ANNUAL REPORT
ON THE
VIRGINIA WATER QUALITY IMPROVEMENT FUND

POINT SOURCE POLLUTION CONTROL

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DEPARTMENT OF ENVIRONMENTAL QUALITY

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COMMONWEALTH of VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY

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January 17, 2006

TO: Governor Timothy M. Kaine
Members of the Virginia General Assembly

FROM: David K. Paylor

SUBJECT: WATER QUALITY IMPROVEMENT FUND ANNUAL REPORT

Under §10.1-2134 of the Virginia Water Quality Improvement Act of 1997 (Chapter 21.1 of Title 10.1 of the Code of Virginia), the DEQ Director is responsible for providing an annual report on the point source component of the VA Water Quality Improvement Fund (WQIF).

This report, covering implementation of the VA WQIF through calendar year 2005, is complete and will soon be available at the following Internet website address: http://www.deq.state.va.us/bay/wqifdown.html

To receive a printed copy of the report, please contact Robert Ehrhart at DEQ by phone (804-698-4466) or e-mail (rwehrhart@deq.virginia.gov).

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I. EXECUTIVE SUMMARY

This is the ninth submission to the Governor and the General Assembly in response to the statutory requirement (see Appendix A) under §10.1-2134 of the Virginia Water Quality Improvement Act of 1997 (the "Act"; Virginia Code, Chapter 21.1 of Title 10.1) for an annual report on the implementation of the Virginia Water Quality Improvement Fund (WQIF). The DEQ Director is responsible for reporting annually on the point source component of the WQIF. The report contains a review of program activities, which have continued implementation of the WQIF in Virginia, through calendar year 2005. This includes an update of ongoing projects from 1997 through the grant applications processed for FY 2006 funding; an update to the Request for Proposals for Technical Assistance Grants; general information on current solicitations; and update to the Procedural Guidelines issued by the Secretary of Natural Resources.

As specifically required by §10.1-2134 of the Act, this report also lists the recipients and amounts of grants awarded from the WQIF and projections for the amount of continued funding required for the upcoming fiscal year under all executed grant agreements. For any new/future project, the specific and measurable reductions in nutrient loads to state waters anticipated once each funded project is constructed and placed into operation will be provided in a subsequent report. Highlights contained in this report are:

1. Since its inception, the WQIF has provided grants for installation of nutrient removal technology at twenty-five facilities, which will result in the estimated annual point source reduction of 13.7 million pounds of nitrogen and 240,000 pounds of phosphorus to the waters of the Commonwealth when fully implemented (compared to a 1985 baseline).
2. Of the twenty projects now operating their nutrient reduction systems, all but one has achieved the concentration-based performance requirements of their WQIF grant agreement.
3. To date, approximately $98.3 million in State cost share for point source projects has been obligated through signed grant agreements.
4. Technical Assistance (TA) grants have been drafted for 26 facilities with another potential 19 facilities to be covered by TA grants.
5. Subsequent to the State Water Control Board adopting waste load allocations in September 2005 for the Shenandoah-Potomac, Rappahannock, and Eastern Shore basins, DEQ solicited point source grant applications in accordance with revised Guidelines issued by the Secretary of Natural Resources. As of the December 5, 2005 deadline, 42 applications totaling almost $382 million were received by DEQ, and are under review for eligibility and cost share determinations. An additional solicitation for the York and James River basins is underway with applications due January 27, 2006.
6. The current estimate of the total capital cost to fully implement the point source components of the Tributary Strategy Plans is estimated to be approximately $1.2 billion, and will likely be financed through a combination of WQIF cost share grants, local funds, low interest loans from the State Revolving Fund, and other sources.

This annual report, as well as the updated status of the WQIF, is available online from DEQ via the Chesapeake Bay Program link (http://www.deq.virginia.gov/bay/wqifdown.html), and the General Assembly Reports link (http://www.deq.virginia.gov/regulations/reports.html).

II. VIRGINIA WATER QUALITY IMPROVEMENT ACT

A. Background

In 1997, the Virginia General Assembly passed the Water Quality Improvement Act (Act), which established the Water Quality Improvement Fund (WQIF). The primary objective of the WQIF was to reduce the flow of excess nutrients (nitrogen and phosphorus) into the Chesapeake Bay watershed. As part of the interstate Chesapeake Bay Program, Virginia has joined with other Bay states and the Federal government in committing to reduce the input of nutrients through the development and implementation of Tributary Strategy Plans. The Code of Virginia (Title 2.2, Chapter 2, §218 and §219) also directs the development and implementation of tributary strategies to restore the water quality and living resources of the Bay and its tributaries.

In 2005, the Virginia General Assembly made considerable amendments to the Act, which necessitated revisions to the WQIF Grant Guidelines. As required by the Code, when the revised grant guidelines were developed [and later published in September 2005], the following components were included in the process: (i) the use of an advisory committee composed of interested parties; (ii) a sixty day public comment period on draft guidelines; (iii) written responses to all received comments; and (iv) notice of the availability of draft guidelines and final guidelines to all who request such notice.

B. Point Source Pollution Control Program

The Act recognizes that the protection of the quality of state waters is a shared responsibility among state and local governments and individuals. Under the original cooperative point source program, DEQ was directed to assist local governments and individuals in the control of point source pollution, including nutrient reductions, through technical and financial assistance made available through grants provided from the WQIF.

With the statutory changes made by the General Assembly in 2005 and the adoption of specific waste load allocations under the Water Quality Management Plan, the WQIF grant program has shifted from a voluntary, cooperative approach to become an aid in achieving compliance with regulatory performance requirements. Under the amended Water Quality Improvement Act, WQIF point source grants shall be used solely to finance the costs of design and installation of biological nutrient removal facilities or other nutrient removal technology at publicly-owned treatment works for compliance with the effluent limitations for total nitrogen and total phosphorus as required by the tributary strategy plans or applicable regulatory requirements. The grant agreement must include numerical effluent concentration limits on nutrient discharges to state waters designed to achieve the nutrient reduction goals of the applicable tributary strategy plan. Consistent with Section 62.1-44.19:12 et seq. of the Code of Virginia, such concentration limits shall be based upon the technology installed by the facility and shall be expressed as annual average values. Information on development of the Nutrient Regulations and/or performance expectations can be found at: http://www.deq.virginia.gov/bay/multi.html .

Table 1 below shows the estimated State cost-share to help finance the long-term needs of eligible facility owners to install nutrient removal technology. Point source nutrient reduction is a critical part of the Tributary Nutrient Reduction Strategies adopted in 2005, and a requirement under recently adopted point source nutrient control regulations.

The original basis and methodology for individual plant costs were contained in the document, "Nutrient Reduction Technology Cost Estimations for Point Sources in the Chesapeake Bay Watershed" (NRT Report, November 2002), prepared by a task force of Chesapeake Bay Program members. The methodology used to calculate the estimates has been extensively updated as new cost data was received directly from many of the facility owners and their consulting engineers. It must be noted that Table 1 was prepared prior to receipt of applications for FY06 WQIF funds, and will likely be revised based on owner submissions and more detailed scopes of work.

Table 1. Long Term WQIF Need

Number of Projects	Schedule*	Grant Need [millions]
28	FY07-08: Upgrades ready to Proceed	$286
30	FY09-10: Additional upgrades needed to meet 2010 goal	$190
34	FY2011 -2015: Upgrades post-2010 to maintain loading caps	$261
92	Totals	**$737**

*NOTE: Final sequencing of projects will be determined through Watershed General Permit

The above costs do not reflect cost efficiencies that may result from development of the Watershed General Permit and potential nutrient allocation trading and exchange of credits. The Watershed General Permit will require affected plant owners to submit individual compliance plans to meet their nutrient waste load allocations, which could alter the above costs for short term compliance and long term sustainability.

C. Virginia Water Quality Improvement Fund (WQIF)

The Act established the WQIF to provide grants to local governments, soil and water conservation districts, and individuals for point and nonpoint source pollution prevention and reduction programs. Under the Act, the DEQ Director is responsible for point source grants and the Department of Conservation and Recreation (DCR) Director is responsible for nonpoint source grants. Previous provisions of the Act stipulated point source grants shall be at least 50% of the cost of design and installation of biological nutrient removal (BNR) facilities or other nutrient removal technology at publicly owned treatment works (POTW). The cost share now ranges from 35% to 75%, based on the applicant's financial need/stress. A special (one time) appropriation for private sewage facilities serving residential areas that exceed 0.5 MGD in design capacity was granted to SIL Clean Water, Inc. and Dale Service Corporation.

To assess the fiscal need/stress of the applicant, as provided in Section 10.1-2131.E of the Act, grants shall now be awarded based on the ratio of the locality's current annual sewer charges to the "reasonable sewer cost". The reasonable sewer cost for each WQIF grantee is be determined using guidelines developed and approved by the State Water Control Board for use with the Virginia Water Facilities Revolving Fund.

1. Appropriations to the WQIF:

Table 2 provides the point source appropriations to the WQIF by the General Assembly for fiscal years 1998-2006, as well as the amount in the Governor's budget proposal for the FY 2007-08 biennium. For FY 1998 and 1999, point source funds were targeted for projects in the Shenandoah/Potomac Tributary Strategy. In FY 2000, the point source allocation to the WQIF was for use in implementing nutrient reduction strategies for the lower Bay tributaries (Rappahannock, York, James, and Small Coastal basins).

Table 2 – WQIF Appropriations (millions) **Point Source Program**	
FY 1998	$10.00
FY 1999	$37.10
FY 2000	$25.24
FY 2001	$10.30
Interest earned (thru FY04)	$10.47
FY 2005	$13.25
Interest earned (FY05)	$0.29
FY 2006	$67.21
FY 2007-08 (proposed budget)	$200.00
TOTAL:	**$373.86**

2. Multi-Year Projects:

As with most capital outlay programs, the WQIF projects have taken several years to complete. It was anticipated that the grant monies needed to fully fund these multi-year projects would be spread out over several years. To implement the *previous* tributary strategies and ensure that monies allocated to the WQIF are put to use as soon as possible, DEQ and the point source owners took the approach of signing agreements for multi-year grants that may, in total, exceed the amount of WQIF grant funds available. Under this approach, the grant agreement that each owner signs with DEQ specifies that the availability of monies in the Fund is subject to appropriation by the General Assembly and that at times there may not be sufficient monies in the Fund to permit prompt (or entire) disbursement of funds owed to the grantees.

The agreements also contain provisions to minimize the potential for disruption in disbursement of the grant funds. The grantees and DEQ have continued to work together to forecast the estimated disbursements from the WQIF and made this information publicly

available for use in the State budgetary process. Due to a shortfall in fiscal years 2002-04, DEQ had to manage allocation of available grant funds and pro-rated reimbursements to ensure an equitable distribution among all impacted grantees for that period. With the appropriation in 2005, disbursements for the deferred payments were made and the State's reimbursement obligations were fulfilled.

Additionally, the agreements contain language to ensure completion of the construction and start-up, regardless of the amount of grant funds reimbursed.

III. PROGRAM ACTIVITIES

A. FY 1998 WQIF Grants

During the first year of the WQIF point source program (FY 1998), twelve grants, committing a total of $52,333,848 in state cost share, were signed in the Shenandoah and Potomac basins based on estimated costs. Since signing the original grants, inflation, changes in the scope of work, and the actual receipt of construction bids altered the total grant commitment to $65,653,101. These point source projects were designed to reduce annual loads of nitrogen by 6.4 million pounds, and phosphorus by 88,000 pounds at design flows. A technical assistance grant for $546,000 was provided to SIL Clean Water for the planning and design phases of a joint public-private venture for land application designed for an average flow of 1.923 MGD.

B. FY 1999 WQIF Grants

Five grant agreements were signed using funds appropriated for FY 1999; the resulting total for eligible cost-share was $8,997,339. These point source projects were also located in the Shenandoah/Potomac basin and were designed to reduce annual loads of nitrogen and phosphorus by 985,000 lbs/year and 157,200 lbs/year, respectively, at design flows.

C. FY 2000 WQIF Grants

The FY 2000 appropriation was earmarked for projects in the lower Bay tributaries (Rappahannock, York, James, and Small Coastal basins). Eight grant agreements were signed to utilize the available funds, and with only one still under construction the estimated cost share associated with these projects is $23,531,756. These point source projects were designed to reduce annual loads of nitrogen and phosphorus by 6,286,700 lbs/year and 1,380 lbs/year, respectively, at design flows.

D. FY 2005-06 Activity/Notes

Of the original 1998 and 1999 projects, construction at all facilities has been completed, except for Fairfax Noman-Cole and Stafford-Aquia for which some paperwork remains. No reimbursements were requested by the Virginia localities sharing in the Blue Plains upgrade, while some funds from that earmark remain in the WQIF.

Of the nine projects targeted in FY 2000, all but the Spotsylvania-FMC project have completed installation of nutrient reduction facilities. A grant modification/increase for Henrico has been initiated; some paperwork remains to modify and close-out the Hanover grant.

Last year's report indicated $7.5 million was appropriated for new projects. A portion of those funds has been used to cost share actions being driven by the Tributary Strategy process and new DEQ Permit Guidance which directed certain Chesapeake Bay watershed dischargers to meet nutrient-related requirements upon reissuance of their VPDES permit. These permit requirements included a special condition to develop both a **Basis of Design (BoD) Report for Nutrient Removal** and an **Interim Optimization Plan (IOP) for Nutrient Removal**. The BoD Report is a planning document evaluating permanent retrofits to achieve a range of treatment levels, from BNR to state-of-the-art. The IOP is an assessment of operational/process changes, rather than significant capital improvements, which can enhance nutrient reduction capabilities at the existing facility. In order to assist with completion of these two documents, WQIF cost-share assistance was made available to those domestic wastewater discharges that were considered by DEQ to be a "significant" source of nutrients State cost-share for these technical assistance grants ranged from a minimum award of 50% up to a maximum amount of 90%, based on two factors - the Commission on Local Government fiscal stress rating and the locality's "ability to pay". To date, 26 technical assistance grants have been drafted for about $1.9 million dollars and, potentially, another 19 facilities could receive technical assistance grant funds. The complete list of projects can be found at:
http://www.deq.virginia.gov/bay/TechAssistanceList.pdf .

Subsequent to the State Water Control Board's adoption of waste load allocations for the Potomac, Rappahannock, and Eastern Shore basins in September 2005, DEQ solicited point source grant applications in accordance with new Guidelines issued by the Secretary of Natural Resources. As of the December 5th deadline, 42 applications totaling about $382 million were received by DEQ, and are under review for eligibility and cost share determinations. An additional solicitation for the York and James River basins is underway with applications due by January 27, 2006.

E. Performance of Completed Projects

The annual average total nitrogen performance requirement of 8.0 mg/l is being achieved at all twenty plants (see Table 4) that have been operating BNR for ten or more months; the annual performance requirement of 21.0 mg/l is also being achieved at the Hopewell WWTF.

Table 3 -2005 Calendar Year Performance

Facility	Design Flow (MGD)	2005 Avg. TN (mg/l) Year to Date
Alexandria SA	54.0	6.5
Aquia	6.5	7.53
Arlington	40.0	8.68
Dale Service Corp #1	4.0	3.11
Dale Service Corp #8	4.0	4.72
H.L. Mooney (PSWCA)	18.0	5.99
Henrico	75.0	8.8
Hopewell**	50.0	21.3

Leesburg	4.85	5.40
Little Falls Run	8.0	4.93
Massaponax	8.4	6.82
Middle River	6.8	7.6
Noman-Cole (Fairfax)	67.0	3.83
North River (HRRSA)	16.0	8.31
Opequon (FWSA)	8.4	5.16
Proctors Creek	21.5	8.49
Purcellville	1.0	6.06
SIL Clean Water	1.923	16.84
Stuarts Draft (ACSA)	2.4	5.3
Totopotomoy (Hanover)	5.0	5.75

** 21.0 mg/l performance standard

One project, the SIL Clean Water Modular Reclamation Reuse System (MRRS) near Timberville, has had difficulty meeting its annual nutrient reduction requirements since the performance period began in 2001. DEQ determined that the facility exceeded its annual nutrient load allowances in the years 2001-2004 and monetary assessments for repayment of a portion of the grant due to non-performance were ordered. SIL failed to pay these assessments, so they have been referred to the Office of the Attorney General for collection. In August 2003, SIL was ordered to submit a Corrective Action Plan to ensure future compliance with the performance requirements of the WQIF agreement. It is now evident that the Plan has not achieved the desired results, as the facility will exceed their annual nutrient load allowances in 2005 as well. The pending collections referred to the Office of the Attorney General total $236,647 and the potential 2005 assessment may be $45,500 or more.

Table 4 below shows the annual nitrogen and phosphorus loads discharged in 2004 by the grantees' treatment facilities, compared to the waste load allocations that each plant will be limited to under recently amended point source nutrient control regulations. It should be noted that 15 facilities are currently discharging annual phosphorus loads lower than their allocations, and 11 plants are below their nitrogen load allocations. This is due to a combination of operating the cost-shared nutrient removal treatment systems and current discharge flows that are lower than the full design capacity of the plants.

IV. SUMMARY DATA FOR EXECUTED GRANT AGREEMENTS: Information on awards, expenditures, remaining obligations, and current (2004) nutrient discharges compared to SWCB-approved nutrient waste load allocations (WLA) are shown in Table 4 below.

TABLE 4. Status of Grant Projects – Grant Expenditures and Nutrient Discharges

Grantee / Plant	WQIF Grant Effective Date	Grant Amount	Total Expenditures to Date	Projected Remaining Expenditures	2004 Phos. (lbs/yr)	Total Phos WLA (lbs/yr)	2004 Nitrogen (lbs/yr)	Total Nitr. WLA (lbs/yr)
ACSA-Stuarts Draft	11/12/00	$1,382,783	$1,382,783	$0	4,820	3,655	15,440	48,729
Alexandria S.A. STP	3/16/98	$19,702,869[1]	$19,702,869	$0	6,060	29,603	722,490	493,381
Arlington Co. STP	10/10/98	$10,816,973	$10,816,973	$0	4,290	21,928	698,430	365,467
Chesterfield Co.– Proctors Crk STP	6/26/01	$965,560	$965,560	$0	56,130	41,115	326,890	411,151
Dale Service Corp STP #1	5/26/99	$1,901,057	$1,901,057	$0	860	2,522	49,040	42,029
Dale Service Corp STP #8	5/26/99	$2,115,053	$2,115,053	$0	900	2,522	29,480	42,029
Fairfax Co. (Blue Plains STP)	12/22/97	$1,387,500	$381,988	$1,005,512	NA	NA	NA	NA
Fairfax Co. – Noman Cole STP	5/20/98	$10,399,500	$9,852,041	$547,459	7,650	36,729	782,970	612,158
Fauquier Co – Remington STP	7/11/01	$886,138	$615,000	$271,138	1,760	2,284	8,760	30,456
F.W.S.A. – Opequon STP	6/8/98	$2,754,618	$2,754,618	$0	9,650	7,675	125,300	102,331
Hanover Co. – Totopotomoy	5/18/01	$2,109,770	$2,074,013	$35,757	850	21,319	5,255	182,734
HRRSA - North River STP	4/27/98	$2,850,937	$2,850,937	$0	14,520	19,004	326,370	253,391
Henrico WWTF	7/4/01	$9,127,255[2]	$8,865,490	$261,765	128,890	114,209	1,409,660	1,142,085
Hopewell WWTP	11/6/00	$2,418,647	$2,418,647	$0	60,760	76,139	1,878,220	1,827,336
Leesburg STP	7/16/98	$6,568,389	$6,568,389	$0	11,380	9,137	64,880	121,822
Loudoun Co. S.A. (Blue Plains STP)	12/1/97	$365,500	$169,626	$195,874	NA	NA	NA	NA
PWCSA – Mooney STP	3/19/98	$8,672,193[3]	$8,672,193	$0	4,380	13,157	185,300	219,280
Purcellville STP	8/19/99	$1,614,556	$1,614,556	$0	560	1,371	7,580	18,273
SIL Clean Water (T.A. Grant)	4/26/99	$546,000	$546,000	$0	NA	NA	NA	NA
SIL Clean Water MRRS	12/2/99	$1,983,890	$1,983,890	$0	82,820	1,754	46,840	23,390
Spotsylvania Co. – FMC STP	4/19/01	$1,767,000	$48,936	$1,718,064	960	4,934	41,730	65,784
Spotsylvania Co. – Massaponax STP	4/19/01	$4,294,553	$4,294,553	$0	6,790	7,309	69,160	97,458
Stafford Co. – Aquia STP	6/8/98	$351,962	$304,242	$47,720	1,900	4,386	98,930	73,093
Stafford Co. – Little Falls Run STP	4/19/01	$1,962,833	$1,962,833	$0	7,200	7,309	62,310	97,458
Staunton Middle River STP	6/8/98	$1,236,660	$1,236,660	$0	16,620	6,213	86,630	82,839
VT Swine Study	N/A	$120,368	$120,368	$0	NA	NA	NA	NA
Totals:		$98,302,564	$94,219,275	$4,083,289				

[1] Modification to reduce the final grant amount from $20,147,914 to $19,702,869 has been accepted by ASA is being processed by DEQ.
[2] Modification to increase the final grant amount from $8,906,687 to $9,127,255 has been accepted by Henrico and is being processed by DEQ.
[3] Modification to reduce the final grant amount from $9,094,338 to $8,672,193 was effective 12/19/05.

APPENDIX A
2005 Revised WQIF Grant Guidelines – Point Source Projects

CHAPTER I: PROGRAM COMPONENTS

I. Goals and Objectives

The main objectives of the Water Quality Improvement Fund (WQIF) point source program are as follows:

1. Concentrate efforts on implementing point source nutrient control actions proposed in the tributary strategy plans, as defined by Section 10.1-2117 of the *Code of Virginia*.

2. Make the WQIF compatible and consistent with existing funding programs administered by the Department of Environmental Quality (DEQ) Construction Assistance Program (CAP).

3. Enhance customer service and convenience by integrating the WQIF procedures, to the maximum extent possible, with those in use by the CAP. This may include:

   - schedules for application, review, and award;
   - general notifications, solicitation letters, and public participation methods;
   - application information and documentation for reimbursement requests;
   - criteria for prioritizing projects;
   - definitions for eligible components of the scope of work;
   - assessment of "reasonable sewer costs" as defined by Section 10.1-2177; and
   - construction evaluations on active projects.

4. Subsequent to implementation of the tributary strategy plans and as available funding allows, support other projects related to point source pollution controls that are clearly demonstrated as likely to achieve measurable and specific water quality improvements.

5. Assist with identifying other potential funding sources for the local share of projects.

6. Support and enhance the point source pollution program through separate technical assistance funding made available to local governments and individuals.

II. Project Prioritization - Funding Distribution

The Virginia Water Quality Improvement Act (the "Act") directs the Secretary of Natural Resources to develop:

- written guidelines for distribution and conditions of WQIF awards; and
- criteria for prioritizing funding requests outside the Bay watershed.

For projects located in the Chesapeake Bay watershed, the Act requires that the Director of the Department of Environmental Quality enter into grant agreements with all facilities designated as significant dischargers that apply for grants.

For projects located outside the Chesapeake Bay watershed, the criteria for prioritizing funding requests include:

- the pounds of nutrient reduction for each project;
- whether the location of the project is within a watershed or subwatershed with documented nutrient loading problems or adopted nutrient reduction goals;
- whether the location of the project is within a watershed with a documented water quality impairment; and
- availability of other funding mechanisms.

III. Project Eligibility

The WQIF is currently a special-purpose grant program, and the type and location of a point source project eligible for funding is specified under Section 10.1-2131 of the Act. Until all tributary strategy plans are developed and implemented, grants shall only be made for the purpose of financing the cost of design and installation of biological nutrient removal facilities or other nutrient removal technology at publicly-owned treatment works designated by DEQ as a significant discharger. "For purposes of these guidelines, publicly-owned treatment works that use the Public-Private Education Facilities and Infrastructure Act (the "Act"; Section 56-757.1, et seq.) to facilitate design and installation of nutrient removal technology shall be eligible for WQIF grant funds available pursuant to §10.1-2129.A.2 of the Water Quality Improvement Act." A tributary strategy plan is considered "implemented" regarding point source actions when the plan's recommended point source nutrient controls have been installed.

Funding for projects other than nutrient removal within the Chesapeake Bay Watershed is permitted if the Director of the DEQ determines that there is sufficient funding available for substantial and continuing progress in implementing the tributary strategies (Section 10.1-2131.C. of the Act). Such eligible projects must clearly demonstrate the likelihood of achieving measurable and specific water quality improvements.

The General Assembly may designate through the Appropriations Act the allocation of funds deposited into the Fund. These designations may detail circumstances under which a grantee is eligible for funding, who otherwise would not be eligible according to these guidelines. Information on any such special appropriations and eligibility criteria contained in a future Appropriations Act will be included in the Request for Proposals soliciting WQIF Point Source Grant Applications.

IV. Allowable Costs

Under the Water Quality Improvement Act, WQIF point source grants shall be used solely to finance the costs of design and installation of biological nutrient removal facilities or other nutrient removal technology at publicly-owned treatment works for compliance with the effluent limitations for total nitrogen and total phosphorus as required by the tributary strategy plans or applicable regulatory requirements. Subsequent to the implementation of the tributary strategy plans, or if the Director makes the finding provided for in Section 10.1-2131.C of the Act, the DEQ Director may authorize WQIF grants for projects that are clearly demonstrated to achieve measurable and specific water quality improvements. The program will allow that nutrient control systems be sized to treat the flow in any reasonable and necessary expansion of the wastewater facility, which is generally limited to a 20-year design life. In general, associated pre-design and final design costs will be eligible for cost share. Joint or regional projects that involve more than one publicly-owned facility are eligible and encouraged where cooperative arrangements exist and economies of scale may be realized.

As provided in Section 10.1-2131.C. of the Act, the cost for design and installation of biological nutrient removal, state-of-the-art nutrient removal technology, or other nutrient control technology (including recycle/reuse) at publicly-owned treatment works meeting the nutrient reduction goal in an approved tributary strategy plan and incurred prior to execution of a grant agreement is eligible for reimbursement from the WQIF. Such expenses must be necessary and attributable to the project and the debt must be incurred or construction begun after June 2000 (when the Chesapeake 2000 Agreement established the revised nutrient reduction goals aimed at removing the Bay and its tidal tributaries from the "Impaired Waters List" by 2010). Reimbursement shall be made pursuant to an executed agreement consistent with the Act. If the original source of funding for the nutrient reduction facilities was the State Revolving Loan Fund (RLF), the WQIF grant shall be applied to the principal of any outstanding balance of the loan.

The purchase of land, easements, and/or rights-of-way are not allowable costs, nor are any legal, administrative, and engineering expenses related to these purchases, unless the land is an integral part of the treatment process. Other stipulations on allow costs may also apply, and all costs are reviewed and considered on a case-by-case basis.

V. Reimbursement

Disbursement of grant funds is made on a periodic reimbursement basis not more frequently than once per month. Invoices must substantiate all requests for disbursement of grant funds. All payment requests must be reviewed and approved by DEQ staff prior to actual disbursement of funds. Reimbursement requests must be submitted in duplicate, one copy to the appropriate DEQ Regional Office and one copy to DEQ's Chesapeake Bay Program.

The availability of grant funds in the WQIF for point source pollution control projects is subject to appropriation by the General Assembly and allocations made by the Secretary of Natural Resources. In the event of a shortfall, the Commonwealth is strongly committed to managing the WQIF to ensure full funding of all executed agreements and to following an equitable process for distribution of available funds among all grantees. This distribution process (such as Pro Rata of estimated construction expenses) will be addressed in more detail in the agreement signed with each grant recipient.

VI. State Cost Share Percentage

As provided in Section 10.1-2131.E of the Act, grants shall be awarded in the following manner:

1. In communities for which the ratio of annual sewer charges to reasonable sewer cost is less than 0.30, the Director of the Department of Environmental Quality shall authorize grants in the amount of 35 percent of the costs of the design and installation of biological nutrient removal facilities or other nutrient removal technology;

2. In communities for which the ratio of annual sewer charges to reasonable sewer cost is equal to or greater than 0.30 and less than 0.50, the Director shall authorize grants in the amount of 45 percent of the costs of the design and installation of biological nutrient removal facilities or other nutrient removal technology;

3. In communities for which the ratio of annual sewer charges to reasonable sewer cost is equal to or greater than 0.50 and less than 0.80, the Director shall authorize grants in the amount of 60 percent of the costs of design and installation of biological nutrient removal facilities or other nutrient removal technology; and

4. In communities for which the ratio of annual sewer charges to reasonable sewer cost is equal to or greater than 0.80, the Director shall authorize grants in the amount of 75 percent of the costs of the design and installation of biological nutrient removal facilities or other nutrient removal technology.

The "reasonable sewer cost" for each WQIF grantee will be determined using guidelines developed and approved by the State Water Control Board for use with the Virginia Water Facilities Revolving Fund. The grantee's annual sewer charge shall be defined as the average yearly expense for residential sewer service per connection that is currently being charged at the time application is made for WQIF cost-share. The above ratios will be calculated by dividing the current annual sewer charge by the reasonable sewer cost. Where multiple jurisdictions are provided sewer service through a District/Authority or an inter-municipal sewer agreement, a weighted average of the median household income and a weighted average sewer charge will be calculated for comparison to the "reasonable sewer costs." Annual sewer charges will be requested as part of each application.

As authorized by § 62.1-44.19:15, WQIF may receive payments as a result of the acquisition of nutrient allocations. Such payments shall be promptly applied to achieve equivalent point or nonpoint source reductions in the same tributary beyond those reductions already deemed necessary by state or federal law or as established in the relevant tributary strategy.

If appropriations are made to the WQIF from surplus funds remaining after any fiscal year, grants awarded using those funds shall be for the sole purpose of designing and installing state-of-the-art nutrient removal technologies at publicly-owned treatment works designated as significant dischargers. These funds shall also be available for grants to eligible applicants when the design and installation of state-of-the-art nutrient removal technology utilizes the Public-Private Education Facilities and Infrastructure Act (Section 56-575.1 et seq.). The grant amount to be awarded shall use the above ratios to determine the cost-share percentage.

The Director may approve a point source grant application request that exceeds the authorized grant amount outlined in Section 10.1-2131.E. of the Act and described above in Section F.1-4. Whenever a grant application exceeds the authorized grant amount outlined above, or when there is no stated limitation on the amount of the grant, the Director shall consider the comparative revenue capacity, revenue efforts and fiscal stress as reported by the Commission on Local Government.

VII. Grant Agreement

A legally binding and enforceable agreement between the recipient and the Department of Environmental Quality shall govern all WQIF point source grants. In accordance with Section 10.1-2131 of the Act, the agreement shall include the following:

1. Numerical effluent concentration limits on nutrient discharges to state waters designed to achieve the nutrient reduction goals of the applicable tributary strategy plan. Consistent with Section 62.1-44.19:12 et seq. of the *Code of Virginia*, such concentration limits shall be based upon the technology installed by the facility and shall be expressed as annual average values.

2. Enforceable provisions related to the maintenance of the numerical concentration limits that will allow for exceedences of no more than ten (10) percent and for exceedences caused by extraordinary conditions. The enforceable provisions will also include contractual or stipulated penalties in an amount sufficient to ensure compliance with the agreement, which may include repayment with interest for any non-performance or breach.

3. Recognition of the authority of the Commonwealth to make the Virginia Water Facilities Revolving Fund (Section 62.1-224 et seq. of the *Code of Virginia*) available to local governments for their local share of the cost of designing and installing biological nutrient removal facilities or other nutrient removal technology, based on financial need and subject to availability of revolving loan funds, priority ranking, and revolving loan distribution criteria.

Grant agreements shall be made available for public review and comment for a period of no less than 30 days but no more than 60 days prior to execution. In addition to the standard terms and conditions of a state contract for financial assistance (including, but not limited to, project scope, schedules, budget and compensation provisions), the agreement shall:

1. provide for payment of the total amount of the grant, subject to the availability of funds;
2. govern design and installation;
3. require the grantee to complete installation of the nutrient removal facilities and place them into service regardless of the amount of grant funds received; and
4. require proper long-term operation, monitoring and maintenance of funded projects, including design and performance criteria.

VIII. Technical Assistance Grants

Under Section 10.1-2131 of the Act, the DEQ Director may, at any time, authorize grants, including grants to institutions of higher education, for Technical Assistance (TA) related to nutrient reduction. The criteria used in making determinations for award of TA grants are:

- If the proposals are for work such as pilot demonstration projects and engineering studies for nutrient reduction (e.g., Basis of Design Reports).
- If the proposals will advance the understanding about, and the capabilities of, nutrient-reduction systems.
- If the results of the proposal lead to more cost-effective implementation actions for point sources.
- If the proposal for planning and/or design work is associated with a retrofit project and the applicant is not eligible to receive a construction grant, the TA grant will be limited to a cost-share of no more than 10% of the total construction cost (or cost for design, whichever is less) and must lead to approved plans and specifications.
- If the proposal is associated with evaluating and implementing measures to optimize or enhance existing operations (e.g., interim optimization plans). Projects of this type will generally involve only treatment process or system revisions, rather than changes at the facility that involve construction.

CHAPTER II: SUMMARY OF PROGRAM REQUIREMENTS

I. Introduction

This section provides a brief synopsis of the program requirements as they relate to other statutory or regulatory requirements included by reference, such as procurement law, and plans and specifications approval, so that grantees are fully aware of them and can act accordingly.

II. Procurement

All procurement made during the course of planning, design, and construction of the grant project must be purchased, acquired, or contracted for in accordance with Chapter 7
(Section 11-35 et seq.) of Title 11 of the *Code of Virginia,* also known as the Virginia Public Procurement Act. The WQIF point source program requires all participants to follow the provisions of the Procurement Act regardless of locality size.

III. Local Share

Prior to grant award, sufficient documentation must be provided by the applicant to demonstrate that the local share of the project is, or will be, available to fulfill the grantee's obligations under the agreement. Examples of acceptable forms of local share include, but are not limited to, general obligation revenue bonds, other state or federal grant funds or loans, and municipal budget items and revenue streams.

IV. Pre-Design Studies/Pilot Testing

Eligible pre-design tasks include any essential studies prior to final design, such as bench or pilot scale testing of conventional or innovative technologies, and cost-effectiveness analysis.

The grantee or its consultant will develop a Preliminary Engineering Proposal (PEP) or planning document, which assesses the current situation, projects future needs, develops alternatives, estimates the monetary costs, and presents a selected plan.

V. Design/Construction

The design and drafting of plans and specifications must conform to the Virginia Sewage Collection and Treatment (SCAT) Regulations [9 VAC 25-790 et. seq.] Close contact with the applicable Regional Offices of the DEQ is helpful in reducing delays at this stage. Since it is likely that installation of the nutrient reduction system is part of a larger scale or more complex plant upgrade or expansion project, a Preliminary Engineering Conference with the Department of Environmental Quality is strongly recommended prior to full-scale design. Final plans and specifications must be submitted for review, comment, and approval to the Department of Environmental Quality. Processing of the plans and specifications will proceed as outlined in the SCAT Regulations, ultimately leading to the issuance of a Certificate to Construct.

The grantee may then proceed to advertise for construction bids, and is encouraged to hold a pre-bid conference so that the project can be presented to bidders and any questions they may have can be resolved. The bidding document must be structured to the extent practicable such that the cost for eligible project components can be readily determined. The grantee is responsible for, and must retain records that document, the use of proper bidding and bid selection when securing construction services. During construction the grantee must provide project inspection, documented with reports, to track construction progress, quality, and conformance with plans and specifications.

DEQ will conduct periodic (usually monthly) Interim Project Evaluations (IPE) to provide routine monitoring of WQIF construction projects. The IPE will assess compliance with program requirements by verifying that: the project is being managed properly, construction is generally in accordance with the approved plans and specifications, and disbursement requests coincide with actual work in place.

VI. Post-Construction/Operation and Maintenance

In addition to awarding the grant, the agreement signed by the grantee and DEQ shall govern the long-term operation and maintenance of the facilities installed with grant funds. Section 10.1-2131.C. of the Act specifies that grant agreements related to nutrient control shall include: (i) numerical concentrations on nutrient discharges designed to achieve the nutrient reduction goals of the applicable tributary strategy plan; and (ii) enforceable provisions related to the maintenance of the numerical concentrations that will allow for exceedences of no more than 10%, and (iii) for exceedences caused by extraordinary conditions (defined in the agreement).

All grant agreements will contain a provision that requires the owner to monitor their discharge and report the total nitrogen and (if applicable) total phosphorus concentrations so that performance can be tracked. If nutrient monitoring requirements are not already contained in the plant's discharge permit, the agreement will specify the same sampling frequencies and analytical methods used in the VPDES permit program.

Agreements may also contain incentives designed to encourage the Grantee to operate the project to achieve pollution reductions greater than specified in the Agreement.

CHAPTER III: GRANTEE SELECTION

I. Application Solicitation

The annual point source grant cycle begins with the distribution of this guidance document and a solicitation for applications. The deadline for submission of applications is provided in the application form and will allow at least 45 days for proposal development. Applications must be sent to:

Virginia Department of Environmental Quality
P.O. Box 10009
Richmond, VA 23240
ATTN: WQIF Program Manager

II. Grant Priority Funding List Requirements

Funds can only be used to finance the cost to design and install biological nutrient removal, state-of-the-art nutrient removal technology, or other nutrient control technology at publicly-owned treatment works designated as a significant discharger and meeting the nutrient reduction goal in an approved tributary strategy plan. DEQ staff will prioritize the eligible applications using the criteria in Chapter I paragraph (II) of Section B of this section, assess the cost-effectiveness of proposed actions, and review the proposals to ensure consistency with tributary strategy goals. Such prioritization will recognize the requirement under Section 10.1-2131.B. of the Act that the Director shall enter into grant agreements with all facilities designated as significant dischargers that apply for grants. DEQ staff will present the prioritized list of qualified proposals to the State Water Control Board for their information and comment, along with recommendations for funding. Final approval and

funding decisions will be made by the DEQ Director who has the responsibility and authority to award grants under this program in accordance with Section 10.1-2122 of the Act.

The state is strongly committed to manage the award and allocation of grants to ensure full funding of all executed agreements, as well as to follow an equitable process for distribution of available funds among all grantees in the event of a shortfall. The distribution process will be addressed in the agreement signed with each grant recipient.

In subsequent years, new projects will be added to the priority list. Once the cost share needs to implement all the Chesapeake Bay Tributary Strategy Plans are satisfied, or it is determined by the DEQ Director that there is sufficient funding above that required for substantial and continuing progress in implementation of the Tributary Strategy Plans, grant applications will be considered for any point source project that is clearly demonstrated as likely to achieve measurable and specific water quality improvements. At that stage, the Act requires that potential grant projects be prioritized, in accordance with specified criteria in Section 10.1-2129, and other factors the Secretary of Natural Resources deems appropriate. No project can receive financial assistance under the WQIF unless it is on the priority-funding list. However, it is not a requirement that projects receive cost share assistance in priority order.