Exchange Compliance Plan
2010 Annual Update

VIRGINIA NUTRIENT CREDIT EXCHANGE ASSOCIATION, INC.

THE EXCHANGE

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Virginia Department of Environmental Quality
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SECTION 1

Introduction

1.1 Purpose

This Chesapeake Bay Nutrient Credit Exchange Program Compliance Plan 2010 Annual Update ("Exchange Compliance Plan") was prepared by the Virginia Nutrient Credit Exchange Association, Inc. ("The Exchange") in collaboration with participating owners of regulated facilities ("Participants"). This Exchange Compliance Plan updates and supersedes the Exchange Compliance Plan 2009 Annual Update, which was submitted by The Exchange to the Virginia Department of Environmental Quality ("DEQ") on January 30, 2009, and approved by DEQ by letter dated September 24, 2009 (attached at Appendix A). The original Exchange Compliance Plan was submitted by The Exchange to DEQ on July 31, 2007 and approved by DEQ by letter dated September 7, 2007, and the 2008 Annual Update was submitted on February 1, 2008 and approved by DEQ by letter dated April 25, 2008. These DEQ approval letters are also attached at Appendix A.

This Exchange Compliance Plan continues a "realistically aggressive" program of work to meet the nitrogen and phosphorus wasteload allocations of the Participants' facilities. This Exchange Compliance Plan utilizes voluntary, market-based nutrient credit trading as a means of achieving compliance more cost-effectively and more expeditiously than would otherwise be possible.

The initial focus of the Exchange Compliance Plan is on the construction of a large number of nutrient removal technology upgrades at Participants' facilities to achieve compliance with the new Chesapeake Bay nitrogen and phosphorus wasteload allocations adopted by the State Water Control Board. Once initial compliance is achieved through this construction program, the focus shifts to maintaining compliance through an ongoing program of additional facility upgrades over time.

This document serves two primary purposes. First, certain information contained herein is submitted on behalf of the Participants in satisfaction of each Participant's regulatory obligation under Part I.D. of its general permit as provided in the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed in Virginia (9 VAC 25-820) (the "General Permit"), which states:

> Annual update of compliance plan. Every owner or operator of a facility required to submit a registration statement shall either individually or through the Virginia Nutrient Credit Exchange Association submit updated compliance plans to the department no later than February 1 of each year. 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. Compliance plans for facilities that were required to submit a registration statement with the department by January 1, 2007, may rely on the acquisition of point source credits in accordance with Part I J of this general permit, but not the

acquisition of credits through payments into the Water Quality Improvement Fund, to achieve compliance with the individual and combined waste load allocations in each tributary. Compliance plans for expansions or new discharges for facilities that are required to submit a registration statement with the department may rely on the acquisition of allocation in accordance with Part II B of this general permit to achieve compliance with the individual and combined waste load allocations in each tributary.

The foregoing annual update provision establishes a means of revising initial compliance plans required under 9 VAC 25-820-40 A, which states:

> Within nine months of the effective date of this regulation, every owner or operator of a facility required to submit a registration statement to the department [i.e., DEQ] by January 1, 2007, shall either individually or through the Virginia Nutrient Credit Exchange Association submit compliance plans to the department for approval.
>
> 1. The compliance plans shall contain 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 as soon as possible. Permittees submitting individual plans are not required to account for other facilities' activities.
>
> 2. As part of the compliance plan development, permittees whose facilities would have complied with their individual waste load allocations for calendar year 2005, had the allocations been effective in that year, shall either:
>
> a. Demonstrate that the additional capital projects in subdivision 1 of this subsection are necessary to ensure continued compliance with these allocations through the applicable deadline for the tributary to which the facility discharges (Part I C of the permit), or
>
> b. Request that their individual waste load allocations become effective on January 1, 2007. Permittees selecting this option shall be entitled to trade nutrient credits generated by their facilities and to acquire nutrient credits [immediately].
>
> 3. The compliance plans may rely on the exchange of point source credits in accordance with this general permit, but not the acquisition of credits through payments into the Water Quality Improvement Fund (§ 10.1-2128 et seq. of the Code of Virginia), to achieve compliance with the individual and combined waste load allocations in each tributary.

The second purpose of this Exchange Compliance Plan is to serve as a comprehensive document for planning and implementing nutrient credit trading at the basin level through The Exchange. The Exchange is a non-for-profit, voluntary association of owners of regulated facilities that serves as a facilitator of nutrient trading among its members as provided in Virginia Code section 62.1-44.19:17.

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1.2 Definitions

The terms used in this Exchange Compliance Plan shall have the same definitions as set forth in The Exchange's Credit Exchange Policy for the Purchase and Sale of Chesapeake Bay Nutrient Credits, which is set forth in Section 8.

Any terms not defined in the Credit Exchange Policy shall have the same definition as provided in 9 VAC 25-820-10, unless a different meaning is intended by the usage herein.

The term "Declared Load", which appears on the river basin graphs, means the maximum delivered load that a facility can discharge and still meet its commitments to either supply or purchase Class A Credits. For a Class A Seller, Declared Load equals Delivered WLA minus Class A Credits supplied. For a Class A Buyer, Declared Load equals Delivered WLA plus Class A Credits purchased.

1.3 Regulatory and Non-Regulatory Information

As mentioned above, the Exchange Compliance Plan serves a dual purpose. Certain information set forth herein is required by the General Permit. This regulatory information is provided (1) in Sections 2 through 6 in the Compliance Deadline Statements at Parts II and IV, Subpart A (2007 Compliance Deadline Statement) and Subpart B (Implementation Schedule Statement) and (2) in Section 7 of the Exchange Compliance Plan.

Additional information set forth herein is beyond that required by regulation and is not submitted for review and approval as such. This additional information, i.e., non-regulatory information, is presented either by agreement of The Exchange and DEQ or for the efficiency of gaining multiple uses of a single, more comprehensive document for effective planning by The Exchange and the Participants. Non-regulatory information includes but is not limited to: flow, concentration, load and credit projections; future capital projects not required for compliance in the first Compliance Year (e.g., project identification to occur after initial compliance is achieved in order to maintain compliance over time); detailed trading ledgers for projections; and The Exchange's Credit Exchange Policy (including its Credit Price Schedule) (Section 8).

1.4 Exchange Compliance Plan Content Overview

The Exchange Compliance Plan contains a separate section for each tributary, or basin, as follows:

- Section 2 – Potomac-Shenandoah River Basin
- Section 3 – Rappahannock River Basin
- Section 4 – York River Basin
- Section 5 – James River Basin
- Section 6 – Eastern Shore Basin

The Trading Optimization Model, previously described in The Exchange's written materials and presentations, was used to generate a plan illustrating nutrient removal projects, Credit generation and Credit exchanges in each basin, details of which are provided in a 13-page format (cover page followed by six pages each for nitrogen and phosphorus). Schedules and

results are based on owner-provided facility-specific data. The organization and description of the Exchange Compliance Plan components is summarized below.

The Exchange Compliance Plan for the James River basin distinguishes between the James "Upper" and James "Lower" basins, and includes additional charts for each basin (resulting in a 17-page summary). This manner of presentation is convenient in that it (1) simplifies the analysis of the James River exchanges and (2) clearly demonstrates that the partial, one-way restriction on James River trading is met (i.e., facilities in the areas previously identified as upper and middle portions of the basin are not proposing to acquire any Credits generated by facilities in the lower basin). Notwithstanding this two-part presentation, facilities in the lower portion may obtain either Class A or Class B Credits from upstream facilities. In the future, Class A Credit exchanges may be specified in a plan update. Similarly, Class B Credits may be exchanged from the Upper James to the Lower James during any Reconciliation Year as needed. Therefore, despite the distinction between the Upper and Lower James herein, the basin continues to be viewed and managed as a single unit consistent with applicable regulations.

Plan Summary

The Plan Summary is a visual synopsis of each basin. Separate summaries are presented for nitrogen and phosphorus which compare the Declared Load to the Delivered WLA for all Participants for an 8-year period (currently, through the year 2017). It is January 1 of 2011 when permit limits for *all* facilities (including Buyers) are currently anticipated to take effect under this plan; however, the determination of the initial compliance deadline is still under active consideration by the State and may be adjusted for all or some facilities in the future (please refer to Section 7.1 for more details). Individual facilities may have earlier compliance deadlines based on their own ability to achieve compliance with their individual WLAs earlier. In addition, 2011 is the first Compliance Year for which The Exchange currently intends to operate its Exchange Program, including execution of Credit exchanges in the immediately following year known as the Reconciliation Year.

The Plan Summary also illustrates Expected Load, which is a forecast of the collective load of all Participants. In contrast to the Declared Load line, the Expected Load line intentionally ignores market and other factors manifested in the Class A Credit decisions of individual owners to take into account all Credits projected to be available (i.e., both Class A and Class B Credits). In this respect, the Expected Load line is not representative of Class A Credit commitments that Participants in The Exchange's voluntary, market-based program are willing to make. However, it does illustrate projected aggregate performance and generally indicates favorable nutrient reduction trends.

For The Exchange's management purposes, green bars at the bottom of the Plan Summary chart are plotted against the secondary Y-axis and represent Class A Credit supplies that exceed Class A Credit requests for a given Compliance Year. Red bars in the same location indicate a Participant's Credits that are held in the WQIF in accordance with 9 VAC 25-820-70 Part I.J.2.e. pending project completion.

Capital Projects Schedule

The next set of pages of each basin's nutrient section shows the current schedule of upgrades by Participant, including the first full operational year and target concentration for completed

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projects. Brown bars identify Upgrades in Progress. The length of each bar reflects the implementation period of that project, while the number identifies the target concentration in mg/L. The first year that a capital project will be online is the year that immediately follows the final year of the implementation period. For example, a brown bar shown for years 2007 through 2010 would represent a 4-year project that is expected to be online for a full twelve months in 2011.

Trading Ledger

The final pages of each basin's nutrient section present annual trading ledgers and capital project information for 2011-2014. For each Participant, the Expected Load, Expected Credits, Expected Net Credits, Class A Credit sales, and Class A Credit purchases are accounted for according to the basin-wide schedule of projects. The ledger also accounts for projected Class B Credits. Where Class A Credit purchases are not projected to be satisfied using only Class A Credit sales, a portion of each Buyer's demand is anticipated to be satisfied on a pro rata basis using Class B Credits. Aggregate information is shown in the blue bar at the top of the ledger.

Based on the number of Credits projected in each market, Class A Credit and Class B Credit sales prices are estimated in accordance with the Credit Exchange Policy. These prices, which include the Class A Buyer price, are displayed at the top of the trading ledger. Since The Exchange "clears the market" by purchasing all Credits generated by Participants as provided in the Credit Exchange Policy, the Class A Seller price reflects the difference between the volume of Credits supplied and the volume of credits purchased in the Class A market.

Where multiple facilities under common ownership or operation have been "bubbled" at the Participant's election pursuant to 9 VAC 25-820-70 Part I.B.2, these facilities are listed in order and highlighted in light blue (and pale yellow, if more than one bubble exists in a consecutive alphabetical listing of Participants/Facilities).

Facility Data Summaries & Compliance Deadline Statements

For each basin, facility-specific information is included immediately following the Trading Ledger. This information is arranged in four parts, as follows:

- Part I: Data Summary for Nitrogen
- Part II: Total Nitrogen Compliance Statements
  - Part II A: 2007 Compliance Deadline Statement
  - Part II B: Implementation Schedule Statement
- Part III: Data Summary for Phosphorus
- Part IV: Total Phosphorus Compliance Statements
  - Part IV A: 2007 Compliance Deadline Statement
  - Part IV B: Implementation Schedule Statement

These four parts provide most of the required elements of a compliance plan as specified in 9 VAC 25-820-40 and annual update as specified in 9 VAC 25-820-70 Part I.D. (Please refer to Section 1.3 above.)

For additional information regarding the schedule of compliance for each tributary and parameter, please refer to Section 7.

Development of each Annual Update of the Exchange Compliance Plan requires data collection from Participants on a schedule that provides The Exchange and its advisors adequate time to collect and compile data covering over 100 Facilities. The timeline for such data collection is governed by the Nutrient Credit Services Agreement between The Exchange and each Participant. A copy of the agreement is provided as Appendix B hereto. Consequently, the data contained in the Facility Data Summaries and Compliance Deadline Statements was collected approximately five months in advance of submittal of the Annual Update to DEQ and generally would not reflect changed circumstances at the facility level, if any, subsequent to data collection. Data changes subsequent to data collection, if any, would be reflected in the 2011 Annual Update.

SECTION 2

Potomac-Shenandoah River Basin Exchange Compliance Plan

EXHIBIT 2-1
Nitrogen Plan Summary: Potomac-Shenandoah River Basin

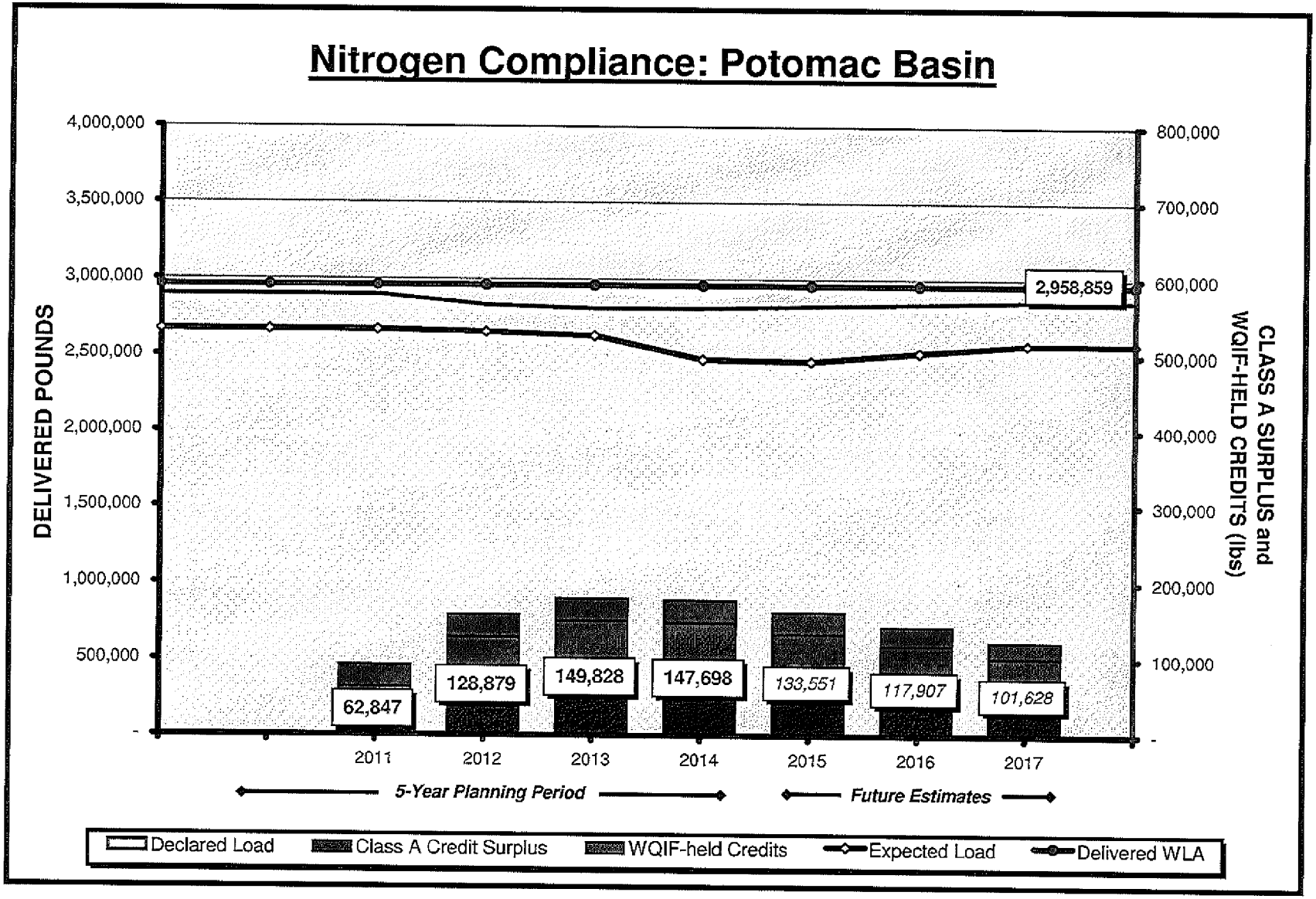

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EXHIBIT 2-2
Nitrogen Capital Projects Schedule: Potomac-Shenandoah River Basin

POTOMAC Basin: Nitrogen Upgrade Schedule by Facility

mg/L Upgrades in Progress	Design Flow (mgd)	UIP Year*	UIP mg/L	Planning Period 2010	2011	2012	2013	2014	Future Estimates 2015	2016	2017
ACSA-Fishersville	4.00	2011		4.00							
ACSA-Greenville	0.25										
ACSA-Harriston	0.10										
ACSA-Middle River	6.80	2011		4.00							
ACSA-Mt. Sidney	0.15										
ACSA-Stuarts Draft	4.00	2011		4.00							
ACSA-Vesper View	0.10										
ACSA-Weyers Cave	0.50										
Alexandria S.A.	54.00	2020		3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Berryville	0.70	2012		4.00	4.00						
Broadway Regional	2.42	2011		3.70							
Dale Service Corp #1	4.60	2011		3.00							
Dale Service Corp #8	4.60	2011		3.00							
Fairfax Co-Noman Cole	67.00	2014		3.00	3.00	3.00	3.00				
FCWSA-Vint Hill	0.95										
Front Royal	4.00	2013		3.00	3.00	3.00					
FWSA-Opequon	8.40	2011		3.00							
FWSA-Parkins Mill	5.00	2010	4.00								
HRRSA-North River	20.80	2011		3.80							
KGCSA-Dahlgren S.D.	1.00										
KGCSA-Fairview Beach	0.20										
KGCSA-Purkins Corner	0.12										
Leesburg	10.00										
Loudoun Water- Broad Run	11.00	2008	4.00								
Massanutten PSC	1.50										
Merck	1.20	2011		12.00							
MillerCoors LLC	4.50	2011		4.00							
Mt. Jackson	0.70	2010	4.00								
Purcellville	1.50	2011		4.00							
PWCSA-HL Mooney	24.00	2011		3.00							
Shen. Co-N. Fork Regional	0.75										
Stafford Co-Aquia	8.00	2012		3.00	3.00						
Stoney Creek	0.60										
UOSA	54.00										
Waynesboro	4.00	2011		3.00							

** Identifies the first full operational year of the completed upgrade (brown bars represent construction period)*

EXHIBIT 2-3
2011 Nitrogen Trading Ledger: Potomac-Shenandoah River Basin

POTOMAC Basin: Nitrogen Credit Ledger

Compliance Year:	2011	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits	Class A Pledge	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	$ 1.15	$ 2.00	$ 0.11
The Exchange (group)	2,958,859	2,667,530	291,330	-	-	(29,441)	261,889		175,483	(112,635)	199,041
ACSA-Fishersville	21,441	11,846	9,595	-	-	-	9,595	50%	4,798	-	4,797
ACSA-Greenville	6,265	1,278	4,987	(4,987)	-	-	-	0%	-	-	-
ACSA-Harriston	2,506	828	1,678	(1,678)	-	-	-	0%	-	-	-
ACSA-Middle River	36,449	26,855	9,594	-	-	-	9,594	50%	4,797	-	4,797
ACSA-Mt. Sidney	3,759	3,743	16	(16)	-	-	-	0%	-	-	-
ACSA-Stuarts Draft	21,441	8,737	12,704	(8,938)	-	-	3,766	50%	1,883	-	1,883
ACSA-Vesper View	2,506	1,219	1,287	(1,287)	-	-	-	0%	-	-	-
ACSA-Weyers Cave	2,680	19,586	(16,906)	16,906	-	-	-	0%	-	-	-
Alexandria S.A.	493,381	493,381	-	-	-	-	-	0%	-	-	-
Berryville	5,713	14,088	(8,375)	-	-	-	(8,375)	100%	-	(8,375)	-
Broadway Regional	19,752	15,855	3,897	-	-	-	3,897	0%	-	-	3,897
Dale Service Corp #1	42,029	34,719	7,310	-	-	-	7,310	0%	-	-	7,310
Dale Service Corp #8	42,029	34,719	7,310	-	-	-	7,310	0%	-	-	7,310
Fairfax Co-Noman Cole	612,158	612,158	-	-	-	-	-	0%	-	-	-
FCWSA-Vint Hill	5,034	1,325	3,709	-	-	-	3,709	0%	-	-	3,709
Front Royal	32,648	103,953	(71,305)	-	-	-	(71,305)	100%	-	(71,305)	-
FWSA-Opequon	80,704	48,410	32,294	-	-	-	32,294	0%	-	-	32,294
FWSA-Parkins Mill	45,074	19,833	25,241	-	-	-	25,241	0%	-	-	25,241
HRRSA-North River	111,492	71,826	39,666	-	-	-	39,666	100%	39,666	-	-
KGCSA-Dahlgren S.D.	9,137	7,675	1,462	(1,462)	-	-	-	0%	-	-	-
KGCSA-Fairview Beach	1,827	822	1,005	(1,005)	-	-	-	0%	-	-	-
KGCSA-Purkins Corner	1,096	6,853	(5,757)	2,467	-	-	(3,290)	100%	-	(3,290)	-
Leesburg	101,113	65,976	35,137	-	-	(25,278)	9,859	90%	8,873	-	986
Loudoun Water- Broad Run	111,224	44,085	67,139	-	-	-	67,139	90%	60,425	-	6,714
Massanutten PSC	8,040	9,932	(1,892)	-	-	-	(1,892)	100%	-	(1,892)	-
Merck	6,432	19,297	(12,865)	-	-	-	(12,865)	100%	-	(12,865)	-
MillerCoors LLC	24,121	24,121	-	-	-	-	-	0%	-	-	-
Mt. Jackson	5,713	4,081	1,632	-	-	-	1,632	0%	-	-	1,632
Purcellville	15,167	10,617	4,550	-	-	-	4,550	50%	2,275	-	2,275
PWCSA-HL Mooney	219,280	150,755	68,525	-	-	-	68,525	70%	47,968	-	20,557
Shen. Co-N. Fork Regional	6,122	1,959	4,163	-	-	(4,163)	-	0%	-	-	-
Stafford Co-Aquia	73,093	86,205	(13,112)	-	-	-	(13,112)	100%	-	(13,112)	-
Stoney Creek	4,897	6,693	(1,796)	-	-	-	(1,796)	100%	-	(1,796)	-
UOSA	763,096	687,457	75,639	-	-	-	75,639	0%	-	-	75,639
Waynesboro	21,441	16,643	4,798	-	-	-	4,798	100%	4,798	-	-
	-	-	-	-	-	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-

For this Compliance Year, 0% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.

*** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

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EXHIBIT 2-4

2012 Nitrogen Trading Ledger: Potomac-Shenandoah River Basin

POTOMAC Basin: Nitrogen Credit Ledger

Compliance Year:	2012	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits	Class A Pledge	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	$ 0.49	$ 2.00	$ 0.06
The Exchange (group)	2,958,859	2,652,714	306,146	-	-	(29,441)	276,705		177,611	(48,731)	147,825
ACSA-Fishersville	21,441	12,757	8,684	-	-	-	8,684	50%	4,342	-	4,342
ACSA-Greenville	6,265	1,278	4,987	(4,987)	-	-	-	0%	-	-	-
ACSA-Harriston	2,506	828	1,678	(1,678)	-	-	-	0%	-	-	-
ACSA-Middle River	36,449	27,444	9,005	-	-	-	9,005	50%	4,503	-	4,502
ACSA-Mt. Sidney	3,759	3,743	16	(16)	-	-	-	0%	-	-	-
ACSA-Stuarts Draft	21,441	9,220	12,221	(9,871)	-	-	2,350	50%	1,175	-	1,175
ACSA-Vesper View	2,506	1,219	1,287	(1,287)	-	-	-	0%	-	-	-
ACSA-Weyers Cave	2,680	20,519	(17,839)	17,839	-	-	-	0%	-	-	-
Alexandria S.A.	493,381	-	-	-	-	-	-	0%	-	-	-
Berryville	5,713	3,510	2,203	-	-	-	2,203	90%	1,983	-	220
Broadway Regional	19,752	15,855	3,897	-	-	-	3,897	0%	-	-	3,897
Dale Service Corp #1	42,029	36,090	5,939	-	-	-	5,939	0%	-	-	5,939
Dale Service Corp #8	42,029	36,090	5,939	-	-	-	5,939	0%	-	-	5,939
Fairfax Co-Noman Cole	612,158	612,158	-	-	-	-	-	0%	-	-	-
FCWSA-Vint Hill	5,034	1,590	3,444	-	-	-	3,444	0%	-	-	3,444
Front Royal	32,648	59,563	(26,915)	-	-	-	(26,915)	100%	-	(26,915)	-
FWSA-Opequon	80,704	50,438	30,266	-	-	-	30,266	0%	-	-	30,266
FWSA-Parkins Mill	45,074	22,717	22,357	-	-	-	22,357	0%	-	-	22,357
HRRSA-North River	111,492	70,272	41,220	-	-	-	41,220	100%	41,220	-	-
KGCSA-Dahlgren S.D.	9,137	8,649	488	(488)	-	-	-	0%	-	-	-
KGCSA-Fairview Beach	1,827	914	913	(913)	-	-	-	0%	-	-	-
KGCSA-Purkins Corner	1,096	7,614	(6,518)	1,401	-	-	(5,117)	100%	-	(5,117)	-
Leesburg	101,113	69,201	31,912	-	-	(25,278)	6,634	90%	5,971	-	663
Loudoun Water- Broad Run	111,224	50,253	60,971	-	-	-	60,971	90%	54,874	-	6,097
Massanutten PSC	8,040	10,078	(2,038)	-	-	-	(2,038)	100%	-	(2,038)	-
Merck	6,432	19,297	(12,865)	-	-	-	(12,865)	100%	-	(12,865)	-
MillerCoors LLC	24,121	24,121	-	-	-	-	-	0%	-	-	-
Mt. Jackson	5,713	4,081	1,632	-	-	-	1,632	0%	-	-	1,632
Purcellville	15,167	9,403	5,764	-	-	-	5,764	50%	2,882	-	2,882
PWCSA-HL Mooney	219,280	155,324	63,956	-	-	-	63,956	70%	44,769	-	19,187
Shen. Co-N. Fork Regional	6,122	1,959	4,163	-	-	(4,163)	-	0%	-	-	-
Stafford Co-Aquia	73,093	59,937	13,156	-	-	-	13,156	88%	11,577	-	1,579
Stoney Creek	4,897	6,693	(1,796)	-	-	-	(1,796)	100%	-	(1,796)	-
UOSA	763,096	729,392	33,704	-	-	-	33,704	0%	-	-	33,704
Waynesboro	21,441	17,126	4,315	-	-	-	4,315	100%	4,315	-	-
	-	-	-	-	-	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-

For this Compliance Year, 0% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.

*** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

AR0036421

EXHIBIT 2-5

2013 Nitrogen Trading Ledger: Potomac-Shenandoah River Basin

POTOMAC Basin: Nitrogen Credit Ledger

Compliance Year:	2013	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits	Class A Pledge	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	$ 0.20	$ 2.15	$ 0.02
The Exchange (group)	2,958,859	2,627,671	331,189	-	-	(29,441)	301,748		167,979	(18,150)	151,919
ACSA-Fishersville	21,441	13,615	7,826	(3,803)	-	-	4,023	80%	3,218	-	805
ACSA-Greenville	6,265	1,278	4,987	(4,987)	-	-	-	0%	-	-	-
ACSA-Harriston	2,506	828	1,678	(1,678)	-	-	-	0%	-	-	-
ACSA-Middle River	36,449	28,034	8,415	-	-	-	8,415	80%	6,732	-	1,683
ACSA-Mt. Sidney	3,759	3,743	16	(16)	-	-	-	0%	-	-	-
ACSA-Stuarts Draft	21,441	9,648	11,793	(7,000)	-	-	4,793	80%	3,834	-	959
ACSA-Vesper View	2,506	1,219	1,287	(1,287)	-	-	-	0%	-	-	-
ACSA-Weyers Cave	2,680	21,451	(18,771)	18,771	-	-	-	0%	-	-	-
Alexandria S.A.	493,381	493,381	-	-	-	-	-	0%	-	-	-
Berryville	5,713	3,510	2,203	-	-	-	2,203	90%	1,983	-	220
Broadway Regional	19,752	16,610	3,142	-	-	-	3,142	0%	-	-	3,142
Dale Service Corp #1	42,029	36,547	5,482	-	-	-	5,482	0%	-	-	5,482
Dale Service Corp #8	42,029	36,547	5,482	-	-	-	5,482	0%	-	-	5,482
Fairfax Co-Noman Cole	612,158	612,158	-	-	-	-	-	0%	-	-	-
FCWSA-Vint Hill	5,034	1,978	3,056	-	-	-	3,056	0%	-	-	3,056
Front Royal	32,648	26,751	5,897	-	-	-	5,897	50%	2,949	-	2,948
FWSA-Opequon	80,704	51,926	28,778	-	-	-	28,778	0%	-	-	28,778
FWSA-Parkins Mill	45,074	24,881	20,193	-	-	-	20,193	0%	-	-	20,193
HRRSA-North River	111,492	72,309	39,183	-	-	-	39,183	100%	39,183	-	-
KGCSA-Dahlgren S.D.	9,137	7,614	1,523	(1,523)	-	-	-	0%	-	-	-
KGCSA-Fairview Beach	1,827	731	1,096	(1,096)	-	-	-	0%	-	-	-
KGCSA-Purkins Corner	1,096	4,873	(3,777)	2,619	-	-	(1,158)	100%	-	(1,158)	-
Leesburg	101,113	72,346	28,767	-	-	(25,278)	3,489	0%	-	-	3,489
Loudoun Water- Broad Run	111,224	56,421	54,803	-	-	-	54,803	90%	49,323	-	5,480
Massanutten PSC	8,040	10,371	(2,331)	-	-	-	(2,331)	100%	-	(2,331)	-
Merck	6,432	19,297	(12,865)	-	-	-	(12,865)	100%	-	(12,865)	-
MillerCoors LLC	24,121	24,121	-	-	-	-	-	0%	-	-	-
Mt. Jackson	5,713	4,489	1,224	-	-	-	1,224	0%	-	-	1,224
Purcellville	15,167	10,313	4,854	-	-	-	4,854	50%	2,427	-	2,427
PWCSA-HL Mooney	219,280	159,892	59,388	-	-	-	59,388	70%	41,572	-	17,816
Shen. Co-N. Fork Regional	6,122	1,959	4,163	-	-	(4,163)	-	0%	-	-	-
Stafford Co-Aquia	73,093	58,018	15,075	-	-	-	15,075	86%	12,965	-	2,110
Stoney Creek	4,897	6,693	(1,796)	-	-	-	(1,796)	100%	-	(1,796)	-
UOSA	763,096	716,471	46,625	-	-	-	46,625	0%	-	-	46,625
Waynesboro	21,441	17,648	3,793	-	-	-	3,793	100%	3,793	-	-
	-	-	-	-	-	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-

**** For this Compliance Year, 0% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.***

*** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

AR0036422

EXHIBIT 2-6

2014 Nitrogen Trading Ledger: Potomac-Shenandoah River Basin

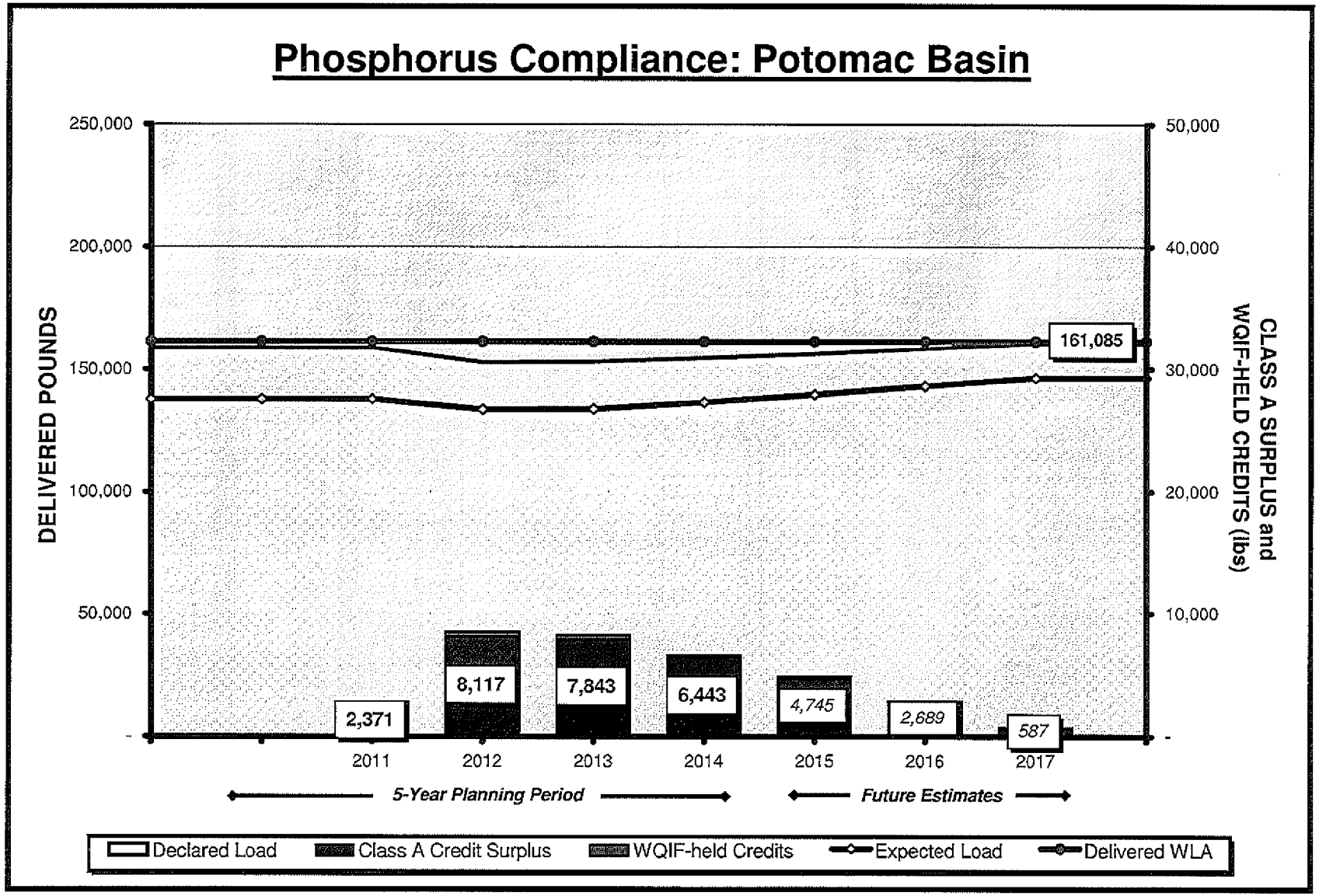
POTOMAC Basin: Nitrogen Credit Ledger

Compliance Year:	2014	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits	Class A Pledge	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	$ 0.24	$ 2.65	$ 0.01
The Exchange (group)	2,958,859	2,472,918	485,942	-	-	(29,441)	456,501		164,837	(17,138)	308,802
ACSA-Fishersville	21,441	14,526	6,915	-	-	-	6,915	80%	5,532	-	1,383
ACSA-Greenville	6,265	1,170	5,095	(5,095)	-	-	-	0%	-	-	-
ACSA-Harriston	2,506	780	1,726	(1,726)	-	-	-	0%	-	-	-
ACSA-Middle River	36,449	28,623	7,826	-	-	-	7,826	80%	6,261	-	1,565
ACSA-Mt. Sidney	3,759	3,977	(218)	218	-	-	-	0%	-	-	-
ACSA-Stuarts Draft	21,441	10,131	11,310	(6,342)	-	-	4,968	80%	3,974	-	994
ACSA-Vesper View	2,506	1,514	992	(992)	-	-	-	0%	-	-	-
ACSA-Weyers Cave	2,680	16,617	(13,937)	13,937	-	-	-	0%	-	-	-
Alexandria S.A.	493,381	493,373	8	-	-	-	8	0%	-	-	8
Berryville	5,713	3,510	2,203	-	-	-	2,203	90%	1,983	-	220
Broadway Regional	19,752	16,534	3,218	-	-	-	3,218	0%	-	-	3,218
Dale Service Corp #1	42,029	37,460	4,569	-	-	-	4,569	0%	-	-	4,569
Dale Service Corp #8	42,029	37,460	4,569	-	-	-	4,569	0%	-	-	4,569
Fairfax Co-Noman Cole	612,158	417,546	194,612	-	-	-	194,612	0%	-	-	194,612
FCWSA-Vint Hill	5,034	2,049	2,985	-	-	-	2,985	0%	-	-	2,985
Front Royal	32,648	26,935	5,713	-	-	-	5,713	0%	-	-	5,713
FWSA-Opequon	80,704	53,548	27,156	-	-	-	27,156	0%	-	-	27,156
FWSA-Parkins Mill	45,074	27,045	18,029	-	-	-	18,029	0%	-	-	18,029
HRRSA-North River	111,492	71,290	40,202	-	-	-	40,202	100%	40,202	-	-
KGCSA-Dahlgren S.D.	9,137	7,309	1,828	-	-	-	1,828	0%	-	-	1,828
KGCSA-Fairview Beach	1,827	822	1,005	(427)	-	-	578	0%	-	-	578
KGCSA-Purkins Corner	1,096	1,523	(427)	427	-	-	-	0%	-	-	-
Leesburg	101,113	74,621	26,492	-	-	(25,278)	1,214	0%	-	-	1,214
Loudoun Water- Broad Run	111,224	45,703	65,521	-	-	-	65,521	80%	52,417	-	13,104
Massanutten PSC	8,040	10,517	(2,477)	-	-	-	(2,477)	100%	-	(2,477)	-
Merck	6,432	19,297	(12,865)	-	-	-	(12,865)	100%	-	(12,865)	-
MillerCoors LLC	24,121	24,121	-	-	-	-	-	0%	-	-	-
Mt. Jackson	5,713	4,489	1,224	-	-	-	1,224	0%	-	-	1,224
Purcellville	15,167	11,325	3,842	-	-	-	3,842	50%	1,921	-	1,921
PWCSA-HL Mooney	219,280	164,460	54,820	-	-	-	54,820	70%	38,374	-	16,446
Shen. Co-N. Fork Regional	6,122	1,959	4,163	-	-	(4,163)	-	0%	-	-	-
Stafford Co-Aquia	73,093	59,845	13,248	-	-	-	13,248	82%	10,863	-	2,385
Stoney Creek	4,897	6,693	(1,796)	-	-	-	(1,796)	100%	-	(1,796)	-
UOSA	763,096	758,015	5,081	-	-	-	5,081	0%	-	-	5,081
Waynesboro	21,441	18,131	3,310	-	-	-	3,310	100%	3,310	-	-
	-	-	-	-	-	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-

For this Compliance Year, 0% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.

*** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

EXHIBIT 2-7
Phosphorus Plan Summary: Potomac-Shenandoah River Basin



AR0036424

EXHIBIT 2-8
Phosphorus Capital Projects Schedule: Potomac-Shenandoah River Basin

POTOMAC Basin: Phosphorus Upgrade Schedule by Facility

mgA Upgrades In Progress	Design Flow (mgd)	UIP Year*	UIP mg/L	Planning Period 2010	2011	2012	2013	2014	Future Estimates 2015	2016	2017
ACSA-Fishersville	4.00	2011		0.30							
ACSA-Greenville	0.25										
ACSA-Harriston	0.10										
ACSA-Middle River	6.80	2011		0.30							
ACSA-Mt. Sidney	0.15										
ACSA-Stuarts Draft	4.00	2011		0.30							
ACSA-Vesper View	0.10										
ACSA-Weyers Cave	0.50										
Alexandria S.A.	54.00										
Berryville	0.70	2012		0.30	0.30						
Broadway Regional	2.42	2011		0.30							
Dale Service Corp #1	4.60	2011		0.18							
Dale Service Corp #8	4.60	2011		0.18							
Fairfax Co-Noman Colo	67.00										
FCWSA-Vint Hill	0.95										
Front Royal	4.00	2013		0.30	0.30	0.30					
FWSA-Opequon	8.40	2012		0.30	0.30						
FWSA-Parkins Mill	5.00	2010	0.30								
HRRSA-North River	20.80	2011		0.28							
KGCSA-Dahlgren S.D.	1.00										
KGCSA-Fairview Beach	0.20										
KGCSA-Purkins Corner	0.12										
Leesburg	10.00										
Loudoun Water- Broad Run	11.00	2008	0.10								
Massanutten PSC	1.50										
Merck	1.20	2011		1.20							
MillerCoors LLC	4.50	2011		0.30							
Mt. Jackson	0.70	2010	0.30								
Purcellville	1.50	2011		0.30							
PWCSA-HL Mooney	24.00										
Shen. Co-N. Fork Regional	0.75	2010	0.60								
Stafford Co-Aquia	8.00	2012		0.18	0.18						
Stoney Creek	0.60										
UOSA	54.00										
Waynesboro	4.00	2011		0.30							

** Identifies the first full operational year of the completed upgrade (brown bars represent construction period)*

EXHIBIT 2-9

2011 Phosphorus Trading Ledger: Potomac-Shenandoah River Basin

POTOMAC Basin: Phosphorus Credit Ledger

Compliance Year:	*2011*	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits	Class A Pledge	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	$ 3.25	$ 4.00	$ 0.43
The Exchange (group)	161,085	137,725	23,361	-	-	(415)	22,946		24,919	(22,547)	20,574
ACSA-Fishersville	2,814	1,555	1,259	(1,259)	-	-	-	0%	-	-	-
ACSA-Greenville	1,466	563	903	(903)	-	-	-	0%	-	-	-
ACSA-Harriston	586	380	206	(206)	-	-	-	0%	-	-	-
ACSA-Middle River	4,784	3,525	1,259	-	-	-	1,259	0%	-	-	1,259
ACSA-Mt. Sidney	879	804	75	(75)	-	-	-	0%	-	-	-
ACSA-Stuarts Draft	2,814	1,147	1,667	(373)	-	-	1,294	0%	-	-	1,294
ACSA-Vesper View	586	504	82	(82)	-	-	-	0%	-	-	-
ACSA-Weyers Cave	352	3,250	(2,898)	2,898	-	-	-	0%	-	-	-
Alexandria S.A.	29,603	22,202	7,401	-	-	-	7,401	0%	-	-	7,401
Berryville	492	2,032	(1,540)	-	-	-	(1,540)	100%	-	(1,540)	-
Broadway Regional	1,703	1,477	226	-	-	-	226	0%	-	-	226
Dale Service Corp #1	2,522	2,083	439	-	-	-	439	0%	-	-	439
Dale Service Corp #8	2,522	2,083	439	-	-	-	439	0%	-	-	439
Fairfax Co-Noman Cole	36,729	22,038	14,691	-	-	-	14,691	91%	13,430	-	1,261
FCWSA-Vint Hill	382	104	278	-	-	-	278	0%	-	-	278
Front Royal	2,814	13,067	(10,253)	-	-	-	(10,253)	100%	-	(10,253)	-
FWSA-Opequon	5,910	3,358	2,552	-	-	-	2,552	0%	-	-	2,552
FWSA-Parkins Mill	3,518	2,064	1,454	-	-	-	1,454	0%	-	-	1,454
HRRSA-North River	14,633	9,427	5,206	-	-	-	5,206	100%	5,206	-	-
KGCSA-Dahlgren S.D.	914	672	242	(137)	-	-	105	50%	53	-	52
KGCSA-Fairview Beach	183	82	101	-	-	-	101	50%	51	-	50
KGCSA-Purkins Corner	110	247	(137)	137	-	-	-	0%	-	-	-
Leesburg	7,035	9,498	(2,463)	-	-	-	(2,463)	100%	-	(2,463)	-
Loudoun Water- Broad Run	2,580	1,022	1,558	-	-	-	1,558	90%	1,402	-	156
Massanutten PSC	1,055	6,203	(5,148)	-	-	-	(5,148)	100%	-	(5,148)	-
Merck	844	3,377	(2,533)	-	-	-	(2,533)	100%	-	(2,533)	-
MillerCoors LLC	3,166	3,166	-	-	-	-	-	0%	-	-	-
Mt. Jackson	492	352	140	-	-	-	140	0%	-	-	140
Purcellville	1,055	591	464	-	-	-	464	50%	232	-	232
PWCSA-HL Mooney	13,157	9,045	4,112	-	-	-	4,112	90%	3,701	-	411
Shen. Co-N. Fork Regional	528	113	415	-	-	(415)	-	0%	-	-	-
Stafford Co-Aquia	4,386	3,448	938	-	-	-	938	90%	844	-	94
Stoney Creek	422	1,032	(610)	-	-	-	(610)	100%	-	(610)	-
UOSA	7,236	4,496	2,740	-	-	-	2,740	0%	-	-	2,740
Waynesboro	2,814	2,718	96	-	-	-	96	0%	-	-	96
	-	-	-	-	-	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-

**** For this Compliance Year, 0% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.***

*** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

AR0036426

EXHIBIT 2-10
2012 Phosphorus Trading Ledger: Potomac-Shenandoah River Basin

POTOMAC Basin: Phosphorus Credit Ledger

Compliance Year:	2012	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits	Class A Pledge	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	$ 2.39	$ 4.00	$ 0.34
The Exchange (group)	161,085	133,631	27,455	-	-	(415)	27,040		24,267	(16,149)	18,922
ACSA-Fishersville	2,814	1,674	1,140	(1,140)	-	-	-	0%	-	-	-
ACSA-Greenville	1,466	563	903	(903)	-	-	-	0%	-	-	-
ACSA-Harriston	586	380	206	(206)	-	-	-	0%	-	-	-
ACSA-Middle River	4,784	3,602	1,182	-	-	-	1,182	0%	-	-	1,182
ACSA-Mt. Sidney	879	804	75	(75)	-	-	-	0%	-	-	-
ACSA-Stuarts Draft	2,814	1,210	1,604	(647)	-	-	957	0%	-	-	957
ACSA-Vesper View	586	504	82	(82)	-	-	-	0%	-	-	-
ACSA-Weyers Cave	352	3,405	(3,053)	3,053	-	-	-	0%	-	-	-
Alexandria S.A.	29,603	22,202	7,401	-	-	-	7,401	0%	-	-	7,401
Berryville	492	303	189	-	-	-	189	90%	170	-	19
Broadway Regional	1,703	1,477	226	-	-	-	226	0%	-	-	226
Dale Service Corp #1	2,522	2,165	357	-	-	-	357	0%	-	-	357
Dale Service Corp #8	2,522	2,165	357	-	-	-	357	0%	-	-	357
Fairfax Co-Noman Cole	36,729	22,038	14,691	-	-	-	14,691	88%	12,882	-	1,809
FCWSA-Vint Hill	382	125	257	-	-	-	257	0%	-	-	257
Front Royal	2,814	7,823	(5,009)	-	-	-	(5,009)	100%	-	(5,009)	-
FWSA-Opequon	5,910	4,374	1,536	-	-	-	1,536	0%	-	-	1,536
FWSA-Parkins Mill	3,518	2,364	1,154	-	-	-	1,154	0%	-	-	1,154
HRRSA-North River	14,633	9,061	5,572	-	-	-	5,572	100%	5,572	-	-
KGCSA-Dahlgren S.D.	914	757	157	(130)	-	-	27	50%	14	-	13
KGCSA-Fairview Beach	183	91	92	(34)	-	-	58	50%	29	-	29
KGCSA-Purkins Corner	110	274	(164)	164	-	-	-	0%	-	-	-
Leesburg	7,035	9,793	(2,758)	-	-	-	(2,758)	100%	-	(2,758)	-
Loudoun Water- Broad Run	2,580	1,166	1,414	-	-	-	1,414	90%	1,273	-	141
Massanutten PSC	1,055	6,294	(5,239)	-	-	-	(5,239)	100%	-	(5,239)	-
Merck	844	3,377	(2,533)	-	-	-	(2,533)	100%	-	(2,533)	-
MillerCoors LLC	3,166	3,166	-	-	-	-	-	0%	-	-	-
Mt. Jackson	492	352	140	-	-	-	140	0%	-	-	140
Purcellville	1,055	654	401	-	-	-	401	50%	201	-	200
PWCSA-HL Mooney	13,157	9,319	3,838	-	-	-	3,838	90%	3,454	-	384
Shen. Co-N. Fork Regional	528	113	415	-	-	(415)	-	0%	-	-	-
Stafford Co-Aquia	4,386	3,596	790	-	-	-	790	85%	672	-	118
Stoney Creek	422	1,032	(610)	-	-	-	(610)	100%	-	(610)	-
UOSA	7,236	4,611	2,625	-	-	-	2,625	0%	-	-	2,625
Waynesboro	2,814	2,797	17	-	-	-	17	0%	-	-	17
	-	-	-	-	-	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-

For this Compliance Year, 0% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.

*** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

AR0036427

EXHIBIT 2-11
2013 Phosphorus Trading Ledger: Potomac-Shenandoah River Basin

POTOMAC Basin: Phosphorus Credit Ledger

Compliance Year:	2013	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits	Class A Pledge	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	$ 2.55	$ 4.30	$ 0.34
The Exchange (group)	161,085	133,800	27,286	-	-	(415)	26,871		23,057	(15,213)	19,027
ACSA-Fishersville	2,814	1,787	1,027	(1,027)	-	-	-	0%	-	-	-
ACSA-Greenville	1,466	563	903	(903)	-	-	-	0%	-	-	-
ACSA-Harriston	586	380	206	(206)	-	-	-	0%	-	-	-
ACSA-Middle River	4,784	3,679	1,105	-	-	-	1,105	0%	-	-	1,105
ACSA-Mt. Sidney	879	804	75	(75)	-	-	-	0%	-	-	-
ACSA-Stuarts Draft	2,814	1,266	1,548	(915)	-	-	633	0%	-	-	633
ACSA-Vesper View	586	504	82	(82)	-	-	-	0%	-	-	-
ACSA-Weyers Cave	352	3,560	(3,208)	3,208	-	-	-	0%	-	-	-
Alexandria S.A.	29,603	22,476	7,127	-	-	-	7,127	0%	-	-	7,127
Berryville	492	303	189	-	-	-	189	90%	170	-	19
Broadway Regional	1,703	1,548	155	-	-	-	155	0%	-	-	155
Dale Service Corp #1	2,522	2,193	329	-	-	-	329	0%	-	-	329
Dale Service Corp #8	2,522	2,193	329	-	-	-	329	0%	-	-	329
Fairfax Co-Noman Cole	36,729	22,038	14,691	-	-	-	14,691	84%	12,334	-	2,357
FCWSA-Vint Hill	382	155	227	-	-	-	227	0%	-	-	227
Front Royal	2,814	3,074	(260)	-	-	-	(260)	100%	-	(260)	-
FWSA-Opequon	5,910	4,503	1,407	-	-	-	1,407	0%	-	-	1,407
FWSA-Parkins Mill	3,518	1,942	1,576	-	-	-	1,576	0%	-	-	1,576
HRRSA-North River	14,633	9,324	5,309	-	-	-	5,309	100%	5,309	-	-
KGCSA-Dahlgren S.D.	914	609	305	(109)	-	-	196	0%	-	-	196
KGCSA-Fairview Beach	183	97	86	-	-	-	86	0%	-	-	86
KGCSA-Purkins Corner	110	219	(109)	109	-	-	-	0%	-	-	-
Leesburg	7,035	13,423	(6,388)	-	-	-	(6,388)	100%	-	(6,388)	-
Loudoun Water- Broad Run	2,580	1,309	1,271	-	-	-	1,271	90%	1,144	-	127
Massanutten PSC	1,055	6,477	(5,422)	-	-	-	(5,422)	100%	-	(5,422)	-
Merck	844	3,377	(2,533)	-	-	-	(2,533)	100%	-	(2,533)	-
MillerCoors LLC	3,166	3,166	-	-	-	-	-	0%	-	-	-
Mt. Jackson	492	387	105	-	-	-	105	0%	-	-	105
Purcellville	1,055	718	337	-	-	-	337	50%	169	-	168
PWCSA-HL Mooney	13,157	9,594	3,563	-	-	-	3,563	90%	3,207	-	356
Shen. Co-N. Fork Regional	528	113	415	-	-	(415)	-	0%	-	-	-
Stafford Co-Aquia	4,386	3,481	905	-	-	-	905	80%	724	-	181
Stoney Creek	422	1,032	(610)	-	-	-	(610)	100%	-	(610)	-
UOSA	7,236	4,726	2,510	-	-	-	2,510	0%	-	-	2,510
Waynesboro	2,814	2,780	34	-	-	-	34	0%	-	-	34
	-	-	-	-	-	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-

For this Compliance Year, 0% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.

*** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

AR0036428

EXHIBIT 2-12
2014 Phosphorus Trading Ledger: Potomac-Shenandoah River Basin

POTOMAC Basin: Phosphorus Credit Ledger

Compliance Year:	2014	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits	Class A Pledge	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	$ 2.93	$ 4.60	$ 0.40
The Exchange (group)	161,085	136,539	24,547	-	-	(153)	24,394		22,192	(15,748)	17,950
ACSA-Fishersville	2,814	1,907	907	(907)	-	-	-	0%	-	-	-
ACSA-Greenville	1,466	485	981	(981)	-	-	-	0%	-	-	-
ACSA-Harriston	586	521	65	(65)	-	-	-	0%	-	-	-
ACSA-Middle River	4,784	3,757	1,027	-	-	-	1,027	0%	-	-	1,027
ACSA-Mt. Sidney	879	854	25	(25)	-	-	-	0%	-	-	-
ACSA-Stuarts Draft	2,814	1,330	1,484	(812)	-	-	672	0%	-	-	672
ACSA-Vesper View	586	539	47	(47)	-	-	-	0%	-	-	-
ACSA-Weyers Cave	352	3,189	(2,837)	2,837	-	-	-	0%	-	-	-
Alexandria S.A.	29,603	20,996	8,607	-	-	-	8,607	0%	-	-	8,607
Berryville	492	303	189	-	-	-	189	90%	170	-	19
Broadway Regional	1,703	1,541	162	-	-	-	162	0%	-	-	162
Dale Service Corp #1	2,522	2,248	274	-	-	-	274	0%	-	-	274
Dale Service Corp #8	2,522	2,248	274	-	-	-	274	0%	-	-	274
Fairfax Co-Noman Cole	36,729	25,053	11,676	-	-	-	11,676	100%	11,676	-	-
FCWSA-Vint Hill	382	120	262	-	-	-	262	0%	-	-	262
Front Royal	2,814	3,096	(282)	-	-	-	(282)	100%	-	(282)	-
FWSA-Opequon	5,910	4,643	1,267	-	-	-	1,267	0%	-	-	1,267
FWSA-Parkins Mill	3,518	2,111	1,407	-	-	-	1,407	0%	-	-	1,407
HRRSA-North River	14,633	9,193	5,440	-	-	-	5,440	100%	5,440	-	-
KGCSA-Dahlgren S.D.	914	548	366	(42)	-	-	324	0%	-	-	324
KGCSA-Fairview Beach	183	82	101	-	-	-	101	0%	-	-	101
KGCSA-Purkins Corner	110	152	(42)	42	-	-	-	0%	-	-	-
Leesburg	7,035	13,845	(6,810)	-	-	-	(6,810)	100%	-	(6,810)	-
Loudoun Water- Broad Run	2,580	1,060	1,520	-	-	-	1,520	80%	1,216	-	304
Massanutten PSC	1,055	6,568	(5,513)	-	-	-	(5,513)	100%	-	(5,513)	-
Merck	844	3,377	(2,533)	-	-	-	(2,533)	100%	-	(2,533)	-
MillerCoors LLC	3,166	3,166	-	-	-	-	-	0%	-	-	-
Mt. Jackson	492	387	105	-	-	-	105	0%	-	-	105
Purcellville	1,055	788	267	-	-	-	267	50%	134	-	133
PWCSA-HL Mooney	13,157	9,868	3,289	-	-	-	3,289	90%	2,960	-	329
Shen. Co-N. Fork Regional	528	375	153	-	-	(153)	-	0%	-	-	-
Stafford Co-Aquia	4,386	3,591	795	-	-	-	795	75%	596	-	199
Stoney Creek	422	1,032	(610)	-	-	-	(610)	100%	-	(610)	-
UOSA	7,236	4,816	2,420	-	-	-	2,420	0%	-	-	2,420
Waynesboro	2,814	2,750	64	-	-	-	64	0%	-	-	64
	-	-	-	-	-	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-

For this Compliance Year, 0% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.

*** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

AR0036429

Potomac-Shenandoah River Basin

Supplemental Information for Individual Facilities

AR0036430

Owner Bubble: Augusta County

The facilities listed below have received an aggregated mass load limit pursuant to 9 VAC 25-820-70, Part 1.B.2., which is also referred to as an "owner bubble". Accordingly, compliance is determined solely on an aggregate basis rather than by comparison of individual facility loads with respective individual WLAs.

The "Credit Transferred within Bubble" section of each table forecasts the use of Credits within the owner bubble during each Compliance Year, and must necessarily sum to zero. The specific Credit transfers shown in this table are provided for internal planning purposes only and, accordingly, are not binding and may change based on the actual performance of individual facilities within the bubble.

Expected Net Credits for an owner bubble may be either positive or negative. If Expected Net Credits is positive, the owner may pledge a percentage of such Credits to the Exchange. If Expected Net Credits is negative, Net Expected Credits identifies the number of Credits that must be purchased to comply with the aggregate Delivered WLA of the bubble.

NITROGEN Credits	Exchange 5-year Planning Period					Future Projections		
Credits Transferred within Bubble	2010	2011	2012	2013	2014	2015	2016	2017
Fishersville	-	-	-	(3,803)	-	(324)	(1,348)	(2,416)
Greenville	-	(4,987)	(4,987)	(4,987)	(5,095)	(5,095)	(5,095)	(5,095)
Harriston	-	(1,678)	(1,678)	(1,678)	(1,726)	(1,726)	(1,726)	(1,726)
Middle River	-	-	-	-	-	-	-	-
Mt. Sidney	-	(16)	(16)	(16)	218	218	218	218
Stuarts Draft	-	(8,938)	(9,871)	(7,000)	(6,342)	(7,000)	(7,000)	(7,000)
Vesper View	-	(1,287)	(1,287)	(1,287)	(992)	(840)	(689)	(537)
Weyers Cave	-	16,906	17,839	18,771	13,937	14,767	15,640	16,556
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble	2010	2011	2012	2013	2014	2015	2016	2017
Fishersville		9,595	8,684	4,023	6,915	5,680	3,687	1,590
Greenville		-	-	-	-	-	-	-
Harriston		-	-	-	-	-	-	-
Middle River		9,594	9,005	8,415	7,826	7,236	6,634	6,020
Mt. Sidney		-	-	-	-	-	-	-
Stuarts Draft		3,766	2,350	4,793	4,968	3,881	3,434	2,969
Vesper View		-	-	-	-	-	-	-
Weyers Cave		-	-	-	-	-	-	-
Expected Net Credits	-	22,955	20,039	17,231	19,709	16,797	13,755	10,579
Class A Pledge Percentage		50%	50%	80%	80%	80%	80%	80%
Class A Sales (Purchases)		11,478	10,020	13,765	15,767	13,438	11,004	8,463
Expected Class B Credits		*11,477*	*10,019*	*3,446*	*3,942*	*3,359*	*2,751*	*2,116*
WQIF-Held Credits		*0*	*0*	*0*	*0*	*0*	*0*	*0*

PHOSPHORUS Credits	Exchange 5-year Planning Period					Future Projections		
Credits Transferred within Bubble	2010	2011	2012	2013	2014	2015	2016	2017
Fishersville	-	(1,259)	(1,140)	(1,027)	(907)	(788)	(661)	(526)
Greenville	-	(903)	(903)	(903)	(981)	(981)	(981)	(981)
Harriston	-	(206)	(206)	(206)	(65)	(65)	(65)	(65)
Middle River	-	-	-	-	-	-	(124)	(550)
Mt. Sidney	-	(75)	(75)	(75)	(25)	(25)	(25)	(25)
Stuarts Draft	-	(373)	(647)	(915)	(812)	(1,145)	(1,369)	(1,308)
Vesper View	-	(82)	(82)	(82)	(47)	7	61	115
Weyers Cave	-	2,898	3,053	3,208	2,837	2,997	3,164	3,340
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble	2010	2011	2012	2013	2014	2015	2016	2017
Fishersville		-	-	-	-	-	-	-
Greenville		-	-	-	-	-	-	-
Harriston		-	-	-	-	-	-	-
Middle River		1,259	1,182	1,105	1,027	950	747	240
Mt. Sidney		-	-	-	-	-	-	-
Stuarts Draft		1,294	957	633	672	283	-	-
Vesper View		-	-	-	-	-	-	-
Weyers Cave		-	-	-	-	-	-	-
Expected Net Credits	-	2,553	2,139	1,738	1,699	1,233	747	240
Class A Pledge Percentage		0%	0%	0%	0%	0%	0%	0%
Class A Sales (Purchases)		0	0	0	0	0	0	0
Expected Class B Credits		*2,553*	*2,139*	*1,738*	*1,699*	*1,233*	*747*	*240*
WQIF-Held Credits		*0*	*0*	*0*	*0*	*0*	*0*	*0*

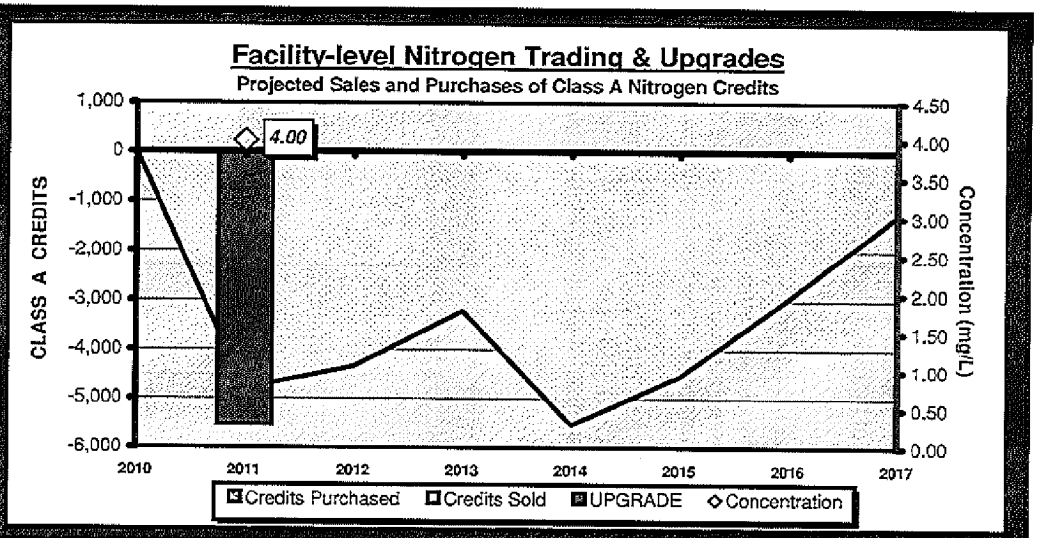
PART I. NITROGEN SUMMARY FOR ACSA-FISHERSVILLE

ACSA-Fishersville

POTOMAC Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	4.00
WLA Concentration (mg/L)	4.00
Delivery Factor	0.44
Delivered WLA	**21,441**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Projected Flow (mgd)	2.04	2.21	2.38	2.54	2.71	2.88	3.06	3.25
Projected Avg. Annual Concentration (mg/L)	6.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Discharged Load (end of pipe)	37,278	26,923	28,994	30,943	33,014	35,085	37,286	39,625
Delivered Load	16,402	11,846	12,757	13,615	14,526	15,437	16,406	17,435
Delivered WLA		21,441	21,441	21,441	21,441	21,441	21,441	21,441
Expected Credits		9,595	8,684	7,826	6,915	6,004	5,035	4,006
Transfers In (Out) within Owner Bubble		0	0	(3,803)	0	(324)	(1,348)	(2,416)
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**9,595**	**8,684**	**4,023**	**6,915**	**5,680**	**3,687**	**1,590**
Class A Pledge Percentage (%)		50%	50%	80%	80%	80%	80%	80%
Class A Credits		**4,798**	**4,342**	**3,218**	**5,532**	**4,544**	**2,950**	**1,272**
Expected Class B Credits		4,797	4,342	805	1,383	1,136	737	318

AR0036432

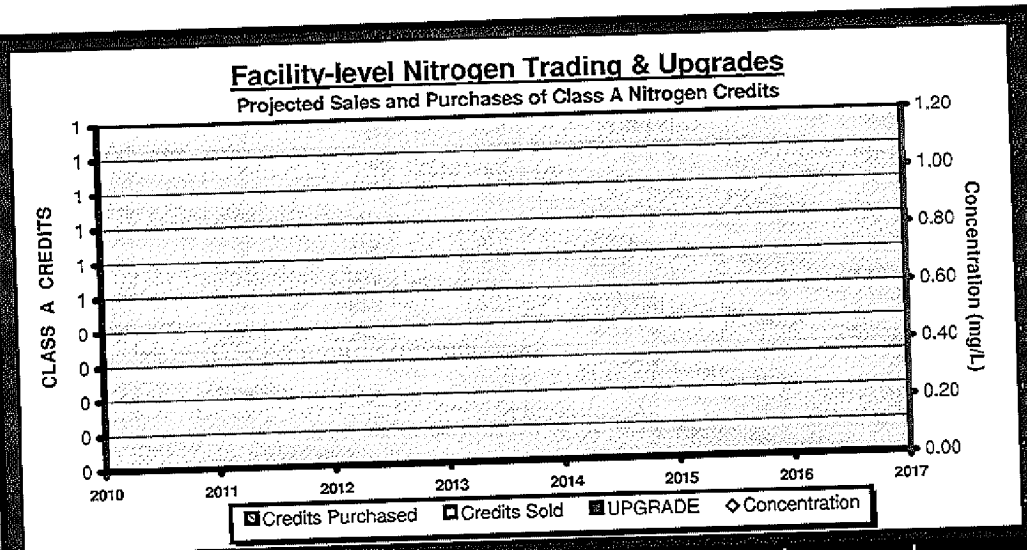
PART I. NITROGEN SUMMARY FOR ACSA-GREENVILLE

ACSA-Greenville

POTOMAC Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.25
WLA Concentration (mg/L)	18.70
Delivery Factor	0.44
Delivered WLA	**6,265**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Projected Flow (mgd)	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Projected Avg. Annual Concentration (mg/L)	31.80	31.80	31.80	31.80	29.10	29.10	29.10	29.10
Discharged Load (end of pipe)	1,937	2,905	2,905	2,905	2,659	2,659	2,659	2,659
Delivered Load	852	1,278	1,278	1,278	1,170	1,170	1,170	1,170
Delivered WLA		6,265	6,265	6,265	6,265	6,265	6,265	6,265
Expected Credits		4,987	4,987	4,987	5,095	5,095	5,095	5,095
Transfers In (Out) within Owner Bubble		(4,987)	(4,987)	(4,987)	(5,095)	(5,095)	(5,095)	(5,095)
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		0	0	0	0	0	0	0

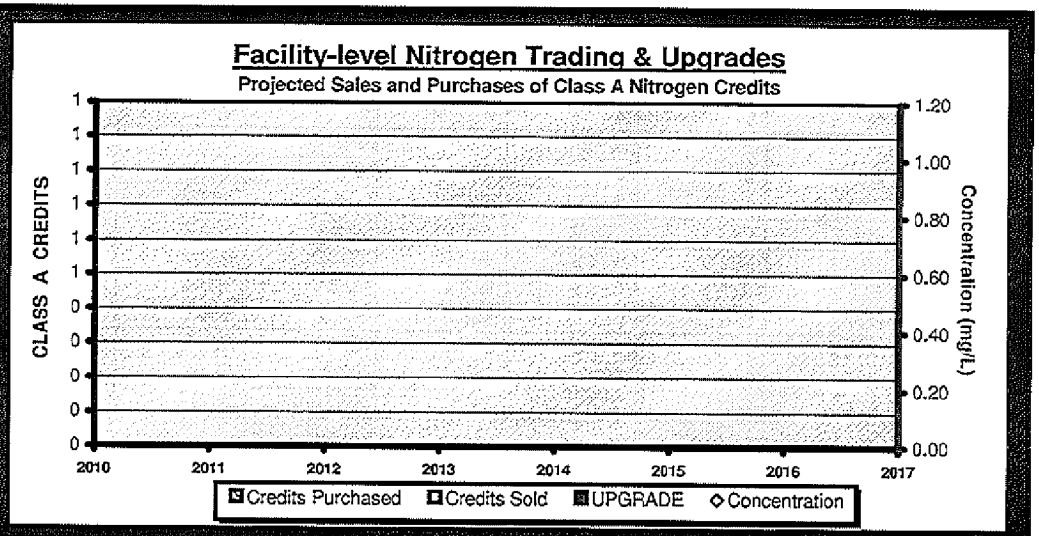
PART I. NITROGEN SUMMARY FOR ACSA-HARRISTON

ACSA-Harriston

POTOMAC Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.10
WLA Concentration (mg/L)	18.70
Delivery Factor	0.44
Delivered WLA	**2,506**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Projected Flow (mgd)	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Projected Avg. Annual Concentration (mg/L)	10.30	10.30	10.30	10.30	9.70	9.70	9.70	9.70
Discharged Load (end of pipe)	1,568	1,882	1,882	1,882	1,773	1,773	1,773	1,773
Delivered Load	690	828	828	828	780	780	780	780
Delivered WLA		2,506	2,506	2,506	2,506	2,506	2,506	2,506
Expected Credits		1,678	1,678	1,678	1,726	1,726	1,726	1,726
Transfers In (Out) within Owner Bubble		(1,678)	(1,678)	(1,678)	(1,726)	(1,726)	(1,726)	(1,726)
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		0	0	0	0	0	0	0

AR0036434

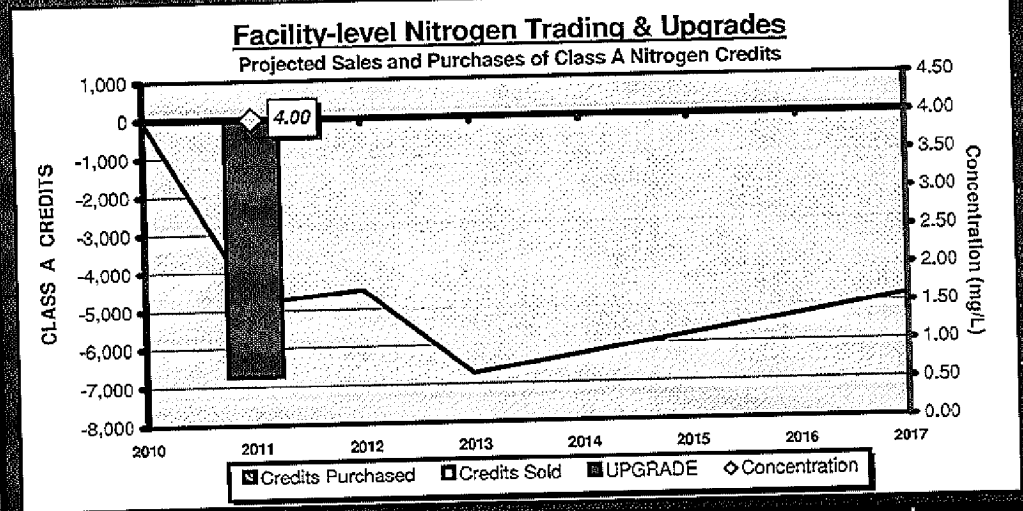
PART I. NITROGEN SUMMARY FOR ACSA-MIDDLE RIVER

ACSA-Middle River

POTOMAC Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	6.80
WLA Concentration (mg/L)	4.00
Delivery Factor	0.44
Delivered WLA	36,449



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	6.80	6.80	6.80	6.80	6.80	6.80	6.80	6.80
Projected Flow (mgd)	4.90	5.01	5.12	5.23	5.34	5.45	5.56	5.68
Projected Avg. Annual Concentration (mg/L)	6.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Discharged Load (end of pipe)	89,539	61,033	62,373	63,713	65,053	66,393	67,761	69,157
Delivered Load	39,397	26,855	27,444	28,034	28,623	29,213	29,815	30,429
Delivered WLA		36,449	36,449	36,449	36,449	36,449	36,449	36,449
Expected Credits		9,594	9,005	8,415	7,826	7,236	6,634	6,020
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**9,594**	**9,005**	**8,415**	**7,826**	**7,236**	**6,634**	**6,020**
Class A Pledge Percentage (%)		50%	50%	80%	80%	80%	80%	80%
Class A Credits		**4,797**	**4,503**	**6,732**	**6,261**	**5,789**	**5,307**	**4,816**
Expected Class B Credits		4,797	4,502	1,683	1,565	1,447	1,327	1,204

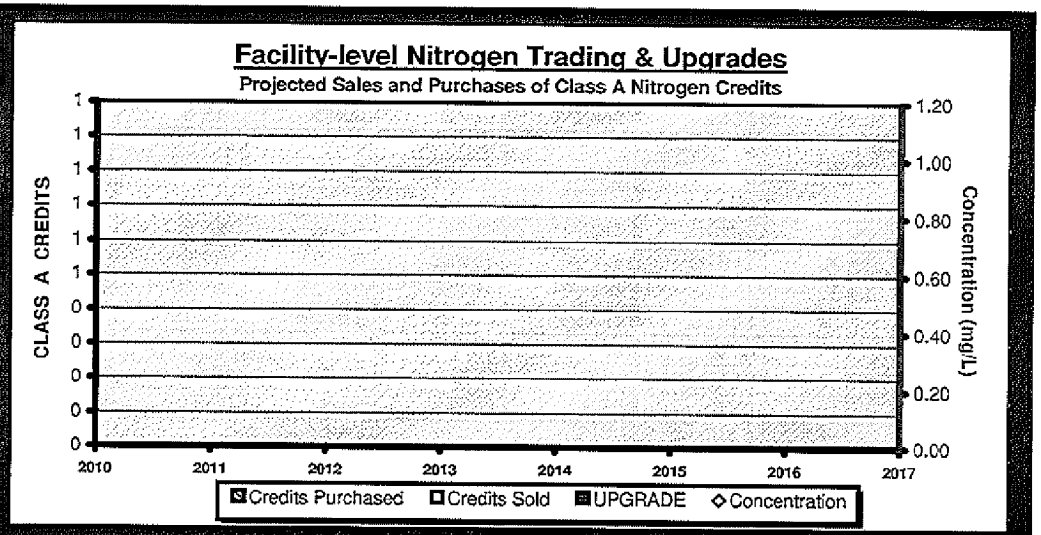
PART I. NITROGEN SUMMARY FOR ACSA-MT. SIDNEY

ACSA-Mt. Sidney

POTOMAC Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.15
WLA Concentration (mg/L)	18.70
Delivery Factor	0.44
Delivered WLA	**3,759**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Projected Flow (mgd)	0.06	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Projected Avg. Annual Concentration (mg/L)	39.90	39.90	39.90	39.90	42.40	42.40	42.40	42.40
Discharged Load (end of pipe)	7,291	8,506	8,506	8,506	9,039	9,039	9,039	9,039
Delivered Load	3,208	3,743	3,743	3,743	3,977	3,977	3,977	3,977
Delivered WLA		3,759	3,759	3,759	3,759	3,759	3,759	3,759
Expected Credits		16	16	16	(218)	(218)	(218)	(218)
Transfers In (Out) within Owner Bubble		(16)	(16)	(16)	218	218	218	218
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		0	0	0	0	0	0	0

AR0036436

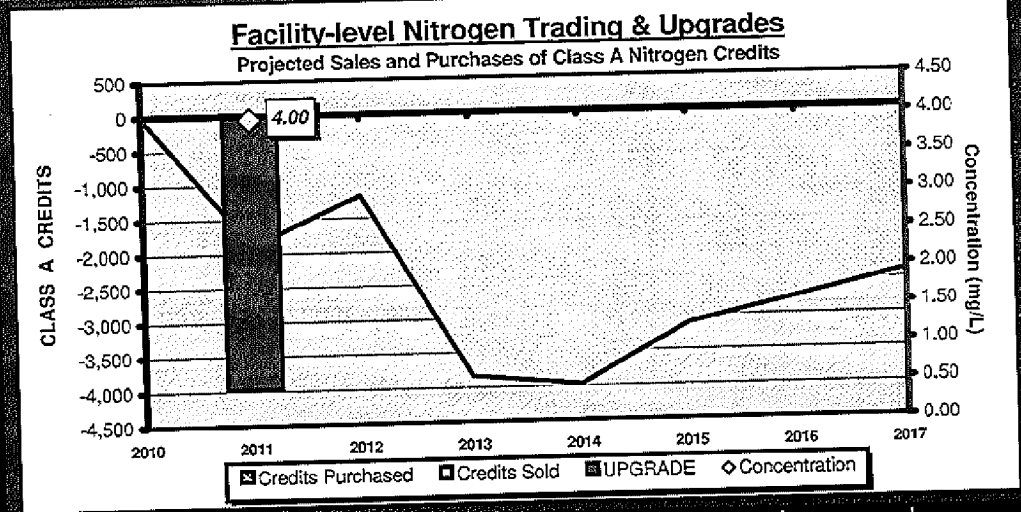
PART I. NITROGEN SUMMARY FOR ACSA-STUARTS DRAFT

ACSA-Stuarts Draft

POTOMAC Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	4.00
WLA Concentration (mg/L)	4.00
Delivery Factor	0.44
Delivered WLA	21,441



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	2.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Projected Flow (mgd)	1.55	1.63	1.72	1.80	1.89	1.97	2.05	2.14
Projected Avg. Annual Concentration (mg/L)	5.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Discharged Load (end of pipe)	23,603	19,857	20,953	21,928	23,024	23,999	25,015	26,074
Delivered Load	10,385	8,737	9,220	9,648	10,131	10,560	11,007	11,472
Delivered WLA		21,441	21,441	21,441	21,441	21,441	21,441	21,441
Expected Credits		12,704	12,221	11,793	11,310	10,881	10,434	9,969
Transfers In (Out) within Owner Bubble		(8,938)	(9,871)	(7,000)	(6,342)	(7,000)	(7,000)	(7,000)
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**3,766**	**2,350**	**4,793**	**4,968**	**3,881**	**3,434**	**2,969**
Class A Pledge Percentage (%)		50%	50%	80%	80%	80%	80%	80%
Class A Credits		**1,883**	**1,175**	**3,834**	**3,974**	**3,105**	**2,747**	**2,375**
Expected Class B Credits		1,883	1,175	959	994	776	687	594

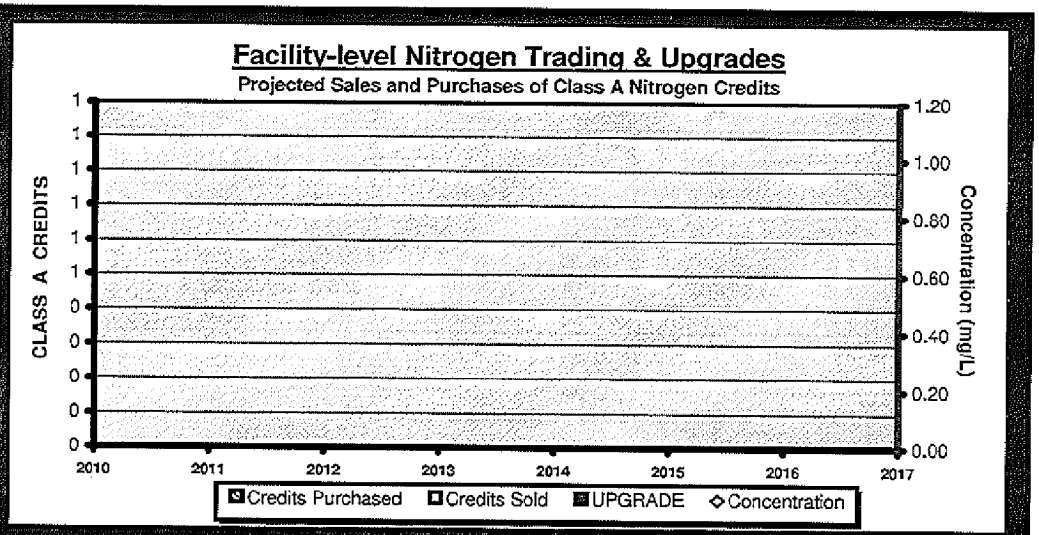
PART I. NITROGEN SUMMARY FOR ACSA-VESPER VIEW

ACSA-Vesper View

POTOMAC Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.10
WLA Concentration (mg/L)	18.70
Delivery Factor	0.44
Delivered WLA	2,506



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Projected Flow (mgd)	0.04	0.05	0.05	0.05	0.05	0.06	0.06	0.07
Projected Avg. Annual Concentration (mg/L)	18.20	18.20	18.20	18.20	22.60	22.60	22.60	22.60
Discharged Load (end of pipe)	2,217	2,771	2,771	2,771	3,441	3,786	4,130	4,474
Delivered Load	976	1,219	1,219	1,219	1,514	1,666	1,817	1,969
Delivered WLA		2,506	2,506	2,506	2,506	2,506	2,506	2,506
Expected Credits		1,287	1,287	1,287	992	840	689	537
Transfers In (Out) within Owner Bubble		(1,287)	(1,287)	(1,287)	(992)	(840)	(689)	(537)
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		0	0	0	0	0	0	0

AR0036438

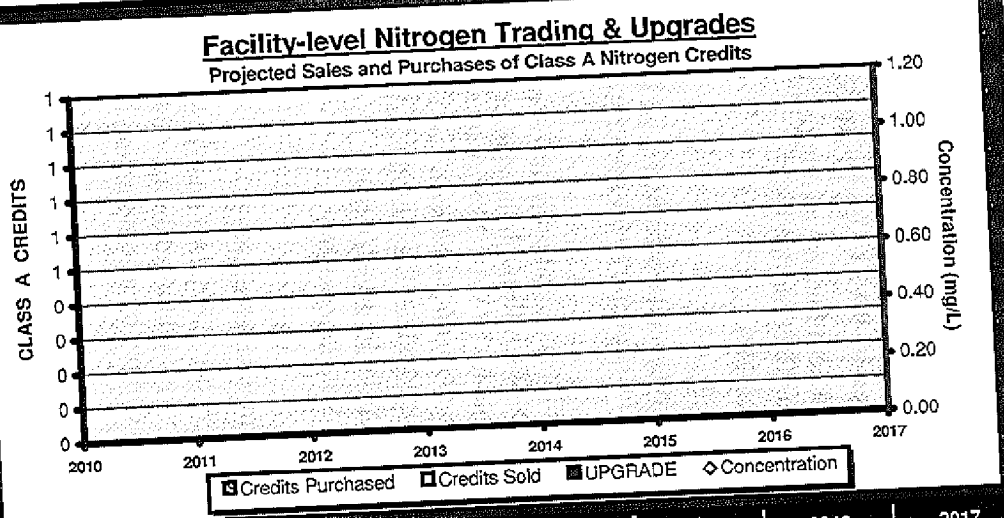
PART I. NITROGEN SUMMARY FOR ACSA-WEYERS CAVE

ACSA-Weyers Cave

POTOMAC Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.50
WLA Concentration (mg/L)	4.00
Delivery Factor	0.44
Delivered WLA	**2,680**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Projected Flow (mgd)	0.40	0.42	0.44	0.46	0.40	0.42	0.44	0.46
Projected Avg. Annual Concentration (mg/L)	34.80	34.80	34.80	34.80	31.00	31.00	31.00	31.00
Discharged Load (end of pipe)	42,394	44,514	46,634	48,753	37,765	39,653	41,636	43,718
Delivered Load	18,653	19,586	20,519	21,451	16,617	17,447	18,320	19,236
Delivered WLA		2,680	2,680	2,680	2,680	2,680	2,680	2,680
Expected Credits		(16,906)	(17,839)	(18,771)	(13,937)	(14,767)	(15,640)	(16,556)
Transfers In (Out) within Owner Bubble		16,906	17,839	18,771	13,937	14,767	15,640	16,556
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		0	0	0	0	0	0	0
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		0	0	0	0	0	0	0
Expected Class B Credits		0	0	0	0	0	0	0

FACILITY (OR OWNER BUBBLE) NAME: **Augusta County Service Authority**

PART II. TOTAL NITROGEN COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TN load to TN WLA. Would permittee have complied with its TN WLA for calendar year 2005 if its TN WLA had been in effect for that year?

____ NO *(proceed to II.B. Implementation Schedule for TN)*

_X_ YES *(permittee must check Option 1 or Option 2)*:

____ Option 1: Permittee hereby requests TN WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(PART II Complete; Proceed to PART IV. TOTAL PHOSPHORUS COMPLIANCE), or*

_X_ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TN WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under II.B.)* Explanation: Must receive CTO for 4 MGD for Fishersville WWTP and Stuarts Draft WWTP by 12/31/2010

(proceed to II.B. Implementation Schedule for TN)

B. Implementation Schedule for TN

1. Does permittee anticipate requiring TN credit purchase to comply?

_X_ NO ____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TN credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

____ NO _X_ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

MIDDLE RIVER WWTP

Engineer selection	OCT 2005
PER/CER to DEQ	JUL 2006
Plans & Specifications to DEQ	JUN 2007
Commence construction	NOV 2007
Complete construction	JUL 2010
CTO Request to DEQ (POTWs only)	SEP 2010

FISHERSVILLE WWTP

Engineer selection	OCT 2005
PER/CER to DEQ	MAY 2006
Plans & Specifications to DEQ	MAY 2007
Commence construction	SEP 2007
Complete construction	JAN 2010
CTO Request to DEQ (POTWs only)	FEB 2010

STUARTS DRAFT WWTP

Engineer selection	OCT 2005
PER/CER to DEQ	JUL 2007
Plans & Specifications to DEQ	MAY 2008
Commence construction	OCT 2008
Complete construction	OCT 2010
CTO Request to DEQ (POTWs only)	NOV 2010

WEYERS CAVE WWTP

Engineer selection	OCT 2005
PER/CER to DEQ	OCT 2007
Plans & Specifications to DEQ	NA
Commence construction	NA
Complete construction	NA
CTO Request to DEQ (POTWs only)	NA

Other Plants under the Bubble Permit do not plan any capital projects. These include Greenville WWTP, Mount Sidney WWTP, Harriston WWTP, Vesper View WWTP.

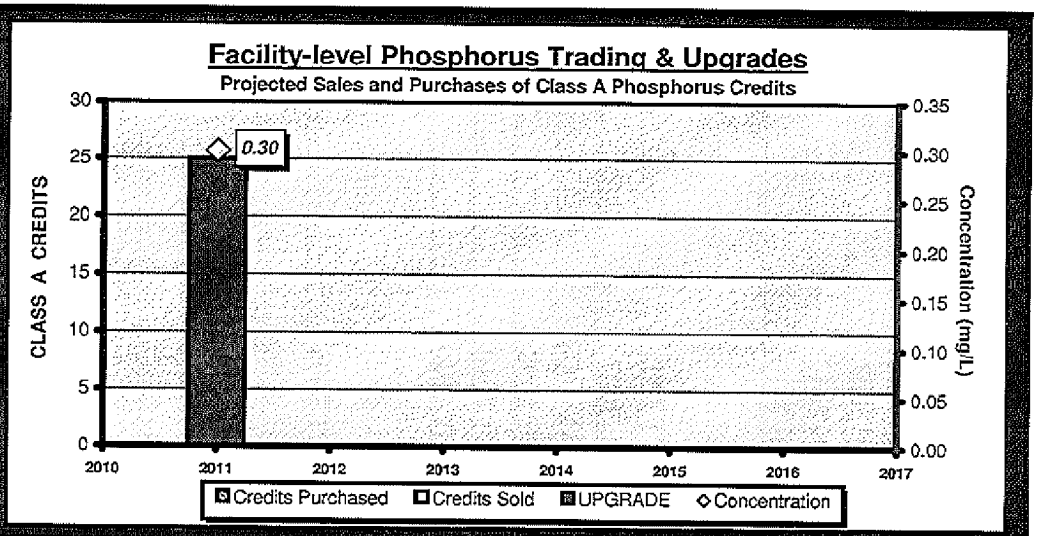
PART I. PHOSPHORUS SUMMARY FOR ACSA-FISHERSVILLE

ACSA-Fishersville

POTOMAC Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	4.00
WLA Concentration (mg/L)	0.30
Delivery Factor	0.77
Delivered WLA	**2,814**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Projected Flow (mgd)	2.04	2.21	2.38	2.54	2.71	2.88	3.06	3.25
Projected Avg. Annual Concentration (mg/L)	1.00	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Discharged Load (end of pipe)	6,213	2,019	2,175	2,321	2,476	2,631	2,796	2,972
Delivered Load	4,784	1,555	1,674	1,787	1,907	2,026	2,153	2,288
Delivered WLA		2,814	2,814	2,814	2,814	2,814	2,814	2,814
Expected Credits		1,259	1,140	1,027	907	788	661	526
Transfers In (Out) within Owner Bubble		(1,259)	(1,140)	(1,027)	(907)	(788)	(661)	(526)
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		0	0	0	0	0	0	0
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		0	0	0	0	0	0	0
Expected Class B Credits		0	0	0	0	0	0	0

AR0036442

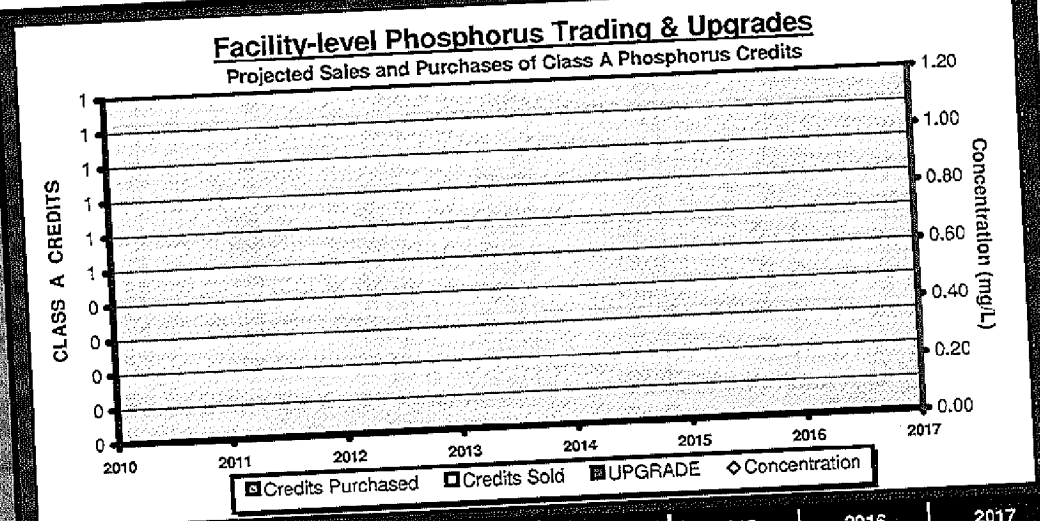
PART I. PHOSPHORUS SUMMARY FOR ACSA-GREENVILLE

ACSA-Greenville

POTOMAC Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.25
WLA Concentration (mg/L)	2.50
Delivery Factor	0.77
Delivered WLA	**1,466**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Projected Flow (mgd)	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Projected Avg. Annual Concentration (mg/L)	8.00	8.00	8.00	8.00	6.90	6.90	6.90	6.90
Discharged Load (end of pipe)	487	731	731	731	630	630	630	630
Delivered Load	375	563	563	563	485	485	485	485
Delivered WLA		1,466	1,466	1,466	1,466	1,466	1,466	1,466
Expected Credits		903	903	903	981	981	981	981
Transfers In (Out) within Owner Bubble		(903)	(903)	(903)	(981)	(981)	(981)	(981)
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		0	0	0	0	0	0	0
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		0	0	0	0	0	0	0
Expected Class B Credits		0	0	0	0	0	0	0

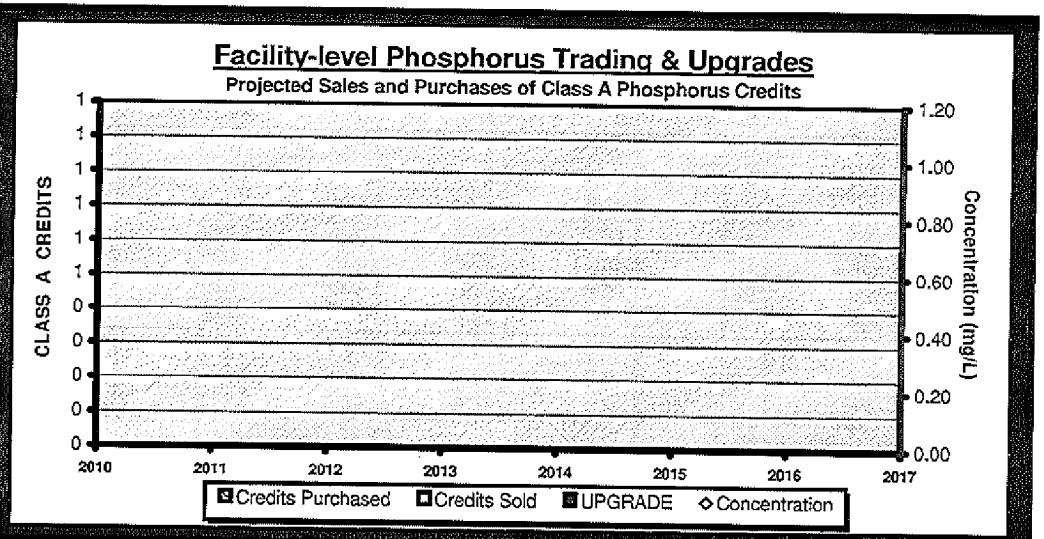
PART I. PHOSPHORUS SUMMARY FOR ACSA-HARRISTON

ACSA-Harriston

POTOMAC Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.10
WLA Concentration (mg/L)	2.50
Delivery Factor	0.77
Delivered WLA	586



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Projected Flow (mgd)	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Projected Avg. Annual Concentration (mg/L)	2.70	2.70	2.70	2.70	3.70	3.70	3.70	3.70
Discharged Load (end of pipe)	411	493	493	493	676	676	676	676
Delivered Load	317	380	380	380	521	521	521	521
Delivered WLA		586	586	586	586	586	586	586
Expected Credits		206	206	206	65	65	65	65
Transfers In (Out) within Owner Bubble		(206)	(206)	(206)	(65)	(65)	(65)	(65)
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		0	0	0	0	0	0	0

AR0036444

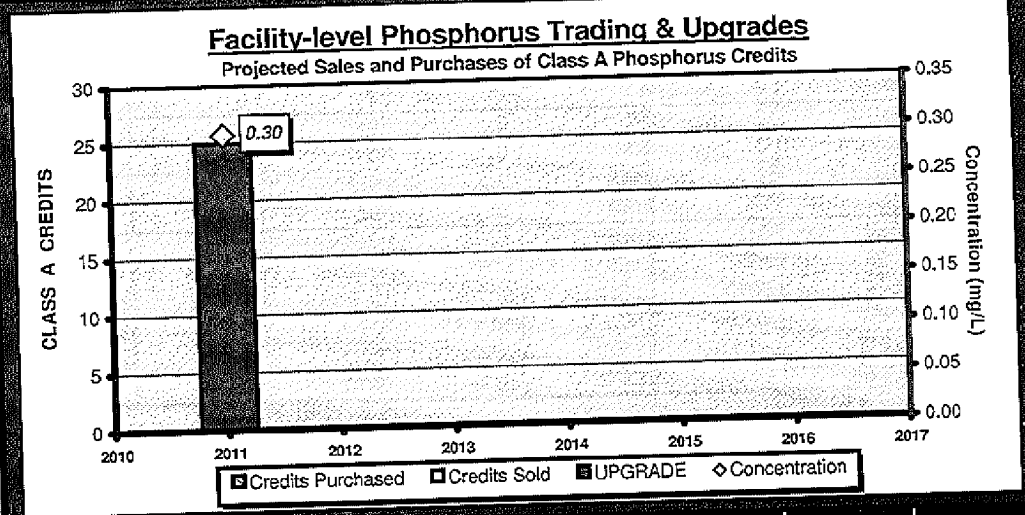
PART I. PHOSPHORUS SUMMARY FOR ACSA-MIDDLE RIVER

ACSA-Middle River

POTOMAC Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	6.80
WLA Concentration (mg/L)	0.30
Delivery Factor	0.77
Delivered WLA	4,784



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	6.80	6.80	6.80	6.80	6.80	6.80	6.80	6.80
Projected Flow (mgd)	4.90	5.01	5.12	5.23	5.34	5.45	5.56	5.68
Projected Avg. Annual Concentration (mg/L)	1.00	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Discharged Load (end of pipe)	14,923	4,577	4,678	4,778	4,879	4,979	5,082	5,187
Delivered Load	11,491	3,525	3,602	3,679	3,757	3,834	3,913	3,994
Delivered WLA		4,784	4,784	4,784	4,784	4,784	4,784	4,784
Expected Credits		1,259	1,182	1,105	1,027	950	871	790
Transfers In (Out) within Owner Bubble		0	0	0	0	0	(124)	(550)
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**1,259**	**1,182**	**1,105**	**1,027**	**950**	**747**	**240**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		1,259	1,182	1,105	1,027	950	747	240

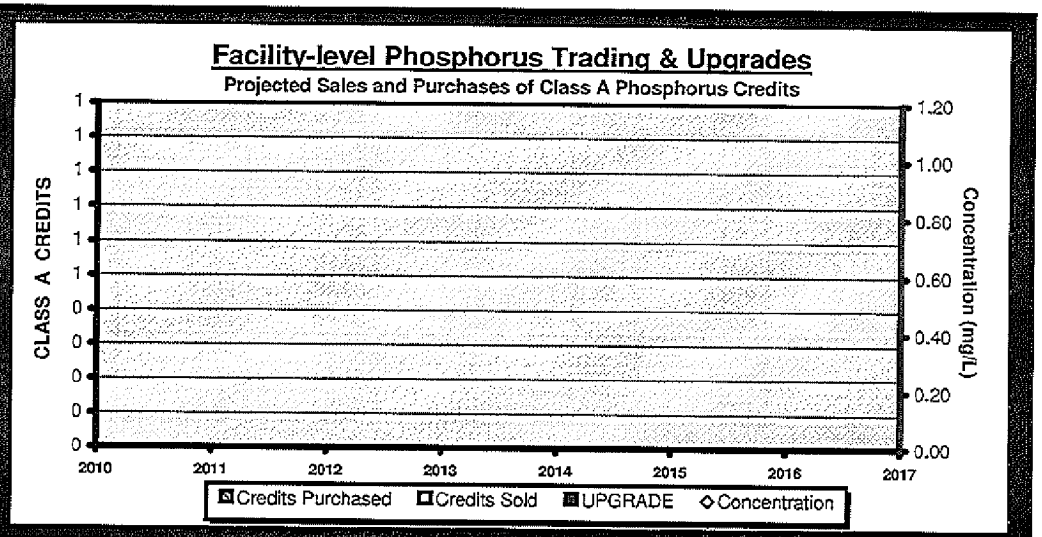
PART I. PHOSPHORUS SUMMARY FOR ACSA-MT. SIDNEY

ACSA-Mt. Sidney

POTOMAC Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.15
WLA Concentration (mg/L)	2.50
Delivery Factor	0.77
Delivered WLA	**879**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Projected Flow (mgd)	0.06	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Projected Avg. Annual Concentration (mg/L)	4.90	4.90	4.90	4.90	5.20	5.20	5.20	5.20
Discharged Load (end of pipe)	895	1,045	1,045	1,045	1,109	1,109	1,109	1,109
Delivered Load	689	804	804	804	854	854	854	854
Delivered WLA		879	879	879	879	879	879	879
Expected Credits		75	75	75	25	25	25	25
Transfers In (Out) within Owner Bubble		(75)	(75)	(75)	(25)	(25)	(25)	(25)
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		0	0	0	0	0	0	0

AR0036446

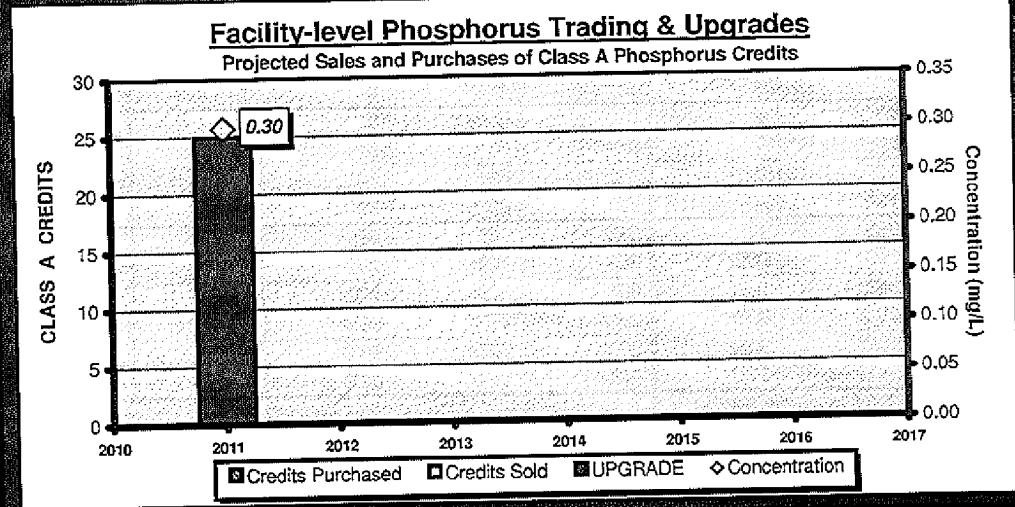
PART I. PHOSPHORUS SUMMARY FOR ACSA-STUARTS DRAFT

ACSA-Stuarts Draft

POTOMAC Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	4.00
WLA Concentration (mg/L)	0.30
Delivery Factor	0.77
Delivered WLA	2,814



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	2.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Projected Flow (mgd)	1.55	1.63	1.72	1.80	1.89	1.97	2.05	2.14
Projected Avg. Annual Concentration (mg/L)	0.80	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Discharged Load (end of pipe)	3,776	1,489	1,572	1,645	1,727	1,800	1,876	1,956
Delivered Load	2,908	1,147	1,210	1,266	1,330	1,386	1,445	1,506
Delivered WLA		2,814	2,814	2,814	2,814	2,814	2,814	2,814
Expected Credits		1,667	1,604	1,548	1,484	1,428	1,369	1,308
Transfers In (Out) within Owner Bubble		(373)	(647)	(915)	(812)	(1,145)	(1,369)	(1,308)
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**1,294**	**957**	**633**	**672**	**283**	**0**	**0**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		1,294	957	633	672	283	0	0

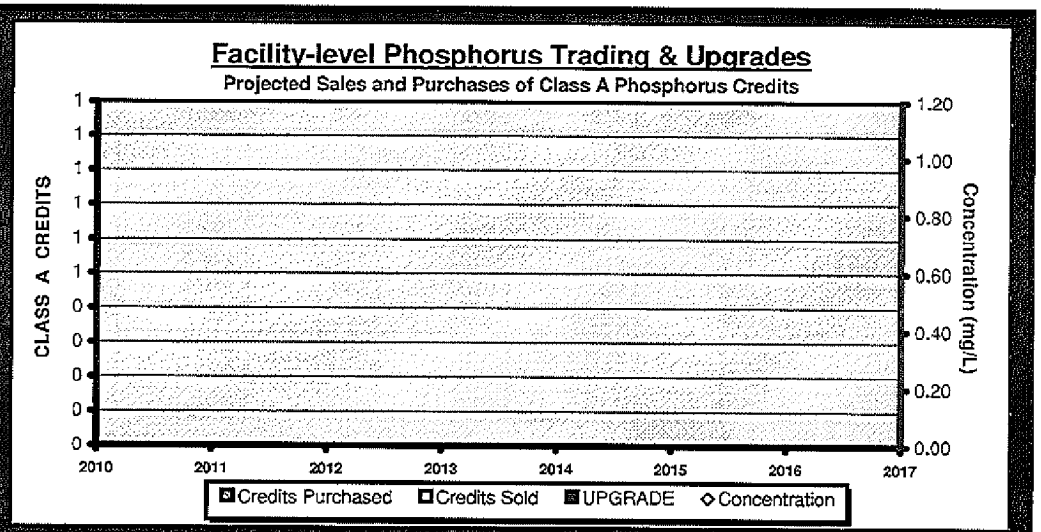
PART I. PHOSPHORUS SUMMARY FOR ACSA-VESPER VIEW

ACSA-Vesper View

POTOMAC Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.10
WLA Concentration (mg/L)	2.50
Delivery Factor	0.77
Delivered WLA	**586**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Projected Flow (mgd)	0.04	0.05	0.05	0.05	0.05	0.06	0.06	0.07
Projected Avg. Annual Concentration (mg/L)	4.30	4.30	4.30	4.30	4.60	4.60	4.60	4.60
Discharged Load (end of pipe)	524	655	655	655	700	771	841	911
Delivered Load	403	504	504	504	539	593	647	701
Delivered WLA		586	586	586	586	586	586	586
Expected Credits		82	82	82	47	(7)	(61)	(115)
Transfers In (Out) within Owner Bubble		(82)	(82)	(82)	(47)	7	61	115
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		0	0	0	0	0	0	0

AR0036448

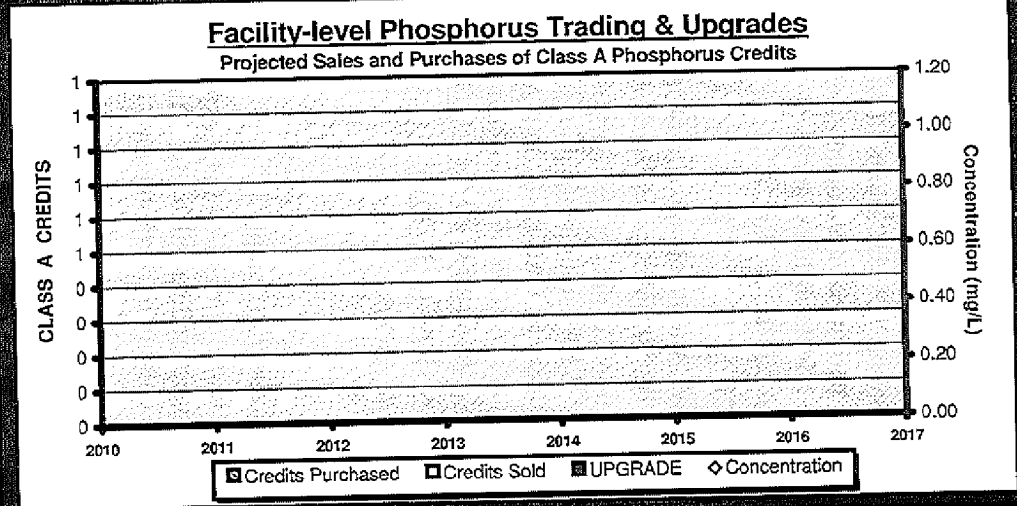
PART I. PHOSPHORUS SUMMARY FOR ACSA-WEYERS CAVE

ACSA-Weyers Cave

POTOMAC Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.50
WLA Concentration (mg/L)	0.30
Delivery Factor	0.77
Delivered WLA	**352**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Projected Flow (mgd)	0.40	0.42	0.44	0.46	0.40	0.42	0.44	0.46
Projected Avg. Annual Concentration (mg/L)	3.30	3.30	3.30	3.30	3.40	3.40	3.40	3.40
Discharged Load (end of pipe)	4,020	4,221	4,422	4,623	4,142	4,349	4,567	4,795
Delivered Load	3,096	3,250	3,405	3,560	3,189	3,349	3,516	3,692
Delivered WLA		352	352	352	352	352	352	352
Expected Credits		(2,898)	(3,053)	(3,208)	(2,837)	(2,997)	(3,164)	(3,340)
Transfers In (Out) within Owner Bubble		2,898	3,053	3,208	2,837	2,997	3,164	3,340
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		0	0	0	0	0	0	0

AR0036449

FACILITY (OR OWNER BUBBLE) NAME: Augusta County Service Authority

PART IV. TOTAL PHOSPHORUS COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TP load to TP WLA. Would permittee have complied with its TP WLA for calendar year 2005 if its TP WLA had been in effect for that year?

_X_ NO *(proceed to III.B. Implementation Schedule for TP)*

____ YES *(permittee must check Option 1 or Option 2)*:

____ Option 1: Permittee hereby requests TP WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(Stop Here/Part IV Is Complete), or*

____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TP WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under IV.B.)* Explanation: Must receive CTO for 4 MGD for Fishersville WWTP and Stuarts Draft WWTP bu 12/31/2010

(proceed to IV.B. Implementation Schedule for TP)

B. Implementation Schedule for TP

1. Does permittee anticipate requiring TP credit purchase to comply?

_X_ NO ____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TP credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

____ NO _X_ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

MIDDLE RIVER WWTP

Engineer selection	OCT 2005
PER/CER to DEQ	JUL 2006
Plans & Specifications to DEQ	JUN 2007
Commence construction	NOV 2007
Complete construction	JUL 2010
CTO Request to DEQ (POTWs only)	SEP 2010

FISHERSVILLE WWTP

Engineer selection	OCT 2005
PER/CER to DEQ	MAY 2006
Plans & Specifications to DEQ	MAY 2007
Commence construction	SEP 2007
Complete construction	JAN 2010
CTO Request to DEQ (POTWs only)	FEB 2010

STUARTS DRAFT WWTP

Engineer selection	OCT 2005
PER/CER to DEQ	JUL 2007
Plans & Specifications to DEQ	MAY 2008
Commence construction	OCT 2008
Complete construction	OCT 2010
CTO Request to DEQ (POTWs only)	NOV 2010

WEYERS CAVE WWTP

Engineer selection	OCT 2005
PER/CER to DEQ	OCT 2007
Plans & Specifications to DEQ	NA
Commence construction	NA
Complete construction	NA
CTO Request to DEQ (POTWs only)	NA

Other Plants under the Bubble Permit do not plan any capital projects.

These include Greenville WWTP, Mount Sidney WWTP, Harriston WWTP, Vesper View WWTP.

AR0036451

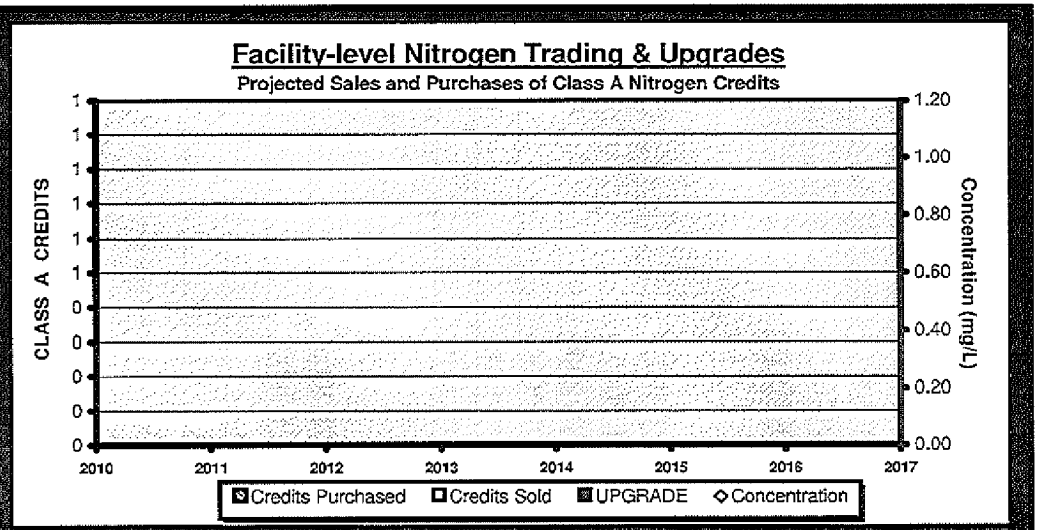
PART I. NITROGEN SUMMARY FOR ALEXANDRIA S.A.

Alexandria S.A.

POTOMAC Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	54.00
WLA Concentration (mg/L)	3.00
Delivery Factor	1.00
Delivered WLA	**493,381**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	54.00	54.00	54.00	54.00	54.00	54.00	54.00	54.00
Projected Flow (mgd)	41.00	40.50	40.50	41.00	38.30	38.65	39.00	39.35
Projected Avg. Annual Concentration (mg/L)	4.00	4.00	4.00	3.95	4.23	4.19	4.15	4.12
Discharged Load (end of pipe)	499,472	493,381	493,381	493,381	493,373	493,373	493,375	493,375
Delivered Load	499,472	493,381	493,381	493,381	493,373	493,373	493,375	493,375
Delivered WLA		493,381	493,381	493,381	493,381	493,381	493,381	493,381
Expected Credits		0	0	0	8	8	6	6
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**0**	**0**	**0**	**8**	**8**	**6**	**6**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		0	0	0	8	8	6	6

AR0036452

FACILITY (OR OWNER BUBBLE) NAME: Alexandria Sanitation Authority, Alexandria AWTF

PART II. TOTAL NITROGEN COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TN load to TN WLA. Would permittee have complied with its TN WLA for calendar year 2005 if its TN WLA had been in effect for that year?

_X_ NO *(proceed to II.B. Implementation Schedule for TN)*

_____ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TN WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(PART II Complete; Proceed to PART IV. TOTAL PHOSPHORUS COMPLIANCE), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TN WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under II.B.)* Explanation: _____

(proceed to II.B. Implementation Schedule for TN)

B. Implementation Schedule for TN

1. Does permittee anticipate requiring TN credit purchase to comply?

   _X_ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TN credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

   _____ NO _X_ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

	54 MGD
Engineer selection	Aug 2005
PER/CER to DEQ	Jan 2009
Plans & Specifications to DEQ	Feb 2010
Commence construction	June 2010
Complete construction	2019
CTO Request to DEQ (POTWs only)	2020

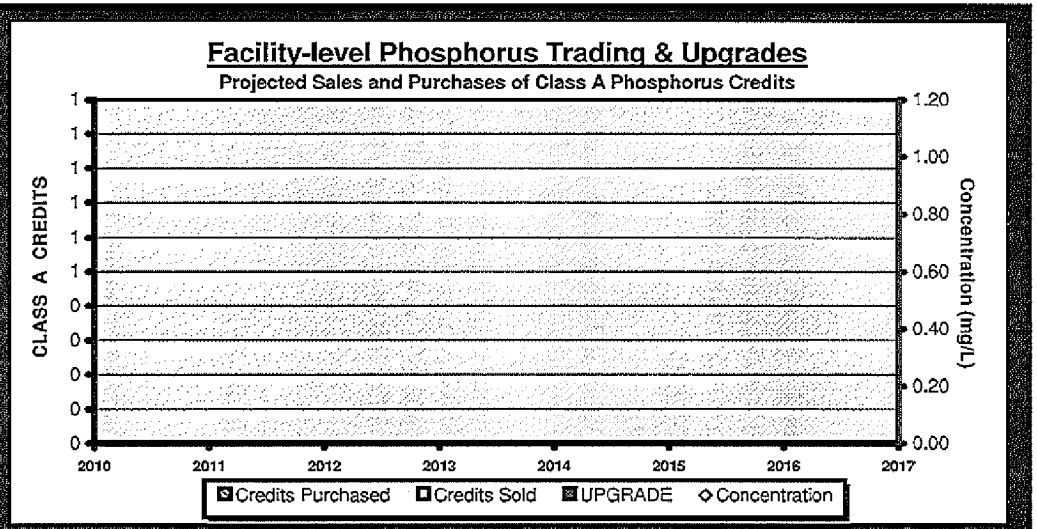
PART I. PHOSPHORUS SUMMARY FOR ALEXANDRIA S.A.

Alexandria S.A.

POTOMAC Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	54.00
WLA Concentration (mg/L)	0.18
Delivery Factor	1.00
Delivered WLA	**29,603**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	54.00	54.00	54.00	54.00	54.00	54.00	54.00	54.00
Projected Flow (mgd)	41.00	40.50	40.50	41.00	38.30	38.65	39.00	39.35
Projected Avg. Annual Concentration (mg/L)	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Discharged Load (end of pipe)	22,476	22,202	22,202	22,476	20,996	21,188	21,380	21,572
Delivered Load	22,476	22,202	22,202	22,476	20,996	21,188	21,380	21,572
Delivered WLA		29,603	29,603	29,603	29,603	29,603	29,603	29,603
Expected Credits		7,401	7,401	7,127	8,607	8,415	8,223	8,031
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**7,401**	**7,401**	**7,127**	**8,607**	**8,415**	**8,223**	**8,031**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		7,401	7,401	7,127	8,607	8,415	8,223	8,031

AR0036454

FACILITY (OR OWNER BUBBLE) NAME: Alexandria Sanitation Authority, Alexandria AWTF

PART IV. TOTAL PHOSPHORUS COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TP load to TP WLA. Would permittee have complied with its TP WLA for calendar year 2005 if its TP WLA had been in effect for that year?

_____ NO *(proceed to III.B. Implementation Schedule for TP)*

__X__ YES *(permittee must check Option 1 or Option 2)*:

__X__ Option 1: Permittee hereby requests TP WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(Stop Here/Part IV Is Complete), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TP WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under IV.B.)* Explanation: _____

(proceed to IV.B. Implementation Schedule for TP)

B. Implementation Schedule for TP

1. Does permittee anticipate requiring TP credit purchase to comply?

   __X__ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TP credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

   __X__ NO _____ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection	NA
PER/CER to DEQ	NA
Plans & Specifications to DEQ	NA
Commence construction	NA
Complete construction	NA
CTO Request to DEQ (POTWs only)	NA

End of Facility Appendix

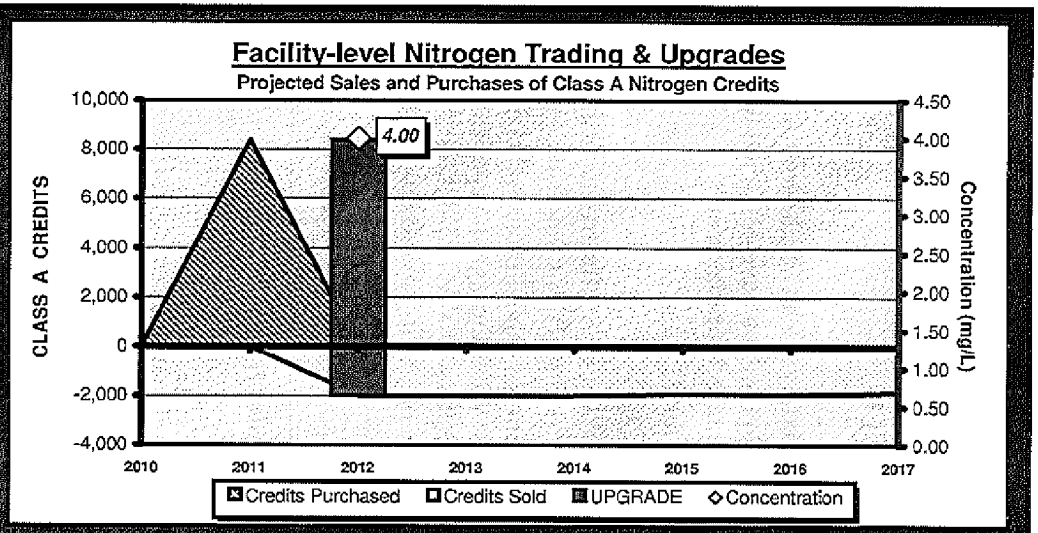
PART I. NITROGEN SUMMARY FOR BERRYVILLE

Berryville

POTOMAC Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.70
WLA Concentration (mg/L)	4.00
Delivery Factor	0.67
Delivered WLA	**5,713**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.45	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Projected Flow (mgd)	0.42	0.43	0.43	0.43	0.43	0.44	0.44	0.45
Projected Avg. Annual Concentration (mg/L)	37.00	16.06	4.00	4.00	4.00	4.00	4.00	4.00
Discharged Load (end of pipe)	47,328	21,027	5,238	5,238	5,238	5,360	5,360	5,482
Delivered Load	31,710	14,088	3,510	3,510	3,510	3,591	3,591	3,673
Delivered WLA		5,713	5,713	5,713	5,713	5,713	5,713	5,713
Expected Credits		(8,375)	2,203	2,203	2,203	2,122	2,122	2,040
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		(8,375)	2,203	2,203	2,203	2,122	2,122	2,040
Class A Pledge Percentage (%)		100%	90%	90%	90%	90%	90%	90%
Class A Credits		(8,375)	1,983	1,983	1,983	1,910	1,910	1,836
Expected Class B Credits		0	220	220	220	212	212	204

AR0036456

FACILITY (OR OWNER BUBBLE) NAME: __Town of Berryville STP_____

PART II. TOTAL NITROGEN COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TN load to TN WLA. Would permittee have complied with its TN WLA for calendar year 2005 if its TN WLA had been in effect for that year?

__X__ NO *(proceed to II.B. Implementation Schedule for TN)*

_____ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TN WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(PART II Complete; Proceed to PART IV. TOTAL PHOSPHORUS COMPLIANCE), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TN WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under II.B.)* Explanation: _____

_____

_____

(proceed to II.B. Implementation Schedule for TN)

B. Implementation Schedule for TN

1. Does permittee anticipate requiring TN credit purchase to comply?

_____ NO __X__ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TN credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

_____ NO __X__ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection	Completed
PER/CER to DEQ	Completed
Plans & Specifications to DEQ	Completed
Commence construction	December 2009
Complete construction	November 2011
CTO Request to DEQ (POTWs only)	November 2011

AR0036457

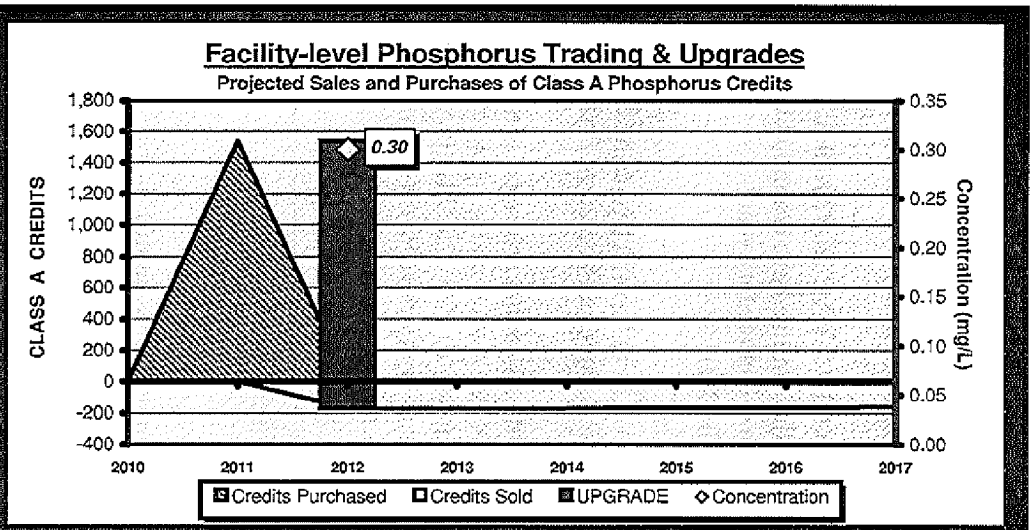
PART I. PHOSPHORUS SUMMARY FOR BERRYVILLE

Berryville

POTOMAC Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.70
WLA Concentration (mg/L)	0.30
Delivery Factor	0.77
Delivered WLA	**492**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.45	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Projected Flow (mgd)	0.42	0.43	0.43	0.43	0.43	0.44	0.44	0.45
Projected Avg. Annual Concentration (mg/L)	6.30	2.02	0.30	0.30	0.30	0.30	0.30	0.30
Discharged Load (end of pipe)	8,059	2,639	393	393	393	402	402	411
Delivered Load	6,205	2,032	303	303	303	310	310	317
Delivered WLA		492	492	492	492	492	492	492
Expected Credits		(1,540)	189	189	189	182	182	175
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**(1,540)**	**189**	**189**	**189**	**182**	**182**	**175**
Class A Pledge Percentage (%)		100%	90%	90%	90%	90%	90%	90%
Class A Credits		**(1,540)**	**170**	**170**	**170**	**164**	**164**	**158**
Expected Class B Credits		0	19	19	19	18	18	17

AR0036458

FACILITY (OR OWNER BUBBLE) NAME: Town of Berryville STP

PART IV. TOTAL PHOSPHORUS COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TP load to TP WLA. Would permittee have complied with its TP WLA for calendar year 2005 if its TP WLA had been in effect for that year?

_X_ NO *(proceed to III.B. Implementation Schedule for TP)*

____ YES *(permittee must check Option 1 or Option 2)*:

____ Option 1: Permittee hereby requests TP WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(Stop Here/Part IV Is Complete), or*

____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TP WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under IV.B.)* Explanation: _____

(proceed to IV.B. Implementation Schedule for TP)

B. Implementation Schedule for TP

1. Does permittee anticipate requiring TP credit purchase to comply?

____ NO _X_ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TP credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

____ NO _X_ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection	Completed
PER/CER to DEQ	Completed
Plans & Specifications to DEQ	Completed
Commence construction	December 2009
Complete construction	November 2011
CTO Request to DEQ (POTWs only)	November 2011

End of Facility Appendix

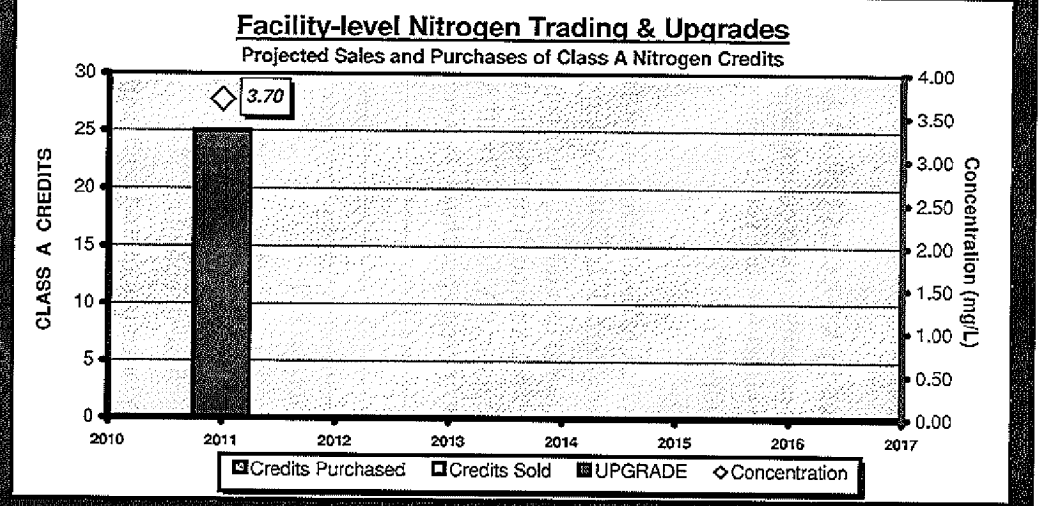
PART I. NITROGEN SUMMARY FOR BROADWAY REGIONAL

Broadway Regional

POTOMAC Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	2.42
WLA Concentration (mg/L)	4.00
Delivery Factor	0.67
Delivered WLA	**19,752**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	2.42	2.92	2.92	2.92	2.92	2.92	2.92	2.92
Projected Flow (mgd)	1.50	2.10	2.10	2.20	2.19	2.21	2.24	2.27
Projected Avg. Annual Concentration (mg/L)	15.00	3.70	3.70	3.70	3.70	3.70	3.70	3.70
Discharged Load (end of pipe)	68,525	23,664	23,664	24,791	24,678	24,904	25,242	25,580
Delivered Load	45,912	15,855	15,855	16,610	16,534	16,685	16,912	17,138
Delivered WLA		19,752	19,752	19,752	19,752	19,752	19,752	19,752
Expected Credits		3,897	3,897	3,142	3,218	3,067	2,840	2,614
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**3,897**	**3,897**	**3,142**	**3,218**	**3,067**	**2,840**	**2,614**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		3,897	3,897	3,142	3,218	3,067	2,840	2,614

AR0036460

PARTICIPANT NAME: Town of Broadway, VA
FACILITY NAME: Broadway Regional Wastewater Treatment Facility

PART II. TOTAL NITROGEN COMPLIANCE STATEMENT

A. 2009 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TN load to TN WLA. Would permittee have complied with its TN WLA for calendar year 2005 if its TN WLA had been in effect for that year?

_X_ NO *(proceed to II.B. Implementation Schedule for TN)*

_____ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TN WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(PART II Complete; Proceed to PART IV. TOTAL PHOSPHORUS COMPLIANCE), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TN WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under II.B.)* Explanation:

_____

_____

_____

(proceed to II.B. Implementation Schedule for TN)

B. Implementation Schedule for TN

1. Does permittee anticipate requiring TN credit purchase to comply?
   _X_ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TN credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?
   _____ NO _X_ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection	12 September 2007
PER/CER to DEQ	15 March 2008
Plans & Specifications to DEQ	1 October 2008
Commence construction	1 February 2009
Complete construction	1 September 2010
CTO Request to DEQ (POTWs only)	1 January 2011

PARTICIPANT NAME: Town of Broadway, VA
FACILITY NAME: Broadway Regional Wastewater Treatment Facility

4. Incorporation of Town of New Market TN Allocation

The Town of Broadway has executed a Wastewater Treatment Agreement with the Town of New Market to discontinue operation of the Town of New Market Wastewater Treatment Plant (VPDES Permit No. VA0022853) and to convey all wastewater to the Town of Broadway Regional Wastewater Treatment Facility (VPDES Permit No. VA0090263). Expansion of the Broadway Regional WWTF to 2.923-mgd, to accommodate the 1-mgd design flow from the Town of New Market, is underway. The transfer date for the 4,081 lb/yr TN wasteload allocation from the Town of New Market WWTP to the Town of Broadway Regional WWTF will be September 1, 2010 or within 180 days thereafter.

The Town of Broadway will request that the Potomac Basin registration list in the Watershed General Permit be modified to reflect the transfer of the New Market Wastewater Treatment Plant TN and TP wasteload allocations to the Town of Broadway Regional Wastewater Treatment Facility effective on the transfer date.

5. Interim Nitrogen Removal Requirements

The Consent Decree executed by the Town of Broadway and VDEQ established interim total nitrogen removal requirements for the Broadway Regional Wastewater Treatment Facility from January 1, 2008 until January 1, 2011. Limits vary by six-month period, but generally allow 51,079 lb/year TN discharge.

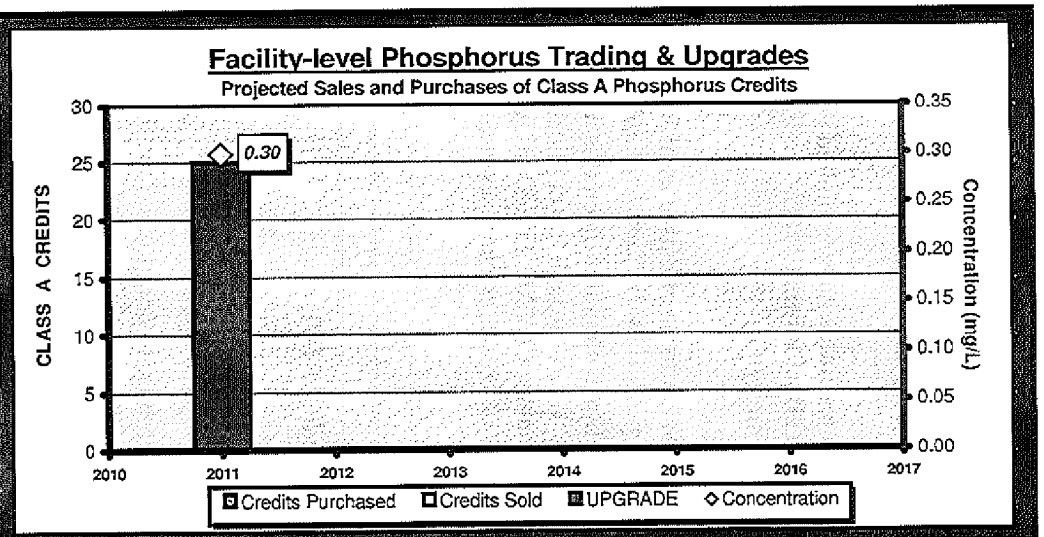
PART I. PHOSPHORUS SUMMARY FOR BROADWAY REGIONAL

Broadway Regional

POTOMAC Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	2.42
WLA Concentration (mg/L)	0.30
Delivery Factor	0.77
Delivered WLA	**1,703**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	2.42	2.92	2.92	2.92	2.92	2.92	2.92	2.92
Projected Flow (mgd)	1.50	2.10	2.10	2.20	2.19	2.21	2.24	2.27
Projected Avg. Annual Concentration (mg/L)	5.00	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Discharged Load (end of pipe)	22,842	1,919	1,919	2,010	2,001	2,019	2,047	2,074
Delivered Load	17,588	1,477	1,477	1,548	1,541	1,555	1,576	1,597
Delivered WLA		1,703	1,703	1,703	1,703	1,703	1,703	1,703
Expected Credits		226	226	155	162	148	127	106
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**226**	**226**	**155**	**162**	**148**	**127**	**106**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		226	226	155	162	148	127	106

AR0036463

Owner Bubble: Dale Service Corporation

The facilities listed below have received an aggregated mass load limit pursuant to 9 VAC 25-820-70, Part 1.B.2., which is also referred to as an "owner bubble". Accordingly, compliance is determined solely on an aggregate basis rather than by comparison of individual facility loads with respective individual WLAs.

The "Credit Transferred within Bubble" section of each table forecasts the use of Credits within the owner bubble during each Compliance Year, and must necessarily sum to zero. The specific Credit transfers shown in this table are provided for internal planning purposes only and, accordingly, are not binding and may change based on the actual performance of individual facilities within the bubble.

Expected Net Credits for an owner bubble may be either positive or negative. If Expected Net Credits is positive, the owner may pledge a percentage of such Credits to the Exchange. If Expected Net Credits is negative, Net Expected Credits identifies the number of Credits that must be purchased to comply with the aggregate Delivered WLA of the bubble.

NITROGEN Credits	Exchange 5-year Planning Period					Future Projections		
Credits Transferred within Bubble	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Dale Service Corp #1	-	-	-	-	-	-	-	-
Dale Service Corp #8	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Dale Service Corp #1		7,310	5,939	5,482	4,569	3,655	2,741	2,741
Dale Service Corp #8		7,310	5,939	5,482	4,569	3,655	2,741	2,741
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
Expected Net Credits	-	**14,620**	**11,878**	**10,964**	**9,138**	**7,310**	**5,482**	**5,482**
Class A Pledge Percentage		0%	0%	0%	0%	0%	0%	0%
Class A Sales (Purchases)		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		*14,620*	*11,878*	*10,964*	*9,138*	*7,310*	*5,482*	*5,482*
WQIF-Held Credits		*0*	*0*	*0*	*0*	*0*	*0*	*0*

PHOSPHORUS Credits	Exchange 5-year Planning Period					Future Projections		
Credits Transferred within Bubble	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Dale Service Corp #1	-	-	-	-	-	-	-	-
Dale Service Corp #8	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Dale Service Corp #1		439	357	329	274	220	165	165
Dale Service Corp #8		439	357	329	274	220	165	165
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
Expected Net Credits	-	**878**	**714**	**658**	**548**	**440**	**330**	**330**
Class A Pledge Percentage		0%	0%	0%	0%	0%	0%	0%
Class A Sales (Purchases)		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		*878*	*714*	*658*	*548*	*440*	*330*	*330*
WQIF-Held Credits		*0*	*0*	*0*	*0*	*0*	*0*	*0*

AR0036464

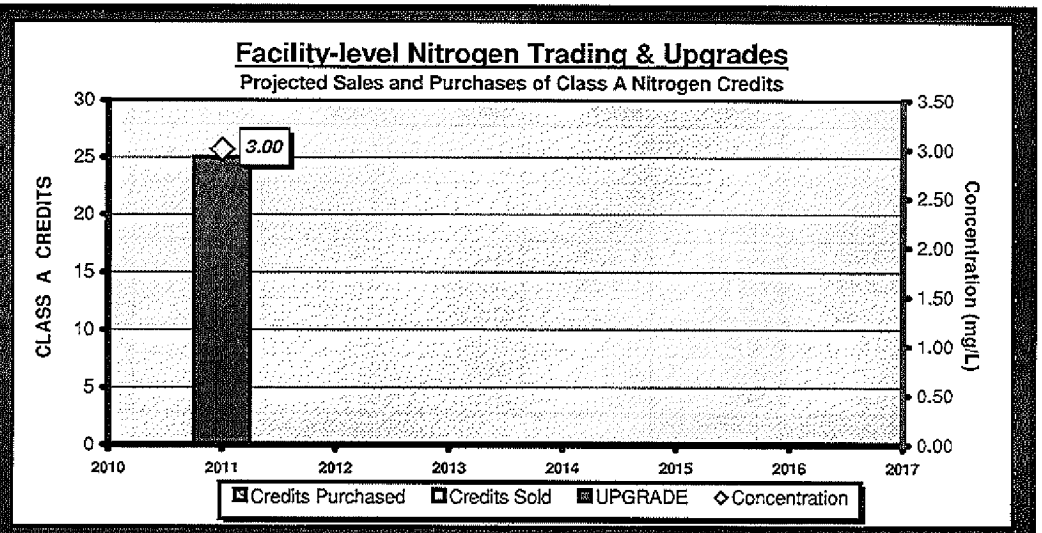
PART I. NITROGEN SUMMARY FOR DALE SERVICE CORP #1

Dale Service Corp #1

POTOMAC Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	4.60
WLA Concentration (mg/L)	3.00
Delivery Factor	1.00
Delivered WLA	**42,029**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	4.00	4.60	4.60	4.60	4.60	4.60	4.60	4.60
Projected Flow (mgd)	3.70	3.80	3.95	4.00	4.10	4.20	4.30	4.30
Projected Avg. Annual Concentration (mg/L)	4.50	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Discharged Load (end of pipe)	50,709	34,719	36,090	36,547	37,460	38,374	39,288	39,288
Delivered Load	50,709	34,719	36,090	36,547	37,460	38,374	39,288	39,288
Delivered WLA		42,029	42,029	42,029	42,029	42,029	42,029	42,029
Expected Credits		7,310	5,939	5,482	4,569	3,655	2,741	2,741
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		7,310	5,939	5,482	4,569	3,655	2,741	2,741
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		0	0	0	0	0	0	0
Expected Class B Credits		7,310	5,939	5,482	4,569	3,655	2,741	2,741

AR0036465

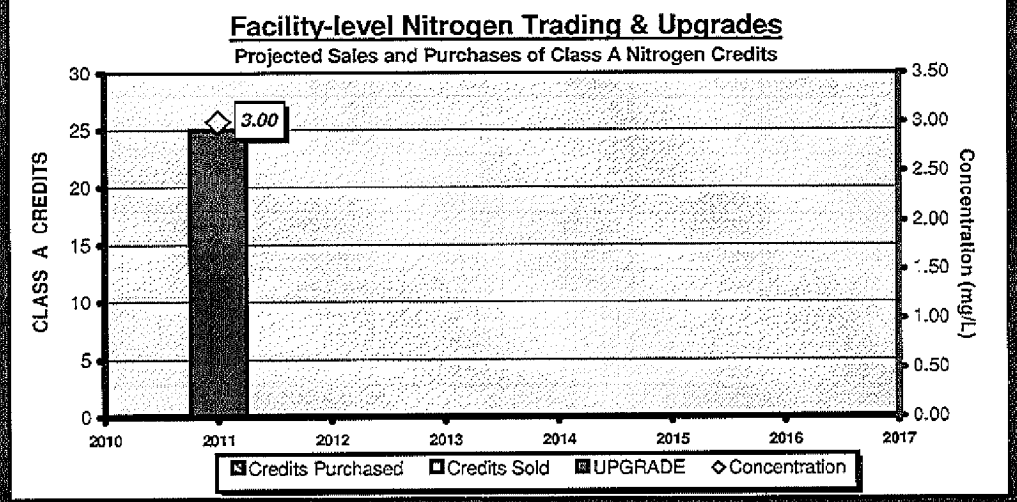
PART I. NITROGEN SUMMARY FOR DALE SERVICE CORP #8

Dale Service Corp #8

POTOMAC Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	4.60
WLA Concentration (mg/L)	3.00
Delivery Factor	1.00
Delivered WLA	**42,029**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	4.00	4.60	4.60	4.60	4.60	4.60	4.60	4.60
Projected Flow (mgd)	3.70	3.80	3.95	4.00	4.10	4.20	4.30	4.30
Projected Avg. Annual Concentration (mg/L)	4.50	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Discharged Load (end of pipe)	50,709	34,719	36,090	36,547	37,460	38,374	39,288	39,288
Delivered Load	50,709	34,719	36,090	36,547	37,460	38,374	39,288	39,288
Delivered WLA		42,029	42,029	42,029	42,029	42,029	42,029	42,029
Expected Credits		7,310	5,939	5,482	4,569	3,655	2,741	2,741
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**7,310**	**5,939**	**5,482**	**4,569**	**3,655**	**2,741**	**2,741**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		7,310	5,939	5,482	4,569	3,655	2,741	2,741

AR0036466

PARTICIPANT NAME: Dale Service Corporation
FACILITY (OR OWNER BUBBLE) NAME: Dale Service Section 1 and Section 8 WWTPs

PART II. TOTAL NITROGEN COMPLIANCE STATEMENT

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TN load to TN WLA. Would permittee have complied with its TN WLA for calendar year 2005 if its TN WLA had been in effect for that year?

_____ NO *(proceed to II.B. Implementation Schedule for TN)*

__X__ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TN WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(PART II Complete; Proceed to PART IV. TOTAL PHOSPHORUS COMPLIANCE), or*

__X__ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TN WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under II.B.)* Explanation: In 2005, approximately 97 percent of the TN WLA (4.0 mgd) was discharged by each WWTP. As detailed in the Interim Optimization Plan (IOP) submitted to DEQ on May 16, 2006, a capital project is required at both plants to ensure continued compliance with the TN WLA.

(proceed to II.B. Implementation Schedule for TN)

B. Implementation Schedule for TN

1. Does permittee anticipate requiring TN credit purchase to comply?

__X__ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TN credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

_____ NO __X__ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection	October 2005
PER/CER to DEQ	April 2006
Plans & Specifications to DEQ	April 2007

PARTICIPANT NAME: **Dale Service Corporation**

FACILITY (OR OWNER BUBBLE) NAME: **Dale Service Section 1 and Section 8 WWTPs**

Commence construction	Nov 2007
Complete construction	January 2010
CTO Request to DEQ (POTWs only)	January 2010

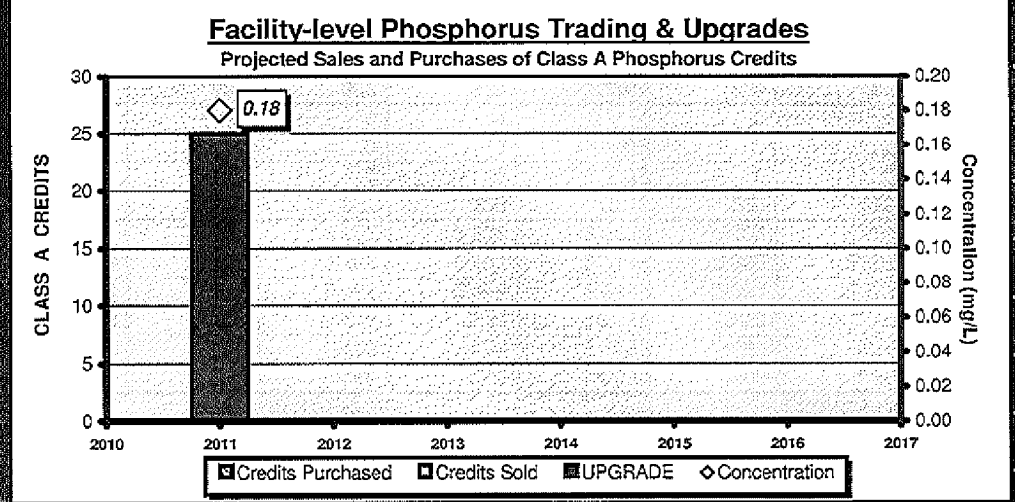
PART I. PHOSPHORUS SUMMARY FOR DALE SERVICE CORP #1

Dale Service Corp #1

POTOMAC Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	4.60
WLA Concentration (mg/L)	0.18
Delivery Factor	1.00
Delivered WLA	**2,522**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	4.00	4.60	4.60	4.60	4.60	4.60	4.60	4.60
Projected Flow (mgd)	3.70	3.80	3.95	4.00	4.10	4.20	4.30	4.30
Projected Avg. Annual Concentration (mg/L)	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Discharged Load (end of pipe)	2,028	2,083	2,165	2,193	2,248	2,302	2,357	2,357
Delivered Load	2,028	2,083	2,165	2,193	2,248	2,302	2,357	2,357
Delivered WLA		2,522	2,522	2,522	2,522	2,522	2,522	2,522
Expected Credits		439	357	329	274	220	165	165
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**439**	**357**	**329**	**274**	**220**	**165**	**165**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		439	357	329	274	220	165	165

AR0036469

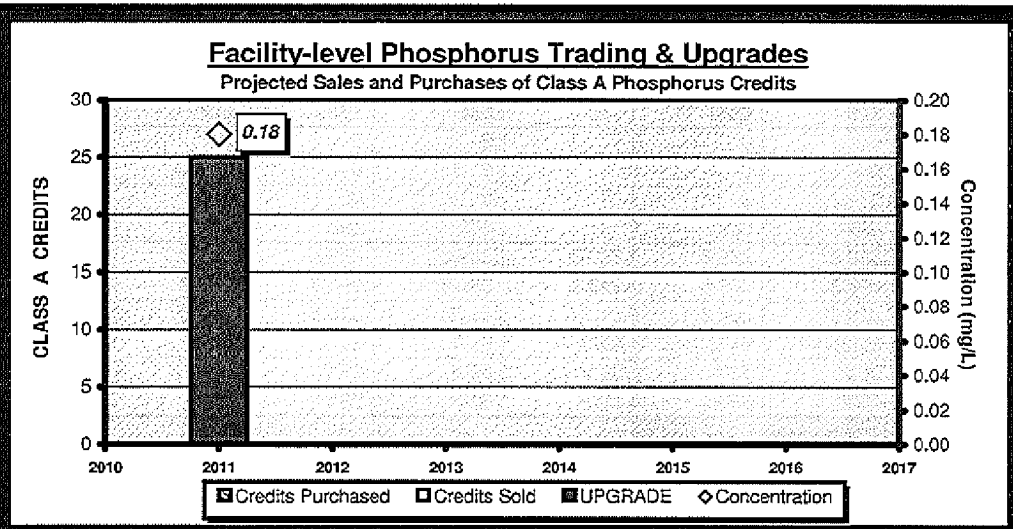
PART I. PHOSPHORUS SUMMARY FOR DALE SERVICE CORP #8

Dale Service Corp #8

POTOMAC Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	4.60
WLA Concentration (mg/L)	0.18
Delivery Factor	1.00
Delivered WLA	**2,522**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	4.00	4.60	4.60	4.60	4.60	4.60	4.60	4.60
Projected Flow (mgd)	3.70	3.80	3.95	4.00	4.10	4.20	4.30	4.30
Projected Avg. Annual Concentration (mg/L)	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Discharged Load (end of pipe)	2,028	2,083	2,165	2,193	2,248	2,302	2,357	2,357
Delivered Load	2,028	2,083	2,165	2,193	2,248	2,302	2,357	2,357
Delivered WLA		2,522	2,522	2,522	2,522	2,522	2,522	2,522
Expected Credits		439	357	329	274	220	165	165
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**439**	**357**	**329**	**274**	**220**	**165**	**165**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		439	357	329	274	220	165	165

AR0036470

PARTICIPANT NAME: Dale Service Corporation
FACILITY (OR OWNER BUBBLE) NAME: Dale Service Section 1 and Section 8 WWTPs

PART IV. TOTAL PHOSPHORUS COMPLIANCE STATEMENT

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TP load to TP WLA. Would permittee have complied with its TP WLA for calendar year 2005 if its TP WLA had been in effect for that year?

_____NO *(proceed to III.B. Implementation Schedule for TP)*

__X__ YES *(permittee must check Option 1 or Option 2)*:

__X__ Option 1: Permittee hereby requests TP WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(Stop Here/Part IV Is Complete), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TP WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under IV.B.)* Explanation:

_____

(proceed to IV.B. Implementation Schedule for TP)

B. Implementation Schedule for TP

1. Does permittee anticipate requiring TP credit purchase to comply?
   _____ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TP credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?
   _____ NO _____ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

   Engineer selection _____
   PER/CER to DEQ _____
   Plans & Specifications to DEQ _____
   Commence construction _____
   Complete construction _____
   CTO Request to DEQ (POTWs only) _____

End of Facility Appendix

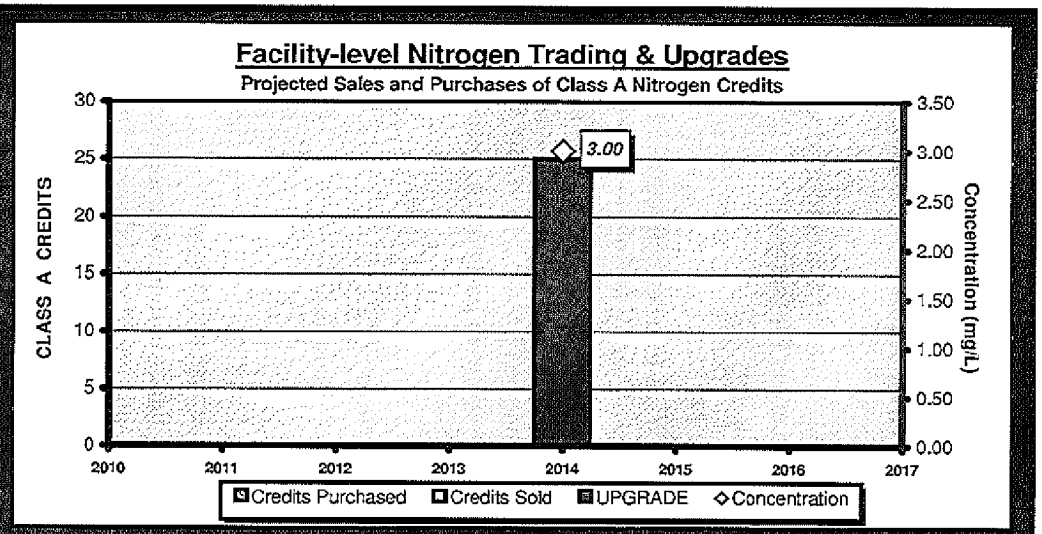
PART I. NITROGEN SUMMARY FOR FAIRFAX CO-NOMAN COLE

Fairfax Co-Noman Cole

POTOMAC Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	67.00
WLA Concentration (mg/L)	3.00
Delivery Factor	1.00
Delivered WLA	**612,158**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	67.00	67.00	67.00	67.00	67.00	67.00	67.00	67.00
Projected Flow (mgd)	42.00	40.20	40.20	40.20	45.70	46.40	47.50	48.50
Projected Avg. Annual Concentration (mg/L)	5.00	5.00	5.00	5.00	3.00	3.00	3.00	3.00
Discharged Load (end of pipe)	639,568	612,158	612,158	612,158	417,546	423,942	433,992	443,129
Delivered Load	639,568	612,158	612,158	612,158	417,546	423,942	433,992	443,129
Delivered WLA		612,158	612,158	612,158	612,158	612,158	612,158	612,158
Expected Credits		0	0	0	194,612	188,216	178,166	169,029
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**0**	**0**	**0**	**194,612**	**188,216**	**178,166**	**169,029**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		0	0	0	194,612	188,216	178,166	169,029

AR0036472

PARTICIPANT NAME: Fairfax County

FACILITY (OR OWNER BUBBLE) NAME: Noman M Cole Jr Pollution Control Plant

PART II. TOTAL NITROGEN COMPLIANCE STATEMENT

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TN load to TN WLA. Would permittee have complied with its TN WLA for calendar year 2005 if its TN WLA had been in effect for that year?

_____ NO *(proceed to II.B. Implementation Schedule for TN)*

X YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TN WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(PART II Complete; Proceed to PART IV. TOTAL PHOSPHORUS COMPLIANCE), or*

X Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TN WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under II.B.)* Explanation: Anticipating a 35% increase in influent loads. Therefore excess capacity will not be available for nitrogen removal. Planning an additional capital project to maintain wasteload allocation in future

(proceed to II.B. Implementation Schedule for TN)

B. Implementation Schedule for TN

1. Does permittee anticipate requiring TN credit purchase to comply?

   X NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TN credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

   _____ NO X YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection	5/8/2007
PER/CER to DEQ	3/30/2007
Plans & Specifications to DEQ	10/1/2009
Commence construction	1/1/2010
Complete construction	11/1/2012
CTO Request to DEQ (POTWs only)	5/1/2013

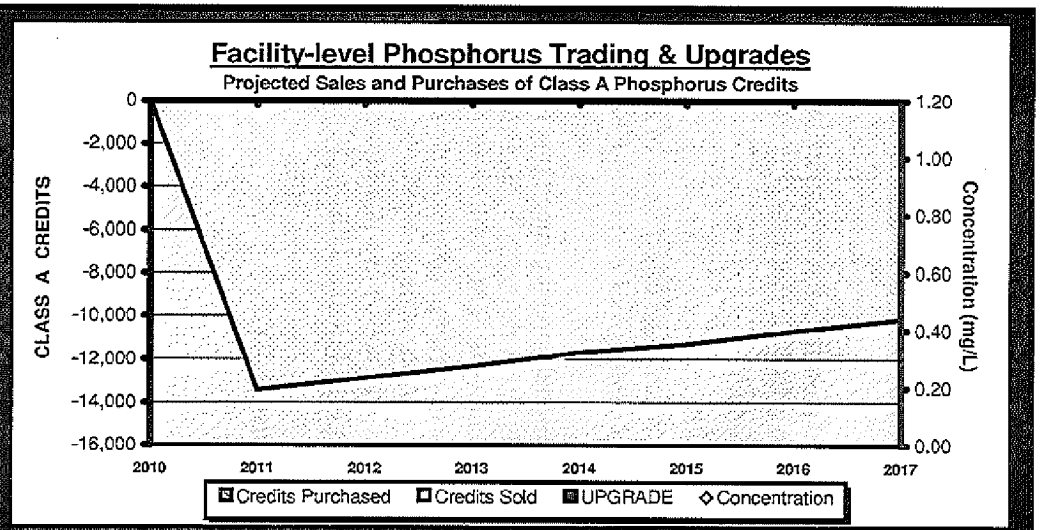
PART I. PHOSPHORUS SUMMARY FOR FAIRFAX CO-NOMAN COLE

Fairfax Co-Noman Cole

POTOMAC Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	67.00
WLA Concentration (mg/L)	0.18
Delivery Factor	1.00
Delivered WLA	**36,729**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	67.00	67.00	67.00	67.00	67.00	67.00	67.00	67.00
Projected Flow (mgd)	42.00	40.20	40.20	40.20	45.70	46.40	47.50	48.50
Projected Avg. Annual Concentration (mg/L)	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Discharged Load (end of pipe)	23,024	22,038	22,038	22,038	25,053	25,437	26,040	26,588
Delivered Load	23,024	22,038	22,038	22,038	25,053	25,437	26,040	26,588
Delivered WLA		36,729	36,729	36,729	36,729	36,729	36,729	36,729
Expected Credits		14,691	14,691	14,691	11,676	11,292	10,689	10,141
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**14,691**	**14,691**	**14,691**	**11,676**	**11,292**	**10,689**	**10,141**
Class A Pledge Percentage (%)		91%	88%	84%	100%	100%	100%	100%
Class A Credits		**13,430**	**12,882**	**12,334**	**11,676**	**11,292**	**10,689**	**10,141**
Expected Class B Credits		1,261	1,809	2,357	0	0	0	0

AR0036474

PARTICIPANT NAME: Fairfax County
FACILITY (OR OWNER BUBBLE) NAME: Noman M Cole Jr Pollution Control Plant

PART IV. TOTAL PHOSPHORUS COMPLIANCE STATEMENT

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TP load to TP WLA. Would permittee have complied with its TP WLA for calendar year 2005 if its TP WLA had been in effect for that year?

____ NO *(proceed to III.B. Implementation Schedule for TP)*

_X_ YES *(permittee must check Option 1 or Option 2)*:

_X_ Option 1: Permittee hereby requests TP WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(Stop Here/Part IV Is Complete), or*

____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TP WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under IV.B.)* Explanation:

_____

_____

_____

(proceed to IV.B. Implementation Schedule for TP)

B. Implementation Schedule for TP

1. Does permittee anticipate requiring TP credit purchase to comply?

   _____ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TP credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

   _____ NO _____ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

   Engineer selection _____

   PER/CER to DEQ _____

   Plans & Specifications to DEQ _____

   Commence construction _____

   Complete construction _____

   CTO Request to DEQ (POTWs only) _____

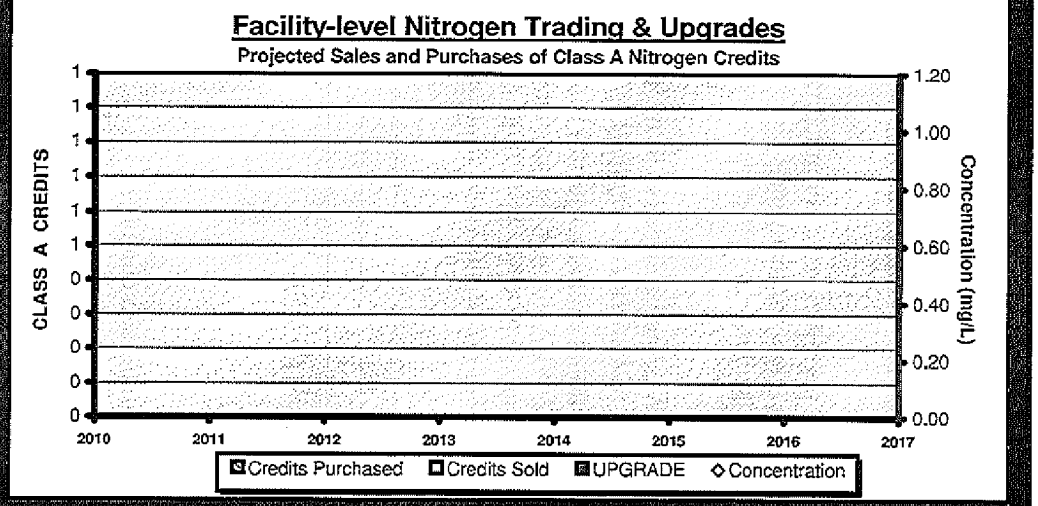
PART I. NITROGEN SUMMARY FOR FCWSA-VINT HILL

FCWSA-Vint Hill

POTOMAC Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.95
WLA Concentration (mg/L)	3.00
Delivery Factor	0.58
Delivered WLA	**5,034**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Projected Flow (mgd)	0.21	0.25	0.30	0.37	0.29	0.30	0.32	0.34
Projected Avg. Annual Concentration (mg/L)	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00
Discharged Load (end of pipe)	1,919	2,284	2,741	3,410	3,533	3,709	3,895	4,090
Delivered Load	1,113	1,325	1,590	1,978	2,049	2,152	2,259	2,372
Delivered WLA		5,034	5,034	5,034	5,034	5,034	5,034	5,034
Expected Credits		3,709	3,444	3,056	2,985	2,882	2,775	2,662
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**3,709**	**3,444**	**3,056**	**2,985**	**2,882**	**2,775**	**2,662**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		3,709	3,444	3,056	2,985	2,882	2,775	2,662

AR0036476

FACILITY (OR OWNER BUBBLE) NAME: Vint Hill WWTP

PART II. TOTAL NITROGEN COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TN load to TN WLA. Would permittee have complied with its TN WLA for calendar year 2005 if its TN WLA had been in effect for that year?

__X__ NO *(proceed to II.B. Implementation Schedule for TN)*

_____ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TN WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(PART II Complete; Proceed to PART IV. TOTAL PHOSPHORUS COMPLIANCE), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TN WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under II.B.)* Explanation:

_____

_____

(proceed to II.B. Implementation Schedule for TN)

B. Implementation Schedule for TN

1. Does permittee anticipate requiring TN credit purchase to comply?

__X__ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TN credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

_____ NO __X__ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

<u>0.600 MGD Upgrade</u>

Engineer selection	**Completed**
PER/CER to DEQ	**Completed**
Plans & Specifications to DEQ	**Completed**
Commence construction	**Completed**
Complete construction	**Completed**
CTO Request to DEQ (POTWs only)	**Completed**

FACILITY (OR OWNER BUBBLE) NAME: Vint Hill WWTP

0.950 MGD Upgrade	
Engineer selection	**Completed**
PER/CER to DEQ	**Completed**
Plans & Specifications to DEQ	**Completed**
Commence construction	**Completed**
Complete construction	**November 2010**
CTO Request to DEQ (POTWs only)	**November 2010**

AR0036478

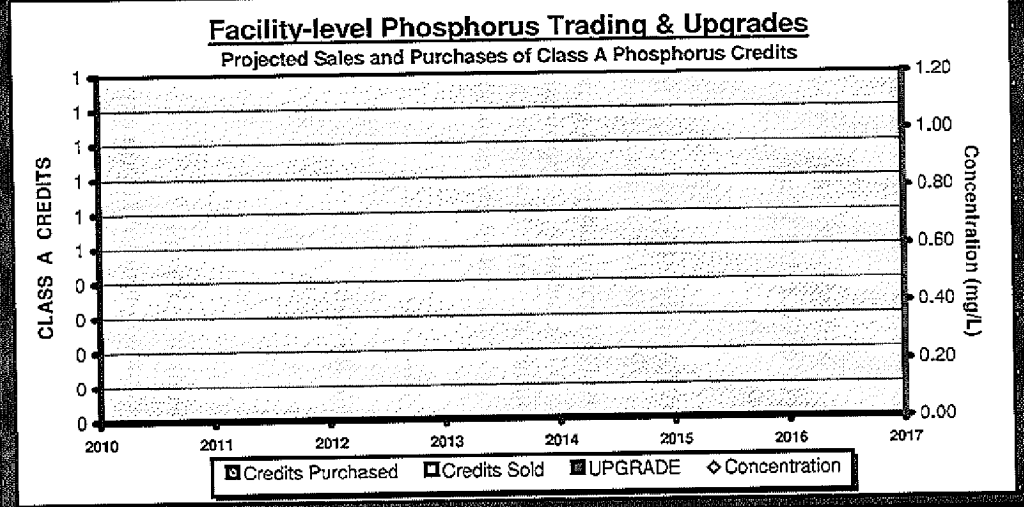
PART I. PHOSPHORUS SUMMARY FOR FCWSA-VINT HILL

FCWSA-Vint Hill

POTOMAC Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.95
WLA Concentration (mg/L)	0.30
Delivery Factor	0.44
Delivered WLA	382



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Projected Flow (mgd)	0.21	0.25	0.30	0.37	0.29	0.30	0.32	0.34
Projected Avg. Annual Concentration (mg/L)	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Discharged Load (end of pipe)	198	236	283	352	274	287	302	317
Delivered Load	87	104	125	155	120	126	133	139
Delivered WLA		382	382	382	382	382	382	382
Expected Credits		278	257	227	262	256	249	243
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**278**	**257**	**227**	**262**	**256**	**249**	**243**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		278	257	227	262	256	249	243

AR0036479

FACILITY (OR OWNER BUBBLE) NAME: Vint Hill WWTP

PART IV. TOTAL PHOSPHORUS COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TP load to TP WLA. Would permittee have complied with its TP WLA for calendar year 2005 if its TP WLA had been in effect for that year?

__X__ NO *(proceed to III.B. Implementation Schedule for TP)*

_____ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TP WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(Stop Here/Part IV Is Complete), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TP WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under IV.B.)* Explanation:

_____

_____

(proceed to IV.B. Implementation Schedule for TP)

B. Implementation Schedule for TP

1. Does permittee anticipate requiring TP credit purchase to comply?

__X__ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TP credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

_____ NO __X__ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

0.600 MGD Upgrade

Engineer selection	**Completed**
PER/CER to DEQ	**Completed**
Plans & Specifications to DEQ	**Completed**
Commence construction	**Completed**
Complete construction	**Completed**
CTO Request to DEQ (POTWs only)	**Completed**

FACILITY (OR OWNER BUBBLE) NAME: Vint Hill WWTP

0.950 MGD Upgrade	
Engineer selection	**Completed**
PER/CER to DEQ	**Completed**
Plans & Specifications to DEQ	**Completed**
Commence construction	**Completed**
Complete construction	**November 2010**
CTO Request to DEQ (POTWs only)	**November 2010**

End of Facility Appendix

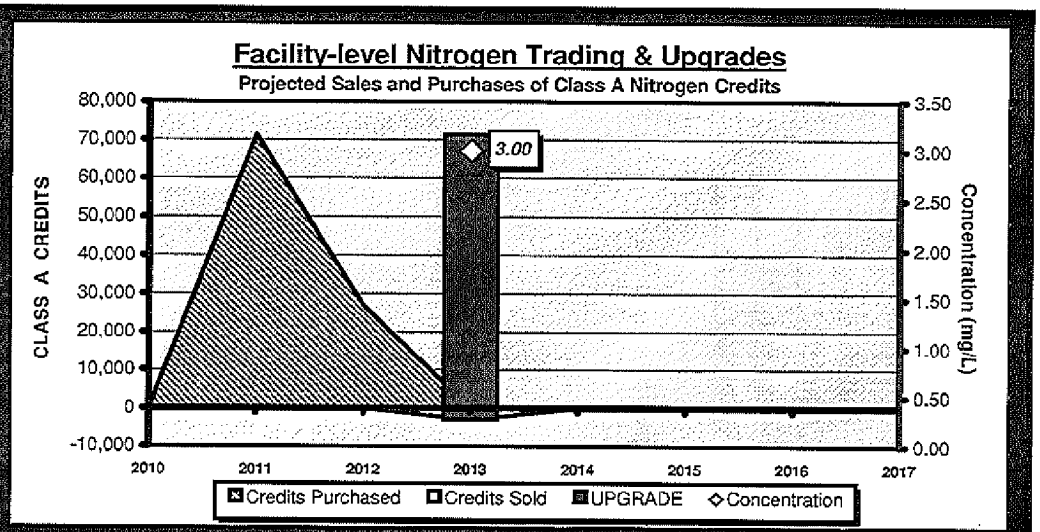
PART I. NITROGEN SUMMARY FOR FRONT ROYAL

Front Royal

POTOMAC Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	4.00
WLA Concentration (mg/L)	4.00
Delivery Factor	0.67
Delivered WLA	32,648



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Projected Flow (mgd)	3.79	3.98	4.17	4.37	4.40	4.45	4.50	4.55
Projected Avg. Annual Concentration (mg/L)	12.32	12.80	7.00	3.00	3.00	3.00	3.00	3.00
Discharged Load (end of pipe)	142,206	155,153	88,900	39,927	40,201	40,658	41,115	41,572
Delivered Load	95,278	103,953	59,563	26,751	26,935	27,241	27,547	27,853
Delivered WLA		32,648	32,648	32,648	32,648	32,648	32,648	32,648
Expected Credits		(71,305)	(26,915)	5,897	5,713	5,407	5,101	4,795
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		(71,305)	(26,915)	5,897	5,713	5,407	5,101	4,795
Class A Pledge Percentage (%)		100%	100%	50%	0%	0%	0%	0%
Class A Credits		(71,305)	(26,915)	2,949	0	0	0	0
Expected Class B Credits		0	0	2,948	5,713	5,407	5,101	4,795

AR0036482

PARTICIPANT NAME: ___Town of Front Royal_____
FACILITY (OR OWNER BUBBLE) NAME: __Front Royal STP_____

PART II. TOTAL NITROGEN COMPLIANCE STATEMENT

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TN load to TN WLA. Would permittee have complied with its TN WLA for calendar year 2005 if its TN WLA had been in effect for that year?

__x___ NO *(proceed to II.B. Implementation Schedule for TN)*

_____ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TN WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(PART II Complete; Proceed to PART IV. TOTAL PHOSPHORUS COMPLIANCE), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TN WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under II.B.)* Explanation:

_____

_____

_____

(proceed to II.B. Implementation Schedule for TN)

B. Implementation Schedule for TN

1. Does permittee anticipate requiring TN credit purchase to comply?

_____ NO ___x__ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TN credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

__ __ NO ___X__ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

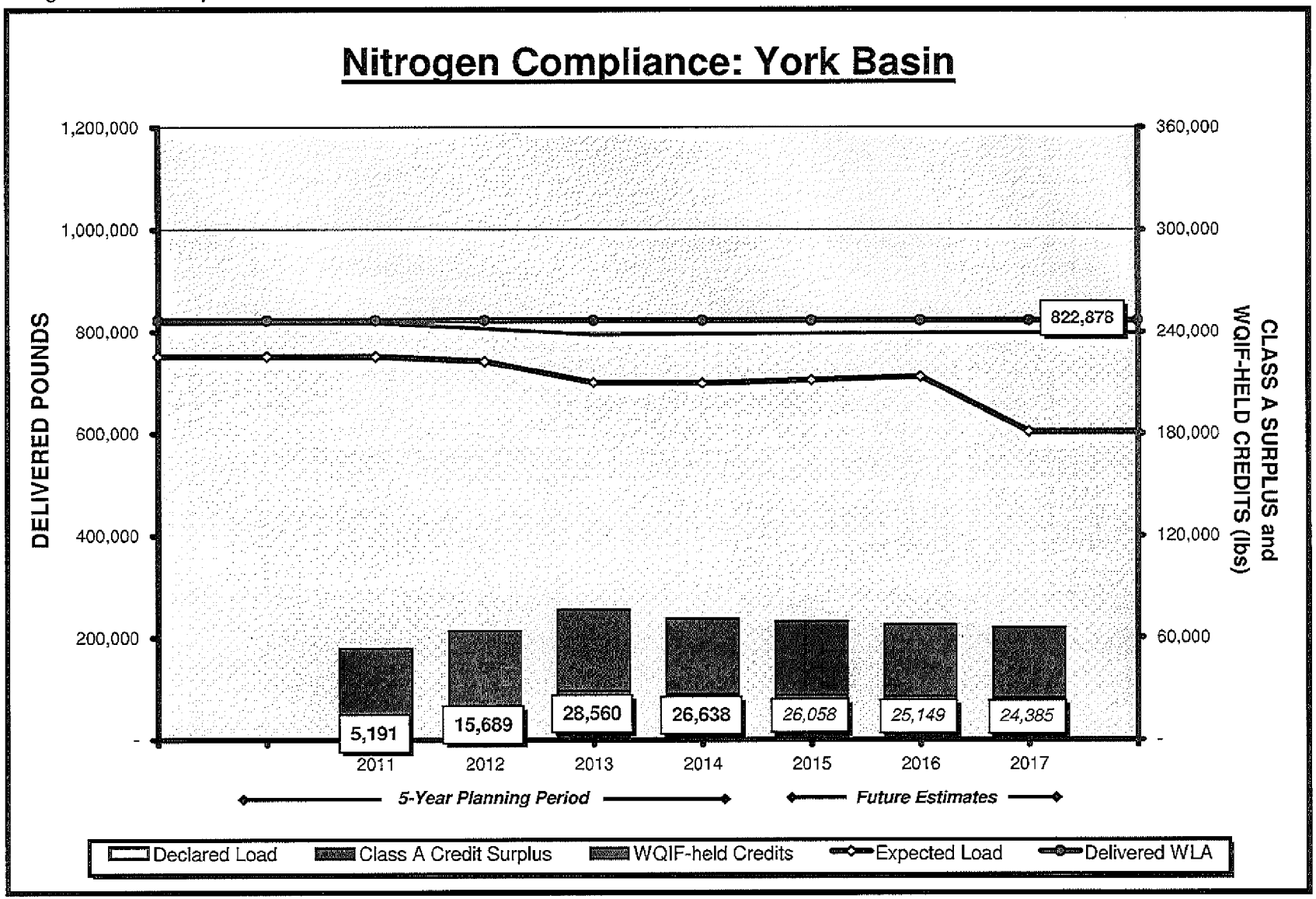
Engineer selection	_Aug. 2007_____
PER/CER to DEQ	_Dec. 2008_____
Plans & Specifications to DEQ	__Feb. 2010_____
Commence construction	__July 2010_____
Complete construction	__July2013_____
CTO Request to DEQ (POTWs only)	__Sept. 2013_____

SECTION 4

York River Basin Exchange Compliance Plan

AR0036484

EXHIBIT 4-1
Nitrogen Plan Summary: York River Basin



AR0036485

EXHIBIT 4-2
Nitrogen Capital Projects Schedule: York River Basin

YORK Basin: Nitrogen Upgrade Schedule by Facility

mg/L Upgrades in Progress	Design Flow (mgd)	UIP Year*	UIP mg/L	Planning Period					Future Estimates		
				2010	2011	2012	2013	2014	2015	2016	2017
Caroline Co.	0.50	*2013*		3.50	3.50	3.50					
Hanover Co-Ashland	2.00										
Hanover Co-Doswell	1.00										
Hanover Co-Totopotomoy	10.00										
HRSD-King William	0.03	*2008*	3.00								
HRSD-Mathews	0.10										
HRSD-West Point	0.60										
HRSD-York	15.00	*2012*		7.00	7.00						
New Kent Co-Parham	2.00	*2010*	6.00								
RSA-Gordonsville	0.94										
Smurfit-Stone-West Point	23.00										
White Birch-Bear Island	4.20										

**** Identifies the first full operational year of the completed upgrade (brown bars represent construction period)***

AR0036486

EXHIBIT 4-3
2011 Nitrogen Trading Ledger: York River Basin

YORK Basin: Nitrogen Credit Ledger

Compliance Year:	2011	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits	Class A Pledge	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	$ 1.52	$ 2.00	$ 0.33
The Exchange (group)	822,878	751,473	71,404	-	-	(48,928)	22,476		34,082	(28,891)	17,285
Caroline Co.	3,837	11,707	(7,870)	-	-	-	(7,870)	100%	-	(7,870)	-
Hanover Co-Ashland	18,639	24,580	(5,941)	5,941	-	-	-	0%	-	-	-
Hanover Co-Doswell	9,319	8,776	543	-	-	-	543	85%	462	-	81
Hanover Co-Totopotomoy	182,734	104,377	78,357	(5,941)	-	(48,879)	23,537	85%	20,006	-	3,531
HRSD-King William	1,424	2,458	(1,034)	1,034	-	-	-	0%	-	-	-
HRSD-Mathews	1,827	-	1,827	(1,827)	-	-	-	0%	-	-	-
HRSD-West Point	10,964	25,647	(14,683)	793	-	-	(13,890)	100%	-	(13,890)	-
HRSD-York	274,100	281,231	(7,131)	-	-	-	(7,131)	100%	-	(7,131)	-
New Kent Co-Parham	36,547	9,319	27,228	-	-	-	27,228	50%	13,614	-	13,614
RSA-Gordonsville	172	64	108	-	-	(49)	59	0%	-	-	59
Smurfit-Stone-West Point	259,177	259,177	-	-	-	-	-	0%	-	-	-
White Birch-Bear Island	24,137	24,137	-	-	-	-	-	0%	-	-	-
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For this Compliance Year, 0% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.

*** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

AR0036487

EXHIBIT 4-4

2012 Nitrogen Trading Ledger: York River Basin

YORK Basin: Nitrogen Credit Ledger

Compliance Year:	2012	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits	Class A Pledge	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	$ 0.90	$ 2.00	$ 0.19
The Exchange (group)	822,878	742,148	80,729	-	-	(48,559)	32,170		31,702	(16,013)	16,481
Caroline Co.	3,837	12,678	(8,841)	-	-	-	(8,841)	100%	-	(8,841)	-
Hanover Co-Ashland	18,639	24,949	(6,310)	6,310	-	-	-	0%	-	-	-
Hanover Co-Doswell	9,319	8,951	368	-	-	-	368	85%	313	-	55
Hanover Co-Totopotomoy	182,734	106,465	76,269	(6,310)	-	(48,510)	21,449	85%	18,232	-	3,217
HRSD-King William	1,424	3,038	(1,614)	1,614	-	-	-	0%	-	-	-
HRSD-Mathews	1,827	-	1,827	(1,827)	-	-	-	0%	-	-	-
HRSD-West Point	10,964	26,819	(15,855)	8,683	-	-	(7,172)	100%	-	(7,172)	-
HRSD-York	274,100	265,630	8,470	(8,470)	-	-	-	0%	-	-	-
New Kent Co-Parham	36,547	10,233	26,314	-	-	-	26,314	50%	13,157	-	13,157
RSA-Gordonsville	172	71	101	-	-	(49)	52	0%	-	-	52
Smurfit-Stone-West Point	259,177	259,177	-	-	-	-	-	0%	-	-	-
White Birch-Bear Island	24,137	24,137	-	-	-	-	-	0%	-	-	-
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** For this Compliance Year, 0% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.*

*** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

AR0036488

EXHIBIT 4-5
2013 Nitrogen Trading Ledger: York River Basin

YORK Basin: Nitrogen Credit Ledger

Compliance Year:	*2013*	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	**Delivered WLA**	**Expected Load**	**Expected Credits**	**In-Bubble Exchange**	**Private Exchange**	**WQIF-Held Credits**	**Expected Net Credits**	**Class A Pledge**	**Class A Sales**	**Class A* Purchases**	**Class B** (expected)**
								PRICE:	No Sale	No Sale	No Sale
The Exchange (group)	**822,878**	**699,885**	**122,992**	**-**	**-**	**(48,234)**	**74,758**		**28,560**	**-**	**46,198**
Caroline Co.	3,837	2,328	1,509	-	-	-	1,509	80%	1,207	-	302
Hanover Co-Ashland	18,639	25,274	(6,635)	6,635	-	-	-	0%	-	-	-
Hanover Co-Doswell	9,319	9,127	192	-	-	-	192	65%	125	-	67
Hanover Co-Totopotomoy	182,734	107,204	75,530	(6,635)	-	(48,185)	20,710	65%	13,462	-	7,248
HRSD-King William	1,424	3,618	(2,194)	2,194	-	-	-	0%	-	-	-
HRSD-Mathews	1,827	-	1,827	(1,827)	-	-	-	0%	-	-	-
HRSD-West Point	10,964	28,802	(17,838)	17,838	-	-	-	0%	-	-	-
HRSD-York	274,100	230,393	43,707	(18,205)	-	-	25,502	0%	-	-	25,502
New Kent Co-Parham	36,547	10,964	25,583	-	-	-	25,583	50%	12,792	-	12,791
RSA-Gordonsville	172	79	93	-	-	(49)	44	0%	-	-	44
Smurfit-Stone-West Point	259,177	257,959	1,218	-	-	-	1,218	80%	974	-	244
White Birch-Bear Island	24,137	24,137	-	-	-	-	-	0%	-	-	-
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*** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

AR0036489

EXHIBIT 4-6
2014 Nitrogen Trading Ledger: York River Basin

YORK Basin: Nitrogen Credit Ledger

Compliance Year:	2014	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits	Class A Pledge	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	No Sale	No Sale	No Sale
The Exchange (group)	822,878	698,810	124,067	-	-	(44,389)	79,678		26,638	-	53,040
Caroline Co.	3,837	2,328	1,509	-	-	-	1,509	80%	1,207	-	302
Hanover Co-Ashland	18,639	25,625	(6,986)	6,986	-	-	-	0%	-	-	-
Hanover Co-Doswell	9,319	12,813	(3,494)	3,494	-	-	-	0%	-	-	-
Hanover Co-Totopotomoy	182,734	107,204	75,530	(10,480)	-	(44,340)	20,710	65%	13,462	-	7,248
HRSD-King William	1,424	914	510	-	-	-	510	0%	-	-	510
HRSD-Mathews	1,827	-	1,827	(1,827)	-	-	-	0%	-	-	-
HRSD-West Point	10,964	30,786	(19,822)	19,822	-	-	-	0%	-	-	-
HRSD-York	274,100	223,435	50,665	(17,995)	-	-	32,670	0%	-	-	32,670
New Kent Co-Parham	36,547	12,609	23,938	-	-	-	23,938	50%	11,969	-	11,969
RSA-Gordonsville	172	86	86	-	-	(49)	37	0%	-	-	37
Smurfit-Stone-West Point	259,177	258,873	304	-	-	-	304	0%	-	-	304
White Birch-Bear Island	24,137	24,137	-	-	-	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-
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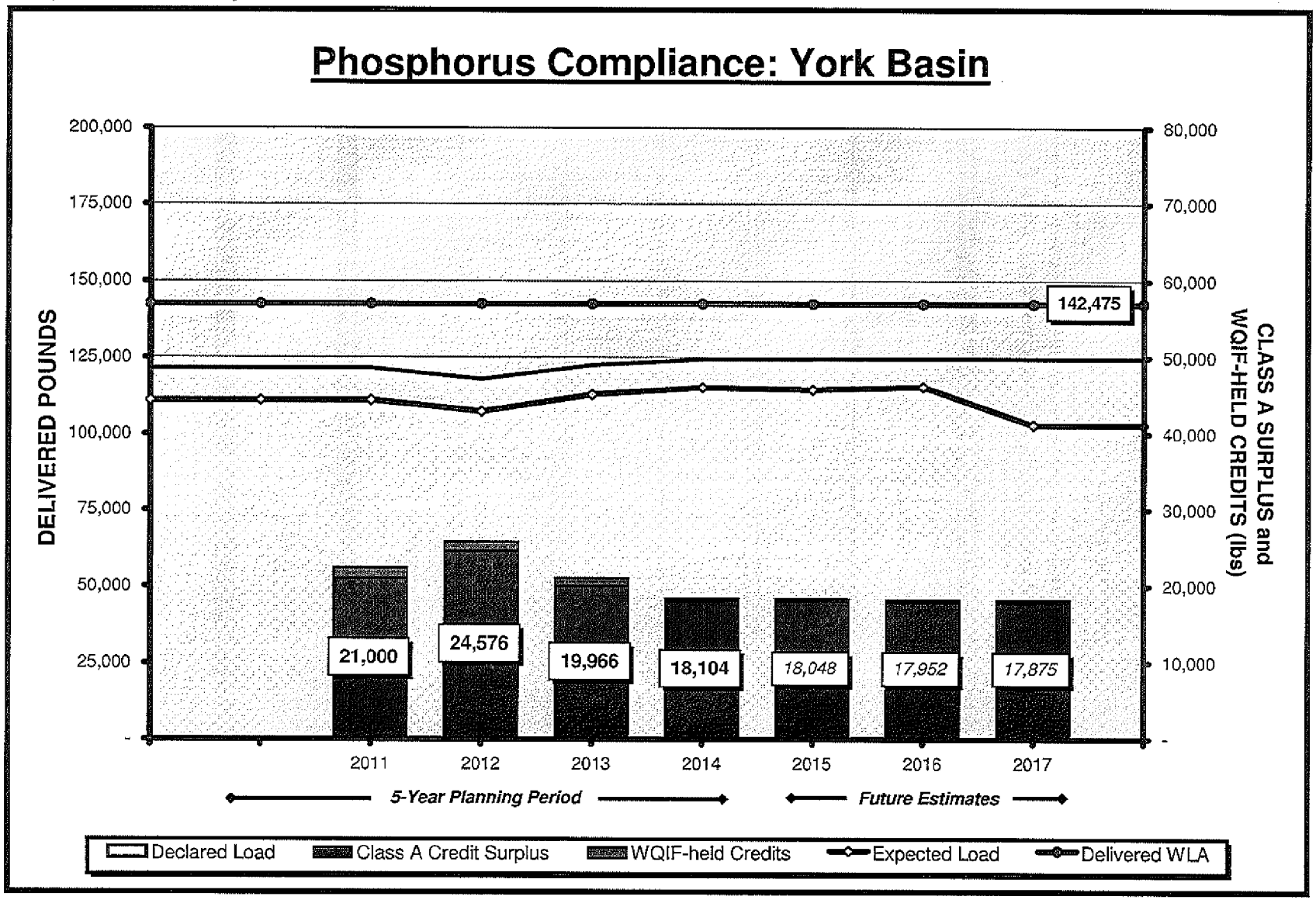
** *Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

AR0036490

EXHIBIT 4-7
Phosphorus Plan Summary: York River Basin



AR0036491

EXHIBIT 4-8
Phosphorus Capital Projects Schedule: York River Basin

YORK Basin: Phosphorus Upgrade Schedule by Facility

mg/L Upgrades in Progress	Design Flow (mgd)	UIP Year*	UIP mg/L	Planning Period 2010	2011	2012	2013	2014	Future Estimates 2015	2016	2017
Caroline Co.	0.50	2013		0.20	0.20	0.20					
Hanover Co-Ashland	2.00										
Hanover Co-Doswell	1.00										
Hanover Co-Totopotomoy	10.00										
HRSD-King William	0.03										
HRSD-Mathews	0.10										
HRSD-West Point	0.60										
HRSD-York	15.00	2011		0.70							
New Kent Co-Parham	2.00	2010	0.70								
RSA-Gordonsville	0.94										
Smurfit-Stone-West Point	23.00										
White Birch-Bear Island	4.20										

** Identifies the first full operational year of the completed upgrade (brown bars represent construction period)*

EXHIBIT 4-9

2011 Phosphorus Trading Ledger: York River Basin

YORK Basin: Phosphorus Credit Ledger

Compliance Year:	2011	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits	Class A Pledge	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	$ 0.01	$ 4.00	$ -
The Exchange (group)	**142,475**	**111,004**	**31,470**	**-**	**-**	**(1,403)**	**30,067**		**21,087**	**(88)**	**9,068**
Caroline Co.	469	557	(88)	-	-	-	(88)	100%	-	(88)	-
Hanover Co-Ashland	2,558	7,549	(4,991)	4,991	-	-	-	0%	-	-	-
Hanover Co-Doswell	1,279	1,626	(347)	347	-	-	-	0%	-	-	-
Hanover Co-Totopotomoy	21,319	13,047	8,272	(5,338)	-	(1,058)	1,876	85%	1,595	-	281
HRSD-King William	190	246	(56)	56	-	-	-	0%	-	-	-
HRSD-Mathews	213	-	213	(213)	-	-	-	0%	-	-	-
HRSD-West Point	1,279	4,852	(3,573)	3,573	-	-	-	0%	-	-	-
HRSD-York	31,978	26,248	5,730	(3,416)	-	-	2,314	0%	-	-	2,314
New Kent Co-Parham	4,264	1,087	3,177	-	-	-	3,177	50%	1,589	-	1,588
RSA-Gordonsville	1,202	448	754	-	-	(345)	409	0%	-	-	409
Smurfit-Stone-West Point	70,048	46,902	23,146	-	(767)	-	22,379	80%	17,903	-	4,476
White Birch-Bear Island	7,675	8,442	(767)	-	767	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-
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For this Compliance Year, 0% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.

*** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

AR0036493

EXHIBIT 4-10
2012 Phosphorus Trading Ledger: York River Basin

YORK Basin: Phosphorus Credit Ledger

Compliance Year:	2012	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits	Class A Pledge	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	$ 0.01	$ 4.00	$ -
The Exchange (group)	142,475	107,339	35,135	-	-	(1,256)	33,879		24,710	(135)	9,304
Caroline Co.	469	604	(135)	-	-	-	(135)	100%	-	(135)	-
Hanover Co-Ashland	2,558	7,663	(5,105)	5,105	-	-	-	0%	-	-	-
Hanover Co-Doswell	1,279	1,659	(380)	380	-	-	-	0%	-	-	-
Hanover Co-Totopotomoy	21,319	13,308	8,011	(5,485)	-	(911)	1,615	85%	1,373	-	242
HRSD-King William	190	304	(114)	114	-	-	-	0%	-	-	-
HRSD-Mathews	213	-	213	(213)	-	-	-	0%	-	-	-
HRSD-West Point	1,279	5,074	(3,795)	3,795	-	-	-	0%	-	-	-
HRSD-York	31,978	26,563	5,415	(3,696)	-	-	1,719	0%	-	-	1,719
New Kent Co-Parham	4,264	1,194	3,070	-	-	-	3,070	50%	1,535	-	1,535
RSA-Gordonsville	1,202	499	703	-	-	(345)	358	0%	-	-	358
Smurfit-Stone-West Point	70,048	42,029	28,019	-	(767)	-	27,252	80%	21,802	-	5,450
White Birch-Bear Island	7,675	8,442	(767)	-	767	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-
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	-	-	-	-	-	-	-	0%	-	-	-

For this Compliance Year, 0% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.

*** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

AR0036494

EXHIBIT 4-11
2013 Phosphorus Trading Ledger: York River Basin

YORK Basin: Phosphorus Credit Ledger

Compliance Year:	*2013*	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	**Delivered WLA**	**Expected Load**	**Expected Credits**	**In-Bubble Exchange**	**Private Exchange**	**WQIF-Held Credits**	**Expected Net Credits**	**Class A Pledge**	**Class A Sales**	**Class A* Purchases**	**Class B** (expected)**
								PRICE:	No Sale	No Sale	No Sale
The Exchange (group)	**142,475**	**112,856**	**29,618**	**-**	**-**	**(1,124)**	**28,494**		**19,965**	**-**	**8,529**
Caroline Co.	469	139	330	-	-	-	330	80%	264	-	66
Hanover Co-Ashland	2,558	7,763	(5,205)	5,205	-	-	-	0%	-	-	-
Hanover Co-Doswell	1,279	1,691	(412)	412	-	-	-	0%	-	-	-
Hanover Co-Totopotomoy	21,319	13,400	7,919	(5,617)	-	(779)	1,523	20%	305	-	1,218
HRSD-King William	190	362	(172)	172	-	-	-	0%	-	-	-
HRSD-Mathews	213	-	213	(213)	-	-	-	0%	-	-	-
HRSD-West Point	1,279	5,449	(4,170)	4,170	-	-	-	0%	-	-	-
HRSD-York	31,978	26,879	5,099	(4,129)	-	-	970	0%	-	-	970
New Kent Co-Parham	4,264	1,279	2,985	-	-	-	2,985	50%	1,493	-	1,492
RSA-Gordonsville	1,202	550	652	-	-	(345)	307	0%	-	-	307
Smurfit-Stone-West Point	70,048	46,902	23,146	-	(767)	-	22,379	80%	17,903	-	4,476
White Birch-Bear Island	7,675	8,442	(767)	-	767	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-
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** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

AR0036495

EXHIBIT 4-12

2014 Phosphorus Trading Ledger: York River Basin

YORK Basin: Phosphorus Credit Ledger

Compliance Year:	2014	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits	Class A Pledge	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	No Sale	No Sale	No Sale
The Exchange (group)	142,475	115,180	27,294	-	-	(345)	26,949		18,103	-	8,846
Caroline Co.	469	139	330	-	-	-	330	80%	264	-	66
Hanover Co-Ashland	2,558	7,870	(5,312)	5,312	-	-	-	0%	-	-	-
Hanover Co-Doswell	1,279	2,374	(1,095)	1,095	-	-	-	0%	-	-	-
Hanover Co-Totopotomoy	21,319	13,400	7,919	(6,407)	-	-	1,512	0%	-	-	1,512
HRSD-King William	190	91	99	-	-	-	99	0%	-	-	99
HRSD-Mathews	213	-	213	(213)	-	-	-	0%	-	-	-
HRSD-West Point	1,279	5,824	(4,545)	4,545	-	-	-	0%	-	-	-
HRSD-York	31,978	26,067	5,911	(4,332)	-	-	1,579	0%	-	-	1,579
New Kent Co-Parham	4,264	1,471	2,793	-	-	-	2,793	50%	1,397	-	1,396
RSA-Gordonsville	1,202	773	429	-	-	(345)	84	0%	-	-	84
Smurfit-Stone-West Point	70,048	48,729	21,319	-	(767)	-	20,552	80%	16,442	-	4,110
White Birch-Bear Island	7,675	8,442	(767)	-	767	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-
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*** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

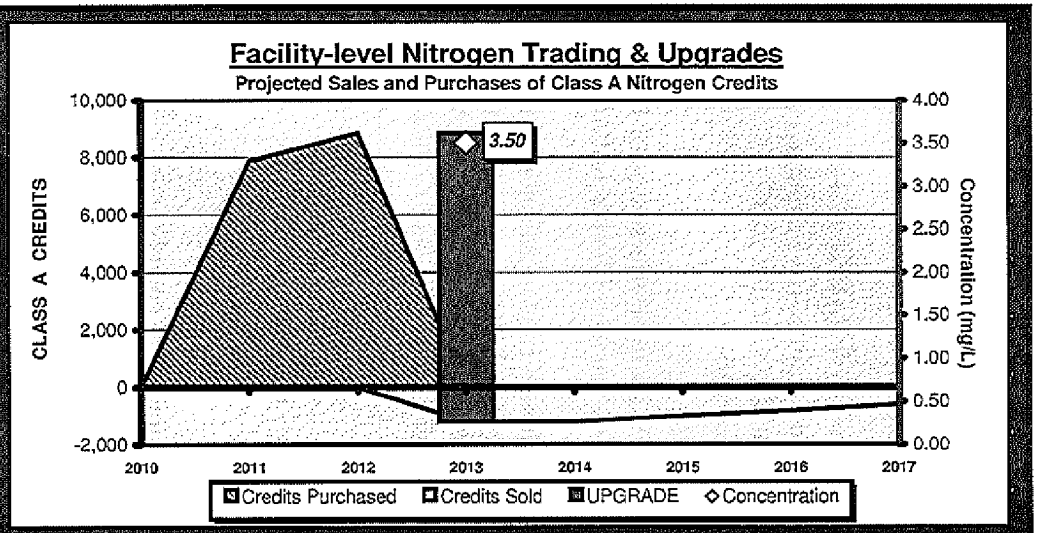
PART I. NITROGEN SUMMARY FOR CAROLINE CO.

Caroline Co.

YORK Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.50
WLA Concentration (mg/L)	6.00
Delivery Factor	0.42
Delivered WLA	**3,837**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Projected Flow (mgd)	0.39	0.42	0.45	0.52	0.52	0.58	0.63	0.69
Projected Avg. Annual Concentration (mg/L)	22.00	22.00	22.00	3.50	3.50	3.50	3.50	3.50
Discharged Load (end of pipe)	25,947	27,873	30,185	5,543	5,543	6,182	6,715	7,355
Delivered Load	10,898	11,707	12,678	2,328	2,328	2,597	2,820	3,089
Delivered WLA		3,837	3,837	3,837	3,837	3,837	3,837	3,837
Expected Credits		(7,870)	(8,841)	1,509	1,509	1,240	1,017	748
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**(7,870)**	**(8,841)**	**1,509**	**1,509**	**1,240**	**1,017**	**748**
Class A Pledge Percentage (%)		100%	100%	80%	80%	80%	80%	80%
Class A Credits		**(7,870)**	**(8,841)**	**1,207**	**1,207**	**992**	**814**	**598**
Expected Class B Credits		0	0	302	302	248	203	150

AR0036498

FACILITY (OR OWNER BUBBLE) NAME: Caroline County

PART II. TOTAL NITROGEN COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TN load to TN WLA. Would permittee have complied with its TN WLA for calendar year 2005 if its TN WLA had been in effect for that year?

__X__ NO *(proceed to II.B. Implementation Schedule for TN)*

_____ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TN WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(PART II Complete; Proceed to PART IV. TOTAL PHOSPHORUS COMPLIANCE), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TN WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under II.B.)* Explanation: _____

_____

_____

(proceed to II.B. Implementation Schedule for TN)

B. Implementation Schedule for TN

1. Does permittee anticipate requiring TN credit purchase to comply?

   __X__ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TN credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

   _____ NO _X___ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection	January 2006
PER/CER to DEQ	March 2009
Plans & Specifications to DEQ	Not Required
Commence construction	Oct 2010
Complete construction	April 2013
CTO Request to DEQ (POTWs only)	April 2013

AR0036499

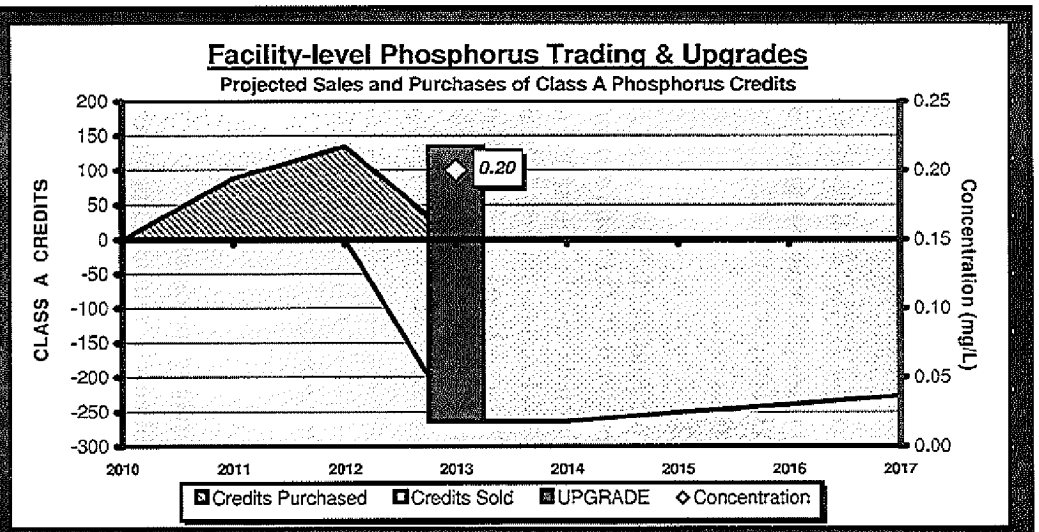
PART I. PHOSPHORUS SUMMARY FOR CAROLINE CO.

Caroline Co.

YORK Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.50
WLA Concentration (mg/L)	0.70
Delivery Factor	0.44
Delivered WLA	469



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Projected Flow (mgd)	0.39	0.42	0.45	0.52	0.52	0.58	0.63	0.69
Projected Avg. Annual Concentration (mg/L)	1.00	1.00	1.00	0.20	0.20	0.20	0.20	0.20
Discharged Load (end of pipe)	1,179	1,267	1,372	317	317	353	384	420
Delivered Load	519	557	604	139	139	155	169	185
Delivered WLA		469	469	469	469	469	469	469
Expected Credits		(88)	(135)	330	330	314	300	284
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		(88)	(135)	330	330	314	300	284
Class A Pledge Percentage (%)		100%	100%	80%	80%	80%	80%	80%
Class A Credits		(88)	(135)	264	264	251	240	227
Expected Class B Credits		0	0	66	66	63	60	57

AR0036500

FACILITY (OR OWNER BUBBLE) NAME: Caroline County

PART IV. TOTAL PHOSPHORUS COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TP load to TP WLA. Would permittee have complied with its TP WLA for calendar year 2005 if its TP WLA had been in effect for that year?

_____ NO *(proceed to III.B. Implementation Schedule for TP)*

__X__ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TP WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(Stop Here/Part IV Is Complete), or*

__X__ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TP WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under IV.B.)* Explanation: _____

_____

_____

(proceed to IV.B. Implementation Schedule for TP)

B. Implementation Schedule for TP

1. Does permittee anticipate requiring TP credit purchase to comply?

   __X__ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TP credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

   _____ NO __X__ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection	January 2006
PER/CER to DEQ	March 2009
Plans & Specifications to DEQ	Not Required
Commence construction	Oct 2010
Complete construction	April 2013
CTO Request to DEQ (POTWs only)	April 2013

End of Facility Appendix

AR0036501

Owner Bubble: Hanover County

The facilities listed below have received an aggregated mass load limit pursuant to 9 VAC 25-820-70, Part 1.B.2., which is also referred to as an "owner bubble". Accordingly, compliance is determined solely on an aggregate basis rather than by comparison of individual facility loads with respective individual WLAs.

The "Credit Transferred within Bubble" section of each table forecasts the use of Credits within the owner bubble during each Compliance Year, and must necessarily sum to zero. The specific Credit transfers shown in this table are provided for internal planning purposes only and, accordingly, are not binding and may change based on the actual performance of individual facilities within the bubble.

Expected Net Credits for an owner bubble may be either positive or negative. If Expected Net Credits is positive, the owner may pledge a percentage of such Credits to the Exchange. If Expected Net Credits is negative, Net Expected Credits identifies the number of Credits that must be purchased to comply with the aggregate Delivered WLA of the bubble.

NITROGEN Credits	Exchange 5-year Planning Period					Future Projections		
Credits Transferred within Bubble	2010	2011	2012	2013	2014	2015	2016	2017
Ashland	-	5,941	6,310	6,635	6,986	7,688	8,566	9,443
Doswell	-	-	-	-	3,494	3,845	3,845	3,845
Totopotomoy	-	(5,941)	(6,310)	(6,635)	(10,480)	(11,533)	(12,411)	(13,288)
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble	2010	2011	2012	2013	2014	2015	2016	2017
Ashland		-	-	-	-	-	-	-
Doswell		543	368	192	-	-	-	-
Totopotomoy		23,537	21,449	20,710	20,710	20,710	20,710	20,710
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
Expected Net Credits	-	24,080	21,817	20,902	20,710	20,710	20,710	20,710
Class A Pledge Percentage		85%	85%	65%	65%	65%	65%	65%
Class A Sales (Purchases)		20,468	18,544	13,586	13,462	13,462	13,462	13,462
Expected Class B Credits		*3,612*	*3,273*	*7,316*	*7,248*	*7,248*	*7,248*	*7,248*
WQIF-Held Credits		*48,879*	*48,510*	*48,185*	*44,340*	*43,287*	*42,409*	*41,532*

PHOSPHORUS Credits	Exchange 5-year Planning Period					Future Projections		
Credits Transferred within Bubble	2010	2011	2012	2013	2014	2015	2016	2017
Ashland	-	4,991	5,105	5,205	5,312	5,528	5,797	6,067
Doswell	-	347	380	412	1,095	1,160	1,160	1,160
Totopotomoy	-	(5,338)	(5,485)	(5,617)	(6,407)	(6,688)	(6,957)	(7,227)
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble	2010	2011	2012	2013	2014	2015	2016	2017
Ashland		-	-	-	-	-	-	-
Doswell		-	-	-	-	-	-	-
Totopotomoy		1,876	1,615	1,523	1,512	1,231	962	692
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
Expected Net Credits	-	1,876	1,615	1,523	1,512	1,231	962	692
Class A Pledge Percentage		85%	85%	20%	0%	0%	0%	0%
Class A Sales (Purchases)		1,595	1,373	305	0	0	0	0
Expected Class B Credits		*281*	*242*	*1,218*	*1,512*	*1,231*	*962*	*692*
WQIF-Held Credits		*1,058*	*911*	*779*	*0*	*0*	*0*	*0*

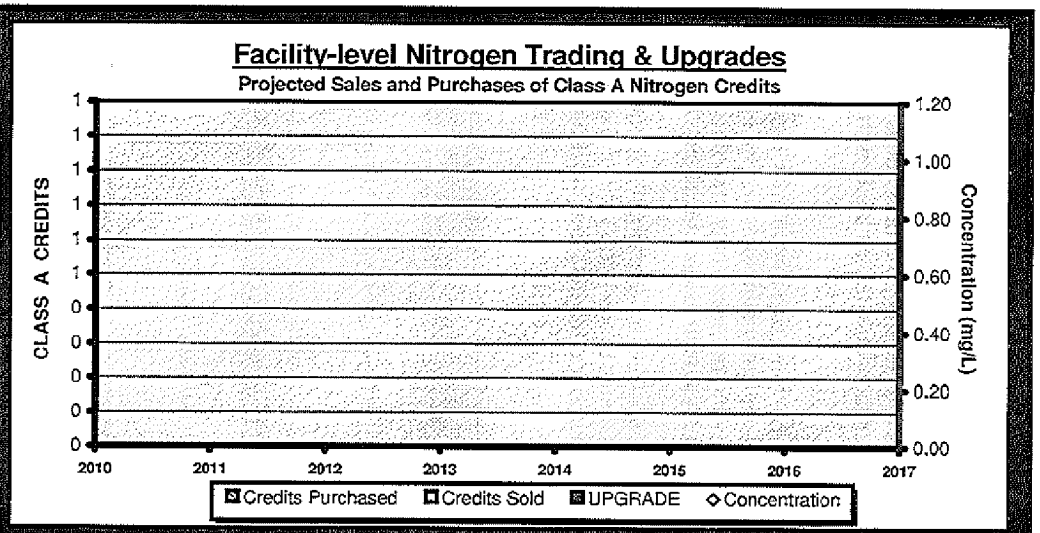
PART I. NITROGEN SUMMARY FOR HANOVER CO-ASHLAND

Hanover Co-Ashland

YORK Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	2.00
WLA Concentration (mg/L)	6.00
Delivery Factor	0.51
Delivered WLA	18,639



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Projected Flow (mgd)	1.38	1.40	1.42	1.44	1.46	1.50	1.55	1.60
Projected Avg. Annual Concentration (mg/L)	11.30	11.30	11.30	11.30	11.30	11.30	11.30	11.30
Discharged Load (end of pipe)	47,485	48,197	48,920	49,557	50,246	51,622	53,343	55,064
Delivered Load	24,217	24,580	24,949	25,274	25,625	26,327	27,205	28,082
Delivered WLA		18,639	18,639	18,639	18,639	18,639	18,639	18,639
Expected Credits		(5,941)	(6,310)	(6,635)	(6,986)	(7,688)	(8,566)	(9,443)
Transfers In (Out) within Owner Bubble		5,941	6,310	6,635	6,986	7,688	8,566	9,443
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		0	0	0	0	0	0	0

AR0036503

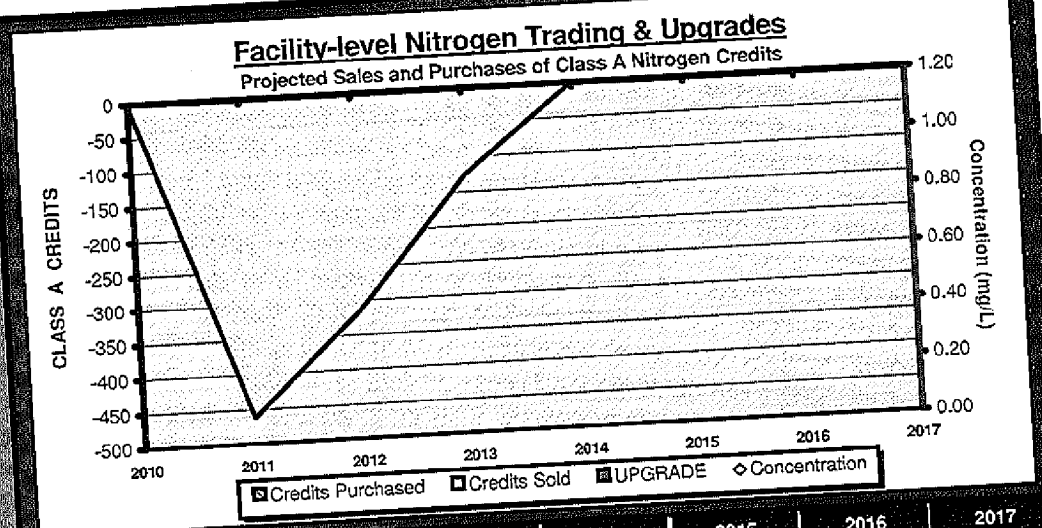
PART I. NITROGEN SUMMARY FOR HANOVER CO-DOSWELL

Hanover Co-Doswell

YORK Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	1.00
WLA Concentration (mg/L)	6.00
Delivery Factor	0.51
Delivered WLA	**9,319**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Projected Flow (mgd)	0.36	0.50	0.51	0.52	0.73	0.75	0.75	0.75
Projected Avg. Annual Concentration (mg/L)	11.30	11.30	11.30	11.30	11.30	11.30	11.30	11.30
Discharged Load (end of pipe)	12,293	17,207	17,552	17,896	25,123	25,811	25,811	25,811
Delivered Load	6,269	8,776	8,951	9,127	12,813	13,164	13,164	13,164
Delivered WLA		9,319	9,319	9,319	9,319	9,319	9,319	9,319
Expected Credits		543	368	192	(3,494)	(3,845)	(3,845)	(3,845)
Transfers In (Out) within Owner Bubble		0	0	0	3,494	3,845	3,845	3,845
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**543**	**368**	**192**	**0**	**0**	**0**	**0**
Class A Pledge Percentage (%)		85%	85%	65%	0%	0%	0%	0%
Class A Credits		**462**	**313**	**125**	**0**	**0**	**0**	**0**
Expected Class B Credits		81	55	67	0	0	0	0

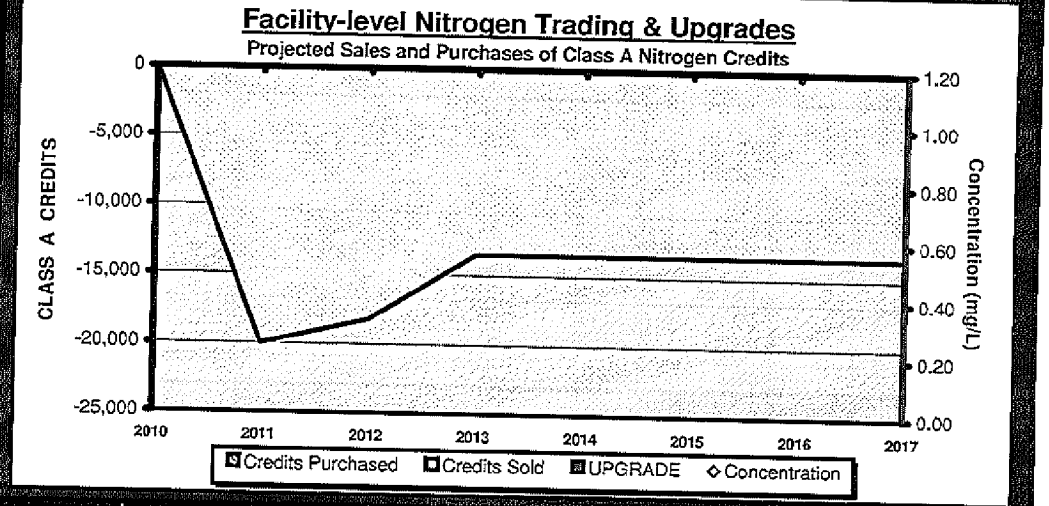
PART I. NITROGEN SUMMARY FOR HANOVER CO-TOTOPOTOMOY

Hanover Co-Totopotomoy

YORK Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	10.00
WLA Concentration (mg/L)	6.00
Delivery Factor	1.00
Delivered WLA	**182,734**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	5.00	7.00	7.00	7.00	7.00	7.00	10.00	10.00
Projected Flow (mgd)	4.20	4.28	4.37	4.40	4.40	4.40	4.40	4.40
Projected Avg. Annual Concentration (mg/L)	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
Discharged Load (end of pipe)	102,331	104,377	106,465	107,204	107,204	107,204	107,204	107,204
Delivered Load	102,331	104,377	106,465	107,204	107,204	107,204	107,204	107,204
Delivered WLA		182,734	182,734	182,734	182,734	182,734	182,734	182,734
Expected Credits		78,357	76,269	75,530	75,530	75,530	75,530	75,530
Transfers In (Out) within Owner Bubble		(5,941)	(6,310)	(6,635)	(10,480)	(11,533)	(12,411)	(13,288)
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		(48,879)	(48,510)	(48,185)	(44,340)	(43,287)	(42,409)	(41,532)
Expected Net Credits		**23,537**	**21,449**	**20,710**	**20,710**	**20,710**	**20,710**	**20,710**
Class A Pledge Percentage (%)		85%	85%	65%	65%	65%	65%	65%
Class A Credits		**20,006**	**18,232**	**13,462**	**13,462**	**13,462**	**13,462**	**13,462**
Expected Class B Credits		3,531	3,217	7,248	7,248	7,248	7,248	7,248

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FACILITY (OR OWNER BUBBLE) NAME: Hanover County, Virginia - Bubble

PART II. TOTAL NITROGEN COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TN load to TN WLA. Would permittee have complied with its TN WLA for calendar year 2005 if its TN WLA had been in effect for that year?

_____ NO *(proceed to II.B. Implementation Schedule for TN)*

_X_ YES *(permittee must check Option 1 or Option 2)*:

__X_ Option 1: Permittee hereby requests TN WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(PART II Complete; Proceed to PART IV. TOTAL PHOSPHORUS COMPLIANCE), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TN WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under II.B.)* Explanation: _____

_____

_____

(proceed to II.B. Implementation Schedule for TN)

B. Implementation Schedule for TN

1. Does permittee anticipate requiring TN credit purchase to comply?

   _____ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TN credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

   _____ NO _____ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

   Engineer selection _____

   PER/CER to DEQ _____

   Plans & Specifications to DEQ _____

   Commence construction _____

   Complete construction _____

   CTO Request to DEQ (POTWs only) _____

AR0036506

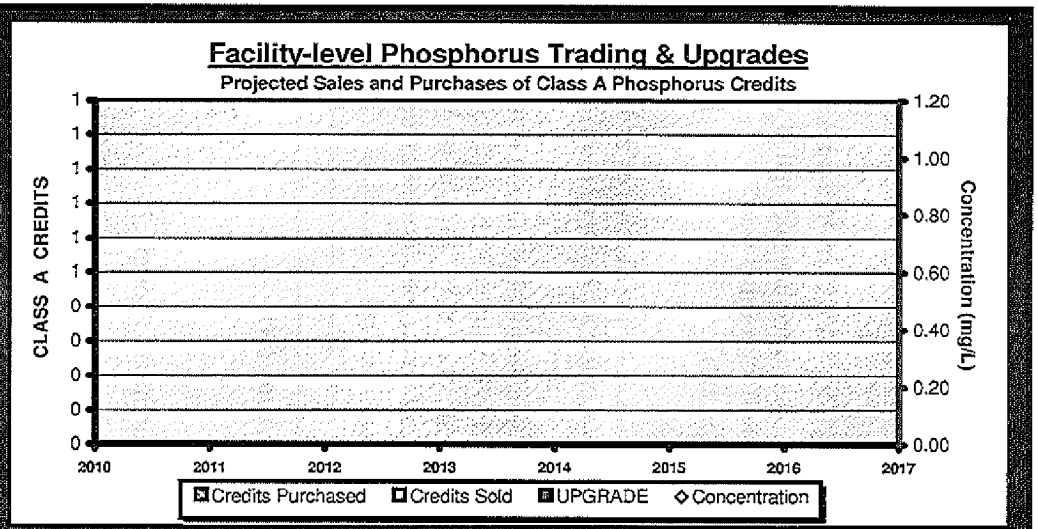
PART I. PHOSPHORUS SUMMARY FOR HANOVER CO-ASHLAND

Hanover Co-Ashland

YORK Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	2.00
WLA Concentration (mg/L)	0.70
Delivery Factor	0.60
Delivered WLA	**2,558**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Projected Flow (mgd)	1.38	1.40	1.42	1.44	1.46	1.50	1.55	1.60
Projected Avg. Annual Concentration (mg/L)	2.95	2.95	2.95	2.95	2.95	2.95	2.95	2.95
Discharged Load (end of pipe)	12,396	12,582	12,771	12,938	13,117	13,477	13,926	14,375
Delivered Load	7,438	7,549	7,663	7,763	7,870	8,086	8,355	8,625
Delivered WLA		2,558	2,558	2,558	2,558	2,558	2,558	2,558
Expected Credits		(4,991)	(5,105)	(5,205)	(5,312)	(5,528)	(5,797)	(6,067)
Transfers In (Out) within Owner Bubble		4,991	5,105	5,205	5,312	5,528	5,797	6,067
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		0	0	0	0	0	0	0

AR0036507

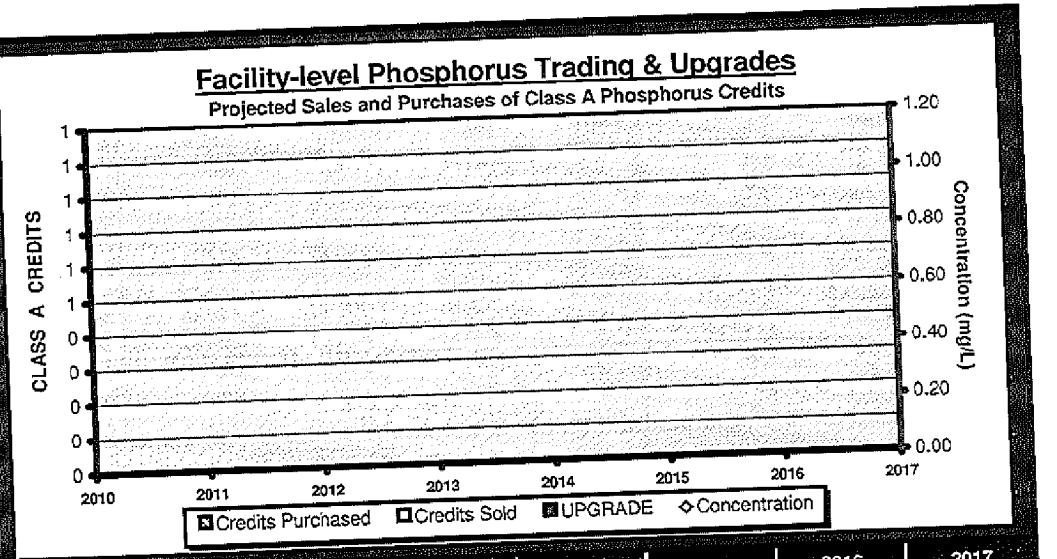
PART I. PHOSPHORUS SUMMARY FOR HANOVER CO-DOSWELL

Hanover Co-Doswell

YORK Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	1.00
WLA Concentration (mg/L)	0.70
Delivery Factor	0.60
Delivered WLA	**1,279**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Projected Flow (mgd)	0.36	0.50	0.51	0.52	0.73	0.75	0.75	0.75
Projected Avg. Annual Concentration (mg/L)	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78
Discharged Load (end of pipe)	1,936	2,711	2,765	2,819	3,957	4,066	4,066	4,066
Delivered Load	1,162	1,626	1,659	1,691	2,374	2,439	2,439	2,439
Delivered WLA		1,279	1,279	1,279	1,279	1,279	1,279	1,279
Expected Credits		(347)	(380)	(412)	(1,095)	(1,160)	(1,160)	(1,160)
Transfers In (Out) within Owner Bubble		347	380	412	1,095	1,160	1,160	1,160
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		0	0	0	0	0	0	0

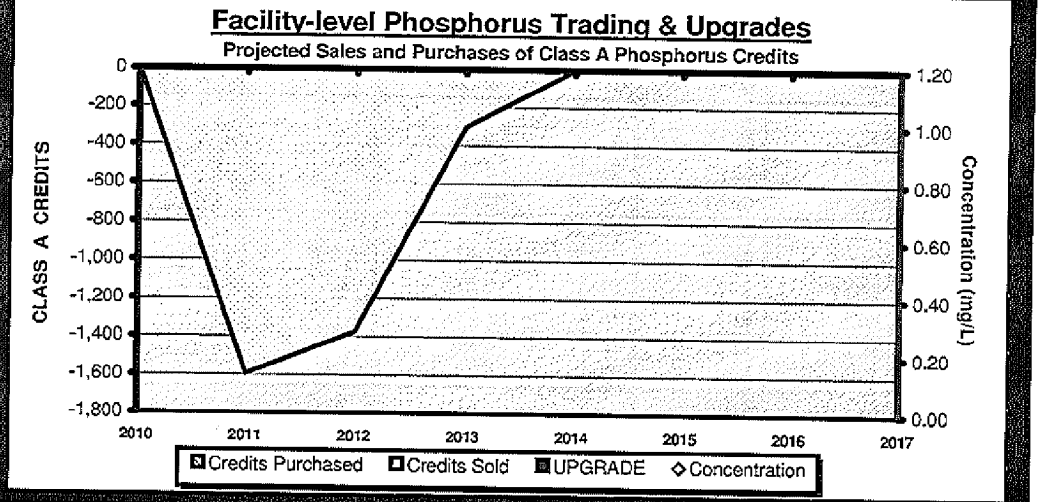
PART I. PHOSPHORUS SUMMARY FOR HANOVER CO-TOTOPOTOMOY

Hanover Co-Totopotomoy

YORK Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	10.00
WLA Concentration (mg/L)	0.70
Delivery Factor	1.00
Delivered WLA	**21,319**



Loading & Credit Summary

	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	5.00	7.00	7.00	7.00	7.00	7.00	10.00	10.00
Projected Flow (mgd)	4.20	4.28	4.37	4.40	4.40	4.40	4.40	4.40
Projected Avg. Annual Concentration (mg/L)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Discharged Load (end of pipe)	12,791	13,047	13,308	13,400	13,400	13,400	13,400	13,400
Delivered Load	12,791	13,047	13,308	13,400	13,400	13,400	13,400	13,400
Delivered WLA		21,319	21,319	21,319	21,319	21,319	21,319	21,319
Expected Credits		8,272	8,011	7,919	7,919	7,919	7,919	7,919
Transfers In (Out) within Owner Bubble		(5,338)	(5,485)	(5,617)	(6,407)	(6,688)	(6,957)	(7,227)
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		(1,058)	(911)	(779)	0	0	0	0
Expected Net Credits		**1,876**	**1,615**	**1,523**	**1,512**	**1,231**	**962**	**692**
Class A Pledge Percentage (%)		85%	85%	20%	0%	0%	0%	0%
Class A Credits		**1,595**	**1,373**	**305**	**0**	**0**	**0**	**0**
Expected Class B Credits		281	242	1,218	1,512	1,231	962	692

AR0036509

FACILITY (OR OWNER BUBBLE) NAME: Hanover County, Virginia - Bubble

PART IV. TOTAL PHOSPHORUS COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TP load to TP WLA. Would permittee have complied with its TP WLA for calendar year 2005 if its TP WLA had been in effect for that year?

_X_ NO *(proceed to III.B. Implementation Schedule for TP)*

_____ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TP WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(Stop Here/Part IV Is Complete), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TP WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under IV.B.)* Explanation: _____

_____

_____

(proceed to IV.B. Implementation Schedule for TP)

B. Implementation Schedule for TP

1. Does permittee anticipate requiring TP credit purchase to comply?

   _X_ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TP credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

   _____ NO _X_ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection	Complete
PER/CER to DEQ	Complete
Plans & Specifications to DEQ	Complete
Commence construction	Underway
Complete construction	Sep. 1, 2010
CTO Request to DEQ (POTWs only)	Dec. 1, 2010

AR0036510

Brief description of project:

Hanover County would have exceeded its aggregated TP WLA in 2005. Subsequent optimization efforts by Hanover and Bear Island Paper Company (BIPCo) resulted in a decrease in TP concentrations and BIPCo acquired additional TP credits from Smurfit-Stone Container Corp. (SSCC). BIPCo now has its own WLA, which was deducted from Hanover's, and we believe the credits from SSCC will be used by BIPCo to ensure compliance.

Hanover is undertaking a planned 3-step phased approach for the upgrade and expansion of the Totopotomoy Wastewater Treatment Plant (TWWTP). The phased approach provides a cost effective method to meet and remain within the WLA, satisfy capacity needs and spread the construction work over time, with the bulk of the heavy construction occurring after the anticipated building peak associated with the 2011 compliance date. This approach is in accordance with the phasing concept in SB 1275 and advocated by DEQ, the Commonwealth's stated goal of ensuring projects are cost effective and spreads the impact on the WQIF and VRLF over time.

Hanover's first step was to aggregate its WLA for the three facilities, optimize existing processes and work with BIPCo and SSCC to acquire necessary credits. These steps are complete. In addition, BIPCo has received its own WLA, which was deducted from Hanover's WLA.

Hanover's second step in the phased approach is to undertake an interim project for the TWWTP to improve the reliability of nutrient removal capability for maintiaining Bubble WLA compliance and for meeting anticipated permit concentration limits for flows up to 7 mgd. This project accommodates operational changes to the County's wastewater collection system as further described below. The CTC for this project was received from DEQ on October 1, 2008.

The County currently is either just completing or is underway with five major wastewater capital projects including Middle Chickahominy Sewerage Improvements, Lower Opossum Creek Sewerage Improvements, Shelton Pointe Pump Station and Force Main, Powhite Creek Pump Station and Force Main and Upper Opossum Creek Trunk Sewer. The Shelton Pointe Force Main and Upper Opossum Creek Trunk Sewer are complete, the Shelton Pointe Pump Station is substantially complete and the Lower Opossum Creek Sewerage Improvements and Middle Chickahominy Sewerage Improvements projects are under construction. A developer wastewater project, Rutland Trunk Sewer, is also complete. All of these projects together alter the way the County collection system operates and will reroute Hanover flows from Henrico County to the TWWTP. Approximately 2 years ago the Hanover County Board of Supervisors updated the County's Comprehensive Plan and the Department of Public Utilities is almost complete updating the Facilities Master Plan to identify additional projects necessary to serve the Suburban Service Area, that portion of the County in which public water and wastewater services are provided.

The 7 mgd phase sets the stage for the third step, a more substantial project to provide treatment for flows up to 10 mgd. Hanover County has phased this step in the improvements to occur after the peak construction period projected by The Exchange. Whereas the improvements for flows up to 7 mgd is a relatively small project involving such items as the replacement of pumps and

AR0036511

chemical addition (structures are in place, additional equipment only) and additional piping; the full 10 mgd project involves the heavy construction that will also be undertaken in phases. By delaying this work until after the peak construction period and phasing the construction by proceeding with the most critical processes first, the analysis provided by The Exchange indicates significant cost savings would be realized and also helps to minimize negative financial impacts on other point source discharges who must construct upgrades.

End of Facility Appendix

Owner Bubble: Hampton Roads Sanitation District (York)

The facilities listed below have received an aggregated mass load limit pursuant to 9 VAC 25-820-70, Part 1.B.2., which is also referred to as an "owner bubble". Accordingly, compliance is determined solely on an aggregate basis rather than by comparison of individual facility loads with respective individual WLAs.

The "Credit Transferred within Bubble" section of each table forecasts the use of Credits within the owner bubble during each Compliance Year, and must necessarily sum to zero. The specific Credit transfers shown in this table are provided for internal planning purposes only and, accordingly, are not binding and may change based on the actual performance of individual facilities within the bubble.

Expected Net Credits for an owner bubble may be either positive or negative. If Expected Net Credits is positive, the owner may pledge a percentage of such Credits to the Exchange. If Expected Net Credits is negative, Net Expected Credits identifies the number of Credits that must be purchased to comply with the aggregate Delivered WLA of the bubble.

NITROGEN Credits	Exchange 5-year Planning Period					Future Projections		
Credits Transferred within Bubble	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
King William	-	1,034	1,614	2,194	-	-	-	-
Mathews	-	(1,827)	(1,827)	(1,827)	(1,827)	(1,827)	(1,827)	(1,827)
West Point	-	793	8,683	17,838	19,822	21,805	23,788	25,772
York	-	-	(8,470)	(18,205)	(17,995)	(19,978)	(21,961)	(23,945)
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
King William		-	-	-	510	358	206	53
Mathews		-	-	-	-	-	-	-
West Point		(13,890)	(7,172)	-	-	-	-	-
York		(7,131)	-	25,502	32,670	28,709	24,734	135,449
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
Expected Net Credits	-	**(21,021)**	**(7,172)**	**25,502**	**33,180**	**29,067**	**24,940**	**135,502**
Class A Pledge Percentage		100%	100%	0%	0%	0%	0%	0%
Class A Sales (Purchases)		**(21,021)**	**(7,172)**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		*0*	*0*	*25,502*	*33,180*	*29,067*	*24,940*	*135,502*
WQIF-Held Credits		*0*	*0*	*0*	*0*	*0*	*0*	*0*

PHOSPHORUS Credits	Exchange 5-year Planning Period					Future Projections		
Credits Transferred within Bubble	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
King William	-	56	114	172	-	-	-	-
Mathews	-	(213)	(213)	(213)	(213)	(213)	(213)	(213)
West Point	-	3,573	3,795	4,170	4,545	3,149	3,417	3,685
York	-	(3,416)	(3,696)	(4,129)	(4,332)	(2,936)	(3,204)	(3,472)
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
King William		-	-	-	99	83	68	53
Mathews		-	-	-	-	-	-	-
West Point		-	-	-	-	-	-	-
York		2,314	1,719	970	1,579	2,744	2,243	15,124
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
Expected Net Credits	-	**2,314**	**1,719**	**970**	**1,678**	**2,827**	**2,311**	**15,177**
Class A Pledge Percentage		0%	0%	0%	0%	0%	0%	0%
Class A Sales (Purchases)		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		*2,314*	*1,719*	*970*	*1,678*	*2,827*	*2,311*	*15,177*
WQIF-Held Credits		*0*	*0*	*0*	*0*	*0*	*0*	*0*

AR0036513

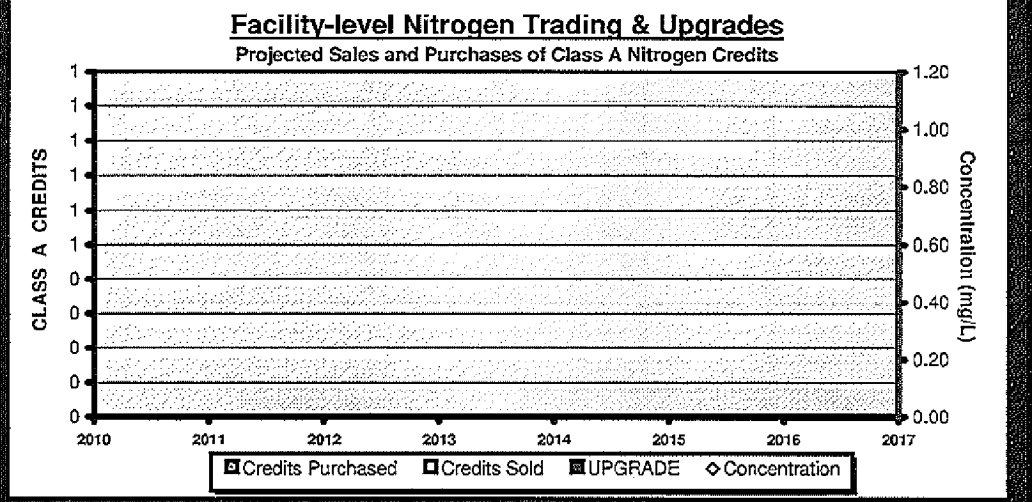
PART I. NITROGEN SUMMARY FOR HRSD-KING WILLIAM

HRSD-King William

YORK Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.03
WLA Concentration (mg/L)	18.70
Delivery Factor	1.00
Delivered WLA	**1,424**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Projected Flow (mgd)	0.21	0.27	0.33	0.40	0.10	0.12	0.13	0.15
Projected Avg. Annual Concentration (mg/L)	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Discharged Load (end of pipe)	1,878	2,458	3,038	3,618	914	1,066	1,218	1,371
Delivered Load	1,878	2,458	3,038	3,618	914	1,066	1,218	1,371
Delivered WLA		1,424	1,424	1,424	1,424	1,424	1,424	1,424
Expected Credits		(1,034)	(1,614)	(2,194)	510	358	206	53
Transfers In (Out) within Owner Bubble		1,034	1,614	2,194	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**0**	**0**	**0**	**510**	**358**	**206**	**53**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		0	0	0	510	358	206	53

AR0036514

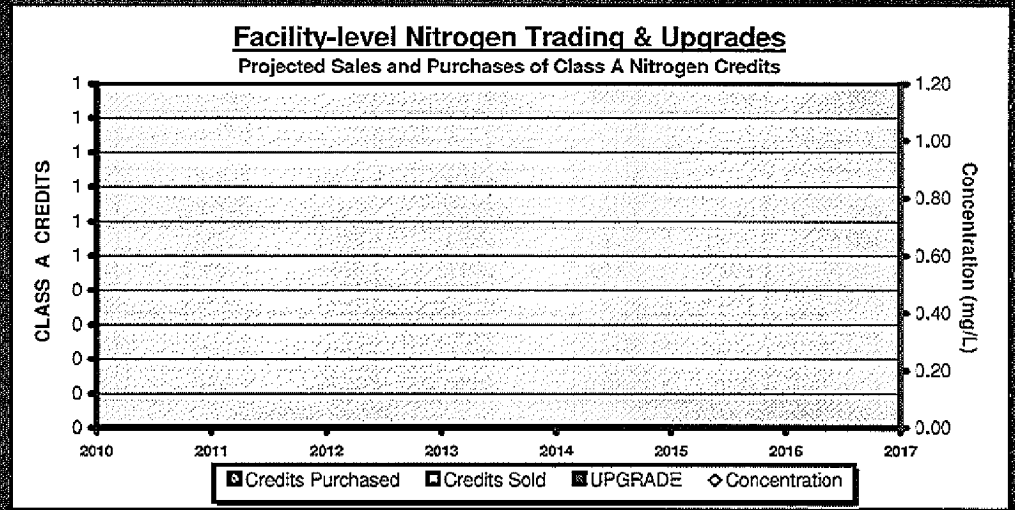
PART I. NITROGEN SUMMARY FOR HRSD-MATHEWS

HRSD-Mathews

YORK Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.10
WLA Concentration (mg/L)	6.00
Delivery Factor	1.00
Delivered WLA	**1,827**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Projected Flow (mgd)	0.09	-	-	-	-	-	-	-
Projected Avg. Annual Concentration (mg/L)	9.60	-	-	-	-	-	-	-
Discharged Load (end of pipe)	2,653	0	0	0	0	0	0	0
Delivered Load	2,653	0	0	0	0	0	0	0
Delivered WLA		1,827	1,827	1,827	1,827	1,827	1,827	1,827
Expected Credits		1,827	1,827	1,827	1,827	1,827	1,827	1,827
Transfers In (Out) within Owner Bubble		(1,827)	(1,827)	(1,827)	(1,827)	(1,827)	(1,827)	(1,827)
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		0	0	0	0	0	0	0

AR0036515

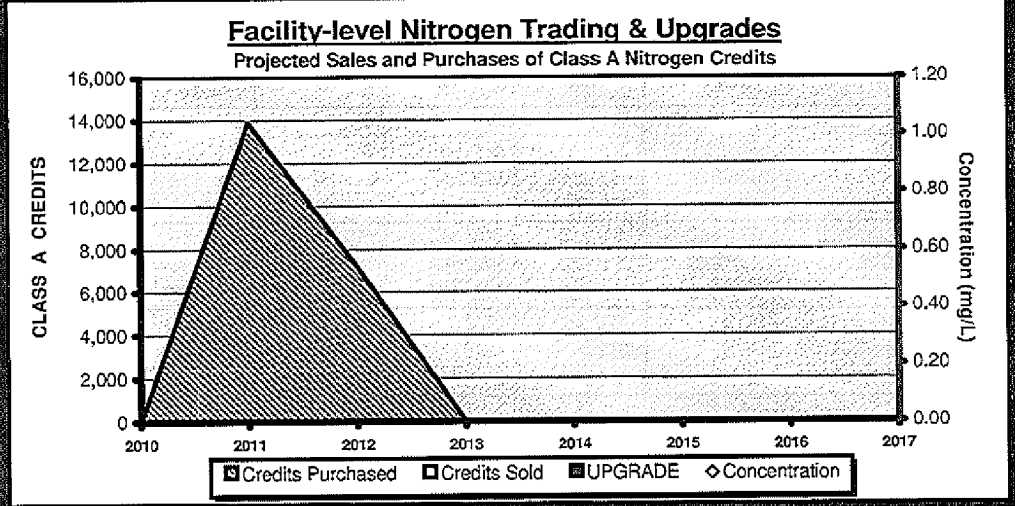
PART I. NITROGEN SUMMARY FOR HRSD-WEST POINT

HRSD-West Point

YORK Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.60
WLA Concentration (mg/L)	6.00
Delivery Factor	1.00
Delivered WLA	**10,964**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Projected Flow (mgd)	0.54	0.57	0.60	0.64	0.68	0.73	0.77	0.82
Projected Avg. Annual Concentration (mg/L)	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80
Discharged Load (end of pipe)	24,475	25,647	26,819	28,802	30,786	32,769	34,752	36,736
Delivered Load	24,475	25,647	26,819	28,802	30,786	32,769	34,752	36,736
Delivered WLA		10,964	10,964	10,964	10,964	10,964	10,964	10,964
Expected Credits		(14,683)	(15,855)	(17,838)	(19,822)	(21,805)	(23,788)	(25,772)
Transfers In (Out) within Owner Bubble		793	8,683	17,838	19,822	21,805	23,788	25,772
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		(13,890)	(7,172)	0	0	0	0	0
Class A Pledge Percentage (%)		100%	100%	0%	0%	0%	0%	0%
Class A Credits		(13,890)	(7,172)	0	0	0	0	0
Expected Class B Credits		0	0	0	0	0	0	0

AR0036516

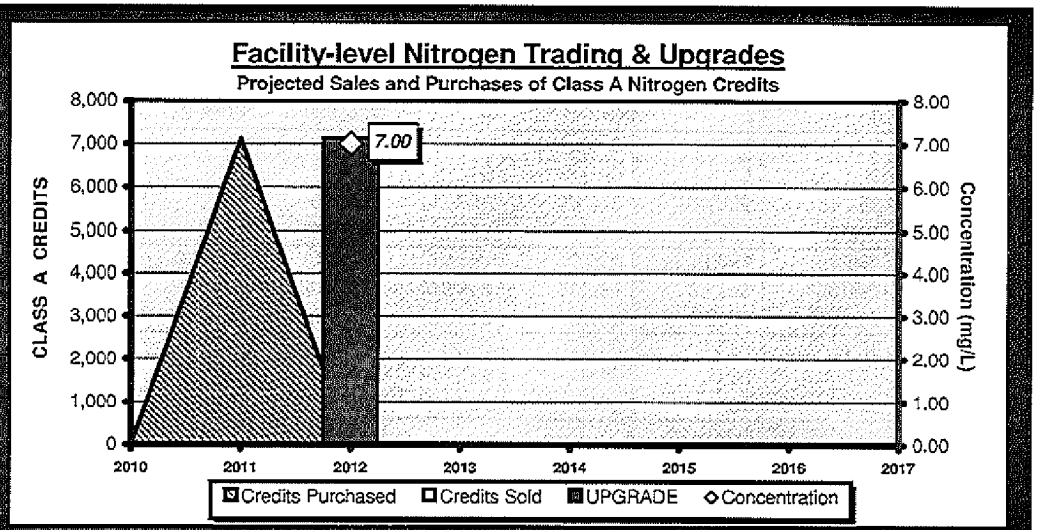
PART I. NITROGEN SUMMARY FOR HRSD-YORK

HRSD-York

YORK Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	15.00
WLA Concentration (mg/L)	6.00
Delivery Factor	1.00
Delivered WLA	**274,100**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00
Projected Flow (mgd)	12.11	12.31	12.46	12.61	12.23	12.34	12.44	12.55
Projected Avg. Annual Concentration (mg/L)	22.20	7.50	7.00	6.00	6.00	6.00	6.00	3.00
Discharged Load (end of pipe)	818,805	281,231	265,630	230,393	223,435	225,413	227,405	114,706
Delivered Load	818,805	281,231	265,630	230,393	223,435	225,413	227,405	114,706
Delivered WLA		274,100	274,100	274,100	274,100	274,100	274,100	274,100
Expected Credits		(7,131)	8,470	43,707	50,665	48,687	46,695	159,394
Transfers In (Out) within Owner Bubble		0	(8,470)	(18,205)	(17,995)	(19,978)	(21,961)	(23,945)
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**(7,131)**	**0**	**25,502**	**32,670**	**28,709**	**24,734**	**135,449**
Class A Pledge Percentage (%)		100%	0%	0%	0%	0%	0%	0%
Class A Credits		**(7,131)**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		0	0	25,502	32,670	28,709	24,734	135,449

AR0036517

FACILITY (OR OWNER BUBBLE) NAME: HRSD York River Bubble

PART II. TOTAL NITROGEN COMPLIANCE

A. 2009 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TN load to TN WLA. Would permittee have complied with its TN WLA for calendar year 2005 if its TN WLA had been in effect for that year?

__X__ NO *(proceed to II.B. Implementation Schedule for TN)*

_____ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TN WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(PART II Complete; Proceed to PART IV. TOTAL PHOSPHORUS COMPLIANCE), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TN WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under II.B.)* Explanation:

_____

_____

_____

(proceed to II.B. Implementation Schedule for TN)

B. Implementation Schedule for TN

1. Does permittee anticipate requiring TN credit purchase to comply?

   ___ NO __X__ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TN credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

   _____ NO __X__ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Please see attached two sheets for proposed projects

AR0036518

FACILITY (OR OWNER BUBBLE) NAME: HRSD York River Bubble

King William STP phase I project

Engineer selection	5/1/2006
PER/CER to DEQ	7/1/2006
Plans & Specifications to DEQ	8/1/2006
Commence construction	12/1/2006
Complete construction	5/8/2007
CTO Request to DEQ (POTWs only)	5/8/2007

King William STP phase II project

Engineer selection	
PER/CER to DEQ	
Plans & Specifications to DEQ	
Commence construction	
Complete construction	
CTO Request to DEQ (POTWs only)	

King William STP phase II project has been temporarily placed on hold due to the updated flow projections. Development in the service area has slowed significantly and therefore, additional capacity in not immediately needed.

FACILITY (OR OWNER BUBBLE) NAME: HRSD York River Bubble

York River STP Nutrient Removal Upgrade

Engineer selection	8/22/2006
PER/CER to DEQ	10/1/2007
Plans & Specifications to DEQ	1/1/2008
Commence construction	5/20/2008
Complete construction	1/1/2011
CTO Request to DEQ (POTWs only)	1/1/2011

Brief description of project:

In an effort to bring the bubble permit into compliance as soon as possible, HRSD has chosen a phased implementation approach to upgrade the York River STP. HRSD is implementing a strategy which includes some technologies which are considered non-conventional rather than the more traditional approaches (State of the Art, BNR) that require complete plant upgrades. Using the traditional approaches may provide more predictable results but will require significantly more time at a greater cost. The non-conventional approach described here is being used to bring HRSD's aggregate permit into compliance as soon as possible and in the most cost-effective manner possible, however, with greater uncertainty. Denitrification filters, a carbon source facility, and intermediate pump station will be installed at the facility in order to enhance nutrient removal. Current modeling indicates that this technology will be compatible with current plant processes but additional construction may be required, such as modification of aeration basins, if unforeseen complications arise. While denitrification filters are an established nutrient removal technology, there is no history of their performance associated with secondary treatment processes. The only historical performance data available assumes that nitrogen levels are lowered through other treatment processes prior to treatment by the denitrification filters. In this proposed project, the denitrification filters will be required to remove elevated levels of nitrogen. Based on the manufacturer's stated maximum mass removal (lbs/day for each filter), HRSD believes the nitrogen loading at York River will be lowered sufficiently to meet the bubble permit limit. However, HRSD anticipates a delay in full optimization of the nutrient removal technology during the startup phase of the first year. Consequently, HRSD may require purchase of a minimal amount of total nitrogen credits to meet the WLA until operational procedures are finalized. Dates for this project may be modified due to unforeseen complications with the performance of this proposed technology with current plant processes.

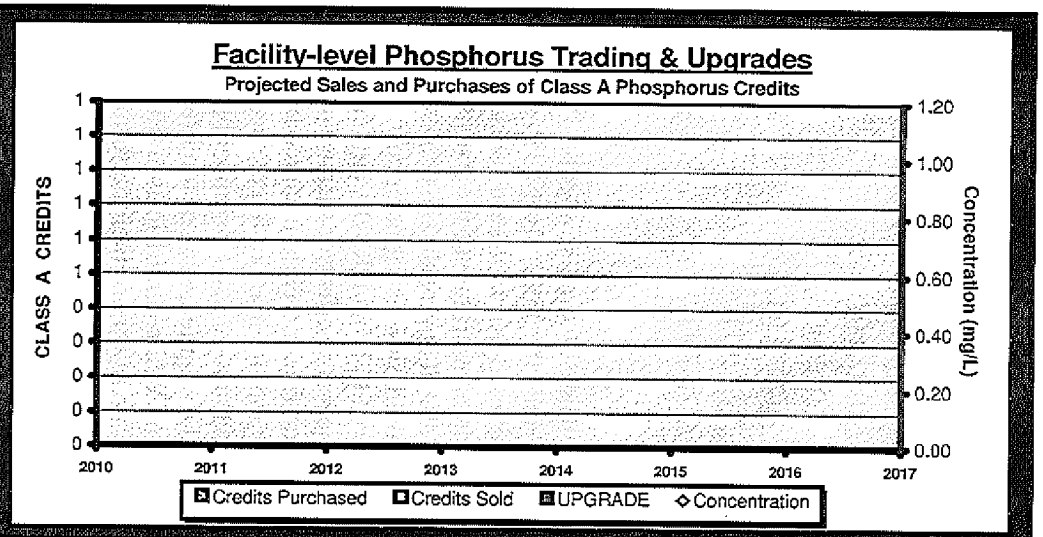
PART I. PHOSPHORUS SUMMARY FOR HRSD-KING WILLIAM

HRSD-King William

YORK Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.03
WLA Concentration (mg/L)	2.50
Delivery Factor	1.00
Delivered WLA	**190**



Loading & Credit Summary

	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Projected Flow (mgd)	0.21	0.27	0.33	0.40	0.10	0.12	0.13	0.15
Projected Avg. Annual Concentration (mg/L)	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Discharged Load (end of pipe)	188	246	304	362	91	107	122	137
Delivered Load	188	246	304	362	91	107	122	137
Delivered WLA		190	190	190	190	190	190	190
Expected Credits		(56)	(114)	(172)	99	83	68	53
Transfers In (Out) within Owner Bubble		56	114	172	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**0**	**0**	**0**	**99**	**83**	**68**	**53**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		0	0	0	99	83	68	53

AR0036521

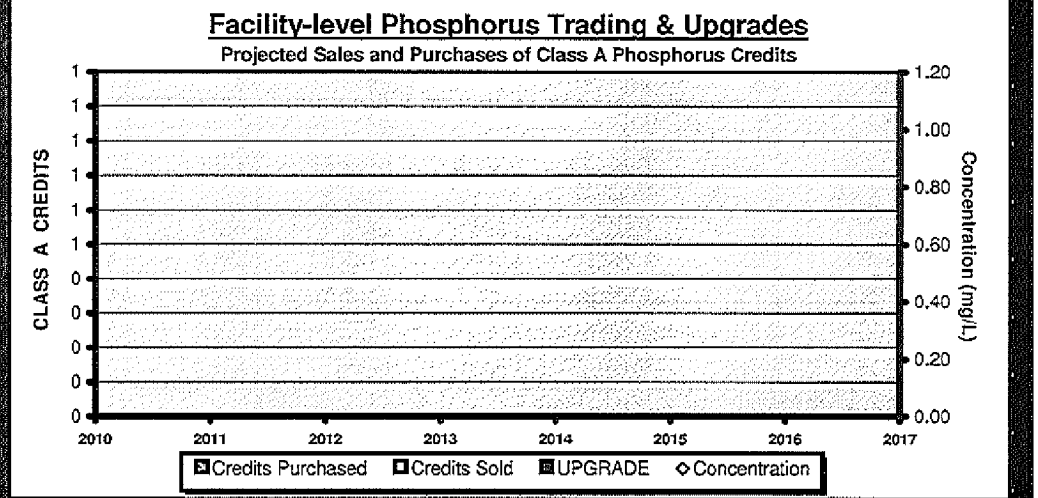
PART I. PHOSPHORUS SUMMARY FOR HRSD-MATHEWS

HRSD-Mathews

YORK Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.10
WLA Concentration (mg/L)	0.70
Delivery Factor	1.00
Delivered WLA	**213**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Projected Flow (mgd)	0.09	-	-	-	-	-	-	-
Projected Avg. Annual Concentration (mg/L)	1.10	-	-	-	-	-	-	-
Discharged Load (end of pipe)	304	0	0	0	0	0	0	0
Delivered Load	304	0	0	0	0	0	0	0
Delivered WLA		213	213	213	213	213	213	213
Expected Credits		213	213	213	213	213	213	213
Transfers In (Out) within Owner Bubble		(213)	(213)	(213)	(213)	(213)	(213)	(213)
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		0	0	0	0	0	0	0

AR0036522

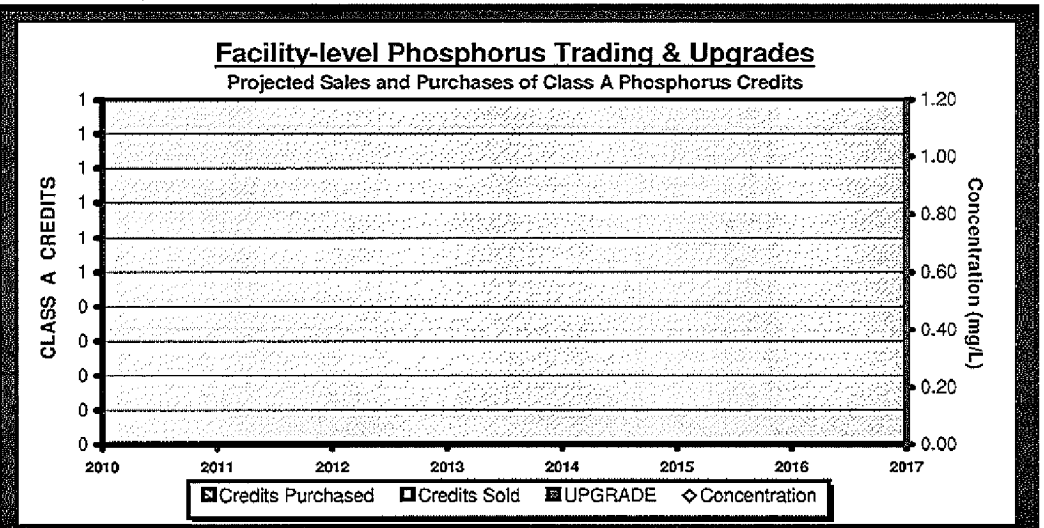
PART I. PHOSPHORUS SUMMARY FOR HRSD-WEST POINT

HRSD-West Point

YORK Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.60
WLA Concentration (mg/L)	0.70
Delivery Factor	1.00
Delivered WLA	**1,279**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Projected Flow (mgd)	0.54	0.57	0.60	0.64	0.68	0.73	0.77	0.82
Projected Avg. Annual Concentration (mg/L)	2.80	2.80	2.80	2.80	2.80	2.00	2.00	2.00
Discharged Load (end of pipe)	4,630	4,852	5,074	5,449	5,824	4,428	4,696	4,964
Delivered Load	4,630	4,852	5,074	5,449	5,824	4,428	4,696	4,964
Delivered WLA		1,279	1,279	1,279	1,279	1,279	1,279	1,279
Expected Credits		(3,573)	(3,795)	(4,170)	(4,545)	(3,149)	(3,417)	(3,685)
Transfers In (Out) within Owner Bubble		3,573	3,795	4,170	4,545	3,149	3,417	3,685
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		0	0	0	0	0	0	0

AR0036523

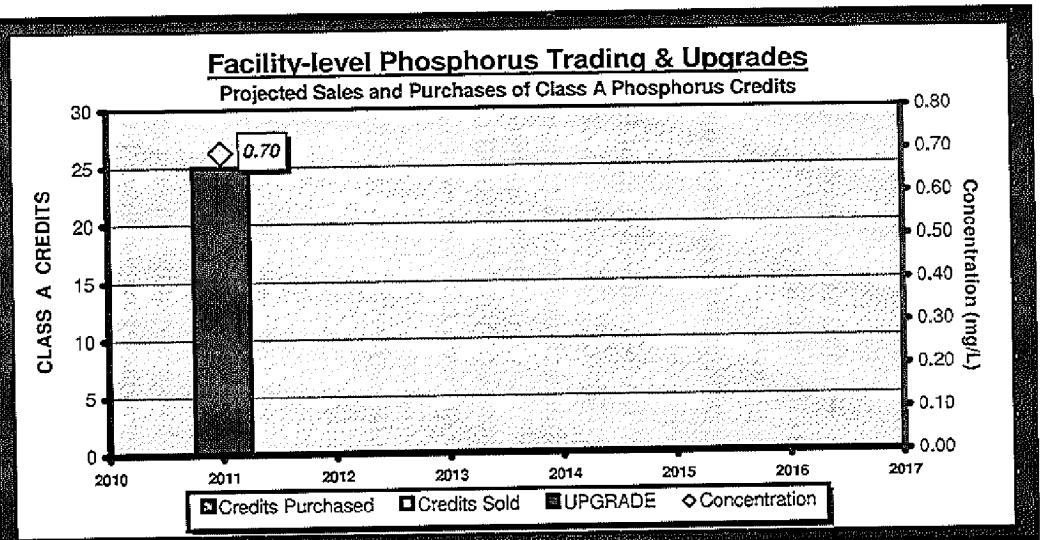
PART I. PHOSPHORUS SUMMARY FOR HRSD-YORK

HRSD-York

YORK Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	15.00
WLA Concentration (mg/L)	0.70
Delivery Factor	1.00
Delivered WLA	**31,978**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00
Projected Flow (mgd)	12.11	12.31	12.46	12.61	12.23	12.34	12.44	12.55
Projected Avg. Annual Concentration (mg/L)	1.40	0.70	0.70	0.70	0.70	0.70	0.70	0.35
Discharged Load (end of pipe)	51,636	26,248	26,563	26,879	26,067	26,298	26,531	13,382
Delivered Load	51,636	26,248	26,563	26,879	26,067	26,298	26,531	13,382
Delivered WLA		31,978	31,978	31,978	31,978	31,978	31,978	31,978
Expected Credits		5,730	5,415	5,099	5,911	5,680	5,447	18,596
Transfers In (Out) within Owner Bubble		(3,416)	(3,696)	(4,129)	(4,332)	(2,936)	(3,204)	(3,472)
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**2,314**	**1,719**	**970**	**1,579**	**2,744**	**2,243**	**15,124**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		2,314	1,719	970	1,579	2,744	2,243	15,124

AR0036524

FACILITY (OR OWNER BUBBLE) NAME: HRSD York River Bubble

PART IV. TOTAL PHOSPHORUS COMPLIANCE

A. 2009 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TP load to TP WLA. Would permittee have complied with its TP WLA for calendar year 2005 if its TP WLA had been in effect for that year?

__X__ NO *(proceed to III.B. Implementation Schedule for TP)*

However, TP WLA became effective as of January 1, 2008 at the request of permittee.

__ YES *(permittee must check Option 1 or Option 2)*:

____ Option 1: Permittee hereby requests TP WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(Stop Here/Part IV Is Complete), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TP WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under IV.B.)* Explanation: _____

(proceed to IV.B. Implementation Schedule for TP)

B. Implementation Schedule for TP

1. Does permittee anticipate requiring TP credit purchase to comply?

____ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TP credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

____ NO _____ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection _____

PER/CER to DEQ _____

Plans & Specifications to DEQ _____

Commence construction _____

Complete construction _____

CTO Request to DEQ (POTWs only) _____

End of Facility Appendix

AR0036525

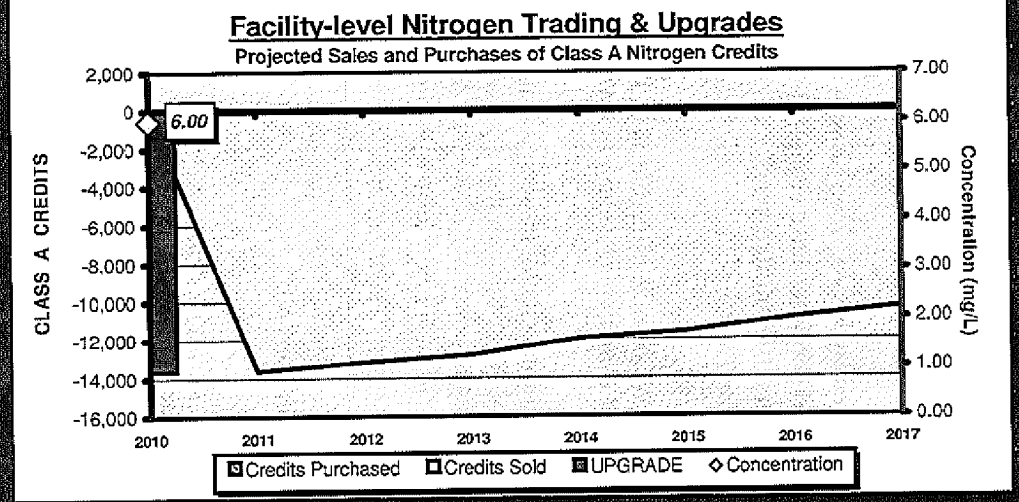
PART I. NITROGEN SUMMARY FOR NEW KENT CO-PARHAM

New Kent Co-Parham

YORK Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	2.00
WLA Concentration (mg/L)	6.00
Delivery Factor	1.00
Delivered WLA	**36,547**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	3.00	3.00	3.00	3.00	3.00	3.00	2.00	2.00
Projected Flow (mgd)	0.91	0.51	0.56	0.60	0.69	0.73	0.81	0.87
Projected Avg. Annual Concentration (mg/L)	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Discharged Load (end of pipe)	16,629	9,319	10,233	10,964	12,609	13,340	14,801	15,898
Delivered Load	16,629	9,319	10,233	10,964	12,609	13,340	14,801	15,898
Delivered WLA		36,547	36,547	36,547	36,547	36,547	36,547	36,547
Expected Credits		27,228	26,314	25,583	23,938	23,207	21,746	20,649
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**27,228**	**26,314**	**25,583**	**23,938**	**23,207**	**21,746**	**20,649**
Class A Pledge Percentage (%)		50%	50%	50%	50%	50%	50%	50%
Class A Credits		**13,614**	**13,157**	**12,792**	**11,969**	**11,604**	**10,873**	**10,325**
Expected Class B Credits		13,614	13,157	12,791	11,969	11,603	10,873	10,324

AR0036526

FACILITY (OR OWNER BUBBLE) NAME: Parham Landing WWTP

PART II. TOTAL NITROGEN COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TN load to TN WLA. Would permittee have complied with its TN WLA for calendar year 2005 if its TN WLA had been in effect for that year?

__X__ NO *(proceed to II.B. Implementation Schedule for TN)*

_____ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TN WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(PART II Complete; Proceed to PART IV. TOTAL PHOSPHORUS COMPLIANCE), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TN WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under II.B.)* Explanation: _____

_____

_____

(proceed to II.B. Implementation Schedule for TN)

B. Implementation Schedule for TN

1. Does permittee anticipate requiring TN credit purchase to comply?

   __X__ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TN credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

   _____ NO __X__ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection	_____Complete
PER/CER to DEQ	_____Complete
Plans & Specifications to DEQ	_____Complete
Commence construction	_____08/09
Complete construction	_____09/10
CTO Request to DEQ (POTWs only)	_____12/10

AR0036527

This facility's WLA has been modified from the last submittal to reflect a decreased design flow. The upgrade that was originally to be constructed for 3 mgd, is now being constructed for 2 mgd. Likewise, the WLAs have decreased proportionally from 54,820 lb/yr and 6,396 lb/yr for TN and TP to 36,547 lb/yr and 4,264 lb/yr for TN and TP. The request to reduce the WLA (Action # 2786) was approved for fast-track by the State Water Control Board on October 17, 2008. The amendment was published in the Virginia Register on February 16th, 2009. The comment period ended on March 18th, 2009. And, the amendment became effective on April 2nd, 2009.

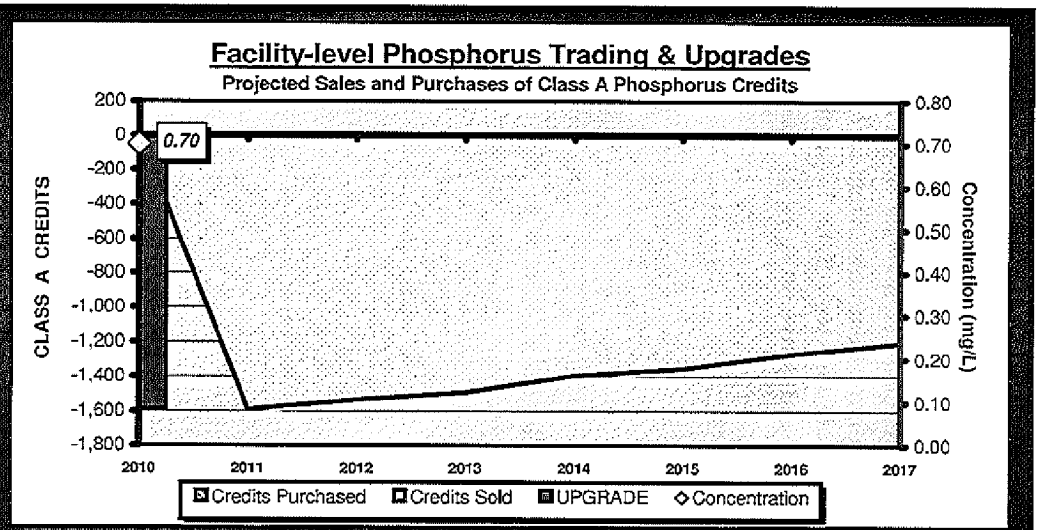
PART I. PHOSPHORUS SUMMARY FOR NEW KENT CO-PARHAM

New Kent Co-Parham

YORK Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	2.00
WLA Concentration (mg/L)	0.70
Delivery Factor	1.00
Delivered WLA	**4,264**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	3.00	3.00	3.00	3.00	3.00	3.00	2.00	2.00
Projected Flow (mgd)	0.91	0.51	0.56	0.60	0.69	0.73	0.81	0.87
Projected Avg. Annual Concentration (mg/L)	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Discharged Load (end of pipe)	1,940	1,087	1,194	1,279	1,471	1,556	1,727	1,855
Delivered Load	1,940	1,087	1,194	1,279	1,471	1,556	1,727	1,855
Delivered WLA		4,264	4,264	4,264	4,264	4,264	4,264	4,264
Expected Credits		3,177	3,070	2,985	2,793	2,708	2,537	2,409
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**3,177**	**3,070**	**2,985**	**2,793**	**2,708**	**2,537**	**2,409**
Class A Pledge Percentage (%)		50%	50%	50%	50%	50%	50%	50%
Class A Credits		**1,589**	**1,535**	**1,493**	**1,397**	**1,354**	**1,269**	**1,205**
Expected Class B Credits		1,588	1,535	1,492	1,396	1,354	1,268	1,204

AR0036529

FACILITY (OR OWNER BUBBLE) NAME: Parham Landing WWTP

PART IV. TOTAL PHOSPHORUS COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TP load to TP WLA. Would permittee have complied with its TP WLA for calendar year 2005 if its TP WLA had been in effect for that year?

__X__ NO *(proceed to III.B. Implementation Schedule for TP)*

_____ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TP WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(Stop Here/Part IV Is Complete), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TP WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under IV.B.)* Explanation: _____

_____

_____

(proceed to IV.B. Implementation Schedule for TP)

B. Implementation Schedule for TP

1. Does permittee anticipate requiring TP credit purchase to comply?

   __X__ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TP credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

   _____ NO __X__ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection	_____Complete
PER/CER to DEQ	_____Complete
Plans & Specifications to DEQ	_____Complete
Commence construction	_____08/09
Complete construction	_____09/10
CTO Request to DEQ (POTWs only)	_____12/10

AR0036530

This facility's WLA has been modified from the last submittal to reflect a decreased design flow. The upgrade that was originally to be constructed for 3 mgd, is now being constructed for 2 mgd. Likewise, the WLAs have decreased proportionally from 54,820 lb/yr and 6,396 lb/yr for TN and TP to 36,547 lb/yr and 4,264 lb/yr for TN and TP. The request to reduce the WLA (Action # 2786) was approved for fast-track by the State Water Control Board on October 17, 2008. The amendment was published in the Virginia Register on February 16th, 2009. The comment period ended on March 18th, 2009. And, the amendment became effective on April 2nd, 2009.

End of Facility Appendix

AR0036531

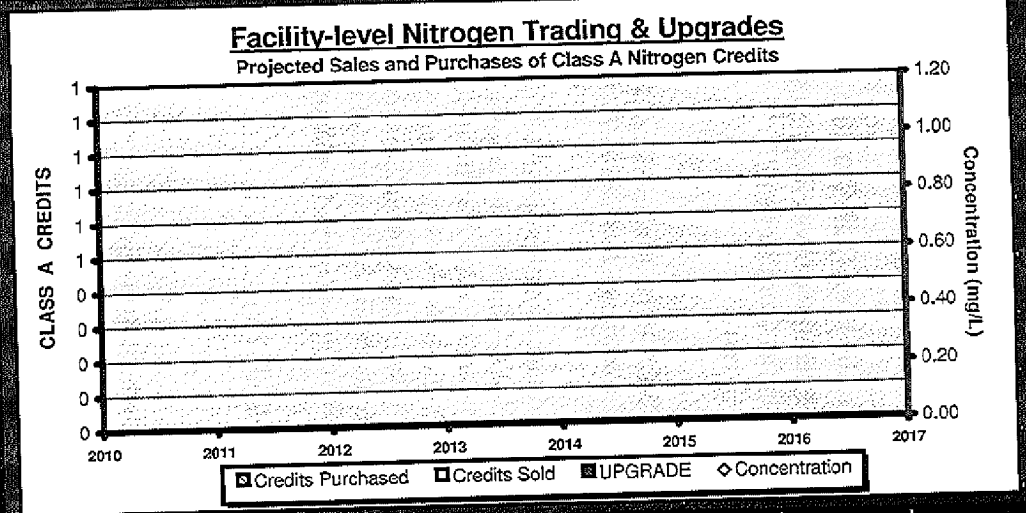
PART I. NITROGEN SUMMARY FOR RSA-GORDONSVILLE

RSA-Gordonsville

YORK Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.94
WLA Concentration (mg/L)	6.00
Delivery Factor	0.01
Delivered WLA	172



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Projected Flow (mgd)	0.31	0.35	0.39	0.43	0.47	0.47	0.47	0.47
Projected Avg. Annual Concentration (mg/L)	6.50	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Discharged Load (end of pipe)	6,137	6,396	7,127	7,858	8,588	8,588	8,588	8,588
Delivered Load	61	64	71	79	86	86	86	86
Delivered WLA		172	172	172	172	172	172	172
Expected Credits		108	101	93	86	86	86	86
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		(49)	(49)	(49)	(49)	(49)	(49)	(49)
Expected Net Credits		59	52	44	37	37	37	37
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		0	0	0	0	0	0	0
Expected Class B Credits		59	52	44	37	37	37	37

FACILITY (OR OWNER BUBBLE) NAME: Gordonsville STP

PART II. TOTAL NITROGEN COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TN load to TN WLA. Would permittee have complied with its TN WLA for calendar year 2005 if its TN WLA had been in effect for that year?

_____ NO *(proceed to II.B. Implementation Schedule for TN)*

___X_ YES *(permittee must check Option 1 or Option 2)*:

___X_ Option 1: Permittee hereby requests TN WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(PART II Complete; Proceed to PART IV. TOTAL PHOSPHORUS COMPLIANCE), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TN WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under II.B.)* **Explanation**: Update from Option 2 to Option 1: Experience of last several years plus current economic climate will not reverse over next several months. Therefore, RSA volunteers now to take our mass limits effective for calendar year 2010.

(proceed to II.B. Implementation Schedule for TN)

B. Implementation Schedule for TN

1. Does permittee anticipate requiring TN credit purchase to comply?

   __X__ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TN credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

   __X__ NO _____ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

   Engineer selection _____

   PER/CER to DEQ _____

   Plans & Specifications to DEQ _____

   Commence construction _____

   Complete construction _____

   CTO Request to DEQ (POTWs only) _____

AR0036533

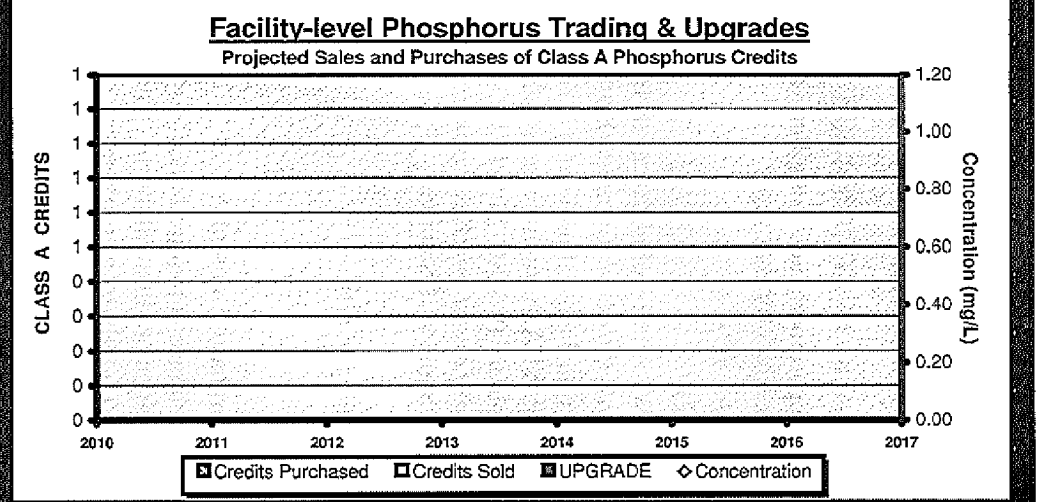
PART I. PHOSPHORUS SUMMARY FOR RSA-GORDONSVILLE

RSA-Gordonsville

YORK Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.94
WLA Concentration (mg/L)	0.70
Delivery Factor	0.60
Delivered WLA	**1,202**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Projected Flow (mgd)	0.31	0.35	0.39	0.43	0.47	0.47	0.47	0.47
Projected Avg. Annual Concentration (mg/L)	0.70	0.70	0.70	0.70	0.90	0.90	0.90	0.90
Discharged Load (end of pipe)	661	746	831	917	1,288	1,288	1,288	1,288
Delivered Load	397	448	499	550	773	773	773	773
Delivered WLA		1,202	1,202	1,202	1,202	1,202	1,202	1,202
Expected Credits		754	703	652	429	429	429	429
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		(345)	(345)	(345)	(345)	(345)	(345)	(345)
Expected Net Credits		**409**	**358**	**307**	**84**	**84**	**84**	**84**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		409	358	307	84	84	84	84

AR0036534

FACILITY (OR OWNER BUBBLE) NAME: Gordonsville STP

PART IV. TOTAL PHOSPHORUS COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TP load to TP WLA. Would permittee have complied with its TP WLA for calendar year 2005 if its TP WLA had been in effect for that year?

_____ NO *(proceed to III.B. Implementation Schedule for TP)*

__X__ YES *(permittee must check Option 1 or Option 2)*:

_X___ Option 1: Permittee hereby requests TP WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(Stop Here/Part IV Is Complete), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TP WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under IV.B.)* **Explanation**: Same as TN above

(proceed to IV.B. Implementation Schedule for TP)

B. Implementation Schedule for TP

1. Does permittee anticipate requiring TP credit purchase to comply?

   __X__ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TP credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

   ___X_ NO _____ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

   Engineer selection _____

   PER/CER to DEQ _____

   Plans & Specifications to DEQ _____

   Commence construction _____

   Complete construction _____

   CTO Request to DEQ (POTWs only) _____

End of Facility Appendix

AR0036535

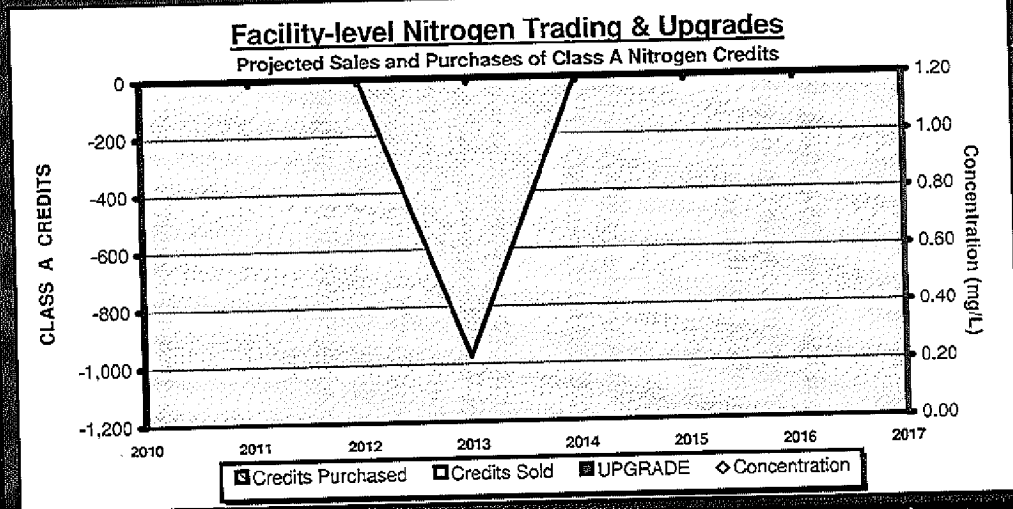
PART I. NITROGEN SUMMARY FOR SMURFIT-STONE-WEST POINT

Smurfit-Stone-West Point

YORK Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	23.00
WLA Concentration (mg/L)	3.70
Delivery Factor	1.00
Delivered WLA	259,177



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00
Projected Flow (mgd)	18.00	22.00	23.00	22.00	20.00	20.00	20.00	20.00
Projected Avg. Annual Concentration (mg/L)	4.73	3.87	3.70	3.85	4.25	4.25	4.25	4.25
Discharged Load (end of pipe)	259,176	259,177	259,177	257,959	258,873	258,873	258,873	258,873
Delivered Load	259,176	259,177	259,177	257,959	258,873	258,873	258,873	258,873
Delivered WLA		259,177	259,177	259,177	259,177	259,177	259,177	259,177
Expected Credits		0	0	1,218	304	304	304	304
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**0**	**0**	**1,218**	**304**	**304**	**304**	**304**
Class A Pledge Percentage (%)		0%	0%	80%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**974**	**0**	**0**	**0**	**0**
Expected Class B Credits		0	0	244	304	304	304	304

FACILITY (OR OWNER BUBBLE) NAME: Smurfit-Stone Container Enterprises, Inc. West Point Mill

PART II. TOTAL NITROGEN COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TN load to TN WLA. Would permittee have complied with its TN WLA for calendar year 2005 if its TN WLA had been in effect for that year?

_____ NO *(proceed to II.B. Implementation Schedule for TN)*

__X__ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TN WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(PART II Complete; Proceed to PART IV. TOTAL PHOSPHORUS COMPLIANCE), or*

__X__ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TN WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under II.B.)* Explanation: Delivered load is close to allocation. A project will be undertaken if it can assure compliance, if it is justified or required.

(proceed to II.B. Implementation Schedule for TN)

B. Implementation Schedule for TN

1. Does permittee anticipate requiring TN credit purchase to comply?

_____ NO __X*__ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TN credit purchase and capital project.)

* only if required

2. Is permittee implementing a capital project to comply?

__X__ NO _____ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection _____

PER/CER to DEQ _____

Plans & Specifications to DEQ _____

Commence construction _____

Complete construction _____

CTO Request to DEQ (POTWs only) _____

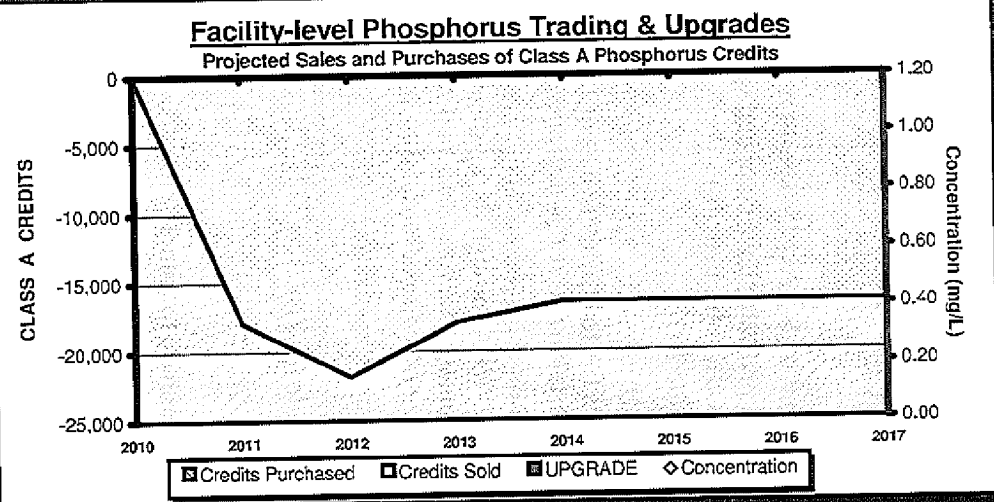
PART I. PHOSPHORUS SUMMARY FOR SMURFIT-STONE-WEST POINT

Smurfit-Stone-West Point

YORK Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	23.00
WLA Concentration (mg/L)	1.00
Delivery Factor	1.00
Delivered WLA	**70,048**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00
Projected Flow (mgd)	18.00	22.00	23.00	22.00	20.00	20.00	20.00	20.00
Projected Avg. Annual Concentration (mg/L)	0.80	0.70	0.60	0.70	0.80	0.80	0.80	0.80
Discharged Load (end of pipe)	43,856	46,902	42,029	46,902	48,729	48,729	48,729	48,729
Delivered Load	43,856	46,902	42,029	46,902	48,729	48,729	48,729	48,729
Delivered WLA		70,048	70,048	70,048	70,048	70,048	70,048	70,048
Expected Credits		23,146	28,019	23,146	21,319	21,319	21,319	21,319
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		(767)	(767)	(767)	(767)	(767)	(767)	(767)
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**22,379**	**27,252**	**22,379**	**20,552**	**20,552**	**20,552**	**20,552**
Class A Pledge Percentage (%)		80%	80%	80%	80%	80%	80%	80%
Class A Credits		**17,903**	**21,802**	**17,903**	**16,442**	**16,442**	**16,442**	**16,442**
Expected Class B Credits		4,476	5,450	4,476	4,110	4,110	4,110	4,110

AR0036538

FACILITY (OR OWNER BUBBLE) NAME: Smurfit-Stone Container Enterprises, Inc. West Point Mill

PART IV. TOTAL PHOSPHORUS COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TP load to TP WLA. Would permittee have complied with its TP WLA for calendar year 2005 if its TP WLA had been in effect for that year?

_____ NO *(proceed to III.B. Implementation Schedule for TP)*

__X__ YES *(permittee must check Option 1 or Option 2)*:

__X__ Option 1: Permittee hereby requests TP WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(Stop Here/Part IV Is Complete), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TP WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under IV.B.)* Explanation: _____

_____

(proceed to IV.B. Implementation Schedule for TP)

B. Implementation Schedule for TP

1. Does permittee anticipate requiring TP credit purchase to comply?

   _____ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TP credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

   _____ NO _____ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

   Engineer selection _____

   PER/CER to DEQ _____

   Plans & Specifications to DEQ _____

   Commence construction _____

   Complete construction _____

   CTO Request to DEQ (POTWs only) _____

End of Facility Appendix

AR0036539

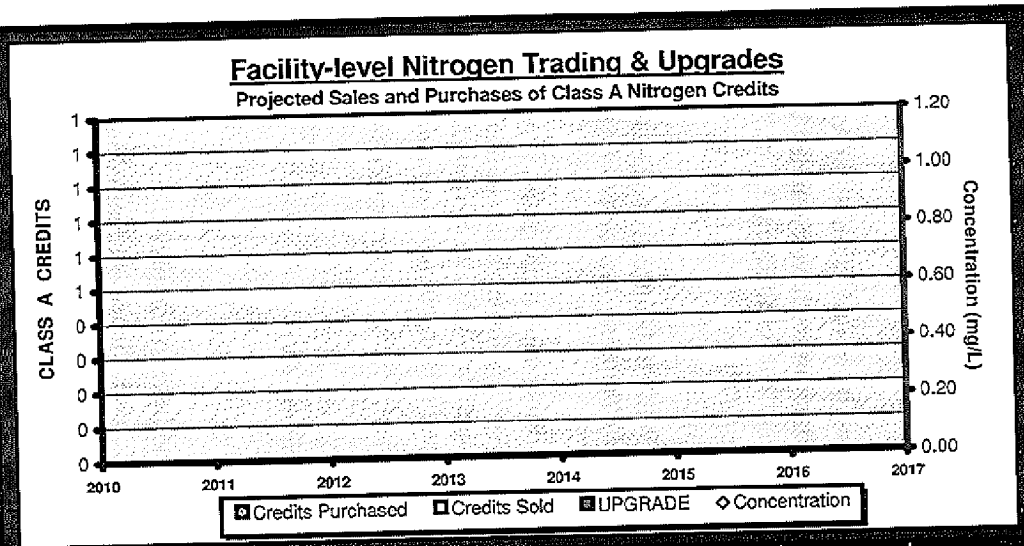
PART I. NITROGEN SUMMARY FOR WHITE BIRCH-BEAR ISLAND

White Birch-Bear Island

YORK Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	4.20
WLA Concentration (mg/L)	3.70
Delivery Factor	0.51
Delivered WLA	**24,137**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20
Projected Flow (mgd)	4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20
Projected Avg. Annual Concentration (mg/L)	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70
Discharged Load (end of pipe)	47,328	47,328	47,328	47,328	47,328	47,328	47,328	47,328
Delivered Load	24,137	24,137	24,137	24,137	24,137	24,137	24,137	24,137
Delivered WLA		24,137	24,137	24,137	24,137	24,137	24,137	24,137
Expected Credits		0	0	0	0	0	0	0
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		0	0	0	0	0	0	0

FACILITY (OR OWNER BUBBLE) NAME: Bear Island Paper Company, LLC

PART II. TOTAL NITROGEN COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TN load to TN WLA. Would permittee have complied with its TN WLA for calendar year 2005 if its TN WLA had been in effect for that year?

__X__ NO *(proceed to II.B. Implementation Schedule for TN)*

_____ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TN WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(PART II Complete; Proceed to PART IV. TOTAL PHOSPHORUS COMPLIANCE), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TN WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under II.B.)* Explanation: _____

_____

_____

(proceed to II.B. Implementation Schedule for TN)

B. Implementation Schedule for TN

1. Does permittee anticipate requiring TN credit purchase to comply?

   __X__ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TN credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

   __X__ NO _____ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

   Engineer selection _____

   PER/CER to DEQ _____

   Plans & Specifications to DEQ _____

   Commence construction _____

   Complete construction _____

   CTO Request to DEQ (POTWs only) _____

AR0036541

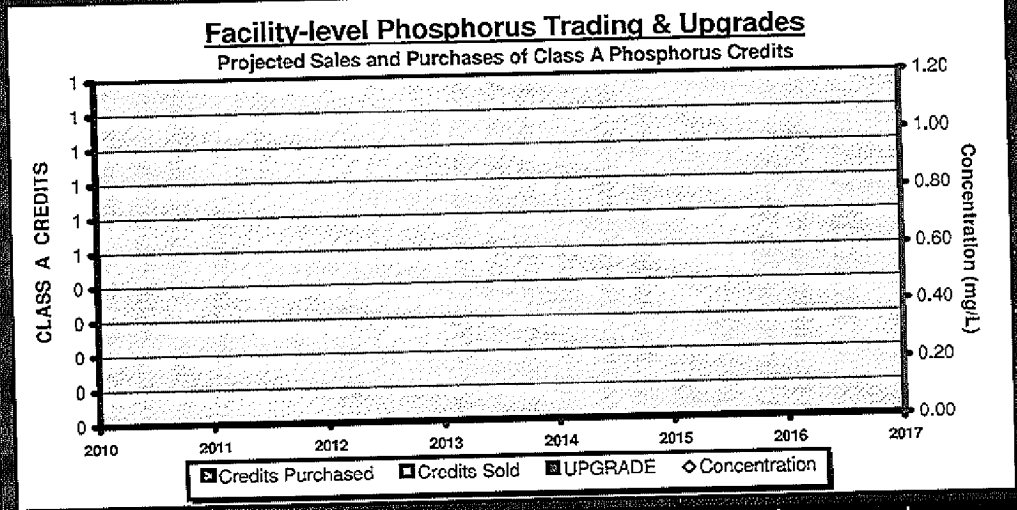
PART I. PHOSPHORUS SUMMARY FOR WHITE BIRCH-BEAR ISLAND

White Birch-Bear Island

YORK Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	4.20
WLA Concentration (mg/L)	1.00
Delivery Factor	0.60
Delivered WLA	7,675



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20
Projected Flow (mgd)	4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20
Projected Avg. Annual Concentration (mg/L)	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
Discharged Load (end of pipe)	14,070	14,070	14,070	14,070	14,070	14,070	14,070	14,070
Delivered Load	8,442	8,442	8,442	8,442	8,442	8,442	8,442	8,442
Delivered WLA		7,675	7,675	7,675	7,675	7,675	7,675	7,675
Expected Credits		(767)	(767)	(767)	(767)	(767)	(767)	(767)
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		767	767	767	767	767	767	767
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		0	0	0	0	0	0	0

AR0036542

FACILITY (OR OWNER BUBBLE) NAME: Bear Island Paper Company, LLC

PART IV. TOTAL PHOSPHORUS COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TP load to TP WLA. Would permittee have complied with its TP WLA for calendar year 2005 if its TP WLA had been in effect for that year?

__X__ NO *(proceed to III.B. Implementation Schedule for TP)*

_____ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TP WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(Stop Here/Part IV Is Complete), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TP WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under IV.B.)* Explanation: _____

_____

(proceed to IV.B. Implementation Schedule for TP)

B. Implementation Schedule for TP

1. Does permittee anticipate requiring TP credit purchase to comply?

   __X__ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TP credit purchase and capital project.) ***Bear Island Paper Company anticipates a private exchange of credits with Smurfit-Stone.***

2. Is permittee implementing a capital project to comply?

   __X__ NO _____ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

   Engineer selection _____

   PER/CER to DEQ _____

   Plans & Specifications to DEQ _____

   Commence construction _____

   Complete construction _____

   CTO Request to DEQ (POTWs only) _____

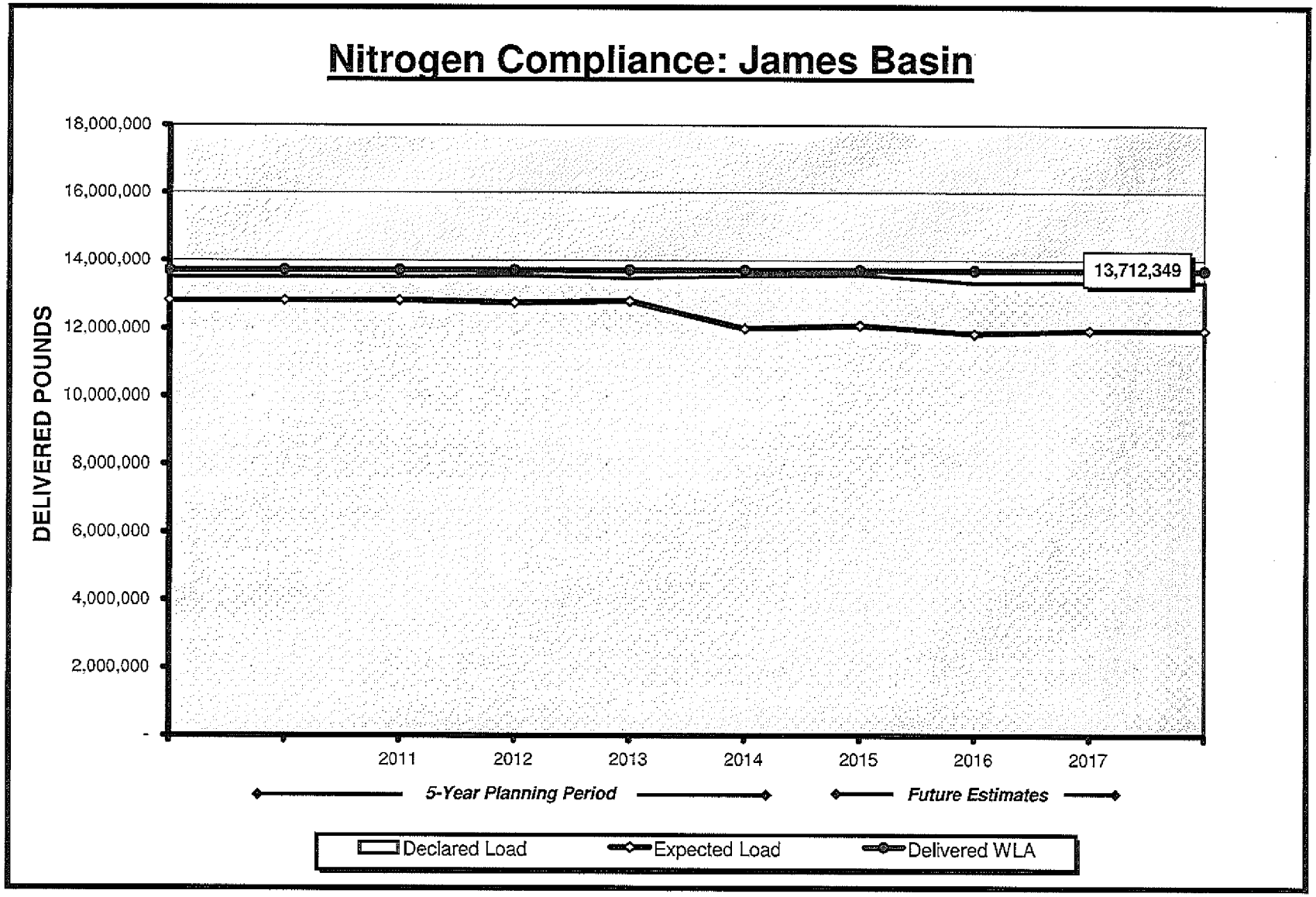
End of Facility Appendix

AR0036543

SECTION 5

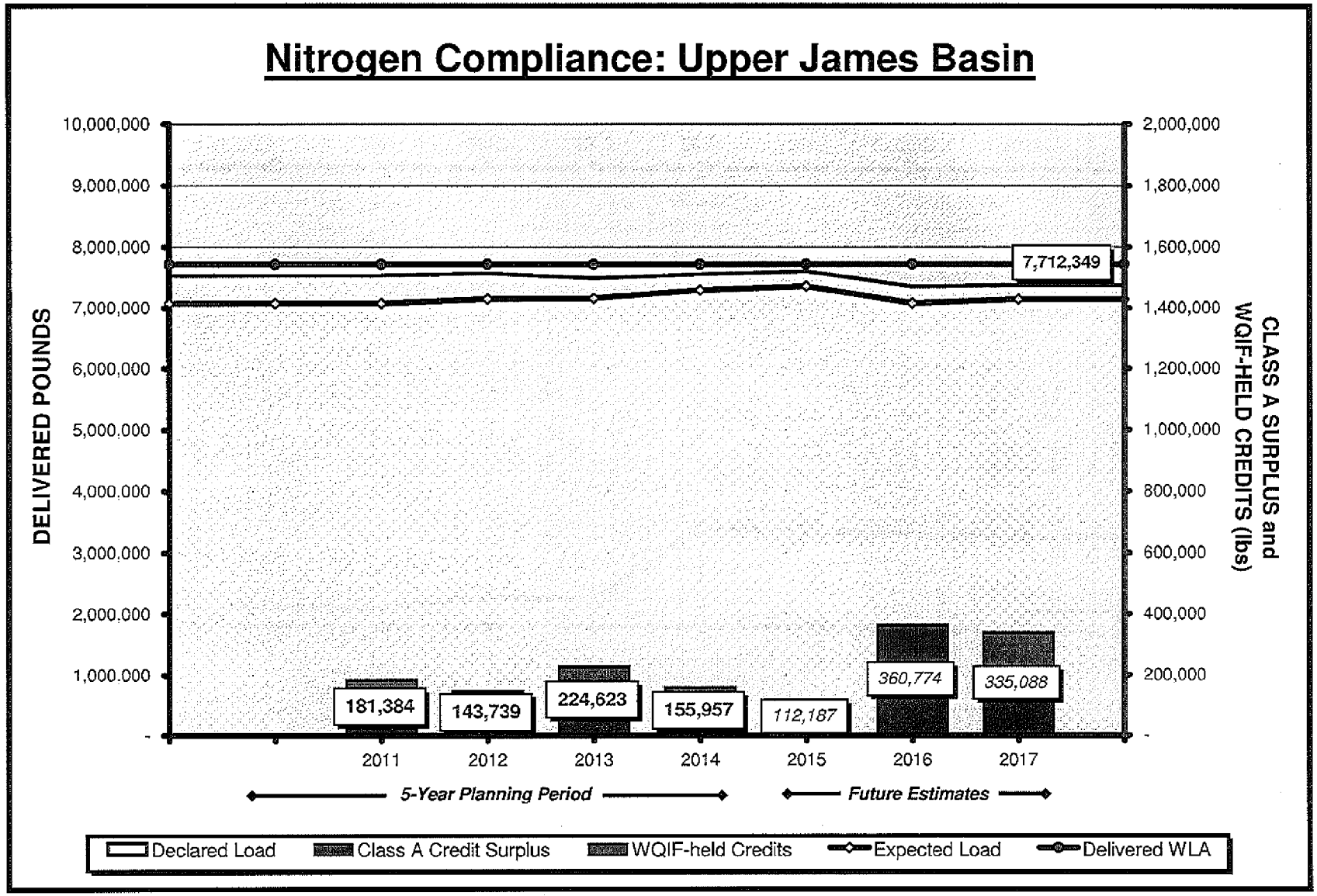
James River Basin Exchange Compliance Plan

EXHIBIT 5-1
Nitrogen Plan Summary: James River Basin



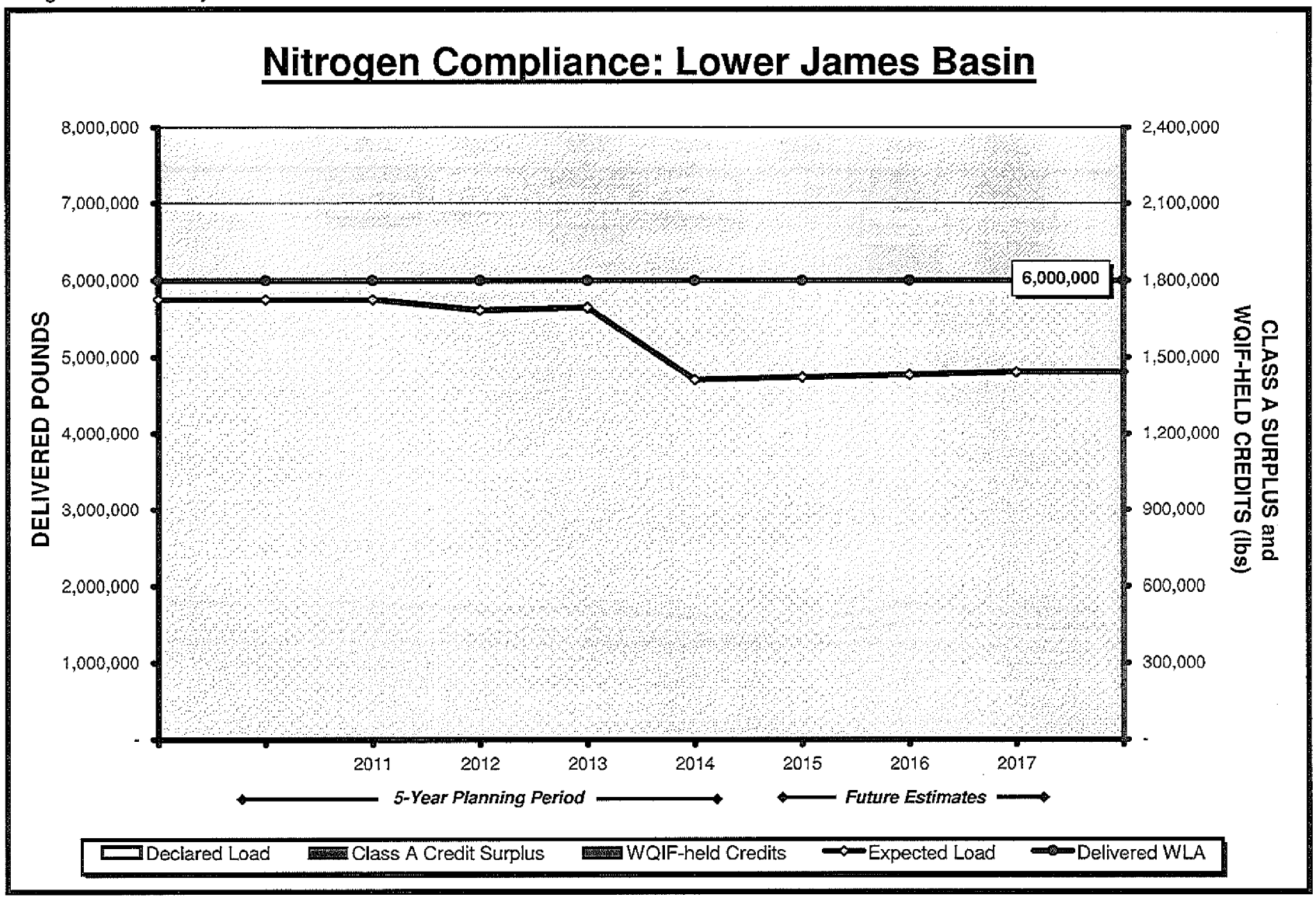
AR0036545

EXHIBIT 5-2
Nitrogen Plan Summary: Upper James River Basin



AR0036546

EXHIBIT 5-3
Nitrogen Plan Summary: Lower James River Basin



AR0036547

EXHIBIT 5-4
Nitrogen Capital Projects Schedule: James River Basin

JAMES Basin: Nitrogen Upgrade Schedule by Facility

mg/L Upgrades In Progress	Design Flow (mgd)	UIP Year*	UIP mg/L	Planning Period 2010	2011	2012	2013	2014	Future Estimates 2015	2016	2017
UPPER JAMES BASIN											
Alleghany Co-L. Jackson	3.50	2011		5.00							
Alleghany Co-Low Moor	0.50										
Amherst (Town)	0.60										
Aqua Virginia-L. Monticello	1.00	2014		6.00	6.00	6.00	6.00				
Babcock & Wilcox, N.O.G.	1.00	2013		113.70	113.70	113.70					
Buena Vista	2.25										
Chesterfield-Falling Cr.	10.10	2011		5.00							
Chesterfield-Proctors Cr.	27.00	2013		5.00	5.00	5.00					
Covington	3.00										
Crewe	0.50										
Dominion-Chesterfield	13.50										
DuPont-Spruance	23.33										
Georgia-Pacific	10.87										
Greif Packaging	6.50										
Henrico Co	75.00	2011		4.90							
Honeywell-Hopewell	121.00										
Hopewell RWTF	50.00										
Lynchburg	22.00										
MeadWestvaco	35.00										
MSA-Lexington	3.00	2012		6.00	6.00						
New Kent-Chickahominy	0.41										
Philip Morris	2.90										
Richmond	45.00	2011		8.00							
RWSA-Moores Creek	15.00	2013		5.00	5.00	5.00					
South Central WWA	23.00	2016		5.00	5.00	5.00	5.00	5.00	5.00		
Sustainability Park	2.10										
Tyson Foods-Glen Allen	1.07	2011		6.00							
LOWER JAMES BASIN											
HRSD-Army Base	18.00	2014		5.00	5.00	5.00	5.00				
HRSD-Boat Harbor	25.00										
HRSD-Ches/Eliz	24.00										
HRSD-James River	20.00	2011		12.00							
HRSD-Nansemond	30.00	2012		8.00	8.00						
HRSD-VIP	40.00										
HRSD-Williamsburg	22.50										

** Identifies the first full operational year of the completed upgrade (brown bars represent construction period)*

EXHIBIT 5-5
2011 Nitrogen Trading Ledger: James River Basin

JAMES Basin: Nitrogen Credit Ledger

Compliance Year:	2011	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits	Class A Pledge	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	$ 1.16	$ 2.00	$ 0.14
UPPER JAMES BASIN	**7,712,349**	**7,075,221**	**637,128**	**-**	**-**	**(4,934)**	**632,194**		**512,676**	**(331,291)**	**450,809**
Alleghany Co-L. Jackson	19,187	11,033	8,154	-	-	(4,934)	3,220	0%	-	-	3,220
Alleghany Co-Low Moor	2,741	1,687	1,054	-	-	-	1,054	0%	-	-	1,054
Amherst (Town)	6,688	4,028	2,660	-	-	-	2,660	50%	1,330	-	1,330
Aqua Virginia-L. Monticello	11,091	38,456	(27,365)	-	-	-	(27,365)	100%	-	(27,365)	-
Babcock & Wilcox, N.O.G.	114,070	175,561	(61,491)	-	-	-	(61,491)	100%	-	(61,491)	-
Buena Vista	12,335	18,018	(5,683)	-	-	-	(5,683)	100%	-	(5,683)	-
Chesterfield-Falling Cr.	153,801	153,801	-	-	-	-	-	0%	-	-	-
Chesterfield-Proctors Cr.	411,151	342,671	68,480	-	-	-	68,480	0%	-	-	68,480
Covington	16,446	21,380	(4,934)	-	-	-	(4,934)	100%	-	(4,934)	-
Crewe	3,472	1,736	1,736	-	-	-	1,736	100%	1,736	-	-
Dominion-Chesterfield	352,036	345,038	6,998	-	-	-	6,998	0%	-	-	6,998
DuPont-Spruance	201,080	241,294	(40,214)	-	-	-	(40,214)	100%	-	(40,214)	-
Georgia-Pacific	36,747	27,593	9,154	-	-	-	9,154	50%	4,577	-	4,577
Greif Packaging	44,680	34,555	10,125	-	-	-	10,125	50%	5,063	-	5,062
Henrico Co	1,142,085	813,466	328,619	-	-	-	328,619	85%	279,326	-	49,293
Honeywell-Hopewell	1,090,798	837,529	253,269	-	(80,841)	-	172,428	0%	-	-	172,428
Hopewell RWTF	1,827,336	1,908,177	(80,841)	-	80,841	-	-	0%	-	-	-
Lynchburg	326,971	160,002	166,969	-	-	-	166,969	90%	150,272	-	16,697
MeadWestvaco	118,320	74,007	44,313	-	-	-	44,313	90%	39,882	-	4,431
MSA-Lexington	16,446	9,356	7,090	-	-	-	7,090	0%	-	-	7,090
New Kent-Chickahominy	6,167	-	6,167	-	-	-	6,167	0%	-	-	6,167
Philip Morris	139,724	63,500	76,224	-	-	-	76,224	40%	30,490	-	45,734
Richmond	1,096,402	1,047,673	48,729	-	-	-	48,729	0%	-	-	48,729
RWSA-Moores Creek	167,201	161,702	5,499	-	-	-	5,499	0%	-	-	5,499
South Central WWA	350,239	541,843	(191,604)	-	-	-	(191,604)	100%	-	(191,604)	-
Sustainability Park	25,583	22,842	2,741	-	-	-	2,741	0%	-	-	2,741
Tyson Foods-Glen Allen	19,552	18,273	1,279	-	-	-	1,279	0%	-	-	1,279
								PRICE:	No Sale	No Sale	No Sale
LOWER JAMES BASIN	**6,000,000**	**5,747,138**	**252,862**	**-**	**-**	**-**	**252,862**		**-**	**-**	**252,862**
HRSD-Army Base	610,000	917,058	(307,058)	307,058	-	-	-	0%	-	-	-
HRSD-Boat Harbor	740,000	1,090,513	(350,513)	350,513	-	-	-	0%	-	-	-
HRSD-Ches/Eliz	1,100,000	1,005,526	94,474	-	-	-	94,474	0%	-	-	94,474
HRSD-James River	1,250,000	537,525	712,475	(712,475)	-	-	-	0%	-	-	-
HRSD-Nansemond	750,000	621,169	128,831	(100,148)	-	-	28,683	0%	-	-	28,683
HRSD-VIP	750,000	905,052	(155,052)	155,052	-	-	-	0%	-	-	-
HRSD-Williamsburg	800,000	670,295	129,705	-	-	-	129,705	0%	-	-	129,705

For this Compliance Year, 0% of all Class A Purchases are expected to be satisfied using Class B Credits.

*** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

AR0036549

EXHIBIT 5-6
2012 Nitrogen Trading Ledger: James River Basin

JAMES Basin: Nitrogen Credit Ledger

Compliance Year:	2012	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits	Class A Pledge	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	$ 1.27	$ 2.00	$ 0.16
UPPER JAMES BASIN	**7,712,349**	**7,147,276**	**565,073**	**-**	**-**	**(4,934)**	**560,139**		**492,601**	**(348,861)**	**416,399**
Alleghany Co-L. Jackson	19,187	10,644	8,543	-	-	(4,934)	3,609	0%	-	-	3,609
Alleghany Co-Low Moor	2,741	1,791	950	-	-	-	950	0%	-	-	950
Amherst (Town)	6,688	4,152	2,536	-	-	-	2,536	50%	1,268	-	1,268
Aqua Virginia-L. Monticello	11,091	38,456	(27,365)	-	-	-	(27,365)	100%	-	(27,365)	-
Babcock & Wilcox, N.O.G.	114,070	175,561	(61,491)	-	-	-	(61,491)	100%	-	(61,491)	-
Buena Vista	12,335	18,018	(5,683)	-	-	-	(5,683)	100%	-	(5,683)	-
Chesterfield-Falling Cr.	153,801	153,801	-	-	-	-	-	0%	-	-	-
Chesterfield-Proctors Cr.	411,151	357,914	53,237	-	-	-	53,237	0%	-	-	53,237
Covington	16,446	21,380	(4,934)	-	-	-	(4,934)	100%	-	(4,934)	-
Crewe	3,472	1,736	1,736	-	-	-	1,736	100%	1,736	-	-
Dominion-Chesterfield	352,036	345,038	6,998	-	-	-	6,998	0%	-	-	6,998
DuPont-Spruance	201,080	250,603	(49,523)	-	-	-	(49,523)	100%	-	(49,523)	-
Georgia-Pacific	36,747	27,849	8,898	-	-	-	8,898	50%	4,449	-	4,449
Greif Packaging	44,680	34,555	10,125	-	-	-	10,125	50%	5,063	-	5,062
Henrico Co	1,142,085	837,791	304,294	-	-	-	304,294	85%	258,650	-	45,644
Honeywell-Hopewell	1,090,798	837,529	253,269	-	(89,064)	-	164,205	0%	-	-	164,205
Hopewell RWTF	1,827,336	1,916,400	(89,064)	-	89,064	-	-	0%	-	-	-
Lynchburg	326,971	162,297	164,674	-	-	-	164,674	90%	148,207	-	16,467
MeadWestvaco	118,320	74,007	44,313	-	-	-	44,313	90%	39,882	-	4,431
MSA-Lexington	16,446	7,346	9,100	-	-	-	9,100	50%	4,550	-	4,550
New Kent-Chickahominy	6,167	-	6,167	-	-	-	6,167	0%	-	-	6,167
Philip Morris	139,724	67,733	71,991	-	-	-	71,991	40%	28,796	-	43,195
Richmond	1,096,402	1,047,673	48,729	-	-	-	48,729	0%	-	-	48,729
RWSA-Moores Creek	167,201	163,783	3,418	-	-	-	3,418	0%	-	-	3,418
South Central WWA	350,239	550,104	(199,865)	-	-	-	(199,865)	100%	-	(199,865)	-
Sustainability Park	25,583	22,842	2,741	-	-	-	2,741	0%	-	-	2,741
Tyson Foods-Glen Allen	19,552	18,273	1,279	-	-	-	1,279	0%	-	-	1,279
								PRICE:	No Sale	No Sale	No Sale
LOWER JAMES BASIN	**6,000,000**	**5,610,781**	**389,219**	**-**	**-**	**-**	**389,219**		**-**	**-**	**389,219**
HRSD-Army Base	610,000	917,688	(307,688)	307,688	-	-	-	0%	-	-	-
HRSD-Boat Harbor	740,000	1,094,341	(354,341)	354,341	-	-	-	0%	-	-	-
HRSD-Ches/Eliz	1,100,000	1,008,176	91,824	-	-	-	91,824	0%	-	-	91,824
HRSD-James River	1,250,000	540,787	709,213	(709,213)	-	-	-	0%	-	-	-
HRSD-Nansemond	750,000	461,692	288,308	(107,868)	-	-	180,440	0%	-	-	180,440
HRSD-VIP	750,000	905,052	(155,052)	155,052	-	-	-	0%	-	-	-
HRSD-Williamsburg	800,000	683,045	116,955	-	-	-	116,955	0%	-	-	116,955

**** For this Compliance Year, 0% of all Class A Purchases are expected to be satisfied using Class B Credits.***

*** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

AR0036550

EXHIBIT 5-7
2013 Nitrogen Trading Ledger: James River Basin

JAMES Basin: Nitrogen Credit Ledger

Compliance Year:	2013	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits	Class A Pledge	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	$ 1.08	$ 2.15	$ 0.19
UPPER JAMES BASIN	**7,712,349**	**7,157,787**	**554,562**	**-**	**-**	**(4,934)**	**549,628**		**514,375**	**(289,751)**	**325,004**
Alleghany Co-L. Jackson	19,187	10,599	8,588	-	-	(4,934)	3,654	0%	-	-	3,654
Alleghany Co-Low Moor	2,741	1,894	847	-	-	-	847	0%	-	-	847
Amherst (Town)	6,688	4,260	2,428	-	-	-	2,428	50%	1,214	-	1,214
Aqua Virginia-L. Monticello	11,091	23,408	(12,317)	-	-	-	(12,317)	100%	-	(12,317)	-
Babcock & Wilcox, N.O.G.	114,070	114,065	5	-	-	-	5	0%	-	-	5
Buena Vista	12,335	18,018	(5,683)	-	-	-	(5,683)	100%	-	(5,683)	-
Chesterfield-Falling Cr.	153,801	169,181	(15,380)	15,380	-	-	-	0%	-	-	-
Chesterfield-Proctors Cr.	411,151	315,748	95,403	(15,380)	-	-	80,023	0%	-	-	80,023
Covington	16,446	21,380	(4,934)	-	-	-	(4,934)	100%	-	(4,934)	-
Crewe	3,472	1,736	1,736	-	-	-	1,736	100%	1,736	-	-
Dominion-Chesterfield	352,036	345,038	6,998	-	-	-	6,998	0%	-	-	6,998
DuPont-Spruance	201,080	259,809	(58,729)	-	-	-	(58,729)	100%	-	(58,729)	-
Georgia-Pacific	36,747	29,164	7,583	-	-	-	7,583	60%	4,550	-	3,033
Greif Packaging	44,680	41,661	3,019	-	-	-	3,019	50%	1,510	-	1,509
Henrico Co	1,142,085	863,011	279,074	-	-	-	279,074	85%	237,213	-	41,861
Honeywell-Hopewell	1,090,798	837,529	253,269	-	(137,708)	-	115,561	0%	-	-	115,561
Hopewell RWTF	1,827,336	1,965,044	(137,708)	-	137,708	-	-	0%	-	-	-
Lynchburg	326,971	189,634	137,337	-	-	-	137,337	90%	123,603	-	13,734
MeadWestvaco	118,320	71,266	47,054	-	-	-	47,054	90%	42,349	-	4,705
MSA-Lexington	16,446	6,578	9,868	-	-	-	9,868	100%	9,868	-	-
New Kent-Chickahominy	6,167	-	6,167	-	-	-	6,167	0%	-	-	6,167
Philip Morris	139,724	67,733	71,991	-	-	-	71,991	40%	28,796	-	43,195
Richmond	1,096,402	1,096,402	-	-	-	-	-	0%	-	-	-
RWSA-Moores Creek	167,201	103,665	63,536	-	-	-	63,536	100%	63,536	-	-
South Central WWA	350,239	558,327	(208,088)	-	-	-	(208,088)	100%	-	(208,088)	-
Sustainability Park	25,583	24,364	1,219	-	-	-	1,219	0%	-	-	1,219
Tyson Foods-Glen Allen	19,552	18,273	1,279	-	-	-	1,279	0%	-	-	1,279
								PRICE:	No Sale	No Sale	No Sale
LOWER JAMES BASIN	**6,000,000**	**5,644,334**	**355,666**	**-**	**-**	**-**	**355,666**		**-**	**-**	**355,666**
HRSD-Army Base	610,000	918,319	(308,319)	308,319	-	-	-	0%	-	-	-
HRSD-Boat Harbor	740,000	1,098,182	(358,182)	358,182	-	-	-	0%	-	-	-
HRSD-Ches/Eliz	1,100,000	1,010,832	89,168	-	-	-	89,168	0%	-	-	89,168
HRSD-James River	1,250,000	544,069	705,931	(705,931)	-	-	-	0%	-	-	-
HRSD-Nansemond	750,000	471,843	278,157	(115,622)	-	-	162,535	0%	-	-	162,535
HRSD-VIP	750,000	905,052	(155,052)	155,052	-	-	-	0%	-	-	-
HRSD-Williamsburg	800,000	696,037	103,963	-	-	-	103,963	0%	-	-	103,963

For this Compliance Year, 0% of all Class A Purchases are expected to be satisfied using Class B Credits.

*** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

AR0036551

EXHIBIT 5-8
2014 Nitrogen Trading Ledger: James River Basin

JAMES Basin: Nitrogen Credit Ledger

Compliance Year:	2014	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits	Class A Pledge	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	$ 1.56	$ 2.65	$ 0.30
UPPER JAMES BASIN	**7,712,349**	**7,292,639**	**419,710**	**-**	**-**	**(4,934)**	**414,776**		**451,367**	**(295,409)**	**258,818**
Alleghany Co-L. Jackson	19,187	10,553	8,634	-	-	(4,934)	3,700	0%	-	-	3,700
Alleghany Co-Low Moor	2,741	1,974	767	-	-	-	767	0%	-	-	767
Amherst (Town)	6,688	4,463	2,225	-	-	-	2,225	50%	1,113	-	1,112
Aqua Virginia-L. Monticello	11,091	9,029	2,062	-	-	-	2,062	0%	-	-	2,062
Babcock & Wilcox, N.O.G.	114,070	114,065	5	-	-	-	5	0%	-	-	5
Buena Vista	12,335	18,018	(5,683)	-	-	-	(5,683)	100%	-	(5,683)	-
Chesterfield-Falling Cr.	153,801	169,181	(15,380)	15,380	-	-	-	0%	-	-	-
Chesterfield-Proctors Cr.	411,151	328,646	82,505	(15,380)	-	-	67,125	0%	-	-	67,125
Covington	16,446	21,380	(4,934)	-	-	-	(4,934)	100%	-	(4,934)	-
Crewe	3,472	1,042	2,430	-	-	-	2,430	100%	2,430	-	-
Dominion-Chesterfield	352,036	345,038	6,998	-	-	-	6,998	0%	-	-	6,998
DuPont-Spruance	201,080	269,637	(68,557)	-	-	-	(68,557)	100%	-	(68,557)	-
Georgia-Pacific	36,747	29,457	7,290	-	-	-	7,290	50%	3,645	-	3,645
Greif Packaging	44,680	40,453	4,227	-	-	-	4,227	50%	2,114	-	2,113
Henrico Co	1,142,085	888,828	253,257	-	-	-	253,257	85%	215,268	-	37,989
Honeywell-Hopewell	1,090,798	837,529	253,269	-	(185,998)	-	67,271	0%	-	-	67,271
Hopewell RWTF	1,827,336	2,013,334	(185,998)	-	185,998	-	-	0%	-	-	-
Lynchburg	326,971	227,561	99,410	-	-	-	99,410	90%	89,469	-	9,941
MeadWestvaco	118,320	76,017	42,303	-	-	-	42,303	90%	38,073	-	4,230
MSA-Lexington	16,446	8,223	8,223	-	-	-	8,223	100%	8,223	-	-
New Kent-Chickahominy	6,167	-	6,167	-	-	-	6,167	0%	-	-	6,167
Philip Morris	139,724	67,733	71,991	-	-	-	71,991	40%	28,796	-	43,195
Richmond	1,096,402	1,096,402	-	-	-	-	-	0%	-	-	-
RWSA-Moores Creek	167,201	104,965	62,236	-	-	-	62,236	100%	62,236	-	-
South Central WWA	350,239	566,474	(216,235)	-	-	-	(216,235)	100%	-	(216,235)	-
Sustainability Park	25,583	24,364	1,219	-	-	-	1,219	0%	-	-	1,219
Tyson Foods-Glen Allen	19,552	18,273	1,279	-	-	-	1,279	0%	-	-	1,279
								PRICE:	No Sale	No Sale	No Sale
LOWER JAMES BASIN	**6,000,000**	**4,706,319**	**1,293,681**	**-**	**-**	**-**	**1,293,681**		**-**	**-**	**1,293,681**
HRSD-Army Base	610,000	177,181	432,819	-	-	-	432,819	0%	-	-	432,819
HRSD-Boat Harbor	740,000	1,067,838	(327,838)	327,838	-	-	-	0%	-	-	-
HRSD-Ches/Eliz	1,100,000	1,008,636	91,364	-	-	-	91,364	0%	-	-	91,364
HRSD-James River	1,250,000	527,572	722,428	(487,002)	-	-	235,426	0%	-	-	235,426
HRSD-Nansemond	750,000	493,978	256,022	-	-	-	256,022	0%	-	-	256,022
HRSD-VIP	750,000	909,164	(159,164)	159,164	-	-	-	0%	-	-	-
HRSD-Williamsburg	800,000	521,950	278,050	-	-	-	278,050	0%	-	-	278,050

For this Compliance Year, 0% of all Class A Purchases are expected to be satisfied using Class B Credits.

*** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

EXHIBIT 5-9
Phosphorus Plan Summary: James River Basin

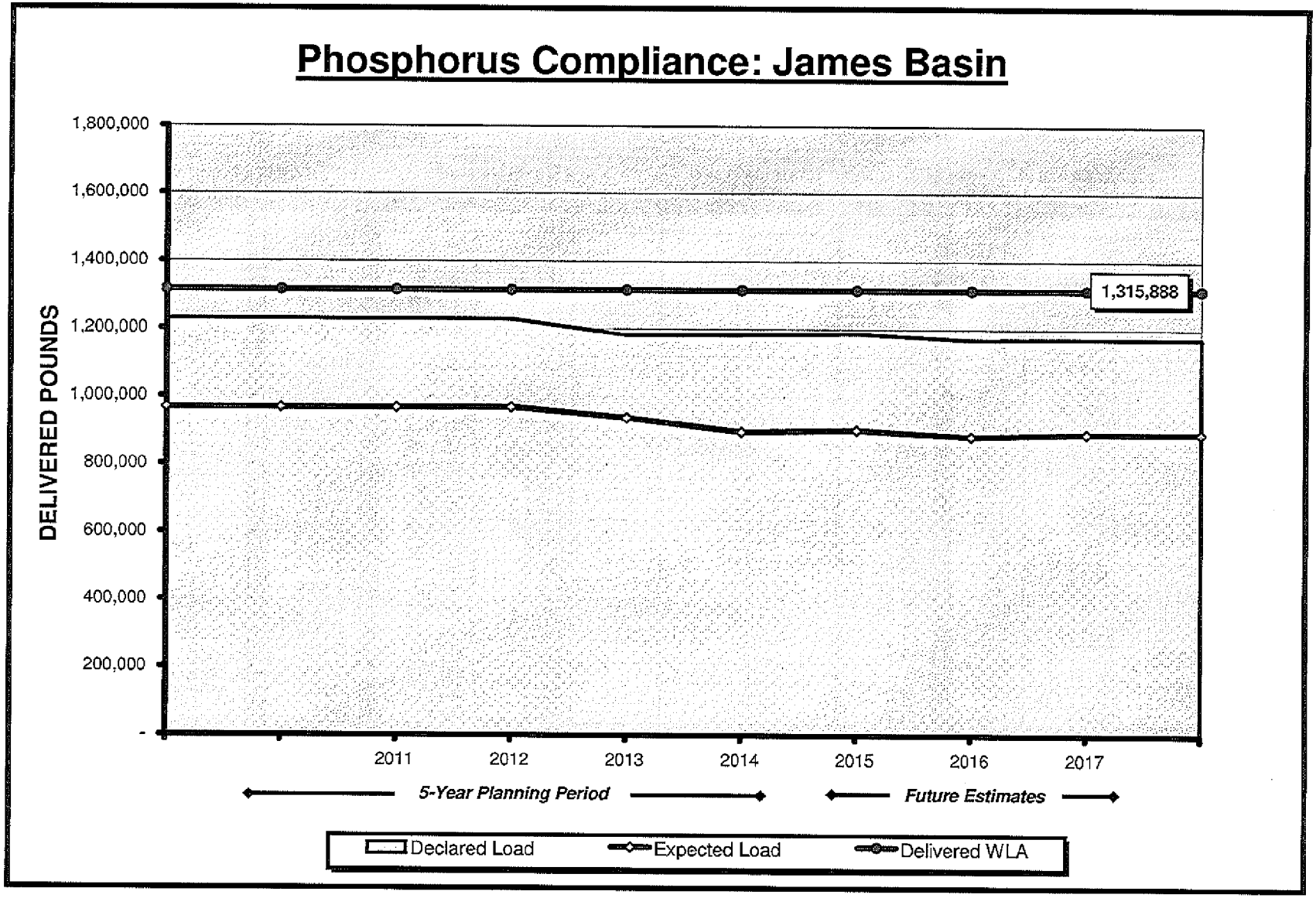


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EXHIBIT 5-10
Phosphorus Plan Summary: Upper James River Basin

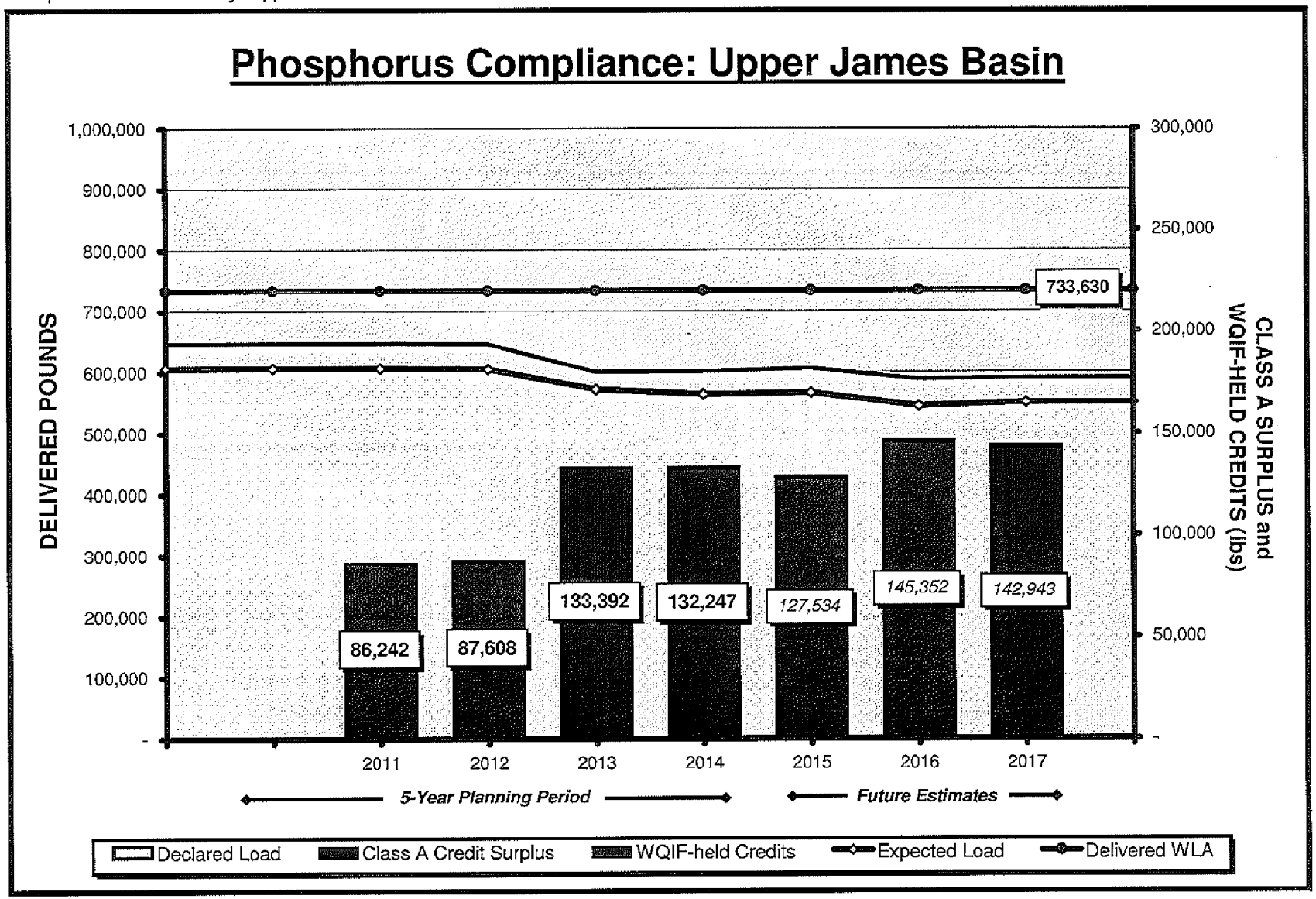

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EXHIBIT 5-11
Phosphorus Plan Summary: Lower James River Basin

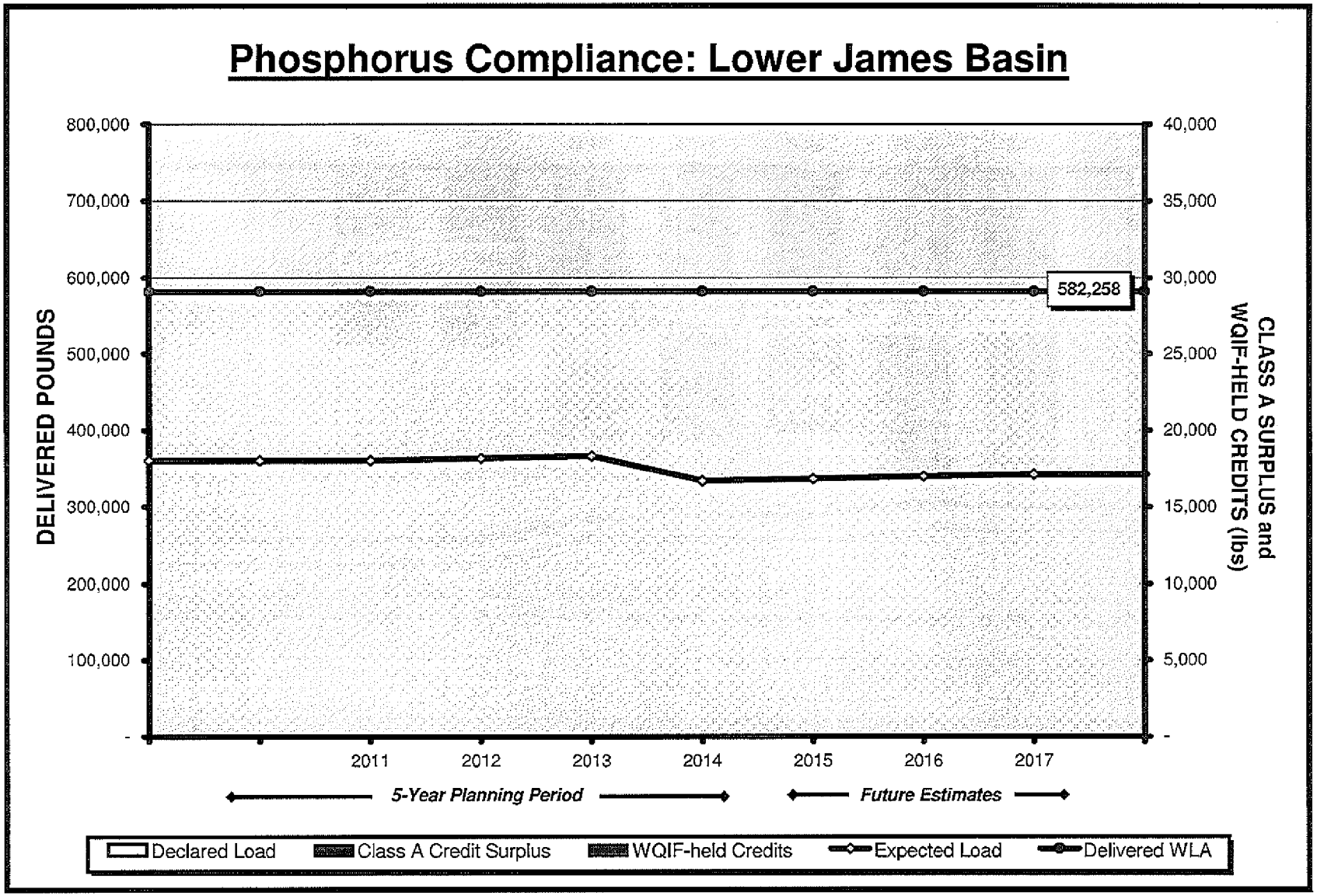

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EXHIBIT 5-12
Phosphorus Capital Projects Schedule: James River Basin

JAMES Basin: Phosphorus Upgrade Schedule by Facility

mg/L Upgrades in Progress	Design Flow (mgd)	UIP Year*	UIP mg/L	Planning Period 2010	2011	2012	2013	2014	Future Estimates 2015	2016	2017
UPPER JAMES BASIN											
Alleghany Co-L. Jackson	3.50	*2011*		0.30							
Alleghany Co-Low Moor	0.50										
Amherst (Town)	0.60										
Aqua Virginia-L. Monticello	1.00	*2014*		0.50	0.50	0.50	0.50				
Babcock & Wilcox, N.O.G.	1.00										
Buena Vista	2.25										
Chesterfield-Falling Cr.	10.10										
Chesterfield-Proctors Cr.	27.00										
Covington	3.00										
Crewe	0.50										
Dominion-Chesterfield	13.50										
DuPont-Spruance	23.33										
Georgia-Pacific	10.87										
Greif Packaging	6.50										
Henrico Co	75.00	*2011*		0.50							
Honeywell-Hopewell	121.00										
Hopewell RWTF	50.00										
Lynchburg	22.00										
MeadWestvaco	35.00										
MSA-Lexington	3.00	*2012*		0.30	0.30						
New Kent-Chickahominy	0.41										
Philip Morris	2.90										
Richmond	45.00	*2011*		0.50							
RWSA-Moores Creek	15.00	*2013*		0.30	0.30	0.30					
South Central WWA	23.00	*2016*		0.50	0.50	0.50	0.50	0.50	0.50		
Sustainability Park	2.10										
Tyson Foods-Glen Allen	1.07	*2009*	0.10								
LOWER JAMES BASIN											
HRSD-Army Base	18.00										
HRSD-Boat Harbor	25.00										
HRSD-Ches/Eliz	24.00										
HRSD-James River	20.00										
HRSD-Nansemond	30.00										
HRSD-VIP	40.00										
HRSD-Williamsburg	22.50										

** Identifies the first full operational year of the completed upgrade (brown bars represent construction period)*

EXHIBIT 5-13
2011 Phosphorus Trading Ledger: James River Basin

JAMES Basin: Phosphorus Credit Ledger

Compliance Year:	2011	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits	Class A Pledge	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	$ 1.78	$ 4.00	$ 0.83
UPPER JAMES BASIN	733,630	606,803	126,827	-	-	-	126,827		170,939	(84,696)	40,584
Alleghany Co-L. Jackson	5,330	3,557	1,773	(1,773)	-	-	-	0%	-	-	-
Alleghany Co-Low Moor	761	3,164	(2,403)	1,773	-	-	(630)	100%	-	(630)	-
Amherst (Town)	914	2,533	(1,619)	-	-	-	(1,619)	100%	-	(1,619)	-
Aqua Virginia-L. Monticello	1,515	10,213	(8,698)	-	-	-	(8,698)	100%	-	(8,698)	-
Babcock & Wilcox, N.O.G.	1,523	592	931	-	-	-	931	0%	-	-	931
Buena Vista	3,426	12,426	(9,000)	-	-	-	(9,000)	100%	-	(9,000)	-
Chesterfield-Falling Cr.	15,380	18,456	(3,076)	3,076	-	-	-	0%	-	-	-
Chesterfield-Proctors Cr.	41,115	31,631	9,484	(3,076)	(3,580)	-	2,828	0%	-	-	2,828
Covington	4,568	9,319	(4,751)	-	-	-	(4,751)	100%	-	(4,751)	-
Crewe	327	10	317	-	-	-	317	100%	317	-	-
Dominion-Chesterfield	210	3,790	(3,580)	-	3,580	-	-	0%	-	-	-
DuPont-Spruance	7,816	12,012	(4,196)	-	-	-	(4,196)	100%	-	(4,196)	-
Georgia-Pacific	49,658	34,491	15,167	-	-	-	15,167	50%	7,584	-	7,583
Greif Packaging	29,694	13,218	16,476	-	-	-	16,476	100%	16,476	-	-
Henrico Co	114,209	74,706	39,503	-	-	-	39,503	85%	33,578	-	5,925
Honeywell-Hopewell	51,592	45,683	5,909	-	-	-	5,909	0%	-	-	5,909
Hopewell RWTF	76,139	64,810	11,329	-	-	-	11,329	90%	10,196	-	1,133
Lynchburg	33,501	72,637	(39,136)	-	-	-	(39,136)	100%	-	(39,136)	-
MeadWestvaco	159,892	45,683	114,209	-	-	-	114,209	90%	102,788	-	11,421
MSA-Lexington	4,568	8,576	(4,008)	-	-	-	(4,008)	100%	-	(4,008)	-
New Kent-Chickahominy	123	-	123	-	-	-	123	0%	-	-	123
Philip Morris	2,650	2,467	183	-	-	-	183	0%	-	-	183
Richmond	68,525	65,480	3,045	-	-	-	3,045	0%	-	-	3,045
RWSA-Moores Creek	22,842	21,538	1,304	-	-	-	1,304	0%	-	-	1,304
South Central WWA	35,024	47,682	(12,658)	-	-	-	(12,658)	100%	-	(12,658)	-
Sustainability Park	1,919	1,827	92	-	-	-	92	0%	-	-	92
Tyson Foods-Glen Allen	409	302	107	-	-	-	107	0%	-	-	107
								PRICE:	No Sale	No Sale	No Sale
LOWER JAMES BASIN	582,258	360,217	222,041	-	(9,011)	-	213,030		-	-	213,030
HRSD-Army Base	54,820	55,024	(204)	204	-	-	-	0%	-	-	-
HRSD-Boat Harbor	76,139	45,438	30,701	(204)	-	-	30,497	0%	-	-	30,497
HRSD-Ches/Eliz	108,674	60,332	48,342	-	-	-	48,342	0%	-	-	48,342
HRSD-James River	60,911	44,794	16,117	-	-	-	16,117	0%	-	-	16,117
HRSD-Nansemond	91,367	56,470	34,897	-	-	-	34,897	0%	-	-	34,897
HRSD-VIP	121,822	50,281	71,541	-	(9,011)	-	62,530	0%	-	-	62,530
HRSD-Williamsburg	68,525	47,878	20,647	-	-	-	20,647	0%	-	-	20,647

For this Compliance Year, 0% of all Class A Purchases are expected to be satisfied using Class B Credits.

*** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

AR0036557

EXHIBIT 5-14
2012 Phosphorus Trading Ledger: James River Basin

JAMES Basin: Phosphorus Credit Ledger

Compliance Year:	2012	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits	Class A Pledge	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	$ 1.74	$ 4.00	$ 0.80
UPPER JAMES BASIN	**733,630**	**605,394**	**128,236**	**-**	**-**	**-**	**128,236**		**169,785**	**(82,176)**	**40,627**
Alleghany Co-L. Jackson	5,330	2,129	3,201	(2,597)	-	-	604	0%	-	-	604
Alleghany Co-Low Moor	761	3,358	(2,597)	2,597	-	-	-	0%	-	-	-
Amherst (Town)	914	2,611	(1,697)	-	-	-	(1,697)	100%	-	(1,697)	-
Aqua Virginia-L. Monticello	1,515	10,213	(8,698)	-	-	-	(8,698)	100%	-	(8,698)	-
Babcock & Wilcox, N.O.G.	1,523	592	931	-	-	-	931	0%	-	-	931
Buena Vista	3,426	12,426	(9,000)	-	-	-	(9,000)	100%	-	(9,000)	-
Chesterfield-Falling Cr.	15,380	18,456	(3,076)	3,076	-	-	-	0%	-	-	-
Chesterfield-Proctors Cr.	41,115	33,038	8,077	(3,076)	(3,580)	-	1,421	0%	-	-	1,421
Covington	4,568	9,319	(4,751)	-	-	-	(4,751)	100%	-	(4,751)	-
Crewe	327	10	317	-	-	-	317	100%	317	-	-
Dominion-Chesterfield	210	3,790	(3,580)	-	3,580	-	-	0%	-	-	-
DuPont-Spruance	7,816	12,284	(4,468)	-	-	-	(4,468)	100%	-	(4,468)	-
Georgia-Pacific	49,658	34,811	14,847	-	-	-	14,847	50%	7,424	-	7,423
Greif Packaging	29,694	13,218	16,476	-	-	-	16,476	100%	16,476	-	-
Henrico Co	114,209	76,940	37,269	-	-	-	37,269	85%	31,679	-	5,590
Honeywell-Hopewell	51,592	45,683	5,909	-	-	-	5,909	0%	-	-	5,909
Hopewell RWTF	76,139	65,662	10,477	-	-	-	10,477	90%	9,429	-	1,048
Lynchburg	33,501	73,678	(40,177)	-	-	-	(40,177)	100%	-	(40,177)	-
MeadWestvaco	159,892	45,683	114,209	-	-	-	114,209	90%	102,788	-	11,421
MSA-Lexington	4,568	1,224	3,344	-	-	-	3,344	50%	1,672	-	1,672
New Kent-Chickahominy	123	-	123	-	-	-	123	0%	-	-	123
Philip Morris	2,650	2,436	214	-	-	-	214	0%	-	-	214
Richmond	68,525	65,480	3,045	-	-	-	3,045	0%	-	-	3,045
RWSA-Moores Creek	22,842	21,815	1,027	-	-	-	1,027	0%	-	-	1,027
South Central WWA	35,024	48,409	(13,385)	-	-	-	(13,385)	100%	-	(13,385)	-
Sustainability Park	1,919	1,827	92	-	-	-	92	0%	-	-	92
Tyson Foods-Glen Allen	409	302	107	-	-	-	107	0%	-	-	107
								PRICE:	No Sale	No Sale	No Sale
LOWER JAMES BASIN	**582,258**	**362,997**	**219,261**	**-**	**(9,011)**	**-**	**210,250**		**-**	**-**	**210,250**
HRSD-Army Base	54,820	55,061	(241)	241	-	-	-	0%	-	-	-
HRSD-Boat Harbor	76,139	45,598	30,541	(241)	-	-	30,300	0%	-	-	30,300
HRSD-Ches/Eliz	108,674	60,491	48,183	-	-	-	48,183	0%	-	-	48,183
HRSD-James River	60,911	45,066	15,845	-	-	-	15,845	0%	-	-	15,845
HRSD-Nansemond	91,367	57,711	33,656	-	-	-	33,656	0%	-	-	33,656
HRSD-VIP	121,822	50,281	71,541	-	(9,011)	-	62,530	0%	-	-	62,530
HRSD-Williamsburg	68,525	48,789	19,736	-	-	-	19,736	0%	-	-	19,736

**** For this Compliance Year, 0% of all Class A Purchases are expected to be satisfied using Class B Credits.***

*** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

AR0036558

EXHIBIT 5-15
2013 Phosphorus Trading Ledger: James River Basin

JAMES Basin: Phosphorus Credit Ledger

Compliance Year:	2013	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits	Class A Pledge	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	$ 1.35	$ 4.30	$ 1.09
UPPER JAMES BASIN	733,630	572,259	161,371	-	-	-	161,371		204,862	(71,469)	27,978
Alleghany Co-L. Jackson	5,330	2,120	3,210	(2,791)	-	-	419	0%	-	-	419
Alleghany Co-Low Moor	761	3,552	(2,791)	2,791	-	-	-	0%	-	-	-
Amherst (Town)	914	2,673	(1,759)	-	-	-	(1,759)	100%	-	(1,759)	-
Aqua Virginia-L. Monticello	1,515	5,713	(4,198)	-	-	-	(4,198)	100%	-	(4,198)	-
Babcock & Wilcox, N.O.G.	1,523	592	931	-	-	-	931	0%	-	-	931
Buena Vista	3,426	12,426	(9,000)	-	-	-	(9,000)	100%	-	(9,000)	-
Chesterfield-Falling Cr.	15,380	18,456	(3,076)	3,076	-	-	-	0%	-	-	-
Chesterfield-Proctors Cr.	41,115	34,445	6,670	(3,076)	-	-	3,594	0%	-	-	3,594
Covington	4,568	9,319	(4,751)	-	-	-	(4,751)	100%	-	(4,751)	-
Crewe	327	10	317	-	-	-	317	100%	317	-	-
Dominion-Chesterfield	210	210	-	-	-	-	-	0%	-	-	-
DuPont-Spruance	7,816	12,649	(4,833)	-	-	-	(4,833)	100%	-	(4,833)	-
Georgia-Pacific	49,658	30,379	19,279	-	-	-	19,279	60%	11,567	-	7,712
Greif Packaging	29,694	11,878	17,816	-	-	-	17,816	85%	15,144	-	2,672
Henrico Co	114,209	79,256	34,953	-	-	-	34,953	85%	29,710	-	5,243
Honeywell-Hopewell	51,592	45,683	5,909	-	-	-	5,909	0%	-	-	5,909
Hopewell RWTF	76,139	66,515	9,624	-	-	-	9,624	90%	8,662	-	962
Lynchburg	33,501	66,320	(32,819)	-	-	-	(32,819)	100%	-	(32,819)	-
MeadWestvaco	159,892	36,547	123,345	-	-	-	123,345	100%	123,345	-	-
MSA-Lexington	4,568	1,096	3,472	-	-	-	3,472	100%	3,472	-	-
New Kent-Chickahominy	123	-	123	-	-	-	123	0%	-	-	123
Philip Morris	2,650	2,436	214	-	-	-	214	0%	-	-	214
Richmond	68,525	68,525	-	-	-	-	-	0%	-	-	-
RWSA-Moores Creek	22,842	10,197	12,645	-	-	-	12,645	100%	12,645	-	-
South Central WWA	35,024	49,133	(14,109)	-	-	-	(14,109)	100%	-	(14,109)	-
Sustainability Park	1,919	1,827	92	-	-	-	92	0%	-	-	92
Tyson Foods-Glen Allen	409	302	107	-	-	-	107	0%	-	-	107
								PRICE:	No Sale	No Sale	No Sale
LOWER JAMES BASIN	582,258	365,824	216,434	-	(9,011)	-	207,423		-	-	207,423
HRSD-Army Base	54,820	55,099	(279)	279	-	-	-	0%	-	-	-
HRSD-Boat Harbor	76,139	45,758	30,381	(279)	-	-	30,102	0%	-	-	30,102
HRSD-Ches/Eliz	108,674	60,650	48,024	-	-	-	48,024	0%	-	-	48,024
HRSD-James River	60,911	45,339	15,572	-	-	-	15,572	0%	-	-	15,572
HRSD-Nansemond	91,367	58,980	32,387	-	-	-	32,387	0%	-	-	32,387
HRSD-VIP	121,822	50,281	71,541	-	(9,011)	-	62,530	0%	-	-	62,530
HRSD-Williamsburg	68,525	49,717	18,808	-	-	-	18,808	0%	-	-	18,808

For this Compliance Year, 0% of all Class A Purchases are expected to be satisfied using Class B Credits.

*** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

AR0036559

EXHIBIT 5-16
2014 Phosphorus Trading Ledger: James River Basin

JAMES Basin: Phosphorus Credit Ledger

Compliance Year:	2014	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits	Class A Pledge	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	$ 1.41	$ 4.60	$ 0.87
UPPER JAMES BASIN	733,630	564,246	169,384	-	-	(1,310)	168,074		200,643	(68,395)	35,826
Alleghany Co-L. Jackson	5,330	2,111	3,219	(61)	-	(1,310)	1,848	0%	-	-	1,848
Alleghany Co-Low Moor	761	822	(61)	61	-	-	-	0%	-	-	-
Amherst (Town)	914	2,801	(1,887)	-	-	-	(1,887)	100%	-	(1,887)	-
Aqua Virginia-L. Monticello	1,515	1,233	282	-	-	-	282	0%	-	-	282
Babcock & Wilcox, N.O.G.	1,523	477	1,046	-	-	-	1,046	0%	-	-	1,046
Buena Vista	3,426	12,426	(9,000)	-	-	-	(9,000)	100%	-	(9,000)	-
Chesterfield-Falling Cr.	15,380	18,456	(3,076)	3,076	-	-	-	0%	-	-	-
Chesterfield-Proctors Cr.	41,115	35,852	5,263	(3,076)	-	-	2,187	0%	-	-	2,187
Covington	4,568	9,319	(4,751)	-	-	-	(4,751)	100%	-	(4,751)	-
Crewe	327	26	301	-	-	-	301	100%	301	-	-
Dominion-Chesterfield	210	210	-	-	-	-	-	0%	-	-	-
DuPont-Spruance	7,816	12,928	(5,112)	-	-	-	(5,112)	100%	-	(5,112)	-
Georgia-Pacific	49,658	30,684	18,974	-	-	-	18,974	70%	13,282	-	5,692
Greif Packaging	29,694	9,898	19,796	-	-	-	19,796	75%	14,847	-	4,949
Henrico Co	114,209	81,627	32,582	-	-	-	32,582	85%	27,695	-	4,887
Honeywell-Hopewell	51,592	38,070	13,522	-	-	-	13,522	0%	-	-	13,522
Hopewell RWTF	76,139	67,368	8,771	-	-	-	8,771	90%	7,894	-	877
Lynchburg	33,501	66,320	(32,819)	-	-	-	(32,819)	100%	-	(32,819)	-
MeadWestvaco	159,892	38,983	120,909	-	-	-	120,909	100%	120,909	-	-
MSA-Lexington	4,568	1,371	3,197	-	-	-	3,197	100%	3,197	-	-
New Kent-Chickahominy	123	-	123	-	-	-	123	0%	-	-	123
Philip Morris	2,650	2,436	214	-	-	-	214	0%	-	-	214
Richmond	68,525	68,525	-	-	-	-	-	0%	-	-	-
RWSA-Moores Creek	22,842	10,324	12,518	-	-	-	12,518	100%	12,518	-	-
South Central WWA	35,024	49,850	(14,826)	-	-	-	(14,826)	100%	-	(14,826)	-
Sustainability Park	1,919	1,827	92	-	-	-	92	0%	-	-	92
Tyson Foods-Glen Allen	409	302	107	-	-	-	107	0%	-	-	107
								PRICE:	No Sale	No Sale	No Sale
LOWER JAMES BASIN	582,258	333,949	248,309	-	(9,011)	-	239,298		-	-	239,298
HRSD-Army Base	54,820	35,436	19,384	-	-	-	19,384	0%	-	-	19,384
HRSD-Boat Harbor	76,139	44,493	31,646	-	-	-	31,646	0%	-	-	31,646
HRSD-Ches/Eliz	108,674	60,518	48,156	-	-	-	48,156	0%	-	-	48,156
HRSD-James River	60,911	43,964	16,947	-	-	-	16,947	0%	-	-	16,947
HRSD-Nansemond	91,367	61,747	29,620	-	-	-	29,620	0%	-	-	29,620
HRSD-VIP	121,822	50,509	71,313	-	(9,011)	-	62,302	0%	-	-	62,302
HRSD-Williamsburg	68,525	37,282	31,243	-	-	-	31,243	0%	-	-	31,243

For this Compliance Year, 0% of all Class A Purchases are expected to be satisfied using Class B Credits.

*** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

AR0036560

James River Basin

Supplemental Information for Individual Facilities

AR0036561

Owner Bubble: Alleghany County

The facilities listed below have received an aggregated mass load limit pursuant to 9 VAC 25-820-70, Part 1.B.2., which is also referred to as an "owner bubble". Accordingly, compliance is determined solely on an aggregate basis rather than by comparison of individual facility loads with respective individual WLAs.

The "Credit Transferred within Bubble" section of each table forecasts the use of Credits within the owner bubble during each Compliance Year, and must necessarily sum to zero. The specific Credit transfers shown in this table are provided for internal planning purposes only and, accordingly, are not binding and may change based on the actual performance of individual facilities within the bubble.

Expected Net Credits for an owner bubble may be either positive or negative. If Expected Net Credits is positive, the owner may pledge a percentage of such Credits to the Exchange. If Expected Net Credits is negative, Net Expected Credits identifies the number of Credits that must be purchased to comply with the aggregate Delivered WLA of the bubble.

NITROGEN Credits	Exchange 5-year Planning Period					Future Projections		
Credits Transferred within Bubble	2010	2011	2012	2013	2014	2015	2016	2017
Lower Jackson	-	-	-	-	-	-	-	-
Low Moor	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble	2010	2011	2012	2013	2014	2015	2016	2017
Lower Jackson		3,220	3,609	3,654	3,700	3,746	3,563	3,380
Low Moor		1,054	950	847	767	621	475	329
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
Expected Net Credits	-	4,274	4,559	4,501	4,467	4,367	4,038	3,709
Class A Pledge Percentage		0%	0%	0%	0%	0%	0%	0%
Class A Sales (Purchases)		0	0	0	0	0	0	0
Expected Class B Credits		*4,274*	*4,559*	*4,501*	*4,467*	*4,367*	*4,038*	*3,709*
WQIF-Held Credits		*4,934*	*4,934*	*4,934*	*4,934*	*4,934*	*4,934*	*4,934*

PHOSPHORUS Credits	Exchange 5-year Planning Period					Future Projections		
Credits Transferred within Bubble	2010	2011	2012	2013	2014	2015	2016	2017
Lower Jackson	-	(1,773)	(2,597)	(2,791)	(61)	(122)	(183)	(244)
Low Moor	-	1,773	2,597	2,791	61	122	183	244
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble	2010	2011	2012	2013	2014	2015	2016	2017
Lower Jackson		-	604	419	1,848	1,858	1,821	1,784
Low Moor		(630)	-	-	-	-	-	-
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
Expected Net Credits	-	(630)	604	419	1,848	1,858	1,821	1,784
Class A Pledge Percentage		100%	0%	0%	0%	0%	0%	0%
Class A Sales (Purchases)		(630)	0	0	0	0	0	0
Expected Class B Credits		*0*	*604*	*419*	*1,848*	*1,858*	*1,821*	*1,784*
WQIF-Held Credits		*0*	*0*	*0*	*1,310*	*1,249*	*1,188*	*1,127*

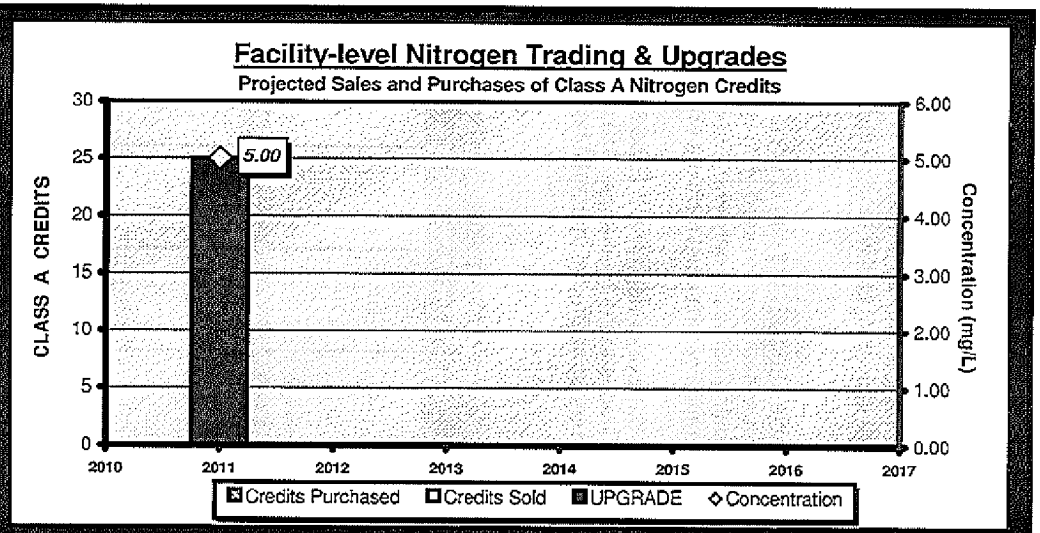
PART I. NITROGEN SUMMARY FOR ALLEGHANY CO-L. JACKSON

Alleghany Co-L. Jackson

UPPER JAMES Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	3.50
WLA Concentration (mg/L)	6.00
Delivery Factor	0.30
Delivered WLA	**19,187**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
Projected Flow (mgd)	1.40	1.95	2.33	2.32	2.31	2.30	2.34	2.38
Projected Avg. Annual Concentration (mg/L)	9.00	6.20	5.00	5.00	5.00	5.00	5.00	5.00
Discharged Load (end of pipe)	38,374	36,777	35,481	35,328	35,176	35,024	35,633	36,242
Delivered Load	11,512	11,033	10,644	10,599	10,553	10,507	10,690	10,873
Delivered WLA		19,187	19,187	19,187	19,187	19,187	19,187	19,187
Expected Credits		8,154	8,543	8,588	8,634	8,680	8,497	8,314
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		(4,934)	(4,934)	(4,934)	(4,934)	(4,934)	(4,934)	(4,934)
Expected Net Credits		**3,220**	**3,609**	**3,654**	**3,700**	**3,746**	**3,563**	**3,380**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		3,220	3,609	3,654	3,700	3,746	3,563	3,380

AR0036563

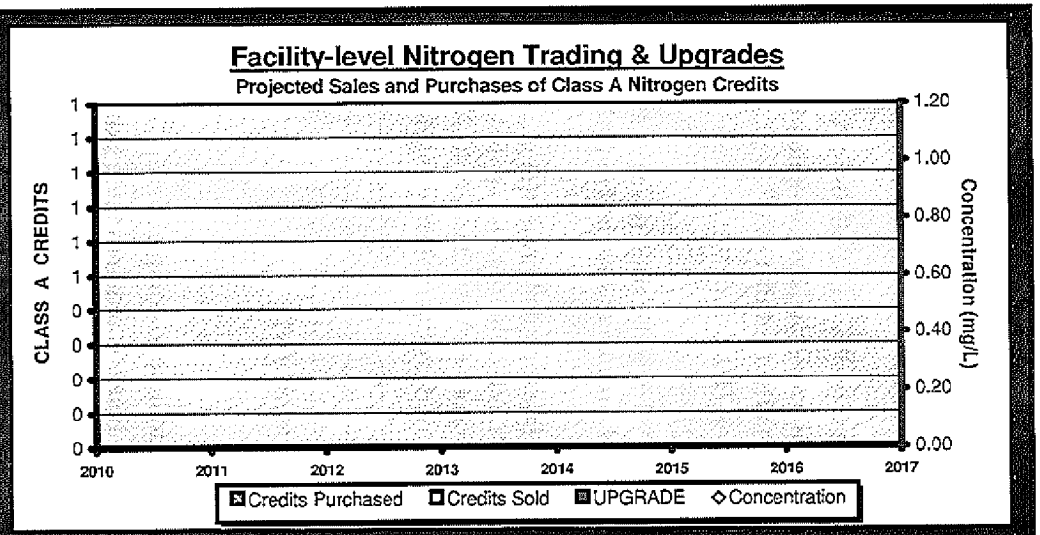
PART I. NITROGEN SUMMARY FOR ALLEGHANY CO-LOW MOOR

Alleghany Co-Low Moor

UPPER JAMES Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.50
WLA Concentration (mg/L)	6.00
Delivery Factor	0.30
Delivered WLA	**2,741**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Projected Flow (mgd)	0.22	0.23	0.25	0.26	0.27	0.29	0.31	0.33
Projected Avg. Annual Concentration (mg/L)	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
Discharged Load (end of pipe)	5,279	5,624	5,969	6,314	6,578	7,066	7,553	8,040
Delivered Load	1,584	1,687	1,791	1,894	1,974	2,120	2,266	2,412
Delivered WLA		2,741	2,741	2,741	2,741	2,741	2,741	2,741
Expected Credits		1,054	950	847	767	621	475	329
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**1,054**	**950**	**847**	**767**	**621**	**475**	**329**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		1,054	950	847	767	621	475	329

AR0036564

FACILITY (OR OWNER BUBBLE) NAME: Alleghany County Bubble

PART II. TOTAL NITROGEN COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TN load to TN WLA. Would permittee have complied with its TN WLA for calendar year 2005 if its TN WLA had been in effect for that year?

_____ NO *(proceed to II.B. Implementation Schedule for TN)*

__X__ YES *(permittee must check Option 1 or Option 2)*:

__X__ Option 1: Permittee hereby requests TN WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(PART II Complete; Proceed to PART IV. TOTAL PHOSPHORUS COMPLIANCE), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TN WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under II.B.)* Explanation: _____

_____

_____

(proceed to II.B. Implementation Schedule for TN)

B. Implementation Schedule for TN

1. Does permittee anticipate requiring TN credit purchase to comply?

   __X__ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TN credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

   _____ NO __X__ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline. ***Construction of the Lower Jackson River WWTP.***

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection	HSSM_____
PER/CER to DEQ	31 August 2007_____
Plans & Specifications to DEQ	6 August 2009_____
Commence construction	2 November 2009_____
Complete construction	24 May 2011_____
CTO Request to DEQ (POTWs only)	24 May 2011_____

AR0036565

Brief Description of Consolidation of Clifton Forge Plant:

The Clifton Forge Plant is the subject of an Agreement dated September 18, 2007 providing for the transfer of ownership of the plant from the Town of Clifton Forge to Alleghany County. The agreement further provides for consolidation of the Clifton Forge Plant and its wastewater flows with the regional Lower Jackson Plant owned and operated by Alleghany County. This transition is accounted for in this Exchange Compliance Plan as represented in the Owner Bubble and facility summary information on the preceding pages and as further described below.

Common Ownership/Operation Bubble (Aggregated Mass Load Limits) – Under the Agreement, the transfer of the Clifton Forge Plant to Alleghany County is anticipated to occur in approximately February 2010. Given that the Clifton Forge Plant will be owned or operated by Alleghany County prior to January 1, 2011 (the effective date of the mass load limits for TN and TP), the Clifton Forge Plant is included in the Alleghany County Bubble in this Exchange Compliance Plan. Alleghany County intends to apply to DEQ for aggregated mass load limits in accordance with Part I B 2 (Common Ownership/Operation) of the Watershed General Permit prior to January 1, 2011.

Facility Consolidation (Aggregated Mass Load Limits) – Alleghany County expects the Clifton Forge Plant to continue in service until approximately May 2011. At that time, wastewater flows will be pumped to and treatment will be consolidated at the Lower Jackson Plant. Alleghany County intends to apply to DEQ for aggregated mass load limits in accordance with Part I B 3 (Facility Consolidation) of the Watershed General Permit prior to January 1, 2011 consistent with the consolidation of facilities described on this page.

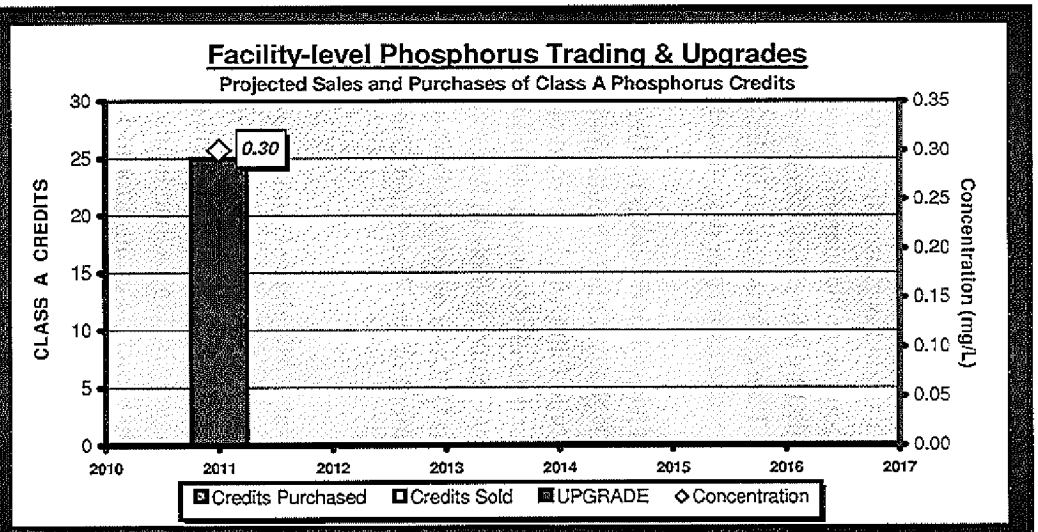
PART I. PHOSPHORUS SUMMARY FOR ALLEGHANY CO-L. JACKSON

Alleghany Co-L. Jackson

UPPER JAMES Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	3.50
WLA Concentration (mg/L)	0.50
Delivery Factor	1.00
Delivered WLA	**5,330**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
Projected Flow (mgd)	1.40	1.95	2.33	2.32	2.31	2.30	2.34	2.38
Projected Avg. Annual Concentration (mg/L)	1.30	0.60	0.30	0.30	0.30	0.30	0.30	0.30
Discharged Load (end of pipe)	5,543	3,557	2,129	2,120	2,111	2,101	2,138	2,175
Delivered Load	5,543	3,557	2,129	2,120	2,111	2,101	2,138	2,175
Delivered WLA		5,330	5,330	5,330	5,330	5,330	5,330	5,330
Expected Credits		1,773	3,201	3,210	3,219	3,229	3,192	3,155
Transfers In (Out) within Owner Bubble		(1,773)	(2,597)	(2,791)	(61)	(122)	(183)	(244)
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	(1,310)	(1,249)	(1,188)	(1,127)
Expected Net Credits		**0**	**604**	**419**	**1,848**	**1,858**	**1,821**	**1,784**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		0	604	419	1,848	1,858	1,821	1,784

AR0036567

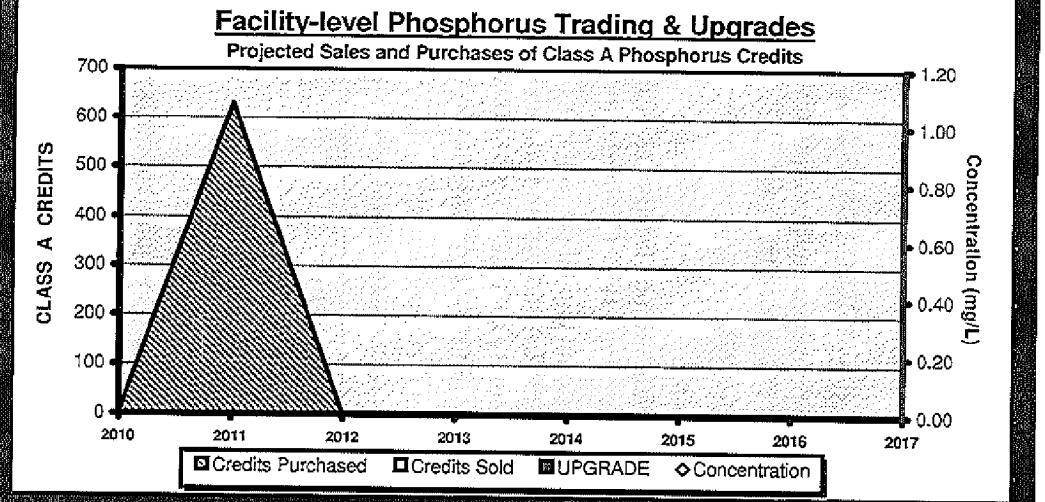
PART I. PHOSPHORUS SUMMARY FOR ALLEGHANY CO-LOW MOOR

Alleghany Co-Low Moor

UPPER JAMES Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.50
WLA Concentration (mg/L)	0.50
Delivery Factor	1.00
Delivered WLA	**761**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Projected Flow (mgd)	0.22	0.23	0.25	0.26	0.27	0.29	0.31	0.33
Projected Avg. Annual Concentration (mg/L)	4.50	4.50	4.50	4.50	1.00	1.00	1.00	1.00
Discharged Load (end of pipe)	2,969	3,164	3,358	3,552	822	883	944	1,005
Delivered Load	2,969	3,164	3,358	3,552	822	883	944	1,005
Delivered WLA		761	761	761	761	761	761	761
Expected Credits		(2,403)	(2,597)	(2,791)	(61)	(122)	(183)	(244)
Transfers In (Out) within Owner Bubble		1,773	2,597	2,791	61	122	183	244
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		(630)	0	0	0	0	0	0
Class A Pledge Percentage (%)		100%	0%	0%	0%	0%	0%	0%
Class A Credits		(630)	0	0	0	0	0	0
Expected Class B Credits		0	0	0	0	0	0	0

AR0036568

FACILITY (OR OWNER BUBBLE) NAME: Alleghany County Bubble

PART IV. TOTAL PHOSPHORUS COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TP load to TP WLA. Would permittee have complied with its TP WLA for calendar year 2005 if its TP WLA had been in effect for that year?

_____ NO *(proceed to III.B. Implementation Schedule for TP)*

__X__ YES *(permittee must check Option 1 or Option 2)*:

__X__ Option 1: Permittee hereby requests TP WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(Stop Here/Part IV Is Complete), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TP WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under IV.B.)* Explanation: _____

_____

_____

(proceed to IV.B. Implementation Schedule for TP)

B. Implementation Schedule for TP

1. Does permittee anticipate requiring TP credit purchase to comply?

   __X__ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TP credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

   _____ NO __X__ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection	HSSM_____
PER/CER to DEQ	31 August 2007_____
Plans & Specifications to DEQ	6 August 2009_____
Commence construction	2 November 2009_____
Complete construction	24 May 2011_____
CTO Request to DEQ (POTWs only)	24 May 2011_____

End of Facility Appendix

AR0036569

Brief Description of Consolidation of Clifton Forge Plant:

The Clifton Forge Plant is the subject of an Agreement dated September 18, 2007 providing for the transfer of ownership of the plant from the Town of Clifton Forge to Alleghany County. The agreement further provides for consolidation of the Clifton Forge Plant and its wastewater flows with the regional Lower Jackson Plant owned and operated by Alleghany County. This transition is accounted for in this Exchange Compliance Plan as represented in the Owner Bubble and facility summary information on the preceding pages and as further described below.

Common Ownership/Operation Bubble (Aggregated Mass Load Limits) – Under the Agreement, the transfer of the Clifton Forge Plant to Alleghany County is anticipated to occur in approximately February 2010. Given that the Clifton Forge Plant will be owned or operated by Alleghany County prior to January 1, 2011 (the effective date of the mass load limits for TN and TP), the Clifton Forge Plant is included in the Alleghany County Bubble in this Exchange Compliance Plan. Alleghany County intends to apply to DEQ for aggregated mass load limits in accordance with Part I B 2 (Common Ownership/Operation) of the Watershed General Permit prior to January 1, 2011.

Facility Consolidation (Aggregated Mass Load Limits) – Alleghany County expects the Clifton Forge Plant to continue in service until approximately May 2011. At that time, wastewater flows will be pumped to and treatment will be consolidated at the Lower Jackson Plant. Alleghany County intends to apply to DEQ for aggregated mass load limits in accordance with Part I B 3 (Facility Consolidation) of the Watershed General Permit prior to January 1, 2011 consistent with the consolidation of facilities described on this page.

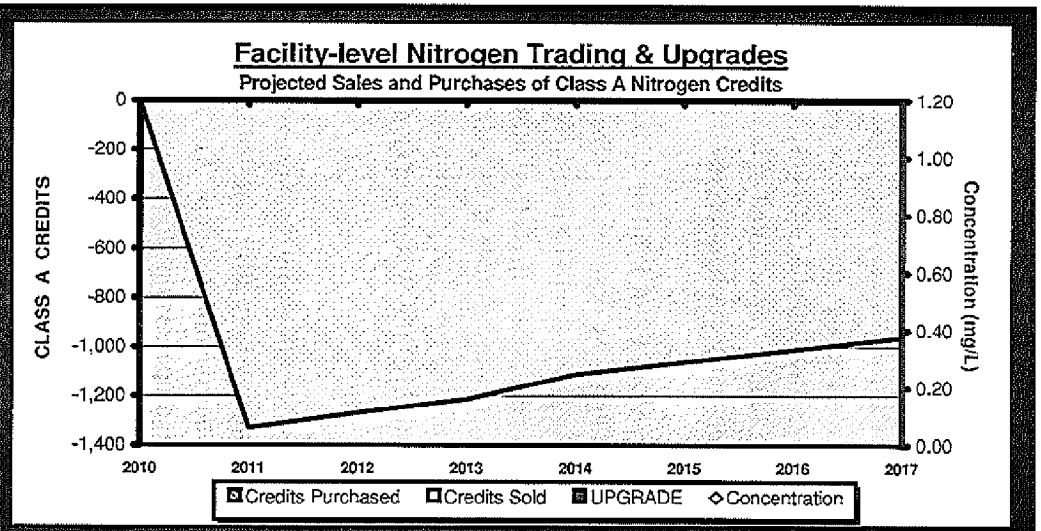
PART I. NITROGEN SUMMARY FOR AMHERST (TOWN)

Amherst (Town)

UPPER JAMES Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.60
WLA Concentration (mg/L)	6.00
Delivery Factor	0.61
Delivered WLA	6,688



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Projected Flow (mgd)	0.39	0.40	0.41	0.42	0.44	0.45	0.46	0.47
Projected Avg. Annual Concentration (mg/L)	5.46	5.46	5.46	5.46	5.46	5.46	5.46	5.46
Discharged Load (end of pipe)	6,404	6,603	6,807	6,984	7,317	7,483	7,649	7,816
Delivered Load	3,906	4,028	4,152	4,260	4,463	4,565	4,666	4,767
Delivered WLA		6,688	6,688	6,688	6,688	6,688	6,688	6,688
Expected Credits		2,660	2,536	2,428	2,225	2,123	2,022	1,921
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**2,660**	**2,536**	**2,428**	**2,225**	**2,123**	**2,022**	**1,921**
Class A Pledge Percentage (%)		50%	50%	50%	50%	50%	50%	50%
Class A Credits		**1,330**	**1,268**	**1,214**	**1,113**	**1,062**	**1,011**	**961**
Expected Class B Credits		1,330	1,268	1,214	1,112	1,061	1,011	960

AR0036571

FACILITY (OR OWNER BUBBLE) NAME: Rutledge Creek WWTP

PART II. TOTAL NITROGEN COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TN load to TN WLA. Would permittee have complied with its TN WLA for calendar year 2005 if its TN WLA had been in effect for that year?

_____ NO *(proceed to II.B. Implementation Schedule for TN)*

__X__ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TN WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(PART II Complete; Proceed to PART IV. TOTAL PHOSPHORUS COMPLIANCE), or*

__X__ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TN WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under II.B.)* Explanation:

As flow rate increases towards design flow, continued compliance may not be possible

(proceed to II.B. Implementation Schedule for TN)

B. Implementation Schedule for TN

1. Does permittee anticipate requiring TN credit purchase to comply?

_____ NO __X__ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TN credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

__X__ NO _____ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection	01-01-2017
PER/CER to DEQ	06-01-2017
Plans & Specifications to DEQ	09-15-2018
Commence construction	01-01-2019
Complete construction	06-15-2019
CTO Request to DEQ (POTWs only)	06-30-2019

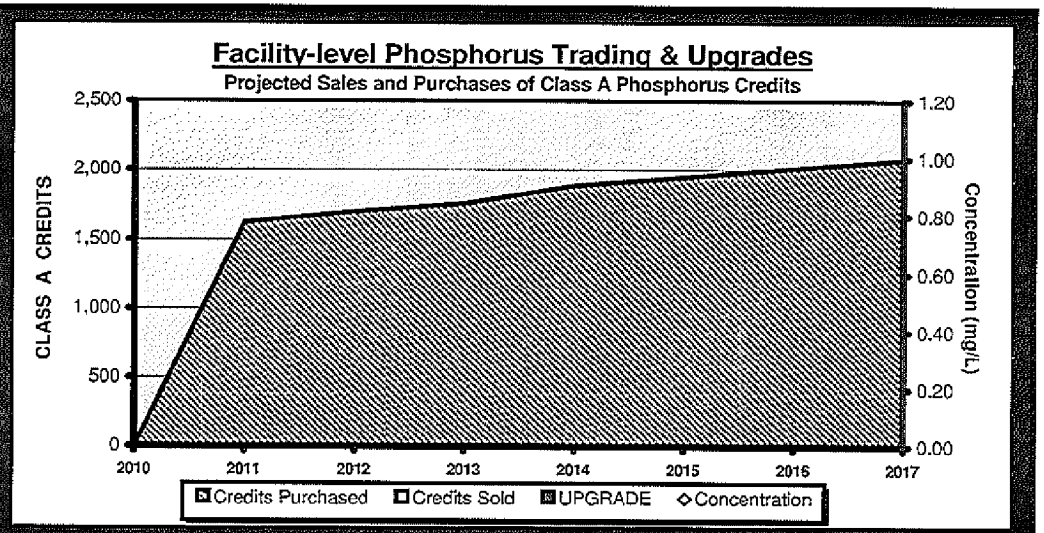
PART I. PHOSPHORUS SUMMARY FOR AMHERST (TOWN)

Amherst (Town)

UPPER JAMES Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.60
WLA Concentration (mg/L)	0.50
Delivery Factor	1.00
Delivered WLA	**914**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Projected Flow (mgd)	0.39	0.40	0.41	0.42	0.44	0.45	0.46	0.47
Projected Avg. Annual Concentration (mg/L)	2.09	2.09	2.09	2.09	2.09	2.09	2.09	2.09
Discharged Load (end of pipe)	2,457	2,533	2,611	2,673	2,801	2,864	2,928	2,992
Delivered Load	2,457	2,533	2,611	2,673	2,801	2,864	2,928	2,992
Delivered WLA		914	914	914	914	914	914	914
Expected Credits		(1,619)	(1,697)	(1,759)	(1,887)	(1,950)	(2,014)	(2,078)
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		(1,619)	(1,697)	(1,759)	(1,887)	(1,950)	(2,014)	(2,078)
Class A Pledge Percentage (%)		100%	100%	100%	100%	100%	100%	100%
Class A Credits		(1,619)	(1,697)	(1,759)	(1,887)	(1,950)	(2,014)	(2,078)
Expected Class B Credits		0	0	0	0	0	0	0

AR0036573

FACILITY (OR OWNER BUBBLE) NAME: Rutledge Creek WWTP

PART IV. TOTAL PHOSPHORUS COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TP load to TP WLA. Would permittee have complied with its TP WLA for calendar year 2005 if its TP WLA had been in effect for that year?

__X__ NO *(proceed to III.B. Implementation Schedule for TP)*

_____ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TP WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(Stop Here/Part IV Is Complete), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TP WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under IV.B.)* Explanation: _____

(proceed to IV.B. Implementation Schedule for TP)

B. Implementation Schedule for TP

1. Does permittee anticipate requiring TP credit purchase to comply?

_____ NO __X__ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TP credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

__X__ NO _____ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection	01-01-2017
PER/CER to DEQ	06-01-2017
Plans & Specifications to DEQ	09-15-2018
Commence construction	01-01-2019
Complete construction	06-15-2019
CTO Request to DEQ (POTWs only)	06-30-2019

End of Facility Appendix

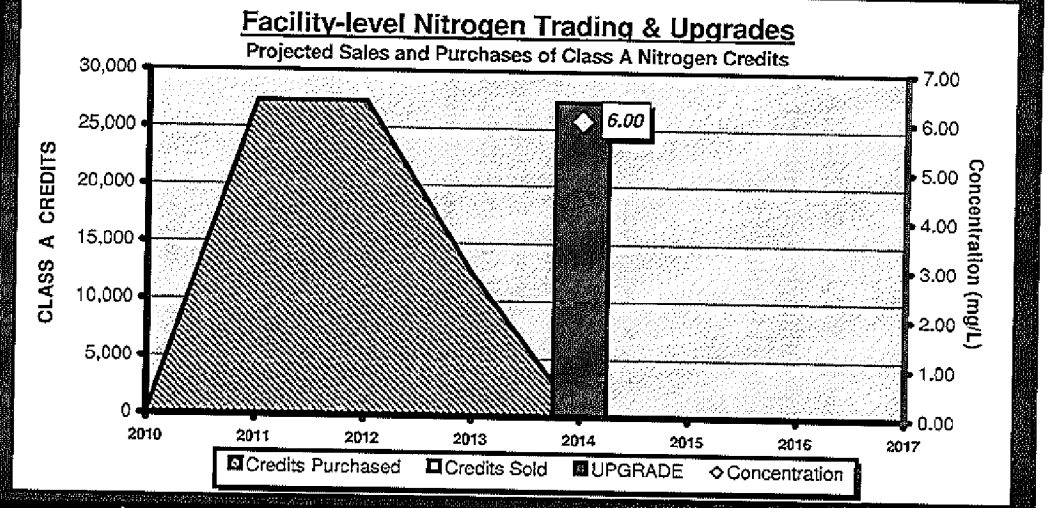
PART I. NITROGEN SUMMARY FOR AQUA VIRGINIA-L. MONTICELLO

Aqua Virginia-L. Monticello

UPPER JAMES Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	1.00
WLA Concentration (mg/L)	6.00
Delivery Factor	0.61
Delivered WLA	**11,091**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Projected Flow (mgd)	0.69	0.69	0.69	0.70	0.81	0.83	0.85	0.87
Projected Avg. Annual Concentration (mg/L)	36.80	30.00	30.00	18.00	6.00	6.00	6.00	6.00
Discharged Load (end of pipe)	77,333	63,043	63,043	38,374	14,801	15,167	15,532	15,898
Delivered Load	47,173	38,456	38,456	23,408	9,029	9,252	9,475	9,698
Delivered WLA		11,091	11,091	11,091	11,091	11,091	11,091	11,091
Expected Credits		(27,365)	(27,365)	(12,317)	2,062	1,839	1,616	1,393
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		(27,365)	(27,365)	(12,317)	2,062	1,839	1,616	1,393
Class A Pledge Percentage (%)		100%	100%	100%	0%	0%	0%	0%
Class A Credits		(27,365)	(27,365)	(12,317)	0	0	0	0
Expected Class B Credits		0	0	0	2,062	1,839	1,616	1,393

AR0036575

FACILITY (OR OWNER BUBBLE) NAME: Lake Monticello WWTP

PART II. TOTAL NITROGEN COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TN load to TN WLA. Would permittee have complied with its TN WLA for calendar year 2005 if its TN WLA had been in effect for that year?

__X__ NO *(proceed to II.B. Implementation Schedule for TN)*

_____ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TN WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(PART II Complete; Proceed to PART IV. TOTAL PHOSPHORUS COMPLIANCE), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TN WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under II.B.)* Explanation: _____

_____

_____

(proceed to II.B. Implementation Schedule for TN)

B. Implementation Schedule for TN

1. Does permittee anticipate requiring TN credit purchase to comply?

_____ NO __X__ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TN credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

_____ NO __X__ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection	Olver, Inc. – August 2008
PER/CER to DEQ	2009_____
Plans & Specifications to DEQ	2009_____
Commence construction	Phased Construction as Flow Approaches 0.775 MGD Permit Tier
Complete construction	2013 (Estimated)_____
CTO Request to DEQ (POTWs only)	As Phases are Completed

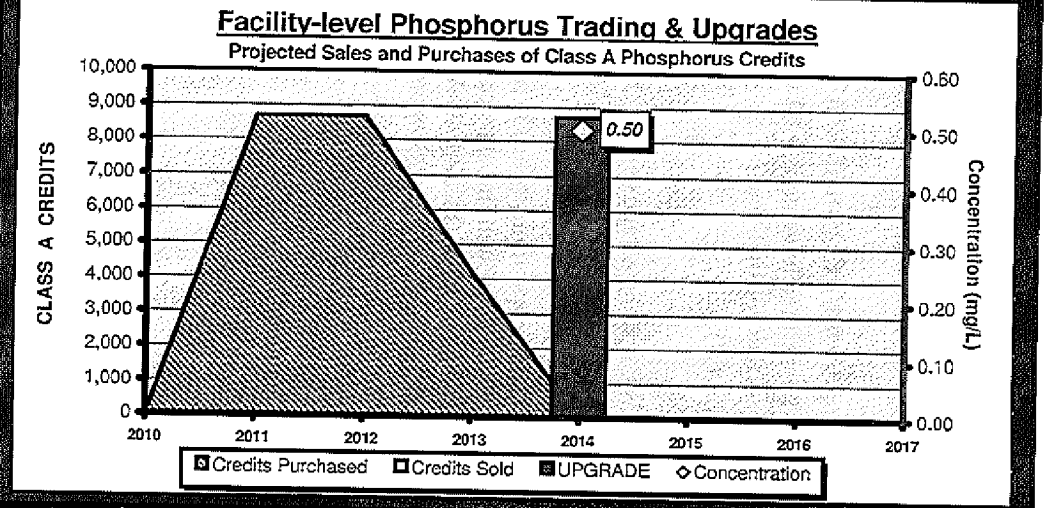
PART I. PHOSPHORUS SUMMARY FOR AQUA VIRGINIA-L. MONTICELLO

Aqua Virginia-L. Monticello

UPPER JAMES Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	1.00
WLA Concentration (mg/L)	0.50
Delivery Factor	1.00
Delivered WLA	**1,515**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Projected Flow (mgd)	0.69	0.69	0.69	0.70	0.81	0.83	0.85	0.87
Projected Avg. Annual Concentration (mg/L)	4.86	4.86	4.86	2.68	0.50	0.50	0.50	0.50
Discharged Load (end of pipe)	10,213	10,213	10,213	5,713	1,233	1,264	1,294	1,325
Delivered Load	10,213	10,213	10,213	5,713	1,233	1,264	1,294	1,325
Delivered WLA		1,515	1,515	1,515	1,515	1,515	1,515	1,515
Expected Credits		(8,698)	(8,698)	(4,198)	282	251	221	190
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		(8,698)	(8,698)	(4,198)	**282**	**251**	**221**	**190**
Class A Pledge Percentage (%)		100%	100%	100%	0%	0%	0%	0%
Class A Credits		(8,698)	(8,698)	(4,198)	**0**	**0**	**0**	**0**
Expected Class B Credits		0	0	0	282	251	221	190

AR0036577

FACILITY (OR OWNER BUBBLE) NAME: Lake Monticello WWTP

PART IV. TOTAL PHOSPHORUS COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TP load to TP WLA. Would permittee have complied with its TP WLA for calendar year 2005 if its TP WLA had been in effect for that year?

__X__ NO *(proceed to III.B. Implementation Schedule for TP)*

_____ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TP WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(Stop Here/Part IV Is Complete), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TP WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under IV.B.)* Explanation: _____

_____

(proceed to IV.B. Implementation Schedule for TP)

B. Implementation Schedule for TP

1. Does permittee anticipate requiring TP credit purchase to comply?

   _____ NO __X__ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TP credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

   _____ NO __X__ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection	Olver, Inc. – August 2008
PER/CER to DEQ	2009_____
Plans & Specifications to DEQ	2009_____
Commence construction	Phased Construction as Flow Approaches 0.775 MGD Permit Tier
Complete construction	2013 (Estimated)_____
CTO Request to DEQ (POTWs only)	As Phases are Completed

End of Facility Appendix

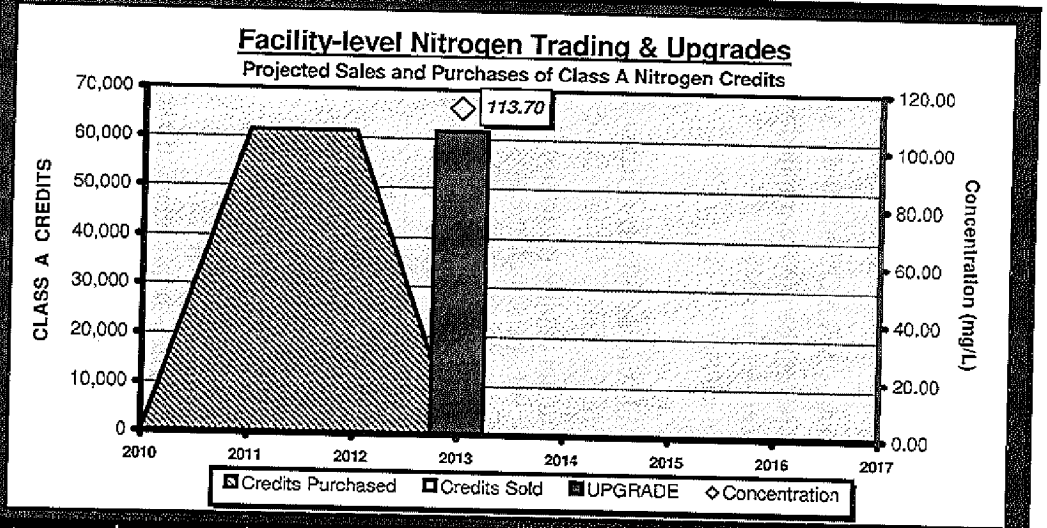
PART I. NITROGEN SUMMARY FOR BABCOCK & WILCOX, N.O.G.

Babcock & Wilcox, N.O.G.

UPPER JAMES Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	1.00
WLA Concentration (mg/L)	61.40
Delivery Factor	0.61
Delivered WLA	**114,070**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Projected Flow (mgd)	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54
Projected Avg. Annual Concentration (mg/L)	175.00	175.00	175.00	113.70	113.70	113.70	113.70	113.70
Discharged Load (end of pipe)	287,805	287,805	287,805	186,991	186,991	186,991	186,991	186,991
Delivered Load	175,561	175,561	175,561	114,065	114,065	114,065	114,065	114,065
Delivered WLA		114,070	114,070	114,070	114,070	114,070	114,070	114,070
Expected Credits		(61,491)	(61,491)	5	5	5	5	5
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		(61,491)	(61,491)	5	5	5	5	5
Class A Pledge Percentage (%)		100%	100%	0%	0%	0%	0%	0%
Class A Credits		(61,491)	(61,491)	0	0	0	0	0
Expected Class B Credits		0	0	5	5	5	5	5

AR0036579

FACILITY (OR OWNER BUBBLE) NAME: Babcock & Wilcox, Nuclear Operations Group

PART II. TOTAL NITROGEN COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TN load to TN WLA. Would permittee have complied with its TN WLA for calendar year 2005 if its TN WLA had been in effect for that year?

__X__ NO *(proceed to II.B. Implementation Schedule for TN)*

_____ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TN WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(PART II Complete; Proceed to PART IV. TOTAL PHOSPHORUS COMPLIANCE), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TN WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under II.B.)* Explanation: _____

_____

_____

(proceed to II.B. Implementation Schedule for TN)

B. Implementation Schedule for TN

1. Does permittee anticipate requiring TN credit purchase to comply?

   _____ NO __X__ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TN credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

   _____ NO __X__ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection	October 2009_____
PER/CER to DEQ	April 2010_____
Plans & Specifications to DEQ	June 2010_____
Commence construction	July 2010_____
Complete construction	October 2011_____
CTO Request to DEQ (POTWs only)	_____

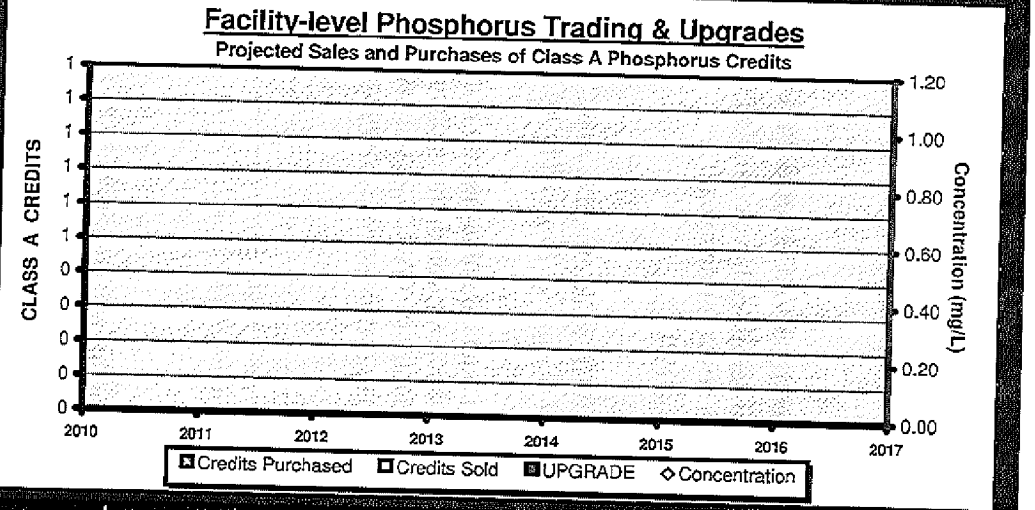
PART I. PHOSPHORUS SUMMARY FOR BABCOCK & WILCOX, N.O.G.

Babcock & Wilcox, N.O.G.

UPPER JAMES Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	1.00
WLA Concentration (mg/L)	0.50
Delivery Factor	1.00
Delivered WLA	**1,523**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Projected Flow (mgd)	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54
Projected Avg. Annual Concentration (mg/L)	0.36	0.36	0.36	0.36	0.29	0.29	0.29	0.29
Discharged Load (end of pipe)	592	592	592	592	477	477	477	477
Delivered Load	592	592	592	592	477	477	477	477
Delivered WLA		1,523	1,523	1,523	1,523	1,523	1,523	1,523
Expected Credits		931	931	931	1,046	1,046	1,046	1,046
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Helc Credits		0	0	0	0	0	0	0
Expected Net Credits		**931**	**931**	**931**	**1,046**	**1,046**	**1,046**	**1,046**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		931	931	931	1,046	1,046	1,046	1,046

AR0036581

FACILITY (OR OWNER BUBBLE) NAME: Babcock & Wilcox, Nuclear Operations Group

PART IV. TOTAL PHOSPHORUS COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TP load to TP WLA. Would permittee have complied with its TP WLA for calendar year 2005 if its TP WLA had been in effect for that year?

_____ NO *(proceed to III.B. Implementation Schedule for TP)*

__X__ YES *(permittee must check Option 1 or Option 2)*:

__X__ Option 1: Permittee hereby requests TP WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(Stop Here/Part IV Is Complete), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TP WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under IV.B.)* Explanation: _____

_____

(proceed to IV.B. Implementation Schedule for TP)

B. Implementation Schedule for TP

1. Does permittee anticipate requiring TP credit purchase to comply?

_____ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TP credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

_____ NO _____ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection _____

PER/CER to DEQ _____

Plans & Specifications to DEQ _____

Commence construction _____

Complete construction _____

CTO Request to DEQ (POTWs only) _____

End of Facility Appendix

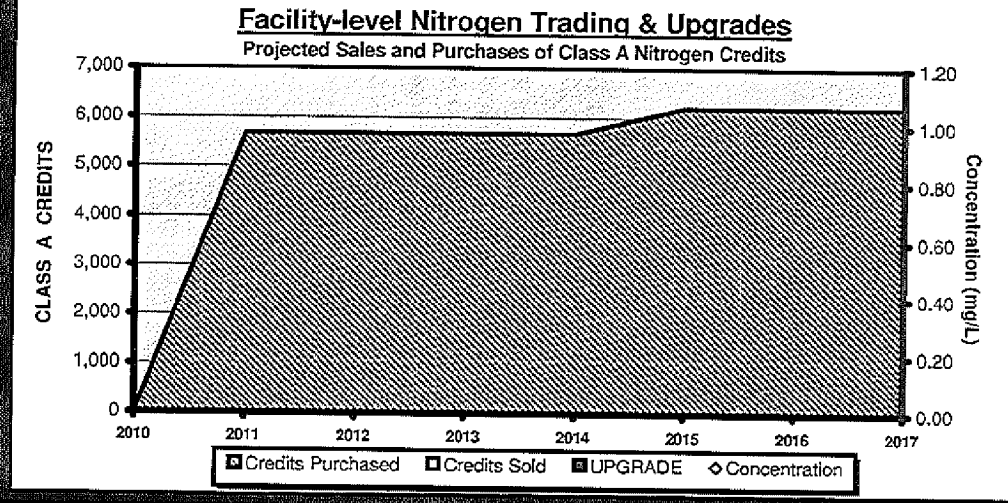
PART I. NITROGEN SUMMARY FOR BUENA VISTA

Buena Vista

UPPER JAMES Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	2.25
WLA Concentration (mg/L)	6.00
Delivery Factor	0.30
Delivered WLA	**12,335**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25
Projected Flow (mgd)	1.36	1.36	1.36	1.36	1.36	1.40	1.40	1.40
Projected Avg. Annual Concentration (mg/L)	14.50	14.50	14.50	14.50	14.50	14.50	14.50	14.50
Discharged Load (end of pipe)	60,058	60,058	60,058	60,058	60,058	61,825	61,825	61,825
Delivered Load	18,018	18,018	18,018	18,018	18,018	18,547	18,547	18,547
Delivered WLA		12,335	12,335	12,335	12,335	12,335	12,335	12,335
Expected Credits		(5,683)	(5,683)	(5,683)	(5,683)	(6,212)	(6,212)	(6,212)
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		(5,683)	(5,683)	(5,683)	(5,683)	(6,212)	(6,212)	(6,212)
Class A Pledge Percentage (%)		100%	100%	100%	100%	100%	100%	100%
Class A Credits		(5,683)	(5,683)	(5,683)	(5,683)	(6,212)	(6,212)	(6,212)
Expected Class B Credits		0	0	0	0	0	0	0

AR0036583

FACILITY (OR OWNER BUBBLE) NAME: City of Buena Vista

PART II. TOTAL NITROGEN COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TN load to TN WLA. Would permittee have complied with its TN WLA for calendar year 2005 if its TN WLA had been in effect for that year?

__X_ NO *(proceed to II.B. Implementation Schedule for TN)*

_____ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TN WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(PART II Complete; Proceed to PART IV. TOTAL PHOSPHORUS COMPLIANCE), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TN WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under II.B.)* Explanation: _____

(proceed to II.B. Implementation Schedule for TN)

B. Implementation Schedule for TN

1. Does permittee anticipate requiring TN credit purchase to comply?

   _____ NO __X__ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TN credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

   _X___ NO _____ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline. **We have a probable project planned beyond 2011. A BODR and an IOP have been completed. We are grappling with the staggering cost estimate of a $30 million project (dated 2004) and have not moved politically for council approval. The City has approved a PPEA document however this has not been implemented for this project. The city did apply for ARRA stimulus dollar in 2009 but receive no award. In addition the City has the 5th highest fiscal stress rating as of 2007 (DHCD data) and this is the main reason it has not moved forward with the PER. The project schedule is an estimate with little certainty.*

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection	_2004_____
PER/CER to DEQ	_1-2012_____
Plans & Specifications to DEQ	_12-2012_____
Commence construction	_4-2014_____
Complete construction	_4-2017_____
CTO Request to DEQ (POTWs only)	_10-2017_____

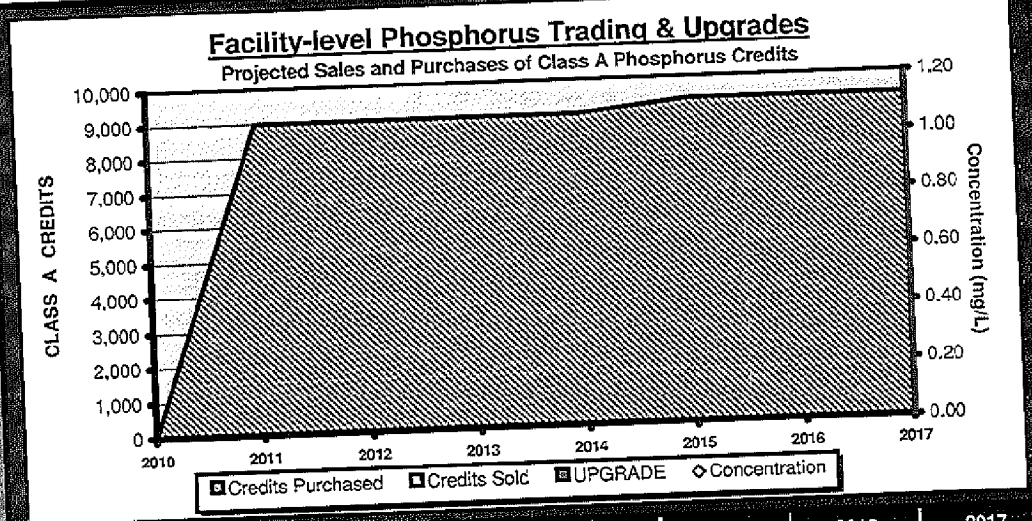
PART I. PHOSPHORUS SUMMARY FOR BUENA VISTA

Buena Vista

UPPER JAMES Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	2.25
WLA Concentration (mg/L)	0.50
Delivery Factor	1.00
Delivered WLA	3,426



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25
Projected Flow (mgd)	1.36	1.36	1.36	1.36	1.36	1.40	1.40	1.40
Projected Avg. Annual Concentration (mg/L)	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Discharged Load (end of pipe)	12,426	12,426	12,426	12,426	12,426	12,791	12,791	12,791
Delivered Load	12,426	12,426	12,426	12,426	12,426	12,791	12,791	12,791
Delivered WLA		3,426	3,426	3,426	3,426	3,426	3,426	3,426
Expected Credits		(9,000)	(9,000)	(9,000)	(9,000)	(9,365)	(9,365)	(9,365)
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		(9,000)	(9,000)	(9,000)	(9,000)	(9,365)	(9,365)	(9,365)
Class A Pledge Percentage (%)		100%	100%	100%	100%	100%	100%	100%
Class A Credits		(9,000)	(9,000)	(9,000)	(9,000)	(9,365)	(9,365)	(9,365)
Expected Class B Credits		0	0	0	0	0	0	0

AR003658

FACILITY (OR OWNER BUBBLE) NAME: City of Buena Vista

PART IV. TOTAL PHOSPHORUS COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TP load to TP WLA. Would permittee have complied with its TP WLA for calendar year 2005 if its TP WLA had been in effect for that year?

__X__ NO *(proceed to III.B. Implementation Schedule for TP)*

_____ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TP WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(Stop Here/Part IV Is Complete), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TP WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under IV.B.)* Explanation: _____

_____

_____

(proceed to IV.B. Implementation Schedule for TP)

B. Implementation Schedule for TP

1. Does permittee anticipate requiring TP credit purchase to comply?

   _____ NO __X__ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TP credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

   _X___ NO _____ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline. **We have a probable project planned beyond 2011. A BODR and an IOP have been completed. We are grappling with the staggering cost estimate of a $30 million project (dated 2004) and have not moved politically for council approval. The City has approved a PPEA document however this has not been implemented for this project. The city did apply for ARRA stimulus dollar in 2009 but receive no award. In addition the City has the 5th highest fiscal stress rating as of 2007 (DHCD data) and this is the main reason it has not moved forward with the PER. The project schedule is an estimate with little certainty.*

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection	_2004_____
PER/CER to DEQ	_1-2012_____
Plans & Specifications to DEQ	_12-2012_____

Commence construction	_4-2014_____
Complete construction	_4-2017_____
CTO Request to DEQ (POTWs only)	_10-2017_____

End of Facility Appendix

Owner Bubble: Chesterfield County

The facilities listed below have received an aggregated mass load limit pursuant to 9 VAC 25-820-70, Part 1.B.2., which is also referred to as an "owner bubble". Accordingly, compliance is determined solely on an aggregate basis rather than by comparison of individual facility loads with respective individual WLAs.

The "Credit Transferred within Bubble" section of each table forecasts the use of Credits within the owner bubble during each Compliance Year, and must necessarily sum to zero. The specific Credit transfers shown in this table are provided for internal planning purposes only and, accordingly, are not binding and may change based on the actual performance of individual facilities within the bubble.

Expected Net Credits for an owner bubble may be either positive or negative. If Expected Net Credits is positive, the owner may pledge a percentage of such Credits to the Exchange. If Expected Net Credits is negative, Net Expected Credits identifies the number of Credits that must be purchased to comply with the aggregate Delivered WLA of the bubble.

NITROGEN Credits

	Exchange 5-year Planning Period					Future Projections		
Credits Transferred within Bubble	2010	2011	2012	2013	2014	2015	2016	2017
Falling Creek	-	-	-	15,380	15,380	15,380	15,380	15,380
Proctors Creek	-	-	-	(15,380)	(15,380)	(15,380)	(15,380)	(15,380)
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble	2010	2011	2012	2013	2014	2015	2016	2017
Falling Creek		-	-	-	-	-	-	-
Proctors Creek		23,147	9,289	109,001	109,001	96,103	83,205	70,307
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
Expected Net Credits	-	23,147	9,289	109,001	109,001	96,103	83,205	70,307
Class A Pledge Percentage		0%	0%	0%	0%	0%	0%	0%
Class A Sales (Purchases)		0	0	0	0	0	0	0
Expected Class B Credits		*23,147*	*9,289*	*109,001*	*109,001*	*96,103*	*83,205*	*70,307*
WQIF-Held Credits		*0*	*0*	*0*	*0*	*0*	*0*	*0*

PHOSPHORUS Credits

	Exchange 5-year Planning Period					Future Projections		
Credits Transferred within Bubble	2010	2011	2012	2013	2014	2015	2016	2017
Falling Creek	-	3,076	3,076	3,076	3,076	3,076	3,076	3,076
Proctors Creek	-	(3,076)	(3,076)	(3,076)	(3,076)	(3,076)	(3,076)	(3,076)
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble	2010	2011	2012	2013	2014	2015	2016	2017
Falling Creek		-	-	-	-	-	-	-
Proctors Creek		6,408	5,001	3,594	2,187	5,348	3,941	2,534
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
Expected Credits	-	6,408	5,001	3,594	2,187	5,348	3,941	2,534
Private Exchanges		(3,580)	(3,580)	-	-	-	-	-
Expected Net Credits	-	2,828	1,421	3,594	2,187	5,348	3,941	2,534
Class A Pledge Percentage		0%	0%	0%	0%	0%	0%	0%
Class A Sales (Purchases)		0	0	0	0	0	0	0
Expected Class B Credits		*2,828*	*1,421*	*3,594*	*2,187*	*5,348*	*3,941*	*2,534*
WQIF-Held Credits		*0*	*0*	*0*	*0*	*0*	*0*	*0*

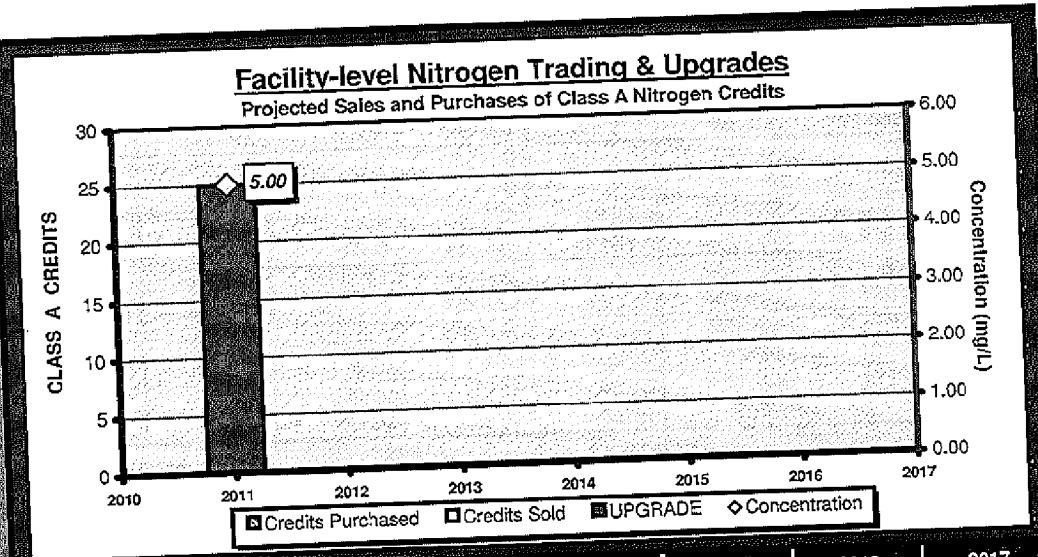
PART I. NITROGEN SUMMARY FOR CHESTERFIELD-FALLING CR.

Chesterfield-Falling Cr.

UPPER JAMES Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	10.10
WLA Concentration (mg/L)	5.00
Delivery Factor	1.00
Delivered WLA	**153,801**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	10.10	10.10	10.10	10.10	10.10	10.10	10.10	10.10
Projected Flow (mgd)	10.10	10.10	10.10	10.10	10.10	10.10	10.10	10.10
Projected Avg. Annual Concentration (mg/L)	20.00	5.00	5.00	5.50	5.50	5.50	5.50	5.50
Discharged Load (end of pipe)	615,203	153,801	153,801	169,181	169,181	169,181	169,181	169,181
Delivered Load	615,203	153,801	153,801	169,181	169,181	169,181	169,181	169,181
Delivered WLA		153,801	153,801	153,801	153,801	153,801	153,801	153,801
Expected Credits		0	0	(15,380)	(15,380)	(15,380)	(15,380)	(15,380)
Transfers In (Out) within Owner Bubble		0	0	15,380	15,380	15,380	15,380	15,380
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		0	0	0	0	0	0	0
Expected Class B Credits		0	0	0	0	0	0	0

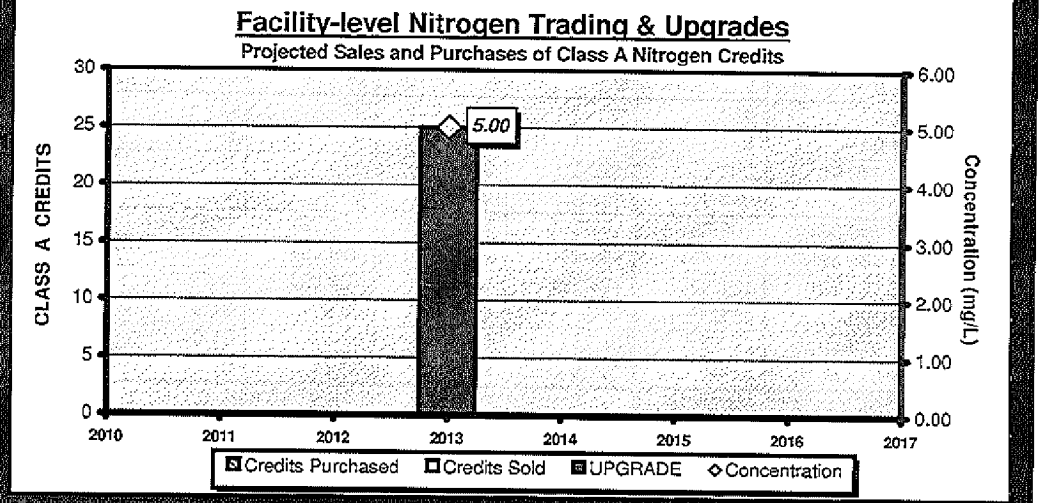
PART I. NITROGEN SUMMARY FOR CHESTERFIELD-PROCTORS CR.

Chesterfield-Proctors Cr.

UPPER JAMES Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	27.00
WLA Concentration (mg/L)	5.00
Delivery Factor	1.00
Delivered WLA	**411,151**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	27.00	27.00	27.00	27.00	27.00	27.00	27.00	27.00
Projected Flow (mgd)	18.90	19.60	20.30	17.12	17.12	17.89	18.66	19.43
Projected Avg. Annual Concentration (mg/L)	8.00	6.50	6.50	5.50	5.50	5.50	5.50	5.50
Discharged Load (end of pipe)	460,489	388,004	401,862	286,770	286,770	299,668	312,566	325,464
Delivered Load	460,489	388,004	401,862	286,770	286,770	299,668	312,566	325,464
Delivered WLA		411,151	411,151	411,151	411,151	411,151	411,151	411,151
Expected Credits		23,147	9,289	124,381	124,381	111,483	98,585	85,687
Transfers In (Out) within Owner Bubble		0	0	(15,380)	(15,380)	(15,380)	(15,380)	(15,380)
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**23,147**	**9,289**	**109,001**	**109,001**	**96,103**	**83,205**	**70,307**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		23,147	9,289	109,001	109,001	96,103	83,205	70,307

AR0036591

FACILITY (OR OWNER BUBBLE) NAME: **Chesterfield County (Proctors Creek & Falling Creek WWTP)**

PART II. TOTAL NITROGEN COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TN load to TN WLA. Would permittee have complied with its TN WLA for calendar year 2005 if its TN WLA had been in effect for that year?

__X__ NO *(proceed to II.B. Implementation Schedule for TN)*

_____ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TN WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(PART II Complete; Proceed to PART IV. TOTAL PHOSPHORUS COMPLIANCE), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TN WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under II.B.)* Explanation: _____

(proceed to II.B. Implementation Schedule for TN)

B. Implementation Schedule for TN

1. Does permittee anticipate requiring TN credit purchase to comply?

   __X__ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TN credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

   _____ NO __X__ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

	Falling Creek	Proctors Creek
Engineer selection	Nov. 1, 2006	Nov. 1, 2006
PER/CER to DEQ	Aug 2007	Aug 2007
Plans & Specifications to DEQ	Sept 2008	April 2009
Commence construction	Mar 2009	Nov 2009
Complete construction	Jan 2011	Dec 2012
CTO Request to DEQ (POTWs only)	Jan 2011	Dec 2012

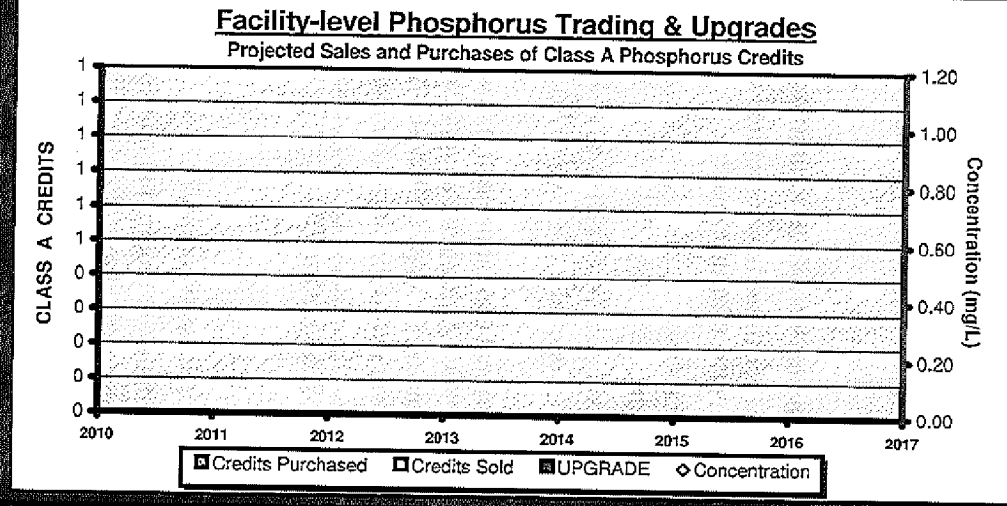
PART I. PHOSPHORUS SUMMARY FOR CHESTERFIELD-FALLING CR.

Chesterfield-Falling Cr.

UPPER JAMES Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	10.10
WLA Concentration (mg/L)	0.50
Delivery Factor	1.00
Delivered WLA	**15,380**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	10.10	10.10	10.10	10.10	10.10	10.10	10.10	10.10
Projected Flow (mgd)	10.10	10.10	10.10	10.10	10.10	10.10	10.10	10.10
Projected Avg. Annual Concentration (mg/L)	2.00	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Discharged Load (end of pipe)	61,520	18,456	18,456	18,456	18,456	18,456	18,456	18,456
Delivered Load	61,520	18,456	18,456	18,456	18,456	18,456	18,456	18,456
Delivered WLA		15,380	15,380	15,380	15,380	15,380	15,380	15,380
Expected Credits		(3,076)	(3,076)	(3,076)	(3,076)	(3,076)	(3,076)	(3,076)
Transfers In (Out) within Owner Bubble		3,076	3,076	3,076	3,076	3,076	3,076	3,076
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		0	0	0	0	0	0	0

AR0036593

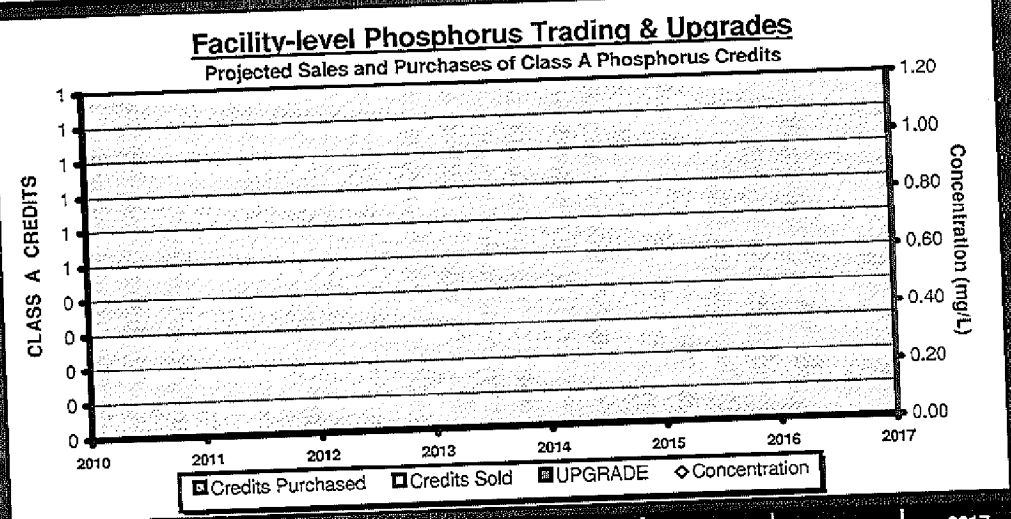
PART I. PHOSPHORUS SUMMARY FOR CHESTERFIELD-PROCTORS CR.

Chesterfield-Proctors Cr.

UPPER JAMES Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	27.00
WLA Concentration (mg/L)	0.50
Delivery Factor	1.00
Delivered WLA	**41,115**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	27.00	27.00	27.00	27.00	27.00	27.00	27.00	27.00
Projected Flow (mgd)	16.54	17.31	18.08	18.85	19.62	17.89	18.66	19.43
Projected Avg. Annual Concentration (mg/L)	2.00	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Discharged Load (end of pipe)	100,747	31,631	33,038	34,445	35,852	32,691	34,098	35,505
Delivered Load	100,747	31,631	33,038	34,445	35,852	32,691	34,098	35,505
Delivered WLA		41,115	41,115	41,115	41,115	41,115	41,115	41,115
Expected Credits		9,484	8,077	6,670	5,263	8,424	7,017	5,610
Transfers In (Out) within Owner Bubble		(3,076)	(3,076)	(3,076)	(3,076)	(3,076)	(3,076)	(3,076)
Transfers In (Out) from Private Exchange		(3,580)	(3,580)	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**2,828**	**1,421**	**3,594**	**2,187**	**5,348**	**3,941**	**2,534**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		2,828	1,421	3,594	2,187	5,348	3,941	2,534

FACILITY (OR OWNER BUBBLE) NAME: **Chesterfield County (Proctors Creek & Falling Creek WWTP)**

PART IV. TOTAL PHOSPHORUS COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TP load to TP WLA. Would permittee have complied with its TP WLA for calendar year 2005 if its TP WLA had been in effect for that year?

__X__ NO *(proceed to III.B. Implementation Schedule for TP)*

_____ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TP WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(Stop Here/Part IV Is Complete), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TP WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under IV.B.)* Explanation: _____.

_____

(proceed to IV.B. Implementation Schedule for TP)

B. Implementation Schedule for TP

1. Does permittee anticipate requiring TP credit purchase to comply?

__X__ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TP credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

__X__ NO _____ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection	NA
PER/CER to DEQ	
Plans & Specifications to DEQ	
Commence construction	
Complete construction	
CTO Request to DEQ (POTWs only)	

End of Facility Appendix

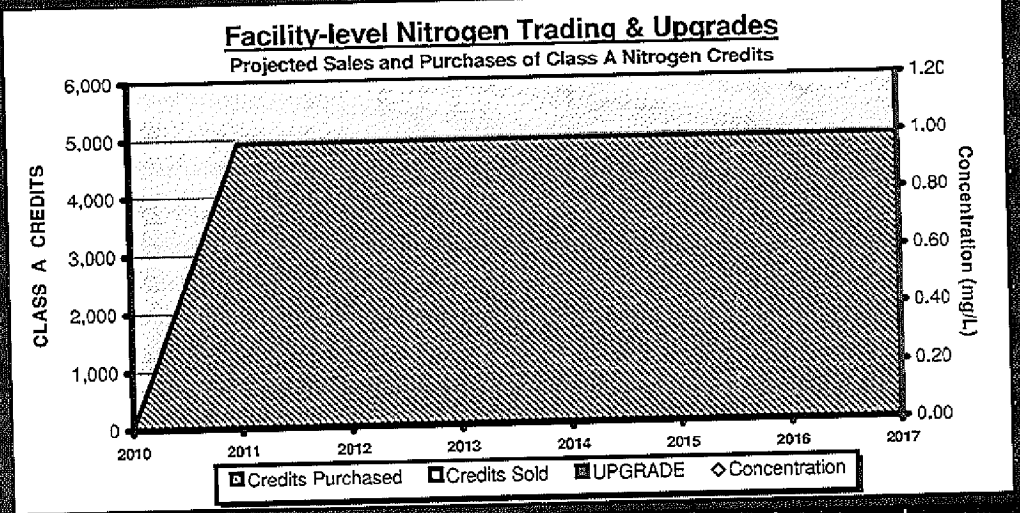
PART I. NITROGEN SUMMARY FOR COVINGTON

Covington

UPPER JAMES Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	3.00
WLA Concentration (mg/L)	6.00
Delivery Factor	0.30
Delivered WLA	**16,446**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Projected Flow (mgd)	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80
Projected Avg. Annual Concentration (mg/L)	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
Discharged Load (end of pipe)	71,266	71,266	71,266	71,266	71,266	71,266	71,266	71,266
Delivered Load	21,380	21,380	21,380	21,380	21,380	21,380	21,380	21,380
Delivered WLA		16,446	16,446	16,446	16,446	16,446	16,446	16,446
Expected Credits		(4,934)	(4,934)	(4,934)	(4,934)	(4,934)	(4,934)	(4,934)
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		(4,934)	(4,934)	(4,934)	(4,934)	(4,934)	(4,934)	(4,934)
Class A Pledge Percentage (%)		100%	100%	100%	100%	100%	100%	100%
Class A Credits		(4,934)	(4,934)	(4,934)	(4,934)	(4,934)	(4,934)	(4,934)
Expected Class B Credits		0	0	0	0	0	0	0

FACILITY (OR OWNER BUBBLE) NAME: City of Covington Wastewater Treatment Plant; VPDES Permit No. VA 0025542

PART II. TOTAL NITROGEN COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TN load to TN WLA. Would permittee have complied with its TN WLA for calendar year 2005 if its TN WLA had been in effect for that year?

__X__ NO *(proceed to II.B. Implementation Schedule for TN)*

_____ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TN WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(PART II Complete; Proceed to PART IV. TOTAL PHOSPHORUS COMPLIANCE), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TN WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under II.B.)* Explanation: _____

_____

(proceed to II.B. Implementation Schedule for TN)

B. Implementation Schedule for TN

1. Does permittee anticipate requiring TN credit purchase to comply?

_____ NO __X__ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TN credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

__X__ NO _____ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection	Not Applicable
PER/CER to DEQ	Not Applicable
Plans & Specifications to DEQ	Not Applicable
Commence construction	Not Applicable
Complete construction	Not Applicable
CTO Request to DEQ (POTWs only)	Not Applicable

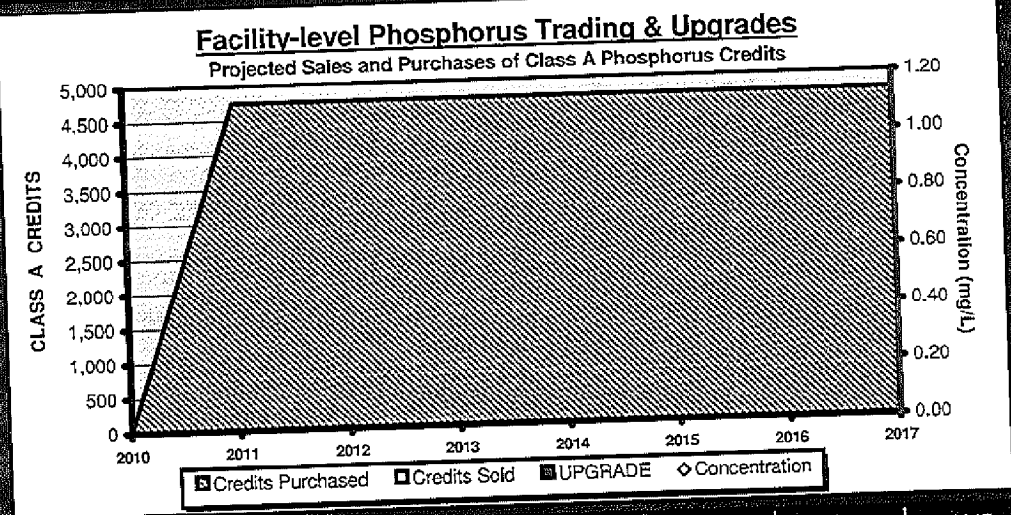
PART I. PHOSPHORUS SUMMARY FOR COVINGTON

Covington

UPPER JAMES Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	3.00
WLA Concentration (mg/L)	0.50
Delivery Factor	1.00
Delivered WLA	**4,568**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Projected Flow (mgd)	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80
Projected Avg. Annual Concentration (mg/L)	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70
Discharged Load (end of pipe)	9,319	9,319	9,319	9,319	9,319	9,319	9,319	9,319
Delivered Load	9,319	9,319	9,319	9,319	9,319	9,319	9,319	9,319
Delivered WLA		4,568	4,568	4,568	4,568	4,568	4,568	4,568
Expected Credits		(4,751)	(4,751)	(4,751)	(4,751)	(4,751)	(4,751)	(4,751)
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		(4,751)	(4,751)	(4,751)	(4,751)	(4,751)	(4,751)	(4,751)
Class A Pledge Percentage (%)		100%	100%	100%	100%	100%	100%	100%
Class A Credits		(4,751)	(4,751)	(4,751)	(4,751)	(4,751)	(4,751)	(4,751)
Expected Class B Credits		0	0	0	0	0	0	0

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FACILITY (OR OWNER BUBBLE) NAME: City of Covington Wastewater Treatment Plant; VPDES Permit No. VA 0025542

PART IV. TOTAL PHOSPHORUS COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TP load to TP WLA. Would permittee have complied with its TP WLA for calendar year 2005 if its TP WLA had been in effect for that year?

__X__ NO *(proceed to III.B. Implementation Schedule for TP)*

_____ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TP WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(Stop Here/Part IV Is Complete), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TP WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under IV.B.)* Explanation: _____

(proceed to IV.B. Implementation Schedule for TP)

B. Implementation Schedule for TP

1. Does permittee anticipate requiring TP credit purchase to comply?

   _____ NO __X__ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TP credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

   __X__ NO _____ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection	Not Applicable
PER/CER to DEQ	Not Applicable
Plans & Specifications to DEQ	Not Applicable
Commence construction	Not Applicable
Complete construction	Not Applicable
CTO Request to DEQ (POTWs only)	Not Applicable

End of Facility Appendix

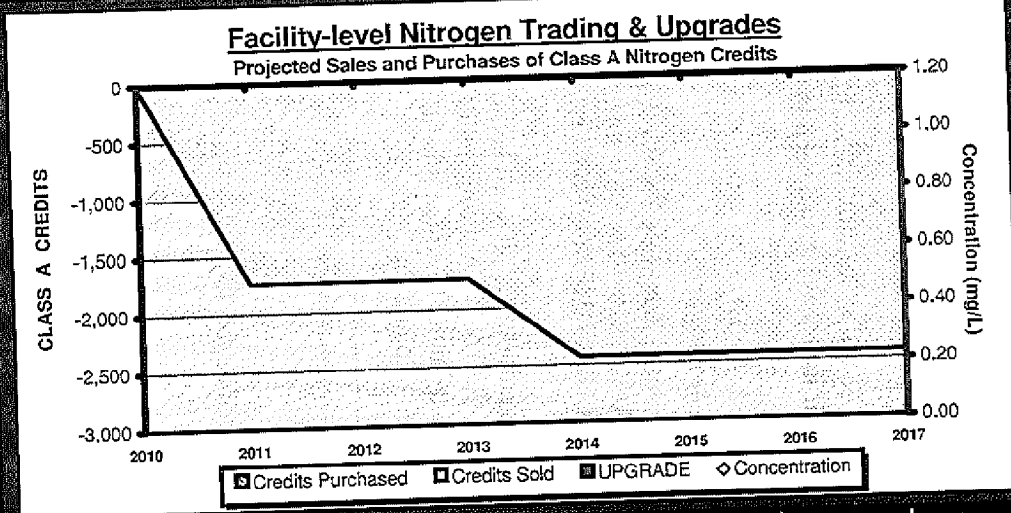
PART I. NITROGEN SUMMARY FOR CREWE

Crewe

UPPER JAMES Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.50
WLA Concentration (mg/L)	6.00
Delivery Factor	0.38
Delivered WLA	**3,472**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Projected Flow (mgd)	0.30	0.30	0.30	0.30	0.20	0.20	0.20	0.20
Projected Avg. Annual Concentration (mg/L)	5.00	5.00	5.00	5.00	4.50	4.50	4.50	4.50
Discharged Load (end of pipe)	4,568	4,568	4,568	4,568	2,741	2,741	2,741	2,741
Delivered Load	1,736	1,736	1,736	1,736	1,042	1,042	1,042	1,042
Delivered WLA		3,472	3,472	3,472	3,472	3,472	3,472	3,472
Expected Credits		1,736	1,736	1,736	2,430	2,430	2,430	2,430
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**1,736**	**1,736**	**1,736**	**2,430**	**2,430**	**2,430**	**2,430**
Class A Pledge Percentage (%)		100%	100%	100%	100%	100%	100%	100%
Class A Credits		**1,736**	**1,736**	**1,736**	**2,430**	**2,430**	**2,430**	**2,430**
Expected Class B Credits		0	0	0	0	0	0	0

PART II. TOTAL NITROGEN COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare facility's 2005 discharged TN load to its TN WLA. Would this facility have complied with its TN WLA for calendar year 2005 if its TN WLA had been in effect for that year?

_____ NO *(proceed to II.B. Implementation Schedule for TN)*

__x___ YES *(permittee must check Option 1 or Option 2)*:

__x___ Option 1: Permittee hereby requests facility's TN WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(PART II Complete; Proceed to PART III. TOTAL PHOSPHORUS COMPLIANCE), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TN WLA through the applicable compliance schedule deadline for the tributary to which this facility discharges (9 VAC 25-820-40 A 2 a). Explanation:

_____

_____

_____

_____

(proceed to II.B. Implementation Schedule for TN)

B. Implementation Schedule for TN

1. Does permittee anticipate requiring TN credit purchase to comply?

   ___x__ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TN credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

   __ x _ NO _____ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(specify estimated date for each milestone)*

   Engineer selection _____

   PER/CER to DEQ _____

   Plans & Specifications to DEQ _____

   Commence construction _____

   Complete construction _____

   CTO Request to DEQ (POTWs only) _____

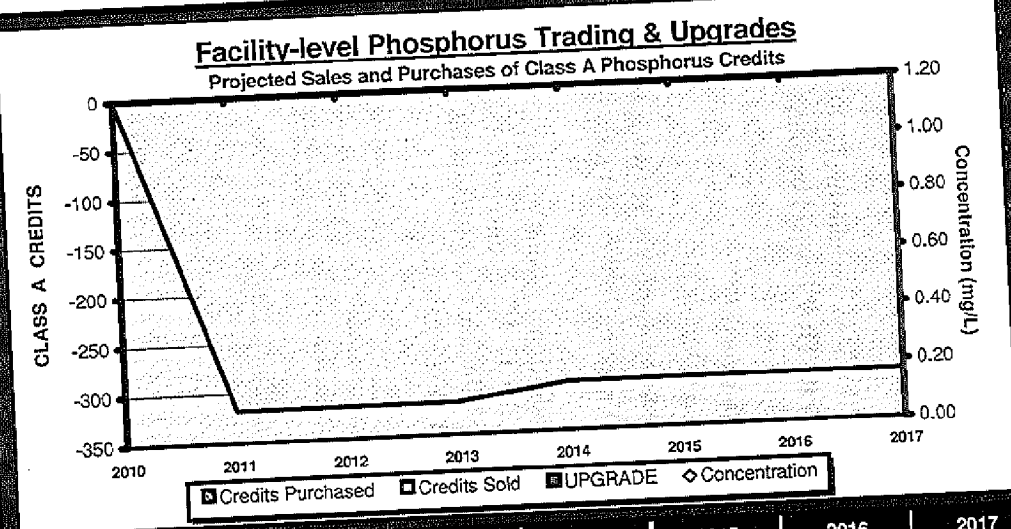
PART I. PHOSPHORUS SUMMARY FOR CREWE

Crewe

UPPER JAMES Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.50
WLA Concentration (mg/L)	0.50
Delivery Factor	0.43
Delivered WLA	**327**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Projected Flow (mgd)	0.30	0.30	0.30	0.30	0.20	0.20	0.20	0.20
Projected Avg. Annual Concentration (mg/L)	0.03	0.03	0.03	0.03	0.10	0.10	0.10	0.10
Discharged Load (end of pipe)	23	23	23	23	61	61	61	61
Delivered Load	10	10	10	10	26	26	26	26
Delivered WLA		327	327	327	327	327	327	327
Expected Credits		317	317	317	301	301	301	301
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		317	317	317	301	301	301	301
Class A Pledge Percentage (%)		100%	100%	100%	100%	100%	100%	100%
Class A Credits		317	317	317	301	301	301	301
Expected Class B Credits		0	0	0	0	0	0	0

PART IV. TOTAL PHOSPHORUS COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare facility's 2005 discharged TP load to its TP WLA. Would this facility have complied with its TP WLA for calendar year 2005 if its TP WLA had been in effect for that year?

_____ NO *(proceed to III.B. Implementation Schedule for TP)*

___x___ YES *(permittee must check Option 1 or Option 2)*:

___x___ Option 1: Permittee hereby requests facility's TP WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(Stop Here/Part III Is Complete), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TP WLA through the applicable compliance schedule deadline for the tributary to which this facility discharges (9 VAC 25-820-40 A 2 a). Explanation:

_____

_____

_____

_____

(proceed to III.B. Implementation Schedule for TP)

B. Implementation Schedule for TP

1. Does permittee anticipate requiring TP credit purchase to comply?

___x___ NO ____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TP credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

___x___ NO _____ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(specify estimated date for each milestone)*

Engineer selection	_____
PER/CER to DEQ	_____
Plans & Specifications to DEQ	_____
Commence construction	_____
Complete construction	_____
CTORequest to DEQ (POTWs only)	_____

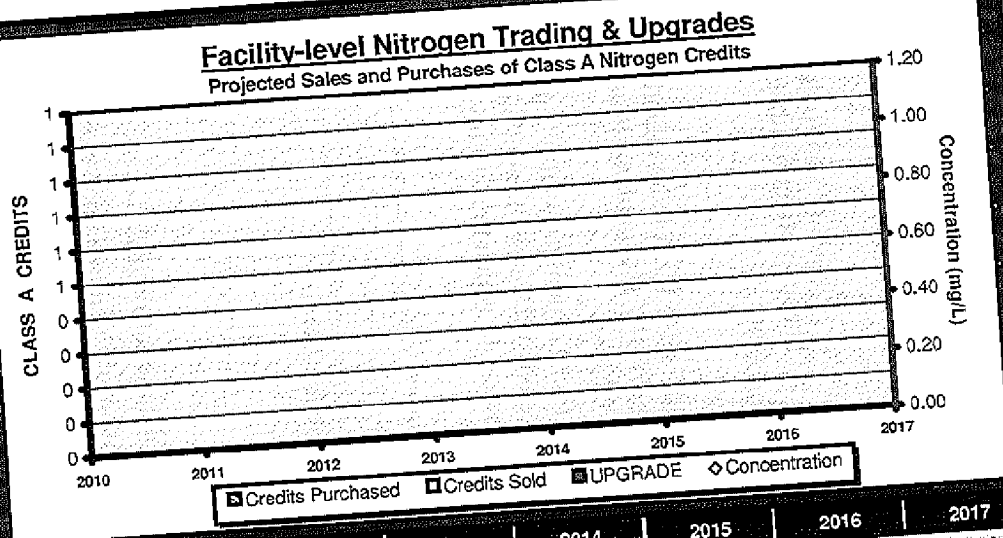
PART I. NITROGEN SUMMARY FOR DOMINION-CHESTERFIELD

Dominion-Chesterfield

UPPER JAMES Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	13.50
WLA Concentration (mg/L)	8.56
Delivery Factor	1.00
Delivered WLA	352,036



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50
Projected Flow (mgd)	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50
Projected Avg. Annual Concentration (mg/L)	5.32	8.39	8.39	8.39	8.39	8.39	8.39	8.39
Discharged Load (end of pipe)	218,703	345,038	345,038	345,038	345,038	345,038	345,038	345,038
Delivered Load	218,703	345,038	345,038	345,038	345,038	345,038	345,038	345,038
Delivered WLA		352,036	352,036	352,036	352,036	352,036	352,036	352,036
Expected Credits		6,998	6,998	6,998	6,998	6,998	6,998	6,998
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		6,998	6,998	6,998	6,998	6,998	6,998	6,998
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		0	0	0	0	0	0	0
Expected Class B Credits		6,998	6,998	6,998	6,998	6,998	6,998	6,998

AR0036604

PART II. TOTAL NITROGEN COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare facility's 2005 discharged TN load to its TN WLA. Would this facility have complied with its TN WLA for calendar year 2005 if its TN WLA had been in effect for that year?

_____ NO *(proceed to II.B. Implementation Schedule for TN)*

_X_ YES *(permittee must check Option 1 or Option 2)*:

_X_ Option 1: Permittee hereby requests facility's TN WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(PART II Complete; Proceed to PART III. TOTAL PHOSPHORUS COMPLIANCE), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TN WLA through the applicable compliance schedule deadline for the tributary to which this facility discharges (9 VAC 25-820-40 A 2 a). Explanation:

_____

_____

_____

(proceed to II.B. Implementation Schedule for TN)

B. Implementation Schedule for TN

1. Does permittee anticipate requiring TN credit purchase to comply?

_____ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TN credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

_____ NO _____ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(specify estimated date for each milestone)*

Engineer selection	_____
PER/CER to DEQ	_____
Plans & Specifications to DEQ	_____
Commence construction	_____
Complete construction	_____
CTO Request to DEQ (POTWs only)	_____

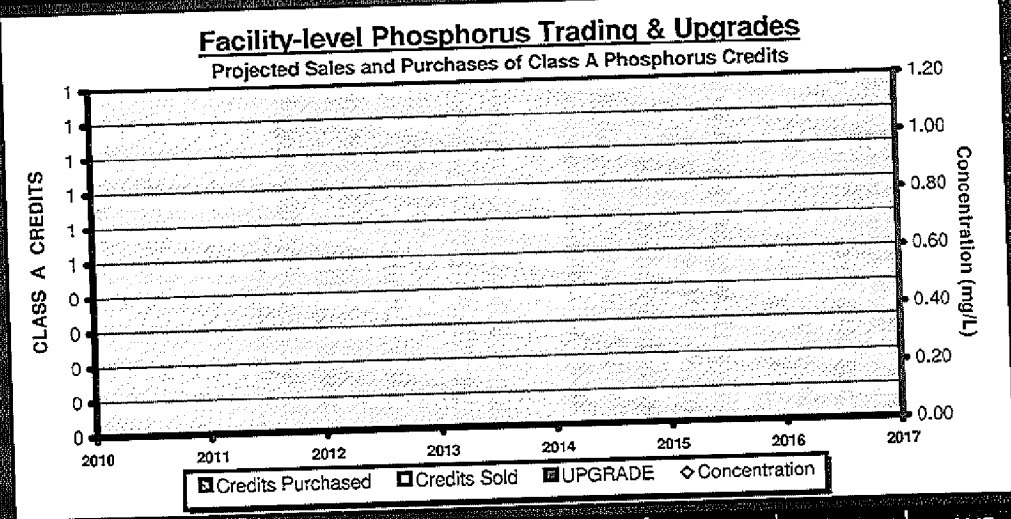
PART I. PHOSPHORUS SUMMARY FOR DOMINION-CHESTERFIELD

Dominion-Chesterfield

UPPER JAMES Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	13.50
WLA Concentration (mg/L)	0.01
Delivery Factor	1.00
Delivered WLA	**210**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50
Projected Flow (mgd)	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50
Projected Avg. Annual Concentration (mg/L)	0.17	0.09	0.09	0.01	0.01	0.01	0.01	0.01
Discharged Load (end of pipe)	7,159	3,790	3,790	210	210	210	210	210
Delivered Load	7,159	3,790	3,790	210	210	210	210	210
Delivered WLA		210	210	210	210	210	210	210
Expected Credits		(3,580)	(3,580)	0	0	0	0	0
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		3,580	3,580	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		0	0	0	0	0	0	0
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		0	0	0	0	0	0	0
Expected Class B Credits		0	0	0	0	0	0	0

PART IV. TOTAL PHOSPHORUS COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare facility's 2005 discharged TP load to its TP WLA. Would this facility have complied with its TP WLA for calendar year 2005 if its TP WLA had been in effect for that year?

_____ NO *(proceed to III.B. Implementation Schedule for TP)*

_X_ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests facility's TP WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(Stop Here/Part III Is Complete), or*

_X_ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TP WLA through the applicable compliance schedule deadline for the tributary to which this facility discharges (9 VAC 25-820-40 A 2 a). Explanation:

During 2008 the Chesterfield Power Station will begin using effluent from the Proctors Creek POTW as make-up water for various plant processes. A portion of the phosphorous associated with the POTW effluent will be discharged to the James River from the Chesterfield Power Station resulting in the predicted excess in loading. Over the next several years, Proctors Creek will be upgrading their treatment facility to reduce phosphorous loadings. This is expected to result in a concurrent reduction in phosphorous loadings from the Chesterfield Power Station.*(proceed to III.B. Implementation Schedule for TP)*

B. Implementation Schedule for TP

1. Does permittee anticipate requiring TP credit purchase to comply?

_X_ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TP credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

_X_ NO _____ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(specify estimated date for each milestone)*

Engineer selection _____

PER/CER to DEQ _____

Plans & Specifications to DEQ _____

Commence construction _____

Complete construction _____

CTO Request to DEQ (POTWs only) _____

SECTION 6

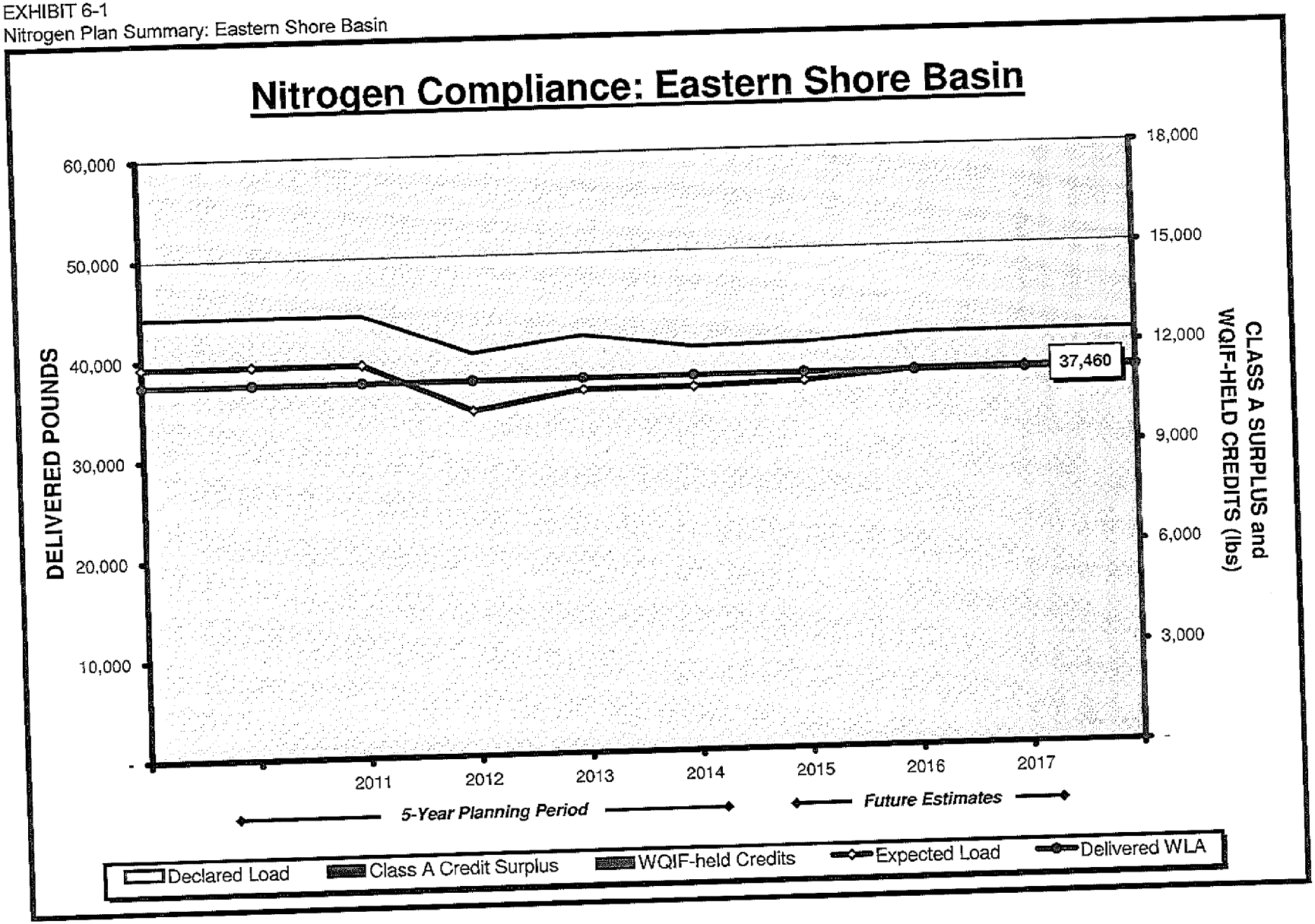
Eastern Shore Basin Exchange Compliance Plan

Consistent with similar disclosures made in conjunction with the original Exchange Compliance Plan dated July 31, 2007, the 2008 Annual Update (February 1, 2008), and the 2009 Annual Update (February 1, 2009), Credit forecasts for the Eastern Shore basin continue to indicate potential compliance challenges associated with lack of Credit availability.

This 2010 Annual Update indicates Nitrogen and Phosphorus Credit shortages in Compliance Year 2011 based on Participant data. In addition, the informational forecasts for future years (2012 – 2014) indicate that the Nitrogen Credit supply taking into account Class B Credits is projected to be sufficient, but indicate that a continuing Phosphorus Credit shortage is projected even after taking into account anticipated Class B Credits. This situation, which derives in part from the relatively small number of facilities and total allocations of the Eastern Shore basin, is illustrated on the Credit ledgers provided in this section.

The Exchange continues to recommend legislation authorizing trading with the Potomac and Rappahannock basins, subject to appropriate conditions, to address this Credit shortage on the Eastern Shore, as both The Exchange and DEQ have discussed in correspondence associated with the 2008 and 2009 Annual Updates.

EXHIBIT 6-1
Nitrogen Plan Summary: Eastern Shore Basin



AR0036610

EXHIBIT 6-2
Nitrogen Capital Projects Schedule: Eastern Shore Basin

EASTERN SHORE Basin: Nitrogen Upgrade Schedule by Facility

mg/L Upgrades in Progress	Design Flow (mgd)	UIP Year*	UIP mg/L	Planning Period 2010	2011	2012	2013	2014	Future Estimates 2015	2016	2017
Cape Charles	0.25	*2012*		4.00	4.00						
Onancock	0.75	*2010*	4.00								
Shore Health Services	0.10										
Tangier Island	0.10										
Tyson Foods-Temperanceville	1.25	*2011*		6.00							

** Identifies the first full operational year of the completed upgrade (brown bars represent construction period)*

EXHIBIT 6-3
2011 Nitrogen Trading Ledger: Eastern Shore Basin

EASTERN SHORE Basin: Nitrogen Credit Ledger

Compliance Year:	2011	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits	Class A Pledge	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	$ 9.01	$ 2.00	$ 0.06
The Exchange (group)	37,460	39,308	(1,847)	-	-	-	(1,847)		291	(1,457)	4,934
Cape Charles	3,046	7,066	(4,020)	-	-	-	(4,020)	0%	-	-	-
Onancock	9,137	6,944	2,193	-	-	-	2,193	0%	-	-	2,193
Shore Health Services	1,218	2,675	(1,457)	-	-	-	(1,457)	100%	-	(1,457)	-
Tangier Island	1,218	2,522	(1,304)	-	-	-	(1,304)	0%	291	-	-
Tyson Foods-Temperanceville	22,842	20,101	2,741	-	-	-	2,741	0%	-	-	2,741
	-	-	-	-	-	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-
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* **For this Compliance Year, 80% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.**

** *Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

EXHIBIT 6-4

2012 Nitrogen Trading Ledger: Eastern Shore Basin

EASTERN SHORE Basin: Nitrogen Credit Ledger

Compliance Year:	2012	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits	Class A Pledge	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	$ 9.24	$ 2.00	$ 0.05
The Exchange (group)	37,460	34,471	2,990	-	-	-	2,990		291	(1,493)	5,787
Cape Charles	3,046	2,193	853	-	-	-	853	0%	-	-	853
Onancock	9,137	6,944	2,193	-	-	-	2,193	0%	-	-	2,193
Shore Health Services	1,218	2,711	(1,493)	-	-	-	(1,493)	100%	-	(1,493)	-
Tangier Island	1,218	2,522	(1,304)	-	-	-	(1,304)	0%	291	-	-
Tyson Foods-Temperanceville	22,842	20,101	2,741	-	-	-	2,741	0%	-	-	2,741
	-	-	-	-	-	-	-	0%	-	-	-
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For this Compliance Year, 80% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.

*** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

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EASTERN SHORE Basin: Nitrogen Credit Ledger

Compliance Year:	2013	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits	Class A Pledge	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	$ 19.72	$ 2.15	$ 0.12
The Exchange (group)	37,460	36,308	1,153	-	-	-	1,153		291	(2,965)	5,422
Cape Charles	3,046	2,436	610	-	-	-	610	0%	-	-	610
Onancock	9,137	7,066	2,071	-	-	-	2,071	0%	-	-	2,071
Shore Health Services	1,218	4,183	(2,965)	-	-	-	(2,965)	100%	-	(2,965)	-
Tangier Island	1,218	2,522	(1,304)	-	-	-	(1,304)	0%	291	-	-
Tyson Foods-Temperanceville	22,842	20,101	2,741	-	-	-	2,741	0%	-	-	2,741
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For this Compliance Year, 90% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.

*** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

EXHIBIT 6-6
2014 Nitrogen Trading Ledger: Eastern Shore Basin

EASTERN SHORE Basin: Nitrogen Credit Ledger

Compliance Year:	2014	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits	Class A Pledge	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	$ 9.04	$ 2.65	$ 0.25
The Exchange (group)	37,460	36,333	1,128	-	-	-	1,128		1,036	(3,928)	4,020
Cape Charles	3,046	2,802	244	-	-	-	244	0%	-	-	244
Onancock	9,137	7,066	2,071	-	-	-	2,071	50%	1,036	-	1,035
Shore Health Services	1,218	3,741	(2,523)	-	-	-	(2,523)	100%	-	(2,523)	-
Tangier Island	1,218	2,623	(1,405)	-	-	-	(1,405)	100%	-	(1,405)	-
Tyson Foods-Temperanceville	22,842	20,101	2,741	-	-	-	2,741	0%	-	-	2,741
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**** For this Compliance Year, 73% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.***

*** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

EXHIBIT 6-7
Phosphorus Plan Summary: Eastern Shore Basin

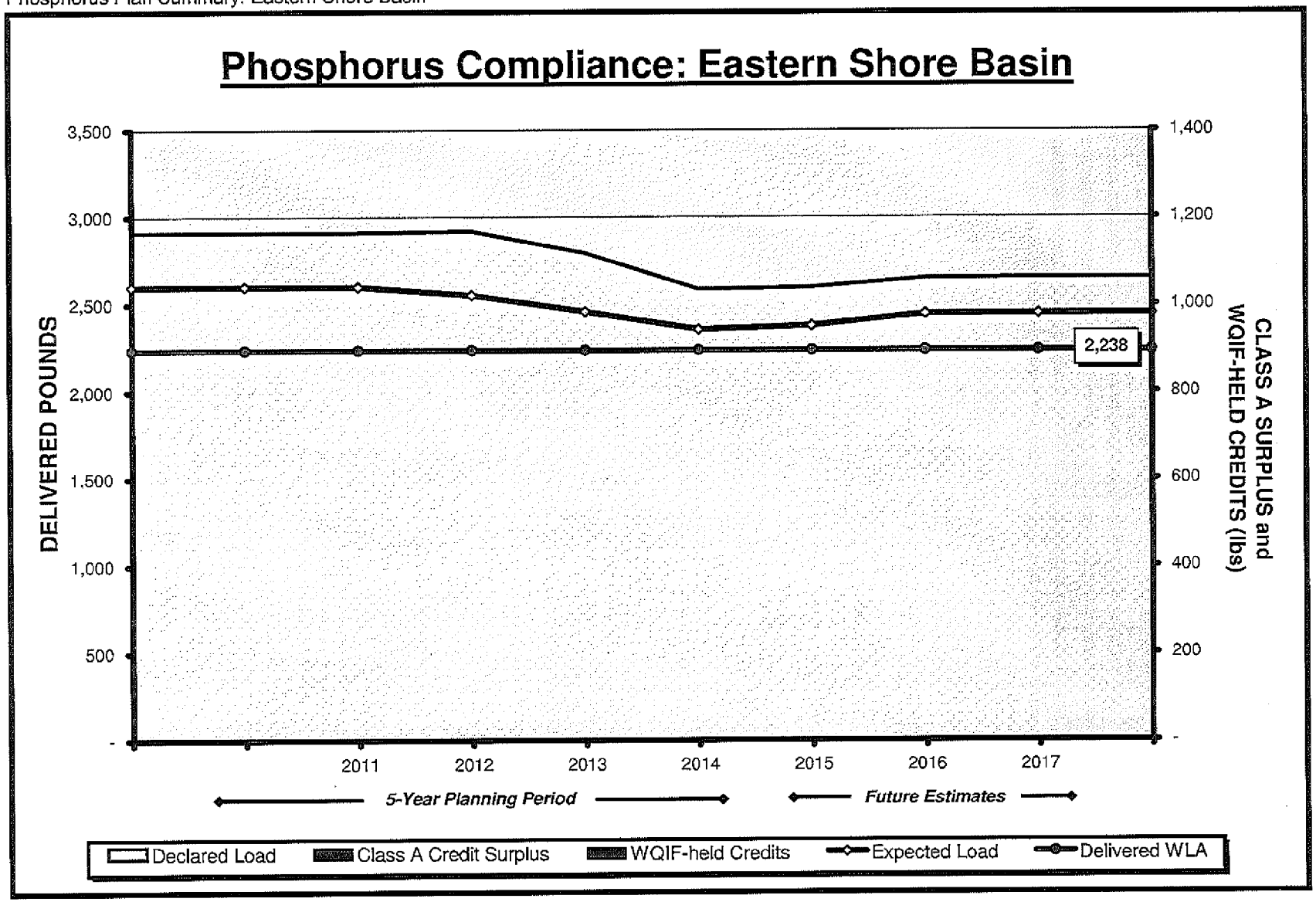

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EXHIBIT 6-8
Phosphorus Capital Projects Schedule: Eastern Shore Basin

EASTERN SHORE Basin: Phosphorus Upgrade Schedule by Facility

mg/L Upgrades in Progress	Design Flow (mgd)	UIP Year*	UIP mg/L	Planning Period 2010	2011	2012	2013	2014	Future Estimates 2015	2016	2017
Cape Charles	0.25	2012		0.30	0.30						
Onancock	0.75	2010	0.30								
Shore Health Services	0.10										
Tangier Island	0.10										
Tyson Foods-Temperanceville	1.25	2011		0.30							

** Identifies the first full operational year of the completed upgrade (brown bars represent construction period)*

AR0036617

EXHIBIT 6-9
2011 Phosphorus Trading Ledger: Eastern Shore Basin

EASTERN SHORE Basin: Phosphorus Credit Ledger

Compliance Year:	2011	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits	Class A Pledge	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	No Sale	$ 4.00	$ 6.23
The Exchange (group)	2,238	2,602	(365)	-	-	-	(365)		-	(483)	310
Cape Charles	228	219	9	-	-	-	9	0%	-	-	9
Onancock	685	521	164	-	-	-	164	0%	-	-	164
Shore Health Services	91	495	(404)	-	-	-	(404)	100%	-	(404)	-
Tangier Island	91	362	(271)	-	-	-	(271)	0%	-	(79)	-
Tyson Foods-Temperanceville	1,142	1,005	137	-	-	-	137	0%	-	-	137
	-	-	-	-	-	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-
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***For this Compliance Year, 100% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.**

*** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

AR0036618

EASTERN SHORE Basin: Phosphorus Credit Ledger

Compliance Year:	2012	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits	Class A Pledge	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	No Sale	$ 4.00	$ 5.37
The Exchange (group)	2,238	2,554	(317)	-	-	-	(317)		-	(490)	365
Cape Charles	228	164	64	-	-	-	64	0%	-	-	64
Onancock	685	521	164	-	-	-	164	0%	-	-	164
Shore Health Services	91	502	(411)	-	-	-	(411)	100%	-	(411)	-
Tangier Island	91	362	(271)	-	-	-	(271)	0%	-	(79)	-
Tyson Foods-Temperanceville	1,142	1,005	137	-	-	-	137	0%	-	-	137
	-	-	-	-	-	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-
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For this Compliance Year, 100% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.

*** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

AR0036619

EXHIBIT 6-11
2013 Phosphorus Trading Ledger: Eastern Shore Basin

EASTERN SHORE Basin: Phosphorus Credit Ledger

Compliance Year:	2013	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits	Class A Pledge	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	No Sale	$ 4.30	$ 4.67
The Exchange (group)	2,238	2,458	(221)	-	-	-	(221)		-	(366)	337
Cape Charles	228	183	45	-	-	-	45	0%	-	-	45
Onancock	685	530	155	-	-	-	155	0%	-	-	155
Shore Health Services	91	378	(287)	-	-	-	(287)	100%	-	(287)	-
Tangier Island	91	362	(271)	-	-	-	(271)	0%	-	(79)	-
Tyson Foods-Temperanceville	1,142	1,005	137	-	-	-	137	0%	-	-	137

* For this Compliance Year, 100% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.

** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.

AR0036620

EXHIBIT 6-12
2014 Phosphorus Trading Ledger: Eastern Shore Basin

EASTERN SHORE Basin: Phosphorus Credit Ledger

Compliance Year:	2014	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits	Class A Pledge	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	$ 22.77	$ 4.60	$ 0.85
The Exchange (group)	2,238	2,356	(119)	-	-	-	(119)		78	(429)	232
Cape Charles	228	210	18	-	-	-	18	0%	-	-	18
Onancock	685	530	155	-	-	-	155	50%	78	-	77
Shore Health Services	91	234	(143)	-	-	-	(143)	100%	-	(143)	-
Tangier Island	91	377	(286)	-	-	-	(286)	100%	-	(286)	-
Tyson Foods-Temperanceville	1,142	1,005	137	-	-	-	137	0%	-	-	137
	-	-	-	-	-	-	-	0%	-	-	-
	-	-	-	-	-	-	-	0%	-	-	-
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*** For this Compliance Year, 81% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.***

*** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

AR0036621

Eastern Shore Basin

Supplemental Information for Individual Facilities

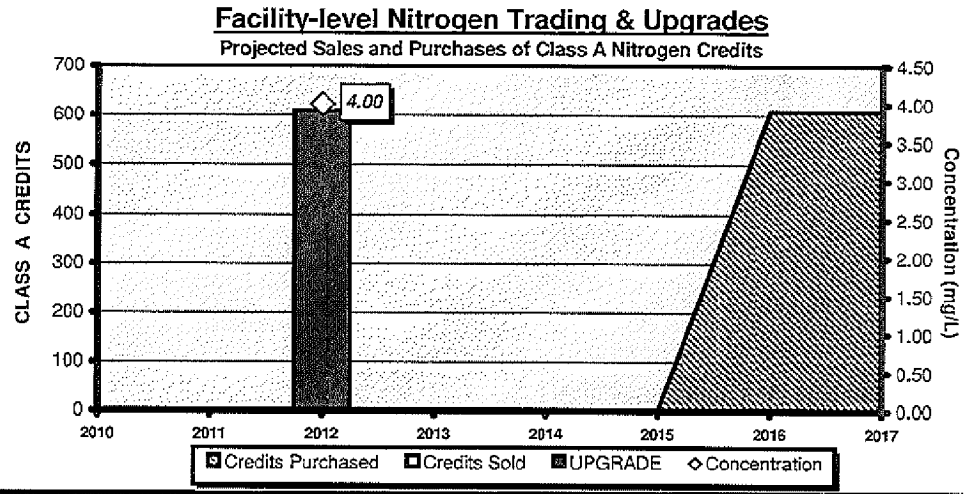
PART I. NITROGEN SUMMARY FOR CAPE CHARLES

Cape Charles

EASTERN SHORE Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.25
WLA Concentration (mg/L)	4.00
Delivery Factor	1.00
Delivered WLA	**3,046**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.25	0.25	0.25	0.25	0.25	0.25	0.50	0.50
Projected Flow (mgd)	0.16	0.16	0.18	0.20	0.23	0.24	0.30	0.30
Projected Avg. Annual Concentration (mg/L)	18.00	14.50	4.00	4.00	4.00	4.00	4.00	4.00
Discharged Load (end of pipe)	8,771	7,066	2,193	2,436	2,802	2,924	3,655	3,655
Delivered Load	8,771	7,066	2,193	2,436	2,802	2,924	3,655	3,655
Delivered WLA		3,046	3,046	3,046	3,046	3,046	3,046	3,046
Expected Credits		(4,020)	853	610	244	122	(609)	(609)
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**(4,020)**	**853**	**610**	**244**	**122**	**(609)**	**(609)**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	100%	100%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**(609)**	**(609)**
Expected Class B Credits		0	853	610	244	122	0	0

AR0036623

FACILITY (OR OWNER BUBBLE) NAME: Cape Charles WWTP

PART II. TOTAL NITROGEN COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TN load to TN WLA. Would permittee have complied with its TN WLA for calendar year 2005 if its TN WLA had been in effect for that year?

_x_ NO *(proceed to II.B. Implementation Schedule for TN)*

____ YES *(permittee must check Option 1 or Option 2)*:

____ Option 1: Permittee hereby requests TN WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(PART II Complete; Proceed to PART IV. TOTAL PHOSPHORUS COMPLIANCE), or*

____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TN WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under II.B.)* Explanation: _____

(proceed to II.B. Implementation Schedule for TN)

B. Implementation Schedule for TN

1. Does permittee anticipate requiring TN credit purchase to comply?

____ NO _X_ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TN credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

____ NO _x_ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection	Done
PER/CER to DEQ	Done/Approved
Plans & Specifications to DEQ	Done/Approved
Commence construction	October 2009
Complete construction	October 2011
CTO Request to DEQ (POTWs only)	October 2011

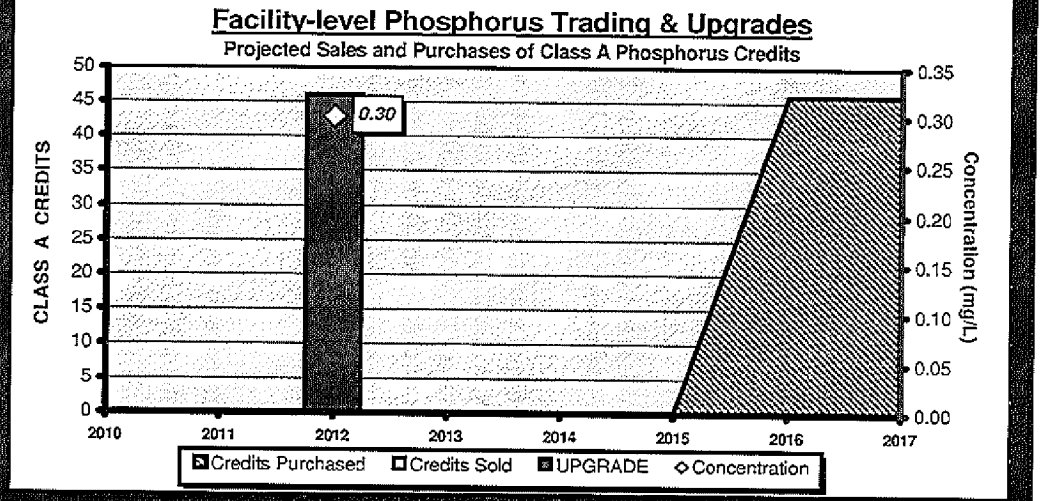
PART I. PHOSPHORUS SUMMARY FOR CAPE CHARLES

Cape Charles

EASTERN SHORE Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.25
WLA Concentration (mg/L)	0.30
Delivery Factor	1.00
Delivered WLA	**228**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.25	0.25	0.25	0.25	0.25	0.25	0.50	0.50
Projected Flow (mgd)	0.16	0.16	0.18	0.20	0.23	0.24	0.30	0.30
Projected Avg. Annual Concentration (mg/L)	3.00	0.45	0.30	0.30	0.30	0.30	0.30	0.30
Discharged Load (end of pipe)	1,462	219	164	183	210	219	274	274
Delivered Load	1,462	219	164	183	210	219	274	274
Delivered WLA		228	228	228	228	228	228	228
Expected Credits		9	64	45	18	9	(46)	(46)
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**9**	**64**	**45**	**18**	**9**	**(46)**	**(46)**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	100%	100%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**(46)**	**(46)**
Expected Class B Credits		9	64	45	18	9	0	0

AR0036625

FACILITY (OR OWNER BUBBLE) NAME: Cape Charles WWTP

PART IV. TOTAL PHOSPHORUS COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TP load to TP WLA. Would permittee have complied with its TP WLA for calendar year 2005 if its TP WLA had been in effect for that year?

__x__ NO *(proceed to III.B. Implementation Schedule for TP)*

_____ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TP WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(Stop Here/Part IV Is Complete), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TP WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under IV.B.)* Explanation: _____

(proceed to IV.B. Implementation Schedule for TP)

B. Implementation Schedule for TP

1. Does permittee anticipate requiring TP credit purchase to comply?

__X__ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TP credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

_____ NO __x__ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection	Done
PER/CER to DEQ	Done/Approved
Plans & Specifications to DEQ	Done/Approved
Commence construction	October 2009
Complete construction	October 2011
CTO Request to DEQ (POTWs only)	October 2011

Note: We plan to remove phosphorous by the addition of ferric chloride at our existing WWTP during 2011 until the new plant is operational. A concentration of 0.5 mg/l is expected.

End of Facility Appendix

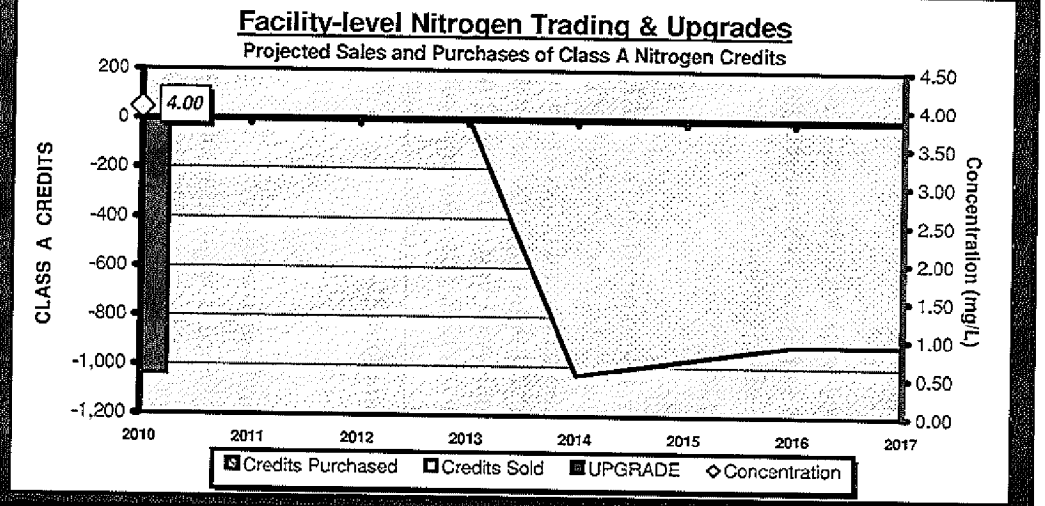
PART I. NITROGEN SUMMARY FOR ONANCOCK

Onancock

EASTERN SHORE Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.75
WLA Concentration (mg/L)	4.00
Delivery Factor	1.00
Delivered WLA	**9,137**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Projected Flow (mgd)	0.56	0.57	0.57	0.58	0.58	0.59	0.60	0.60
Projected Avg. Annual Concentration (mg/L)	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Discharged Load (end of pipe)	6,822	6,944	6,944	7,066	7,066	7,188	7,309	7,309
Delivered Load	6,822	6,944	6,944	7,066	7,066	7,188	7,309	7,309
Delivered WLA		9,137	9,137	9,137	9,137	9,137	9,137	9,137
Expected Credits		2,193	2,193	2,071	2,071	1,949	1,828	1,828
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**2,193**	**2,193**	**2,071**	**2,071**	**1,949**	**1,828**	**1,828**
Class A Pledge Percentage (%)		0%	0%	0%	50%	50%	50%	50%
Class A Credits		**0**	**0**	**0**	**1,036**	**975**	**914**	**914**
Expected Class B Credits		2,193	2,193	2,071	1,035	974	914	914

AR0036627

FACILITY (OR OWNER BUBBLE) NAME: Town of Onancock

PART II. TOTAL NITROGEN COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TN load to TN WLA. Would permittee have complied with its TN WLA for calendar year 2005 if its TN WLA had been in effect for that year?

__x__ NO *(proceed to II.B. Implementation Schedule for TN)*

_____ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TN WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(PART II Complete; Proceed to PART IV. TOTAL PHOSPHORUS COMPLIANCE), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TN WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under II.B.)* Explanation: _____

_____

_____

(proceed to II.B. Implementation Schedule for TN)

B. Implementation Schedule for TN

1. Does permittee anticipate requiring TN credit purchase to comply?

__x__ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TN credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

_____ NO __x__ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection	_____CDM_____
PER/CER to DEQ	_____CDM_____
Plans & Specifications to DEQ	_____
Commence construction	____Sept.2008_____
Complete construction	_____June.2010_____
CTO Request to DEQ (POTWs only)	___July.2010_____

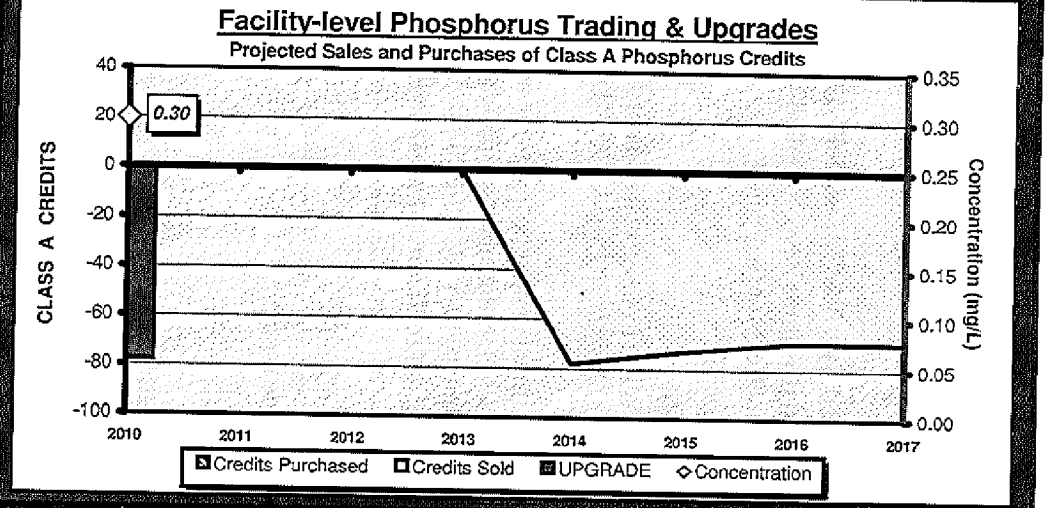
PART I. PHOSPHORUS SUMMARY FOR ONANCOCK

Onancock

EASTERN SHORE Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.75
WLA Concentration (mg/L)	0.30
Delivery Factor	1.00
Delivered WLA	685



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Projected Flow (mgd)	0.56	0.57	0.57	0.58	0.58	0.59	0.60	0.60
Projected Avg. Annual Concentration (mg/L)	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Discharged Load (end of pipe)	512	521	521	530	530	539	548	548
Delivered Load	512	521	521	530	530	539	548	548
Delivered WLA		685	685	685	685	685	685	685
Expected Credits		164	164	155	155	146	137	137
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**164**	**164**	**155**	**155**	**146**	**137**	**137**
Class A Pledge Percentage (%)		0%	0%	0%	50%	50%	50%	50%
Class A Credits		**0**	**0**	**0**	**78**	**73**	**69**	**69**
Expected Class B Credits		164	164	155	77	73	68	68

AR0036629

FACILITY (OR OWNER BUBBLE) NAME: Town of Onancock

PART IV. TOTAL PHOSPHORUS COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TP load to TP WLA. Would permittee have complied with its TP WLA for calendar year 2005 if its TP WLA had been in effect for that year?

__x__ NO *(proceed to III.B. Implementation Schedule for TP)*

_____ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TP WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(Stop Here/Part IV Is Complete), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TP WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under IV.B.)* Explanation: _____

_____

_____

(proceed to IV.B. Implementation Schedule for TP)

B. Implementation Schedule for TP

1. Does permittee anticipate requiring TP credit purchase to comply?

__x__ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TP credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

_____ NO __x__ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection	_____CDM_____
PER/CER to DEQ	_____CDM_____
Plans & Specifications to DEQ	_____
Commence construction	_____Sept.2008_____
Complete construction	_____June.2010_____
CTO Request to DEQ (POTWs only)	_____July.2010_____

End of Facility Appendix

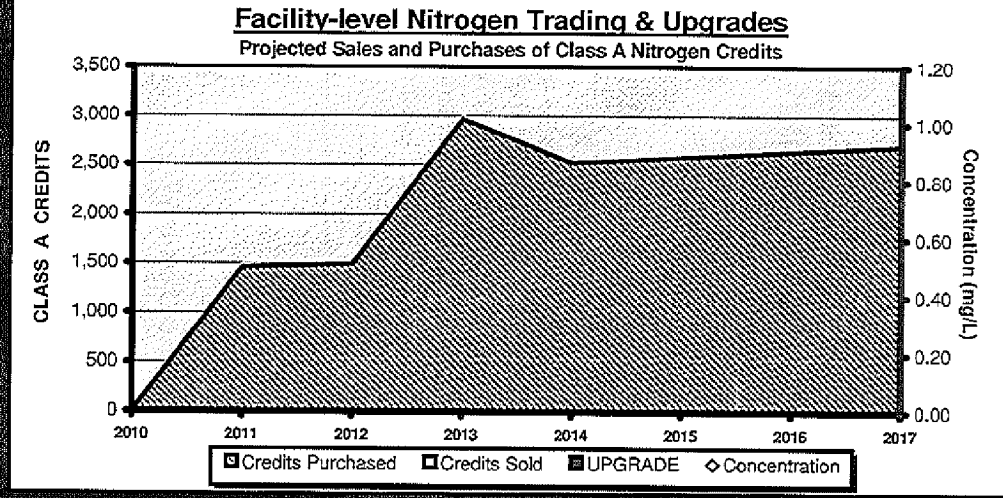
PART I. NITROGEN SUMMARY FOR SHORE HEALTH SERVICES

Shore Health Services

EASTERN SHORE Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.10
WLA Concentration (mg/L)	4.00
Delivery Factor	1.00
Delivered WLA	**1,218**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Projected Flow (mgd)	0.07	0.08	0.08	0.08	0.07	0.07	0.07	0.07
Projected Avg. Annual Concentration (mg/L)	11.62	11.62	11.62	17.70	18.90	18.90	18.90	18.90
Discharged Load (end of pipe)	2,640	2,675	2,711	4,183	3,741	3,799	3,857	3,914
Delivered Load	2,640	2,675	2,711	4,183	3,741	3,799	3,857	3,914
Delivered WLA		1,218	1,218	1,218	1,218	1,218	1,218	1,218
Expected Credits		(1,457)	(1,493)	(2,965)	(2,523)	(2,581)	(2,639)	(2,696)
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		(1,457)	(1,493)	(2,965)	(2,523)	(2,581)	(2,639)	(2,696)
Class A Pledge Percentage (%)		100%	100%	100%	100%	100%	100%	100%
Class A Credits		(1,457)	(1,493)	(2,965)	(2,523)	(2,581)	(2,639)	(2,696)
Expected Class B Credits		0	0	0	0	0	0	0

AR0036631

FACILITY (OR OWNER BUBBLE) NAME: **Shore Memorial Hospital**

PART II. TOTAL NITROGEN COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TN load to TN WLA. Would permittee have complied with its TN WLA for calendar year 2005 if its TN WLA had been in effect for that year?

X____ NO *(proceed to II.B. Implementation Schedule for TN)*

_____ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TN WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(PART II Complete; Proceed to PART IV. TOTAL PHOSPHORUS COMPLIANCE), or*

X Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TN WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under II.B.)* Explanation: _____

(proceed to II.B. Implementation Schedule for TN)

B. Implementation Schedule for TN

1. Does permittee anticipate requiring TN credit purchase to comply?

   _____ NO X YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TN credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

   X NO _____ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

   Engineer selection _____

   PER/CER to DEQ _____

   Plans & Specifications to DEQ _____

   Commence construction _____

   Complete construction _____

   CTO Request to DEQ (POTWs only) _____

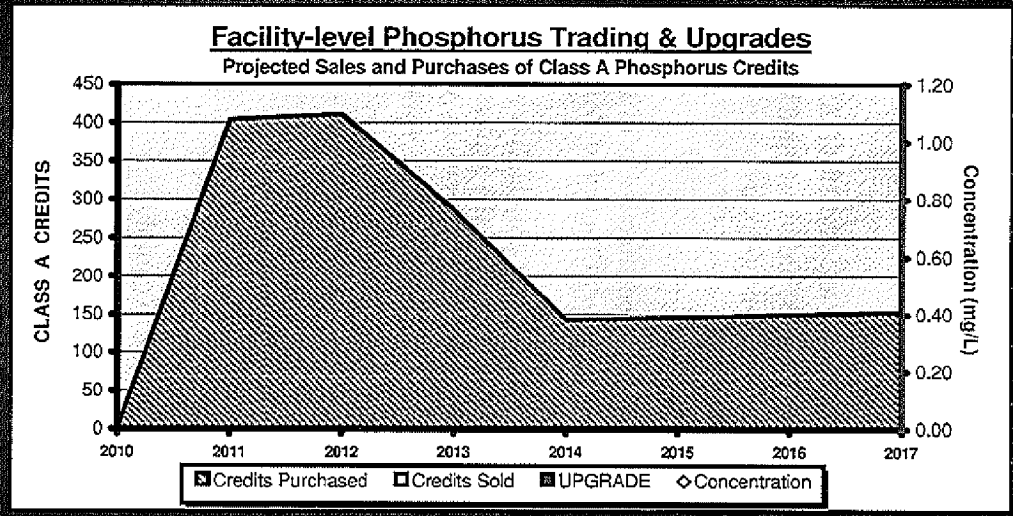
PART I. PHOSPHORUS SUMMARY FOR SHORE HEALTH SERVICES

Shore Health Services

EASTERN SHORE Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.10
WLA Concentration (mg/L)	0.30
Delivery Factor	1.00
Delivered WLA	91



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Projected Flow (mgd)	0.07	0.08	0.08	0.08	0.07	0.07	0.07	0.07
Projected Avg. Annual Concentration (mg/L)	2.15	2.15	2.15	1.60	1.18	1.18	1.18	1.18
Discharged Load (end of pipe)	488	495	502	378	234	237	241	244
Delivered Load	488	495	502	378	234	237	241	244
Delivered WLA		91	91	91	91	91	91	91
Expected Credits		(404)	(411)	(287)	(143)	(146)	(150)	(153)
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		(404)	(411)	(287)	(143)	(146)	(150)	(153)
Class A Pledge Percentage (%)		100%	100%	100%	100%	100%	100%	100%
Class A Credits		(404)	(411)	(287)	(143)	(146)	(150)	(153)
Expected Class B Credits		0	0	0	0	0	0	0

AR0036633

FACILITY (OR OWNER BUBBLE) NAME: Shore Memorial Hospital

PART IV. TOTAL PHOSPHORUS COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TP load to TP WLA. Would permittee have complied with its TP WLA for calendar year 2005 if its TP WLA had been in effect for that year?

X NO *(proceed to III.B. Implementation Schedule for TP)*

____ YES *(permittee must check Option 1 or Option 2)*:

____ Option 1: Permittee hereby requests TP WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(Stop Here/Part IV Is Complete), or*

X Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TP WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under IV.B.)* Explanation: _____

(proceed to IV.B. Implementation Schedule for TP)

B. Implementation Schedule for TP

1. Does permittee anticipate requiring TP credit purchase to comply?

   ____ NO X YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TP credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

   X NO ____ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

   Engineer selection _____

   PER/CER to DEQ _____

   Plans & Specifications to DEQ _____

   Commence construction _____

   Complete construction _____

   CTO Request to DEQ (POTWs only) _____

End of Facility Appendix

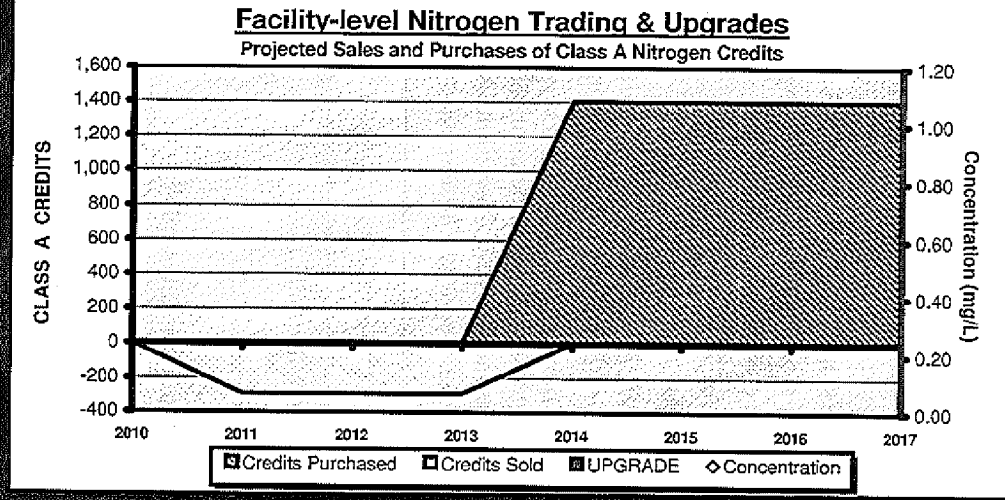
PART I. NITROGEN SUMMARY FOR TANGIER ISLAND

Tangier Island

EASTERN SHORE Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.10
WLA Concentration (mg/L)	4.00
Delivery Factor	1.00
Delivered WLA	**1,218**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Projected Flow (mgd)	0.03	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Projected Avg. Annual Concentration (mg/L)	8.02	16.56	16.56	16.56	16.56	16.56	16.56	16.56
Discharged Load (end of pipe)	830	2,522	2,522	2,522	2,623	2,623	2,623	2,623
Delivered Load	830	2,522	2,522	2,522	2,623	2,623	2,623	2,623
Delivered WLA		1,218	1,218	1,218	1,218	1,218	1,218	1,218
Expected Credits		(1,304)	(1,304)	(1,304)	(1,405)	(1,405)	(1,405)	(1,405)
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		(1,304)	(1,304)	(1,304)	(1,405)	(1,405)	(1,405)	(1,405)
Class A Pledge Percentage (%)		0%	0%	0%	100%	100%	100%	100%
Class A Credits		291	291	291	(1,405)	(1,405)	(1,405)	(1,405)
Expected Class B Credits		0	0	0	0	0	0	0

AR0036635

FACILITY (OR OWNER BUBBLE) NAME: Tangier WWTP

PART II. TOTAL NITROGEN COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TN load to TN WLA. Would permittee have complied with its TN WLA for calendar year 2005 if its TN WLA had been in effect for that year?

__X__ NO *(proceed to II.B. Implementation Schedule for TN)*

[Jan 2010] The previous Compliance Deadline Statement indicated that the plant would be able to meet its TN WLA, based on historical plant data. Tangier committed to offering Class A TN credits for sale. However, in light of new operational data, it is now confirmed that the previous data was invalid, and the Town will have to purchase TN credits.

_____ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TN WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(PART II Complete; Proceed to PART IV. TOTAL PHOSPHORUS COMPLIANCE), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TN WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under II.B.)* Explanation: _____

(proceed to II.B. Implementation Schedule for TN)

B. Implementation Schedule for TN

1. Does permittee anticipate requiring TN credit purchase to comply?

_____ NO __X__ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TN credit purchase and capital project.)

The town has submitted a Class A modification request to the Virginia Nutrient Exchange Board, for the purpose of retracting its previous commitment to sell Class A TN credits and instead purchase TN credits. This request was denied since there were no other credits available for purchase in this basin. It is anticipated that proposed legislation will allow the purchase/sale of nutrient credits between the Eastern Shore Basin and another Basin in Virginia.

2. Is permittee implementing a capital project to comply?

__X__ NO _____ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection _____

PER/CER to DEQ _____

Plans & Specifications to DEQ _____

Commence construction _____

Complete construction _____

CTO Request to DEQ (POTWs only) _____

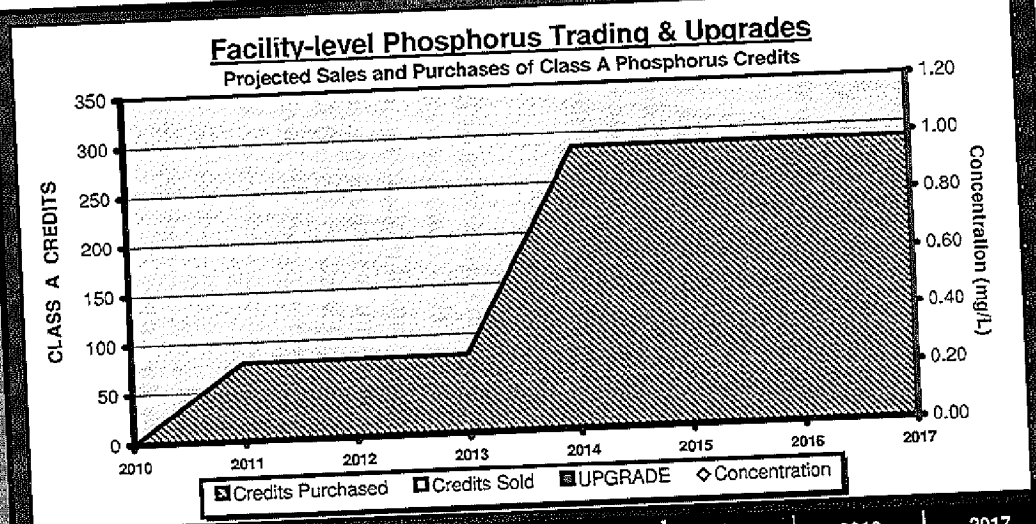
PART I. PHOSPHORUS SUMMARY FOR TANGIER ISLAND

Tangier Island

EASTERN SHORE Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	0.10
WLA Concentration (mg/L)	0.30
Delivery Factor	1.00
Delivered WLA	91



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Projected Flow (mgd)	0.03	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Projected Avg. Annual Concentration (mg/L)	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38
Discharged Load (end of pipe)	246	362	362	362	377	377	377	377
Delivered Load	246	362	362	362	377	377	377	377
Delivered WLA		91	91	91	91	91	91	91
Expected Credits		(271)	(271)	(271)	(286)	(286)	(286)	(286)
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		(271)	(271)	(271)	(286)	(286)	(286)	(286)
Class A Pledge Percentage (%)		0%	0%	0%	100%	100%	100%	100%
Class A Credits		(79)	(79)	(79)	(286)	(286)	(286)	(286)
Expected Class B Credits		0	0	0	0	0	0	0

FACILITY (OR OWNER BUBBLE) NAME: Tangier WWTP

PART IV. TOTAL PHOSPHORUS COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TP load to TP WLA. Would permittee have complied with its TP WLA for calendar year 2005 if its TP WLA had been in effect for that year?

__X__ NO *(proceed to III.B. Implementation Schedule for TP)*

[Jan 2010] Using historical plant operating data, it had been projected that the Town would have to purchase 79 pounds of TP credits per year. Based on new operational data, it is now confirmed that the previous data was invalid. It is now projected that the Town will be required to purchase 271 pounds per year of TP credits until 2013, then purchase 286 pounds per year of TP credits in the following years.

_____ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TP WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(Stop Here/Part IV Is Complete), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TP WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under IV.B.)* Explanation: _____

(proceed to IV.B. Implementation Schedule for TP)

B. Implementation Schedule for TP

1. Does permittee anticipate requiring TP credit purchase to comply?

_____ NO __X__ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TP credit purchase and capital project.)

Please see the comment above. Additional credits, above what was previously projected, will be required for annual purchase in order to meet the Town's WLA for TP.

2. Is permittee implementing a capital project to comply?

__X__NO _____ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection _____

PER/CER to DEQ _____

Plans & Specifications to DEQ _____

Commence construction _____

Complete construction _____

CTO Request to DEQ (POTWs only) _____

End of Facility Appendix

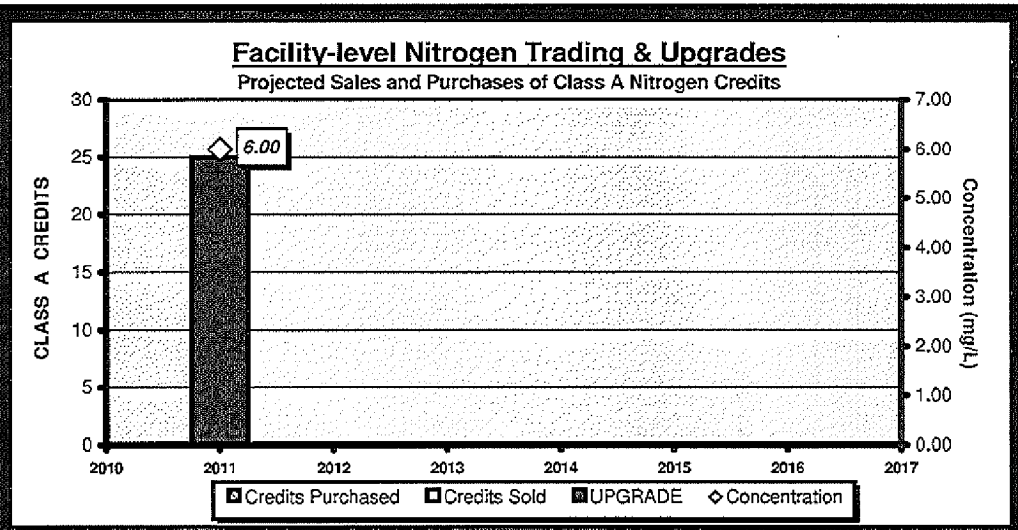
PART I. NITROGEN SUMMARY FOR TYSON FOODS-TEMPERANCEVILLE

Tyson Foods-Temperancevi

EASTERN SHORE Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	1.25
WLA Concentration (mg/L)	6.00
Delivery Factor	1.00
Delivered WLA	22,842



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Projected Flow (mgd)	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
Projected Avg. Annual Concentration (mg/L)	15.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Discharged Load (end of pipe)	50,252	20,101	20,101	20,101	20,101	20,101	20,101	20,101
Delivered Load	50,252	20,101	20,101	20,101	20,101	20,101	20,101	20,101
Delivered WLA		22,842	22,842	22,842	22,842	22,842	22,842	22,842
Expected Credits		2,741	2,741	2,741	2,741	2,741	2,741	2,741
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**2,741**	**2,741**	**2,741**	**2,741**	**2,741**	**2,741**	**2,741**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		2,741	2,741	2,741	2,741	2,741	2,741	2,741

AR0036641

PARTICIPANT NAME: Tyson Foods, Inc.
FACILITY (OR OWNER BUBBLE) NAME: Temperanceville, VA

PART II. TOTAL NITROGEN COMPLIANCE STATEMENT

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TN load to TN WLA. Would permittee have complied with its TN WLA for calendar year 2005 if its TN WLA had been in effect for that year?

_X__ NO *(proceed to II.B. Implementation Schedule for TN)*

_____ YES *(permittee must check Option 1 or Option 2)*:

- _____ Option 1: Permittee hereby requests TN WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(PART II Complete; Proceed to PART IV. TOTAL PHOSPHORUS COMPLIANCE), or*
- _____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TN WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under II.B.)* Explanation:

  _____

  _____

  _____

  (proceed to II.B. Implementation Schedule for TN)

B. Implementation Schedule for TN

1. Does permittee anticipate requiring TN credit purchase to comply?
   _X___ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TN credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?
   _____ NO ___X_ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection	January, 2006 (Completed)
PER/CER to DEQ	August, 2007 (Completed)
Plans & Specifications to DEQ	August, 2008 (Completed)
Commence construction	November, 2009
Complete construction	October, 2010
CTO Request to DEQ (POTWs only)	N/A

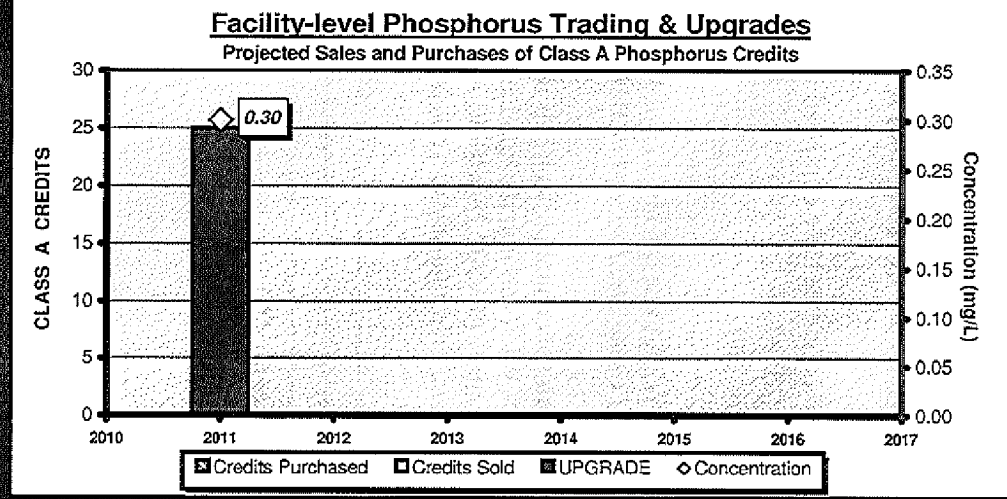
PART I. PHOSPHORUS SUMMARY FOR TYSON FOODS-TEMPERANCEVILLE

Tyson Foods-Temperancevi

EASTERN SHORE Trading Basin

SUMMARY STATISTICS

WLA Design Flow (mgd)	1.25
WLA Concentration (mg/L)	0.30
Delivery Factor	1.00
Delivered WLA	**1,142**



Loading & Credit Summary	2010	2011	2012	2013	2014	2015	2016	2017
	Planning Period					*Future Estimates (non-binding)*		
Design Flow (mgd)	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Projected Flow (mgd)	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
Projected Avg. Annual Concentration (mg/L)	0.50	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Discharged Load (end of pipe)	1,675	1,005	1,005	1,005	1,005	1,005	1,005	1,005
Delivered Load	1,675	1,005	1,005	1,005	1,005	1,005	1,005	1,005
Delivered WLA		1,142	1,142	1,142	1,142	1,142	1,142	1,142
Expected Credits		137	137	137	137	137	137	137
Transfers In (Out) within Owner Bubble		0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange		0	0	0	0	0	0	0
WQIF-Held Credits		0	0	0	0	0	0	0
Expected Net Credits		**137**	**137**	**137**	**137**	**137**	**137**	**137**
Class A Pledge Percentage (%)		0%	0%	0%	0%	0%	0%	0%
Class A Credits		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Expected Class B Credits		137	137	137	137	137	137	137

AR0036643

PARTICIPANT NAME: Tyson Foods, Inc.
FACILITY (OR OWNER BUBBLE) NAME: Temperanceville, VA

PART IV. TOTAL PHOSPHORUS COMPLIANCE STATEMENT

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TP load to TP WLA. Would permittee have complied with its TP WLA for calendar year 2005 if its TP WLA had been in effect for that year?

___X_ NO *(proceed to III.B. Implementation Schedule for TP)*

_____ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TP WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(Stop Here/Part IV Is Complete), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TP WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under IV.B.)* Explanation:

_____

_____

_____

(proceed to IV.B. Implementation Schedule for TP)

B. Implementation Schedule for TP

1. Does permittee anticipate requiring TP credit purchase to comply?
__X__ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TP credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?
_____ NO ___X_ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

Engineer selection	January, 2006 (Completed)
PER/CER to DEQ	August, 2007 (Completed)
Plans & Specifications to DEQ	August, 2008 (Completed)
Commence construction	November, 2009
Complete construction	October, 2010
CTO Request to DEQ (POTWs only)	N/A

SECTION 7

Credit Exchange Special Conditions

For the Nutrient Credit Exchange Program to be successful in delivering compliance and cost savings, both for Virginia as a whole and for the local ratepayers, Virginia business owners, and state taxpayers (WQIF) funding the Chesapeake Bay cleanup, the Exchange Program must attract Participants and give those Participants comfort sufficient for them to engage in a robust level of trading. During the Exchange Compliance Plan development process, a common theme from potential Participants has been the need for specific assurances that good faith participation in the Exchange Program will not result in VPDES non-compliance or contractual liability to third parties, whether due to regulatory deadlines that Participants cannot meet due to construction challenges (as in the case of potential Class A Sellers) or due to acts of third parties (as in the case of potential Class A Buyers relying on timely Credit availability). This section specifies Credit Exchange Special Conditions designed to help provide the necessary conditions for success. With the exception of internal references, this section is unchanged from the approved Exchange Compliance Plan 2009 Annual Update.

7.1 Schedule of Compliance

This Section 7.1 is updated significantly in response to DEQ's approval letter dated September 7, 2007 from E. Gilinksy, PhD, Director, Division of Water Quality, DEQ, to M. Haley, President of The Exchange (the "2007 DEQ Approval Letter") (attached at Appendix A). For essential background to this Section 7.1, please refer to Appendices C, D, E, and F.

July 31, 2007 Recommendation and Procedure (Information Only)

The July 31, 2007 plan recommended and was premised upon an aggressive tributary-parameter schedule (January 1, 2011 effective date of final effluent limits for nitrogen and phosphorus in all tributaries, except the Potomac-Shenandoah where the date would be January 1, 2013) and an implementation approach compliant with the general "as soon as possible" standard to be administered by DEQ, as follows: "Effective date for any tributary-parameter shall be extended by the DEQ Director up to but no later than December 31, 2013 based on justification provided in accordance with scheduling factors established by Virginia Code section 62.1-44.19:14 C 2 or other good cause shown."

This implementation approach was recommended in lieu of the alternative of an *across-the-board* period (12 to 24 months) previously recommended under the statutory scheduling factors, particularly due to factors 1 and 2, as presented in Section 1.5 above. The overall benefit of this approach was that it was intended to provide for both the shortest feasible schedule for facility construction and successful startup of the Nutrient Credit Exchange Program. The specific individual benefits of this approach included: (1) this schedule adjustment may only be exercised for good cause shown, (2) the finding of good cause as well as the specific length of any adjustment are both decisions made by the DEQ Director (not by The Exchange or any of its

Participants or other permittees), and (3) it establishes a mechanism by which DEQ has the ability to make timely schedule adjustments where good cause exists.

Compliance Schedule Procedure Under 2007 DEQ Approval Letter

In the 2007 DEQ Approval Letter, DEQ explained its finding that the existing 2011 compliance deadline should be retained at this time for both parameters in all five basins and, thus, DEQ disapproved the detailed implementation approach summarized above in this Section 7.1. In reaching this conclusion, however, DEQ acknowledged The Exchange's main concern when DEQ stated: "We share your concern with the completion of so many projects on such a tight timeline. However, at this early date it is not possible to determine how quickly individual construction projects will proceed and what the actual capabilities of the upgraded facilities will be."

Similarly, a September 12, 2007 letter from D. Paylor, Director, DEQ, to M. Haley, President of The Exchange (attached as Appendix F), also indicates that "it will be a challenge to complete so many projects on such a tight timeline, and we remain committed to working with you to shepherd these projects to completion."

The 2007 DEQ Approval Letter sets forth the following two-step implementation approach in lieu of that previously recommended by The Exchange:

1. **Monitor & Evaluate** – Future annual compliance plan updates and DEQ's semi-annual WQIF progress reports will be used along with the scheduling factors in the Virginia Code and the "as soon as possible" criterion to evaluate the need for basin schedule extensions.

2. **Adjust As Needed** – Should it prove necessary, DEQ will initiate amendment to the permit under the Administrative Process Act to make appropriate revisions to the schedule.

This procedure is also generally set forth in the Chesapeake Bay and Virginia Waters Clean-Up Plan Progress Report submitted by the Secretary of Natural Resources of the Commonwealth of Virginia to House Committee on Agriculture, Chesapeake and Natural Resources, House Appropriations Committee, Senate Committee on Agriculture, Conservation and Natural Resources, and the Senate Finance Committee (October 2007) at page 3.

Accordingly, the above two-step implementation approach shall be the operative procedure for evaluating and adjusting the compliance schedule.

7.2 Initial Upgrade Delays Despite Participant's Best Efforts

The focus of the Exchange Compliance Plan is on achieving initial compliance. A large number of concurrent nutrient removal upgrades are required as is evident from the Exchange Compliance Plan set forth above. Similar activities are underway throughout the Chesapeake Bay region in other states. All of these construction projects are occurring at a period where the general construction market (not only wastewater treatment) is in a period of very high demand

for professional engineers, skilled and unskilled labor, and critical materials. Prices are increasing sharply. State government is also experiencing this in key sectors such as highway and school construction.

During Exchange Compliance Plan development, owners of larger facilities such as those that either must upgrade for the basin to achieve compliance (because the facility is a large source) or which are expected to have lower unit cost upgrades (dollars per pound removed), have voiced reluctance to commit to sell Class A Credits because compliance with the initial compliance schedule deadlines is partially or significantly beyond their reasonable control, especially as compared to the January 1, 2011 deadlines in the current version of the General Permit. Accordingly, to promote and secure the participation of these facilities, The Exchange does not intend to impose its otherwise generally applicable credit shortfall policy under these circumstances. This means that in a shortfall situation in the startup years, there is a risk that Buyers waiting on Credit availability may not have Credits available through The Exchange, if one or more linchpins are delayed in completing construction. A condition of this Exchange Compliance Plan is that neither the delayed Seller nor the waiting Buyer will be deemed to be in non-compliance or subject to enforcement action.

7.3 Timely Regulatory Approvals

One factor that impacts basin-level compliance is timely review and approval of permits, WQIF grant agreements, and engineering documents by DEQ. This Exchange Compliance Plan is premised on timely action by DEQ, including the standard turnaround times for engineering documents as specified in 9 VAC 25-790-80 C (generally 30 day turnaround deadline for technical evaluations of engineering documents).

7.4 Requested Changes Resulting From Regulatory Review

The Participants have elected to participate in this multi-party Exchange Compliance Plan on the assumption that the Exchange Compliance Plan would be accepted and approved by DEQ (and any other relevant state and federal authority) in the form presented or in a substantially similar form with no material adverse changes. In the event of any material adverse change, The Exchange reserves the right to revise this Exchange Compliance Plan and each Participant reserves the right to modify its position in it, or withdraw from it, upon notice to DEQ and The Exchange within 60 days of notice of any material adverse change in the content of the approved Exchange Compliance Plan.

7.5 WQIF Grant Denial

Numerous upgrades included in the Capital Project Schedules for the five river basins covered in Sections 2 through 6 are premised upon execution of a WQIF Grant Agreement between DEQ and the Participant for the partial funding of nutrient removal technology to be installed. Since 2005, the WQIF statute has provided at Virginia Code section 10.1-2131 B that DEQ "shall enter into grant agreements with all facilities designated as significant dischargers or eligible nonsignificant dischargers that apply for grants." This Section 7.5 is necessary to address the recent amendment at Virginia Code section 10.1-1186.01 G to establish a limited exception, as follows:

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> Notwithstanding the provisions of subsection B of § 10.1-2131, the Director of the Department of Environmental Quality shall not be required to enter into a grant agreement with a facility designated as a significant discharger or eligible nonsignificant discharger if the Director determines that the use of nutrient credits in accordance with the Chesapeake Bay Watershed Nutrient Credit Exchange Program (§ 62.1-44.19:12 et seq.) would be significantly more cost-effective than the installation of nutrient controls for the facility in question.

This Exchange Compliance Plan is conditioned on the execution of WQIF Grant Agreement for each WQIF eligible project set forth herein. The Exchange and the Participants reserve the right to amend this plan in the event that, pursuant to section 10.1-1186.01, DEQ declines to enter into a WQIF Grant Agreement for such a project.

7.6 WQIF Credit Availability

Access to WQIF Credits in the event of a Credit shortfall situation is an essential element for providing the certainty and comfort level required for trading-based compliance plans. Accordingly, The Exchange Compliance Plan is conditioned on the SWCB and DEQ ensuring the continued availability of Credits through the WQIF at or below the prices currently specified in the General Permit.

7.7 Annual Updates

The Exchange and the Participants reserve the right to update and amend this Exchange Compliance Plan on an annual basis consistent with applicable laws and regulations.

7.8 Effluent Nutrient Concentrations

Concentrations contained herein are estimates for information purposes only and are not to be used as a basis for any regulatory decisions.

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CREDIT EXCHANGE POLICY FOR THE PURCHASE AND SALE OF CHESAPEAKE BAY NUTRIENT CREDITS

ARTICLE I
PURPOSE

This Credit Exchange Policy (this "Policy") of the Virginia Nutrient Credit Exchange Association, Inc. (the "Nutrient Exchange") is adopted pursuant to Article VII of the Bylaws for the purpose of coordinating and facilitating the participation of its Members in Virginia's Chesapeake Bay Nutrient Credit Exchange Program established by Virginia Code section 62.1-44.19:12 *et seq*. Accordingly, this Policy is intended to provide a framework for the Exchange of Credits by and among the Members and, in addition to other benefits, to satisfy the standard requirement of Virginia Water Quality Improvement Fund Grant Agreements made pursuant to Virginia Code section 10.1-2117 *et seq*. that the grantee make available for Exchange any Credits remaining after complying with its Watershed General Permit limits.

ARTICLE II
DEFINITIONS

Unless otherwise defined below or a different meaning is intended by the usage herein, all terms shall have the same definition as provided in section 9 VAC 25-820-10 of the Watershed General Permit.

Actual Class B Credits – In the Reconciliation Year, the quantity of Credits remaining for the Permitted Facility after adjusting Actual Net Credits for Class A Credit purchases and sales for the immediately preceding Compliance Year. This quantity equals Actual Net Credits plus any Class A Credit purchases and minus any Class A Credit sales for the Compliance Year.

Actual Credits – Credits actually generated during the Compliance Year prior to adjusting for Preliminary Uses of Credits. Actual Credits equal Delivered WLA minus Actual Load.

Actual Load – The Delivered Load actually discharged during the Compliance Year for one or more Permitted Facilities.

Actual Net Credits – Actual Credits minus the quantity of Credits not available due to Preliminary Uses of Credits.

Board of Governors (or Board) – The board of directors of the Nutrient Exchange.

Buyer – A Participant that purchases Credits for a given Compliance Year.

Class A Buyer – A Participant that requests the availability of, and agrees in advance to purchase, a specific quantity of Credits in accordance with this Policy. Except as otherwise

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provided herein, a Class A Buyer is committed to purchasing its requested and agreed amount of Class A Credits, even if the Class A Buyer actually needs a lesser amount based on actual performance of its Permit Facility in a Compliance Year.

Class A Credits – Credits for which an agreement for sale and purchase in a specific quantity is made in advance in accordance with this Policy.

Class A Pledge Percentage – The percentage of Expected Net Credits that is selected by a Participant for use in calculating and specifying the quantity of Class A Credits that the Seller agrees to sell to the Nutrient Exchange as Class A Credits in accordance with this Policy.

Class A Seller – A Participant that agrees in advance to sell Class A Credits to the Nutrient Exchange in accordance with this Policy. Except as otherwise provided herein, a Class A Seller is responsible for making up any shortfall in its agreed amount of Class A Credits for a given Compliance Year and completing such sale.

Class B Credits – Credits for which no agreement for sale and purchase in a specific quantity is made in advance but which are pledged to the Nutrient Exchange in accordance with this Policy.

Clearing Account – An account of the Nutrient Exchange used for segregating funds from Credit Exchanges from other funds of the Nutrient Exchange.

Compliance Year – Any specific calendar year for which Exchanges are planned or executed.

Credit – Each pound of TN or TP by which the Expected Load (projections) or Delivered Load (actual) is less than the Delivered WLA for a Permitted Facility (or Permitted Facility Bubble). Note that while Credits can exist only in positive quantities, for planning and implementation purposes certain Credit-related values may be stated as negative quantities. For example, when a Permitted Facility's Expected Load is projected to exceed its Delivered WLA, the Plan will show a negative quantity of Expected Credits. Additional examples may include Expected Net Credits, Actual Credits, Actual Net Credits, and Actual Class B Credits.

Delivered WLA – The TN or TP WLA assigned to a Permitted Facility, either under the Water Quality Management Planning ("WQMP") Regulation (9 VAC 25-720) or otherwise, and adjusted by the applicable delivery factor under the Watershed General Permit and expressed as pounds per year.

Delivered Load – The TN or TP load discharged by a Permitted Facility during a Compliance Year, adjusted by the applicable delivery factor under the Watershed General Permit and expressed as pounds per year.

DEQ – The Virginia Department of Environmental Quality or, where appropriate, the State Water Control Board to which the Department serves as staff.

Designated Representative – A person who is a fulltime employee of, and is designated in writing by, the Participant to act on its behalf.

Exchange – The purchase and sale of a Credit of any class.

Exchange Compliance Plan (or Plan) – The plan submitted by the Nutrient Exchange to DEQ pursuant to 9 VAC 25-820-40 A as updated periodically pursuant to 9 VAC 25-820-40 B and 9 VAC 25-820-70 Part I D of the Watershed General Permit.

Exchange Compliance Plan Update (or Plan Update) – The update of the Exchange Compliance Plan required pursuant to 9 VAC 25-820-40 B and 9 VAC 25-820-70 Part I D of the Watershed General Permit.

Expected Class B Credits – The quantity of Credits projected to be remaining for a Permitted Facility after adjusting Expected Net Credits for Class A Credit sales for the current or any future Compliance Year. This quantity equals Expected Net Credits minus any Class A Credits committed by a Class A Seller for a Compliance Year.

Expected Load – The projected Delivered Load for a given Compliance Year for one or more Permitted Facilities.

Expected Credits – The amount of Credits projected for a given Compliance Year as determined by subtracting the Expected Load from the Delivered WLA.

Expected Net Credits – Expected Credits minus the quantity of Credits projected to not be available due to Preliminary Uses of Credits.

In-Bubble Exchange – A Preliminary Use of Credits consisting of Credit use by and among the Permitted Facilities within a Permitted Facility Bubble included in the Exchange Compliance Plan. In accordance with 9 VAC 25-820-70 Part I B 2 e of the Watershed General Permit, In-Bubble Exchanges are not Exchanges or credit acquisitions as described in 9 VAC 25-820-70 Part I J 2 of the Watershed General Permit.

Neutral Participant – A Participant which projects a positive quantity of Expected Net Credits for its Permitted Facility in a given Compliance Year, but which has not elected to be a Class A Seller for that Compliance Year.

Non-Participant – An owner or operator of a Permitted Facility that is not a Participant.

Participant – A Member owner or operator of a Permitted Facility included in the Exchange Compliance Plan which has executed the Nutrient Credit Services Agreement.

Permitted Facility – A facility authorized to discharge under the Watershed General Permit. The singular refers to the plural (Permitted Facilities) where appropriate. This term also refers to a Permitted Facility Bubble where appropriate.

Permitted Facility Bubble – Multiple Permitted Facilities under common ownership or operation that are subject to aggregated WLAs pursuant to 9 VAC 25-820-70 Part I B 2 of the Watershed General Permit.

Planning Period – The rolling five-year period covered by the Exchange Compliance Plan (or Plan Update) beginning with the year in which the Plan is due to be submitted to DEQ. For example, for the Exchange Compliance Plan 2008 Annual Update due and submitted to DEQ on February 1, 2008, the Planning Period is January 1, 2008 through and including December 31, 2012.

Preliminary Use of Credits – Any of the following three planned or actual uses of Credits: In-Bubble Exchange, Private Exchange, or WQIF-Held.

Private Exchange – A Preliminary Use of Credits consisting of an Exchange planned or executed directly between or among Participants or Non-Participants rather than through the Nutrient Exchange.

Reconciliation – The process for executing Exchanges for a Compliance Year.

Reconciliation Year – For each Compliance Year, the year immediately following during which time Exchanges for the Compliance Year are executed. For example, for Compliance Year 2011, the associated Reconciliation Year is 2012.

Seller – A Participant that supplies Credits for a given Compliance Year.

TN – Total nitrogen, a pollutant the discharge of which is authorized and limited under the Watershed General Permit.

TP – Total phosphorus, a pollutant the discharge of which is authorized and limited under the Watershed General Permit.

Watershed General Permit – The General Virginia Pollutant Discharge Elimination System Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed in Virginia (9 VAC 25-820) issued by the State Water Control Board effective for a five-year permit term beginning January 1, 2007 or as hereafter modified or reissued from time to time. Among other requirements, the Watershed General Permit imposes limitations on the discharge of TN and TP from Permitted Facilities (9 VAC 25-820-70 Part I B), and requires each permittee to submit to DEQ by August 1, 2007 and annually thereafter (currently by each February 1) a compliance plan (9 VAC 25-820-40), either individually or through the Nutrient Exchange, indicating how its facility(ies) will comply with such limitations.

WLA – A Wasteload Allocation for TN or TP as established under the Water Quality Management Planning Regulation, 9 VAC 25-720, and implemented through the Watershed General Permit. A WLA may be expressed in pounds per year as either a discharged WLA (*i.e.* end-of-pipe gross pounds) or as a Delivered WLA (*i.e.*, the discharged WLA multiplied by the

delivery factor applicable to the Permitted Facility as specified in the Watershed General Permit).

WQIF-Held – Pursuant to 9 VAC 25-820-70 Part I J 2 e of the Watershed General Permit, a Preliminary Use of Credits which consists of setting aside and not using within the Plan certain Credits associated with Permitted Facilities (or a portion thereof) not yet constructed and in operation. Such Credits are held in the Water Quality Improvement Fund administered by DEQ.

ARTICLE III
GUIDING PRINCIPLES & GENERAL APPROACH

3.1 Guiding Principles. This Policy has been developed and is to be implemented in accordance with the following guiding principles adopted by the Nutrient Exchange:

(a) Guiding Principle No. 1: Environment First. The Nutrient Exchange, including its Exchange Compliance Plan and this Policy, is designed to ensure environmental protection first and foremost. Environmental protection is fostered by means of full compliance with the Watershed General Permit issued by DEQ.

(b) Guiding Principle No. 2: Voluntary Participation. Under governing laws and regulations, there is generally no requirement for a Permitted Facility to trade, *i.e.*, Exchange, Credits with any other person. Accordingly, the Nutrient Exchange, including its Exchange Compliance Plan and this Policy, is premised on the voluntary participation of Participants and their Permitted Facilities subject to applicable laws and regulations and the policies and procedures established by the Nutrient Exchange.

(c) Guiding Principle No. 3: Benefits for All. Consistent with the concept of voluntary participation, the Nutrient Exchange, including its Exchange Compliance Plan and this Policy, is designed with the intent of benefitting all Participants whether as a Buyer, Seller or Neutral.

(d) Guiding Principle No. 4: Remember the "Base Case." This principle is a reminder that the Nutrient Exchange is a first-of-its-kind undertaking with the potential to provide significant benefits including water quality improvement, regulatory flexibility, and economic efficiency compared to the traditional regulatory approach lacking a trading option, and that the Nutrient Exchange intends to operate with this potential for broad benefit in mind.

3.2 General Approach. This Policy is designed to meet the following goals and objectives for the establishment of a successful Exchange Program: (a) a highly-structured, well-planned program, (b) a convenient and reliable Credit Exchange mechanism, (c) a practical legal structure that promotes participation by maintaining a high degree of flexibility for Participants, and (d) a fair and effective pricing methodology.

ARTICLE IV
COMPLIANCE AND CREDIT EXCHANGE PLANNING

4.1 Participant-Driven Exchange Compliance Plan. The Nutrient Exchange has developed the Exchange Compliance Plan on behalf of the Participants for each of Virginia's five major river basins in accordance with the Watershed General Permit and intends to update the Plan annually by submittal of Plan Updates to DEQ. The Nutrient Exchange Compliance Plan is now and will continue to be based on the individual data provided by, and individual decisions made by, Participants with respect to their own Permitted Facilities, including revisions to relevant facility-specific information related to Class A Credit and Class B Credit Exchanges or other information, in accordance with the schedule at Attachment A and subject to acceptance by the Nutrient Exchange in accordance with this Policy and further subject to approval by DEQ.

4.2 Five-Year Planning Period. The Plan including any Plan Updates shall cover a rolling five-year Planning Period. For each Planning Period each of the following Plan elements shall be on a firm basis and may not be modified by a Participant except as provided in Section 4.8 (Modifications Within Planning Period): (a) Class A Credit sales and purchases once elected by a Participant, (b) the Class A Credit purchase price paid by a Class A Buyer (Attachment B), and (c) the Participant's commitment pursuant to Section 4.7 (Class B Credit Pledge) to provide to the Nutrient Exchange its Actual Class B Credits. With each Plan Update, Year 1 of the preceding Planning Period shall be dropped (except for purposes of Reconciliation), Year 2 through Year 5 of the preceding Planning Period (Year 1 through Year 4 of the Plan Update) shall remain unchanged with respect to the Plan elements stated in this Section as firm, and a new Year 5 shall be added based on data and information determined by each Participant with respect to its Permitted Facility. For example, in 2012, the Nutrient Exchange, in coordination with the Participants, will conduct the Reconciliation process for Compliance Year 2011 and update the five-year Plan to cover a Planning Period of 2012 through and including 2016, with the new fifth year (2016) based on data and information determined and submitted by each Participant with respect to its Permitted Facility. Without limiting the foregoing, it is nevertheless the intent of the Nutrient Exchange to accommodate through each Plan Update certain modifications related to firm elements of the Plan for the remaining four years of the Planning Period, whenever some or all of such modifications are determined by the Board in its discretion to be feasible and in the best interests of the Nutrient Exchange, as provided below in Section 4.8. Notwithstanding the foregoing provisions of this Section, if DEQ were to extend the schedule of compliance in Part I C 1 of the Watershed General Permit for any tributary (river basin) and parameter combination, the obligation of Participants to execute Exchanges of Credits for Permitted Facilities in such tributary (river basin) and for such parameter (TN or TP) as provided in the Exchange Compliance Plan shall be waived for each year prior to the first year for which compliance is required.

4.3 Annual Participant Data Update. The Nutrient Exchange may request and each Participant shall provide in a timely manner information necessary or useful for updating or otherwise administering the Plan. For purposes of Plan Updates, the Nutrient Exchange anticipates continuing to utilize a Facility Data Checklist. The most recent form of the Facility Data Checklist is attached as Attachment C and may be revised by the Nutrient Exchange from time to time. The Nutrient Exchange anticipates continuing to utilize a Compliance Deadline

Statement prior to the expiration of the schedule of compliance in Part I C 1 of the Watershed General Permit. The most recent form of the Compliance Deadline Statement is attached as Attachment D and may be revised by the Nutrient Exchange from time to time. With respect to the new fifth year of the Planning Period covered by each Plan Update, the Plan shall be based on data and information determined by the Participant during the Plan Update process. To meet applicable regulatory deadlines, Participants shall submit the requested data pursuant to the schedule at Attachment A, which may be revised by the Nutrient Exchange from time to time. Failure to meet submittal deadlines may result in omission of a Participant and its Permitted Facilities from the Plan at the discretion of the Nutrient Exchange.

4.4 Expected Net Credits. For each of its Permitted Facilities included in the Plan, the Participant will be responsible for specifying the Delivered WLA (established by regulation), Expected Load (derived from projected flow and concentration data provided by the Participant), Expected Credits, Preliminary Uses of Credits, and Expected Net Credits. Expected Net Credits is a planning figure only, and no Participant is obligated solely by its specification thereof to generate Credits in a quantity equal to or greater than the Expected Net Credits for the Planning Period.

4.5 Class A Credit Sale Obligations. Participants with Permitted Facilities projecting to generate a positive quantity of Expected Net Credits shall have the option to sell Class A Credits for a Compliance Year in the Planning Period at the premium Class A Credit price. Each such Participant shall elect a Class A Pledge Percentage ranging from zero (0) to one hundred (100) percent for each year of the Planning Period, such percentage to be determined in the discretion of the Participant. Such election shall be made for the full initial Planning Period and thereafter annually for the new fifth year of the five-year Planning Period. The Participant shall be obligated to provide to the Nutrient Exchange the quantity of Class A Credits calculated by multiplying the Participant's Expected Net Credits by its chosen Class A Pledge Percentage. The quantity of Class A Credits that results from this calculation shall be set forth in the Plan. Unless waived pursuant to section 5.10 (Waiver of Class A Credit Sales Obligation), the Participant agrees to sell such quantity of Credits to the Nutrient Exchange regardless of its Actual Net Credits (*i.e.*, a Class A Seller is responsible for making up any shortfall in its agreed amount of Class A Credits for a given Compliance Year and completing such sale). A Participant projecting to generate a positive quantity of Expected Net Credits but electing to make no firm Class A Credit sales obligation (*i.e.*, a Neutral Participant) shall make this election by specifying a Class A Pledge Percentage of zero.

4.6 Class A Credit Purchase Obligations. For Permitted Facilities projecting Expected Net Credits in a negative quantity, to demonstrate a plan for compliance the Participant shall be obligated to purchase Credits in such quantity at the Class A Credit purchase price shown on Attachment B. For example, a Permitted Facility projecting in the 2008 Plan Update to have Expected Net Credits of TN of negative 500 for Compliance Year 2011 shall be obligated to purchase 500 TN Credits at the Class A Credit price in effect for 2011 ($2.00 per Credit). This transaction shall be executed during the Reconciliation Year at which time the Credits shall be transferred and the price shall be paid. The Exchange Compliance Plan shall plan to meet this projected demand addressed in this Section through Class A Credit sales obligations under Section 4.5 to the extent available; however, to the extent that sufficient Class

A Credits are not available, the Plan may address this demand by means of Class B Credits pledged by Participants. The Credit prices paid by a Buyer as shown on Attachment B are firm for the Planning Period and shall be updated annually to include such price for the new fifth year of the Plan Update.

4.7 Class B Credit Pledge. By participating in the Exchange Compliance Plan, each Participant pledges one hundred percent of its Expected Class B Credits and agrees to transfer one hundred percent of its Actual Class B Credits from its Permitted Facilities to the Nutrient Exchange. The quantity of Expected Class B Credits is a projection only and it accommodates Preliminary Uses of Credits, including Private Exchanges planned and disclosed by the Participant in accordance with Section 4.9. Without limiting this pledge requirement, it is acknowledged and understood that Actual Class B Credits are anticipated to vary from the projection of Expected Class B Credits and that the Participant has no obligation to provide Actual Class B Credits in the same quantity as Expected Class B Credits, so long as the Participant transfers all of its Actual Class B Credits to the Nutrient Exchange. Among other purposes, it is the intent of this Section to enable Participants, which have entered into or will enter into a Virginia Water Quality Improvement Fund Grant Agreement with DEQ (*i.e.*, the owners of eligible municipal wastewater treatment plants) to satisfy the following standard provision of the typical grant agreement: "To aid in implementing the Nutrient Credit Exchange Program, the Grantee shall make all Point Source Nitrogen and Phosphorus Credits generated in a calendar year available for nutrient allocation compliance." It is also the intent of this Section to include as Actual Class B Credits those Credits not identified as Expected Class B Credits due to any Preliminary Use of Credits but which are in fact available for Exchange through the Nutrient Exchange during the Reconciliation.

4.8 Modifications Within Planning Period. Notwithstanding the firm commitments for Class A Credits and Class B Credits provided in this Article IV, it is the intent of the Nutrient Exchange to accommodate through each Plan Update requests for modifications affecting the firm elements of the previous Planning Period, provided that the Board determines, in its discretion, that such modification is not reasonably expected to have a material adverse effect on the Nutrient Exchange or its Participants. Consistent with the guiding principles described above, the fact that a modification would result in a decrease in funds from Credit sales shall not preclude the Board from determining that a modification would not have a material adverse effect. In the event of multiple competing modification requests, (i) requests of existing Participants shall have priority over requests of potential new Participants, and (ii) to the extent that it is not feasible to honor all modification requests of existing Participants, the Nutrient Exchange generally intends to address the requests of existing Participants on a pro rata basis with respect to Credits. In order to manage requests for modifications within the Planning Period efficiently and fairly, the Nutrient Exchange shall establish annually a date by which Participants shall submit such requests. The modifications requested by any Participant, if accommodated in the Plan Update in whole or in part, shall be binding on such Participant.

(a) Class A Credit Sale Obligations. Notwithstanding the firm basis of Class A Credit sale obligations, a Class A Seller may decrease its Class A Credit sale obligations through the Plan Update to the extent the Board determines that a sufficient supply of Class A Credits is projected to remain to meet the existing Class A Credit demand of the existing Class A

Buyers, and the Board, in its discretion, may accommodate further decreases taking into consideration Expected Class B Credit projections. Any Participant may increase its Class A Credit sale obligation so long as the resulting Class A Credit supply does not exceed Class A Credit demand.

(b) Class A Credit Purchase Obligations. Notwithstanding the firm basis of Class A Credit purchase obligations, a Class A Buyer may decrease its Class A Credit purchase obligations to the extent the Board determines that Class A Credit demand exceeds Class A Credit supply. Any Participant may increase its Class A Credit purchase obligation to the extent of Class A Credit supply, and the Board, in its discretion, may accommodate further increases taking into consideration Expected Class B Credit projections.

(c) Class B Credits. As provided above in Section 4.7, Expected Class B Credits is a projection only and the Participant's obligation with respect to Class B Credits is limited to providing its Actual Class B Credits to the Nutrient Exchange. Accordingly, through each Plan Update, the Participant at its discretion may modify its projection of Expected Class B Credits for each and every year of the five-year Planning Period covered by the Plan Update.

(d) New Participants. The Nutrient Exchange intends to consider the admission of new Participants depending on whether the Nutrient Exchange anticipates a surplus of Credits or projects a need for or desires additional Credits during the Planning Period. Admission of new Participants shall be at the discretion of the Board and generally subject to the following conditions. When the Plan indicates a surplus of Class A Credits, a new Participant may be included subject to the condition that it may not sell Class B Credits until Year 3 and Class A Credits until Year 5 of the Plan Update that first includes the new Participant. When the Plan indicates a need for additional Class A Credits, a new Participant may be included subject to the condition that it may not purchase Credits until Year 5 of the Plan Update that first includes the new participant. These conditions may be waived or modified in whole or in part by the Board in its discretion.

4.9. Private Exchanges. Sections 4.4 (Expected Net Credits) and 4.7 (Class B Credit Pledge) notwithstanding, to facilitate adequate planning each Participant shall provide reasonable advance notice to the Nutrient Exchange of all Private Exchanges to which it is or will be a party. Such notice shall be made by the deadline in Attachment A for submitting the Facility Data Checklist during the Plan Update process and shall be effective for any Private Exchange for the Compliance Year beginning the next January 1 following such notice (or for any subsequent Compliance Year). The notice shall be on a form to be provided by the Nutrient Exchange and shall identify all parties and the quantity of Credits subject to the Private Exchange. For example, if a Participant desires to enter into a new Private Exchange for Compliance Year 2011, under the current schedule at Attachment A notice would be required by November 1, 2010 and such Private Exchange would be included in the Plan Update covering the Planning Period of Compliance Years 2011 through 2015. Nothing in this Section 4.9 shall affect the firm commitment as to Class A Credit purchases and sales once made by a Participant.

4.10 DEQ Approval. The Nutrient Exchange's goal is to maintain the Exchange Compliance Plan in a manner and form that best serves its Participants and complies with the

terms and conditions of the Watershed General Permit. In the event that DEQ were to disapprove a Plan Update in whole or in part, the Nutrient Exchange shall be responsible only for continuing to endeavor, in consultation with the Participants, to obtain DEQ approval pursuant to 9 VAC 25-820-40 B.

ARTICLE V
CREDIT EXCHANGE RECONCILIATION

5.1 Administration of and Participation in Reconciliation. Beginning in 2012 for Compliance Year 2011, the Nutrient Exchange will administer and the Participants will participate in an annual Reconciliation pursuant to the Plan and this Policy for the preceding Compliance Year.

5.2 Annual Permitted Facility Reports. In accordance with the schedule at Attachment A, each Participant shall annually submit to the Nutrient Exchange a copy of the Participant's Annual Report to DEQ required by Part I F of the Watershed General Permit and such other information as may be reasonably requested by the Nutrient Exchange in administering the Reconciliation.

5.3 Initial Reconciliation Report. In accordance with the schedule at Attachment A, the Nutrient Exchange will prepare and distribute to the Participants the Initial Reconciliation Report for the immediately preceding Compliance Year. On a Permitted Facility and river basin-level basis for all Participants, the report shall present in ledger format an accounting of the generation and transfer of Credits within the Nutrient Exchange and among its Participants. The report shall specify for each Permitted Facility its Delivered WLA, Actual Load, Actual Credits, Preliminary Uses of Credits, Actual Net Credits, Class A Credit sales and purchases, and Actual Class B Credits, Credit prices, charges to Buyers, and revenues to Sellers. As applicable, the report will reflect application of the policies and procedures in Sections 5.9 (Initial Upgrades), 5.10 (Waiver of Class A Credit Sales Obligation), 5.11 (Option to Purchase Additional Credits During Reconciliation), and 5.12 (Credit Shortfall Management Procedures).

5.4 Credit Exchanges and Confirmations. The transfer of Credits from Sellers to the Nutrient Exchange, and from the Nutrient Exchange to Buyers, shall be implemented as follows.

(a) Credit Transfers from Sellers. Each year beginning 2012 (or one year later for each year by which DEQ extends the schedule of compliance for any tributary (river basin) and parameter (TN or TP) combination beyond January 1, 2011), Participants shall transfer to the Nutrient Exchange in accordance with the Initial Reconciliation Report and the schedule at Attachment A (i) the quantity of Class A Credits to which they have committed as Sellers and (ii) the quantity of their Actual Class B Credits, if any. Such transfer shall be effective without further action by the Participant and shall be confirmed by the Participant through execution by its Designated Representative of, and submittal to the Nutrient Exchange of, the Seller's Credit Exchange Confirmation Form (Attachment E).

(b) Credit Transfers to Buyers. Each year beginning 2012 (or one year later for each year by which DEQ extends the schedule of compliance for any tributary (river basin) and parameter (TN or TP) combination beyond January 1, 2011), the Nutrient Exchange shall transfer to Buyers in accordance with the Initial Reconciliation Report and the schedule at Attachment A the quantity of Credits committed to and requested by such Buyers subject to the terms and limitations of this Policy. Such transfer shall be accomplished and confirmed by the Nutrient Exchange through execution and submittal to Buyers of the Buyer's Credit Exchange Confirmation Form (Attachment F). In addition, the Nutrient Exchange shall invoice each Buyer for Credit purchases in accordance with the schedule at Attachment A, and each Buyer shall pay such invoice within forty-five (45) days of the invoice date. Failure to pay such invoice within such time shall require payment by the Participant of an administrative charge of one hundred dollars ($100.00) plus ten percent (10%) of the amount of the invoice.

5.5 Sales of Surplus Credits to Non-Participants. For any Compliance Year and associated Reconciliation Year, for any river basin and parameter (TN or TP) combination, if the Nutrient Exchange has satisfied all of the needs for Credits for Participants as specified in the Exchange Compliance Plan or as otherwise requested by Participants for Watershed General Permit compliance purposes, and has remaining Credits, the Nutrient Exchange may sell such remaining Credits, in the discretion of the Board, to any Non-Participants requesting and committing to the purchase of such Credits subject to terms established by the Board in accordance with this Policy. The revenue from any Credit sales to Non-Participants or others shall be distributed to the Participants in the manner provided in Section 5.8.

5.6 Final Reconciliation Report. In accordance with the schedule at Attachment A, the Nutrient Exchange will prepare and distribute to the Participants the Final Reconciliation Report for the immediately preceding Compliance Year to reflect any adjustments subsequent to the Initial Reconciliation Report for sales of surplus Credits to Non-Participants or as otherwise may be appropriate.

5.7 Sources of Funds. The sources of funds for the Nutrient Exchange's purchase of Credits from Sellers shall be the funds paid by Buyers, the funds paid by any Non-Participants or others purchasing Credits through the Nutrient Exchange, and any other revenues accruing to the Nutrient Exchange that the Board designates for this purpose.

(a) Clearing Account. All such funds shall be segregated for accounting purposes from any other funds of the Nutrient Exchange in a Clearing Account for the purposes of holding prior to distribution and of distributing such funds to Sellers in the manner provided in this Policy.

(b) Prices Paid by Buyers and Non-Participants. The prices for Credits shall be (i) for Buyers of Credits in the quantities scheduled in the Plan as Class A Credit purchases the Class A Credit price on Attachment B, (ii) for Participants making additional Credit purchases beyond those scheduled in the Plan as Class A Credit purchases, the Class A Credit Price from Attachment A multiplied by a premium of 1.5, and (iii) for any Non-Participant or others for purchases as provided in Section 5.5, the Class A Credit Price from Attachment A multiplied by a premium which shall be established by the Board but which shall not be less than

2.0, unless the Board in its discretion determines that a lesser premium is in the best interests of the Nutrient Exchange and its Participants.

5.8 Disbursement of Funds to Sellers. The Nutrient Exchange shall disburse funds to Sellers from the Clearing Account as follows.

(a) Timing. Funds shall be disbursed to Sellers each Reconciliation Year in accordance with the schedule at Attachment A, or as soon thereafter as may be practical.

(b) Amounts Paid to Sellers. Ninety (90) percent of the amount in the Clearing Account and due to the Nutrient Exchange from Buyers for each Compliance Year in the Reconciliation Year shall be paid to the Class A Sellers, pro rata in proportion to the quantity of such Class A Credits transferred by each. The remaining ten (10) percent shall be paid to those Participants transferring Class B Credits to the Nutrient Exchange, pro rata as to the quantity of such Class B Credits transferred by each. However, if under the preceding calculation the amount paid by the Nutrient Exchange for each Class B Credit would exceed the amount paid by the Nutrient Exchange for each Class A Credit, the amount paid for Class A and Class B Credits shall be equal and shall be paid to Sellers pro rata in proportion to the quantity of Credits transferred by each.

(c) Clearing Account Shortfalls Due to Non-Payment of Buyers. To the extent that any Buyer or other purchaser of Credits from the Nutrient Exchange fails to remit to the Nutrient Exchange any amounts for Credits when due, and such shortfall interferes with the distribution of funds as provided herein, in addition to the administrative charge provided in Paragraph 5.4(b) the Board may in its discretion (i) invalidate the Credit transfer to the non-paying person(s) and redistribute such Credits as provided in this Policy, (ii) extend additional time for payment on such terms as the Board may determine, or (iii) take other actions in the best interests of the Nutrient Exchange and the Participants. In any such event, the Board may further in its discretion either delay payments otherwise provided for in this Section 5.8, or make partial payments, pro rata as provided herein, pending resolution of such matters.

5.9 Initial Upgrades. The Nutrient Exchange and the Participants acknowledge that for the initial Permitted Facility wastewater treatment upgrades necessary to implement the Exchange Compliance Plan for any river basin beginning January 1, 2011 (or such later initial year for compliance as DEQ may approve), the availability of engineering design services, the availability of construction services, availability of Water Quality Improvement Fund grant funds, extreme weather and other factors may make a Participant's provision and transfer to the Nutrient Exchange of Class A Credits impracticable and beyond the reasonable control of such Participant. In any case in which such transfer to the Nutrient Exchange of Class A Credits is determined by the Board in its discretion to be impracticable and beyond the reasonable control of such Participant, such not-at-fault Participant shall be relieved of its obligations for the transfer to the Nutrient Exchange of Class A Credits, but only the extent that such Credits are actually not available to such Participant and only for the period of time of the initial unavailability. Any resulting Credit shortfalls impacting the ability to supply Credits to Class A Buyers shall be managed in accordance with Section 5.12 (Credit Shortfall Management Procedures). In addition, the Nutrient Exchange shall request DEQ's concurrence that neither

the not-at-fault Class A Seller(s) as defined in this Section 5.9 nor the not-at-fault waiting Buyer(s) will be deemed to be in noncompliance or subject to enforcement solely because of such circumstances and related Credit supply impacts.

5.10 Waiver of Class A Credit Sales Obligation. If during the Reconciliation Year sufficient Credits exist to meet the demands of all Participants for the Compliance Year, a Class A Seller's Class A Credit sales obligation shall be waived to the extent of its Class A Credit shortfall.

5.11 Option to Purchase Additional Credits During Reconciliation. If during the Reconciliation Year sufficient Credits exist to meet the demands of all Participants for the Compliance Year, after waivers of Class A Credit sale obligations pursuant to Section 5.10 any Participant desiring to purchase additional Credits for unanticipated needs (*i.e.*, Credits required beyond the Participant's Class A Credit purchases scheduled in the Exchange Compliance Plan) may purchase such Credits from the Nutrient Exchange at the premium price applicable to Participants as specified in Paragraph 5.7(b)(ii) to meet its Watershed General Permit compliance obligations.

5.12 Credit Shortfall Management Procedures.

(a) If insufficient Credits exist to meet the demands of all Participants, Class A Buyers shall have priority access to available Credits to the extent provided in this Paragraph 5.12(a). To the extent of the available Credits, Credits shall first be transferred to Class A Buyers in a quantity sufficient to satisfy either the amount of Credits scheduled as a Class A Credit purchase in the Exchange Compliance Plan for each Class A Buyer or the amount of Credits actually needed by the Class A Buyer to comply with its Delivered WLA, whichever is less for each Class A Buyer (its "Class A Shortfall Distribution Quantity"). Such distribution to Class A Buyers and any subsequent distribution to Participants shall be implemented in accordance with either Paragraph 5.12(b) or Paragraph 5.12(c), as appropriate.

(b) If the distribution of available Credits pursuant to Subparagraph 5.12(a) is insufficient to satisfy all Class A Buyers in the manner and to the extent provided in Subparagraph 5.12(a), the following procedure shall apply: (i) all available Credits will be distributed among the Class A Buyers pro rata in proportion to the Class A Shortfall Distribution Quantity of each, and (ii) all Class A Sellers that failed to generate and transfer all of the Class A Credits that such Sellers had agreed to provide pursuant to Section 4.5 of this Policy and scheduled in the Plan shall make up their allocable share of any remaining shortfall of Class A Credits to the extent required to meet the total Class A Shortfall Distribution Quantity of all Class A Buyers, pro rata in proportion to each such Class A Seller's Class A Credit sales shortfall, by acquiring Credits from outside of the Nutrient Exchange, from the Water Quality Improvement Fund administered by DEQ, or as otherwise allowed under applicable law.

(c) If the distribution of available Credits pursuant to Subparagraph 5.12(a) is sufficient to satisfy all Class A Buyers in the manner and to the extent provided in Subparagraph 5.12(a), any remaining Credits shall be transferred in equal shares to all Participants who desire such Credits; provided, however, that no Participant may purchase more Credits than required

for compliance of its Permitted Facility under the Watershed General Permit. Each Participant with a remaining need for Credits thereafter shall be solely responsible for acquiring sufficient additional Credits from outside of the Nutrient Exchange, from the Water Quality Improvement Fund administered by DEQ, or as otherwise allowed under applicable law.

(d) In the discretion of the Board, the Nutrient Exchange may assist the Participants in acquiring sufficient additional Credits from outside of the Nutrient Exchange, from the Water Quality Improvement Fund administered by DEQ, or as otherwise allowed under applicable law; however, the Nutrient Exchange shall have no liability whatsoever for or related to a Credit shortfall regardless of the cause thereof.

ARTICLE VI
MISCELLANEOUS PROVISIONS

6.1 Amendments. This Policy may be amended from time to time in accordance with Article VII of the Bylaws.

6.2 Administrative Obligations. As a condition of continuing participation and without limiting any other provision of this Policy, each Participant shall (a) execute and comply with terms of the Nutrient Credit Services Agreement; (b) pay any applicable fees in a timely manner, and (c) pay its Credit purchase costs as provided herein in a timely manner.

6.3 Compliance with Watershed General Permit; Exchange Not Liable. Each Participant shall remain responsible for ensuring its own compliance with the Watershed General Permit. Neither the Nutrient Exchange, nor its officers, governors (directors), technical consultants or other advisors shall be responsible for assuring an adequate supply of Credits or for any other costs or damages of any kind related in any way to the operation of the Nutrient Exchange, including consequential damages.

6.4 No Waiver. No failure to exercise, and no delay in exercising, any right, power or privilege under this Policy by the Nutrient Exchange shall operate as a waiver, nor shall any single or partial exercise of any right, power or privilege hereunder preclude the exercise of any other right, power or privilege. No waiver by the Nutrient Exchange of any breach of any provision shall be deemed to be a waiver of any preceding or succeeding breach of the same or any other provision, nor shall any waiver be implied from any course of dealing.

ATTACHMENTS

A Annual Schedule for Plan Update and Reconciliation Processes
B Credit Price Schedule
C Facility Data Checklist
D Compliance Deadline Statement
E Seller's Credit Exchange Confirmation Form
F Buyer's Credit Exchange Confirmation Form

ATTACHMENT A

ANNUAL SCHEDULE (ISSUED: JUNE 30, 2009)

Action	Deadline	Party Responsible	Policy Section(s)
Submit Class A Credit Sale/Purchase Obligation Change Requests (OPTIONAL) (only for changes proposed to current Planning Period, not for new Year 5)	Sept. 1	Participant	4.8
Submit Facility Data Checklist (Attachment C) for Plan Update Development	Sept. 1	Participant	4.3
Submit Annual Report to Nutrient Exchange (and DEQ per 9 VAC 25-820-70 Part I F)	Feb. 1	Participant	5.2
Submit Exchange Compliance Plan Update to DEQ	Feb. 1	Exchange	4.1, 4.10
Prepare Initial Reconciliation Report	Mar. 7	Exchange	5.3
Distribute Credit Exchange Confirmation Forms to Sellers	Mar. 15	Exchange	5.4(a)
Distribute Invoices to Buyers	Mar. 15	Exchange	5.4(b)
Submit Credit Exchange Confirmation Forms to Nutrient Exchange	April 15	Sellers	5.4(a)
Invoice Payments Due from Buyers	May 1	Buyers	5.4(b), 5.7
Distribute Signed Credit Exchange Confirmation Forms to Buyers	May 20	Exchange	5.5(b)
Certify Credit Purchases to DEQ (9 VAC 25-820-70 Part J 2 f)	June 1	Buyers	N/A
Prepare Final Reconciliation Report	June 15	Exchange	5.4
Disbursement of Funds to Participants for Credit Sales	Aug. 1	Exchange	5.8

AR0036663

ATTACHMENT B

CREDIT PRICE SCHEDULE (ISSUED: JUNE 30, 2009)

Compliance Year	Reconciliation Year	Class A Credit Purchase Price ($/Credit)		Price Status (Firm or Estimate)
		Nitrogen	*Phosphorus*	
2008	2009	-	-	Firm
2009	2010	-	-	Firm
2010	2011	-	-	Firm
2011	2012	$2.00	$4.00	Firm
2012	2013	$2.00	$4.00	Firm
2013	2014	$2.15	$4.30	Firm
2014	2015	$2.65	$4.60	Firm
2015	2016	$3.05	$4.93	Estimate*
2016	2017	$3.50	$5.27	Estimate*

* Evaluation of alternative pricing methodologies is pending. Results of such evaluation leading to proposed pricing methodology revisions, if any, will be presented to Participants for consideration and input.

AR0036664

ATTACHMENT C
FACILITY DATA CHECKLIST (ISSUED: JUNE 30, 2009)

Participant (Owner) Name: _____

Facility Name: _____

nated Representative (or Alternate) Name: _____

Contact Phone: _____

Contact Email: _____

(please enter information only in cells with blue text)

NITROGEN Data Checklist	5th year	Estimates Beyond 5-year Planning Period		
	2014	2015	2016	2017
Projected Flow (mgd)	0.00	0.00	0.00	0.00
Projected mg/L (avg. annual)	0.00	0.00	0.00	0.00
End-of-Pipe Pounds	0	0	0	0
Delivery Factor[1]	0.00	0.00	0.00	0.00
Delivered Pounds	0	0	0	0
Delivered WLA[1]	0	0	0	0
Expected Credits	0	0	0	0
Adjustments In (Out)[2]	0	0	0	0
Net Expected Credits	0	0	0	0
Pledge Percentage[3]	0%	0%	0%	0%
Class A Sales (Purchases)	0	0	0	0
Expected Class B Credits	*0*	*0*	*0*	*0*

PHOSPHORUS Data Checklist	5th year	Estimates Beyond 5-year Planning Period		
	2014	2015	2016	2017
Projected Flow (mgd)[4]	0.00	0.00	0.00	0.00
Projected mg/L (avg. annual)	0.00	0.00	0.00	0.00
End-of-Pipe Pounds	0	0	0	0
Delivery Factor[1]	0.00	0.00	0.00	0.00
Delivered Pounds	0	0	0	0
Delivered WLA[1]	0	0	0	0
Expected Credits	0	0	0	0
Adjustments In (Out)	0	0	0	0
Net Expected Credits	0	0	0	0
Pledge Percentage[3]	0%	0%	0%	0%
Class A Sales (Purchases)	0	0	0	0
Expected Class B Credits	*0*	*0*	*0*	*0*

1 - Facility-specific Delivery Factors and Delivered WLAs as shown on DEQ's Watershed General Permit Registration List.
2 - Adjustments include either positive or negative credit amounts that reflect private exchanges, bubble exchanges, or WQIF-held credits
3 - If showing positive value for Net Expected Credits, select a Pledge Percentage to produce desired Class A Credit sale.
*3 - If showing negative value for Net Expected Credits, the purchase of a like number of Class A Credits will be specified in the Compliance Plan and**Pledge Percentage should be set to 100%.***
4 - Projected flows for the phosphorus credit forecast are set equal to those used to generate the nitrogen credit forecast

AR0036665

ATTACHMENT D

COMPLIANCE DEADLINE STATEMENT (ISSUED: JUNE 30, 2009)

FACILITY (OR OWNER BUBBLE) NAME: _____

PART II. TOTAL NITROGEN COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TN load to TN WLA. Would permittee have complied with its TN WLA for calendar year 2005 if its TN WLA had been in effect for that year?

_____ NO *(proceed to II.B. Implementation Schedule for TN)*

_____ YES *(permittee must check Option 1 or Option 2)*:

_____ Option 1: Permittee hereby requests TN WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(PART II Complete; Proceed to PART IV. TOTAL PHOSPHORUS COMPLIANCE), or*

_____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TN WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under II.B.)* Explanation: _____

_____

_____

(proceed to II.B. Implementation Schedule for TN)

B. Implementation Schedule for TN

1. Does permittee anticipate requiring TN credit purchase to comply?

   _____ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TN credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

   _____ NO _____ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

   Engineer selection _____

   PER/CER to DEQ _____

   Plans & Specifications to DEQ _____

   Commence construction _____

   Complete construction _____

   CTO Request to DEQ (POTWs only) _____

PART IV. TOTAL PHOSPHORUS COMPLIANCE

A. 2007 Compliance Deadline Statement Required by 9 VAC 25-820-40 A 2

Compare 2005 discharged TP load to TP WLA. Would permittee have complied with its TP WLA for calendar year 2005 if its TP WLA had been in effect for that year?

_____ NO *(proceed to III.B. Implementation Schedule for TP)*

_____ YES *(permittee must check Option 1 or Option 2)*:

- _____ Option 1: Permittee hereby requests TP WLA to be effective as of January 1, 2007 (9 VAC 25-820-40 A 2 b) *(Stop Here/Part IV Is Complete), or*
- _____ Option 2: Permittee declares that an additional capital project(s) is needed to ensure continued compliance with the TP WLA through the applicable compliance schedule deadline for the tributary (9 VAC 25-820-40 A 2 a). *(Note: Checking Option 2 does not preclude use of credit purchase as means of compliance under IV.B.)* Explanation: _____

_____

_____

(proceed to IV.B. Implementation Schedule for TP)

B. Implementation Schedule for TP

1. Does permittee anticipate requiring TP credit purchase to comply?

   _____ NO _____ YES (If yes, compliance is required upon expiration of tributary compliance schedule deadline and nitrogen credit availability. This requirement for compliance also applies if permittee plans to comply by a combination of TP credit purchase and capital project.)

2. Is permittee implementing a capital project to comply?

   _____ NO _____ YES. If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.

3. Capital Project Milestone Schedule *(Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)*

   Engineer selection _____

   PER/CER to DEQ _____

   Plans & Specifications to DEQ _____

   Commence construction _____

   Complete construction _____

   CTO Request to DEQ (POTWs only) _____

End of Facility Appendix

ATTACHMENT E

SELLER'S CREDIT EXCHANGE CONFIRMATION FORM

The execution of this Credit Exchange Confirmation Form confirms a Credit Transfer from the Participant to the Nutrient Exchange pursuant to the Section 5.4(a) of the Credit Exchange Policy of the Nutrient Exchange. Capitalized terms have the meanings provided in the Credit Exchange Policy.

In accordance with the provisions of and subject to the terms and limitations of the Credit Exchange Policy and the Nutrient Credit Services Agreement, the undersigned Participant hereby:

1. Acknowledges receipt of the Initial Reconciliation Report dated [INSERT DATE].

2. Confirms and represents that the Initial Reconciliation Report correctly states for its Permitted Facility(ies) in the Exchange Compliance Plan the amounts of Class A Credits of TN and TP and Class B Credits of TN and TP transferred to the Nutrient Exchange.

3. Acknowledges and confirms the transfer of such Credits in such amounts to the Nutrient Exchange.

To be completed by Participant:

Participant Name (Organization): _____

Designated Representative (Print): _____

Designated Representative Signature: _____

Date: _____

No later than April 15 submit the signed original form to:
Virginia Nutrient Credit Exchange Association, Inc.
ATTN: Secretary
P.O. Box 51
Richmond, VA 23218-0051

And send a copy by email to:
info@theexchangeassociation.org

ATTACHMENT E

SELLER'S CREDIT EXCHANGE CONFIRMATION FORM

The execution of this Credit Exchange Confirmation Form confirms a Credit Transfer from the Participant to the Nutrient Exchange pursuant to the Section 5.4(a) of the Credit Exchange Policy of the Nutrient Exchange. Capitalized terms have the meanings provided in the Credit Exchange Policy.

In accordance with the provisions of and subject to the terms and limitations of the Credit Exchange Policy and the Nutrient Credit Services Agreement, the undersigned Participant hereby:

1. Acknowledges receipt of the Initial Reconciliation Report dated [INSERT DATE].

2. Confirms and represents that the Initial Reconciliation Report correctly states for its Permitted Facility(ies) in the Exchange Compliance Plan the amounts of Class A Credits of TN and TP and Class B Credits of TN and TP transferred to the Nutrient Exchange.

3. Acknowledges and confirms the transfer of such Credits in such amounts to the Nutrient Exchange.

To be completed by Participant:

Participant Name (Organization): _____

Designated Representative (Print): _____

Designated Representative Signature: _____

Date: _____

No later than April 15 submit the signed original form to:
Virginia Nutrient Credit Exchange Association, Inc.
ATTN: Secretary
P.O. Box 51
Richmond, VA 23218-0051

And send a copy by email to:
info@theexchangeassociation.org

ATTACHMENT F

BUYER'S CREDIT EXCHANGE CONFIRMATION FORM

The execution of this Credit Exchange Confirmation Form confirms a Credit Transfer to the Participant from the Nutrient Exchange pursuant to the Section 5.4(b) of the Credit Exchange Policy of the Nutrient Exchange. Capitalized terms have the meanings provided in the Credit Exchange Policy.

In accordance with the provisions of and subject to the terms and limitations of the Credit Exchange Policy and the Nutrient Credit Services Agreement, the Nutrient Exchange hereby transfers to the Participant identified herein the following amounts of Credits of TN and TP:

Participant Name (Organization): _____

River Basin (One Per Form): _____

Compliance Year: _____

TN Credits (Pounds): _____

TP Credits (Pounds): _____

VIRGINIA NUTRIENT CREDIT EXCHANGE ASSOCIATION, INC.

By: _____

Title: _____

Date: _____

For convenience, the reverse side of this form made be used, subject to DEQ's approval, by the Participant to make its required certification of credit acquisition to DEQ.

BUYER'S CREDIT EXCHANGE NOTIFICATION TO DEQ
PURSUANT TO PART I J 2 f OF THE GENERAL PERMIT
FOR TOTAL NITROGEN AND TOTAL PHOSPHORUS DISCHARGES AND
NUTRIENT TRADING IN THE CHESAPEAKE BAY WATERSHED IN VIRGINIA
9 VAC 25-820-70

General Permit Registration No.: _____

Permittee Name: _____

Pursuant to Part I J 2 f of the Watershed General Permit, the above-named Permittee, a Participant in the Virginia Nutrient Credit Exchange Association, Inc., hereby certifies that it has acquired sufficient Credits to satisfy its compliance obligations. The Credit Exchange Confirmation Form on the reverse side of this notification form documents the quantity of Credits of TN and TP transferred from the Nutrient Exchange to the Participant for the Compliance Year.

I certify under penalty of law that this notification and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Principal Executive Officer
or Authorized Agent: _____

Typed or Printed Name: _____

Signature: _____

Area Code/Phone Number: _____

Date: _____

APPENDIX A

DEQ Approval Letters (2007 – 2009)

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Street address: 629 East Main Street, Richmond, Virginia 23219
Mailing address: P.O. Box 1105, Richmond, Virginia 23218
Fax (804) 698-4500 TDD (804) 698-4021
www.deq.virginia.gov

L. Preston Bryant, Jr.
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

September 24, 2009

Mr. Mark A. Haley, President
Virginia Nutrient Credit Exchange Association, Inc.
P.O. Box 51
Richmond, VA 23218-0051

Re: Exchange Compliance Plan 2009 Annual Update

Dear Mr. Haley:

We have reviewed the Exchange's February 1, 2009 Compliance Plan Update and DEQ gives its approval for implementation of the plan under the watershed general permit. We remain very pleased by the progress being made by the organization and its members. Point source Total Nitrogen and Total Phosphorus delivered loads decreased in each of the five permitted watersheds in 2008.

We share your concern with the lack of trading partners on the Eastern Shore and look forward to working with the Exchange in the next year to address this issue. Finally, our staff has had some discussions with you concerning a few survey responses that appear to be out of date by the time they are compiled and submitted. A few such situations may be inevitable as many facilities have struggled with upgrade decisions in the middle of the economic downturn. We are currently reviewing WQIF records to provide you with a list of apparent discrepancies for use in reviewing the next round of survey responses.

We look forward to another year of partnering with the Exchange and its members in pursuit of a restored Chesapeake Bay.

Sincerely,

Frederick K. Cunningham
Water Permit Manager
Office of Water Permits and Compliance Assistance

Cc: Mr. Chris Pomeroy, Esq. - AquaLaw

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Street address: 629 East Main Street, Richmond, Virginia 23219
Mailing address: P.O. Box 1105, Richmond, Virginia 23218
Fax (804) 698-4500 TDD (804) 698-4021
www.deq.virginia.gov

L. Preston Bryant, Jr.
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

April 25, 2008

Mr. Mark A. Haley, President
Virginia Nutrient Credit Exchange Association, Inc.
P.O. Box 51
Richmond, VA 23218-0051

Re: Exchange Compliance Plan 2008 Annual Update

Dear ~~Mr. Haley~~: Mark

We have reviewed the Exchange's February 1, 2008 Compliance Plan Update and DEQ gives its approval for implementation of the plan under the watershed general permit. We are very pleased by the progress being made by the organization and its members. The growth in membership has been impressive and we expect that participation will continue to grow as the January 1, 2011 deadline approaches and more facilities recognize the benefits of membership.

Equally impressive is the reduction in load made in some basins as more and more facilities optimize their operations. The Exchange members managed to operate below their combined TN wasteload allocations in the Potomac and Rappahannock Basins and below their combined TP wasteload allocations in the York and (Lower) James Basins; however we must recognize 2007 was a dry year.

We will continue to monitor and evaluate progress in each basin as noted in my September 7, 2007 letter and Section 7.1 of the annual update. Between the annual compliance plan updates, the WQIF annual reports and the annual load reports we are confident that we will stay on top of this issue and be able to make any schedule adjustments necessary. Also as noted in my September 7, 2007 letter, the conditions in Section 7.2 on the compliance plan do not dictate the terms of DEQ's enforcement policy. However, please rest assured that DEQ too has much invested in the watershed general permit and intends to work cooperatively with all stakeholders to ensure a fair and successful program.

With respect to the Eastern Shore Basin, we share your concern that the basin is not large enough to provide ample trading partners. As you know a legislative change would be required to open up the Eastern Shore market to include purchases from the Potomac and Rappahannock Basins.

We have noted in recent weeks that as WQIF agreements and VPDES permits are negotiated, a few facilities have backed off of the upgrade plans provided to the Exchange. So far none of these changes appear to affect the basin compliance goals. We intend to track these discrepancies to ensure that they do not have an adverse impact on basin compliance as a whole and will continue to instruct such facilities to keep the Exchange informed of any changes in their plans.

In closing, we continue to be encouraged by the progress in the trading program and by the cooperation and efforts of the Exchange and its members in particular. We look forward to another year of this partnership and progress towards a restored Chesapeake Bay.

Sincerely,

Ellen Gilinsky

Ellen Gilinsky, Ph.D., Director
Division of Water Quality

Cc: Mr. Chris Pomeroy, Esq. - AquaLaw

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Street address: 629 East Main Street, Richmond, Virginia 23219
Mailing address: P.O. Box 1105, Richmond, Virginia 23218
Fax (804) 698-4500 TDD (804) 698-4021
www.deq.virginia.gov

L. Preston Bryant, Jr.
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

September 7, 2007

Mr. Mark Haley
President, Board of Governors
Virginia Nutrient Credit Exchange Association, Inc.
P.O. Box 51
Richmond, VA 23218-0051

RE: Exchange Compliance Plan, July 31, 2007

Mark

Dear Mr. Haley:

We have reviewed the Exchange's July 31, 2007 Compliance Plan and your letter of July 30, 2007 and are very pleased by the progress being made by the Exchange members. Especially encouraging are the projections that expected TN and TP loads will be below the aggregate wasteload allocations in all five basins by 2011.

After a careful review of all of the individual compliance plans and the Exchange's compliance plan, DEQ staff recommends that the existing 2011 compliance deadline be retained at this time for both parameters in all five basins. The Class A/Class B trading system adopted by the Exchange has served as an excellent tool for managing trades among its members. However, using only Class A pledges as the basis for determining a river basin compliance date appears inconsistent with the permit condition of achieving compliance "as soon as possible". In establishing "as soon as possible" compliance dates, DEQ must rely on the completion of projects that allow limits to be met and not delay the regulatory deadline due to a reluctance to sign Class A pledges.

We share your concern with the completion of so many projects on such a tight timeline. However, at this early date it is not possible to determine how quickly individual construction projects will proceed and what the actual capabilities of the upgraded facilities will be. For instance, after a year of progress, the performance of Exchange members was significantly better than what was projected for these facilities in the April 2006 draft report. Future annual compliance plan updates and DEQ's semi-annual WQIF progress reports will add further clarity to these projections and will be used along with the scheduling factors in the Virginia Code and the "as soon as possible" criteria to evaluate the need for basin schedule extensions. Accordingly, we believe that The Exchange's proposed footnote for the watershed general permit compliance table is neither necessary nor does it provide the public or EPA with an

opportunity to participate in regulatory changes to the permit schedules. Should it prove necessary, DEQ will initiate amendment to the permit under the Administrative Process Act to make appropriate revisions to the schedule.

We also share your desire for DEQ to provide a safe regulatory environment for participating owners to commit to buy or sell credits. The very existence of the trading program represents a significant reduction in risk for the permittees. This risk is further reduced by the ability to purchase compliance credits from the WQIF. DEQ has proposed to incorporate into the WQIF cost-control guidelines a provision that credits generated via WQIF-funded upgrades would be made available to other permittees by the facility generating the credits. As suggested in your July 30th letter, we are also pursuing a means of sustaining a pool of WQIF-funded BMP projects that will serve as a source of WQIF credits in each basin.

We greatly appreciate the Exchange's efforts in encouraging and facilitating the cooperation of over 100 facilities to reduce nutrient loads to the Chesapeake Bay, and look forward to our continued working relationship with your organization.

Sincerely,

Ellen Gilinsky

Ellen Gilinsky, Ph.D., Director
Division of Water Quality

APPENDIX B

Form of Nutrient Credit Services Agreement

NUTRIENT CREDIT SERVICES AGREEMENT

THIS NUTRIENT CREDIT SERVICES AGREEMENT (this "Agreement") made by and between the Virginia Nutrient Credit Exchange Association, Inc., (the "Nutrient Exchange") and the undersigned owner or operator of a Permitted Facility included in the Exchange Compliance Plan (the "Participant").

BACKGROUND

A. The Participant owns or operates a certain facility or facilities regulated under the General Virginia Pollutant Discharge Elimination System Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed in Virginia, 9 VAC 25-820, issued by the State Water Control Board and Department of Environmental Quality (collectively "DEQ") for a five-year permit term beginning January 1, 2007 or as hereafter modified or reissued from time to time (the "Watershed General Permit").

B. The Nutrient Exchange is a Virginia non-stock corporation comprised of permittees subject to the Watershed General Permit and is authorized by section 62.1-44.19:17 of the Code of Virginia to assist permittees with Watershed General Permit compliance and to facilitate voluntary nutrient credit trading.

C. Among other requirements, the Watershed General Permit (9 VAC 25-820-70, Part I B) imposes limitations on the discharge of two nutrients, total nitrogen and total phosphorus, from the Participant's Permitted Facility(ies), and requires the Participant to submit to DEQ by August 1, 2007 and each February 1 thereafter, either individually or through the Nutrient Exchange, a compliance plan (9 VAC 25-820-40 and -70 Part I D) identifying how its Permitted Facility(ies) will comply with such limitations.

D. On behalf of the Participants and based on the data provided and decisions made by the individual Participants, the Nutrient Exchange has developed, and intends to maintain by means of the Watershed General Permit-required annual Plan Updates, a compliance plan for each of Virginia's five major river basins (collectively the "Exchange Compliance Plan") to assist the Participants in complying with the Watershed General Permit compliance plan requirement.

E. In addition, Participants in the Exchange Compliance Plan have the option of exchanging nutrient Credits. The Exchange Compliance Plan identifies firm commitments for the purchase and sale of Class A Credits at the request of numerous individual Participants who have elected to participate as Class A Buyers or Class A Sellers, and further establishes a market for and provides all Participants with the option of later purchasing available Class B Credits on more flexible terms to assist in maintaining compliance during unanticipated circumstances.

F. The Nutrient Exchange serves as the central trading exchange to facilitate the execution and reporting of these voluntary nutrient Credit Exchanges by and among its Participants in accordance with its Credit Exchange Policy, the Watershed General Permit and,

when applicable, Water Quality Improvement Fund Grant Agreements entered into by and between a Participant and DEQ.

AGREEMENT

NOW, THEREFORE, in consideration of the mutual covenants and conditions herein, the parties hereto agree as follows:

1. Annual Compliance Plan Updates. The Nutrient Exchange agrees to update the Exchange Compliance Plan annually and submit such Plan Update to DEQ for approval on or before the deadline (currently February 1 of each year) specified in Part I D of the Watershed General Permit. The Plan Update shall include updated information as provided by the Participant in accordance with the Credit Exchange Policy for its Permitted Facility(ies), including revisions to relevant facility-specific information. The Participant shall assist the Nutrient Exchange in the development of the Plan Update by providing information reasonably requested by the Nutrient Exchange in accordance with an annual Plan Update schedule to be established by the Nutrient Exchange.

2. Annual Reports. The Participant agrees to submit to the Nutrient Exchange a copy of the Participant's annual report to DEQ required by Part I F of the Watershed General Permit (9 VAC 25-820-70), and such other information as may be reasonably requested by the Nutrient Exchange to assist in the annual Reconciliation of Credit Exchanges for each Compliance Year.

3. Annual Credit Exchange Reconciliation. The Nutrient Exchange agrees to conduct an annual Reconciliation process for the timely execution of the Credit Exchanges elected by the Participants as specified in the Exchange Compliance Plan. The Participant agrees to implement any previously elected Class A Credit or Class B Credit Exchanges in accordance with the Credit Exchange Policy.

4. Incorporation of Credit Exchange Policy. The provisions of the Credit Exchange Policy are hereby incorporated as if such provisions were fully set out herein. For convenient reference, a copy of the current version of the Policy is attached hereto.

GENERAL PROVISIONS

5. Definitions. Terms not specifically defined herein shall have the definitions provided in the Credit Exchange Policy.

6. Term. The Agreement shall be in effect once signed by both parties and shall have an initial term through and including June 30, 2013. This term is coincident with the five year Planning Period covered by the current Exchange Compliance Plan (January 1, 2008 through December 31, 2012) plus a six month period (January 1, 2013 through June 30, 2013) for the Reconciliation process for the fifth Compliance Year (2012). Such term shall automatically extend by one year, without notice, upon submittal to DEQ of each annual update of the Exchange Compliance Plan beginning with the 2009 Annual Update due February 1, 2009,

unless (a) the Participant withdraws as provided herein or (b) the Nutrient Exchange provides notice to the Participant prior to completion of the Plan Update that it will not extend the term of this Agreement.

7. Amendments to Credit Exchange Policy and Exchange Compliance Plan. The Nutrient Exchange and the Participant acknowledge that the Credit Exchange Policy and the Exchange Compliance Plan may be amended from time to time as a result of changes desired by the Participants, the Exchange Board of Governors or DEQ, possible changes to law, and other factors. It is agreed that changes thereto shall become effective upon notice to the Participants or upon a later effective date as may be specified in such notice.

8. Withdrawal. The Participant shall have the following rights to withdraw from the Nutrient Exchange and the Exchange Compliance Plan.

(a) Withdrawal Upon End of Current Term. This Agreement shall not automatically extend for an additional year upon the Plan Update as provided in Paragraph 6 if the Participant elects to withdraw by providing notice of such election to the Nutrient Exchange at least four years and nine months (57 months) prior to the expiration of the term of this Agreement or before any later date as the Nutrient Exchange may specify during the Plan Update process. In the event of such withdrawal, the Nutrient Exchange shall omit the Participant and its Permitted Facilities from the additional Compliance Year (the new Year 5) added to the Plan during the Plan Update process for that year. For example, if a Participant in the Exchange Compliance Plan for the five year Planning Period covering January 1, 2008 through December 31, 2012 desires to withdraw and not extend this Agreement for an additional year (*i.e.*, through December 31, 2013), the Participant shall provide its withdrawal notice on or before October 1, 2008.

(b) Withdrawal During Term in Response to Policy or Plan Amendment. Notwithstanding any other provision of this Agreement, if any change to the Credit Exchange Policy or the Exchange Compliance Plan pursuant to Paragraph 7 would result in a material adverse effect on the Participant within the five year Planning Period covered by the Exchange Compliance Plan then in effect, the Participant may withdraw from the Agreement by written notice delivered to the Nutrient Exchange within sixty (60) days of such Participant's notice of the change, unless the Nutrient Exchange in its discretion further amends the Credit Exchange Policy or Exchange Compliance Plan within ninety (90) days of receiving such notice in a manner that eliminates the material adverse effect. Such withdrawal shall be effective January 1 of the Compliance Year for which the material adverse effect would first otherwise occur. The Participant shall participate in the Reconciliation and execute all Credit Exchanges planned for each Compliance Year prior to the effective date of withdrawal and pay all Credit costs or receive Credit revenue through and including such Compliance Year. In addition, the Participant shall continue to pay all applicable fees or dues in the ordinary course through the effective date of such withdrawal.

(c) Withdrawal During Term for Other Reasons. In addition to the right to withdraw during the term of this Agreement as provided in Subparagraph 8(b), the Participant shall have the right to withdraw during the term of this Agreement through the Plan Update

process if the following conditions are satisfied: (i) the Board determines that the Participant's withdrawal, alone or in combination with other modification requests, would not have a material adverse effect during the Planning Period on the Nutrient Exchange or any non-withdrawing Participants, (ii) the Participant is and agrees to remain current on all fees and Credit purchase costs as are due or may come due through and including the time of completion of the Reconciliation process for the last Compliance Year for which its Permitted Facilities are covered by the Plan, and (iii) the Participant agrees to cooperate fully in the Reconciliation for the last Compliance Year for which its Permitted Facilities are covered by the Plan. Such withdrawal shall be effective subject to the foregoing conditions upon submittal of the Plan Update by the Nutrient Exchange to DEQ as provided in Paragraph 1 above.

9. Annual Fee. The Nutrient Exchange's obligations under this Agreement shall be contingent on the continued adequate funding of the Nutrient Exchange through fees applicable to and paid by the Participants. Following execution of this Agreement by both parties and by approximately November 2008, the Nutrient Exchange shall issue an invoice to the Participant in the amount shown on Attachment A under the column labeled "Nov. 2008." Such invoice shall also include the amount, if any, invoiced by the Nutrient Exchange to the Participant in approximately March 2008 (as shown under the column labeled "Mar. 2008") but not yet paid by the Participant. The Participant agrees to pay such invoice within forty-five (45) days of the invoice date. Beginning with the 2009 Plan Update, following submittal of each annual Plan Update to DEQ the Nutrient Exchange shall issue an invoice to the Participant for the annual fee. The Participant shall pay such invoice within forty-five (45) days of the invoice date or by July 31 of the calendar year in which the invoice is issued, whichever is later. The Nutrient Exchange agrees to periodically update such schedule to add the fee amount for future years and in so doing intends to keep the annual fees specified therein to the lowest level sufficient for proper operation in the discretion of the Board. The Board anticipates establishing annual fees associated with and payable after the 2009, 2010, 2011 and 2012 Plan Updates, respectively, at less than a maximum of twice the annual fee currently scheduled on Attachment A for Nov. 2008. If an annual fee associated with any Plan Update through and including the 2012 Plan Update were to exceed this maximum anticipated fee, in that event the Participant may withdraw in accordance with the same procedures provided in Paragraph 8(b) of this Agreement. For the 2009 Plan Update, the Board's current estimate is that the annual fee will be the same amount as the Nov. 2008 fee shown on Attachment A. Upon receipt of a written request from the Participant, the Nutrient Exchange agrees to provide the Participant with an accounting of its receipts and disbursements for the two fiscal years immediately preceding the fiscal year in which the written request is received. The Participant agrees to pay applicable fees when due. Failure to pay any annual fee invoice within forty-five (45) days shall result in an administrative charge of one hundred dollars ($100). In the event the Participant fails to pay any annual fee invoice within ninety (90) days of the invoice date, without limiting any other remedies, the Board in its discretion may terminate this Agreement and eliminate the Participant's Permitted Facilities from the Plan. Such termination shall not relieve the Participant of its obligation to pay any amounts due prior to the date of termination.

10. Waiver of Liability of the Nutrient Exchange. In recognition of the benefits derived by Participants and the nature of the Nutrient Exchange, to the extent permitted by law the Participant waives any causes of action and rights of recovery for liability of the Nutrient

Exchange and its Board of Governors, officers, employees, consultants and other advisors, for any losses or damage to the Participant, other than due to the gross negligence or intentional misconduct thereof.

11. Authorization of Signature. The Participant and the Nutrient Exchange each represent and warrant that its execution of this Agreement by the undersigned is fully authorized and validly performed.

12. No Partnership. Nothing contained in this Agreement shall create any partnership, trust, or joint venture with regard to the Nutrient Exchange and any or all Participants.

13. Third Party Beneficiaries. This Agreement is solely for the benefit of the Nutrient Exchange and its Participants and their permitted successors and assignees and shall not confer any rights or benefits on any other person.

14. Notices. Notices pursuant to Paragraphs 6 and 8 shall be delivered at the following address by U.S. Mail, certified with return receipt, and shall be deemed given when received (or delivery is refused) by the party to whom such notice or communication is directed. A party may change its address for such notice in writing as provided herein.

If to the Nutrient Exchange: Virginia Nutrient Credit Exchange Association, Inc.
ATTN: Secretary
P.O. Box 51
Richmond, Virginia 23218-0051

If to the Participant: _____
_____
_____
_____

with a copy to the Participant's Designated Representative.

Any other notices and communications pursuant to this Agreement shall be made by or to the Participant's Designated Representative, or alternate when appropriate, each as designated the Participant from time to time in accordance with the Bylaws of the Nutrient Exchange.

15. Netting of Payments. The Nutrient Exchange may, but shall not be obligated to, net any payments to the Participant for such Participant's sales of Credits or otherwise with any fees past due, other authorized charges past due, or charges for Credits purchased past due to the Nutrient Exchange.

16. Integration. This Agreement (including the Credit Exchange Policy incorporated herein by reference) contains the entire agreement between the Nutrient Exchange and the Participant as to the subject matter hereof and supercedes all previous written and oral negotiations, commitments, proposals and writings, including those of counsel. Except as

otherwise provided herein or in the Credit Exchange Policy, no amendments may be made except by a writing signed by the parties.

17. Change in Law. Other than as specifically provided in the Credit Exchange Policy, in the event of any material change in applicable laws or regulations the parties shall work together to amend the Agreement to conform to such change in law, while maintaining as closely as practical the provisions and intent of this Agreement.

18. Governing Law; Severability. This Agreement shall be construed in accordance with and governed for all purposes by the laws of the Commonwealth of Virginia. If any term or provision of this Agreement, the deletion of which would not adversely affect the receipt of a material benefit by either party hereunder, shall be held by a court of competent jurisdiction to be invalid or unenforceable, the remainder of this Agreement shall not be affected thereby and each other term and provision of this Agreement shall remain valid and enforceable to the fullest extent permitted by law. It is the intent of the parties to this Agreement, and the parties agree, that in lieu of any term or provision of this Agreement that is illegal, invalid or unenforceable, the parties in good faith shall supply as part of this Agreement a legal, valid and enforceable term or provision as similar to such illegal, invalid or unenforceable term or provision as may be possible.

IN WITNESS WHEREOF, the parties have caused the execution of this Agreement as of the date first written above.

VIRGINIA NUTRIENT CREDIT EXCHANGE ASSOCIATION, INC.

By: _____

Name: _____

Title: _____

Date: _____

_____

PARTICIPANT NAME

By: _____

Name: _____

Title: _____

Date: _____

ATTACHMENT A

ANNUAL FEE SCHEDULE

Class	Participant's Total TN WLA (lbs/yr)	Mar. 2008	Nov. 2008
Very Large	>400,000	$1,750	$3,500
Large	400,000-75,001	$1,250	$2,500
Standard	75,000-15,001	$750	$1,500
Small	≤15,000	$250	$500

Chesapeake Bay Program Principals' Staff Committee's Reasonable Assurance Workgroup

ATTACHMENT B

Background, Questions and Answers, Initial Suggestions, and Example TMDLs Addressing Reasonable Assurance

The Clean Water Act, federal regulations, and EPA guidance and policy do not require Total Maximum Daily Load (TMDL) documents to include implementation plans. However, Agency guidance calls for states and EPA to include reasonable assurance provisions that pollution reductions will occur. Reasonable assurance provisions have been interpreted and applied broadly, and the topic is receiving increased attention as EPA Region 3, states within the Chesapeake Bay watershed, and the District of Columbia prepare for the development of a Bay-wide TMDL. Chesapeake Bay Program partners want and need to know what is required and what provisions might increase the likelihood that wasteload and load allocations are met.

The purpose of this briefing paper is to answer some of the Partners' questions, show the spectrum of language that has been included to date within the reasonable assurance provisions, and provide some preliminary suggestions on what a Bay TMDL could include to ensure that pollution reductions occur. The paper identifies published EPA guidance documents that discuss reasonable assurance, answers frequently asked questions on reasonable assurance, and offers possible suggestions for the Bay TMDL. It also includes an Appendix that summarizes and comments on reasonable assurance discussions in ten EPA-approved and published TMDLs and includes proposals from other organizations on how to strengthen this provision.[1]

EPA Guidance on Reasonable Assurance

The following resources define and discuss reasonable assurance.

"Revisions to the Water Quality Planning and Management Regulation and Revisions to the National Pollutant Discharge Elimination System Program in Support of Revisions to the Water Quality Planning and Management Regulation." *Federal Register* 65 (135): 43598-43601,43668. Published July 13, 2000. Accessed at <http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2000_register&docid=f:13jyr5.pdf>.

U.S. Environmental Protection Agency Office of Water (1991). "Development and Implementation of the TMDL." Chapter 3 in *Guidance for Water Quality-Based*

[1] Four TMDLs from Pennsylvania that were approved on June 30, 2008, are grouped together in Appendix 1 due to similarities in their reasonable assurance provisions.

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Decisions: The TMDL Process. EPA 440/4-91-001. April. Accessed at <http://www.epa.gov/owow/tmdl/decisions/dec3.html>.

U.S. Environmental Protection Agency (1997). *New Policies for Establishing and Implementing Total Maximum Daily Loads*. Memorandum from Robert Perciasepe, Assistant Administrator, to Regional Administrators and Regional Water Division Directors, August 8. Accessed at <http://www.epa.gov/OWOW/tmdl/ratepace.html>.

U.S. Environmental Protection Agency (2002). *Guidelines for Reviewing TMDLs Under Existing Regulations Issued in 1992*. Accessed at <http://www.epa.gov/owow/tmdl/guidance/final52002.html>.

U.S. Environmental Protection Agency Office of Water (2008). *Ensuring that TMDLs are Implemented – Reasonable Assurance*. Accessed at <http://www.epa.gov/owow/tmdl/ensure.html>.

U.S. Environmental Protection Agency Office of Water (2008). *Overview of Current Total Maximum Daily Load – TMDL – Programs and Regulations*. Accessed at <http://www.epa.gov/owow/tmdl/overviewfs.html>.

U.S. Environmental Protection Agency (forthcoming). *Handbook for Developing TMDLs on a Watershed Scale*.
[*Looking into whether a draft can be shared with partners outside of EPA*]

Frequently Asked Questions

Based on federal publications and conversations with Agency staff, this section answers common questions on how reasonable assurance has been applied and interpreted to date.

1. **What is "reasonable assurance"?**

   Answer: **Reasonable assurance** is a required element of a TMDL. However, the Code of Federal Regulations makes no mention of reasonable assurance other than including in the definition of a TMDL:

   > If Best Management Practices (BMPs) or other nonpoint source pollution controls make more stringent load allocations **practicable**, then wasteload allocations can be made less stringent. Thus, the TMDL process provides for nonpoint source control tradeoffs (40 CFR §130.2(i)).

   Reasonable assurance can be read into this definition as the test for determining whether more stringent load allocations are practicable.

   EPA's 1991 TMDL Guidance specifically uses the term **reasonable assurance** to refer to TMDLs that include both a wasteload allocation for point source pollution and a load allocation for nonpoint source pollution. For these TMDLs, states may only increase their wasteload allocations for point sources by attributing a portion

of pollution to load allocations if they can provide a **reasonable assurance** that practices to reduce nonpoint source pollution will be implemented and maintained (Source: http://www.epa.gov/owow/tmdl/decisions/dec3.html).

In a 1997 memo on establishing and implementing TMDLs, EPA reiterated the above definition of reasonable assurance for TMDLs with wasteload and load allocations. The Agency added that in 303(d)-listed watersheds impaired primarily or solely by nonpoint sources, states should submit plans to EPA describing how they will implement NPS reductions and achieve load allocations. At a minimum, these plans should include a **reasonable assurance** that load allocations will be achieved. Reasonable assurance may include regulatory, non-regulatory, and incentive-based measures, consistent with applicable laws and programs. However, EPA cannot disapprove a TMDL for a water body impaired *solely* by nonpoint sources that lacks reasonable assurance provisions because currently there is no federal regulation for NPS discharges. In effect, NPDES permits provide the regulatory hammer that leverages reasonable assurance from nonpoint sources, and reasonable assurance provisions are not necessary where this hammer does not exist (Sources: http://www.epa.gov/owow/tmdl/ensure.html, http://www.epa.gov/OWOW/tmdl/ratepace.html, http://www.epa.gov/owow/tmdl/guidance/final52002.html).

Finally, EPA published a final rule revising its regulatory requirements to develop TMDLs in 2000. Although the rule was later withdrawn, it demonstrates the Agency's views on reasonable assurance. The rule defined reasonable assurance as, "A demonstration that TMDLs will be implemented through regulatory or voluntary actions, by Federal, State or local governments, authorized Tribes or individuals" (65 FR 43598). For point sources requiring NPDES permits, reasonable assurance means that "States, Territories, and authorized Tribes must identify procedures that will ensure that permits will be modified, issued or reissued as expeditiously as practicable to incorporate effluent limits consistent with wasteload allocations" (65 FR 43598). For new sources, facilities cannot discharge until they obtain permits consistent with TMDL wasteload allocations. For permitted facilities, the permitting authority will reissue permits consistent with wasteload allocations as soon as possible after the permit expires (65 FR 43598). For sources not requiring NPDES permits (eg, nonpoint sources), reasonable assurance means that the actions or management measures implementing load allocations must "1) be specific to the pollutant and waterbody for which the TMDL is being established, 2) implemented as expeditiously as practicable, 3) accomplished through reliable delivery mechanisms, and 4) supported by adequate funding" (65 FR 43599).

2. **Are states, nonpoint sources, or point sources liable if load allocations are not met despite reasonable assurance provisions?**

   Answer: EPA's Office of Water holds that reasonable assurance provisions are only valid if they include legal or financial consequences in the event that load

allocations are not met. At the national level, however, EPA does not address the question of who is responsible for achieving these reductions and who bears the consequences for unmet load allocations. Instead, liability and consequences are determined on a case-by-case basis. For example, if a point source facility enters into a contract with a nonpoint source and pays it to reduce its nonpoint source discharges in order to comply with the facility's NPDES permit, the facility will likely assume liability for the nonpoint source pollution reductions and receive penalties for any excess pollution discharged by the nonpoint source.[2] Alternatively and less stringent for individual point sources, the state could revisit all NPDES permits in an impaired watershed when they expire and further limit discharges if nonpoint sources exceed their load allocation.

Although EPA's Office of Water would like consequences for unmet load allocations, reasonable assurance falls short of absolute certainty that load allocations will be achieved. This accepted uncertainty can make it difficult to assign liability for discharges that exceed TMDL allocations.

3. **Does reasonable assurance apply exclusively to ensuring that pollution from nonpoint sources meet TMDL load allocations, or does it also refer to assurances from point sources?**

   Answer: Reasonable assurance most often applies to nonpoint source pollution reductions. The Clean Water Act requires that point sources with NPDES-permitted discharges comply with TMDL wasteload allocation limits, so in essence the NPDES permits fulfill reasonable assurance requirements for point sources (http://www.epa.gov/owow/tmdl/guidance/final52002.html). Given that there is no equivalent federal regulatory driver for nonpoint sources of pollution, TMDLs must include some other form of reasonable assurance that load allocations will be met if wasteload allocations are less stringent due to load allocations that assume "practicable" reductions in nonpoint source pollution.

4. **What types of activities can reasonable assurance entail?**

   Answer: Reasonable assurance provisions may apply to TMDL implementation activities conducted by state and local governments, individual landowners, and public or private enterprises engaged in agriculture, forestry, or urban development. Reasonable assurance may include the application or utilization of local ordinances, grant conditions, development and implementation of nonpoint source control plans (also known as 319 nonpoint source management plans), and other enforcement authorities. States authorized to administer NPDES programs may also designate nonpoint sources to be point sources and require them to obtain NPDES permits (Sources: http://www.epa.gov/owow/tmdl/overviewfs.html, http://www.epa.gov/owow/tmdl/decisions/dec3.html, http://www.epa.gov/owow/tmdl/ensure.html).

[2] Although less commonly, the nonpoint source could assume liability for reducing discharges. Either way, the contract between the two parties specifies liability and consequences for noncompliance.

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5. **What type of documentation is necessary to substantiate reasonable assurance provisions?**

   Answer: There are no specific, nationwide requirements to substantiate reasonable assurance. EPA holds that reasonable assurance is a flexible concept that should be adaptable to varied conditions in impaired watersheds.

6. **Have TMDL provisions for reasonable assurance provisions been litigated?**

   Answer: To date, reasonable assurance provisions within TMDLs have not been challenged in court for being either too stringent or not stringent enough. Therefore, no ceiling exists on the specificity, detail, or substance of reasonable assurance provisions.

Potential Suggestions for Addressing Reasonable Assurance in the Bay TMDL

Over the years, reasonable assurance provisions have ranged from non-existent to detailed discussions of existing and proposed programs; local, state, and national regulations; expected outcomes; implementation schedules; and financial resources. Appendix 1 provides numerous examples of reasonable assurance provisions from EPA-approved and published TMDLs and proposals from other organizations on how to strengthen these provisions. This section highlights specific components that could be incorporated into a Bay-wide TMDL to strengthen the reasonable assurance section and increase the likelihood that dischargers meet load and wasteload allocations. These suggestions are only preliminary and are intended for further discussion by the Workgroup. They are:

1. Require intermediate and final benchmarks for reducing nonpoint source pollution and a schedule for attaining these benchmarks.

2. Set dates for measuring progress toward meeting load and wasteload allocations. If nonpoint sources are behind schedule to meet load allocations, make wasteload allocations more stringent and revise NPDES permits accordingly.

3. Implement grant priority ranking system to target grant dollars toward efforts that will help meet load allocations.

4. Require implementation tracking system to monitor pollution reduction projects, coordinate across programs, agencies, and organizations, and detect changes in water quality.

5. Notify certain categories of nonpoint source polluters that they will be treated like point sources and required to obtain NPDES permits if they do not demonstrate marked voluntary reductions in discharges.

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6. Estimate the costs of meeting load allocations in order to determine whether existing program and grant funding are sufficient to finance nonpoint source pollution reductions.

7. Establish sources to fund best management practices that also send price signals to nonpoint source polluters (e.g., nitrogen tax on fertilizer sales).

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Appendix 1

Examples of Reasonable Assurance: Best Practices from EPA-Approved and Published TMDLs and Suggestions from Other Sources

Published TMDLs

Anacostia River Basin Watershed TMDL for Sediment/Total Suspended Solids
Decision Rationale published July 24, 2007
Accessed at <http://www.epa.gov/reg3wapd/tmdl/anacostia_tss/decision_rationale.pdf>.

Reasonable Assurance and Implementation discussion in Decision Rationale: pp34-36.

The reasonable assurance and implementation sections of this TMDL are typical of other multi-jurisdictional TMDLs in that they start with a discussion of general implementation approaches and then describe the implementation and reasonable assurance provisions unique to each jurisdiction.

The TMDL states that NPDES permits will be used to ensure that point sources, including MS4 NPDES permits, limit discharges consistent with the wasteload allocation.

EPA Region 3 finds that the TMDL contains adequate reasonable assurance that load allocations can be implemented. The TMDL suggests that nonpoint source pollution reductions will be achieved by implementing voluntary BMPs, most notably riparian buffers in forested and agricultural areas and development of soil conservation plans in agricultural areas. The reasonable assurance section also mentions the District of Columbia's regulatory oversight over land-disturbing activities, stormwater management, and floodplain management. EPA assumes that the District will approve plans in a way that will minimize runoff.

EPA assumes that the District and Maryland will use Section 319 funds, Maryland's Agriculture Cost Share Program, and USDA's Environmental Quality and Incentives Program to fund BMPs.

Comments: Overall, the reasonable assurance discussion is relatively basic. It does not provide a schedule for meeting reduction goals or include consequences for Maryland, the District, landowners, or point sources if load allocations are not met.

Anacostia River Basin Watershed TMDL for Biochemical Oxygen Demand and Nutrients
Decision Rationale published June 5, 2008
Accessed at
<http://www.epa.gov/reg3wapd/tmdl/Anacostia_BOD/AnacostiaBOD_DR.pdf>.

Reasonable Assurance and Implementation discussion in Decision Rationale: pp32-34.

The reasonable assurance and implementation discussions are very similar to the discussions in the Anacostia Sediment/TSS TMDL. The TMDL states that NPDES permits, including MS4 NPDES permits, will be used to ensure that point sources limit discharges consistent with the wasteload allocation.

EPA Region 3 finds adequate reasonable assurance that load allocations will be met. Like the other Anacostia TMDL, it mentions the District's and Maryland's nonpoint source control plans and funds as assurance that implementation will occur. However, it provided somewhat more detail than the Sediments TMDL, including:

- Maryland's Water Quality Improvement Act of 1998 , which requires the development, implementation, and enforcement of nutrient management plans. However, the discussion does not mention whether these plans had been developed or implemented on schedule of if they were enforced;
- Maryland Department of Environment's Integrated Project Priority System that targets nonpoint source control grants and loans to priority watersheds, noting that the Anacostia is one such priority watershed; and
- Additional monitoring sites in the watershed to track progress.

The discussion also mentions plans to develop stormwater and low impact retrofits, restoration activities, and other voluntary best management practices to help meet load allocations.

Comments: The reasonable assurance discussion is somewhat more detailed for the BOD/Nutrients TMDL than the Sediments/TSS TMDL. It includes more detail on regulations, targeting of grant dollars for priority projects, and monitoring progress. However, the Decision Rationale still does not make any mention of a schedule for meeting reduction goals or include consequences for Maryland, the District, landowners, or point sources if load allocations are not met.

Tidal Potomac River TMDL for PCBs
Decision Rationale published October 31, 2007
Accessed at
<http://www.potomacriver.org/cms/riverhealthdocs/tidal_potomac_pcb_tmdl/TidalPotomac_PCB_TMDL_10-31-07.pdf>.

Due to uncertainty regarding loading capacity and the allocation scheme, the TMDL adopts an adaptive implementation strategy that relies on implementing reduction activities concurrent with additional data collection. The data can then be used to modify future reduction efforts. Jurisdictions will require additional data collection from select sources in order to determine BMP effectiveness. The TMDL sets priorities for gathering additional data.

Similar to other TMDLs, the Tidal Potomac PCB TMDL lists programs underway and available funding that should reduce nonpoint source pollution and help meet load allocations. The TMDL identifies BMPs that should reduce pollutant loads and existing programs that are working with landowners and other partners to implement these BMPs. However, the jurisdiction-specific implementation plans and reasonable assurance provisions still do not quantify the reductions that these programs should achieve and lack schedules for when programs will achieve specific, measurable nonpoint source reduction benchmarks. The TMDL does note state regulatory programs that are designed to manage stormwater and control sediment and erosion.

Comments: The reasonable assurance and implementation discussion highlights strategies to achieve reductions while gathering more information that can improve future reduction efforts. The identification of jurisdiction-specific programs is helpful, but the provisions still lack specific reduction benchmarks by program, schedules for achieving benchmarks, or consequences if the load allocation is not met.

Paxton Creek Watershed Nutrient and Sediment TMDL, Goose Creek Watershed Nutrient TMDL, Sawmill Run Nutrient TMDL, Southampton Creek Watershed Nutrient and Sediment TMDL
Decision Rationales published June 30, 2008
Accessed at <http://www.epa.gov/reg3wapd/tmdl/pa_tmdl/NutrientEndPoint/index.html>

These recent TMDLs in Pennsylvania are grouped together because of the similarity in their reasonable assurance provisions.

Like other TMDLs in this section, the Paxton, Goose, and Southampton Creek TMDLs state that they will achieve wasteload allocations by making NPDES permits consistent with allocations. The Goose Creek and Southampton Creek TMDLs include an "adaptive implementation strategy" for NPDES permits issued to point sources. The strategy described types of dischargers and provided a schedule for phasing in nutrient limits. The Sawmill Run TMDL makes no mention of wasteload allocations and NPDES permits in its reasonable assurance provision.

The reasonable assurance provisions for meeting load allocations in the four Pennsylvania TMDLs include identification of BMPs that should reduce pollutant loads and grant programs that could fund BMP implementation. The Southampton Creek TMDL has an Appendix that describes BMPs in greater detail, including their effectiveness and cost. None of the TMDLs mention how the state could target grant dollars to achieve load allocations or a schedule for when nonpoint source pollution reductions should occur.

Comment: The reasonable assurance provisions for load allocations under these TMDLs seem weaker than other TMDLs discussed in this section. The TMDLs identify BMPs that, if implemented, would help reduce nutrient and sediment loads. However, they do not link these BMPs to many existing or future programs that would help get them

implemented other than the nonpoint source control program and some other grant programs that could help fund BMPs. The only reference that the provisions make to the timing of meeting load allocation requirements is that BMP implementation "should **eventually** achieve the loading reduction goals established in these TMDL*s*" (p. 8-3 of Paxton Creek TMDL Report, 4-3 of the Goose Creek TMDL Report, 6-3 of the Sawmill Run TMDL Report; emphasis added).

Long Island Sound Nutrients TMDL
Decision Rationale published April 4, 2001
Accessed at <http://www.epa.gov/region1/eco/tmdl/assets/pdfs/ct/longislandsound.pdf>

The TMDL calls for improvements to sewage treatment plants to account for 90 percent of nutrient reductions, and nonpoint sources only have to reduce their loads by 10 percent to meet the TMDL's load allocation. As with other TMDLs, NPDES permits consistent with the wasteload allocation provide reasonable assurance that the point sources will make the necessary reductions. Connecticut and New York state that they will achieve their load allocations by reducing nutrient pollution from agricultural and urban nonpoint sources by 20 percent at 50 percent of sites. The states provide reasonable assurance that the load allocation will be met by including these targets in their Clean Water Act Section 319 Nonpoint Source Management Programs and Coastal Zone Act Reauthorization Amendments (CZARA) Section 6217 Coastal Nonpoint Pollution Control Programs. These programs underwent significant review and revision between 1999 and 2000, shortly before the Long Island Sound TMDL was finalized, and include a schedule for achieving nonpoint source nutrient reductions. The TMDL also includes a reassessment schedule to evaluate whether load and wasteload allocations are sufficiently protective to achieve water quality standards for the Sound.

Comment: Although the Long Island Sound TMDL relies largely on the implementation of nutrient management plans and BMPs to achieve its load allocation, reasonable assurance provisions appear to have more teeth than other TMDLs in this section. The TMDL references specific changes to the nonpoint source control programs responsible for assisting in BMP implementation, and the TMDL provides a schedule for achieving nonpoint source pollution reductions. Finally, the TMDL sets a date for evaluating whether allocations are sufficient to achieve water quality goals. In short, specific changes to programs, timeframes, and evaluation set these reasonable assurance provisions apart from other TMDLs.

Northeast Regional Mercury TMDL
Decision Rationale expected December 20, 2008
Accessed at <http://www.epa.gov/region1/eco/tmdl/assets/pdfs/ne/Northeast-Regional-Mercury-TMDL.pdf>

The Northeast Regional Mercury TMDL is unique in that it was developed by seven state agencies and the New England Interstate Water Pollution Control Commission (NEIWPCC). Unlike other TMDLs included in this section, almost all of the pollution is

attributable to nonpoint sources, many of which originate outside the study area. Therefore, the TMDL calls for a combination of provisions at the state, national, and international level to reasonably assure that the load allocation will be met. Measures include regulations and best management practices. Because the states contributing to the TMDL cannot control all of these actions, they call on EPA and other bodies to ensure that load allocations are met.

The TMDL describes efforts that have already been made at the state level to curb mercury pollution. First, municipal waste combustors and medical waste incinerators in the seven states have emissions limits that are three- and ten-times more stringent than EPA requirements, respectively. The states also restrict the manufacture, sale, and/or distribution of an increasing number of mercury-containing products. In addition to laws that have been adopted throughout the seven-state area, individual states have adopted more stringent regulations to limit circulation of the metal. In many cases, other jurisdictions have followed suit and adopted these measures.

The TMDL also highlights that state actions alone will not meet the load allocations and calls on EPA to adopt more stringent policies nationwide. It also notes efforts carried out by the United Nations Environmental Program to decrease mercury use, waste, and emissions.

The TMDL outlines an adaptive management approach to implementing reductions and assuring that goals are met. It requires monitoring and revising reduction targets if interim goals are not met.

Comment: Due to the highly toxic, acute, and bioaccumulative nature of mercury, this TMDL has some major differences from the upcoming Bay TMDL that will focus on nutrient and sediment impairment. Nevertheless, some attributes of the interstate mercury TMDL could become examples for the Bay TMDL. The TMDL provides far more details than other TMDLs in this section on the state and regional laws that have been passed to reduce mercury supply and demand. Regional regulations could be a model for the Bay watershed states. The reasonable assurance section's emphasis and level of detail on regulations implemented in individual states, as well as estimates of decreases resulting from these rules, both quantifies the progress made to date and suggests additional reductions that could occur if other states in the region adopt similar measures.

North Coast Subbasins TMDL
Decision Rationale expected August 20, 2003
Accessed at
<http://www.deq.state.or.us/wq/TMDLs/docs/northcoastbasin/northcoast/tmdl.pdf>

The North Coast Subbasins TMDL encompasses four subbasins in northwestern Oregon and includes temperature, bacteria, dissolved oxygen, biocriteria, and aquatic weeds or algae. Like many other TMDLs throughout the U.S., the it states that revisions to

NPDES permits provide reasonable assurance that point sources will meet wasteload allocations as required by federal and state law. In addition, Oregon requires Water Pollution Control Facilities (WPCF) permits for onsite land disposal. These permits will also be revised for consistency with the TMDL's wasteload allocation and provide additional assurance that point source pollution reductions will be achieved. The North Coast Subbasins goes a step beyond many other TMDL reasonable assurance provisions for point sources by specifying a timeframe by which permits should be revised (one-year after TMDL approval). This deadline does not include the compliance window in which dischargers can upgrade to comply with permit requirements.

The TMDL includes reasonable assurance provisions for nonpoint source pollution from forested, agricultural, urban, and rural lands. Designated management agencies within the state will develop or revise water quality management plans that specify management practices to reduce pollutant loads, timelines for implementing these practices and attaining load allocations, identification of parties responsible for implementing measures, monitoring protocols, funding for implementation measures, and citation of legal authority under which implementation will be conducted. Failure to comply with these guidelines may result in enforcement actions.

The TMDL does not rely only on voluntary best management practices to achieve load allocations. Rather, it specifies state laws and programs requiring forest operators to comply with water quality protection rules and specifies penalties for violators. The TMDL refers to an MOU between the Oregon Department of Forestry and Department of Environmental Quality stating that they will work together to evaluate whether Forest Protection Act measures on private forest lands are sufficient to meet load allocations. It also discusses even more stringent management practices for activities within state and federal forests.

Oregon also has more stringent oversight of agricultural practices than many other states. State law requires the Oregon Department of Agriculture to develop agricultural water quality management plans and enforce rules in watersheds violating water quality standards. The TMDL references an MOA between the Departments of Agriculture and Environmental Quality to ensure that these plans are sufficient to meet load allocations. The state also expects cities and counties to adopt ordinances that will improve water quality through their land use planning processes, but the TMDL does not specify consequences for cities and counties that do not adjust their planning practices. Finally, the TMDL references actions within the Oregon Plan for Salmon and Watersheds, a statewide plan with the purpose of improving aquatic resources and protecting endangered species, and the Comprehensive Conservation and Management Plan for the Columbia River Estuary Partnership that will help meet load and wasteload allocations.

Comment: The North Coast Subbasins TMDL provides examples of how a state can weave together statewide plans, laws, regulations, and programs to provide reasonable assurance that wasteload and load allocations are met. It gives examples of how to require nonpoint source pollution reductions through schedules, deadlines, oversight, and enforcement. Finally, the TMDL emphasizes the need for local participation and

adaptive management to ensure that policies adjust to changing conditions and new information. The reasonable assurance section lacks a quantitative discussion of these provisions, however.

Suggestions from Other Sources

Chesapeake Bay Foundation's Suggestions (Letter to Chesapeake Bay Program Principals' Staff Committee, June 13, 2008):
Reasonable assurance applies to reductions from both point and nonpoint sources and must include:

- Identification of sufficient funds to implement NPS pollution reductions;
- Identification of state laws, regulations, implementation policies, and guidance that leverage and require pollutant reductions;
- Local pollution caps so that local governments have pollution reduction targets to frame implementation efforts;
- Incorporation of all, not just some, wastewater treatment and municipal stormwater discharges into wasteload allocation;
- Requirements to reopen all NPDES permits, as well as any other permit included as part of reasonable assurance provisions, and require new pollution discharge limits consistent with the TMDL; and
- Setting schedules and deadlines for meeting NPS pollution reduction requirements and reporting schedules for monitoring reductions.

Cadmus Group (2008). *Total Maximum Daily Load (TMDL) Implementation Tracking Needs Assessment: Current Status and Future Needs for States in Regions 5, 6, and 10.* Prepared for U.S. Environmental Protection Agency. March 2008.

This assessment identifies tracking systems as a primary need for states to monitor implementation of TMDLs, coordinate with other programs (eg, 319 and Farm Bill programs), and hopefully monitor changes in water quality. Currently such systems are lacking in many states. Although the report does not mention reasonable assurance specifically, tracking systems could be one provision that leads to better identification of measures that will be taken and progress that has been made across jurisdictions.

Updated: July 22, 2008

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APPENDIX C

Compliance Schedule Information

The following is excerpted from the Exchange Compliance Plan 2008 Annual Update (February 1, 2008). Analysis of general market conditions, which was based on year 2006 analyses and a brief update of such analyses in April 2007, is beyond the scope of the Exchange Compliance Plan 2010 Annual Update. The following information is retained for future reference in connection with Section 7.1 (Schedule of Compliance) should it become necessary or desirable to adjust the schedule of compliance pursuant to Virginia Code § 62.1-44.19:14 C 2.

Market Conditions and Constructability Generally

Significant market conditions and associated constructability impacts – a set of overarching considerations potentially relevant to most of the statutory factors – have been documented in the following report and technical memoranda:

- *Compliance Plan Options / Construction and Compliance Schedule Report* (April 2006)
- *Assessment of Construction Market Conditions and Impact on the Constructability of Wastewater Treatment Plan Upgrades in Virginia* (June 28, 2006)
- *Update to Aggregate Results from the April 2006 Draft Report to Reflect Current Market Conditions* (June 28, 2006)

The *Assessment of Construction Market Conditions and Impact on the Constructability of Wastewater Treatment Plan Upgrades in Virginia (the "Constructability Memorandum")* provided the most detailed information about current market conditions, trends, and factors that affect and mitigate the individual and collective constructability of wastewater treatment plant upgrades. The Constructability Memorandum is provided as Appendix D to this Exchange Compliance Plan.

In April 2007, the Exchange's technical consultants reviewed the June 2006 findings presented in the Constructability Memorandum in light of documented trends and industry experiences during the intervening period. The observed ranges and recommended expected values for the evaluated market factors generally remain the same as provided in June 2006. The discussion below summarizes the market factors that were evaluated in June 2006 and reflects the results of the April 2007 review of current conditions and expected trends as specifically related to the compliance schedules presented in this Exchange Compliance Plan.

As reported in June 2006, the current indicators of market conditions are complex and numerous. During the previous three decades, material, energy, and labor cost indices rose in a relatively predictable pattern. However, more recent world events, natural disasters, and the global economy have not only influenced these costs, but have also caused sudden, steep and far reaching spikes that can dramatically influence the construction market. Over the past six years the combination of world events (terrorist attacks of September 11, 2001, armed conflicts in the Middle East), global economy (massive building programs in Asia), natural disasters and local (U.S.) robust economic conditions, have had the combined effect of unprecedented supply-side constraints and consequent increases in the cost of construction.

In this market environment, facility owners are experiencing scarcity in certain materials and trades, and overall seeing bids that are coming in between 10% to 30% or more than the prepared engineer's estimates. Contractors are clearly accounting for the uncertainty of today's market conditions and scarcity of skilled labor by pricing these considerations into cost estimates for projects. As a result, by June 2006 facility owners were already seeing and can anticipate seeing more of the following factors impacting their construction project schedules and costs to some degree.

- **Strong Construction Demand** –There is an abundance of new work throughout the U.S., allowing contractors to increase bid prices and selectively bid jobs and/or

owners based on their perception of risk. Katrina and other natural disasters continue to draw resources away from other needs.

- **Materials Shortages** – Selected material shortages persist and prices increase in response to increased construction demand. This trend is further exacerbated by: recent escalation and uncertainty of energy as well as materials costs. As a result, material price quotes are guaranteed for shorter periods, increasing risk and cost of long term projects.
- **Skilled Labor Shortages** – The current skill labor pool, including critical trades and management staff, is not expanding at nearly the rate of demand. This creates shortages that result in wage premiums and increases labor costs. Additionally, Federal Government actions relating to border security and current immigration laws have also created impacts and uncertainty which also disrupts the available workforce.

When establishing schedules for construction (or budgets), the effects of volume of work impacts in the region, and any ability to extend schedules, requirements to compress schedules, and of course general escalating market conditions should be considered. These considerations are over and above any contingency amounts that are reserved for unforeseen site conditions, design errors and omissions, and owner-initiated changes.

The Constructability Memorandum addressed the following four primary market-related factors as summarized below. The following caveat presented in June 2006 remains applicable: "In some cases, prevailing market conditions combined with skilled labor shortages and limited local design capacity may result in unusually long project execution schedules or costs that far exceed the guidance presented in this Technical Memorandum."

1. **Market Volume Premium.** A plethora of projects flooding the Virginia local/regional market will have the effect of diluting the competitive market and decreasing competition. The range of expected premiums that owners will need to pay as a result of the increased volume of work was estimated in June 2006 as 5%-25%-40% for Low-Medium-High values.
2. **Deceleration/Schedule Extension Savings.** Schedule extensions to accommodate project workload will generally produce an overall project savings based on the size and complexity of the project. Savings can be associated with either the design engineering contract or the construction contract or both. However, it must also be recognized that deceleration savings can be reduced by the effects of market conditions and construction-related change orders. For a combination of schedule extensions of between 1 and 3 years and project size categories spanning less than $5 million to greater than $150 million, deceleration was estimated to provide savings of between 0% and 30%. Of the 10 extension time/project size combinations examined, 7 of 10 had medium or recommended values of 10% to 15% savings.
3. **Acceleration/Schedule Compression Premium.** Schedule compression in order to achieve regulatory imposed milestones or mitigate rapidly accelerating material or labor costs, generally translates into an acceleration premium to the bid price. Information on such premiums was provided for four project size/acceleration categories: less than $5 million and 2yr acceleration (potential compression of 7%);

less than $50 million and 3yr acceleration (potential compression of 11%); less than $150 million and 3yr or more acceleration (potential compression of 18%); and greater than $150 million and 3yr or more acceleration (potential compression of 30%). Acceleration premiums for Low-Medium-High ranges were estimated at between 5% and 50% over the four categories and across the value ranges. Expected premiums of 10%, 15%, 25%, and 40% were recommended for the four project size/acceleration categories, respectively.

4. **Construction Material and Labor Escalation.** Low-Medium-High ranges of escalation over the last 10 years (up to 2006), based upon the Engineering News-Record magazine (ENR), Construction Cost Index (ENR - CCI Index - 20-City Average (10-yr)) were identified as 1.15%, 4.06% and 6.96%, respectively. Annual escalation of 5.0% was recommended to estimate increasing costs of materials and labor over the forecast period. This recommendation is not revised at this time; however the April 2007 review indicated that some sources are using or recommending higher factors, ranging from 6% to 8%.

The Exchange's April 2007 review of current market conditions and future trends confirms the findings and recommendations covered in the Constructability Memorandum. It also revealed additional issues that are exacerbating an already challenging construction market. The review relied on internal resources of CH2M HILL (The Exchange's technical consultant), and also a formal Scheduling Forum query posed by the Chief Cost Estimator and Estimating Technology Leader for CH2M HILL through the e-mail-List Serv for the Association for the Advancement of Cost Engineering (AACE International), Planning and Scheduling (April 13, 2007), as discussed below.

To the extent that owners and construction managers are staying on schedule, they are largely able to do so only through paying the types of market and schedule premiums outlined in the Constructability Memorandum. For example, one Project Manager responded to the query as follows: [We did not experience any schedule impacts because] *we recognized the market conditions and* [material] *price increase*[s] *and created budgets to mitigate the schedule impact.*

One industry expert was more pointed in his assessment: *From a planning viewpoint, in the process industries, the owners are chasing faster schedules than ever in order to get their plants online at these high product price peaks. From an actual viewpoint, they are paying through the nose for it.* This expert further observed that only about half the cost increases being experienced are due to price escalation—the other half is directly attributable to market volume premiums paid when not mitigated by project schedule deceleration.

Additional evidence of this effect is observed in the extent to which the lowest cost bidder on a project exceeds the published engineering estimate. In an April 2007 CH2M HILL survey of 286 projects for seven major California municipalities, utility districts, and state transportation agencies, the low bid exceeded the engineering estimates from 36% to 100%. This shows that contractors are factoring in market premiums as they believe necessary to respond to the requested or required schedule. Anecdotal information and knowledge of the Virginia and mid-Atlantic region suggests similar trends.

The construction industry has generally been experiencing schedule delays directly attributable to market conditions. In addition to the causes documented in the Constructability

Memorandum, specific examples of the types of things that cause schedule delays noted during the April 2007 market review include:

- Longer than standard shop fabrication times;
- Longer than contracted delivery times for major equipment items;
- Having to schedule concrete pours around limited or intermittent availability of concrete from the batch plant;
- Theft—major items or commodities, such as copper wire and stainless steel, are being stolen from construction sites with increasing frequency and magnitude; and
- Manpower shortages—lack of availability of needed skill levels among key craft areas causes overall productivity losses.

Based on CH2M HILL's construction experience and the industry research summarized above, in the near term schedule impact delays of 4 to 6 months beyond those reflected in this Exchange Compliance Plan could likely occur. It is expected that current market conditions will heavily influence the construction market for the next 3 to 5 years even if material prices, equipment availability, and labor skill begin to trend more favorably in the future. If the observed trends persist or worsen, actual schedule impact delays could add 6 months to 12 months or more to the schedules assumed in this Compliance Plan.

These estimates of the potential need for schedule extensions account for circumstances where schedule delays cannot be mitigated by paying price premiums even if resources were available, as well as situations where insufficient resources exist to pay the premiums that would be needed to stay on schedule. As this Exchange Compliance Plan is implemented, it will be necessary to balance the willingness and ability of the Commonwealth of Virginia (WQIF) and the facility owners (local rates) to pay high premiums versus the potential use of schedule deceleration to address market conditions and material, equipment, and labor shortages.

Five Statutory Factors for Schedule Determination

Factors (i) and (ii) – These two factors are inter-related. Compliance schedule determination factor (i) concerns "opportunities to minimize costs to the public or facility owners by phasing in the implementation of multiple projects." Factor (ii) concerns the "availability of required services and skilled labor." Both are addressed by the Constructability Memorandum and the above update.

The factor (i) phase-in has two aspects. First, to some degree, phase-in is achieved when owners of early upgrades are willing to commit to Class A Credit exchanges thereby enabling other owners to defer upgrades and rely on Credit purchases instead. This is reflected in the projects illustrated in the basin-specific sections (Sections 2 through 6). Second, phase-in is achieved through schedule deceleration (balanced with the overall objective of expeditious implementation). This is summarized above and discussed in more detail in the Constructability Memorandum (see Appendix D). The benefits of schedule deceleration could conservatively justify a one year or possibly two year extension to the schedules shown in Sections 2 through 6.

Factor (ii) is addressed above under Market Conditions and Constructability. Near term schedule impacts (delays) are estimated at 4 to 6 months in the near term and roughly 6 to 12 months (or more) if present market conditions persist or worsen.

Factor (iii) – This factor is "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."

With respect to the WQIF, the Commonwealth cost-shares municipal point source nutrient upgrades on a sliding scale from 35% up to 90% of project costs that DEQ deems eligible. The average cost-share has previously been reported by DEQ as approximately 50%. DEQ has received grant applications in various stages of processing that seek State cost-share that exceeds the available WQIF funding. As a result, it appears that the WQIF is or will soon be over-committed and require additional state funding for timely implementation of municipal point source upgrades.[1]

Given the strong recent track record of the Administration and the General Assembly in funding the WQIF, no extension of the compliance schedule is recommended on account of this need at this time. Actual WQIF obligations, expenditures and fund balances and projected needs will be addressed in annual compliance plan updates taking into account the state appropriations to the WQIF for the most recent year.

Based on information from DEQ regarding the Virginia Water Facilities Revolving Fund, this element of factor (iii) is assumed to be adequate at this time. In addition, The Exchange has no information indicating that other financing mechanisms are inadequate for the local share of municipal projects not debt financed through the Virginia Water Facilities Revolving Fund or for projects that are not eligible for WQIF grant funding or Virginia Water Facilities Revolving Fund loans.

Factor (iv) – This factor is "water quality conditions." This schedule factor is accounted for by the general approach maintained in the Exchange Compliance Plan of achieving the point source nutrient caps in each basin "as soon as possible" taking into account the other factors.

Factor (v) – This factor allows for consideration of "other relevant factors." No other relevant factors have been identified at this time.

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[1] For more recent information regarding the availability of funding from the Water Quality Improvement Fund, please refer to Appendix E.

APPENDIX D

Constructability Technical Memorandum

Assessment of Construction Market Conditions and Impact on the Constructability of Wastewater Treatment Plant Upgrades in Virginia

PREPARED FOR: The Exchange Implementation Committee

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COPIES: Mike Culpepper, Deanne Faucheux, Cy Jones, Glenn Rehberger

DATE: June 28, 2006

Purpose

This Technical Memorandum (TM) was prepared for the Exchange to support a reassessment of the Exchange's April 2006 Compliance Plan Options and Construction and Compliance Schedule Draft 1 Reports' aggregate results (see Section 8) considering the quantitative effects of current market conditions in a way which could not be done for the April Draft Reports due to schedule limitations. This TM provides the basis for the reassessment, the results of which are presented in a separate companion TM, entitled *Reassessment of the April 2006 Draft Report Aggregate Results to Reflect Current Market Conditions.*

Summary

The current indicators of market conditions are complex and numerous. Prior to 2004, the previous 30 years have seen material, energy, and labor cost indices rise in a relatively predictable pattern. However, over the years world events, natural disasters, and the global economy have not only influenced these costs; but, have caused sudden, steep and far reaching spikes that can dramatically influence the construction market. Over the past five years the combination of world events (terrorist attacks of September 11, 2001, armed conflicts in the Middle East), global economy (massive building programs in Asia), natural disasters and local (U.S.) robust economic conditions, have had the combined effect of unprecedented supply-side constraints and consequent increases in the cost of construction.

In this market environment, Wastewater Treatment Plant Owners (Owners) are experiencing scarcity in certain materials and trades, and overall seeing bids that are coming in between 10% to 30% or more than the current engineer's estimates. Contractors are clearly accounting for the uncertainty of today's market conditions and scarcity of skilled labor by pricing these considerations into their cost estimates for projects.

As a result, Owners have already seen and can anticipate seeing more of the following factors impacting their construction project schedules and costs to some degree.

- Demand is strong: there is an abundance of new work throughout the U.S., allowing contractors to increase bid prices and selectively bid jobs and/or owners based on risk; Katrina and other natural disasters continue to draw resources away from other needs.

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- Selected material shortages persist and prices increase in response: witness recent escalation and uncertainty of energy and construction materials costs; and material price quotes are guaranteed for shorter periods, increasing risk and cost of long term projects.
- Limited availability of skilled labor, including critical trades, and management staff results in wage premiums and increases labor costs; immigration impacts and uncertainty also disrupts the available workforce.
- Standard contract language places all these risks on the contractor. This is exacerbated by shrinking construction bonding availability and capacity.

When engaged in the process of establishing construction schedules and budgets, Owners must consider the effects of volume of work impacts to the region, and any ability to extend schedules, requirements to compress schedules, and of course general escalating market conditions. These considerations are over and above any contingency amounts that are reserved for unforeseen site conditions, design errors and omissions, and owner-initiated changes. Below is a summary of options and guidance for these considerations, the basis for which is presented in the remainder of this Technical Memorandum. It should also be recognized that, in some cases, prevailing market conditions combined with skilled labor shortages and limited local design capacity may result in unusually long project execution schedules or costs that far exceed the guidance presented in this Technical Memorandum.

1. **Market Volume Premium.** A plethora of projects flooding the Virginia local/regional market will have the effect of diluting the competitive market and decreasing competition. The following table provides guidance for a range of expected premiums as a result of the increased volume of work.

Market Volume Premium

	Overall Project Impact			
Description	**Low**	**Med**	**High**	**Recommendation**
Construction and Engineering Judgment	5.00%	25.00%	40.00%	25.00%

2. **Deceleration/Schedule Extension Savings.** Schedule extensions to accommodate project workload will generally produce an overall project savings based on the size and complexity of the project. Savings can be associated with either the design engineering contract or the construction contract or both. However, it must also be recognized that deceleration savings can be reduced by the effects of market conditions and construction-related change orders.

Schedule Deceleration Savings

	Overall Project Impact			
Description	**Low**	**Med**	**High**	**Recommendation**
Add 1 Year to Schedule (< $5M)	0.00%	0.00%	0.00%	No Impact
Add 1 Year to Schedule ($5M to $20M)	0.00%	-5.00%	-10.0%	-5.0%
Add 2 Years to Schedule ($5M to $20M)	-5.0%	-10.00%	-15.0%	-10.0%
Add 1 Year to Schedule ($20M to $50M)	-5.0%	-10.00%	-15.0%	-10.0%
Add 2 Years to Schedule ($20M to $50M)	-5.0%	-12.50%	-20.0%	-15.0%
Add 1 Year to Schedule ($50M to $150M)	-5.0%	-10.00%	-15.0%	-10.0%
Add 2 Years to Schedule ($50M to $150M)	-5.0%	-12.50%	-20.0%	-15.0%
Add 1Year to Schedule (>$150M)	-5.0%	-12.50%	-20.0%	-10.0%
Add 2 Years to Schedule (>$150M)	-5.0%	-15.00%	-25.0%	-15.0%
Add 3 Years to Schedule (>$150)	-10.0%	-20.00%	-30.0%	-20.0%

3. **Acceleration/Schedule Compression Premium.** Schedule compression in order to achieve regulatory imposed milestones or mitigate rapidly accelerating material or labor costs, generally translates into an acceleration premium to the bid price. The following table provides guidance for various potential Acceleration Premiums, based upon project size and approximate duration.

Schedule Acceleration Premium

		Overall Project Impact			
Description	**Potential Compression**	**Low**	**Med**	**High**	**Target**
Project < $5m and 2yr Schedule	7%	5.0%	10.0%	15.0%	10.0%
Project < $50m and 3yr Schedule	11%	10.0%	17.5%	25.0%	15.0%
Project < $150m and 3yr or more Schedule	18%	15.0%	27.5%	40.0%	25.0%
Project >$150m and 3yr or more Schedule	30%	25.0%	37.5%	50.0%	40.0%

4. **Construction Material and Labor Escalation.** The following table shows the various ranges of escalation over the last 10 years, based upon the Engineering News-Record magazine (ENR), Construction Cost Index (ENR CCI). Annual escalation of 5.0% is recommended to estimate increasing costs of materials and labor over the forecast period.

Material and Labor Escalation

	Yearly Change			
Description	Low	Med	High	Recommendation
ENR – CCI Index - 20-City Average (10-yr)	1.15%	4.06%	6.96%	5.00%

Overview of Market Conditions

Throughout the nation, Owners, Government Agencies, Engineering Consultants, and Construction Managers are experiencing an aggressive market condition, where increasing demand for construction services by Owners has created an abundance of projects. Consultants and Contractors have reacted to recent this increased demand, concurrent supply-side constraints, and general uncertainty (risk) with dramatic increases in current bid prices. These inflated market conditions appear to permeate throughout the construction industry. Increasing prices is the expected market reaction to situations where demand is increasing relative to supply. The extent of price increases is an indicator of the degree to which demand and supply are out of balance today, and a reflection of any expected imbalance in the future.

Today, Contractors in general are extremely busy and are selectively bidding capital improvement projects. This trend is further evidenced by the number of bidders who are bidding projects, which has declined over the last 6-8 months. Increased uncertainty over market conditions combined with high demand is resulting in submitted project bids coming in between 10%, 20%, and even 30% higher or more than the engineer's estimates.

The Construction Management Association of America's (CMAA) conference in May 2006 highlighted the following data on current market conditions, illustrating the results of supply generally exceeding demand:

- Over 92% of all public Owners experienced price increases;
- The average increase was 13.2%, more than four times that of inflation;
- 18% of all public Owners saw bids jump by over 20%;
- Most saw energy costs as the primary driver with steel costs being the second driver;
- Public Owners are including material increases and corresponding contractor selling prices (market conditions) in their escalation forecasts; and
- Reductions of Escalation and Cost Estimating Contingency during the Design and Value Engineering process are being avoided.

Contributing Factors of Current Cost Increases

The factors that influence construction market conditions are complex, numerous, global, and far reaching. A presentation given to the Public Works Institute in March 2006 made the following observations about market influences. 1

1 John Janacek, Vice President, Preconstruction and Estimating, C.W. Driver, *Construction Costs Going Through The Roof? Controlling Costs in a Volatile Market*, 2006 Public Works Officer Institute Conference, March 1, 2006

International

In the last few years China has experienced a dramatic increase in construction of infrastructure and capital projects which has had an equally dramatic demand effect on the world's supply of construction materials. For example, in 2005, China consumed:

- 1/2 of the world's Cement
- 1/3 of the world's Steel
- 1/4 of the world's Copper
- 1/5 of the world's Aluminum
- 1/10 of the world's Oil - 10 million barrels/day

Natural Disasters

Over the last two years, the southern United States has been buffeted by over a half dozen hurricanes resulting in billions of dollars in damages and significant demand for unplanned construction. The damage from the Katrina and Rita hurricanes in 2005 are expected have the following effect:

- Over $38 Billion spent to date
- 7.5 billion board feet of lumber trees destroyed and extensive damage to refineries, ports and levies
- 250,000 homes destroyed and 750,000 need repair
- Repairs projected to use 4 million tons of cement
- Cost projections of $200 billion over next 4 years
- Costs could jump 10 - 15% again in a short period

Energy

Energy and petroleum products are in demand by nearly every sector of the construction industry. Used in the production of cement, steel, copper, PVC, and asphalt, shortages and/or price increases in petroleum products have a much more extensive impact than just in the cost of diesel and gasoline. These impacts evidenced in the following cost effects experienced during 2006:

- Increases to asphalt paving of 25% - 45%
  - PVC pipe & products up 25 - 100%
  - Over 1,000,000 feet backordered
- Poly products shot up 9% in 2 months
- Paints and coatings up 25%
- Shortages on rubber products - Caterpillar shipping new equipment without tires
- Waterproof & roofing products up 33%
- Even packaging material is affected by the world-wide demand for polyethylene and polypropylene
- Heavy equipment costs & site work effected - 30% impact on large earth moving projects
- Cost of fuel adding to nearly every delivered construction component in the form of surcharges

Other Construction Related Cost Trends Signaling Demand-Supply Imbalance

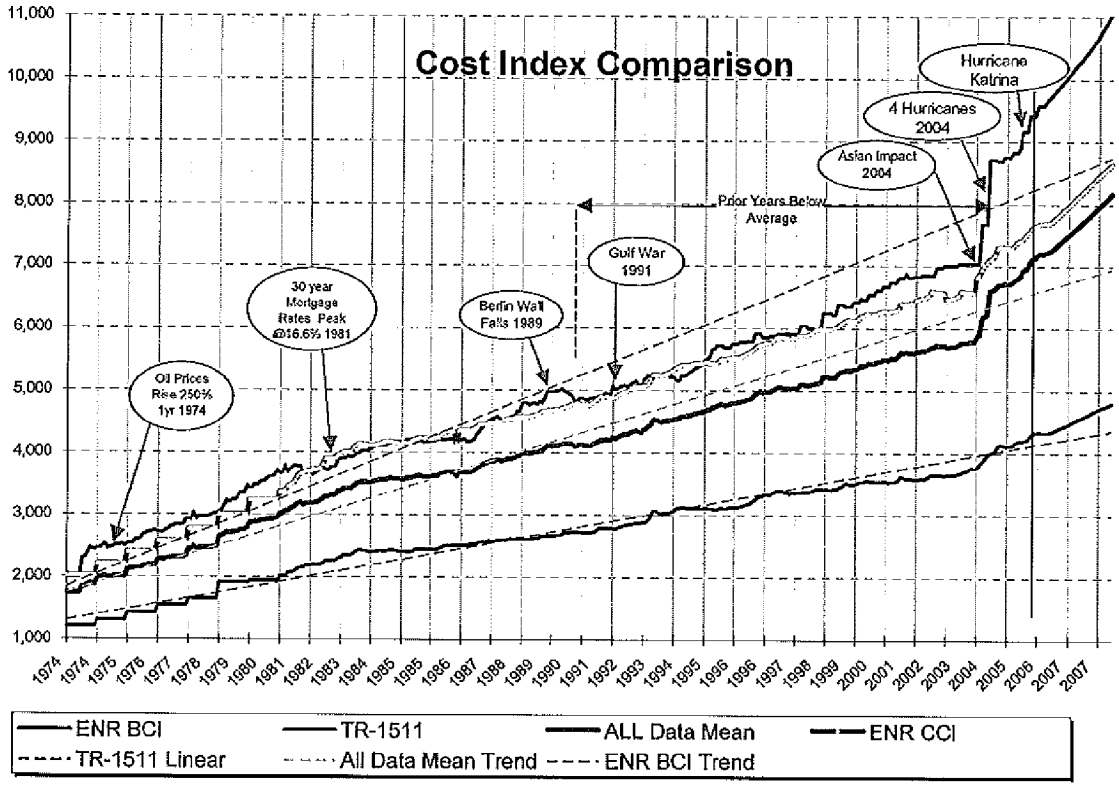
- Insulation expected to increase 9% in June and in November
- Aluminum increasing at a rate of 3.5% per month
- Glass expected to increase 16 - 20%
- Labor costs will increase about 4 to 5% – Lost production due to unskilled labor could add 8 - 12%
- Healthcare & pension contributions will rise accordingly
- Flooring products expected to increase 8 to 10%
- Iron ore to increase 20%.
- Rationing limits being imposed on purchased materials
- Contractors hoarding materials causing even greater shortages and this is pushing prices up even higher

Construction Material Cost Trends

- All indices show the market increasing at between 5.0% and 10% for 2006
- Current levels are close to 30% higher than in 2000
- Some prices are showing signs of stabilizing at the current higher levels
- Energy prices are predicted to remain high this year and in future years
- ENR CCI Index 2000 to 2007 up 31% assuming 2005-2006 trends continue

Market Condition Summary

The current indicators of market conditions are complex and numerous. Prior to 2004, the previous 30 years have seen material, energy, and labor cost indices rise in a reasonably predictable pattern. However, world events, natural disasters, and changes in the global economy can alter the relationship between demand and supply in ways that not only influence these costs; but can cause sudden and steep spikes that can be far reaching. This is clearly demonstrated in the chart below.



Source: Glen Butts, NASA (the chart shown does not represent the views of NASA)

Market Volume Premiums When Demand Exceeds Supply

Over the next 10 years, the Commonwealth of Virginia will experience an unprecedented and staggering amount of construction work. When just considering the work associated with the Virginia Nutrient Credit Exchange's trading program, the Department of Defense, US Army Corp of Engineers work (BRAC and MILCON) throughout the Commonwealth, over $4.1 Billion dollars are planned for construction during the 2006-2015 period. Additionally, the Virginia Department of Transportation also has a $13.5 Billion Dollar capital improvement program slated for completion during 2006-2011. The state of Maryland also has approximately $600 Million of wastewater treatment plant improvements planned over this same period.

These figures do not include:

- Other wastewater treatment improvements by these dischargers;
- Water treatment improvements;
- Capital school construction programs;
- Municipal capital programs;
- Commercial construction;
- Manufacturing facility expansions;
- Process facility expansions;
- Healthcare construction; and

- Other Federal or state construction programs.

While it is difficult to estimate the previous wastewater volume of work within Virginia prior to 2006, it would be safe to say that it was not on the magnitude of the future capital improvements work planned for 2006 to 2015. This volume of work, especially when combined with other construction planned for the Commonwealth, will likely place a significant strain on both the design and the construction contracting community in Virginia and surrounding states. As such, there will be competing pressures for available skilled labor and material resources. Contractors, in order to meet contract schedule demands will likely have to locate and import labor (and materials) from outside the region. The added costs of these measures will be passed on to the Owner. Limited regional design resources will also be impacted this increased volume of work. The Design Engineer will also have to look outside the region for design support or extend the time needed to produce a design.

In this environment, Owners will have to pay a Market Volume Premium to secure materials and services for their projects over and above baseline estimates that have not fully accounted for market conditions. The premium for this amount of work could be enormous and difficult to estimate. It is speculated that this premium could be as high as 50%, but a more conservative approach may suggest between 20% to 40% as a high range with a corresponding low range of 0% to 10%.

Longer Schedules Mitigate Market Volume Premiums

In general, if project schedule durations are extended in time, this will serve to help mitigate the risk to a Contractor or Consultant and ultimately make the price of the work more competitive. By extending the overall project duration, the Design Engineer can produce a more complete Design Package, which provides more information to the Contractor, which minimizes the unknowns to the Contractor and makes the construction bid more competitive. Extending the construction schedule, allows the contractor to competitively price the construction bid. The Contractor can properly plan and execute the work more efficiently, which ultimately reduces the overall construction cost.

- There may be no appreciable financial savings to a project by extending the schedule for any project which is less than $5 million dollars in construction and specifically if the project is less than $1 Million dollars.
- In general for a small project of $5 million dollars, a time extension of 6 months to a year may be beneficial.
- For a medium size project of $20 Million to $50 Million a time extension of one to two years may be practical, in general. For a large project of around $100 Million, two to two and half years may be reasonable, in general.
- And for the large projects of $150 Million and greater, three years minimum may be required in general to achieve deceleration benefits.

These assumptions are subjective and may be more project specific. Additionally, extending the project schedule has a diminishing point of return, from a cost-benefit analysis standpoint. The negative effects attributed to Escalation and Market Conditions (as

discussed later in this Technical Memorandum) tend to work against the positive effects of schedule extension.

The range of project savings from a longer schedule is dependent upon the dollar size of the project and the overall schedule:

- The low range of project savings, in general may only be a savings of 5% for projects from $5 million to $50 million, by only adding one to two years of schedule duration. The upper range of project savings, in general may be a savings of 20% for these same size projects.
- For larger project in the $100 million dollar range, the low range still may only be a project savings of 5%. The upper range project savings, for these larger projects, in general may be a potential savings of upwards of 20%.
- It is only when you get into the large projects of over $150 million with multiple years of schedule duration, that in general by extending the schedule even further to reduce the cash flow requirements, that any significant project savings can be achieved—the upper most range of potential project savings, may be around 30% for these large projects.

These potential project savings are very subjective and will vary by project. The average of these potential project savings is 12%, therefore a conservative potential project savings is suggested to be 10% overall, if applying this to a program of multiple projects where the specific sizes are not known.

Accelerating Project Schedules Will Require A Premium In Addition to the Market Volume Premium

When evaluating the effects of market pressures on construction prices resulting from rapidly increasing material and labor costs, one might consider accelerating or compressing the planned construction schedule as a way to potentially mitigate rapidly rising construction costs or meet a regulatory milestone. Because of the unpredictability of costs associated with project acceleration or schedule compression initiated after contract award, this discussion will be limited to the premium associated with planned schedule compression/acceleration prior to advertisement.

Based upon the size and duration of the projected demand for wastewater treatment plant upgrades in Virginia's Chesapeake Bay watersheds, it is assumed an acceleration premium would be only for projects with a minimum duration of one year for a small $5 million or less project, a minimum duration of three years for a $20 million to $50 million project, and a minimum of three to four or more years for a program greater than $50 million to $150 million.

The reason for this is that the original schedule must have some room in its duration to be accelerated and physically achieved within the allotted time frame. It is also assumed that the acceleration will range for a minimum of 4 to 6 months on smaller projects, to one year or 1-1/2 years for large ($50M to $150M +/-) projects. Anything more aggressive than this my not be feasible or the associated Acceleration Premium would be financially impossible.

Similar to the Market Volume Premium, the Acceleration Premium is highly subjective. A conservative range could be from 5% on the low side (small project) to 50% on the high side

for large projects ($150M +/-) with multiple year durations. Anecdotal data suggests that one rule of thumb to achieve a 25% reduction in schedule would require a cost premium of as much as 35% or more.

It is noted that the ability to compress a project schedule will be constrained by a number of factors that include availability of long lead time material and equipment, labor and equipment resources, site conditions and constraints, the need to continue operations and meet water quality-related (and other) permit requirements during construction, and weather. In any event, any schedule compression contemplated for a project should be initiated and included as part of the bid package and not after award where the ability of the Owner to take advantage of available competition is lost.

Other Ways To Address Current Market Conditions

As in any business venture, understanding and quantifying risk in construction is an essential factor in being successful. As such in today's current economic conditions, Contractors are finding it increasingly more difficult to quantify the risk factors that adversely affect their projects. Historically stable energy and material pricing combined with a tight labor market and restricted bonding capacity have added new dimensions to the Contractor's risk profile. Additionally, municipalities and other Owners have also tried to limit their risk by using contract language to transfer risks associated with labor, material, and energy costs to the contractor. In a stable market, these risks are fairly small and predictable, and therefore, had only marginal effects on the total project cost. However, in today's highly volatile market conditions, the contractors are including unprecedented price increases in an effort to mitigate these risks and remain profitable.

In an effort to increase competition and mitigate the cost effects of material escalation and labor shortages on construction schedules, Owners are increasingly considering modifications to their traditional way of doing business. In Virginia, Owners have already used some of the options listed below, and will continue to evaluate their feasibility and potential benefits:

- Pre-purchase of long lead time, high cost material and equipment;
- Allow deductive proposals to supply alternative materials;
- Assume some of the contractors' risk, such as a blanket insurance policy to cover construction activity, or allowing partial bonding of construction projects;
- Include Material Escalation Clauses;
- Conduct Value Engineering Reviews;
- Conduct Constructability Reviews;
- Include deductive alternates in bid documents; and
- Use alternate project delivery approaches, including Task Order Contracting, Phased Contracting; and Design Build or Construction Management at Risk.

Because there is no reliable method to quantify the effectiveness of these approaches for the purposes of reassessing the April 2006 Draft Report aggregate results, they are not discussed

in further detail here. However, one or more options may be addressed in further detail in The Exchange's next Draft Report.

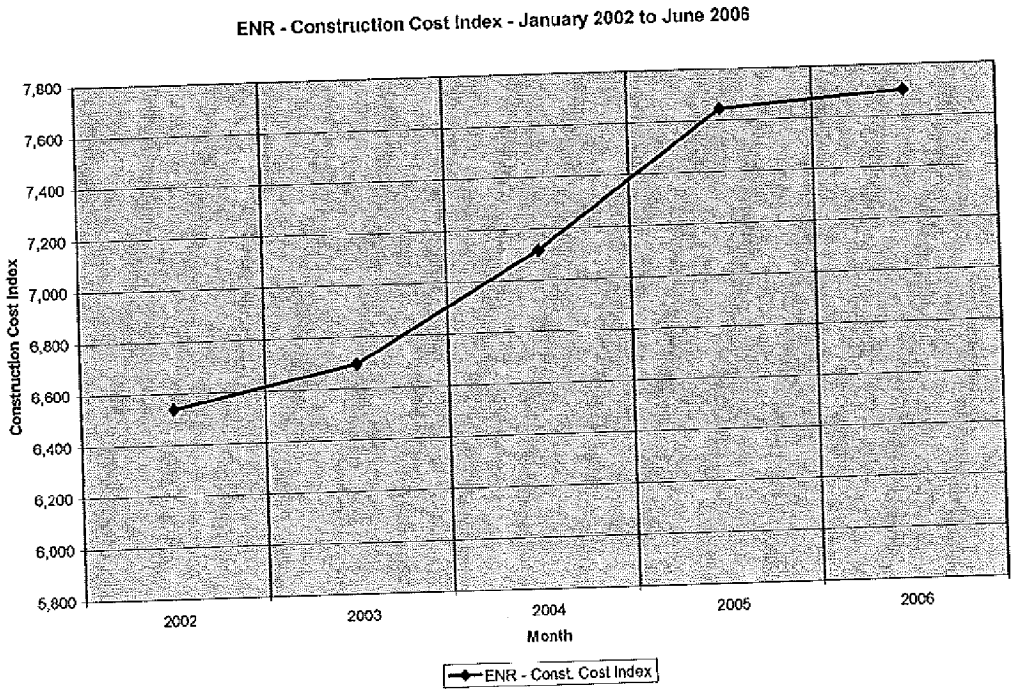
Review of Cost Escalation Factors

In addition to the premiums and opportunities to mitigate the impacts of unfavorable market conditions discussed above, cost escalation must also be considered and factored into planning analyses accordingly.

Construction Cost Index

Engineering News-Record magazine (ENR), Construction Cost Index (CCI) 20-City Average is a leading indicator or standard for overall escalation within the Construction industry. The CCI Index is a composite of common labor rates and composite of various material prices. Escalation is a compound calculation and industry standard is to calculate this to the mid-point of construction.

Historically, the construction market has experienced an inflation impact between 2% to 3% per year with a 1995 - 2003 ENR CCI 20-City Avg. Index of 2.34% per year average. However, beginning in March 2004, material prices have experienced dramatic increases from month to month. Initially starting with steel prices, this trend migrated to increases in concrete unit prices, followed by ductile iron pipe. Currently price increases are being experienced for all petroleum based products and compounded by a rising cost of skilled labor. As illustrated in the chart below, the CCI Index jumped from a yearly change of 3.79% (from January 2000 to December 2004) to a current rate of 6.43% (January 2004 – December 2005) representing the most dramatic impact the Construction Market has seen in over 50 years. Currently the CCI index from January 2004 to May 2006 is running at a yearly change of +4.51%.

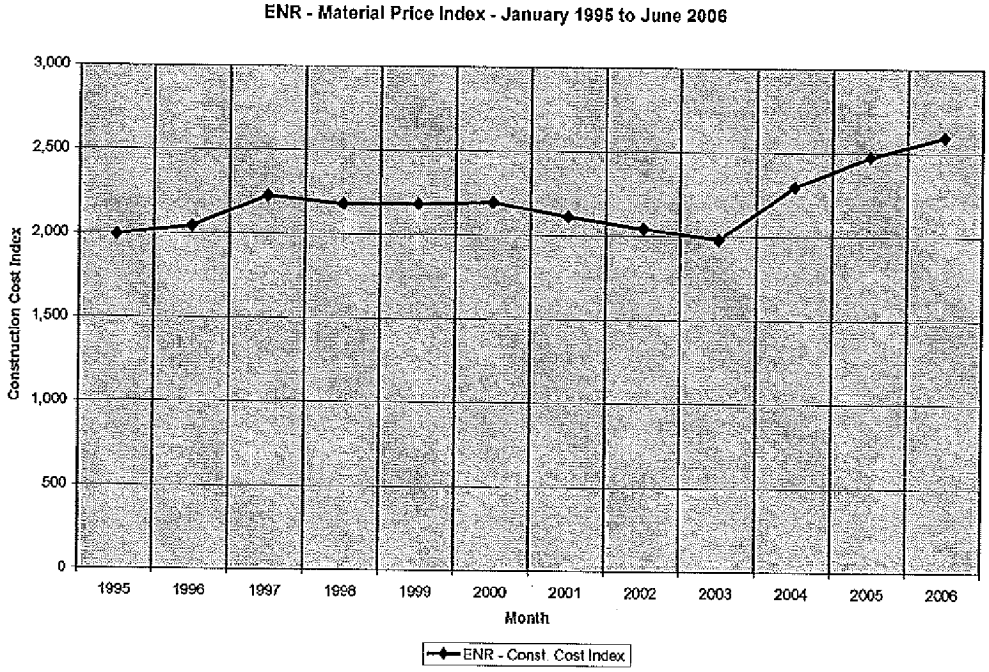


Material Cost Index

In addition to the CCI Construction Index, ENR issues a Material Cost Index, which is composite index of approximately 75 spot material prices commonly used in construction. These materials tracked by the ENR Materials Cost Index include:

- Asphalt Pavement
- Portland Cement
- Ready-mix Concrete
- Crushed Stone
- Masonry Block
- Sand & Crushed Stone
- Ductile Iron Pipe
- PVC Pipe
- Copper Pipe
- Lumber
- Plywood
- Gypsum Board
- Insulation Materials
- Steel Structural Members
- Concrete Rebar
- Carbon Steel Plate
- Stainless Steel Plate
- Steel Piling

As demonstrated in the graph below, the average change in the Material Cost Index actually decreased by -0.55% (yearly change) from 1993 to 2003. However, in 2004, the material construction prices started to experience dramatic increases. As with the CCI, this trend began with steel prices, moving on to increases in concrete and ductile iron and later followed by petroleum related products. These increases resulted in the Material Cost Index increasing at annualized rate of +10.5% from January 2004 to December 2005. At present, from January 2004 to May 2006, the Materials Cost Index is changing at annualized average of +8.54% and continues to trend upward. The Chief Economist from the Associated General Contractors of America issued a statement in the May/June 2006 Report – The Data DIGEST that "Material Prices show no signs of abating".



Estimated Time and Cost Premiums for Reassessment of the April 2006 Draft Report Aggregate Schedules and Costs

When engaged in the process establishing construction budgets, the Owners must consider the effects of escalating market conditions, volume of work impacts to the region, as well as any contemplated schedule compression. These considerations are over and above any contingency amounts that are reserved for unforeseen site conditions, design errors and omissions, and owner initiated changes. Below is a summary of options and guidance for these considerations.

1. **Market Volume Premium.** Virginia will be facing a staggering amount of Capital Improvement projects in the 2006 to 2015 time period. The Nutrient Credit Exchange Program alone is estimated to be $1.5 Billion of capital improvements. The US Army Corp of Engineers has budgeted $2.6 Billion of work from 2006 to 2012. The Virginia Department of Transportation has budgeted $13.5 Billion of capital improvements. Just in these three programs, this equates to be $17.6 Billion of capital improvement projects for the Commonwealth of Virginia. This premium is very subjective. However a conservative range would be from 5% to 40%. The following table shows the Volume Work Premium.

Market Volume Premium

	Overall Project Impact			
Description	Low	Med	High	Recommendation
Construction and Engineering Judgment	5.00%	25.00%	40.00%	25.00%

✓ **Market Volume Premium** - The recommended Volume Work Premium adjustment to the capital project costs would be 25.0%. As expected construction costs and associated bid pricing fluctuates, this premium should be adjusted.

2. **Schedule Deceleration Savings.** Associated schedule extensions to accommodate project workload will generally produce an overall project savings. This savings can be associated with either the design engineering contract or the construction contract or both. However, these savings can be offset to some degree by the effects of market conditions and construction related change orders. For projects of a $1 million dollars or less there may be no project savings, in general. However, very large projects, may realize a potential savings of as much as 20%. The amount of time extension is dependent upon the project size, which may range for as little as 6 months for a small $5 million dollar project to as much as three years of schedule extension for the very large projects. The following table provides a guide to the potential project savings.

Schedule Deceleration Savings

	Overall Project Impact			
Description	Low	Med	High	Recommendation
Add 1 Year to Schedule (< $5M)	0.00%	0.00%	0.00%	No Impact
Add 1 Year to Schedule ($5M to $20M)	0.00%	-5.00%	-10.0%	-5.0%
Add 2 Years to Schedule ($5M to $20M)	-5.0%	-10.00%	-15.0%	-10.0%
Add 1 Year to Schedule ($20M to $50M)	-5.0%	-10.00%	-15.0%	-10.0%
Add 2 Years to Schedule ($20M to $50M)	-5.0%	-12.50%	-20.0%	-15.0%
Add 1 Year to Schedule ($50M to $150M)	-5.0%	-10.00%	-15.0%	-10.0%
Add 2 Years to Schedule ($50M to $150M)	-5.0%	-12.50%	-20.0%	-15.0%
Add 1Year to Schedule (>$150M)	-5.0%	-12.50%	-20.0%	-10.0%
Add 2 Years to Schedule (>$150M)	-5.0%	-15.00%	-25.0%	-15.0%
Add 3 Years to Schedule (>$150)	-10.0%	-20.00%	-30.0%	-20.0%
Average				-12.0%
Overall Recommendation				**-10.0%**

✓ **Schedule Time Extension Savings** – The recommended overall Schedule Extension Savings is -10% when applied to an aggregated schedule.

3. **Acceleration/Schedule Compression Premium.** Schedule compression in order to achieve regulatory imposed milestones or mitigate rapidly accelerating material or labor costs, generally translates into an acceleration premium to the bid price. Unrealistic acceleration of a project schedule will always mean a significant premium to the overall project bid and may not achieve the required result. The larger the project the higher the premium in general. The larger acceleration the higher the premium in general. The following table shows in general the various potential Acceleration Premiums, based upon the project size and approximate duration:

Schedule Acceleration Premium

		Overall Project Impact			
Description	Potential Compression	Low	Med	High	Target
Project < $5m and 2yr Schedule	7%	5.0%	10.0%	15.0%	10%
Project < $50m and 3yr Schedule	11%	10.0%	17.5%	25.0%	15%
Project < $150m and 3yr or more Schedule	18%	15.0%	27.5%	40.0%	25%
Project >$150m and 3yr or more Schedule	30%	25.0%	37.5%	50.0%	40%

✓ **Schedule Acceleration Premium** – The recommended overall Schedule Acceleration Premium is 20%.

4. **Construction Material and Labor Escalation.** The recent material and labor impacts have had a huge impact on the Construction industry. The ENR – Construction Cost Index, represents the most accepted industry standard for gauging and measuring Escalation from year to year. Recent escalation rates indicated that old historical escalation rates can not be relied upon. The following table shows the various ranges of Escalation over the last 10 years, based upon the ENR CCI Index and the recommendation to use 5% per year, compounded to the mid-point of construction (based on the assumption that the contractor has locked in all his material and major equipment purchases as well as his subcontract costs at this point):

Material and Labor Annual Escalation

Description	Low	Med	High	Recommendation
ENR – CCI Index - 20-City Average (10-yr)	1.15%	4.06%	6.96%	5.00%

✓ **Escalation Factor** – The recommended Escalation factor to be included with the Capital Project cost is 5.0% per year.

Ongoing Outlook

Today's Owner is faced with a myriad of challenges when dealing with the three essential elements of every project: Time, Cost, and Quality. While it is the goal of every

Owner to have a high Quality project delivered on Time with the least Cost, experience tells us that most projects are only successful in controlling two of the three elements. For example, when time is critical, such as in a court ordered deadline, and quality is essential, as with protecting the general public, then the ability to control costs is diminished greatly. Conversely, if controlling costs is paramount and schedule is not negotiable, then compromises in quality will likely have to be considered. And, as demonstrated in the schedule deceleration discussion above, when there is latitude regarding schedule, the ability to control costs and achieve quality increases dramatically.

An additional consequence of increased market volume is pressure on the material supply chain, the regulatory study and permit approval process, as well as engineering designers' ability to deliver required designs for construction. These pressures alone may force the Owner extend project schedules without an alternative recourse. As such, with today's market volatility, future uncertainty, and skilled labor shortages combined with the expected dramatic increases in regional construction volume, the resulting increases in project costs may have the effect of making projects unaffordable without compromises in quality or schedule.

Source Documents

[1] Engineering News-Record magazine, Construction Cost Index, 20-City Average.

[2] Engineering News-Record magazine, Materials Cost Index.

[3] Associated General Contractors of America, The Data DIGest Monthly Report.

[4] Association for the Advancement of Cost Engineering (AACE International), Recommend Practice 10-90S, Cost Engineering Terminology.

[5] Construction Management Association of America, May 2006, Materials Presentation.

[6] Public Works Institute, March 2006, Materials Price Issues Presentation.

[7] NASA, Kennedy Space Center, Facility Construction & GSE Cost Index, March 31, 2006.

[8] Department of Defense, USACE, North Atlantic Division, BRAC and MILCON work from 2006 to 2012.

APPENDIX E

Water Quality Improvement Fund Update

The following table provides an update on the availability of funding from the Water Quality Improvement Fund for eligible point source nutrient removal technology upgrades. This table is based on information obtained from staff of the Water Division of the Virginia Department of Environmental Quality.

The table indicates (1) that the cash balance of the fund is expected to be depleted during Fiscal Year 2010 (July 1, 2009 – June 30, 2010), (2) that anticipated bond proceeds in the amount of $131 million are required through the end of Fiscal Year 2010, (3) that the remaining anticipated bond proceeds of $119 million are estimated to be expended before the end of Fiscal Year 2011, and (4) that a remaining funding gap in the amount of $137 million is currently anticipated after use of the cash balance and $250 million in anticipated bond proceeds.

DEQ WQIF Forecast (as of 11/25/09)

FY ENDING	ANNUAL SHORTFALL (MILLION $)	WQIF BALANCE (MILLION $)	NOTES
6/30/09	-	70	
6/30/10	-	0	Assumes $131M Bond Proceeds.
6/30/11	(33)	(33)	Assumes $119M Bond Proceeds.
6/30/12	(60)	(93)	
6/30/13	(31)	(124)	
6/30/14	(13)	(137)	

AR0036723

COMMONWEALTH of VIRGINIA

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L. Preston Bryant, Jr.
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
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September 12, 2007

Mr. Mark Haley
President, Board of Governors
Virginia Nutrient Credit Exchange Association, Inc.
P.O. Box 51
Richmond, VA 23218-0051

RE: Exchange Compliance Plan

Dear Mr. Haley:

I understand that the Exchange's July 31, 2007, Compliance Plan projects that expected Total Nitrogen and Total Phosphorus loads will be below the aggregate wasteload allocations in all five basins by 2011. You and the entire association are to be congratulated for your diligence in evaluating the best opportunities for upgrades and trading in each of the Chesapeake Bay basins so that we can retain the existing January 1, 2011, compliance date in the watershed general permit for both nitrogen and phosphorus. This is a significant step for the Exchange, the watershed general permit and trading program, and for the Commonwealth in our continued efforts to clean up the Bay and illustrates your commitment to being a strong partner in the solution.

We know it will be a challenge to complete so many projects on such a tight timeline, and we remain committed to working with you to shepherd these projects to completion. In the meantime, we appreciate the Exchange's efforts to encourage and facilitate the cooperation of over 100 facilities to reduce nutrient loads to the Chesapeake Bay.

Thank you for your commitment to maintaining healthy waters within Virginia.

Sincerely,

David K. Paylor

DKP:dlm

APPENDIX F

DEQ Director Letter