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**DEPARTMENT OF ENVIRONMENTAL PROTECTION**

**WATER RESOURCES MANAGEMENT**

**WATER MONITORING AND STANDARDS**

**Surface Water Quality Standards**

**Nutrient Policies; Phosphorus Criteria**

**Adopted Amendments: N.J.A.C. 7:9B-1.4, 1.5 and 1.14**

Proposed: December 21, 2009 at 41 N.J.R. 4587(a)  
Adopted: December 20, 2010 by Bob Martin, Commissioner,  
Department of Environmental Protection  
Filed: December 21, 2010 as R.2011 d.031, **with substantive and technical changes** not requiring additional public notice and comment (see N.J.A.C. 1:30-6.3)  
Authority: N.J.S.A. 58:10A-1 et seq., 58:11A-1 et seq.,  
N.J.S.A. 13:1D-1 et seq.  
DEP Docket Number: 21-09-11/754  
Effective Date: January 18, 2011  
Expiration Date: November 16, 2014

The Department of Environmental Protection (Department) is adopting the proposed amendments to the nutrient policies and criteria in the Surface Water Quality Standards (SWQS) at N.J.A.C. 7:9B-1.4, 1.5(g) and 1.14(d) with substantive and technical changes not requiring additional public notice and comment.

The proposal was published in the New Jersey Register on December 21, 2009 at 41 N.J.R. 4587(a). A public hearing was scheduled on January 27, 2010 concerning the proposal, but was determined not to be necessary after the stakeholder meeting held in March 2010 (see description below). The comment period was set to close on February 19, 2010.

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On January 20, 2010, Governor Christie issued several executive orders suspending more than 150 then-pending rule proposals of various New Jersey agencies for 90 days, including the proposal to amend the SWQS nutrient policies and phosphorus criteria. On February 3, 2010, the Department published a notice in the New Jersey Register (see 42 N.J.R. 642(a)) to extend the comment period on the SWQS proposal to March 15, 2010 and announce a stakeholder meeting to be held on March 5, 2010 regarding the proposal. The purpose of the extension of comment period was to obtain additional comment on economic analysis, Federal standards comparison, process improvement, and compliance and enforcement review as set forth in the Governor's executive orders.

The stakeholder meeting on March 5, 2010 was attended by 28 persons representing environmental groups, regulated entities, environmental consultants, and EPA. In general all stakeholders supported the proposed nutrient criteria for coastal waters and indicated that these amendments should have a positive economic impact (for example, shellfish industry, fishing, and boating). Stakeholders agreed that this proposal is an important required step in the right direction. Environmental groups raised questions on how the factors included in the Executive Orders 1 through 4 would affect the rule proposal and how USEPA is responding to this process. These groups asserted that the Executive Orders create a process outside the formal rulemaking protocol which is in violation of the Federal Clean Water Act. For example, cost/benefit analysis identified in the Executive Orders are not factors allowed to be considered in establishing SWQS. These groups indicated that the economic analysis must consider, value of fish kills, loss of public use of waterways, clarity and taste of drinking water, public health issues, recreational value, food processing, pharmaceutical industry use of "clean" water, and property values. The regulated community questioned how the Department developed its economic analysis and indicated that the Department should include environmental benefits as part of this economic analysis. The regulated community indicated that through a stakeholder process they could help with economic analysis.

The stakeholders indicated that the Federal Standards Analysis conducted as part of the rule proposal was sufficient and that the Department's nutrient criteria are stronger than Federal

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recommendations and actions taken by other states and regions to control nutrients. The stakeholders also suggested that USEPA should follow this proposal as a better model than the Federal approach.

One stakeholder indicated that existing wavier provisions in the SWQS rules are sufficient to satisfy the process improvement requirement. The Department should move forward with the rule and issue WQBELS for the existing dischargers.

#### Summary of Public Comments and Agency Responses:

The Department accepted comments on this proposal through March 15, 2010. The following persons submitted written comments on the proposal. The number(s) in parentheses after each comment corresponds to the number identifying the commenter(s) below:

- |     |                            |   |
|-----|----------------------------|---|
| 1.  | Amidon, Thomas             | Omni Environmental                                      |
| 2.  | George-Cheniara, Elizabeth | New Jersey Builders Association                         |
| 3.  | Gulbinsky, Ellen           | Association of Environmental Authorities                |
| 4.  | Hales Jr., Stanton         | Barnegat Bay National Estuary Program                   |
| 5.  | Kehrberger, Patricia       | HydroQual, Inc.   |
| 6.  | Len, Christopher           | NY/NJ Baykeeper and Hackensack Riverkeeper              |
| 7.  | Mans, Deborah              | NY/NJ Baykeeper   |
| 8.  | Saffert, Heather           | Clean Ocean Action                                      |
| 9.  | Sheehan, William           | Hackensack Riverkeeper                                  |
| 10. | Tallen, Robert             | Crafts Creek Spring Hill Brook W.A.                     |
| 11. | Tittle, Jeff               | Sierra Club   |
| 12. | van Rossum, Maya K.        | Delaware Riverkeeper                                    |
| 13. | Wolfe, Bill                | NJ Public Employees for Environmental<br>Responsibility |
| 14. | Zipf, Cindy                | Clean Ocean Action                                      |

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1. COMMENT: The restructuring of the rules to consolidate nutrient related provisions and expand narrative nutrient criterion protections to saline waters is supported in general. (3)

2. COMMENT: The rule requirement that prohibits additional nutrients in any waters where the addition of nutrients will make those waters unsuitable for designated uses is supported. (11)

RESPONSE TO COMMENTS 1 AND 2: The Department acknowledges the commenters' support.

3. COMMENT: Using a narrative nutrient criterion rather than the numeric phosphorus criteria is a major weakening in protections of our waterways that would allow for millions of gallons more pollution into our streams and rivers. (11)

4. COMMENT: New Jersey has been a leader and innovator with numeric phosphorus standards to date and instead of weakening these standards, New Jersey should be focusing on setting stronger nitrogen and other emerging contaminant standards to go hand in hand with strong phosphorus standards. New Jersey should not backslide but should adhere to the existing numeric phosphorus criteria. Having numeric criteria (over narrative criteria alone) helps assure better protection of our streams. Phosphorus is often the limiting factor to plant growth and only a small change in phosphorus can set off a chain of undesirable events causing extensive algal growth; most water quality scientists agree that unpolluted streams have a phosphate level of less than 0.01 mg/L and background levels in streams should not exceed about 0.1 mg/L. This 0.1 mg/L standard is, in fact, New Jersey's numeric limit for FW2 water - one of the best and most protective standards in the nation currently. The Department should keep this stringent numeric standard in place, not dilute it to a narrative criterion embraced by polluters. Using simple numeric criteria as New Jersey currently does is based on sound, defensible science and allows for needed stringent control of phosphorus inputs and discharges. (7, 9, 12)

5. COMMENT: The Department should defer imposing water quality based effluent limitations based upon the more restrictive numeric criteria until the Department concludes that the narrative

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nutrient criterion is not met. A community should not be required to meet more restrictive nutrient requirements pending further confirmation that nutrient control is necessary to protect uses. (3)

RESPONSE TO COMMENTS 3 THROUGH 5: Under the rules as amended numeric phosphorus criteria for streams and lakes will be used to calculate water quality-based effluent limits (WQBEL) until the Department determines that the phosphorus concentration in the waterbody does not cause undesirable conditions such as objectionable algal densities, nuisance aquatic vegetation, diurnal fluctuations in dissolved oxygen or pH indicative of excessive photosynthetic activity, detrimental changes to the composition of aquatic ecosystems, or other indicators of use impairment caused by nutrients as described in the narrative criterion for nutrients. Numeric phosphorus criteria will also be used to calculate WQBEL where studies are inconclusive of the cause of nutrient related problems until a determination has been made. Using a numeric total phosphorus criterion along with the narrative nutrient criterion will allow the Department to address situations where a waterbody meets the applicable numeric phosphorus criterion, but still exhibits nutrient related problems, as well as situations where phosphorus concentration in a waterbody is above the applicable numeric phosphorus criterion, but does not actually exhibit any nutrient related problems. The Department is evaluating whether there is a need to establish a State-wide nitrogen criterion to address nutrient-related impacts in freshwaters. See response to comments 24 and 25 for more information.

6. COMMENT: It appears that the Department will only require enforcement of numeric criteria if the narrative criterion indicates “undesirable conditions” in freshwaters. How will the Department ensure adequate monitoring is conducted to determine these “undesirable conditions”? How often and at what time of year will these “undesirable conditions” be monitored for in order to list a waterbody as impaired? What is considered objectionable densities? How much aquatic vegetation or what is considered nuisance? The narrative nutrient criterion leaves much room for interpretation. A numeric standard is much more enforceable. (7, 9, 12)

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RESPONSE: The impacts of nutrients are site-specific. The assessment method developed and incorporated in the 2010 Methods Document enables the Department to evaluate site-specific responses to nutrients and identify waters where nutrients cause undesirable responses including waters where the phosphorus levels do not exceed the numeric criteria. The Department recognized that the data needed to make this type of assessment could be limited and therefore, will continue to use the numeric phosphorus criterion to evaluate whether water quality-based effluent limits (WQBEL) for NJPDES permits are necessary until the Department has data to conclude that the narrative nutrient criterion is met. The Department has developed an assessment method to evaluate the narrative nutrient criterion using response indicators with numeric thresholds for non-tidal freshwater Wadeable streams. This new assessment method will be used to evaluate whether phosphorus causes aquatic life use impairment.

The details of this new nutrient assessment method for non-tidal freshwater Wadeable streams are explained in the 2010 Integrated Water Quality Monitoring and Assessment Methods (Methods Document). This method specifies the thresholds for concluding phosphorus is the cause of aquatic life impairment. A copy of the final Methods Document is available at [http://www.state.nj.us/dep/wms/bwqsa/2010\\_integrated\\_report.htm](http://www.state.nj.us/dep/wms/bwqsa/2010_integrated_report.htm)). This assessment method requires continuous dissolved oxygen (DO) monitoring, benthic macroinvertebrate data and when necessary, periphyton chlorophyll *a* collected in the same monitoring season. Where aquatic life is impaired based on benthic macroinvertebrates, the DO criteria is violated, and the diurnal fluctuation in DO is greater than 3 mg/L, the Department will conclude that phosphorus is the cause. There are situations where the DO criteria is not violated but the diurnal fluctuations indicates photosynthetic activity. In these situations, the Department will conclude phosphorus is the cause if the seasonal periphyton chlorophyll *a* exceeds 150 mg/m<sup>2</sup>.

7. COMMENT: Monitoring the adverse conditions will be much more difficult and costly. This type of data collection is costly and difficult for volunteer monitoring groups and others in the community to detect readings while the instream phosphorus concentration is much simpler to measure. The industry and the regulated community should bear the cost of collecting this data and installing and maintaining gauging stations for the long term. This gauge data should be

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remotely accessible and made available online to the entire community and public. This requirement would be part of the permitting process. Gauge stations would remain in place long-term to help detect if fluctuations in DO warrant integrated listing over time.

In addition, New Jersey seeks to use dissolved oxygen swings and chlorophyll *a* readings to help determine the narrative criteria attainment. This is much more difficult and much more expensive to measure as automatic data loggers and installation of loggers can be costly to install. How many automatic data loggers does New Jersey use currently on our streams? The Department is developing more complex monitoring needs here rather than simply adhering to the numeric and more protective limit of 0.1 mg/L of phosphorus for streams or 0.05 mg/L for lakes. (7, 9, 12)

RESPONSE: The Department has determined that response indicators such as dissolved oxygen (DO) and other biological measurements are better indicators of adverse nutrient impacts on the aquatic ecosystem than an assessment of the in-stream concentration of total phosphorus alone. As indicated in the *New Jersey Nutrient Criteria Enhancement Plan* (see [http://www.state.nj.us/dep/wms/bwqsa/Nutrient\\_Criteria\\_Enhancement\\_Plan.Final.pdf](http://www.state.nj.us/dep/wms/bwqsa/Nutrient_Criteria_Enhancement_Plan.Final.pdf)), on page six under Criteria Development Process, the effects of excessive nutrients are waterbody specific. This approach will allow the Department to impose requirements where nutrients cause undesirable impacts and the in-stream levels of phosphorus do not exceed the numeric phosphorus criterion. This will also assure that the Department is not requiring compliance with the numeric phosphorus criterion where that compliance does not render the water suitable for the existing and designated uses.

The best method for assessing DO impacts is continuous monitoring of DO levels over multiple 24-hour periods, since the most critical period is just prior to sunrise. The DO swing over a 24-hour period is also valuable information for assessing nutrient impacts, and to identify where DO change is due to photosynthetic activity. This can be accomplished with continuous monitoring conducted over at least a three day period during the growing season under dry conditions. This time period was selected as the critical condition for photosynthetic activity

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The installation of real-time monitoring equipment at gauging stations for extended periods of time is not necessary to assess nutrient impacts.

Continuous DO monitoring for the required three day minimum was conducted by USGS, DEP, NJPDES permittees and several monitoring organizations, including volunteer monitoring groups. For the 2010 Integrated Water Quality Monitoring and Assessment Report, continuous DO data was available for 171 stations. In addition, the US Geological Survey operates “real-time” monitoring for dissolved oxygen at 15 gauging stations. These stations provide data on a long term basis. This information is available at <http://nj.usgs.gov/>. The Department will continue to impose requirements in NJPDES permits based on the numeric phosphorus criterion where the numeric phosphorus criterion is exceeded and the data needed to evaluate the narrative nutrient criterion are not available. The Department anticipates that permittees will initiate the monitoring necessary to conduct the narrative nutrient assessment to provide the information necessary to modify or remove their permit limit.

8. COMMENT: The numeric values specified in the rules do not indicate an averaging period. Generally, nutrient effects on plant growth occur over an extended period of time (seasonal exposure). The Phosphorus Technical Manual for freshwater non-tidal streams, as well as USEPA’s nutrient criteria guidance, focuses on plant growth occurring over a growing season. Likewise, benthic indices generally reflect ecological changes occurring over a longer period of time. It would be helpful if the Department would identify the appropriate criteria averaging period so that this parameter is not considered an “anytime, anyplace” criteria that would even apply under high flow, scour conditions. At a minimum, the Department should indicate to the public its understanding of how such objectives are properly applied. (3)

9. COMMENT: The Department should express its numeric phosphorus criterion for non-tidal freshwater streams and lakes as an average concentration. The phosphorus evaluation studies and TMDL studies performed in New Jersey clearly demonstrate that an average concentration is justified rather than a not-to-exceed value. Instream productivity responds to overall nutrient conditions, not transient concentrations. Since the existing criterion does not specify an



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averaging period, the Department has implemented the lake criterion as a not-to-exceed standard. As a result, TMDLs end up being driven by the theoretical concentration of total phosphorus (TP) during large storm events, leading to unrealistic nonpoint source reduction requirements. Also, WQBELs end up being based on the downstream concentration under extreme low-flow (7Q10) conditions. Lakes respond to the long-term nutrient conditions rather than the transient conditions at any particular time, as acknowledged by the Department in its many lake TMDLs that have been based on annual average phosphorus concentration targets. (1)

RESPONSE TO COMMENTS 8 AND 9: The Department did not propose an averaging period for phosphorus as part of the December 2009 proposal because the Department was uncertain on the direction the USEPA intended to take in the nutrient criteria rule for Florida. The USEPA adopted numeric phosphorus criteria for the State of Florida as an annual geometric mean allowed to be exceeded once in three years on November 15, 2010 (see [http://water.epa.gov/lawsregs/rulesregs/florida\\_index.cfm](http://water.epa.gov/lawsregs/rulesregs/florida_index.cfm)). The Department will be evaluating the EPA rule and may consider establishing similar provisions when refining nutrient criteria in future rulemaking. Until an averaging period is incorporated into the State-wide criteria, the Department may establish a site-specific total phosphorus criterion as part of a TMDL. The annual average loading of phosphorus affects lakes. Therefore, the lake TMDLs were established using an empirical lake model to relate the annual phosphorus loading to the in-lake phosphorus concentration.

### **Estuarine and Marine waters**

10. COMMENT: The extension of narrative nutrient water quality criterion to marine waters is strongly supported. (8, 14)

11. COMMENT: The application of the existing nutrient policies to estuarine and near-shore coastal waters is wholeheartedly supported. (4)

RESPONSE TO COMMENTS 10 AND 11: The Department acknowledges the commenters' support.

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12. COMMENT: Coastal waters must have nutrient standards as well. Nutrient-specific criteria should be developed for critical coastal waterways, like the Barnegat Bay. (11)

13. COMMENT: How will the Department determine whether nutrient-related impacts in near-shore ocean waters are due to pollution and not natural conditions? The full process for assessing nutrient impacts in near-shore ocean waters has not been explained in the Nutrient Criteria Enhancement Plan or this proposal. (8, 14)

14. COMMENT: While the proposed multimetric approach for nutrient assessments that will allow for a more comprehensive evaluation of marine waters is supported, it is unclear how and where this approach will be implemented based on the proposal. Will multimetric methods be developed and applied for both estuaries and near-shore waters? The method development and implementation of the criterion appear to be overstated and not adequately planned, or at least explained, for statewide implementation. (8, 14)

15. COMMENT: How will the narrative nutrient criterion be assessed and implemented in estuarine and near-shore ocean waters and when will this happen? The Nutrient Criteria Enhancement Plan has not explained how or when the methods to assess compliance with the narrative nutrient criterion for all State marine waters will be developed. This is essential because the criterion cannot be implemented without adequate assessment methods. Also, further study appears to be needed that will require more funding and more time before the methods under development can be used to assess nutrient impacts. In the meantime, nutrient impacts in marine waters will likely continue to harm marine life and not be formally recognized. (8, 14)

16. COMMENT: What are the potential impacts of extending nutrient policies on sewage treatment plant outfalls in near-shore coastal waters? (4)

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17. COMMENT: While nutrient effects in marine waters may be similar to those occurring in freshwaters, hydrodynamics, natural conditions and other controlling water quality factors (light penetration) need to be considered. Algal blooms (including certain toxic algal forms) and low DO conditions occur periodically and naturally in coastal environments. Whether or how such conditions are determined to be “caused” by excessive nutrient inputs is a very complex issue. Thus, broad application of default nutrient objectives would not be appropriate for marine waters. (3)

18. COMMENT: The Department has indicated that it is in the process of developing new benthic indicators and other metrics for submerged aquatic vegetation for freshwaters as well as assessment methods for near-shore ocean waters. The development of assessment methods should be made part of a stakeholder committee so such information, as it becomes available, may be reviewed. The issues regarding nutrients are complex and subject to considerable confusion. (See, e.g., the recent USEPA Science Advisory Board review that found USEPA’s suggested methods for nutrient criteria development seriously flawed.) The first opportunity to review such complex material should not be in response to a proposed regulatory notice on assessment methods that has a narrow review deadline. A peer review stakeholder committee should be formed to allow for reasonable consideration of the new methods and impairment indicators under development. (3)

19. COMMENT: The Department should make available for public review and comment the assessment methods, once developed, that would be used for non-wadeable rivers, lakes, estuaries and the ocean. Public input is especially important as these methods would be used to evaluate waterbodies for phosphorous compliance. (2)

RESPONSE TO COMMENTS 12 THROUGH 19: The proposal at 41 N.J.R. 4587(a) (December 21, 2009) indicated that the Department is pursuing the development of narrative assessment methods for the State’s estuarine and near-shore ocean waters. The Department agrees that the response indicators developed for freshwaters may not be appropriate in marine waters. As a first step, the Department is developing a benthic indicator for near-shore ocean

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waters. This indicator will enhance and improve the Department's aquatic life use assessment in near-shore ocean waters. In addition, the Department is working with Rutgers University to develop by 2012 a benthic indicator for estuarine waters, similar to the benthic macroinvertebrate indicator used for freshwater wadeable streams and is also developing other metrics for submerged aquatic vegetation, phytoplankton, and macroalgae to allow for a more comprehensive eutrophication assessment in Barnegat Bay. The Department plans to evaluate whether all or some of these metrics can be used in estuarine waters.

The Department has charged the newly formed New Jersey Science Advisory Board (SAB) with evaluating the Department's approach to nutrient assessment and criteria development. Once the SAB reviews new assessment methods, the Department will provide stakeholders with an opportunity to review and comment on these methods. The Department will then incorporate the assessment method and associated thresholds into the Methods Document before it is used in the development of the Integrated Report. Pursuant to N.J.A.C. 7:15-6.2, the Department provides the public with an opportunity to evaluate the Methods Document which specifies the methods used to collect, analyze, and interpret data, and the rationale for placing a waterbody on the List of Water Quality Limited Waters. The Department also anticipates that, once the assessment methods are available to evaluate whether nutrients impair the aquatic life use in other stream classifications, efforts will be initiated to develop numeric criteria for appropriate parameters. These criteria will be incorporated into the SWQS at N.J.A.C. 7:9B-1.14(d)4 for the appropriate stream classification through formal rulemaking.

The use of a narrative nutrient criterion with numeric thresholds designed to address site-specific impacts is complicated. Until the Department establishes a method as indicated above, the Department will not be able to assess impacts in estuarine and near-shore coastal waters. Once the assessment method is finalized, the Department will be able to identify those sewage treatment plants that contribute to localized nutrient enrichment. At this time, Department is unable to determine the potential impacts of nutrients on sewage treatment plant outfalls in near-shore coastal waters. Potential impacts may vary depending on the level of nutrients in the wastewater, the volume of wastewater discharged and the size of the mixing zone.

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20. COMMENT: The Department should be forcing new technologies and should adhere to the numeric nutrient criterion limit rather than allowing an “exit ramp” strategy for dischargers. Cumulative impacts of high nutrients in the downstream Delaware estuary must be considered in addition to local attributes of the receiving stream. Just because other “ecosystem indicators” are not showing an extreme problem locally in-stream, does not mean this is justification to continue to allow inputs of total phosphorus into our streams both regulated and unregulated. The Department must work toward the zero pollution discharge goals of the Clean Water Act. (7, 9, 12)

21. COMMENT: A tributary or river may exceed the numeric criteria for total phosphorus but if algae or chlorophyll *a* cannot colonize the waterbody for unrelated reasons, the stream would not be failing to meet its designated use. As that nutrient-rich water flows to our larger bay systems, major downstream effects could be realized. The proposed framework will not protect the Delaware Bay, for example, which is the largest sink of phosphorus and thus susceptible to deadly anoxic conditions. The Delaware estuary is very high in nutrients today compared to other estuaries. The Delaware River Basin Commission is just now beginning to consider and investigate this issue recognizing the lack of information and awareness that surrounds it. Also, streams could be unfairly removed from the Integrated List and the subsequent TMDL process, not because they are not harmed by excessive nutrients or a high total phosphorus but rather because they are not meeting the proposed new “ecosystem response criteria.”

Allowing polluters to discharge nutrients and knowingly pollute water bodies until algae blooms and anoxic dead zones occur betrays New Jersey residents. It simply does not provide the level of protection our communities deserve or are entitled to under the law. Instead, it appears to be more an effort to placate the demands of dischargers who do not want to meet these nutrient limits but would rather be allowed to continue to pollute our streams and environment in order to increase their profit margins. It simply does not make sense for the Department to make this change. The endeavor will create more burdens on the Department and will unavoidably increase pollution. The Department should desire neither outcome. How many years will it take

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to develop these site specific criteria? What is the budget for this highly technical and labor intensive work load? Who will pay for the automatic data loggers needed to collect dissolved oxygen swings? We should not weaken our standards because of pressure to reduce TMDLs and stream listings; this rationale is wrong. (7, 9, 12)

22. COMMENT: The Department states that watershed specific translators may only be established as part of a TMDL evaluation pursuant to N.J.A.C. 7:15-6.3 to demonstrate compliance with the narrative criterion. Does this mean that otherwise the narrative “undesirable conditions” will be the test for waters that do not have a TMDL established? While “undesirable conditions” are not evident on one specific waterbody reach or river, there may be undesirable conditions and algae blooms downstream where conditions are more prone to eutrophication. Ultimately, our bays may be affected. How will New Jersey ensure that downstream impacts from nutrients with a less stringent standard are considered as part of the narrative assessment criteria for streams not on the Integrated List? How will New Jersey be able to protect our bays and reservoirs from the weakening of tributary standards? (7, 9, 12)

RESPONSE TO COMMENTS 20 THROUGH 22: The Department is adopting a narrative nutrient criterion for all waters that will be used in conjunction with the existing numeric phosphorus criteria for non-tidal freshwater streams and lakes and in the future with appropriate numeric nutrient criteria. The Department is working to develop a scientifically-sound phosphorus criterion to update the existing criteria adopted in 1981. Assessing the narrative nutrient criterion in conjunction with the numeric phosphorus criteria enables the Department to take into consideration a waterbody’s biological response to nutrients. The Department is working towards the goal of zero discharge, at this time by focusing limited public and private investment on waters where site-specific factors do not mitigate the impacts of nutrients.

The Department recognizes that the assessment methods are designed to evaluate compliance at the monitoring station on a freshwater wadeable stream within a subwatershed. Estuaries, lakes and other sensitive downstream locations will eventually be assessed for nutrients using appropriate assessment methods. The Department will list subwatersheds

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impacted by nutrients based on monitoring stations within the subwatershed. The Department is required to prioritize waters listed on the 303(d) list for TMDL development. Nutrients may not cause undesirable conditions in the subwatershed but may contribute to undesirable conditions in a downstream lake which could be listed on the 303(d) list as a result of these undesirable conditions. In these situations, the Department will evaluate the contributing sources and establish a TMDL, which may require limits on NJPDES facilities located in an unimpaired subwatershed. In the Passaic River TMDL, the Department concluded that many locations met the narrative nutrient criterion. However, because of downstream impacts at Dundee Lake and due to pumping to the Wanaque Reservoir, the Department established wasteload allocations for point sources on waters which met the narrative nutrient criterion. In addition, where a lake is located downstream of a waterbody that meets the narrative nutrient criterion and the phosphorus concentration in the lake or measured at the inlet exceed 0.05 mg/L, the Department can establish a TMDL to reduce the nutrient levels.

The ultimate goal of a nutrient TMDL is to achieve compliance with the narrative nutrient criterion by eliminating the undesirable effects caused by nutrients. The Department has incorporated a provision that allows alternative end points (other than phosphorus) to be used in the TMDL to comply with the narrative nutrient criterion. For example, in the Passaic River TMDL, the Department determined that chlorophyll *a* levels could be used to describe the desired conditions and reductions in phosphorus would be necessary to achieve the desired chlorophyll *a* levels. Developing watershed-specific translators of the narrative nutrient criterion through a TMDL is not expected to increase cost or effort. The Department may develop site-specific phosphorus criteria where the narrative nutrient criterion is met to reflect the existing phosphorus concentration. Where the narrative nutrient criterion is not met, the Department could also develop a site-specific phosphorus criterion as part of a TMDL.

The use of the narrative nutrient criterion will better identify waters suffering from nutrient enrichment. The levels of phosphorus in many waterbodies are less than the numeric criterion. However, due to waterbody-specific conditions, the waterbody may not meet the

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narrative nutrient criterion. The use of narrative nutrient criterion will allow these conditions to be addressed and designated uses achieved.

NJPDES permittees have to comply with the WQBELs authorized in the facility's NJPDES permit. A facility seeking to increase the volume of wastewater discharged must comply with the antidegradation policies in the SWQS. A facility that discharges to a waterbody that meets the narrative nutrient criterion may be able to satisfy the antidegradation policy by agreeing to maintain the existing phosphorus loading at the expanded facility.

23. COMMENT: The Department should require in the TMDL the removal of dams on run-of-the-river shallow impoundments that decrease overall water quality and that obstruct fish passage. Lake front property owners and dam owners should be required to agree to allow removal of these structures which cause harm. It is a violation of the Clean Water Act for New Jersey to use these lakes as endpoints for calculating phosphorus reductions that exceed the existing numeric criteria. New Jersey falsely makes this determination by referring to the SWQS provision that allows naturally occurring conditions to prevail over numeric criteria. It is clear that a man-made impoundment and dam is not "naturally occurring"; therefore this justification does not comport with the law. (7, 9, 12)

RESPONSE: Many New Jersey lakes have been constructed by building a dam on a stream or river. These shallow, run-of-the-river, constructed impoundments have exhibited water quality problems related to nutrient enrichment for decades. While the dam is a man-made feature, the natural condition that can be determined for a lake is based upon the phosphorus loading without anthropogenic sources expected to be transported downstream from a forested upstream watershed. In some lakes, this results in a natural condition that does not meet the State-wide numeric phosphorus criterion for lakes. Under these circumstances, the in-lake total phosphorus concentration becomes the water quality criterion. While it is possible that the dams could be removed from lakes in New Jersey that action would trigger other public impacts and is beyond the scope of this rulemaking.



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## **Nitrogen**

24. COMMENT: Nitrogen loading is a problem in the Delaware Bay watershed. For the SWQS to look at only phosphorus (and not nitrogen) does not provide adequate monitoring tools that could be available to better assess conditions of our streams. Numeric standards for nitrogen should be developed. USEPA's Ecoregion approach provides numeric criterion for total nitrogen that could be used. (7, 9, 12)

25. COMMENT: The Department should strengthen the nitrogen standard that is set at a high 10 mg/L for drinking water and that does not protect for aquatic life uses impacted by too much nitrogen in the system. Many of our streams suffer from larger concentrations of nitrate-nitrogen so an aquatic life use standard for nitrogen would help better achieve clean streams. (7, 9, 12)

RESPONSE TO COMMENTS 24 AND 25: The Department and the USEPA regulate the concentration of nitrate in drinking water to protect public health through the Federal Safe Drinking Water Act (SDWA), New Jersey Safe Drinking Water Act, and the Water Pollution Control Act. The maximum contaminant level (MCL) under the Federal and New Jersey Safe Drinking Water Acts, and the SWQS standard for nitrate is 10 mg/L.

The Department intends to develop a nitrogen criterion for SE and SC waters in the future. In anticipation of this future change, the Department has rearranged the criteria section at N.J.A.C. 7:9B-1.14(d)4 and incorporated nutrients as a new substance. This will enable the Department to include additional nutrients such as nitrogen, nitrate, and chlorophyll *a*, if and when developed, in one place under nutrients. The Department is involved with several research projects which could be used to develop nitrogen criteria for aquatic life protection, if necessary (see <http://www.state.nj.us/dep/dsr/nutrient/> for more information).

In addition, the Department working with the Delaware River Basin Commission and the States of Pennsylvania, New York and Delaware to develop appropriate nutrient criteria for the Delaware Estuary and Bay.

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**Criteria**

26. COMMENT: The narrative nutrient criterion is a more concise statement that will promote more consistent application of the narrative and numeric nutrient criteria. In general, total phosphorus is the nutrient of concern in freshwaters and the TP criterion of 0.1 mg/L was not designed for application in tidal fresh waters. Watershed-specific translators are an appropriate basis for identifying the nutrient reduction measures (if any) that are necessary to protect uses.

(3)

27. COMMENT: The incorporation of nutrient policy as a narrative nutrient criterion at 7:9B-1.14(d) is supported. (1)

28. COMMENT: The structure of the proposed “nutrient” criteria is much clearer and represents a significant improvement over the existing formulation. (1)

29. COMMENT: The goal of the Department to place all nutrient criteria in one spot for ease in adding to them in the future is a good idea. (5)

30. COMMENT: The creation of “nutrients” as a separately listed substance within this subsection, with narrative criteria applicable to all nutrients and individual numeric criteria for specific nutrients in particular waterbodies, is reasonable. This will provide the Department with ability to add numeric criteria for other nutrients and other waterbodies as they are developed without needing to recodify the rules. (4)

RESPONSE TO COMMENTS 26 THROUGH 30: The Department acknowledges the commenters’ support.

31. COMMENT: The proposed numeric standard of 0.1 mg/L for non-tidal streams is far too stringent to be met by corrective actions to reduce phosphorus in a cost-effective manner. Further, the Department does not provide the basis for selecting the proposed numeric standard.

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The Department should evaluate other numeric standards that would be more reasonable and cost-effective to accomplish. (2)

RESPONSE: The Department adopted the numeric phosphorus criteria in 1981 and has not proposed any changes at this time. The Department does not agree that the existing numeric phosphorus criterion is too stringent and will continue to impose water quality based effluent limitations in NJPDES permits based on the numeric phosphorus criterion. However, compliance with the narrative nutrient criterion will be assessed, where information is available, to confirm that phosphorus causes aquatic life impairment. Where phosphorus causes aquatic life impairment, regulated facilities may be required to install treatment to remove nutrients. NJPDES permits establish the effluent limitations in accordance with N.J.A.C. 7:14A-13. The facility is expected to select a treatment option that will allow the facility to comply with its permit.

There are a number of treatment technologies available to reduce nutrients. In 2009, USEPA published *Nutrient Control Design Manual* to present an extensive review of nitrogen and phosphorus control technologies currently being applied at municipal wastewater treatment plants (WWTP). The report is available at <http://www.epa.gov/nrmrl/pubs/600r09012/600r09012.pdf>. The Utah Department of Environmental Quality published a report in 2010 entitled *Statewide Nutrient Removal Cost Impact Study*. See <http://www.waterquality.utah.gov/POTWnutrient/report/StatewideNutrientRemovalCostImpactStudyRptFINAL.pdf>. USEPA has also published several reports on available nutrient removal treatment technologies and the associated costs including *Biological Nutrient Removal Processes and Costs* published in 2009. [http://water.epa.gov/scitech/swguidance/waterquality/standards/upload/2009\\_01\\_21\\_criteria\\_nutrient\\_bio-removal.pdf](http://water.epa.gov/scitech/swguidance/waterquality/standards/upload/2009_01_21_criteria_nutrient_bio-removal.pdf). The cost will depend on the permit limit and the treatment option selected by the permittee. The Department recognizes that there may be situations where the cost is excessive. The SWQS at N.J.A.C. 7:9B-1.8 and 1.9 provide a basis for modifying a

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facility's water quality based effluent limitation if the cost of treatment would result in substantial and wide-spread adverse social and economic impact.

32. COMMENT: The Department should revise the language in the proposed nutrient policy to state that water quality based effluent limits (WQBELs) for existing dischargers must be based on a wasteload allocation through a TMDL or the numeric phosphorus criterion where the Department has already made a determination that the narrative criterion is not satisfied. In other words, this policy should specifically state that WQBELs for existing dischargers can only be based on the applicable numeric phosphorus criterion if the Department has first made a determination that the narrative nutrient criterion is not satisfied. The phosphorus evaluation studies and nutrient TMDL studies performed over the last ten years in New Jersey amply demonstrate that there should be a documented nutrient problem before a WQBEL based on a numeric nutrient criterion is imposed. (1)

RESPONSE: In April 2009, the Department proposed to evaluate the narrative criterion before imposing phosphorous limitations in NJPDES permits based on the numeric phosphorus criteria (see 41 N.J.R. 1565(a)). However, based on comments received, the Department decided to continue using the numeric phosphorus criteria in assessment and listing decisions, developing TMDLs, and establish WQBELs in the NJPDES permits until data became available to conclude that the narrative nutrient criterion was met. This approach addressed the perception that no action would be taken to address potential nutrient related problems. In accordance with the amendments adopted to the nutrient policies, narrative nutrient criterion, and numeric phosphorus criteria, the Department will continue to issue NJPDES permits with water quality-based effluent limits based on the numeric phosphorus criteria unless the Department has made a determination that the narrative nutrient criterion at N.J.A.C. 7:9B-1.14(d)4i is met. WQBELs for total phosphorus will be imposed in NJPDES permits based on the numeric phosphorus criteria at N.J.A.C. 7:9B-1.14(d)4ii if the Department determines that the narrative nutrient criterion is not met or where insufficient information is available to determine compliance with the narrative nutrient criterion. The Department believes that the adopted rule will encourage

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affected NJPDES facilities to provide the data necessary to assess the narrative nutrient criterion before a water quality based effluent limitation is imposed in the facility's NJPDES permit.

33. COMMENT: When criteria are developed for other parameters, such as nitrate, nitrogen, and chlorophyll *a*, the Department should make these criteria available for public review and comment, and include a detailed economic impact analysis on the expected costs on regulated entities to meet compliance. The Department should be very cognizant of the economic impact of any established criteria that must be satisfied as it moves towards adopting new phosphorus numeric criteria and new nutrient assessment methods for all the waterbodies. (2)

RESPONSE: Any criterion developed by the Department for incorporation into the Surface Water Quality Standards at N.J.A.C. 7:9B-1.14 is subject to formal rulemaking which must comply with New Jersey Administrative Procedure Act (APA), N.J.S.A. 52:14B-1 et seq. Pursuant to the APA at N.J.S.A. 52:14B-4, every rulemaking proposal is required to include an economic impact analysis. The formal rulemaking process includes an opportunity for public review and comment. In addition, pursuant to the Governor Christie's Executive Orders, the Department provides an opportunity for stakeholder input prior to the initiation of Department rulemaking.

34. COMMENT: The criteria appear to restrict the remedy of use impairment to only nutrient reduction. Other solutions such as increase of canopy cover might be more effective. (5)

RESPONSE: The criteria establish the water quality goal for the waterbody. Through a TMDL, the Department could determine that actions such as increasing canopy cover could result in attaining compliance with the narrative nutrient criterion. However, the NJPDES rules at N.J.A.C. 7:14A require that an effluent limitation be imposed where the discharge causes or contributes to an exceedence of the criterion, even if other actions could mitigate the impacts of nutrients. Therefore, if the Department determined that the narrative nutrient criterion or the numeric phosphorus criterion was exceeded, the Department would impose a water quality-based effluent limitation for phosphorus. The facility would then be required to monitor the

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concentration of phosphorus in its effluent to determine compliance with its effluent limit. In this case, increased canopy cover as suggested by the commenter would not enable a facility to comply with its effluent limit.

35. COMMENT: The Department is proposing to convert one of its nutrient policies to a narrative nutrient criterion, enhancing its regulatory impact. In so doing, the Department should modify the language to clarify that the elements in the narrative criterion all relate to use impairment. The adjectives “objectionable” and “nuisance” clearly relate to use impairment. However, the word “abnormal,” in reference to diurnal dissolved oxygen and pH fluctuations, is too vague and not clearly related to use. Worse yet, there is no adjective describing “changes to the composition of aquatic ecosystems.” While the first phrase specifically states “render the waters unsuitable for [...] uses due to,” the subsequent components could take on a life of their own if not constrained by appropriate adjectives. The word “abnormal” should be deleted and replaced with “harmful”. Further, the word “detrimental” should be added before “changes.” (1)

36. COMMENT: Placing the narrative policy into the criteria with adjectives such as objectionable algal densities and nuisance aquatic vegetation is problematic. The intention of the Department appears to be that the definition of these two conditions will be included in the Assessment Methods Document. Shouldn't this document be included by reference?

Placing the narrative policy into the criteria with the phrase changes to the composition of aquatic ecosystems is problematic. A change in the composition of an aquatic ecosystem, assuming that one can demonstrate a cause and effect relationship between nutrients and composition is not necessarily a use impairment. Use of the phrase “abnormal diurnal fluctuations in dissolved oxygen or pH” is problematic. Dissolved oxygen and pH criteria have been established for aquatic life use protection. If a diurnal fluctuation causes a violation of these criteria, the size of the swing is irrelevant, the use is impaired. What is abnormal? A phrase that links the diurnal fluctuation itself to use impairment or harm to aquatic life, would be more in the spirit of the narrative. (5)

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RESPONSE TO COMMENTS 35 AND 36: The Department is revising the rule on adoption to clarify the intent of the terms “diurnal fluctuations in dissolved oxygen or Ph” and “changes to the composition of aquatic ecosystems.” The Department has described the types of changes in diurnal dissolved oxygen concentration of concern are those associated with excessive photosynthetic activity. Abnormal changes could be either positive or negative. The Department’s intent was to limit abnormal changes to those with negative consequences due to excessive nutrients. Therefore, the Department believes that “indicative of excessive photosynthetic activity” more clearly describes the conditions to be avoided. The changes to the composition of aquatic ecosystems can also be either detrimental or beneficial. However, only detrimental changes in the composition of the aquatic ecosystem are associated with excessive nutrients. Accordingly, the Department believes that “detrimental changes to the composition of the aquatic ecosystem” more clearly describes the conditions to be avoided. The narrative nutrient criterion at N.J.A.C. 7:9B-1.14(d)4i is therefore revised to read as follows, deletions from proposed text indicated in brackets surrounded by asterisks, additions to proposed language indicated in bold surrounded by asterisks:

Except as due to natural conditions, nutrients shall not be allowed in concentrations that render the waters unsuitable for the existing or designated uses due to objectionable algal densities, nuisance aquatic vegetation, \*[abnormal]\* diurnal fluctuations in dissolved oxygen or pH **\*indicative of excessive photosynthetic activity\***, **\*detrimental\*** changes to the composition of aquatic ecosystems, or other indicators of use impairment caused by nutrients.

The Department does not agree that it is necessary to include a reference to the Integrated Water Quality Monitoring and Assessment Methods document in the narrative nutrient criterion. N.J.A.C. 7:9B-1.5(a)9 provides that the Integrated Water Quality Monitoring and Assessment Methods Document is used to evaluate water quality data and identify waters where water quality does not meet the Surface Water Quality Standards, including evaluations based upon the narrative nutrient criterion. The Methods Document describes the number of samples, conditions to be monitored and how the results are evaluated.

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37. COMMENT: N.J.A.C. 7:9B-1.14(d)4ii(1) states that the stream numeric criterion of 0.1 mg/L and the lake criterion of 0.05 mg/L will be in effect if the Department determines that concentrations do not render the waters unsuitable based on an assessment of the narrative nutrient criterion. In a stream, if TP is 0.2 mg/L and uses are protected why does 0.1 mg/L need to apply? In a lake, if TP is >0.05 mg/L and uses are protected why does 0.05 mg/L need to apply? (5)

38. COMMENT: The Department, based on increases of nutrient loads expected in the future for most streams, should never remove a WQBEL for phosphorus from an existing NJPDES permit. This would be considered backsliding (N.J.A.C. 7:14A-13.19) and would likely be a violation of regulations. (7, 9, 12)

RESPONSE TO COMMENTS 37 AND 38: There are circumstances where phosphorus levels in excess of the 0.1 mg/L (for non-tidal streams) or 0.05 mg/L (for lakes, ponds, and reservoirs) may not impair the use. However, the Department did not propose that the numeric criteria will be in effect if it is determined that the narrative criterion is satisfied. Instead, the adopted amendments provide that the numeric phosphorus criterion applies until the Department determines that the phosphorus concentration in the waterbody does not cause undesirable conditions described in the narrative criterion for nutrients. Once a determination has been made that alternative phosphorus concentrations are protective of the designated and existing uses, the Department may develop site-specific criteria. Such site-specific criteria may be adopted into the SWQS at N.J.A.C. 7:9B-1.14(g), for appropriate waterbodies and may be utilized to develop TMDLs and water quality based effluent limitations for NJPDES permits. However, other provisions, including antibacksliding and antidegradation may preclude the Department from removing or modifying a facility's effluent limitation. As indicated in the proposal at 41 N.J.R. 4590, the Department must determine that the antibacksliding provisions at N.J.A.C. 7:14A-13.19 are met before removing a water quality based effluent limitation for phosphorus from an existing NJPDES permit. Compliance with these provisions could also require the Department



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to impose or retain a water quality based effluent limitation for phosphorus for existing discharges.

39. COMMENT: The Department's revised interpretation of what constitutes "abnormal diurnal fluctuations" is of concern. The revised 2010 Assessment Methods classify any dissolved oxygen (DO) swing greater than 3 mg/L as an impairment while the prior version of the document did not do this. Are there any scientific studies showing that such a DO swing is unfavorable to aquatic life? The DO swing greater than 3 mg/L is the cause of impairment should not be used, without further documentation, to assert that use impairments exist due to nutrients. (3)

RESPONSE: The Department has established a method to assess the narrative nutrient criterion in non-tidal freshwater streams as part of the 2010 Methods Document. The DO swing is not a water quality criterion and is not intended to be assessed independently. As specified in the 2010 Assessment Method for nutrients, a DO swing greater than 3 mg/L does not qualify a waterbody as impaired unless other indicators of impairment exist. A DO swing greater than 3 mg/L is considered in combination with other factors, collectively, may indicate impairment; which is similar to how it was used in the phosphorus evaluation study. A DO swing is used to determine whether the DO levels are affected by primary productivity or other factors such as sediment oxygen demand. In addition, the Department in response to comments received is clarifying the phrase "abnormal diurnal fluctuations in dissolved oxygen or pH" to "diurnal fluctuations in dissolved oxygen or pH indicative of excessive photosynthetic activity" upon adoption (see response to comments 35 and 36 above).

40. COMMENT: The Department should reevaluate waterbodies that are listed as impaired for phosphorous on the 2008 List of Water Quality Limited Waters ("303(d) List"). (2)

RESPONSE: The Department intends to evaluate the narrative nutrient criterion as data become available for specific waterbodies and delist when appropriate. The Department used the new nutrient assessment method included in the 2010 Methods Document to evaluate nutrient

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impairment of freshwater wadeable streams based on response indicators using a “weight of evidence” approach to determine whether phosphorus causes non-attainment of the aquatic life use. This method requires biological and continuous dissolved oxygen monitoring data collected during the same monitoring season. In 2010, the Department had the data necessary to complete the nutrient impact assessment included in the 2010 Methods Document at 19 monitoring locations which were impaired for phosphorus in 2008. The Department has proposed to delist four waterbodies listed as impaired due to total phosphorus on the 2008 303(d) list (see 42 N.J.R. 2644(a)). Where sufficient data is not available to apply the new method, the Department will continue to assess nutrient impairment based on compliance with the existing numeric SWQS criteria for phosphorus. Freshwaters previously assessed as not attaining the aquatic life use based on exceedances of the numeric phosphorus criteria will be delisted only if it can be demonstrated that the narrative nutrient criterion has been met.

41. COMMENT: It is clear that much time, research and public investment is going into the development of proposed “ecosystem indicators.” This time and expertise of New Jersey scientists would be better spent on other measures that in fact are not attempting to weaken the standards already put in place particularly with current budget constraints. This view appears to also be evident in the USEPA letter to Florida DEP (January 14, 2009) indicating that “numeric criteria for nutrients would enable the State to, in a more timely manner, establish TMDLs that identify nutrient reductions necessary to protect the designated uses.” (7, 9, 12)

RESPONSE: The Department believes that response indicators such as dissolved oxygen (DO) and other biological measurements are better indicators of adverse nutrient impacts on the aquatic ecosystem than an assessment of the in-stream concentration of phosphorus alone. A waterbody’s response to nutrients depends on site-specific factors. The same concentration of nutrients can cause vastly different effects in different locations. For this reason, the Department does not support the idea of a single State-wide numeric criterion. In addition, the USEPA in the rule adopted for the State of Florida (see [http://water.epa.gov/lawsregs/rulesregs/florida\\_index.cfm](http://water.epa.gov/lawsregs/rulesregs/florida_index.cfm)) indicated that site-specific alternative

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criteria (SSAC) should apply in lieu of generally applicable numeric criteria when the SSAC is demonstrated to be protective of designated use.

42. COMMENT: In order for the Department to monitor compliance with the new narrative criterion, facilities would have to install additional costly treatment mechanisms to reduce the quantity of phosphorus discharged. (2)

RESPONSE: Facilities would not be required to install additional treatment for the Department to monitor compliance with the narrative nutrient criterion. However, where the Department determines that the narrative nutrient criterion is exceeded, actions will be necessary to reduce the levels of nutrients in the waterbody. The Department may impose water quality based effluent limitations in a facility's NJPDES permit when a discharge causes or contributes to an exceedence of the water quality criterion. The permittee will be required to monitor the phosphorus concentration being discharged to determine permit compliance. The facility may be required to install treatment to reduce the levels of phosphorus discharged to achieve compliance with the effluent limitations established in the facility's permit.

### **Red Tape Review Process and Rulemaking; Executive Order Nos. 1 through 3 (2010)**

43. COMMENT: The rule on phosphorus has to go forward because it meets Federal standards and the public benefit of clean and safe drinking water outweighs the cost involved with implementing the rule. This rule is not an undue burden on businesses. It is relatively inexpensive to remove phosphorus from sewer plants and the collateral benefit of clean water and its impact on the economy far outweighs the cost. (11)

44. COMMENT: It would seem an improvement and an additional tool for monitoring and measuring both narrative and numeric elements in this nutrient rule. Will there ever be a time when it will not be an economic burden? It was a burden through the boom times of 2002-2007 and no apparent consideration was given by any boom town or municipality to address increases in loadings because of growth and additional flows. Will there always be an economic burden

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causing the continuing degradation of rivers and streams also considering many new emergent toxins because of costs to maintain the basic nutrient criteria? The Department will always be forced into a political strangle hold of digressing to the politics of death and pollution. The false link that has been built between a clean environment and economic decline has to be broken. We can no longer accept the political rhetoric that there must be a balance between a tolerable pollution expectation and economic growth. This is leading to an increasing progression of multiple interacting toxins infiltrating the whole ecosystem and bioaccumulating in human tissues. We are literally poisoning the population. The Department is held hostage by politics and politicians. It is wrong, evil and would appear also to be against the law. (10)

RESPONSE TO COMMENTS 43 AND 44: The Department is required to establish water quality criteria to protect the environment without consideration of cost. The water quality criteria are used by the Department to develop effluent limitations for individual regulated discharges. When developing effluent limitations, the Department takes into consideration factors such as the concentration of the pollutant in the effluent, the receiving stream classification, the dilution available in the receiving stream and the ambient water quality condition. The SWQS at N.J.A.C. 7:9B-1.8 and 1.9 also include a provision that allows a demonstration that may result in modification of an effluent limitation if the individual permittee believes that the costs to comply will result in widespread social and economic impact. Modification of effluent limitations based upon economic costs is only granted in limited, appropriate cases.

The Department is taking steps to protect surface waters by adopting appropriate measures to protect and maintain water quality. As part of this rulemaking the Department is adopting a narrative nutrient criterion in addition to the numeric phosphorus criteria that are in place. This will allow the Department to address both situations where a waterbody meets the applicable numeric phosphorus criterion, but still has aquatic growth problems, as well as situations where a waterbody is above the applicable numeric phosphorus criterion, but does not actually exhibit any problems.

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45. COMMENT: The Governor's Red Tape Review executive orders have raised potentially troublesome issues for the Department's rulemaking and enforcement process. Considering the economic impacts of environmental regulation is a fraught process. Even the best economists struggle to quantify environmental benefits in dollar terms; their best efforts, with the benefit of hindsight, tend to underappreciate environmental value at the time of quantification tragically and repeatedly. Economists struggle with correctly finding and valuing the external impacts of economic transactions, discount rates and contingent values for natural resources; most ecosystem services are not captured in market transactions and are thus of indeterminate value. There is simply no economically viable way for the Department to say, for example, that 15 shopping malls are of equal value to New Jersey as a self-sustaining osprey population.

Cost benefit analyses of environmental regulation, when attempted, are invariably wrong, invariably non-confirmable and invariably minimize the benefit while maximizing the cost. Including such cost benefit analyses in the regulatory process is an important decision for any statute, and legislatures are well aware of the importance of deciding on whether particular legislation will impel or forbid such a process. Inappropriately applying cost benefit analyses is a common and fatal mistake many levels of government make; one that often puts them on the wrong end of an environmental lawsuit.

While true benefit analysis is probably not possible, only a highly trained economist can be expected to wade through analysis of contingent valuation, externalities and discount rates. Reasonable analysis, let alone accurate analysis, is not possible for a layperson to produce. The Department has not used any particular economic theory to generate its benefits analysis, has no methodology to quantify benefits, has not used economists to review the effects of these rules and has only one economist on staff for the entire department. Although it is good that the Department concludes that its rules are justified by their benefits, a qualified economist is likely to find far greater benefit than the Department has. (6)

RESPONSE: Governor Christie's Executive Order No. 2 delineates "common sense principles" for rulemaking that are intended to provide the "opportunity to energize and encourage a competitive economy to benefit business and ordinary citizens." At section 1a, the Executive

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Order directs all State agencies to solicit the advice and views of knowledgeable persons from outside of New Jersey State government, including the private sector and academia, in advance of any rulemaking. At section 1d, the Executive Order directs State agencies to “employ the use of cost/benefit analyses, as well as scientific and economic research from other jurisdictions, including but not limited to the federal government when conducting an economic impact analysis on a proposed rule.”

The Administrative Procedure Act (APA) at N.J.S.A. 52:14B-23 and 24 (P.L. 1995, c.65, effective June 5, 1995, which codified the substance of Governor Whitman's Executive Order No. 27(1994) into the APA) requires State agencies that adopt, readopt or amend State regulations that exceed any Federal standards or requirements to include in the rulemaking document a comparison with Federal law. The analysis must include a cost-benefit analysis that “supports the agency's decision to impose the standards or requirements and also supports the fact that the State standard or requirement to be imposed is achievable under current technology, notwithstanding the Federal government's determination that lesser standards or requirements are appropriate.” Therefore, since 1994 in accordance with State law the Department has included a cost-benefit analysis in all of its rulemakings where the rules or standards exceed Federal law. The APA at N.J.A.C. 7:52-14B-4(a)2 requires State agencies to include in each rulemaking a “description of the expected socio-economic impact of the rule.” The Office of Administrative Law’s Rules for Agency Rulemaking implement the APA and require at N.J.A.C. 1:30-5.1(c)3 that a notice of proposal include “an economic impact statement which describes the expected costs, revenues, and other economic impact upon governmental bodies of the State, and particularly any segments of the public proposed to be regulated.” Each of the Department’s rule proposals contains such a statement. As required by the APA and the Rules for Agency Rulemaking, the Department’s rule proposals also contain statements of social impact, jobs impact, agriculture industry impact, impact on small business (regulatory flexibility analysis); and statements addressing the proposed rules’ impact on smart growth and the cost of housing. The Department in addition includes an environmental impact statement, describing the impact that its proposed rules will have on the environment.

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The Department acknowledges that it has not historically provided as much detail in its impact analyses as an economist might. The Department endeavors to employ a practical approach to its determination of the costs and benefits of its rulemakings, and necessarily relies to a certain extent on information developed by other sources. For instance, the Department may adapt and tailor to the circumstances in New Jersey the economic analysis for a rule performed by another state or the Federal government. In addition, the Department conducts informal and formal outreach to regulated communities, environmental interest groups, the U.S. Environmental Protection Agency, other Federal and State agencies, agencies of other states, and the general public in the early stages of rulemaking. This is particularly the case for larger, more complex rulemakings. The Department will publish notice on its website or in the New Jersey Register, and/or use mail and electronic mail to known stakeholders, providing a description of the rules anticipated to be changed and the timeframe and means by which input will be gathered, for instance, at informal meetings or by written submissions, or both. Through outreach such as this, the Department obtains information on possible costs and benefits of rules that it is developing, as well as suggestions for the approach the Department should take in pursuing its regulatory goals.

Through the impact statements and Federal standards analyses for its rulemakings the Department attempts to identify the anticipated costs and benefits that will result from the proposed rules, including reasonably foreseeable indirect or secondary costs and benefits. The Department does attempt to identify and describe, even if it cannot always quantify in dollar terms, the proposed rules' costs and benefits in order to provide the public with as complete a picture and/or rationale as possible regarding the positive and negative economic impacts of the rulemaking.

Going forward the Department anticipates looking to the scientific and economic research of other jurisdictions and conducting advance outreach for its rulemakings in order to obtain enhanced insight into the costs and benefits that will flow from its rules and help accomplish the regulatory balance contemplated by Governor Christie's Executive Orders.

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46. COMMENT: The Governor's concern that Department standards may, in some instances, exceed Federal standards is misplaced. The Federal law in most environmental matters acts as a basement, below which states cannot fall, but above which they may build. The Congress and the EPA are aware that they are setting national minimums, just as they are aware that the states are very different. A minimum that makes sense in a relatively unpopulated state such as Montana, will not necessarily make sense in New Jersey, the most densely populated state in the country. A minimum in a relatively virgin state such as Oregon will not necessarily make sense in New Jersey, a state with legacy of toxic industrial pollution. In this context, it is not only appropriate that New Jersey's regulations would exceed Federal standards in a number of instances, it is essentially mandatory. Any state's environmental protection agency that is doing its job will find instances where the peculiarities of the particular state make Federal regulation inadequate. New Jersey's regulations, because of the State's population density, industrial legacy and proximity to several huge metropolitan areas, should probably exceed Federal standards in many and diverse ways. The Department is uniquely positioned to use Federal standards as a starting point to create regulations that specifically address the unique problems facing New Jersey and its citizens. The Department, therefore, should not hesitate to exceed Federal standards when the health, safety, and welfare of New Jersey's citizens and its environment require it. (6)

RESPONSE: The APA at N.J.S.A. 52:14B-23 and 24 requires State agencies to include in their Federal standards analysis a discussion of the policy reasons that support the agency's decision to impose a standard that is more stringent than a comparable Federal standard. This is in addition to the cost/benefit analysis that the APA requires, as discussed in response to comment 45. The Legislature stated, at N.J.S.A. 52:14B-22, "[i]t is the declared policy of the State to reduce, wherever practicable, confusion and costs involved in complying with State regulations. Confusion and costs are increased when there are multiple regulations of various governmental entities imposing unwarranted differing standards in the same area of regulated activity. It is in the public interest that State agencies consider applicable Federal standards when adopting, readopting or amending regulations with analogous Federal counterparts and determine whether



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these Federal standards sufficiently protect the health, safety and welfare of New Jersey citizens.”

Governor Christie’s Executive Order No. 2, section 1e, requires State agencies to “[d]etail and justify every instance where a proposed rule exceeds the requirements of federal law or regulation. State agencies shall, when promulgating proposed rules, not exceed the requirements of Federal law except when required by State statute or in such circumstances where exceeding the requirements of federal law or regulation is necessary in order to achieve a New Jersey specific public policy goal.” This directive establishes a focus and approach to the comparison with Federal law that the APA requires all State agencies and the Department to conduct for rulemaking.

As the commenter points out, the conditions and circumstances of New Jersey and its citizens can be unique to the State. Consequently, both the APA and Executive Order No. 2 acknowledge that there will be times when it is absolutely appropriate for the Department to promulgate standards that are more stringent than Federal standards, either because New Jersey law so requires or because doing so is necessary in order to achieve important public policy goals for the State.

47. COMMENT: There are probably many instances where Department procedures could be more clear. For example, Department forms may have increased in complexity over the years, some information may be requested redundantly and some permits could, perhaps, be merged. The Department, however, should keep in mind that it is not a “Department of Environmental Permitting,” and its mission should not be to smooth the path from developmental permit applications to development. Central to the idea of protection is that one must often say “no.” The Department should not look at “process improvement” as making it easier to get to “yes.”  
(6)

RESPONSE: The Department undertakes various efforts to assist the regulated community in the permit application and review process. For example, in accordance with N.J.S.A. 13:1D-111, the Department develops and makes available technical manuals relating to its various

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environmental permits. The Department also provides checklists, identifying the application steps and submissions required under the respective permitting program rules. Checklists and applications are made available through the Department's website. The Department often assigns case managers to assist applicants with the permit process, and to coordinate permitting across various Department programs.

The Department convened the Permit Efficiency Review Task Force in 2008 and, in response to its recommendations (see <http://www.state.nj.us/dep/permittf/documents.html>), has undertaken various initiatives to improve outreach for rulemaking and to streamline and improve the permit application and review process. The Department is committed to upgrading its information technology infrastructure to support electronic submission and processing of permit applications and associated reports. The Department is in the process of increasing its network capacity, and is accelerating its efforts to design and develop electronic permitting and reporting services. Recent efforts include, for instance, implementation of an electronic water use and transfer reporting program by the water supply program to facilitate data management, eliminate the use of paper forms, reduce data errors, improve tracking and reporting of data, and make data available in a more timely fashion.

The Department believes process improvements that facilitate the issuance of permits that are consistent with the applicable standards and that are issued in a coordinated and timely fashion are beneficial to the regulated community, the Department, and the environment. Streamlining permitting will conserve the resources of all involved and maintain proper focus on achieving substantive environmental protections. As the Permit Efficiency Review Task Force's recommendations and Governor Christie's Executive Orders recognize, the process of obtaining a permit from the Department should not stand in the way of development that is otherwise allowable under applicable environmental protection law and standards.

48. COMMENT: While many of the State's environmental regulations could be improved, the Department should not curtail any protections or delay any rules based on the Governor's Executive Orders. (6)

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RESPONSE: The Department, in order to inform the reviews of then pending proposed rules being conducted by the Department and the Red Tape Review Group established under Executive Order No. 3 issued by Governor Christie on January 20, 2010, extended or reopened the public comment period for certain pending proposals. (See Notice of extension or reopening of comment periods and informal stakeholder meetings for pending Department of Environmental Protection proposals suspended under Executive Order No. 1 (2010), <http://www.nj.gov/dep/rules/notices.html>, 42 N.J.R. 642(a).) In accordance with Executive Order Nos. 1 and 3, the Red Tape Review Group's task was, among other things, to examine various proposed administrative rules and regulations by a number of State agencies prior to their adoption and make detailed recommendations to the Governor to rescind, repeal or amend those rules. Based on those recommendations, the Commissioner of the Department determined whether or not to proceed with adoption or amendment of the Department's affected proposals.

The Executive Orders and the Red Tape Review process expressly recognized that some rules had to be adopted in order to prevent an adverse impact to public safety or security or public health; prevent prejudice to the State with regard to receipt of funding or certifications from the Federal government; allow State agencies to exercise their essential powers, duties and functions; and comply with any judicial deadline. Rule proposals that would result in such adverse impacts if adoption were delayed therefore were not suspended.

Executive Order No. 2 also directs State agencies to implement the “common sense principles” in all rulemaking while keeping in mind the core missions of the agency; public health, safety, welfare and the environment; and the agency’s underlying regulatory objectives. In determining whether to proceed with its rule proposals and for all future rulemaking, the Department will necessarily take all of these factors into consideration.

49. COMMENT: The Department's notice and comment procedure, the informal stakeholder process, and the Red Tape Review Group process created by Governor Christie's Executive Order No. 2 do not comply with the rulemaking requirements of the New Jersey Administrative Procedure Act (APA). Web posting and reliance on the authority of Governor Christie's

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Executive Order Nos. 1 through 3 cannot supersede or replace APA requirements. All 12 proposals were proposed pursuant to and in accordance with the APA requirements. The Department may not - after the fact - revise these procedures. (13)

RESPONSE: As the commenter acknowledges, this rulemaking, as well as the other proposals to which the commenter referred, were proposed in accordance with the Administrative Procedure Act (APA), N.J.S.A. 52:14B-1 et seq. On January 20, 2010, Governor Christie issued a number of executive orders. Executive Order No. 1 (EO 1) suspended for 90 days more than 150 then-pending proposals of various New Jersey agencies, including 12 proposals of the Department. EO 1 states that one of the Governor's priorities is to establish, under the direction of a Red Tape Review Group, a "commonsense" approach to the promulgation of rules. The commonsense principles are described in Executive Order No. 2 (EO 2), and the Red Tape Review Group was established under Executive Order No. 3 (EO 3). The purpose of the suspension was to afford the Red Tape Review Group the opportunity to examine the suspended rulemakings and make recommendations as to those proposed rules it determined were "unworkable, overly proscriptive or ill-advised" (see EO 1, 4th whereas clause). EO 1 directed that the suspension be undertaken in a manner consistent with APA rulemaking requirements, and specifically exempted from suspension any proposed rulemaking for which the failure to adopt would adversely impact public safety or security; adversely impact public health; prejudice the State with respect to receipt of monies from the Federal government or the ability to obtain any certifications from the Federal government; prevent the application of powers, functions and duties essential to the operations of the relevant State agency; or adversely impact compliance with any judicial deadline. Both EO2 and EO3 stress transparency and the involvement of stakeholders and the public in agency rulemaking, which is a fundamental tenet of the APA. Accordingly, the Department determined it was appropriate both to extend the formal comment period on its suspended proposals and to also hold stakeholder meetings to facilitate informal discussions of the rulemakings in consideration of the purposes of the executive orders.

On February 3, 2010, the Department filed for publication in the New Jersey Register a notice of the extension or reopening of the comment period on the 12 suspended rulemakings to

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March 15, 2010. The notice appeared in the March 1, 2010, New Jersey Register (see 42 N.J.R. 642(a)). The Department posted the notice on its website on February 4, 2010.

The notice provided an additional period for public comment on each of the rulemakings beyond that required by the APA. The notice did not change the content of the original proposals in any way. While not precluding additional comment on any aspect of the pending proposals during the extended/reopened comment period, the Department sought through the notice to focus any additional comments submitted on the purposes of the rules review set forth in the executive orders. The Department also announced in the notice that it would be scheduling stakeholder meetings on the proposals and that the dates for the meetings would be posted on the Department's website. The schedule of the stakeholder meetings was subsequently posted on the website on February 22, 2010. The first of the stakeholders meetings was held on March 2, and the last on March 11, 2010.

The stakeholder meeting regarding this rulemaking is described above in the introductory section of this adoption. Public comments for the administrative record were accepted in writing during the original public comment period and during the additional comment period that ended March 15, 2010. As with any rulemaking, and as contemplated by the APA, the Department has reviewed, considered, summarized and is responding in this adoption to all formally submitted comments received during the entirety of the public comment period. In conclusion, the Department did not "revise the procedures after the fact" but, rather, supplemented the statutorily required rulemaking procedures in order to facilitate public input into the review of the rules required by the executive orders.

50. COMMENT: The Department's web post states the following: "[Note: The Department prefers electronic submissions in order to facilitate timely review of comments to meet the timeframes for action in the Executive Orders.]" The time restriction (in other words, the timeframe for action pursuant to Executive Order Nos. 1 through 3 and the Red Tape Review Group review process) cannot replace or supersede the requirements of the APA. The March 15 deadline is arbitrary and not in accordance with APA requirements. (13)

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RESPONSE: The Administrative Procedure Act prescribes minimum notice requirements to ensure that adequate opportunity for public input on a proposed rule is provided. As indicated in response to comment 49 above, the proposals for which the Department extended or reopened the comment period for purposes of the review initiated by the executive orders satisfied the notice and public comment requirements of the APA at the time they were originally proposed. The notice provided an additional period for public comment on each of the rulemakings beyond the minimum required by the APA. The March 15, 2010 close of the additional comment period was established so that comments related to the purposes of the executive orders would be received within the 90-day timeframe (ending April 20) established by Executive Order No. 1 for the Red Tape Review Group to conduct its review of the suspended proposals so that it might thereafter make its recommendations.

51. COMMENT: The substantive requirements of Executive Order Nos. 1 through 3, particularly the requirements to conduct cost/benefit analysis and to consider cost/benefit analysis as a basis for regulatory decisions, is ultra vires and not authorized by either the APA or the enabling authorities pursuant to which each of the 12 rules were proposed. (13)

RESPONSE: The Administrative Procedure Act requires that each proposed rulemaking include a description of the expected socio-economic impact of the rule, as well as a regulatory flexibility analysis of impacts on small businesses, a jobs impact statement, an agriculture industry impact statement, a housing affordability impact statement, and a smart growth development impact statement. See N.J.S.A. 58:14B-4. See also the Rules for Agency Rulemaking, N.J.A.C. 1:30-5.1. In addition, the APA requires that a Federal standards analysis must be included in each proposal and adoption. See N.J.S.A. 52:14B-23, and N.J.A.C. 1:30-5.1. Neither the APA nor the enabling authority for this rulemaking preclude an analysis of the costs and the benefits of a proposed rule as part of the APA required impact analyses.

52. COMMENT: The "reopening" of the public comment period and retroactive application of new procedures, standards, and decision criteria established by Executive Order Nos. 1 though 3

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is ultra vires, not authorized by law, and inconsistent and in violation of law. This includes the APA requirements as well as the enabling statute for each rule proposal. (13)

RESPONSE: As indicated in prior response to comment 49, the procedure followed for this rulemaking, including the reopening of the comment period to provide additional opportunity for public comment and the request to focus the additional public comments on the purposes of the rules review set forth in the executive orders, is consistent with the rulemaking requirements of the Administrative Procedure Act. Seeking additional public input on, for example, the potential costs and benefits of the rulemakings in a more focused way as contemplated by the executive orders did not result in new procedures, standards, and decision criteria being imposed. Rather, the extended comment period and stakeholder meetings supplemented the statutorily required rulemaking procedures for public comment and participation in rulemaking. The commenter has not explained how providing an opportunity for additional public comment, or having the Department consider those additional comments, violates the APA or the enabling statutes for this or any of the affected rulemakings. Consequently, the Department is not able to further specifically address this aspect of the comment.

53. COMMENT: The Department's application of the provisions of Executive Order Nos. 1 through 3 to the subject rule proposals would violate the procedural and substantive requirements of Federal environmental laws and the delegation agreements under which New Jersey implements Federal laws. These laws include, but are not limited to the Safe Drinking Water Act, the Coastal Zone Management Act, the Resource Conservation and Recovery Act (RCRA), the Clean Water Act, and the Clean Air Act. The same violations arise by the Department's after the fact "reopening" of the public comment procedure, as part of which this comment is submitted. (13)

RESPONSE: Several of the programs for which proposals were suspended under Executive Order No. 1 and for which the Department reopened or extended the comment period are administered by the Department in conjunction with equivalent Federal programs under independent State statutory authority, as allowed by the applicable Federal statute. Others are

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programs that have been delegated to the Department by the Federal government, again in accordance with the applicable Federal statute. The Department's decision to allow further opportunity for public comment in order to obtain comments focused on the directives contained in the executive orders is not barred by the New Jersey Administrative Procedure Act and does not violate any Federal environmental law related to any of the Department's programs that implement the affected rules. The Federal statutes and delegation agreements do not preclude the Department from seeking public input determined to be appropriate before taking regulatory action. Similarly, the Federal statutes and delegation agreements do not preclude the Department from considering the impacts of the rulemaking on the regulated public for purposes of determining the best way to implement the required standards.

54. COMMENT: The "reopening" process and the provisions of Executive Order Nos. 1 through 3 violate Federal funding agreements and the National Environmental Partnership Performance Agreement (NEPPS). The Department may not substitute the provisions of the Executive Orders and the Red Tape Review Group review process for the requirements of Federal law, regulation and funding agreements. (13)

RESPONSE: Federal funding agreements and the National Environmental Partnership Performance System (NEPPS) do not establish requirements for the rulemaking process. NEPPS has two major components, the Performance Partnership Agreement (PPA) and the Performance Partnership Grant (PPG). The PPA focuses mainly on activity commitments that the Department makes to earn the overall PPG from the U.S. Environmental Protection Agency. While some of the commitments may relate generally to the development of rules and expected timeframes, neither the PPA nor PPG deals with the procedures for rulemaking. Accordingly, the PPA and PPG do not preclude the Department from seeking and considering public comments related to the purposes of the rules review set forth in the executive orders.

55. COMMENT: Based on the concerns expressed by the commenter in comments 45 through 54 above, the Department should withdraw this sham "reopening of the public comment



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process." This "reopening" process is not in compliance with procedural notice/comment requirements of applicable law. (13)

56. COMMENT: The "common sense principles", standards, criteria, and informal process established by Executive Order Nos. 1 through 3 are not authorized by law, can have no legally binding effect, and expressly violate State and Federal law. Accordingly, this "proposal" must be withdrawn. (13)

RESPONSE TO COMMENTS 55 AND 56: As explained in the responses to comments 45 through 54 above, the Department's actions to propose and adopt this rulemaking meet the requirements of the APA, and do not violate the enabling statutes or applicable Federal law.

57. COMMENT: The "Red Tape Review" process is an informal process that is not on the record. This process is not transparent and not authorized by law. It may not be considered or relied upon in any way for final agency regulatory decisions regarding the subject rule proposals. No information considered or decisions reached during that process may be considered as part of the administrative record of the subject rule proposals, and none of it can be relied on as a basis for final regulatory decisions by the Department. (13)

58. COMMENT: The stakeholder process announced for this proposal is an informal process that is not on the record. This process is not transparent and not authorized by law. It may not be considered or relied upon in any way for final agency regulatory decisions regarding the subject rule proposals. No information considered or decisions reached during that process may be considered as part of the administrative record of the subject rule proposals, and none of it can be relied on as a basis for final regulatory decisions by the Department. The Department should withdraw this proposal and abandon this process. (13)

RESPONSE TO COMMENTS 57 AND 58: As indicated in the response to comment 49, the process followed by the Department in this rulemaking, including the additional public comment period, meets the requirements of the Administrative Procedure Act. The extended/reopened

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comment period and the informal stakeholder meetings were intended to facilitate receipt of additional public input on the 12 Department proposals suspended under Executive Order No. 1 in consideration of the purposes of the executive orders as enumerated therein. The notice extending and/or reopening the comment period on the suspended rulemakings specifically noted that the stakeholder meetings were not public hearings and that testimony on the proposals was not going to be accepted at them. The stakeholder meetings were open to all, and their purpose was to facilitate informal discussion of the rulemakings. The stakeholder meeting regarding this rulemaking is described above in the introductory section of this adoption. Public comments for the administrative record were accepted in writing during the original public comment period on each of the proposals, and in writing during the additional comment period that ended March 15, 2010. As with any rulemaking, and as contemplated by the APA, the Department has reviewed, considered, summarized and is responding in this adoption to all formally submitted comments received during the entirety of the public comment period.

#### Federal Standards Analysis

Executive Order 27 (1994) and N.J.S.A. 52:14B-1 *et seq.* require that State agencies which adopt, readopt, or amend State regulations that exceed any Federal standards or requirements include in the rulemaking document a Federal standards analysis.

The Federal Clean Water Act (CWA), 33 U.S.C. 1251 *et seq.*, as amended by the Water Quality Act of 1987 (PL 100-4) requires the establishment of water quality standards for all surface waters of the United States. The Water Quality Act of 1987 amended the CWA to require the adoption of criteria for toxic pollutants identified as causing or contributing to an impairment of a waterbody's designated use(s). Individual states are given primary responsibility for developing and adopting surface water quality standards applicable to their waters. The USEPA is responsible for overseeing and approving state water quality standards, providing guidance on the content of the standards, and developing water quality criteria guidance documents. Key elements of the surface water quality standards program required under the CWA are: a classification system establishing designated beneficial uses of the waters; ambient water quality criteria necessary to protect those uses; minimum uses to be attained, which reflect

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the fishable and swimmable goals of the CWA; and antidegradation policies and implementation procedures to prevent water quality from deteriorating. Furthermore, the CWA includes provisions requiring the USEPA to promulgate superseding Federal standards where the USEPA concludes that a State's standards are not consistent with the requirements of the CWA, or where Federal requirements are necessary to meet the requirements of the CWA.

The SWQS adopted amendments are required by and consistent with the Federal statutes, regulations and guidance. The Department has prepared the following analysis with the applicable Federal law, regulations and guidance, as required by Executive Order 27 (1994) and P.L. 1995, c. 65.

N.J.A.C. 7:9B-1.14 contains the surface water aquatic life and human health protection criteria (both narrative statements and numerical values) for waters classified as PL, FW2, SE and SC. New Jersey has adopted criteria for pollutants to protect the aquatic biota and humans from detrimental effects from exposure to these pollutants in surface waters of the State. N.J.A.C. 7:9B-1.14 also states that the surface water criteria for the Delaware River and Bay are as contained in the Delaware River Basin Commission regulations. Federal regulations require that states must adopt water quality criteria that protect the designated uses (40 CFR 131.11(a)(1)). The numeric criteria should be based on CWA Section 304(a) guidance or 304(a) guidance modified to reflect site-specific conditions, or other scientifically defensible methods (40 C.F.R. 131.11(b)(1)(i.-iii.)). The adopted amendments to nutrient policies and criteria, including revisions to phosphorus criteria, are based on the USEPA "*National Nutrient Policy*". Therefore, no further analysis is required.

Summary of Agency-Initiated Changes: The Department is correcting the cross references in the nutrient criteria section at N.J.A.C. 7:9B-1.14ii(1) and (2), upon adoption, to reflect the changes made as part of the proposal in the nutrient policy section at N.J.A.C. 7:9B-1.5(g). The Department proposed to delete the narrative nutrient policy at N.J.A.C. 7:9B-1.5(g)2. As a result, the provisions codified at N.J.A.C. 7:9B-1.5(g)3, 4, and 5 were recodified to N.J.A.C. 7:9B-1.5(g)2, 3, and 4 (see 41 N.J.R. 4588). Therefore, the Department is providing the correct

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cross reference to the watershed-specific translators at N.J.A.C. 7:9B-1.5(g)2 in the criteria section at N.J.A.C. 7:9B-1.14ii(1) and (2), upon adoption.

Full text of the adoption follows (additions indicated in boldface **\*thus\***; deletions indicated in brackets \*[thus]\*):

## CHAPTER 9B SURFACE WATER QUALITY STANDARDS

### SUBCHAPTER 1. SURFACE WATER QUALITY STANDARDS

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7:9B-1.14 Surface water quality criteria

(a) - (c) (No change.)

(d) Surface Water Quality Criteria for FW2, SE, and SC Waters:

Substance	Criteria	Classifications
1. – 3. (No change.)		
4. Nutrients	<ul style="list-style-type: none"> <li>i. Except as due to natural conditions, nutrients shall not be allowed in concentrations that render the waters unsuitable for the existing or designated uses due to objectionable algal densities, nuisance aquatic vegetation, *[abnormal]* diurnal fluctuations in dissolved oxygen or pH <b>*indicative of excessive photosynthetic activity*</b>, <b>*detrimental*</b> changes to the composition of aquatic ecosystems, or other indicators of use impairment caused by nutrients.</li> <li>ii. Phosphorus (mg/L)               <ul style="list-style-type: none"> <li>(1) Non Tidal Streams: Concentrations of total P shall not exceed 0.1 in any stream, unless watershed-specific translators are established pursuant to N.J.A.C. 7:9B-1.5(g)2 or if the Department determines that concentrations do not render the waters unsuitable in accordance with (d)4i. above.</li> <li>(2) Lakes: Concentrations of total P shall not exceed 0.05 in any lake, pond or reservoir, or in a tributary at the point where it enters such bodies of water, unless watershed-specific translators are developed pursuant to N.J.A.C. 7:9B-1.5(g)2 or if the Department determines that concentrations do not render the waters unsuitable in accordance with (d)4i. above.</li> </ul> </li> </ul>	<p>All Classifications</p> <p>FW2</p> <p>FW2</p>
5. (No change from proposal.)		

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Based on consultation with staff, I hereby certify that the above statements, including the Federal Standards Analysis addressing the requirements of Executive Order 27 (1994), permit the public to understand accurately and plainly the purposes and expected consequences of these adopted amendments. I hereby authorize this adoption.

Date: \_\_\_\_\_

\_\_\_\_\_  
Bob Martin, Commissioner  
Department of Environmental Protection