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## SENATE BILL NO. 1275

## AMENDMENT IN THE NATURE OF A SUBSTITUTE

(Proposed by the Senate Committee on Agriculture, Conservation and Natural Resources  
on February 7, 2005)

(Patron Prior to Substitute—Senator Watkins)

A BILL to amend the Code of Virginia by adding in Chapter 3.1 of Title 62.1 an article numbered 4.02, consisting of sections numbered 62.1-44.19:12 through 62.1-44.19:19, relating to the establishment of a nutrient credit exchange program.

Be it enacted by the General Assembly of Virginia:

1. That the Code of Virginia is amended by adding in Chapter 3.1 of Title 62.1 an article numbered 4.02, consisting of sections numbered 62.1-44.19:12 through 62.1-44.19:19, as follows:

Article 4.02.

Chesapeake Bay Watershed Nutrient Credit Exchange Program.

§ 62.1-44.19:12. Legislative findings and purposes.

The 2000 Chesapeake Bay Agreement and related multistate cooperative and regulatory initiatives (i) establish allocations for nitrogen and phosphorus delivered to the Chesapeake Bay and its tidal tributaries to meet applicable water quality standards and (ii) place caps on the loads of these nutrients that may be discharged into the Chesapeake Bay watershed. These initiatives will require public and private point source dischargers of nitrogen and phosphorus to achieve significant additional reductions of these nutrients to meet the cap load allocations. The General Assembly finds and determines that adoption and utilization of a watershed general permit and market-based point source nutrient credit trading program will assist in (a) meeting these cap load allocations cost-effectively and as soon as possible in keeping with the 2010 timeline and objectives of the Chesapeake 2000 agreement, (b) accommodating continued growth and economic development in the Chesapeake Bay watershed, and (c) providing a foundation for establishing market-based incentives to help achieve the Chesapeake Bay Program's nonpoint source reduction goals.

§ 62.1-44.19:13. Definitions.

As used in this article, unless the context requires a different meaning:

"Annual mass load of total nitrogen" (expressed in pounds per year) means the daily total nitrogen concentration (expressed as mg/L to the nearest 0.01 mg/L) multiplied by the flow volume of effluent discharged during the 24-hour period (expressed as MGD to the nearest 0.01 MGD), multiplied by 8.34 and rounded to the nearest whole number to convert to pounds per day (lbs/day) units, then totaled for the calendar month to convert to pounds per month (lbs/mo) units, and then totaled for the calendar year to convert to pounds per year (lbs/yr) units.

"Annual mass load of total phosphorus" (expressed in pounds per year) means the daily total phosphorus concentration (expressed as mg/L to the nearest 0.01mg/L) multiplied by the flow volume of effluent discharged during the 24-hour period (expressed as MGD to the nearest 0.01 MGD) multiplied by 8.34 and rounded to the nearest whole number to convert to pounds per day (lbs/day) units, then totaled for the calendar month to convert to pounds per month (lbs/mo) units, and then totaled for the calendar year to convert to pounds per year (lbs/yr) units.

"Association" means the Virginia Nutrient Credit Exchange Association authorized by this article.

"Attenuation" means the rate at which nutrients are reduced through natural processes during transport in water.

"Biological nutrient removal technology" means (i) technology that will achieve an annual average total nitrogen effluent concentration of eight milligrams per liter and an annual average total phosphorus effluent concentration of one milligram per liter, or (ii) equivalent reductions in loads of total nitrogen and total phosphorus through the recycle or reuse of wastewater as determined by the Department.

"Delivered total nitrogen load" means the discharged mass load of total nitrogen from a point source that is adjusted by the delivery factor for that point source.

"Delivered total phosphorus load" means the discharged mass load of total phosphorus from a point source that is adjusted by the delivery factor for that point source.

"Delivery factor" means an estimate of the number of pounds of total nitrogen or total phosphorus delivered to tidal waters for every pound discharged from a permitted facility, as determined by the specific geographic location of the permitted facility, to account for attenuation that occurs during riverine transport between the permitted facility and tidal waters. Delivery factors shall be calculated using the Chesapeake Bay Program watershed model.

"Department" means the Department of Environmental Quality.

"Equivalent load" means 2,300 pounds per year of total nitrogen and 300 pounds per year of total

phosphorus at a flow volume of 40,000 gallons per day; 5,700 pounds per year of total nitrogen and 760 pounds per year of total phosphorus at a flow volume of 100,000 gallons per day; and 28,500 pounds per year of total nitrogen and 3,800 pounds per year of total phosphorus at a flow volume of 500,000 gallons per day.

"Facility" means a point source discharging or proposing to discharge total nitrogen or total phosphorus to the Chesapeake Bay or its tributaries. This term does not include confined animal feeding operations, discharges of stormwater, return flows from irrigated agriculture, or vessels.

"General permit" means the general permit authorized by this article.

"Permitted facility" means a facility authorized by the general permit to discharge total nitrogen or total phosphorus. For the sole purpose of generating point source nitrogen credits or point source phosphorus credits, "permitted facility" shall also mean the Blue Plains wastewater treatment facility operated by the District of Columbia Water and Sewer Authority.

"Permittee" means a person authorized by the general permit to discharge total nitrogen or total phosphorus.

"Point source nitrogen credit" means the difference between (i) the waste load allocation for a permitted facility specified as an annual mass load of total nitrogen, and (ii) the monitored annual mass load of total nitrogen discharged by that facility, where clause (ii) is less than clause (i), and where the difference is adjusted by the applicable delivery factor and expressed as pounds per year of delivered total nitrogen load.

"Point source phosphorus credit" means the difference between (i) the waste load allocation for a permitted facility specified as an annual mass load of total phosphorus, and (ii) the monitored annual mass load of total phosphorus discharged by that facility, where clause (ii) is less than clause (i), and where the difference is adjusted by the applicable delivery factor and expressed as pounds per year of delivered total phosphorus load.

"State-of-the-art nutrient removal technology" means (i) technology that will achieve an annual average total nitrogen effluent concentration of three milligrams per liter and an annual average total phosphorus effluent concentration of 0.3 milligrams per liter, or (ii) equivalent load reductions in total nitrogen and total phosphorus through recycle or reuse of wastewater as determined by the Department.

"Tributaries" means those river basins for which separate tributary strategies were prepared pursuant to § 2.2-218 and includes the Potomac, Rappahannock, York, and James River Basins, and the Eastern Coastal Basin, which encompasses the creeks and rivers of the Eastern Shore of Virginia that are west of Route 13 and drain into the Chesapeake Bay.

"Waste load allocation" means (i) the water quality-based annual mass load of total nitrogen or annual mass load of total phosphorus allocated to individual facilities pursuant to the Water Quality Management Planning Regulation (9 VAC 25-720) or its successor, (ii) the water quality-based annual mass load of total nitrogen or annual mass load of total phosphorus acquired pursuant to § 62.1-44.19:15 for new or expanded facilities, or (iii) applicable total nitrogen or total phosphorus total maximum daily loads to restore or protect the water quality and beneficial uses of the Chesapeake Bay or its tidal tributaries.

§ 62.1-44.19:14. Watershed general permit for nutrients.

A. By January 1, 2006, or as soon thereafter as possible, the Board shall issue a Watershed General Virginia Pollutant Discharge Elimination System Permit, hereafter referred to as the general permit, authorizing point source discharges of total nitrogen and total phosphorus to the waters of the Chesapeake Bay and its tributaries. Except as otherwise provided in this article, the general permit shall control in lieu of technology-based, water quality-based, and best professional judgment, interim or final effluent limitations for total nitrogen and total phosphorus in individual Virginia Pollutant Discharge Elimination System permits for facilities covered by the general permit where the effluent limitations for total nitrogen and total phosphorus in the individual permits are based upon standards, criteria, waste load allocations, policy, or guidance established to restore or protect the water quality and beneficial uses of the Chesapeake Bay or its tidal tributaries.

B. This section shall not be construed to limit or otherwise affect the Board's authority to establish and enforce more stringent water quality-based effluent limitations for total nitrogen or total phosphorus in individual permits where those limitations are necessary to protect local water quality. The exchange or acquisition of credits pursuant to this article shall not affect any requirement to comply with such local water quality-based limitations.

C. The general permit shall contain the following:

1. Waste load allocations for total nitrogen and total phosphorus for each permitted facility expressed as annual mass loads. The allocations for each permitted facility shall reflect the applicable individual water quality-based total nitrogen and total phosphorus waste load allocations. An owner or operator of two or more facilities located in the same tributary may apply for and receive an aggregated waste load allocation for total nitrogen and an aggregated waste load allocation for total phosphorus for multiple facilities reflecting the total of the water quality-based total nitrogen and total

phosphorus waste load allocations established for such facilities individually;

2. A schedule requiring compliance with the combined waste load allocations for each tributary as soon as possible taking into account (i) opportunities to minimize costs to the public or facility owners by phasing in the implementation of multiple projects; (ii) the availability of required services and skilled labor; (iii) the availability of funding from the Virginia Water Quality Improvement Fund as established in § 10.1-2128, the Virginia Water Facilities Revolving Fund as established in § 62.1-225, and other financing mechanisms; (iv) water quality conditions; and (v) other relevant factors. Following receipt of the compliance plans required by subdivision C 3, the Board shall re-evaluate the schedule taking into account the information in the compliance plans and the factors in this subdivision, and may modify the schedule as appropriate;

3. A requirement that within nine months after the initial effective date of the general permit, the permittees shall either individually or through the Association submit compliance plans to the Department for approval. The compliance plans shall contain, at a minimum, any capital projects and implementation schedules needed to achieve total nitrogen and phosphorus reductions sufficient to comply with the individual and combined waste load allocations of all the permittees in the tributary. The compliance plans may rely on the exchange of point source credits in accordance with this article, but not the acquisition of credits through payments authorized by § 62.1-44.19:18, to achieve compliance with the individual and combined waste load allocations in each tributary. The compliance plans shall be updated annually and submitted to the Department no later than February 1 of each year;

4. Such monitoring and reporting requirements as the Board deems necessary to carry out the provisions of this article;

5. A procedure that requires every owner or operator of a facility authorized by a Virginia Pollutant Elimination System permit to discharge 100,000 gallons or more per day, or an equivalent load, directly into tidal waters, or 500,000 gallons or more per day, or an equivalent load, directly into nontidal waters, to secure general permit coverage by filing a registration statement with the Department within a specified period after each effective date of the general permit. The procedure shall also require any owner or operator of a facility authorized by a Virginia Pollutant Discharge Elimination System permit to discharge 40,000 gallons or more per day, or an equivalent load, directly into tidal or nontidal waters to secure general permit coverage by filing a registration statement with the Department at the time he makes application with the Department for a new discharge or expansion that is subject to an offset or technology-based requirement in § 62.1-44.19:15, and thereafter within a specified period of time after each effective date of the general permit. The general permit shall provide that any facility authorized by a Virginia Pollutant Discharge Elimination System permit and not required by this subdivision to file a registration statement shall be deemed to be covered under the general permit at the time it is issued, and shall file a registration statement with the Department when required by this section. Owner or operators of facilities that are deemed to be permitted under this section shall have no other obligation under the general permit prior to filing a registration statement in securing coverage under the general permit based upon such registration statement;

6. A procedure for efficiently modifying the lists of facilities covered by the general permit where the modification does not change or otherwise alter any waste load allocation or delivery factor adopted pursuant to the Water Quality Management Planning Regulation (9 VAC 25-270) or its successor, or an applicable total maximum daily load. The procedure shall also provide for modifying or incorporating new waste load allocations or delivery factors, including the opportunity for public notice and comment on such modifications or incorporations; and

7. Such other conditions as the Board deems necessary to carry out the provisions of this chapter and Section 402 of the federal Clean Water Act (33 U.S.C. § 1342).

D. The Board shall maintain and make available to the public a current listing, by tributary, of all permittees and permitted facilities under the general permit, together with each permitted facility's total nitrogen and total phosphorus waste load allocations, and total nitrogen and total phosphorus delivery factors.

E. Except as otherwise provided in this article, in the event that there are conflicting or duplicative conditions contained in the general permit and an individual Virginia Pollutant Discharge Elimination System permit, the conditions in the general permit shall control. Notwithstanding any provision to the contrary, the general permit and its conditions shall not apply to Virginia Pollutant Discharge Elimination System permits issued by the Board on June 17, 2004, as long as those permits, as issued on June 17, 2004, are the subject of judicial review.

§ 62.1-44.19:15. New or expanded facilities.

A. An owner or operator of a new or expanded facility shall comply with the applicable requirements of this section as a condition of the facility's coverage under the general permit.

1. An owner or operator of a facility authorized by a Virginia Pollutant Discharge Elimination

183 System permit first issued before July 1, 2005, that expands his facility to discharge 100,000 gallons or  
184 more per day, or an equivalent load directly into tidal waters, or 500,000 gallons or more per day, or  
185 an equivalent load, directly into nontidal waters shall demonstrate to the Department that he has  
186 acquired waste load allocations sufficient to offset any increase in his delivered total nitrogen and  
187 delivered total phosphorus loads resulting from any expansion beyond his waste load allocations or  
188 permitted design capacity as of July 1, 2005, and will install state-of-the-art nutrient removal technology  
189 at the time of the expansion.

190 2. An owner or operator of a facility authorized by a Virginia Pollutant Discharge Elimination  
191 System permit first issued before July 1, 2005, that expands his facility to discharge 100,000 gallons or  
192 more per day up to and including 499,999 gallons per day, or an equivalent load, directly into nontidal  
193 waters, shall demonstrate to the Department that he has acquired waste load allocations sufficient to  
194 offset any increase in his delivered total nitrogen and delivered total phosphorus loads resulting from  
195 any expansion beyond his permitted capacity as of July 1, 2005, and will install at a minimum,  
196 biological nutrient removal technology at the time of the expansion.

197 3. An owner or operator of a facility authorized by a Virginia Pollutant Discharge Elimination  
198 System permit first issued before July 1, 2005, that expands his facility to discharge 40,000 gallons or  
199 more per day up to and including 99,999 gallons per day, or an equivalent load directly into tidal or  
200 nontidal waters, shall demonstrate to the Department that he has acquired waste load allocations  
201 sufficient to offset any increase in his delivered total nitrogen and delivered total phosphorus loads  
202 resulting from any expansion beyond his permitted capacity as of July 1, 2005.

203 4. An owner or operator of a facility authorized by a Virginia Pollutant Discharge Elimination  
204 System permit first issued on or after July 1, 2005, to discharge 40,000 gallons or more per day, or an  
205 equivalent load, shall demonstrate to the Department that he has acquired waste load allocations  
206 sufficient to offset his delivered total nitrogen and delivered total phosphorus loads, and will install (i)  
207 at a minimum, biological nutrient removal technology at any facility authorized to discharge up to and  
208 including 99,999 gallons per day, or an equivalent load, directly into tidal and nontidal waters, or up to  
209 and including 499,999 gallons per day, or an equivalent load, to nontidal waters; and (ii)  
210 state-of-the-art nutrient removal technology at any facility authorized to discharge 100,000 gallons or  
211 more per day, or an equivalent load, directly into tidal waters, or 500,000 gallons or more per day, or  
212 an equivalent load, directly into nontidal waters.

213 B. Waste load allocations required by this section to offset new or increased delivered total nitrogen  
214 and delivered total phosphorus loads shall be acquired in accordance with this subsection.

215 1. Such allocations may be acquired from one or a combination of the following:

216 a. Acquisition of all or a portion of the waste load allocations from one or more point source  
217 dischargers in the same tributary;

218 b. Acquisition of nonpoint source load allocations through the use of best management practices  
219 acquired through a public or private entity acting on behalf of the land owner. Such best management  
220 practices shall achieve reductions beyond those already required by or funded under federal or state  
221 law, or the Virginia tributaries strategies plans, and shall be installed in the same tributary in which the  
222 new or expanded facility is located and included as conditions of the facility's individual Virginia  
223 Pollutant Discharge Elimination System permit; or

224 c. Acquisition of allocations in accordance with the terms of the general permit or through such  
225 other means as may be approved by the Department on a case-by-case basis.

226 2. The Board shall give priority to allocations acquired in accordance with subdivisions B 1 a and B  
227 1 b. The Board shall approve allocations acquired in accordance with subdivision B 1 c only after the  
228 owner or operator has demonstrated that he has made a good faith effort to acquire sufficient  
229 allocations in accordance with subdivisions B 1 a and B 1 b and that such allocations are not  
230 reasonably available taking into account timing, cost, and other relevant factors.

231 C. Until such time as the Board finds that no allocations are reasonably available in an individual  
232 tributary, the general permit shall provide for the acquisition of allocations through payments into the  
233 Virginia Water Quality Improvement Fund established in § 10.1-2128. Such payments shall be promptly  
234 applied to achieve equivalent point or nonpoint source reductions in the same tributary beyond those  
235 reductions already required by or funded under federal or state law or the Virginia tributaries strategies  
236 plans. The general permit shall base the cost of each pound of allocation on (i) the estimated cost of  
237 achieving a reduction of one pound of nitrogen or phosphorus at the facility that is securing the  
238 allocation, or comparable facility, for each pound of allocation acquired; or (ii) the average cost of  
239 reducing two pounds of nitrogen or phosphorus from nonpoint sources in the same tributary for each  
240 pound of allocation acquired, whichever is higher. Upon each reissuance of the general permit, the  
241 Board may adjust the cost of each pound of allocation based on current costs and cost estimates.

242 § 62.1-44.19:16. Technology-based standards and effluent limitations.

243 A. The Board may establish a technology-based standard less stringent than the applicable standard  
244 specified in § 62.1-44.19:15 based on a demonstration by an owner or operator that the specified

standard is not technically or economically feasible for the affected facility or that the technology-based standard would require the owner or operator to construct treatment facilities not otherwise necessary to comply with his waste load allocation without reliance on nutrient credit exchanges pursuant to § 62.1-44.19:18.

B. The Board may include technology-based effluent concentration limitations in the individual permit for any facility that has installed technology for the control of nitrogen and phosphorus whether by new construction, expansion, or upgrade. Such limitations shall be based upon the technology installed by the facility and shall be expressed as annual average limitations. Such limitations shall not affect the generation, acquisition, or exchange of allocations or credits pursuant to this article.

§ 62.1-44.19:17. Virginia Nutrient Credit Exchange Association authorized; duties; composition; appointment; terms.

A. The permittees under the general permit may establish a nonstock corporation under Chapter 10 (§ 13.1-801 et seq.) of Title 13.1, to be known as the Virginia Nutrient Credit Exchange Association, to coordinate and facilitate participation in the nutrient credit exchange program by its members. The Virginia Nutrient Credit Exchange Association, which is hereafter referred to as the Association, may (i) submit on behalf of the permittees the compliance plans required by § 62.1-44.19:14, (ii) develop a standard form of agreement for use by permittees when buying and selling nitrogen and phosphorus allocations and credits, (iii) assist permittees in identifying buyers and sellers of nitrogen and phosphorus allocations and credits, (iv) coordinate planning to ensure that to the extent possible, sufficient credits are available each year to achieve full compliance with the general permit, (v) assist individual municipal permittees in utilizing public-private partnerships and other innovative measures to achieve the Commonwealth's water quality goals, and (vi) perform such other duties and functions as may be necessary to the effective and efficient implementation of the credit exchange program. The Association shall not assume any of the permittees' compliance obligations under the general permit.

B. Only permittees under the general permit may become members of the Association. The Association shall operate through a board of directors, which shall consist of 10 members and be representative of the membership in the Association. Association board members shall be employees of Association members, shall be elected by the Association membership at the beginning of each term of the general permit, and shall serve through the end of the permit term to which they were elected. Vacancies for unexpired Association board terms shall be filled in the same manner in which members are originally elected to the Association board.

C. The Association board shall elect a president, vice-president, secretary, and treasurer from among its members at the beginning of each permit term. Officers and Association board members shall receive no compensation for their services as officers and board members of the Association.

§ 62.1-44.19:18. Nutrient Allocation Compliance and Reporting.

A. Each permitted facility shall be in compliance with its individual waste load allocations if: (i) its annual mass load is less than the applicable waste load allocation assigned to the facility in the general permit or acquired by the facility pursuant to subsection B of § 62.1-44.19:15; (ii) the permitted facility acquires sufficient point source nitrogen or phosphorus credits in accordance with subdivision A 1; or (iii) in the event it is unable to meet the individual waste load allocation pursuant to clauses (i) or (ii), the permitted facility acquires sufficient nitrogen or phosphorus credits through payments made in accordance with subdivision A 2; provided, however, that the acquisition of nitrogen or phosphorus credits pursuant to this section shall not alter or otherwise affect the individual waste load allocations for each permitted facility.

1. A permittee may acquire point source nitrogen or phosphorus credits from one or more facilities only if (i) the credits are generated and applied to a compliance obligation in the same calendar year, (ii) the credits are generated by one or more permitted facilities in the same tributary, (iii) the credits are acquired no later than June 1 immediately following the calendar year in which the credits are applied, and (iv) no later than June 1 immediately following the calendar year in which the credits are applied, the permittee certifies on a form supplied by the Department that he has acquired sufficient credits to satisfy his compliance obligations.

2. A permittee may acquire point source nitrogen or phosphorus credits through payments made into the Virginia Water Quality Improvement Fund established in § 10.1-2128 only if, no later than June 1 immediately following the calendar year in which the credits are applied, the permittee certifies on a form supplied by the Department that he has diligently sought, but has been unable to acquire, sufficient credits to satisfy his compliance obligations through the acquisition of point source nitrogen or phosphorus credits with other permitted facilities in the same tributary, and that he has acquired sufficient credits to satisfy his compliance obligations through one or more payments in accordance with the terms of the general permit.

B. Until such time as the Board finds that no credits are reasonably available in an individual tributary, the general permit shall provide for the acquisition of nitrogen and phosphorus credits

306 through payments into the Virginia Water Quality Improvement Fund in accordance with subdivision A  
307 2. Such payments shall be promptly applied to achieve equivalent point or nonpoint source reductions in  
308 the same tributary beyond those reductions already required by or funded under federal or state law, or  
309 the Virginia tributaries strategies plans. The general permit shall base the cost of each nitrogen or  
310 phosphorus credit on the average cost of reducing one pound of nitrogen or phosphorus from Virginia  
311 publicly owned wastewater treatment facilities for each credit acquired. Upon each reissuance of the  
312 general permit, the Board may adjust the cost of each nitrogen and phosphorus credit based on (i) the  
313 current average cost of reducing a pound of nitrogen or phosphorus from Virginia publicly owned  
314 wastewater treatment facilities for each credit acquired and (ii) any additional incentives reasonably  
315 necessary to ensure that there is timely and continuing progress toward attaining and maintaining each  
316 tributary's combined waste load allocation.

317 C. On or before February 1, annually, each permittee shall either individually or through the  
318 Association file a report with the Department. The report shall identify (i) the annual mass load of total  
319 nitrogen and the annual mass load of total phosphorus discharged by each permitted facility during the  
320 previous calendar year, (ii) the delivered total nitrogen load and delivered total phosphorus load  
321 discharged by each permitted facility during the previous year, and (iii) the number of total nitrogen  
322 and total phosphorus credits for the previous calendar year to be purchased or sold by the permittee.  
323 The report shall contain the certification required by federal and state law and be signed by each  
324 permittee for each of the permittee's facilities covered by the general permit.

325 D. On or before April 1, annually, the Department shall prepare a report containing the annual  
326 mass load of total nitrogen and annual mass load of total phosphorus discharged by each permitted  
327 facility, the number of point source nitrogen and phosphorus credits for the previous calendar year for  
328 sale or purchase by each such facility, and to the extent there are insufficient point source credits  
329 available for exchange to provide for full compliance by every permittee, the number of credits to be  
330 purchased pursuant to this section. Upon completion of the report, the Department shall promptly  
331 publish notice of the report and make the report available to any person requesting it.

332 E. On or before July 1, annually, the Department shall publish notice of all nitrogen and phosphorus  
333 credit exchanges and purchases for the previous calendar year and make all documents relating to the  
334 exchanges and purchases available to any person requesting them.

335 § 62.1-44.19:19. Program audits.

336 In addition to its permit compliance and enforcement authority, the Department is authorized to  
337 conduct such audits of the Association and permittees as it deems necessary to ensure that the reports  
338 and data received from permittees and the Association are complete and accurate. The Association and  
339 permittees under the general permit shall cooperate with the Department in the conduct of such audits  
340 and provide the Department with such information as the Department may require to fulfill its  
341 responsibilities under this article.