

Down the Pipeline

BEDFORD REGIONAL WATER
AUTHORITY

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General Assembly Session 2016

The General Assembly of Virginia was scheduled to conclude its session on March 12. It will reconvene on April 20 to consider the Governor's actions. Water Quality Grant Funding is set to receive \$59 million for capital improvement projects with wastewater treatment plants removing nutrients. The State budget also appropriates \$250,000 for research and other costs in developing a long-term allocation mechanism within the existing Nutrient Credit Exchange of Virginia.

Two bills remained pending at the beginning of March related to non-payment of water and sewer bills. HB 919 has been favorably amended to provide that a locality or person supplying water or sewerage services may cut off service if the owner or tenant has not paid the full amount of charges within 30 days.

Passed in the Senate and pending in the House Courts of Justice Committee, is SB 746 which provides that a government employee who exceeds the scope of his/her authority when performing an inspection of a private entity to determine compliance with any law, regulation, or ordinance shall be personally liable for any damages arising from any enforcement action taken against the entity. It was finally amended so that it is the employer rather than the employee that is liable.

While the 2016 session has been active for biosolids legislation, HJ 120 is the only biosolids-related bill that is still active. It directs JLARC to conduct a study on various aspects of biosolids and industrial residuals land application. It passed the House on February 11, crossed over to the Senate, and has been reported out of the Senate Committee on Rules.

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State Water Control Board Adopts Triennial Review Updates

On January 14 the SWCB voted unanimously to approve DEQ's recommendations for final action on its review of water quality standards. DEQ recommended that the freshwater ammonia criteria be deferred from Triennial Review

due to the high projected implementation costs and to allow a more thorough consideration of implementation procedures and options. This will lead to an additional regulatory process to consider how to best adopt and implement this new ammonia

criteria that was handed down by EPA.

This criteria will impact facilities without nitrification discharging to streams with minimal dilution, and small plants that are not easily upgraded to achieve nitrification.

EPA's 2013 ammonia criteria changes will impact all POTWs regardless of existing treatment technology of the plant.

An increased dependence upon temperature and pH could lead to a closer focus on warm weather diurnal pH cycles, affected by algal growth, driving permit limits much lower.

Chesapeake Bay Barometer

In February the 2014-15 Bay Barometer: Health and Restoration in the Chesapeake Bay Watershed was released. A lot of good news was contained within this report! Several of the Bay health measures have seen improvement, including:

- A decrease in nutrient and sediment loads.
- An increase in attainment of water standards.
- An increase in the acres of underwater grasses.
- An increase in the stream miles

open to the movements of migratory fish; and

- An increase in populations of young striped bass, adult female blue crabs and migrating American shad.

The report shows that between October 2013 and September 2014, about 285 million pounds of nitrogen, 17.5 million pounds of phosphorus, and 3.62 million pounds of sediment (TSS) reached the Bay. This is below the 24-year average of both loads.



DEQ's Information on Changes to Regulatory Program

Some key changes are to be made in the current biosolids program, prompted by the approximate 40% reduction in annual land application fees used to fund inspection and oversight across the State. This budget impact arises from the new thermal hydrolysis and digestion process now in place at the Blue Plains Treatment Center located in Washington, D.C.

DEQ will reduce staff assigned to biosolids at both the regional and central office level. The number of inspections of land application sites will be reduced due to the

30% reduction in biosolids applied from Blue Plains. DEQ plans to implement a risk-based inspection strategy that is similar to the approach used in the VPDES Water Compliance Program, to determine which sites need to be visited.

All Enhanced Quality biosolids is currently required to be applied in accordance with site restrictions included in Class B land application permits. DEQ will acknowledge this lower risk when it issues this strategy. This is consistent with the fact

that the material is currently being applied under broader permits for Class B biosolids. Of course, there are unanswered questions about whether DEQ will use a general permit to require additional management measures in specific situations call for safeguards not already listed elsewhere.

Federal Wastewater Developments

EPA has proposed relaxed freshwater cadmium water quality criteria. This proposal relaxes the criterion intended to protect aquatic species from chronic exposure in freshwater, based upon new data, but strengthens the criteria for estuarine and marine waters in order to protect three additional species. This criterion considers both chronic risks considered to be a duration of four days or longer, and acute risks,

addressed with a risk level based on a one-hour exposure.

The agency is increasing its freshwater chronic criterion from 0.25 ug/l to 0.73 ug/l. For acute exposures the agency proposes to increase the freshwater criteria from 2.0 ug/l to 2.1 ug/l.

Estuarine and marine waters acute criteri-

on would change from 40 ug/l to 35 ug/l while the chronic criterion would change from 8.8 ug/l to 8.3 ug/l.

This was open for comment through 2/1/16.

Once finalized this will impact the State's water quality standards for cadmium, which is of interest to most POTWs and by extension, to industrial users permitted by a POTW.

2016 Spring Facility Inspections

It is that time of the year once again! If you are a Significant Industrial User then your facility must be inspected. Please make sure that you schedule a date and time that is workable with your scheduling needs, and do so early.

Please make sure that you, or your designee, will be onsite on inspection day and available to tour the facility.

This does not include an audit of your records as that is only done in December of each year.

If DEQ has never come and inspected your facility, be aware that they will be coming soon with Water Authority personnel. This joint inspection will most likely happen this fall or next spring.

If you have pH buffer solutions please check to make sure that they have not expired.

If you must calibrate pH meters daily, or weekly, please be sure to do so and document this action.



2016 Wastewater Discharge Permit Renewals

Since there are several Discharge Permits being renewed this spring, I want to pass along some information ahead of their issuance.

It would be best, once you have signed your Permit, to go through and read it. There have been some changes made in the language and in how the County's new Sewer Use Ordinance is being cited.

Upon signing for and receiving your new Permit, you shall receive a paper copy of the County Ordinance. I will at that time

go over the changes in format and substance that were made when it was revised last year.

There have been changes made in enforcement actions, public notice, appeal of permit conditions, and the hauling of wastes to treatment plants.

Best Management Practices are now part of a discharge Permit and therefore enforceable.



Grease Problems & how to avoid them

Fats, oils, and grease are a continual problem for anyone who has pipes underground to convey these materials away from their residence or business.

Since grease is actually "water repellent" in its nature, it will readily attach to other surfaces. Because of this, whenever a pipe fills completely with wastewater grease begins to accumulate from the top of the

pipe downwards. The combination of cooling temperatures and "water repellency" contributes, along with pH, to the formation of grease blockages inside of pipes and pump stations.

Traps and interceptors will control and remove grease at food serving establishments, but only if sized correctly and kept in good operating condition by the owner.

Care must be exercised in the use of degreasers and heated water. Dishwashing machines must not be plumbed to grease traps for they will scour out all grease and send it down the pipeline to congeal and block a pipeline or manhole some place else. Garbage disposals are not to be installed and used to send left over food scraps to the trap for this will fill the trap with solids, leaving no room for grease.

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Enhanced Biological Phosphorus Removal

This element is one of nature's paradoxes. It is essential to life on earth and in scarce supply, yet it is destructive to the aquatic environment when present in excess. Thus, more and more treatment facilities are required to upgrade in order to remove Phosphorus (P) to achieve environmental protection.

Two commonly used approaches used are chemical P removal and enhanced biological P removal (EBPR). EBPR is more sustainable for it reduces chemical use and solids production. But it is more complex and involves many inter-related processes that affect effluent quality.

Specialized microorganisms control EBPR. They have the ability to remove P in excess of their metabolic requirements. These organisms are always

present in the mixed liquor of the biological treatment process and normally remove carbonaceous biochemical oxygen demand (BOD) the same as other heterotrophic organisms. However, when stimulated by certain conditions, they remove excess P.

What are these "certain" conditions? They are alternating anaerobic and aerobic environments; and short-chain volatile fatty acids (VFAs) in the anaerobic zone. This alternating between having no oxygen and having oxygen in the presence of VFAs triggers the storage and consumption of three products.

This new environment can be created within the anoxic zones at the head of any aeration basin.

Within the anaerobic zone there is an

interaction between these three products, allowing for the uptake of increased P amounts from the water. The P is removed from the system by wasting the solids, so the wasting process itself becomes extremely important. Finishing filters can be used to achieve plant effluent concentrations as low as 0.2 mg/l.

One must remain aware of the effects of hydraulic loading during high flow events (rain), low VFA levels in-plant, decreased dewaterability of high-P wasted solids, and insufficient dissolved oxygen at the influent end of all aeration basins.