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# WILL THE NUTRIENT CREDIT MARKET SUFFER SUPPLY SHORTAGE?

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The Pennsylvania Department of Environmental Protection recently announced "program enhancements" to its nutrient credit trading program. DEP will eliminate "capacity credits" currently generated by treatment plants and impose a 3:1 ratio on agricultural credits. DEP pulled back its plan eliminate manure hauling as a source of credits.

The program changes appear likely to reduce significantly the supply of nutrient credits in the market, as DEP will severely restrict nearly every current source of low-cost nutrient credits. A probable result in the next few years is that there will be too few low-cost credits to meet expected demand. Those who decided to upgrade their plants rather than rely on long-term nutrient trading should feel good about their decisions. Normal market forces appear poised to drive up the price of credits as the number of credits for sale dwindles under DEP's actions.

DEP plans to make it harder for WWTPs to generate credits by barring the generation and sale of credits based on the difference between actual flows and plant capacity. Instead, WWTPs will have marketable credits only to the extent they "beat" average effluent concentrations of 6.0 mg/L of TN and 0.8 mg/L of TP on their actual flows. This change alone will skim enormous numbers of the so-called "capacity credits" off the market.

Efforts to generate low cost credits from agricultural activities will be ploughed under by a new 3-to-1 trading ratio for all new and renewed credits certifications. And unless a "performance based calculation tool" is in place by October 1, 2017, agricultural credit generation could be eliminated entirely. DEP hopes to adopt a performance based approach, which would use the Chesapeake Bay Multi-State Trading Tool (MSTT) and allow 5 year credit certifications and no trading ratio. The open issue is how many credits might be created using the MSTT tool. Will agricultural practices generate plentiful and inexpensive credits or something closer to the 3:1 ratio it may replace?

DEP also intended to dump manure hauling as a means of producing nutrient credits, but abruptly changed its mind. Removing chicken litter and manure from the watershed would have not been recognized as creating saleable credits. Manure hauling aggregators would have been eliminated from the future of nutrient trading in Pennsylvania. DEP reversed its position and most recently decided to allow manure hauling to generate credits.

Trading began as a mechanism to move sewer system customer revenues to agriculture. DEP's early plan was to encourage WWTPs to forgo physical upgrades and instead rely on credit trading to achieve permit compliance. Most WWTPs opted to upgrade, largely because the cost and long-term availability of credits seemed uncertain. DEP's enhancements vindicate the decisions of those who chose to upgrade. There is some aspect of Lucy pulling the football away from Charlie

Brown as the trading program changes remove many credits from the market. But in the future, the demand for nutrient credits seems destined to rise, as plants approach and exceed their nutrient caps loads, and developers add connections and volume and load, requiring offsets far into the future.

As DEP must recognize, these changes will drastically reduce the supply of credits on the market. Temporary demand for nutrient credits should also decrease as some late-stage upgrades come online, ending the purchase of temporary credits that helped with NPDES compliance during construction. As new development eventually overtakes installed sewer treatment capacity, the demand for credits seemingly must increase, steadily and inexorably, as the supply of lower cost credits shrinks under DEP's enhancements.

High-tech manure treatment operations may help meet demand, but such ventures likely need to sell at prices well above recent market levels. Had Pennsylvania opted directly to fund relatively inexpensive farm-based nutrient reductions fifteen years ago, Pennsylvania might have achieved tremendous reductions and saved sewer ratepayers billions in user fees. After two billion dollars of sewer plant upgrades, the Commonwealth has far to go. Yet the trading program enhancements appear designed to increase the total cost of nutrient reductions for Pennsylvania.

EPA, meanwhile, has not dropped the concept of requiring the recently upgraded Pennsylvania treatment plants in the Susquehanna watershed to upgrade yet again to Enhanced Nutrient Removal. Some estimate a cost of \$15-20 per pound for that next level of nutrient removal. The regulators' approach does not appear to be the product of an effort to reduce nutrients to the Bay at the lowest cost for Pennsylvanians.

As Pennsylvania moves forward, we might reasonably expect the various market segments to try to avoid being assigned an inequitable share of the remaining cost of compliance. That ultimate cost of compliance continues to rise, driven by policies that avoid embracing low cost agricultural-based solutions in favor of ever more complex and unsustainably expensive approaches, many of which appear to assume an unending supply of sewer customer dollars to pay for exponentially more expensive reductions. It will take a wise and comprehensive effort to keep the total cost of further reductions to a minimum. The anticipated changes to the nutrient trading program may make that existing challenge even more difficult.



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