissioner to promulgate regulations. Instead, we recommend the listing of specific references to particular sections of the Virginia Fertilizer Law that prescribe the requirements for (i) product registration, (ii) tonnage statements and inspection fees, and (iii) statistical reports. We also suggest adding to the proposed 9VAC25-32-570(D)(4) a reference to the section of the Virginia Fertilizer Law regarding labeling.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, these changes have been made.

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-32-570 A - "A. Exceptional quality…Distribution or marketing of Class A biosolids that have been mixed with inert materials may be approved on a case-by-case basis. Use of such mixtures for agricultural purposes shall be evaluated through proper testing or research programs designed to assess the suitability of the material for such use..." - This requires that any inert material mixed with Class A/EQ biosolids must be approved on a case-by-case basis. The use of these materials must be evaluated through proper testing or research designed to assess the suitability of such use. It is unclear what "proper testing" and "research designed to assess the suitability" means. This should not apply to inert materials that are already commonly used for agricultural purposes, such as commercial chemical fertilizers.

DEQ Response to Comment: This would be considered during permit application processing

9VAC25-32-570 A 6 - "6. Additional parameters such as the organic chemicals listed in Table 1

of this section may be required…" - This needs to be specific. What criteria are required for additional testing?

DEQ Response to Comment: Please refer to the response to comments regarding sampling and testing

9VAC25-32-570 D 3 - "3. The annual whole sludge application rate for the biosolids that does not cause any of the annual pollutant loading rates in Table 4 of 9VAC25-32-356 to be exceeded; and…" - At the beginning of this sentence the following words need to be added: "If the biosolids exceed the Pollutant Concentrations in 9VAC 25-32-356 Table 3...". This is because the annual pollutant loading rates in Table 4 of 9VAC25-32-356 only apply if the biosolids exceed the Table 3 metal concentrations. The applicable requirements are spelled out in 9VAC25-32-356 A 4.

DEQ Response to Comment: This language is from 40CFR part 503

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

The proposed regulations would harm the State's EQ Biosolids Program. Class A or Exceptional Quality (EQ) biosolids must meet strict pathogen and vector control requirements and, therefore, can be marketed and distributed for use by individual homeowners or by commercial properties through garden centers and similar venues. These high quality materials are beneficial, as they provide an alternative to traditional soil amendments and fertilizers at a reasonable cost. VAMWA supports the Commonwealth's existing Class A biosolids program. VAMWA is concerned that two aspects of the proposed regulations would dissuade POTWs from upgrading to Class A production. Therefore, VAMWA requests that DEQ consider the following change to the proposed regulation: delete the language that would require additional testing for organics (9VAC25-32-570 A 6), including Table 1. The language at paragraph 6 and Table 1 is vague and should be deleted. Paragraph 6 does not explain when additional testing for organics would be required, or who would mandate that it be performed. In addition, Table 1 includes no benchmarks for the listed parameters that would trigger additional management measures. The language in Table 1 makes it impossible to predict whether a particular batch of EQ materials would be acceptable. The Class A program cannot function without regulatory predictability.

DEQ Response to Comment: EQ biosolids, which meet the state and federal standard for distribution and marketing, are exempt from the management practices and access restrictions, therefore it is imperative that these products meet high standards. In most cases, pretreatment programs and other industrial restrictions will address toxics. However, it may be necessary to screen for certain toxics if facility specific issues have been identified. Further, in the case where municipal solid waste is composted with biosolids (and not subject to pretreatment programs), screening for organic chemicals would align with the requirements specified in the solid waste regulations. The table has been removed from the regulations, as it was there only as example. Any actual organics testing would be based on any site-specific issues identified.

The proposed regulations would require that anyone using bulk (versus bagged) EQ materials below 90% solids for an unblended material or 40% solids for a blended material develop and follow a NMP. VAMWA opposes the 40% exemption because of concerns that several of its members may have blended products with a solids content slightly below the 40% level. In certain cases, an EQ product is finished outdoors. As a result, moisture content can vary slightly as a function of the weather (i.e., an EQ product that would otherwise have a solids content of 40% plus could have a slightly lower content when it is ready for distribution). VAMWA requests a slight reduction in the percent solids requirement for blended products to 32% to resolve this issue.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This language has been changes to exempt NMPs for pelletized EQ biosolids (i.e. > 90% solids) and a "blended product derived from biosolids that is used for a purpose other than land application at agricultural operations."

VAMWA requests that DEQ consider the following change to the proposed regulation: revise the language requiring a nutrient management plan (NMP) for certain Class A materials. The proposed regulation would require that anyone using bulk (versus bagged) EQ materials below 90% solids for

an unblended material or 40% solids for a blended material develop and follow a NMP. Legally, VAMWA does not believe that the General Assembly intended to require a NMP for EQ materials. The Virginia Code makes a distinction between land application as opposed to distribution and marketing. NMPs are required for land application. Distribution and marketing are activities involved when a POTW or third-party distributes a Class A product, regardless of form. If DEQ imposes a NMP requirement despite this statutory distinction, VAMWA submits that it would be more appropriate to only require a NMP for bulk EQ materials meant for agricultural use. NMPs are frequently used for agricultural lands, but would be a foreign concept for individual homeowners or small commercial properties that use small quantities of bulk Class A biosolids for their lawns, gardens, etc. Requiring a NMP in these situations would be extraordinarily onerous and would stunt the demand for these products. Although VAMWA would support a complete exemption from NMP requirements for all EQ materials, the language should at least be revised to at least clarify that NMPs only apply to agricultural use.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This language has been changes to exempt NMPs for pelletized EQ biosolids (i.e. > 90% solids) and a "blended product derived from biosolids that is used for a purpose other than land application at agricultural operations."

9VAC25-32-570 A 6

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

The regulations provide for testing of additional parameters for screening purposes (9VAC25-32-570 A 6), but it is unclear under what circumstances that would be imposed.

DEQ Response to Comment: Please refer to the response to comments regarding sampling and testing

9VAC25-32-570 B 2

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Revise 9VAC25-32-570 B 2 to read: "2. Bulk quantities of exceptional quality biosolids intended for use for agricultural purposes shall be land applied in accordance with a nutrient management plan prepared by a certified nutrient management planner as stipulated in regulations promulgated pursuant to § 10.1-104.2 of the Code of Virginia. Bulk quantities of exceptional quality biosolids intended for any other purpose shall not require development of or application consistent with a nutrient management plan. except under the following conditions: a. The percent solids of the biosolids is equal to or greater than 90% based on moisture content and total solids, or B. The percent solids of a blended product derived from biosolids is equal to or greater than 40% based on moisture content and total solids and achieves a carbon to nitrogen ration of at least 25:1.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This language has been changes to exempt NMPs for pelletized EQ biosolids (i.e. > 90% solids) and a "blended product derived from biosolids that is used for a purpose other than land application at agricultural operations."

9VAC25-32-60

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

An item G should be added to 9VAC25-32-60 to ensure that the department is processing applications in a timely manner, preferably stating that all applications will be issued or denied within 180 days. Example language: "The Department has 60 days from the time it receives a permit to deem it complete or return a list of deficiencies. The Department shall notify the permittee in writing when the permit is deemed complete. The Department shall schedule the pubic informational meeting within 60 days of the permit being deemed complete."

DEQ Response to Comment: DEQ policy is to process a permit within 180 days. This is established by the requirement in the regulation to submit a permit application at least 180 days prior to expiration or expected date of commencing activity.

Commenter: Richardson, Hunter, representing Synagro Central, LLC

Public Comments and Department Response to Public Comments

9VAC25-32-60 F - "Application for the authorization to land apply biosolids…The board may also waive any requirements of this subsection that is not of material concern for a specific permit…" - Would like the "board" changes to the "department". That way DEQ can waive materials in the application and notification that can be referenced in documents that they already have. This would alleviate over burdening the board that only meets four times per year.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. DEQ works on behalf of the board

9VAC25-32-60 F 1 e - "Methods of notification of local government and obtaining compliance with local government zoning and applicable ordinances." - Please clarify so that local ordinances cannot supersede the department regulations.

DEQ Response to Comment: DEQ acknowledges the concern of the commenter; however this requirement is based on § 62.1-44.19:3.R. of the Code of Virginia which specifies "Localities, as part of their zoning ordinances, may designate or reasonably restrict the storage of sewage sludge based on criteria directly related to the public health, safety, and welfare of its citizens and the environment. Notwithstanding any contrary provision of law, a locality may by ordinance require that a special exception or a special use permit be obtained to begin the storage of sewage sludge on any property in its jurisdiction, including any area that is zoned as an agricultural district or classification. Such ordinances shall not restrict the storage of sewage sludge on a farm as long as such sludge is being stored (i) solely for land application on that farm and (ii) for a period no longer than 45 days. No person shall apply to the State Health Commissioner or the Department of Environmental Quality for a permit, a variance, or a permit modification authorizing such storage without first complying with all requirements adopted pursuant to this subsection. "

9VAC25-32-60 F 1 e - "Methods of notification of local government and obtaining compliance with local government zoning and applicable ordinances." - This is of concern as it talks about obtaining compliance with local government zoning and applicable ordinances.

DEQ Response to Comment: DEQ acknowledges the concern of the commenter; however this requirement is based on § 62.1-44.19:3.R. of the Code of Virginia which specifies "Localities, as part of their zoning ordinances, may designate or reasonably restrict the storage of sewage sludge based on criteria directly related to the public health, safety, and welfare of its citizens and the environment. Notwithstanding any contrary provision of law, a locality may by ordinance require that a special exception or a special use permit be obtained to begin the storage of sewage sludge on any property in its jurisdiction, including any area that is zoned as an agricultural district or classification. Such ordinances shall not restrict the storage of sewage sludge on a farm as long as such sludge is being stored (i) solely for land application on that farm and (ii) for a period no longer than 45 days. No person shall apply to the State Health Commissioner or the Department of Environmental Quality for a permit, a variance, or a permit modification authorizing such storage without first complying with all requirements adopted pursuant to this subsection.

9VAC25-32-60 F 1 f - "A copy of a letter of approval of the nutrient management plan for the operation from the Department of Conservation and Recreation if required in F 3 c of this section." - We request section f be deleted in its entirety. Requiring a separate submittal and approval from a state agency for a nutrient management plan that will be outdated before any biosolids application occurs is an unnecessary step and a diversion of government resources to review things that will never happen. Nutrient Management Plan should be approved after a permit is issued to ensure accuracy.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This language is based on Statutory requirement § 62.1-44.19:3.C.8.

9VAC25-32-60 F 2 b (3) - "Location of the following field features within 0.25 miles of the site boundary (indicate on map) with the approximate distance…" - What is the benefit of .25 miles? The distance should be measured from edge of application area NOT property lines as suggested.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, this language is

Public Comments and Department Response to Public Comments

based on 40CFR part 503

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Vector attraction reduction - providing "…a description of any procedures employed at the time of use to reduce vector attraction properties…" is not appropriate in the permit application. The permittee may not know at the time of permit submittal which vector attraction reduction will be used for the land application operation. VAMWA requests that DEQ strike this requirement and mandate, instead, that this information be provided with the monthly activity reports or with information on the treatment process for solids management.

DEQ Response to Comment: This is based on the federal regulation. The land applier must be prepared to meet VAR in the field in an emergency situation where biosolids have been land applied and VAR was not met at the plant. They should know if the fields are eligible to be incorporated, and if they or the farmer has the needed equipment to incorporate the sewage sludge within 6 hours.

Commenter: Trumbo, Susan, representing Recyc Systems

"(1) Description and specifications on spreader vehicles." Comment: Numerous types, sizes and models of spreaders are used. Recommendation: Modify to allow for a general description of spreader equipment.

DEQ Response to Comment: An O&M manual is meant to be used by staff using the equipment. It needs to include information on all the different equipment that the staff will encounter. WWTPs often include the equipment instruction manual in the O&M or reference the document and its location so that it is available to staff for use

"(1) When applying for authorization to land apply a biosolids source not previously included in a VPDES or Virginia Pollution Abatement Permit, the biosolids shall be sampled and analyzed for PCBs. The sample results shall be submitted with the permit application or request to add the source." Comment: Object to the general requirement for testing for PCB regardless of the background information from the generator indicates it is warranted. Recommendation: Recommend PCB testing of new sources if the background information on the source indicates a need.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. DEQ believes that testing for PCBs once every 10 years in not unreasonable.

"(11) Whether either of the vector attraction reduction options of 9VAC25-32-685 B 9 or B 10 is met at the site and a description of any procedures employed at the time of use to reduce vector attraction properties in biosolids;…" Comment: This appears to be a carryover from previous regulations and is not applicable due to the multiple sources and multiple circumstances over the time of the permit. Recommendation: Delete this section in its entirety.

DEQ Response to Comment: This is based on the federal regulation. The land applier must be prepared to meet VAR in the field in an emergency situation where biosolids have been land applied and VAR was not met at the plant. They should know if the fields are eligible to be incorporated, and if they or the farmer has the needed equipment to incorporate the sewage sludge within 6 hours.

"(14) If not all land application sites have been identified at the time of permit application, the applicant must submit a land application plan that, at a minimum:…" Comment: This allowance is considerate of the applicant but not logical. If the applicant has sufficient information to meet the minimum for advance notice, etc., then they would have sufficient information to meet the permit requirements. Recommendation: Delete this section in its entirety.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The Land Application Plan has been deleted from the proposed regulation. It was an administrative tool used in the VPDES regulation; however, the statute addresses requirements for adding land and makes the LAP language obsolete. This language was also removed from the VPDES regulation.

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"(3) Mined land sites where land application is proposed at greater than agronomic rates." Comment: Requiring a Nutrient Management Plan for mine land sites at application at greater than agronomic rates is not logical and cannot be implemented. Rates at greater than agronomic rates would not be an agronomic operation. Nutrient Management Plans only govern agronomic operations. Recommendation: Delete this section in its entirety.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. After further review, the language has been revised to require the reclamation activity be approved within the biosolids management plan. However, the NMP for management of the site following the reclamation still must be preapproved by DCR, and the approval submitted with the permit application, as required by § 62.1-44.19:3.C.8 of the Code of Virginia.

"(4) Field reclamation of offloading (staging) areas." Comment: Object to the use of "field reclamation" which implies serious damage has been done. Recommendation: Replace with "Reestablishing of offloading (staging) areas".

DEQ Response to Comment: DEQ acknowledges the review of the commenter, this language has been revised.

"(a) Biosolids analytical data from a minimum of three samples taken within four and one-half years prior to the date of the permit application. Samples must be representative of the biosolids and should be taken at least one month apart. Existing data may be used in lieu of sampling done solely for the purpose of this application." Comment: Object to the general requirement for multiple sampling over an extended period of time regardless of the circumstances or applicability. For example the sampling period would not be applicable or feasible to a one-time cleanout of a lagoon or an emergency operation. Recommendation: Allow for a one time composite sampling for unusual circumstances.

DEQ Response to Comment: This language is from the federal regulation 40CFR Part 503. This allows for samples from small facilities that sample only once/year

"3. A biosolids operations management plan shall be provided that includes the following minimum site specific information at the time of permit application." Comment: Definition of the Operations Management Plan conflicts with the definition given in 9VAC25-32-410. For ease of implementation suggest having only one section which defines what is in the management plan. Recommendation: Combine and refine the sections into one.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, section 60 has been edited so that it lists only what is required at the time of permit application.

"3. A biosolids operations management plan shall be provided that includes the following minimum site specific information at the time of permit application." Comment: The use of the term "biosolids operations management plan" and the term "Operations and Maintenance" are too similar causing confusion. Recommendation: Delete "operations" from the term. Replace with "Biosolids Management Plan".

DEQ Response to Comment: DEQ acknowledges the review of the commenter, the name has been changed to Biosolids Management Plan.

"3. A biosolids operations management plan shall be provided that includes the following minimum site specific information at the time of permit application." Comment: There is a significant volume of information required for submittal in this section. What is truly necessary versus required by habit? Recommendation: Recommend refining the information required in an operations management plan to only that which is necessary.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. Much of what is required is based on EPA permit applications for the land application of biosolids. Other items have been added based on experience regarding the information needed to evaluate a permit application.

Public Comments and Department Response to Public Comments

"a. Description of operation: A comprehensive, general description of the operation shall be provided, including biosolids source or sources; quantities; flow diagram illustrating treatment works biosolids flows and solids handling units;…" Comment: Requirement for information on biosolids sources is a repeat of the requirements found in previous section, Design Information. Recommendation: Delete this section in its entirety.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been reworded

"b. Haul routes to be used from the biosolids generator to the storage unit and land application sites." Comment: Numerous routes to the various generators and sites. Recommendation: Modify to allow for a general description of haul routes rather than a specific haul route due to various generators and land application sites.

DEQ Response to Comment: This section of the permit application is one part of the Operations Management Plan, and modifications to the plans shall be submitted to DEQ for approval as part of the plan. Other parts of the plan include the O&M manual and the NMPs for each site. VPA requires the "means of transport or conveyance" and has the same language in 9VAC25-32-60.F.4. This information is particularly important to the citizens at the time of the informational meeting prior to permit issuance.

"b. Storage facilities. Plans and specifications for storage facilities of all biosolids to be handled, including routine and on-site storage, shall be submitted for the issuance of a certificate to construct and a certificate to operate in accordance with the Sewage Collection and Treatment Regulations (9VAC25-790) and shall depict the following information:..." Comment: The requirement for a certificate to operate in accordance with the SCAT reg's appears to be a carryover from previous regulations and is not applicable to biosolids land application. Recommendation: Delete this section in its entirety.

DEQ Response to Comment: The Sewage Collection and Treatment Regulations are still in effect and are applicable to biosolids storage facilities. No changes were made.

"Biosolids transport. A. Description and specifications on the bed or the tank vehicle. "Comment: Numerous types, sizes and models of trucks and trailers are used to transport biosolids. Recommendation: Modify to allow for a general description of transport vehicles rather than a specific description.

DEQ Response to Comment: DEQ acknowledges the review of the commenter; a more general description will be required at the time of permit application.

"c. Procedures for biosolids offloading at the biosolids facilities and the land application site together with spill prevention, cleanup (including vehicle cleaning); field reclamation and emergency spill notification and cleanup measures." Comments: Object to the use of "field reclamation" which implies serious damage has been done. Recommendation: Replace with "Reestablishing of offloading (staging) areas".

DEQ Response to Comment: DEQ acknowledges the review of the commenter. Please see the response to comments regarding staging and storage.

"e. Methods for notification of local government and obtaining compliance with local government zoning and applicable ordinances." Comment: This appears to be a carryover from previous regulations and is not applicable to biosolids land application. Recommendation: Delete this section in its entirety.

DEQ Response to Comment: DEQ acknowledges the concern of the commenter; however this requirement is based on § 62.1-44.19:3.R. of the Code of Virginia which specifies Localities, as part of their zoning ordinances, may designate or reasonably restrict the storage of sewage sludge based on criteria directly related to the public health, safety, and welfare of its citizens and the environment. Notwithstanding any contrary provision of law, a locality may by ordinance require that a special exception or a special use permit be obtained to begin the storage of sewage sludge on any property in its jurisdiction, including any

area that is zoned as an agricultural district or classification. Such ordinances shall not restrict the storage of sewage sludge on a farm as long as such sludge is being stored (i) solely for land application on that farm and (ii) for a period no longer than 45 days. No person shall apply to the State Health Commissioner or the Department of Environmental Quality for a permit, a variance, or a permit modification authorizing such storage without first complying with all requirements adopted pursuant to this subsection.

"The information may be providing by referencing information previously submitted to the department." Comment: Thank you. This will prevent the unnecessary repetitive submittal of manuals and general information.

DEQ Response to Comment: DEQ acknowledges the support of the commenter. The DEQ regional offices have the ability to ask for additional information if needed to evaluate an application.

9VAC25-32-60 F 1 c (3) Application for a VPA permit

Commenter: Razik, Al, representing Maryland Environmental Services

MES agrees with DEQ that implementing odor control plans are a good idea, since odors are a major issue of concern at land application sites. We would go one step further, and suggest that there should also be a requirement in the odor control plans for both the generators and land appliers to have a system for recording and documenting odor complaints. An odor control plan to minimize odor complaints will be more robust when the complaint information is transmitted to the source (generator).

DEQ Response to Comment: DEQ acknowledges the review and support of the commenter.

9VAC25-32-60 F 1 c (7)

Commenter: Mitchell-Watson, Leslie, representing Friends of the North Fork of the Shenandoah River

9VAC25-32-60 F 1 c (7) - General information required should include the exact location of sites proposed for an application, such that interested individuals can identify specific fields proposed for application.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. Based on experience with permit applications submitted since the program was transferred to DEQ, it has been determined that several maps are required for accurate permitting. The topographic map depicts the lay of the land and features that will affect where the biosolids can be applied; the tax map is used to determine the boundaries of the property that is legally authorized to receive biosolids; the transport map is required so that it will be available for public review at the public informational meeting; the soils map is needed for DEQ staff to evaluate the field's suitability for land application.

9VAC25-32-60 F 1 d

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

Written permission from the landowners or farmers is required by 9VAC25-32-60 F 1 d on a form approved by the Board and pertinent lease agreements as may be necessary for the operation of the "treatment works". This makes no sense in the context and appears to be an editorial or typographical error, or perhaps a poorly-executed cut and paste effort.

DEQ Response to Comment: DEQ acknowledges the review of the commenter; however no changes have been made. It would apply in a case where the permittee is further treating the sewage sludge or biosolids received and the treatment works is leased or on leased land.

9VAC25-32-60 F 1 e

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

The language in 9VAC25-32-60 F 1 e requires that the applicant describe "methods for notification of local government and obtaining compliance with local government zoning and applicable ordinances." That language appears to have been carried over from regulations pertaining to the construction of treatment works and has no applicability to land application activities. It should

be removed.

DEQ Response to Comment: DEQ acknowledges the review of the commenter; however this requirement is based on § 62.1-44.19:3.R. of the Code of Virginia which specifies Localities, as part of their zoning ordinances, may designate or reasonably restrict the storage of sewage sludge based on criteria directly related to the public health, safety, and welfare of its citizens and the environment. Notwithstanding any contrary provision of law, a locality may by ordinance require that a special exception or a special use permit be obtained to begin the storage of sewage sludge on any property in its jurisdiction, including any area that is zoned as an agricultural district or classification. Such ordinances shall not restrict the storage of sewage sludge on a farm as long as such sludge is being stored (i) solely for land application on that farm and (ii) for a period no longer than 45 days. No person shall apply to the State Health Commissioner or the Department of Environmental Quality for a permit, a variance, or a permit modification authorizing such storage without first complying with all requirements adopted pursuant to this subsection.

The requirement is inserted to ensure that all local requirements, where applicable, have been met.

9VAC25-32-60 F 1 f

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

9VAC25-32-60 F 1 f requires a letter approval from DCR for the nutrient management plan during the application process. This requirement should be consistent with the provisions of VA Code § 62.1-44.19:3(C)(8). Note also that the cross-reference to subdivision 3 c in the proposed regulation is not correct. Also note that the letter approval and nutrient management plans should not be required at the time of permit application. Rather, they should be required to be submitted prior to land application occurring. Soil characteristics can change over time. The nutrient management plans and related approvals should be performed as close as possible to the time of land application to assure their accuracy.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This language is based on Statutory requirement § 62.1-44.19:3.C.8.

9VAC25-32-60 F 2 a

Commenter: Mitchell-Watson, Leslie, representing Friends of the North Fork of the Shenandoah River

9VAC25-32-60 F 2 a - Biosolids characterization - Biosolids analytical data should be from samples taken within one (1) year of the permit application. Allowing analyses that may be 4 or more years old is excessive and may not be representative of the materials that will be applied.

DEQ Response to Comment: This language is from the federal regulation 40CFR Part 503. This allows for samples from small facilities that sample only once/year

9VAC25-32-60 F 2 a (1)

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-32-60 F 2 a (1) - "When applying for authorization to land apply a biosolids source not previously included in a VPDES or Virginia Pollution Abatement Permit, the biosolids shall be sampled and analyzed for PCBs…" - Please clarify, PCB's analyzed by EPA method 1668 (Frequency?). Clarify requirement and we object to the Department imposing additional sampling for no reason.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The language has been changed to use method approved by 40 CFR Part 136 or 40 CFR Part 503.

9VAC25-32-60 F 2 a (4)

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-32-60 F 2 a (4) - "Samples shall be collected and analyzed in accordance with analytical methods specified in EPA-SW-846, Third Edition (1986) with Revision I…" The methods of analysis seem to contradict analytical requirements found in 9VAC25-31-490 B.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The language has

been changed to use method approved by 40 CFR Part 136 or 40 CFR Part 503.

9VAC25-32-60 F 2 a 4

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

The proposed regulations require PCB analysis of biosolids using Method 1668. We have some concern about the regulation including a requirement to use a method that has not been promulgated under 40 CFR Part 136. Additionally, this method is one of the more expensive. It is unclear from the regulation the frequency with which samples would be required. (9VAC25-32-60 F 2 a 4)

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The language has been changed to use method approved by 40 CFR Part 136 or 40 CFR Part 503.

9VAC25-32-60 F 2 b (3)

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-32-60 F 2 b (3) - "…(o) other unlined impoundments; (p) septic tanks and drain fields; and (q) injection wells." - The requirement to map septic tanks and drain fields should be deleted. The features of septic tanks and drain fields can be difficult to determine and be intrusive to adjoining landowners. Will the permit application be required to report deficiencies found during the mapping?

DEQ Response to Comment: These are features required for maps submitted for routine storage facilities only.

9VAC25-32-60 F 2 d

Commenter: Mitchell-Watson, Leslie, representing Friends of the North Fork of the Shenandoah River

9VAC25-32-60 F 2 d - Land application sites - topographic maps should depict flood plains, which should be used to determine where biosolids can be applied, rather than "frequently flooded areas".

DEQ Response to Comment: DEQ acknowledges the review of the commenter. Flood Plains would be included in frequently flooded areas

9VAC25-32-60 F 2 d (1)

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-32-60 F 2 d (1) - "DEQ control number, if previously assigned, identifying each land application field or site and the site's location;" - The unique control number per field results in significant implementation issues related to timing/use of number and computer software issues of such a number. Can the Department clarify how the number will be used, for example it is to establish a unique identifier for each site or each field? How long will it take to receive? How will this affect field splits, applications to less than an entire field, change in contractors, change in fields size/boundary that result over time in normal farming operations, etc. What happens when several tax numbers covers more than one field? We recommend that the control numbers be received prior to permit issuance so that they can be included in site books for recordkeeping activities. Will the department be equipped to readily provide detailed maps should a field pass from one generator to another to one land applier to another? Also another item should be added that states that only one entity can hold a permit on a field at a time. We do not support the establishment of a control number that results in an inability to support agricultural operations over time or in an inefficient manner.

DEQ Response to Comment: New language has been proposed to allow the permittee to use the current field ID number in the permit application until a DEQ control ID has been assigned. A control number is assigned when the sites are placed in the GIS database at the time of permit application or request to add land. There overlap or duplication of sites will be recognized at that time.

9VAC25-32-60 F 2 d (3)

Commenter: Powell, Mary, representing Nutri-Blend

This requires a topographic map as part of permit submittal for land application of biosolids.

We request that an aerial map be an acceptable alternative. Aerial maps often have a great amount of detail on them and clearly show field boundaries and other features. These are often easier for field personnel to use. All required features could be depicted on an aerial map as easily as on a topographic map.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The regulation requires both, they each are capable of revealing different features

9VAC25-32-60 F 2 d (3) (h) Application for a VPA permit

Commenter: Razik, Al, representing Maryland Environmental Services

The definition of gross acreage should be defined more clearly, and there should be some reference to usable acreage (the gross acreage minus the buffer zone areas). Our experience has shown that the differences between gross and usable acreages should be delineated so as to avoid confusion in the field during land application. Also, it's common practice for land appliers to flag fields to mark off the buffer zone areas. MES suggest that the field flagging procedure be incorporated in the regulations to make this a universal practice.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. Gross acres will stay the same, useable acres will change as buffers change. The field flagging procedure was not incorporated into the regulation, as the mechanism to ensure setbacks are accurate could potentially be achieved in different ways. The means used by the land applier should be specified in the biosolids management plan, and this would become enforceable.

9VAC25-32-60 F 2 d 14

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

Section 9VAC25-32-60 F 2 d 14 does not make sense, especially given that the regulations require a new application to be submitted with new sites are proposed to be added to the application area. If such information is required, there should be a shorter review time when the application for the new sites is filed.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The Land Application Plan has been deleted from the proposed regulation. It was an administrative tool used in the VPDES regulation; however, the statute addresses requirements for adding land and makes the LAP language obsolete. This language was also removed from the VPDES regulation.

9VAC25-32-60 F 3 b (3)

Commenter: Hayes, Timothy, representing Hunton & Williams, LLP

The reference to mined land reclamation should be struck from 9VAC25-32-60 F 3 b (3). During the reclamation phase at these sites, biosolids are applied for the purpose of restoring the soil. During the time between the start of reclamation and the return of the land to productive purposes, the site is not being used for growth of any particular crop. Thus a requirement to provide a nutrient management plan during the reclamation process at such sites does not make sense.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. After further review, the language has been revised to require the reclamation activity be approved within the biosolids management plan. However, the NMP for management of the site following the reclamation still must be preapproved by DCR, and the approval submitted with the permit application, as required by § 62.1-44.19:3.C.8 of the Code of Virginia.

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-32-60 F 3 b (3) - "mined land sites where land application is proposed at greater than agronomic rates." - We recommend that this be deleted. Reclamation at above agronomic rate should not be considered in context of an agronomic rate nutrient management plan.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. Because all land application requires a NMP as specified in § 62.1-44.19:3.C.8 of the Code of Virginia, and the DCR NMP Standards and Criteria do not specify appropriate rates above agronomic for purposes of reclamation, a NMP

for this purpose would require DCR approval in order to be classified as an NMP as required in the Code of Virginia.

Commenter: Smedley, Scott, representing Virginia Biosolids Council

The reference to mined land reclamation should be struck from 9VAC25-32-60 F 3 b (3). During the reclamation phase at these sites, biosolids are applied for the purpose of restoring the soil. During the time between the start of reclamation and the return of the land to productive purposes, the site is not being used for growth of any particular crop. There is an intensive effort to restore nonproductive lands to valuable, healthy and productive properties in Virginia, and a nutrient management plan should not be required to restore these damaged and nonproductive lands. Biosolids are a reliable, efficient material to restore and reclaim land, and every effort should be made to encourage this activity.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. After further review, the language has been revised to require the reclamation activity be approved within the biosolids management plan. However, the NMP for management of the site following the reclamation still must be preapproved by DCR, and the approval submitted with the permit application, as required by § 62.1-44.19:3.C.8 of the Code of Virginia.

9VAC25-32-60 F.1(8)d

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

This section requires written permission of landowners and farmers on a form approved by the board and pertinent lease agreements as may be necessary for operation of the treatment works. Since the definition of treatment works specifically states that it does not include biosolids use on privately owned agricultural land, it would seem that written permission of the landowner is adequate.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. The term farmer has been removed

9VAC25-32-60 F.2.d

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

This section requires an excess of maps for a land application site permit application. Some of the requested materials are extensive and seem more appropriate for a nutrient management plan (NMP). For example, the application requires four maps - a topographic map, a tax map, a transport map, and a soil survey map. Since DEQ will be assigning a specific control number to the site, it is recommended that the requirement for a tax map be deleted. The requirement for a transport map is premature, especially for the VPA permit, as the applier may not know the source of the biosolids that will be applied on that particular site. It is recommended that the transport map requirement be deleted. It is recommended that the soil survey map be included in the NMP instead of the application.

DEQ Response to Comment: Based on experience with permit applications submitted since the program was transferred to DEQ, it has been determined that these maps are required for accurate permitting. The topographic map depicts the lay of the land and features that will affect where the biosolids can be applied; the tax map is used to determine the boundaries of the property that is legally authorized to receive biosolids; the transport map is required so that it will be available for public review at the public informational meeting; the soils map is needed for DEQ staff to evaluate the field's suitability for land application.

9VAC25-32-720 A

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

VAMWA objects to the title of 9VAC25-32-720, "Liability requirements." Instead, that section should be titled, "Financial responsibility requirements". Likewise, the term "liability coverage" in 9VAC25-32-720 A and B should be replaced with "financial responsibility". Additionally, 9VAC25-32-720 A requires financial assurance of "$2 million per occurrence with an annual aggregate of at least $2 million, exclusive of legal defense costs." VAMWA recommends deleting the phrase "at least" from

this requirement so that the financial assurance requirement is "$2 million per occurrence with an annual aggregate of $2 million, exclusive of legal defense costs."

DEQ Response to Comment: Please see response to comments regarding Financial Assurance above

9VAC25-32-780

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

The proposed regulations include an entirely new article (Article 6) to address financial assurance. One of the suggestions made by the VAMWA representative on the subcommittee was to streamline the local government test using alternative regulatory language. HRSD requests that the Board substitute this language for the proposed language in 9VAC25-32-820. HRSD opposes the proposed language and supports the alternative approach for two reasons. First, the proposed requirements in the regulations are onerous. Second, the proposed requirements are unnecessary. Although HRSD acknowledges that the statute requires evidence of financial responsibility, we are unaware that there has ever been a finding of liability against a Virginia local government or sanitary authority for a biosolids-related incident. Proposed alternative language: 9VAC25-32-820. Local government financial test. "A. A permit holder or applicant that satisfies the requirements of this section may demonstrate financial assurance using the local government financial test. B. The permit holder or applicant shall satisfy the provisions of this section, as applicable: 1. If the permit holder or applicant is a city, county, or town as defined by Va. Code § 15.2-102, an authority as defined by Va. Code § 15.2-5101, or a sanitary district as defined by Va. Code § 21-113; and 2. The permit holder or applicant has the legal authority pursuant to Va. Code § 15.2-5114, or Va. Code § 21-118(5) to set sewer rates for use of the sewerage system. C. The local government permit holder or applicant must submit to the department the following: 1. An original letter signed by the local government's chief financial officer stating that the permit holder or applicant meets the requirements of this section; or 2. A notarized statement from the utility director, executive director or manager of the utility, authority or district that the permit holder or applicant meets the requirements of this section."

DEQ Response to Comment: Please see response to comments regarding Financial Assurance above

9VAC25-32-790

Commenter: Barauskas III, Joseph P., representing Insurance Providers

Suggested modifications to Article 6 - 9VAC25-32-790: 1) Each Applicator shall obtain a Pollution Liability policy as well as a General Liability policy that covers all activities associated with the "Transport, Storage and Land Application" of biosolids; 2) The Applicator's policy Limit of Liability shall not be less than $2 M per Occurrence and not less than $2 M Annual Aggregate: The policy or policies purchased shall include: ISO Form CG 25 04 03 97; Designated Location(s) General Aggregate or, ISO Form CG 25 03 03 97; Designated Construction Project(s) General Aggregate or their equivalents on both the Pollution Liability and General Liability policies; 3) The Applicator shall ensure that the Pollution Policy include either by endorsement or the purchase of a specific policy, a Limit of Liability equal to or greater than the Limit of Liability already established by the Authority for the transportation of Biosolids material; 4) The Coverage shall be evidenced by the provision of an ACORD Certificate of Insurance; and 5) Each policy is to be issued by an insurer which is licensed to transact the business of insurance in the Commonwealth of Virginia, or eligible to provide insurance as an Excess & Surplus Lines company. The insuring/issuing company should have at minimum an AM Best rating of A- or better at the time of the issuance of the ACORD Certificate of Insurance.

DEQ Response to Comment: Please see response to comments regarding Financial Assurance above

9VAC25-32-790

Commenter: Barauskas III, Joseph P., representing Insurance Providers

Since one of the objectives of the proposed regulations is to require insurance for "The

Transport, Storage and Application of Biosolids" this may necessitate the placement of specific policies for the following reasons: I. The Commercial General Liability form developed by the insurance Services Office (ISO) and most commonly used carries an Absolute Pollution Exclusion II. Recent changes to the Commercial Automobile policy could also necessitate a separate policy or the endorsement of a pollution policy to include the risks associated with the transport of the biosolids material. It is important to note however, that applicators domiciled in Virginia have the benefit of an exclusive Virginia amendment to the policy allowing for the discharge if "sudden and accidental". Therefore, applicators from other states operating in Virginia may need to consider the addition of Pollution in Transit coverage. III. Nature of Insuring Company: Page 403 - Line 20 to 22: It is suggested that the specified lines be expanded to include requirements regarding the financial stability/quality of the insuring company; utilization of AM Best, Standard & Poor's or Moody rating; these ratings reflect the financial capacity and stability of the insuring company.

DEQ Response to Comment: : Please see response to comments regarding Financial Assurance above

9VAC25-32-80

Commenter: Richardson, Hunter, representing Synagro Central, LLC

9VAC25-32-80 H 4 - "Monitoring shall be conducted according to analytical methods promulgated pursuant to § 304(h) of the Clean Water Act (33 USC § 1251 et seq.) and listed in the Code of Federal Regulations at 40 CFR Part 136 (1995). Any other acceptable test procedure not listed in 40 CFR Part 136 (1995) shall be specified in the VPA permit." - The analytical methods in 40 CFR Part 503 should also be included in this paragraph. This would also make the regulation consistent with the Part 503 analytical methods listed in 9VAC25-31-490 B.

DEQ Response to Comment: DEQ acknowledges the review of the commenter, this language has been updated.

9VAC25-32-820

Commenter: Steidel, Robert C., representing Virginia Association of Municipal Wastewater Agencies, Inc.

Replace proposed regulatory language in 9VAC25-32-820 related to Local government financial test with the following: "A. A permit holder or applicant that satisfies the requirements of this section may demonstrate financial assurance using the local government financial test. B. The permit holder or applicant shall satisfy the provisions of this section, as applicable: 1. If the permit holder or applicant is a city, county, or town as defined by Va. Code § 15.2-102, an authority as defined by Va. Code § 15.2-5101, or a sanitary district as defined by Va. Code § 21-113; and 2. The permit holder or applicant has the legal authority pursuant to Va. Code § 15.2-2119, Va. Code § 15.2-5114, or Va. Code § 21-118(5) to set sewer rates for use of the sewerage system. C. The local government permit holder or applicant must submit to the department the following: 1. An original letter signed by the local government's chief financial officer stating that the permit holder or applicant meets the requirements of this section; or 2. A notarized statement from the utility director, executive director or manager of the utility, authority or district that the permit holder or applicant meets the requirements of this section."

DEQ Response to Comment: Please see response to comments regarding Financial Assurance above

9VAC35-31-100 Q 10

Commenter: Bowen, Rhonda, representing Hampton Roads Sanitation District

These requirements do not match the requirements for a routine biosolids storage facility under 9VAC25-32-550.D. Since 9VAC25-31-100.Q.10 applies to biosolids storage facilities not located at the site of the wastewater treatment plant, it is recommended that this section be deleted and any offsite routine storage be permitted under the VPA regulations.

DEQ Response to Comment: DEQ acknowledges the review of the commenter. This section has been rewritten. See the response to comments regarding storage.

Public Comments and Department Response to Public Comments