EPA

Moderator: Jim Giattina
December 7, 2010
8:00 a.m. CT

Jim Giattina: Thank you, (Felicia). I appreciate that. I'm Jim Giattina. I'm Director of the Water Protection Division in EPA's southeastern regional office here in Atlanta. I want to welcome you to the EPA Webinar on the Florida Nutrient Rule. Today, we're going to be focusing – or this morning, we'll be focusing on dischargers of domestic and industrial waste water, as well as storm water discharges. This Webinar is designed to reach out to the public to discuss issues related to the implementation of the Florida numeric nutrient criteria. In this Webinar, we are specifically addressing NPDES permits for municipal and industrial waste water and storm water discharges. We have staff and managers from both EPA and the Florida Department of Environmental Protection; in particular, (Phil Coram), Deputy Director of the Division of Water, will be representing Florida DEP and these folks are on the phone line.

As you may be aware, EPA's final rule for numeric nutrient criteria for lake and flowing waters, provides for an effective date 15 months after the rule is published. We do believe the rule was published yesterday, Monday, December 6, but we're trying to check and make sure that that actually occurred.

This delayed effective date enables us to address issues and answer questions related to the implementation of the final rule. Today's presentation will give a brief overview of the new rule. It will discuss implementation of the new rule within the NPDES permitting program and potential flexibilities that are available for dischargers. Although today's presentation is focused primarily

on municipal sources waste water and storm water discharges, the information and principles are relevant to industrial discharges, as well.

One thing we've heard in our meeting with Floridians is their strong and powerful commitment to clean and safe water in the state of Florida and their understanding of how essential that is to both public health, as well as Florida's future economic growth. Many of the stake holders, including DEP, agree with the need for numeric standards to meet the goal of clean and safe waters in Florida but at the same time, they've emphasized the need for balance. They want to proceed in a way that is reasonable and cost effective and allows for appropriate planning. The rule that was published in the federal register yesterday is a rule that provides clear numeric targets of what needs to be achieved in order to ensure attainment of Florida's existing nutrient standards and also allows flexibility in site specific situations where the scientific data supports those decisions.

The rule is the result of extensive public process and reflects consideration of something over 22,000 comments that were received. Mark Nuhfer who is chief of our municipal and industrial NPDES permitting section will begin with the logistical information on how you can ask questions and will then lead the presentation to start off our discussion today. For the question and answer session, he'll be joined by others to help answer questions, including myself. We also have (Tom McGill), chief of our storm water and non-point source section and (Chris Thomas), chief of our pollution control and implementation branch, here to help answer questions.

So thank you again to all of you for your participation in the Webinar. I'll now hand it over to Mark to begin the logistical aspects of this Webinar.

Mark Nuhfer: Thank you, Jim. Again my name is Mark Nuhfer. I'm chief of our municipal and industrial NPDES permitting section. For today's presentation, in order to ensure that all participants can listen in without issue, we will be muting the audio line for the participants; however, in order to allow for the question and answer portion of this Webinar, you will be able to submit your questions electronically through the chat function, located on the menu bar. If you

would like to submit a question, locate the menu bar on the right side of your screen, expand the chat window found near the bottom of the menu bar, type in your question, and then select send chat or question to US EPA organizer only. This will submit your question for our compilation. Please use this option for asking questions as opposed to the option to raise your hand because the muted line prevents us from addressing your raised hand.

As questions are received, they will be compiled and once the presentation portion is over, the EPA panelists will provide answers to the questions. The specific questions will be read to the entire audience, followed by an answer or information on how to obtain an answer. Today's presentation will be available on EPA's Florida Nutrient Criteria Web site. The specific link is contained in today's presentation slides. In addition, it is our expectation to provide a corresponding portion of the audio once it is made available to us.

To ensure that everyone benefits from a response to their question, especially those questions which we are not able to answer within this scheduled Webinar or may include additional information, EPA will be working on developing a Q & A document as a result of the questions and discussions that take place following the presentation portion of the Webinar. Once the document is developed, you will be notified of its availability. The other Webinars are being handled in the same way.

As you are watching the presentation, or at any time during the Webinar, you can minimize the menu bar by clicking on the orange box with a white arrow located near the top left corner of the menu bar. To expand the menu bar screen again, simply click on the arrow button again. Lastly, toward the end of the Webinar, a poll may be made available and you may elect to take this poll but you are not obligated to do so.

That concludes the logistical portion. Today's presentation on the Florida Nutrient Rule implementation is focusing on NPDES discharges of domestic and industrial waste water and storm water. To begin, for further information during this presentation or after, you can access the final rule and associated materials at the regulations.gov Web site indicated above with that specific

document ID number or you can go to the second link on EPA's Web site for the Florida Nutrient Rule general Web site, all the background information you'd like to find there.

I'll also provide this information again at the end of the presentation. Also, if you need to speak with somebody about some of that information, (Danielle Salvaterra) and her information is there, is available for additional information. Today's presentation will begin with a summary and background of the rule. We'll talk about its applicability and implementation within the NPDES program.

We'll focus primarily on waste water discharges, domestic and industrial, some discussion about storm water discharges towards the end. We'll present some common questions that we have already heard in earlier presentations and discussions with stakeholders and then we'll finish with an open question and answer session through the chat function.

In summary, EPA has finalized water quality standards for the state of Florida. These include numeric limits on the amount of phosphorus and nitrogen pollution that are allowed in Florida's lakes, rivers, streams and springs. Chlorophyll a limits were also developed to monitor the effects of nitrogen and phosphorous in lakes. The purpose of these standards is to improve water quality and protect public health, aquatic life and the long term recreational uses of Florida's waters, which are a critical part of the state's economy.

The implementation of these standards will change the criteria used by several Clean Water Act programs, such as the National Pollutant Discharge Elimination System, NPDES Permitting Program, Total Maximum Daily Load TMDL Development Program, Clean Water Act Section 303(d) listing of impaired waters, for example. The final rule includes numeric nutrient criteria for lakes, rivers, streams and springs located outside of south Florida. That's the area south of Lake Okeechobee, the Caloosahatchee (inaudible) river water shed to west of Lake Okeechobee and the Saint Lucie water shed to the east of Lake Okeechobee.

The rule applies to Florida Class One and Class Three waters and Class One waters are waters with a designated use of potable water supply. Class Three waters are waters with a designated uses of recreation and propagation and maintenance for a healthy, well-balanced population of fish and wildlife. For lakes, the rule defines lakes to mean a slow-moving or standing body of fresh water that occupies an inland basin that is not a stream, spring or wetland.

The rule classifies lakes into three groups based on color and alkalinity; derives criteria from correlations between trophic transition levels of Chlorophyll A and levels of total phosphorous and total nitrogen. It includes an option for the state to adjust total nitrogen and total phosphorous criteria for a particular lake within a certain range if sufficient data show that Chlorophyll A criteria is met. It also applies to all Class One and Class Three lakes in Florida.

Criteria as indicated based on color and alkalinity level so if you read the rows, for colored lakes greater than 40 PCUs, Chlorophyll A limit is indicated and the range is – for total nitrogen and total phosphorous. The bold numbers in each of the rows are the actual standards and the ranges below are the range that, if sufficient data exists, that Chlorophyll A criteria is being met, the state can also select one of the numbers within the ranges indicated. These concentrations are intended to be annual geometric means, not to be surpassed more than once in a three year period. So you have a set of criteria for colored lakes, a set of criteria for clear lakes with high alkalinity and a set of criteria for clear lakes with low alkalinity.

For streams, we define streams as free-flowing, predominantly fresh surface waters in a defined channel and includes rivers, creeks, branches, canals, freshwater sloughs and other similar water bodies. The rule classifies streams into five watershed based regions that account for geological differences throughout the state. It derives criteria from field data and least disturbed streams that are not impaired for nutrient-related impacts. And it does not apply to flowing waters in south Florida.

The criteria as indicated the rule establishes what we call nutrient watershed regions, one for the panhandle west, one for the panhandle east, west central regions, a peninsula region and north central region. And the map gives you a general idea of where those regions are. South Florida is shaded at the bottom. While that's indicated on the map, we have not yet established criteria for South Florida streams and rivers.

Again, those concentrations as indicated on the table are annual geometric means and not to be surpassed more than once in a three year period. And again, it establishes total nitrogen criteria, as well as total phosphorous instream protection values. Federal regulations require water quality standards to provide for the attainment and maintenance of water quality standards in downstream waters.

The final rule includes a flexible tiered approach to apply downstream protection values for total phosphorous and total nitrogen to a watershed to ensure protection of downstream lakes. First tier is to establish total nitrogen and total phosphorous levels at the point of entry into a lake using a BATHTUB model or an alternative scientifically defensible model, such as the WASP model or it establishes ambient instream levels of total nitrogen and/or total phosphorous at the point of entry into the lake where the lake criteria are being met in the lake. Or thirdly, it establishes lake criteria and the values of total nitrogen and phosphorous at the point of entry into the lake where the lake criteria are not met in the lake or if the lake is unassessed.

For springs, the rule defines springs as a site in which ground water flows through a natural opening in the ground onto the land surface or into a body of surface water. The rule establishes nitrate-nitrite criteria of .35 milligrams per liter as an annual geometric mean not to be exceeded more than once in a three year period, based on experimental laboratory data and field evaluations that document the response of nuisance algae and nitrate-nitrite concentrations.

Within the NPDES program, the NPDES authority in Florida is the Department of Environmental Protection. FDEP will be responsible for

incorporating the new nutrient standards into their NPDES permits. EPA remains responsible for oversight of authorized state NPDES programs. All NPDES permit holders that discharge nutrients to lakes and flowing waters in Florida will be affected. All NPDES permits issued after the effective date, which is 15 months after, I believe, yesterday – the publication in the final register – all NPDES permits issued after that effective date and the criteria must be based on a new nutrient standards.

Both continuous discharge facilities and facilities that discharge on an intermittent basis, such as plants with reuse, will be affected by the new nutrient standards. General permits will also be reassessed before being reissued to determine how the new nutrient standards apply. Finally, permit limits and conditions must be consistent with the assumptions and requirements of waste load allocations in total maximum daily loads.

For existing permitted waste water discharges, the new criteria will be applied to existing NPDES permits when those permits are renewed or reissued. If the limits cannot be achieved on the effective date of the permit, a compliance schedule may be included in the permit or by an order, along with interim limits. Compliance schedules will allow actions such as planning, design, construction, for process changes or for implementing re-use.

The schedules will provide a date for final compliance with the nutrient effluent limit. New discharge permits and permit modifications that allow for an outfall to a new receiving water location must be written to achieve a nutrient standard when the discharge commences and no allowances for compliance schedules for new discharges but they may be eligible for other Clean Water Act flexibilities. For waste water treatment plant expansions, compliance schedule can be given for construction leading to compliance with the numeric nutrient criteria.

Providing a few links and references for some technical documents that may be of interest to this audience; a 2008 document that EPA produced entitled Municipal Nutrient Removal Technologies Reference Document: Volume 1 technical report and the link for that is below. Also, in 2009, EPA produced a

nutrient control design manual and state of the technology review report and in 2010, the nutrient control design manual.

For NPS storm water, the Clean Water Act requires that permits for municipal separate storm sewer system, MS 4 sewers, shall require controls to reduce the discharge of pollutants to the maximum extent practicable. MS4 permit conditions must be consistent with the assumptions and requirements of waste load allocation in TMDLs. Water quality based effluent limits for MS4 permits may be expressed as narrative requirements such as best management practices to reduce pollutants entering an MS4 or numeric requirements where feasible.

EPA recognizes the importance of an iterative approach for controlling pollutant discharge from MS4s. Storm water control should be adjusted if monitoring demonstrates that existing controls are not protective of water quality. We have received some questions already in earlier Webinars and in meetings with stakeholders. Some of the more common ones that we received are as below; are the EPA criteria to be applied as an average across the water body or as any place within the water body criteria?

The criterion is applicable as a water body average; not as a specific point at any given time. Another question is; what treatment technologies currently exist that would achieve the new criteria? EPA expects that advanced biological nutrient removal will be the technology that will be used to achieve these water criteria in general. The state-of-the-art biological nutrient removal, coupled with chemical precipitation, as indicated in the earlier documents that I referenced on the reference slide, such as our Municipal Nutrient Removal Technologies Reference Document and the control design manuals. Those reports indicate some of the types of advanced biological nutrient removal technologies that are available to help facilities meet any new limits that would be applied in their permits.

The question has come up about; how much does EPA think it will cost the typical POTW in Florida to achieve the new criteria? In the rule and in the economic analysis that's available associated with the rule on the Web site,

EPA estimated the capital cost to implement advanced biological nutrient removal would range from $1.30 to $2.48 per gallon per day. So depending on the size of your facility and within that range annual operation and maintenance costs annualized over a 20 year period would range from approximately $385 to $477 dollars per million gallons for discharge. And that's the cost to retrofit or expand existing treatment trains to implement advanced biological nutrient removal. And the details of those assumptions are available in the Economic Analysis Document.

What if a POTW cannot afford the cost to achieve additional treatment required? What other options are available? The Clean Water Act provides a range of options and flexibilities, such as re-use, no discharge compliance schedules, trading with other point and/or non-point sources; other watershed reductions, such as non-point source reductions, site-specific alternative criteria, variances, designated use modifications.

How much time will POTWs get before they have to start achieving the new criteria? The new standard takes affect 15 months from publication. New discharges must comply with it upon discharge. Existing or expanding discharges may be eligible for a compliance schedule from Florida DEP.

Can a POTW get a mixing zone so that the criteria are not applied as end of pipe limit? It is our understanding that Florida's existing water quality standards generally allow for mixing zones. As the permitting authority, FDEP would determine whether or not state water quality standards allow for credit for dilution of nutrients and make a case-by-case determination as to whether a mixing zone is appropriate for a particular discharge in water body.

Does EPA expect Florida to revise and re-open currently effective NPDES permits to incorporate the new rule? EPA expects the NPDES permits would incorporate the rule as they are reissued at the end of their five year permitting cycle.

Does EPA expect Florida to include numeric instead of narrative water quality based effluent limits in MS4 permits? Generally, no. Region 4 expects

Florida to use their best professional judgment to determine whether narrative requirements or numeric requirements are appropriate forMS4 permits.

Again additional information about the rule and a final standard for the state of Florida's lakes and flowing water is available at EPA's Florida nutrient Web site, at the link below. You may also contact me at the email address indicated below. That's Mark Nuhfer for waste water related questions. For Storm water related questions, you can contact (Thomas McGill), chief of our storm water non-point source section.

If you get mixed up, that's fine. We work next to each other. We can send the questions to the appropriate person as they come in. Either of us can help you out.

That concludes the presentation session of today's Webinar.